

# 1 Introduction and Planning Process

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## Table of Contents

<b>1 Introduction and Planning Process .....</b>	<b>1.1</b>
1.1 Purpose.....	1.1
1.2 Background and Scope.....	1.2
1.3 Plan Organization.....	1.2
1.4 Planning Process .....	1.3
1.4.1 Multi-Jurisdictional Participation .....	1.8
1.4.2 The Planning Steps .....	1.9

## 1.1 Purpose

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Osage County and nine other jurisdictions prepared this local hazard mitigation plan to guide hazard mitigation planning for the purpose of better protecting the people and property of the county from the effects of natural hazard events. Hazard mitigation is defined by FEMA as “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.” Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set and appropriate strategies to lessen impacts are determined, prioritized and implemented.

The mission of the Osage County Hazard Mitigation Plan is to substantially and permanently reduce the county’s vulnerability to natural hazards. This plan demonstrates the communities’ commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources for the next five years. The plan is intended to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property and the natural environment. This can be achieved by increasing public awareness, documenting resources for risk reduction and loss prevention and identifying activities to guide the community towards the development of a safer, more sustainable community.

This plan was also developed to make Osage County and participating cities and school districts eligible for certain federal disaster assistance as required by the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288). Those programs include the Federal Emergency Management Agency’s (FEMA) Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program and Flood Mitigation Assistance Program. The plan has been prepared in accordance with the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and developed and organized within the rules and regulations established under 44 CFR 201.6 published in the *Federal Register* on February 26, 2002 and finalized in October 31, 2007. Guidance for the development of this plan includes FEMA’s Local Mitigation Planning

Handbook, March 2013 and FEMA's Local Mitigation Plan review Guide, October 1, 2011. Those jurisdictions within Osage County that do not adopt the 2021 plan will not be eligible for funding through these grant programs.

Neither Osage County, nor any cities in Osage County participate in the NFIP Community Rating System (CRS).

## **1.2 Background and Scope**

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The 2022 Osage County Hazard Mitigation Plan is an update of the original plan developed and approved in April 2005. The first update of the 2005 plan was approved by FEMA on March 22, 2013. The second update of the plan was approved on June 8, 2018. The revised document will be valid for five years from approval by FEMA. It is a multi-jurisdictional plan that covers the participating jurisdictions within the county's borders, all of whom adopted both the 2013 and 2018 plan:

- Osage County
- City of Argyle
- City of Chamois
- City of Freeburg
- City of Linn
- City of Meta
- City of Westphalia
- Osage County R-I School District
- Osage County R-II School District
- Osage County R-III School District

The information and guidance in this plan document will be used to help guide and coordinate mitigation activities and decisions for local jurisdictions and organizations. Proactive mitigation planning will help reduce the cost of disaster response and recover to local communities and residents by protecting critical infrastructure, reducing liability exposure and minimizing overall community impacts and disruptions. Osage County has been affected by natural disasters in the past and participating jurisdictions and organizations are committed to reducing the impacts of future incidents and becoming eligible for hazard mitigation-related funding opportunities.

## **1.3 Plan Organization**

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The plan contains a mitigation action listing, a discussion of the purpose and methodology used to develop the plan, a profile on Osage County, as well as the hazard identification and vulnerability assessment of natural hazards. In addition, the plan offers a discussion of the community's current capability to implement the goals, objectives and strategies identified through the planning process.

The plan is organized as follows:

- Executive Summary

- Chapter 1: Introduction and Planning Process
- Chapter 2: Planning Area Profile and Capabilities
- Chapter 3: Risk Assessment
- Chapter 4: Mitigation Strategy
- Chapter 5: Plan Implementation and Maintenance
- Appendices

Changes made to the 2021 plan are detailed in Table 1.1.

**Table 1.1. Changes Made in Plan Update**

<b>Plan Section</b>	<b>Summary of Updates</b>
<b>Chapter 1 – Introduction and Planning Process</b>	Updated members of the Mitigation Planning Committee (MPC) and participating jurisdictions formally adopted the MPC.
<b>Chapter 2 – Planning Area Profile and Capabilities</b>	Noted new GIS capabilities for participating jurisdictions, updated demographics and information provided in jurisdictional questionnaires, updated jurisdictional capabilities.
<b>Chapter 3 – Risk Assessment</b>	Combined extreme heat and extreme cold into one hazard: extreme temperatures. Updated data on hazards, updated demographic data.
<b>Chapter 4 – Mitigation Strategy</b>	The mitigation category of each action was added to the action worksheets. The goals and action items were reviewed and updated, and progress made updated in the action worksheets.
<b>Chapter 5 – Plan Implementation and Maintenance</b>	Updated MPC meetings for evaluating and updating the plan quarterly.

To assist in the explanation of the above identified contents, there are several appendices included which provide more detail on specific subjects. This plan is intended to improve the ability of Osage County and the jurisdictions within to handle disasters and will document valuable local knowledge on the most efficient and effective ways to reduce loss.

## 1.4 Planning Process

**44 CFR Requirement 201.6(c)(1): [The plan shall document] 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.**

The Osage County Hazard Mitigation Planning Committee first organized in 2020 when the Missouri State Emergency Management Agency (SEMA) provided grant funds and contracted with the Meramec Regional Planning Commission (MRPC) to develop a hazard mitigation plan for the county. MRPC is a council of local governments in south central Missouri serving Crawford, Dent, Gasconade, Maries, Osage, Osage, Pulaski and Osage counties.

MRPC’s role in developing and updating the Osage County Hazard Mitigation plan included assisting in the formation of the mitigation planning committee (MPC) and facilitating the planning meetings; soliciting public input; and producing the draft and final plan for review by the MPC, SEMA and FEMA. Staff carried out the research and documentation necessary for the

planning process. In addition, MRPC compiled and presented the data for the plan, helped the MPC with the prioritization process and insured that the final document met the DMA requirements established by federal regulations and the most current planning guidance.

In 2020, SEMA secured a grant to develop the Osage County Multi-Hazard Mitigation Plan and contracted with MRPC to facilitate the planning process for the plan development. MRPC staff has followed the most current planning guidance provided by FEMA for the purpose of insuring that the plan meets all of the requirements of the Disaster Mitigation Act as established by federal regulations.

The Osage County Multi-Hazard Mitigation Plan was developed as the result of a collaborative effort among Osage County, the City of Argyle, City of Chamois, Village of Freeburg, City of Linn, City of Meta, City of Westphalia, Osage County R-I School District, Osage County R-II School District, Osage County R-III School District, , public agencies, non-profit organizations, the private sector as well as regional, state and federal agencies. MRPC contacted and asked for volunteers to serve on the planning committee from the county and local city governments, school districts, the county health department, local businesses and utility companies. The mailing list is included in **Appendix B: Planning Process**. This cross-section of local representatives was chosen for their experience and expertise in emergency planning and community planning in Osage County. Staff worked with the Osage County MPC to collect and analyze information on hazards and disasters that have impacted the county as well as document mitigation activities that have occurred during the past five years.

Due to time and duty constraints, not all the jurisdictions that were invited to participate in the MPC were able to attend meetings. However, all of the jurisdictions provided information to develop the document, submitted questionnaires, reviewed the plan and provided input. Interviews were conducted with stakeholders from the community and several planning meetings were conducted during the plan development.

The 2022 planning process began with a meeting held at the Osage County Administration Building on November 16, 2021. MRPC staff provided an overview of the hazard mitigation planning process and review of the existing hazard mitigation plan. The group reviewed and discussed hazard mitigation goals and what progress had been made on hazard mitigation action items over the past four years. The second meeting was held on February 8, 2022. The MPC reviewed the revised list of goals and action items, then applied the STAPLEE method (Social, Technical, Administrative, Political, Legal, Economic; Environmental) and a cost benefit analysis to best determine priorities. A full description of the prioritization process is included in Chapter 4. The group agreed to review plan chapters as they were completed through email or postings on the MRPC website. The third meeting of the MPC was held on September 22, 2022. The MPC reviewed participation requirements and status of participation of jurisdictions; reviewed and discussed draft chapters; reviewed plan maintenance and the adoption process.

The final list of prioritized action items was emailed out to all jurisdictions and entities that had been invited to participate on the MPC. Recipients were asked to review and provide feedback if they had concerns about how any of the projects were ranked. The draft plan was made available on-line and MPC members were notified on where to find the document and asked to review and provide feedback.

All planning committee members were provided drafts of sections of the plan as they became available. Members of the planning committee reviewed the draft chapters and provided valuable input to MRPC staff. Additionally, through public committee meetings, press releases

and draft plan posting on MRPC’s website, ample opportunity was provided for public participation. An internet survey was provided for the public to provide input into the process. The results of that survey are included in the appendices. Jurisdictions in surrounding counties were also notified of where to view the revised plan and encouraged to provide input. Any comments, questions and discussions resulting from these activities were given strong consideration in the development of this plan.

Osage County further assisted in the planning process by issuing public notice of the planning meetings as well as scheduling meeting times at the County Administration Building in Linn. County officials attended and participated in meetings.

The MPC contributed to the planning process by:

- Attending and participating in meetings;
- Collecting data for the plan;
- Making decisions on plan content;
- Reviewing drafts of the plan document;
- Developing a list of needs:
- Prioritizing needs and potential mitigation projects; and
- Assisting with public participation and plan adoption

The MPC did not formally meet on a regular basis as recommended in the plan. However, mitigation has become a regular topic of discussion among the majority of jurisdictions included in the plan. A number of hazard mitigation projects have been completed in the county and hazard mitigation concepts are being incorporated into other planning projects

Table 1.2 provides information on who actively participated in the planning process and who they represented:

Kym Brunnert, Meghan Birmingham, Danny Kirsch, Elise Brochue, Nicki Bax, Emily Sommer, Deidra Buechter, and Tammy Massman all participated indirectly by providing information, completing the jurisdictional questionnaire, participating in phone calls and email discussions and assisting with adoption of the plan.

**Table 1.2 Jurisdictional Representatives Osage County Mitigation Planning Committee**

<b>Name</b>	<b>Title</b>	<b>Department</b>	<b>Jurisdiction/Agency/ Organization</b>	<b>Direct Participation</b>	<b>Indirect Participation</b>
Darryl Griffin	Presiding Commissioner	County Commission	Osage County	X	
Larry Kliethermes	Associate Commissioner	County Commission	Osage County	X	
John Trenshaw	Associate Commissioner	County Commission	Osage County	X	
Ron Hoffman	Emergency Management Director	Office of Emergency Mgt.	Osage County	X	
Mike Bonham	Sheriff	Osage County Sheriff’s Department	Osage County	X	
Andrea Rice	Floodplain Manager	Osage County Sheriff’s Department	Osage County	X	

Name	Title	Department	Jurisdiction/Agency/ Organization	Direct Participation	Indirect Participation
Travis Shaffer	Deputy	Osage County Sheriff's Department	Osage County	X	
Janice Frank	Interim Clerk to Commission	County Clerk's Office	Osage County	X	
Brooke Dudenhoeffer	Commission Clerk	County Clerk's Office	Osage County	X	
Ron Kempker	Foreman	Road and Bridge	Osage County	X	
Kim Sallin	Director	Osage County Health Department	Osage County	X	
Kym Brunnert	City Clerk	Administration	City of Argyle		X
Meghan Birmingham	City Clerk	Administration	City of Chamois		X
Danny Kirsch	Supervisor	City Water and Sewer	City of Chamois		X
Elise Brochue	Mayor	Administration	City of Chamois		X
Nicki Bax	City Clerk	Administration	City of Freeburg		X
Michael Bickell	Police Chief	Linn Police Department	City of Linn	X	
Lukefahr Probst	Officer	Linn Police Department	City of Linn	X	
Larry Fredrich	Director	Public Works	City of Linn	X	
Carrie Grellner	City Clerk	Administration	City of Linn	X	
Emily Sommer	Mayor	Administration	City of Meta		X
Deidra Buechter	City Clerk	Administration	City of Meta		X
Tammy Massman	Mayor	Administration	City of Westphalia		X
Lyle Best	Superintendent	Administration	Osage County R-I	X	
Dena Smith	Superintendent	Administration	Osage County R-II	X	
Melissa Wright	Principal	Administration	Osage County R-II	X	

The expertise of MPC members in the six mitigation categories (Preventive Measures, Property Protection, Natural Resource Protection, Emergency Services, Structural Flood Control Projects and Public Information) is outlined in Table 1.3 MPC Capability with Six Mitigation Categories.

**Table 1.3 MPC Capability with Six Mitigation Categories**

Community Department/Office	Preventive Measures	Structure and Infrastructure Projects		Natural Resource Protection	Public Information	Emergency Services
		Property Protection	Structural Flood Control Projects			
County Commission	✓	✓	✓	✓	✓	
County Clerk's Office	✓	✓	✓	✓	✓	
County Office of Emergency Management	✓				✓	✓
Sheriff's Department	✓	✓			✓	✓
County Road and Bridge	✓	✓	✓	✓		
County Health Department				✓	✓	
City of Argyle Administration	✓	✓	✓	✓	✓	
City of Chamois Administration	✓	✓	✓	✓	✓	
City of Chamois Water and Sewer	✓	✓	✓	✓		
City of Freeburg Administration	✓	✓	✓	✓	✓	
City of Linn Administration	✓	✓	✓	✓	✓	
City of Linn Police Department	✓	✓			✓	✓
City of Linn Public Works	✓	✓	✓	✓	✓	
City of Meta Administration	✓	✓	✓	✓	✓	
City of Westphalia Administration	✓	✓	✓	✓	✓	
Osage Co. R-I School Admin.	✓	✓	✓		✓	
Osage Co. R-II School Admin.	✓	✓	✓		✓	
Osage Co. R-III School Admin.	✓	✓	✓		✓	

## 1.4.1 Multi-Jurisdictional Participation

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**44 CFR Requirement §201.6(a)(3): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.**

Osage County invited incorporated cities, school districts, utility companies, medical facilities, nursing facilities, county health department, and not-for-profits to participate in the hazard mitigation planning process. Press releases were sent to media. Letters and/or emails were sent to each of the following:

- Osage County
- City of Argyle
- City of Chamois
- Village of Freeburg
- City of Linn
- City of Meta
- City of Westphalia
- Osage County R-I School District
- Osage County R-II School District
- Osage County R-III School District
- Osage Co. Health Dept.
- Charter Cable
- Media Comm. Corp.
- Socket Internet Services
- Ameren UE
- Three Rivers Electric Cooperative
- Crawford Electric Cooperative
- State Technical College of Missouri
- Community Health Center
- Capital Region Medical Clinic
- Linn Oak Rehabilitation Center
- Stonebridge Westphalia
- Harbor Place - Linn
- American Red Cross
- Missouri Department of Conservation
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- MO SEMA
- FEMA
- Unterrified Democrat
- USDA NRCS

A copy of the mailing list and invitation letters are included in Appendix B: Planning Process.

The Disaster Mitigation Act requires that each jurisdiction must participate in the planning process and formally adopt the plan. There were a number of criteria established for participation. In order to be considered participating in the planning process, jurisdictions needed to do at least one of the following as well as adopt the plan:

- Providing a representative to serve on the planning committee;
- Participating in at least one or more meetings of the planning committee;
- Providing data for plan development through surveys and/or interviews;
- Identify goals and mitigation actions for the plan;
- Prioritize mitigation actions/projects for the plan;
- Review and comment on the draft plan document;
- Informing the public, local officials and other interested parties about the planning process and providing opportunities for them to comment on the plan;
- Provide in-kind match documentation; and
- Formally adopt the plan prior to submittal of the final draft to SEMA and FEMA for final approval.



Not all jurisdictions were able to attend the MPC meetings. Most communities and school districts in Osage County are small and understaffed. It was not always feasible for representatives to travel to the meetings. However, all jurisdictions met at least one of the participation criteria. All jurisdictions were contacted by phone and asked to complete the data collection questionnaire. In some cases, staff assisted jurisdictions with completion of the questionnaire. All jurisdictions were also contacted via email and phone regarding completion of in-kind match forms and if there were any questions regarding the information on the data collection questionnaires. The jurisdictions that participated in the process, as well as their level of participation in the process are shown in Table 1.3. Documentation of meetings, including sign-in sheets are included in Appendix B: Planning Process.

**Table 1.4 Jurisdictional Participation in the Planning Process**

Jurisdiction	Meet- ing #1	Meet- ing #2	Meet- ing #3	Interviews	Data Collection Questionnaire/Call	Update/Develop/ Prioritize Mitigation Actions	Review/ Comment on Plan
Osage County	X	X	X	X	X	X	X
City of Argyle				X	X		X
City of Chamois				X	X		X
Village of Freeburg				X	X		X
City of Linn	X	X		X	X	X	X
City of Meta				X	X		X
City of Westphalia				X	X		X
Osage Co. R- I	X			X	X		X
Osage Co. R- II	X			X	X		X
Osage Co. R- III	X			X	X		X

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## 1.4.2 The Planning Steps

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Osage County and MRPC worked together to develop the plan and based the planning process in FEMA’s *Local Mitigation Planning Handbook (March 2013)*, the *Local Mitigation Plan Review Guide (October 1, 2011)*, and *Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials (March 1, 2013)*. The planning process has included organizing the county’s resources, assessing the risks to the county, developing the mitigation plan and implementing the plan and monitoring the progress of plan implementation.

The planning committee based their activities on the 10-step planning process adapted from FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. By following the 10-step planning process, the plan met funding eligibility requirements of the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities Grant

Program, Pre-Disaster Mitigation Program, Community Rating System and Flood Mitigation Assistance Program.

**Table 1.5 Osage County Planning Process**

<b>Community Rating System (CRS) Planning Steps (Activity 510)</b>	<b>Local Mitigation Planning Handbook Tasks (44 CFR Part 201)</b>
Step 1: Organize	Task 1: Determine the Planning Area and Resources
	Task 2: Build the Planning Team 44 CFR 201.6(c)(1)
Step 2: Involve the public	Task 3: Create an Outreach Strategy 44 CFR 201.6(b)(2) & (3)
Step 3: Coordinate	Task 4: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Step 4: Assess the hazard	Task 5: Conduct a Risk Assessment 44 CFR 201.6(c)(2)(i) 44 CFR 201.6(c)(2)(ii) & (iii)
Step 5: Assess the problem	
Step 6: Set goals	Task 6: Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i); 44 CFR 201.6(c)(3)(iii)
Step 7: Review possible activities	
Step 8: Draft an action plan	
Step 9: Adopt the plan	Task 8: Review and Adopt the Plan
Step 10: Implement, evaluate, revise	Task 7: Keep the Plan Current
	Task 9: Create a Safe and Resilient Community 44 CFR 201.6(c)(4)

**Step 1: Organize the Planning Team (Handbook Tasks 1 & 2)**

The planning area was determined by the boundaries of Osage County. MRPC staff provided general information on the hazard mitigation plan review process at regular MRPC board meetings – providing both written and oral reports on the review process, schedules for the various plans; which ones had been funded; described match requirements; and asked mayors and commissioners to think about who should be included on the planning committees for each respective county.

The planning team was selected by contacting the leadership of each jurisdiction, explaining the process, and asking them to send appropriate representation to the planning meetings. In addition, they were asked to provide input on who they wanted to include on the planning committee. Stakeholders such as electric cooperatives and sewer districts were also contacted and invited. In addition, it was suggested that representatives of some of the local critical facilities be included on the planning committee, such as medical clinics and nursing homes. All meetings were also publicized to allow additional interested parties to attend and participate. Osage County Commission offered to host the meetings at the county administration building and the first meeting was held there on November 16, 2021.

At the first meeting on November 16, 2021, MRPC staff made introductions and provided an overview of the Osage County Hazard Mitigation plan. The group reviewed and discussed the goals and objectives. A good deal of the meeting was spent sharing information on what progress had been made in five years and discussing current and future needs and adding new

mitigation actions to the existing list. Staff offered to help those jurisdictions present with completion of their data collection surveys. The group started working on reviewing and prioritizing the action items – using both the STAPLEE method and analyzing the cost benefit.

At the second meeting on June 25, 2020, the group reviewed, revised, and combine the existing plan goals to remove redundancy. The group then reviewed complete list of action items; determined which had been completed; which should be combined; which were no longer a high or medium priority; and determined if any needed to be added. The MPC then provided input on prioritizing each of the action items. Staff took those recommendations and developed a matrix of the action items with the STAPLEE and cost benefit scores. This matrix was emailed out to all of the individuals and organizations on the mailing list for the MPC with a request for feedback. All suggestions for changes were incorporated into the plan. MRPC staff shared the results of the public survey. The group also reviewed the list of critical facilities in the plan and provided feedback on any changes or additions to that list. It was decided that staff would share plan chapters with the MPC as they were completed.

At the third meeting on September 22, 2022, the group reviewed participation requirements and the status of all jurisdictions; reviewed and discuss those draft chapters that were completed; discussed plan maintenance and the adoption process.

Table 1.5 Schedule of MPC Meetings outlines the dates that meetings were held and topics covered. Documentation of the planning process can be found in Appendix B: Planning Process.

**Table 1.6 Schedule of MPC Meetings**

Meeting	Topics	Date
Planning Meeting #1	Overview of hazard mitigation planning purpose and Osage County plan; grant programs linked to approved plan; participation requirements and public involvement; data collection questionnaires; discussion of hazards; critical facilities	November 16, 2021
Planning Meeting #2	Overview of hazard mitigation planning and Osage Co. HMP; discussion of goals and action items for the next 5 years; prioritization of action items; road and bridge projects; integration of other data, reports, studies, and plans	February 8, 2022
Planning Meeting #3	Reviewed participation requirements and status of jurisdictions, review and discussion of draft chapters, plan maintenance and adoption process and next steps for the planning process and completion of the plan.	September 22, 2022

## **Step 2: Plan for Public Involvement (Handbook Task 3)**

**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.**

The MPC followed the same process for public involvement and input as suggested by SEMA and FEMA and as was followed during earlier planning processes. The first MPC meeting was held at the Osage County Courthouse. Public notices were placed at the courthouse, and press releases were done prior to the meeting to make the public aware. Meetings were also posted on the MRPC webpage. The public was notified each time the plan or sections of the plan were presented for review and discussion. A public survey was conducted, and the results shared with the MPC. A sample of the survey and the results of the survey are included in Appendix C: Public Survey. MPC members and public officials within the county as well as in surrounding counties were contacted, directed to the MRPC website ([www.meramecregion.org](http://www.meramecregion.org)) where a copy of the draft plan could be viewed or downloaded. The document was made available on the website on October 6, 2022. Hard copies of the final draft were placed at the Osage County Courthouse. A hard copy of the draft could be obtained directly from MRPC by request. Members of the local media were invited to attend planning meetings. Information was shared by these media outlets with the public on the planning process and where to find draft copies of the plan. Copies of public notices and press release are included in Appendix B. Results of the public survey are included in Appendix C: Public Survey.

No comments were received from the public other than what was found in the public survey. Which are included in the Appendices.

## **Step 3: Coordinate with Other Departments and Agencies and Incorporate Existing Information (Handbook Task 3)**

**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: (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. (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.**

Every effort was made to encourage input from stakeholders whose goals and interests interface with hazard mitigation in Osage County including:

- Neighboring communities
- Local and regional agencies involved in hazard mitigation activities
- Agencies with the authority to regulate development
- Businesses
- Academia
- Other private and non-profit interests

Stakeholders involved in the hazard mitigation planning process included State technical College of Missouri, Missouri University Extension, General Baptist Nursing Home, and the Unterrified Democrat. No federal stakeholders were involved during the planning process. Lists of the people from the jurisdictions and stakeholders who were invited to participate in the planning process follows.

### Jurisdictional Representatives Invited to Participate in the Planning Process

Name	Title	Department	Jurisdiction/Agency/Organization
Darryl Griffin	Presiding Commissioner	County	Osage County
John Trenshaw	Associate Commissioner	County	Osage County
Larry Kleithermes	Associate Commissioner	County	Osage County
Nicci Kammerich	Clerk	County	Osage County
Michael Bonham	Sherriff	Sherriff's Dept.	Osage County
Ron Hoffman	EMD	Emergency Management	Osage County
Ron Kempker	Foreman	Road and Bridge	Osage County
Kim Sallin	Administrator	Health	Osage County
Ryan Davis	Chairperson	Admin.	City of Argyle
Kym Brunnert	City Clerk	Admin.	City of Argyle
Derek Schwartz	Director	Emergency Management	City of Argyle
Ruben Wieberg	Chief	Fire	Argyle Vol. Fire Department
Elise Brochue	Mayor	Admin.	City of Chamois
Michelle Stanley	Clerk	Admin.	City of Chamois
Danny Kirsch	Director	Public Works	City of Chamois
Rodney Frey	Director	Emergency Management	City of Chamois
Riley Lewis	Marshal	Police	City of Chamois
Joe Rost	Chief	Fire	Chamois Vol. Fire Department
Darryl Haller	Chairperson	Admin.	City of Freeburg
Allen Gradel	City Clerk	Admin.	City of Freeburg
Darryl Haller	Chief	Fire	Freeburg Comm. Fire Association
Todd Feeler	Superintendent	Water and Sewer	City of Freeburg
Dwight Massey	Mayor	Admin.	City of Linn
Carrie Grellner	City Clerk	Admin.	City of Linn
Larry Fredrich	Superintendent	Water, Street & Utilities	City of Linn
Richard Bray	Chief	Police	City of Linn
Ron Hoffman	Chief	Fire	Linn Fire Protection District
Emily Sommerer	Mayor	Admin.	City of Meta
Diedra Buechter	Clerk	Admin.	City of Meta
Kenneth Helton	Chief	Fire	Meta Fire & Rescue
Tammy Massman	Mayor	Admin.	City of Westphalia
Kerry Bax	Clerk	Admin.	City of Westphalia
Jim Roark	Chief	Fire	Westphalia Fire Protection District

Name	Title	Department	Jurisdiction/Agency/Organization
Lyle Best	Superintendent	Admin	Osage Co. R-I School District
Dena Smith	Superintendent	Admin	Osage Co. R-II School District
Chuck Woody	Superintendent	Admin	Osage Co. R-III School District

### Stakeholder Invited to Participate in the Planning Process

Name	Title	Agency/Organization
-	-	Ameren UE
-	-	Three Rivers Electric Cooperative
-	-	Socket Internet Services
-	-	Media Comm. Corp.
-	-	Charter Communications
-	-	Capital Region Medical Clinic
-	-	Community Health Center
-	-	Unterrified Democrat
Corey J. Schoeneberg	Captain	MO. Highway Patrol
-	-	MO Dept. of Transportation
-	-	Missouri Dept. of Conservation
Brenda Gerlach	Area Coordinator	MO SEMA
Shawn Strong	President	State Technical College of Missouri
Matt Shively	-	U.S. Army Corp. of Engineers
Ken Sessa	-	U.S. FEMA
Karen Herrington	Field Supervisor	U.S. Fish & Wildlife Services
-	-	U.S. Department of Agriculture, NRCS
Melissa Wilding	-	American Red Cross
Laci Tambke	Administrator	Linn Oak Rehabilitation Center
Julie Heckman	Administrator	Stonebridge Westphalia
Gina Huckstep	Administrator	Harbor Place - Linn

Jurisdictional representatives on the MPC were asked to share and solicit information from within and outside of their jurisdictions. A broad spectrum of entities other than the jurisdictions named in the plan, were invited to participate in the planning process.

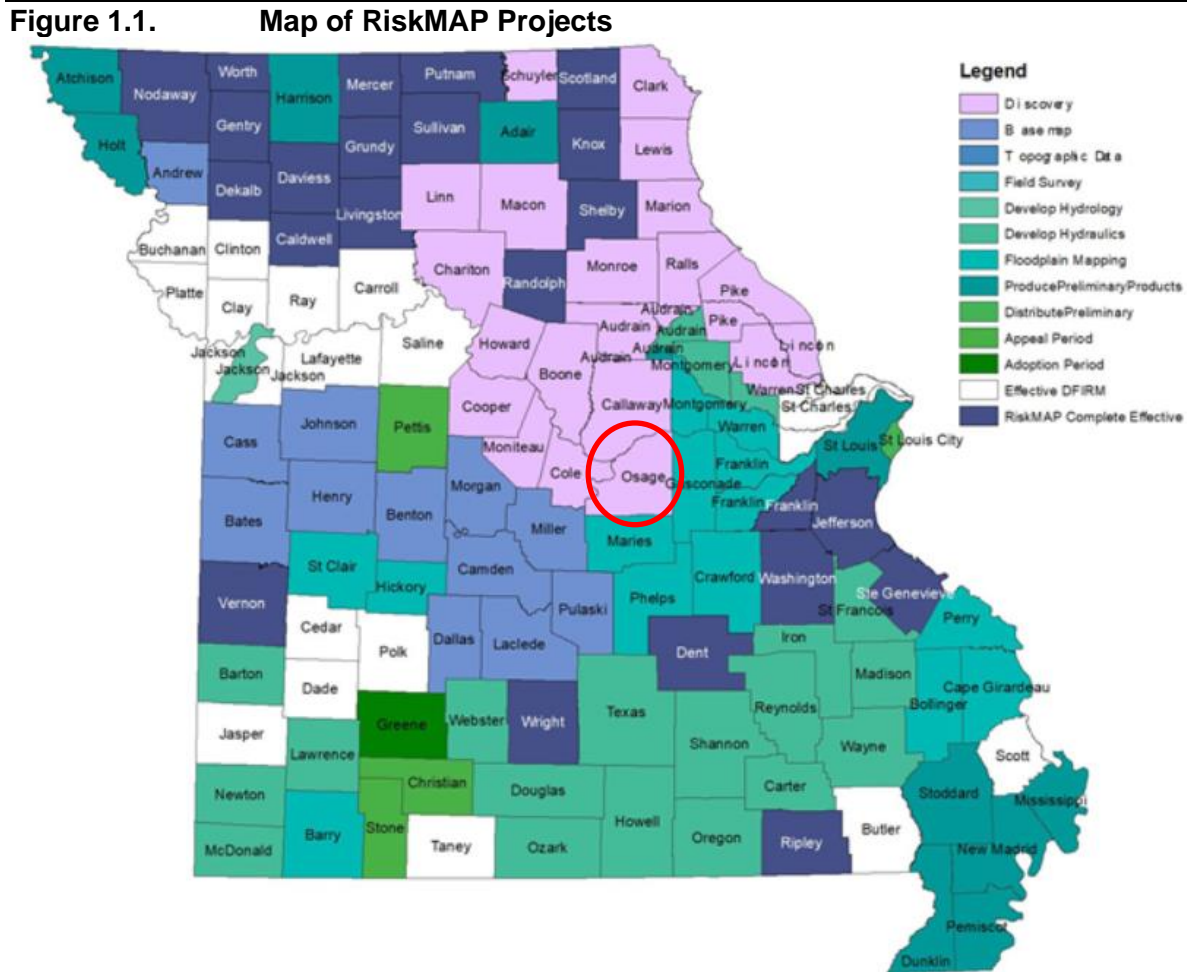
The questionnaire provided to every jurisdiction asked how mitigation actions were being incorporated into other planning documents. The county road and bridge department does a good job of incorporating mitigation projects into their regular maintenance program. Those projects have been incorporated into the plan document. Hazard mitigation goals and action items have also been incorporated, where applicable, in the Community Economic Development Strategy (CEDS).

### Coordination with FEMA Risk MAP Project

The Risk MAP project has begun in Osage County. The discovery process began in January 2020. Discovery is the process where it is determined what each county in the watershed needs to have the best flood risk data possible with the funds available. The county currently has DFIRM maps. Once completed, Risk MAP will provide mitigation planning support in a variety of ways including helping in the assessment of risks and identifying action items to reduce

vulnerability. In addition, this project will provide tools to improve the understanding of risk by local officials and the general public.

Figure 1.1 illustrates the current status of Missouri counties in regard to RiskMap projects



### Integration of Other Data, Reports, Studies and Plans

The MPC researched available plans, studies, reports and technical information during development of the Update. The intent was to identify existing data and information, shared objectives and past and ongoing activities that would add to the Update. The goal was to identify the existing capabilities and planning mechanisms to implement the mitigation strategy. Osage County is a rural area with the largest community's population at approximately 1,350. Not all of the participating communities have planning or zoning, subdivision regulations or other mechanisms for controlling the development of land. Some of the jurisdictions do have ordinances and planning documents. Following is a list of the documents that were reviewed:

- Local planning and zoning ordinances
- County EOP
- Crisis Plans (school districts)
- Comprehensive plans

- Economic development plans
- Capital improvement plans
- Regional Transportation Plan
- Floodplain management ordinances and flood Insurance Risk Maps (FIRMs)

In addition to information available from local jurisdictions, a number of data sources, reports, studies and plans were used in updating the plan. Every attempt was made to gather the best available data to develop the vulnerability assessment and identify assets in the county. The Missouri State Hazard Mitigation Plan (2018) was reviewed and referenced throughout the document. Other data sources included dam information from the Missouri Department of Natural Resources and National Inventory of Dams (NID); fire reports from state agencies; Wildland/Urban Interface and Intermix data from the SILVIS Lab – Department of Forest Ecology and Management – University of Wisconsin; the Community Economic Development Strategy (CEDS); capital improvement plans from the participating jurisdictions; historic weather data and damage estimates from the National Oceanic and Atmospheric Administration; the critical facilities inventory conducted by MRPC; and road and bridge department plans/budgets.

All documents were reviewed so that the MPC would have a broad foundation of data upon which to base the planning area's risk assessment. Information from these documents and data sources are incorporated into the plan as indicated throughout the document.

#### **Step 4: Assess the Hazard: Identify and Profile Hazards (Handbook Task 5)**

The MPC reviewed the hazards that affected Osage County at the first planning meeting on November 16, 2021 including discussions of any hazard events that occurred during the last twenty years and all of the hazards included in the Missouri Hazard Mitigation plan. A variety of sources were used to identify and profile hazards. These included U.S. Census data, GIS data, HAZUS, the Missouri Spatial Data Information Service (MSDIS), statewide datasets compiled by state and federal agencies, existing plans and reports, personal interviews with MPC members and the questionnaire completed by each jurisdiction. Every effort was made to use the most current and best data available. Additional information on the risk assessment and the conclusions drawn from the available data can be found in Chapter 3.

#### **Step 5: Assess the Problem: Identify Assets and Estimate Losses**

Assets for each jurisdiction were identified based on responses to the data collection questionnaire distributed to all jurisdictions, interviews with MPC members and the critical facilities inventory conducted by MRPC. Additional sources included U.S. Census, GIS data, MSDIS and HAZUS.

Losses were calculated using HAZUS and the Missouri State Hazard Mitigation plan data and the most recent U.S. census data available. Values reflected in the plan are on structures only and do not include land values.

Jurisdictions provided information on their regulatory, personnel, fiscal and technical abilities by completing the data collection questionnaire. The vulnerability assessment was completed using estimates from the 2018 State plan. For more information on planning area profiles and capabilities, please see Chapter 2.



## Step 6: Set Goals (Handbook Task 6)

The goals from the initial hazard mitigation plan were reviewed at the first planning meeting on November 16, 2021. At the second planning meeting on February 8, 2022 the MPC discussed revision of the original goals to remove redundancy and improve coverage. The revised goals are as follows:

**Goal 1:** Reduce the potential impact of natural disasters on the lives and livelihoods of the citizens of the county.

**Goal 2:** Reduce the potential impact of natural disasters to [property, infrastructure, and the local economy.

**Goal 3:** Reduce the potential impact of natural disasters on the continuity of government and essential services.

## Step 7: Review Possible Mitigation Actions and Activities

Mitigation strategy and specific action items were discussed at the first and second MPC meetings. At the first MPC meeting the group reviewed the list in the existing plan and decided which actions could be eliminated; what could be combined; what needed to remain on the list; and what needed to be added. It was emphasized that any mitigation actions in the plan that were not likely to be accomplished, due to cost factors or that did not address the risks identified in the risk assessment, should be removed from the list.

Discussions also included mitigation activities that had been completed or were in process that had not been in the original plan document. Each jurisdiction and stakeholder group was asked to provide information about mitigation activities that were needed as well as those that had been accomplished over the past five years. Meeting facilitators offered to share ideas for mitigation projects from the FEMA publication *Mitigation Ideas: As Resource for Reducing Risk to Natural Hazards (January 2013)* to help stimulate ideas and discussion.

Staff received proposed road and bridge mitigation projects that needed to be addressed from the County Associate Commissioners on February 08, 2022.

In order to prioritize action items, the MPC was asked to use the STAPLEE method as well as assign a cost benefit to each activity. This allowed the group to consider a broad range of issues in order to decide which actions should be considered high, moderate or low priority. The prioritization process used by the MPC is explained as follows:

STAPLEE stands for the following:

- **Social:** Will the action be acceptable to the community? Could it have an unfair effect on a particular segment of the population?
- **Technical:** is the action technically feasible? Are there secondary impacts? Does it offer a long-term solution?
- **Administrative:** Are there adequate staffing, funding and maintenance capabilities to implement the project?
- **Political:** Will there be adequate political and public support for the project?
- **Legal:** Does your jurisdiction have the legal authority to implement the action?

- **Economic:** is the action cost-beneficial? Is there funding available: Will the action contribute to the local economy?
- **Environmental:** Will there be negative environmental consequences from the action? Does it comply with environmental regulations? Is it consistent with community environmental goals?

Each question was scored based on a 0 to 3 point value system:

- 3 = Definitely YES
- 2 = Maybe YES
- 1 = Probably NO
- 0 = Definitely NO

For the Benefit/Cost Review portion of the prioritization process, these two aspects were scored as follows:

Benefit – two (2) points were added for each of the following avoided damages (8 points maximum = highest benefit)

- Injuries and/or casualties
- Property damages
- Loss-of-function/displacement impacts
- Emergency management costs/community costs

Cost – points were subtracted according to the following cost scale (-5 points maximum = highest cost)

- (-1) = Minimal – little cost to the jurisdiction involved
- (-3) = Moderate – definite cost involved but could likely be worked into operating budget
- (-5) = Significant – cost above and beyond most operating budgets; would require extra appropriations to finance or to meet matching funds for a grant

Note: For the Benefit/Cost Review, the benefit and cost of actions which used the word “encourage” were evaluated as if the action or strategy being encouraged was actually to be carried out.

Total Score – The scores for the STAPLEE Review and Benefit/Cost Review were added to determine a Total Score for each action.

Priority Scale – To achieve an understanding of how a Total Score might be translated into a Priority Rating, a sample matrix was filled out for the possible range of ratings an action might receive on both the STAPLEE and Benefit/Cost Review. The possible ratings tested ranged between:

- A hypothetical action with “Half probably NO and half maybe YES” answers on STAPLEE (i.e. poor STAPLEE score) and Low Benefit/High Cost: Total Score = 7
- A hypothetical action with “All definitely YES” on STAPLEE and High Benefit/Little Cost: Total Score = 28

An inspection of the possible scores within this range led to the development of the following Priority Scale based on the Total Score in the STAPLEE- Benefit/Cost Review process:

- 20 – 28 points = High Priority
- 14-19 points = Medium Priority
- 13 points and below = Low Priority

The benefit portion of the prioritization process helped the MPC focus on long-term mitigation solutions that demonstrated the future cost savings that could be realized by completing mitigation projects that safeguard lives and protect property.

Finally, action items were reviewed to determine if they met the SMART criteria as provided by SEMA and FEMA: **S**pecific, **M**easurable, **A**chievable, **R**elevant, **T**ime-bound.

#### **Step 8: Draft an Action Plan**

The MPC reviewed the final list of action items and completed the prioritization process at the February 8, 2022 meeting. The final list was then mailed out to all jurisdictions and members of the MPC for review and approval as everyone was not able to attend the meeting. Staff was directed by the MPC to take the finalized list after allowing time for comments and draft an action plan.

#### **Step 9: Adopt the Plan (Handbook Task 8)**

When the first draft of the plan was completed, staff posted the document on the MRPC website and provided a hard copy to the county courthouse. All MPC members, jurisdictions and surrounding jurisdictions were notified on where to find a copy of the plan to review. If requested, additional hard copies of the plan document were provided. After allowing time for comments, a letter was mailed out to all jurisdictions asking them to formally adopt the plan and providing a sample adoption resolution. A deadline was provided in order to ensure receipt of adoption resolutions prior to submitting a final draft to FEMA for approval.

#### **Step 10: Implement, Evaluate, and Revise the Plan (Handbook Tasks 7 & 9)**

At all three planning meetings (November 16, 2021, February 8, 2022 and September 22, 2022) MRPC staff advised the MPC and participating jurisdictions of the importance of continuing to meet periodically to discuss implementation of the plan as well as monitoring and maintaining the plan into the future. Chapter 5 provides details on Osage County's strategy for implementation, evaluation and revising the plan.