

Johnson County Multi-Jurisdictional
Hazard Mitigation Plan
2014 - 2019



Purpose of Hazard Mitigation Planning

- To identify how a community can minimize death, injury, property damage, and community disruption caused by natural, human caused, or combination hazards
- To use a proactive rather than reactive approach to reduce the negative impacts of potential hazards
- Maintain eligibility to apply for Hazard Mitigation Grant Program funding, which is available after a federal disaster declaration is issued in Iowa

Steps in the Plan Development Process

1. Create local planning team
2. Identify and rank hazards
3. Identify critical facilities and vulnerable populations
4. Determine hazard mitigation goals
5. Discuss current mitigation efforts
6. Identify potential mitigation projects
7. Evaluate and prioritize projects
8. Discuss action plan for implementing projects
9. Determine future monitoring of the plan

Type of Hazard Mitigation Plans

Single Jurisdiction

- Includes one local government entity
- Analysis of hazards focuses on local conditions
- Mitigation strategy focuses on local priorities and capabilities

Multi-jurisdictional

- Includes all local government entities in the county
 - Unincorporated areas
 - Cities
 - School districts
 - University of Iowa
- Analysis of hazards focuses on countywide conditions unless local conditions are unique
- Mitigation strategy focuses on local priorities and capabilities

Basic Plan Development Process and Agenda

1. Create local planning team
2. Identify and prioritize hazards
3. Identify critical facilities and vulnerable populations
4. Determine hazard mitigation goals
5. Discuss current mitigation efforts
6. Identify potential mitigation projects
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Identify hazards - types of hazards

Natural vs. Human Caused/Combination

- Natural hazards occur due to climate, geology, or hydrology
- Human caused hazards occur due to human actions
- Combination hazards occur due to climate, geology, or hydrology in conjunction with human actions

Countywide vs. Local

- Countywide hazards have an equal chance of affecting each community in the county
- Or, a countywide hazard is a widespread event that affects the entire county
- Local hazards are not applicable to the entire county because environmental factors such as geology, hydrology, or local infrastructure vary

Identify hazards – natural vs. human caused/combination

Natural

- Flash Flood
- Tornadoes
- Windstorms
- Extreme Heat
- Hailstorms
- Grass or Wild Land Fire
- Sink Holes
- River Flooding
- Severe Winter Storms
- Drought
- Earthquakes
- Landslide
- Expansive Soils
- Thunderstorm and Lightning
- Dam Failure
- Levee Failure

Human Caused/Combination

- Human Disease
- Hazardous Materials
- Transportation Incident
- Infrastructure Failure
- Terrorism
- Radiological
- Animal/Plant/Crop Disease

Identify hazards – hazards combined

Combined Hazard	2009 Hazards
Human Disease	Human Disease Incident; Pandemic Human Disease
Hazardous Materials	Fixed Hazardous Materials; Pipeline Transportation; Transportation Hazardous Materials
Infrastructure Failure	Communication Failure; Energy Failure; Structural Failure; Structural Fire
Transportation Incident	Air Transportation; Highway Transportation; Railway Transportation; Waterway Incident
Terrorism	Enemy Attack; Biological Terrorism; Agro-Terrorism; Chemical Terrorism; Conventional Terrorism; Cyber Terrorism; Radiological Terrorism; Public Disorder
Radiological	Fixed Radiological Incident; Transportation Radiological Incident

Identify hazards – countywide vs. local hazards

Countywide

- Tornadoes
- Windstorms
- Extreme Heat
- Hailstorms
- Severe Winter Storms
- Drought
- Earthquakes
- Thunderstorm and Lightning
- Human Disease
- Hazardous Materials
- Transportation Incident
- Infrastructure Failure
- Terrorism

Local

- Flash Flood
- Sink Holes
- River Flooding
- Landslide
- Expansive Soils
- Dam Failure
- Levee Failure
- Grass or Wild Land Fire
- Radiological
- Animal/Plant/Crop Disease

Prioritize hazards – hazard risk assessment

- Assessment factors
 - Probability
 - Magnitude/Severity
 - Warning Time
 - Duration
- Factors valued 1 through 4
- Factors assigned based on historical occurrences, existing hazard mitigation plans, 2010 Iowa Hazard Mitigation Plan, and local knowledge.
- Sum of factors = assessment score

Prioritize hazards - hazard priority level

- Priority 1
 - Risk assessment score is high relative to other hazards
 - Occurred recently with severe impacts requiring long-term recovery
 - Planning Team will identify potential mitigation projects
- Priority 2
 - Risk assessment score is mid-range relative to other hazards
 - Planning Team will identify unique or combination mitigation projects
- Priority 3
 - Risk assessment score is low relative to other hazards
 - Acceptable level of risk with current conditions
 - Unique mitigation projects may not be cost effective or projects may already be complete and/or in progress
 - Planning Team will discuss potential mitigation actions

Hazard	Probability	Severity	Warning Time	Duration	Total	Priority Level
River Flooding	4	4	1	4	13	1
Dam Failure	1	4	4	4	13	
Radiological	1	4	4	4	13	
Tornado	4	4	4	1	13	
Windstorms	4	3	3	2	12	
Hazardous Materials	2	2	4	4	12	
Severe Winter Storms	4	2	1	4	11	
Human Disease	1	4	2	4	11	
Infrastructure Failure	1	2	4	4	11	
Flash Flood	4	3	3	1	11	
Drought	2	3	1	4	10	2
Thunderstorms and Lightning	4	2	2	2	10	
Transportation Incident	2	2	4	2	10	
Hailstorms	4	2	2	1	9	
Extreme Heat	2	1	1	4	8	
Terrorism	1	1	4	2	8	
Earthquakes	1	1	4	1	7	3
Animal/Plant/Crop Disease	1	1	1	4	7	
Landslide	2	1	2	1	6	
Grass or Wild Land Fire	2	2	1	1	6	
Sink Holes	1	1	2	1	5	
Expansive Soils	2	1	1	1	5	

Identify critical facilities

- Critical facilities comprise all public and private facilities deemed essential for the delivery of vital services, protection of special populations, and the provision of other services of importance
- Examples
 - City Hall
 - Fire Department
 - Police Department
 - Emergency Operations Center
 - Hospital
- Existing vs. future critical facilities
- Countywide vs. local critical facilities

Identify vulnerable populations

- Individuals who may be especially vulnerable to the negative impacts of hazards
- Examples
 - Young and/or elderly
 - Physically impaired individuals
 - Cognitively impaired individuals
 - Hospitalized patients and others with medical conditions
 - Non-English speaking individuals
 - Mobile/manufactured home residents
 - Outdoor workers and events

Determine hazard mitigation goals

1. Protect the health and safety of residents and/or students, visitors, and emergency personnel (paid or volunteer) during and after hazard events.
2. Minimize losses to existing and future structures in hazard areas. Critical facilities are priority structures.
3. Maintain local services and infrastructure in order to reduce community, economic, and environmental disruption during and after hazard events.
4. Educate residents and visitors about local hazards and the resources available in their community.
5. Apply public funds to hazard mitigation projects in an efficient and fair manner.

Determine Mitigation Strategy

- For each hazard
 - Discuss current mitigation efforts
 - Discuss potential mitigation projects, evaluate, prioritize, and discuss action plan
 - Are secondary hazards addressed?
 - What goals are addressed by the project?
 - *What is the potential project benefit?*
 - *What is the potential project cost?*
 - What is the lead agency and potential partner(s)?
 - What are potential sources of funding?
 - What is the potential project timeline?
 - *What is the project priority level?*

Project benefit level vs. cost level

	Benefit	Cost
Low	<ul style="list-style-type: none"> ○ Results are difficult to determine and/or may not result in long-term reduction of risk from hazard(s) addressed ○ Definite community opposition ○ Lead agency may encounter capability or legal issues 	<ul style="list-style-type: none"> ○ Existing funding is adequate or the project can be completed through volunteer and/or staff time ○ Anticipated to cost less than \$10,000
Medium	<ul style="list-style-type: none"> ○ Results are likely a long-term reduction of risk from hazard(s) addressed and/or results are not widespread ○ Potential community opposition ○ Lead agency has capabilities and legal jurisdiction 	<ul style="list-style-type: none"> ○ Requires amending the budget and/or requires a bond to complete the project ○ Anticipated to cost between \$10,000 and \$100,000
High	<ul style="list-style-type: none"> ○ Results are likely immediate and/or widespread reduction of risk from hazard(s) addressed ○ Generally supported by the community ○ Lead agency has capabilities and legal jurisdiction 	<ul style="list-style-type: none"> ○ Existing funding is not adequate to complete the project ○ Funding may only be available through grants/assistance ○ Anticipated to cost greater than \$100,000

Project priority level

- **Priority level 1** – Immediate or primary focus in the next five years, project will likely have a high benefit level
- **Priority level 2** – Will become a primary focus in 5 to 10 years and/or project is cost prohibitive, project will likely have a high or medium benefit level
- **Priority level 3** – Will be a primary focus in 10 years or beyond, project is cost prohibitive and/or will likely have a low benefit level

Unincorporated Johnson County Action Plan

All proposed mitigation actions for Unincorporated Johnson County are considered high priority.

Mitigation actions in the action plan will be considered for completion in the next five years.

Availability of funding will be the main determinant of whether or not a mitigation action will be completed.

Priority Level	Mitigation Action	Lead	Potential Partners	Potential Funding Source	Benefit	Cost	Notes
1	Improve, and/or expand storm water systems, as needed, to prevent damage to critical facilities, infrastructure, and property	County Engineer	Iowa Department of Natural Resources	County, Hazard Mitigation Assistance, Community Development Block Grant, others to identified	High	High	
1	Acquire, relocate, and/or elevate flood prone structures	Planning Dept.	Property owners	County, Hazard Mitigation Assistance, others to identified	High	High	
1	Identify and complete flood mitigation projects to protect critical facilities (include dry and wet flood proofing)	County Engineer	Depends on the critical facility to be protected	County, Hazard Mitigation Assistance, others to identified	High	High	
1	Backup power generators for critical facilities (includes replacing obsolete power generators)	County Engineer	Johnson County EMA	County, Hazard Mitigation Grant Program, Pre-Disaster Mitigation, others to be identified	High	Medium	Priority facilities include the Secondary Roads Campus, the Johnson County Jail, new Johnson County Ambulance facility, and the F. W. Kent Park administrative building
1	Construct community safe rooms	County Engineer	Johnson County Emergency Management Agency, School Districts	County, Hazard Mitigation Grant Program, Pre-Disaster Mitigation, others to be identified	High	High	The Johnson County Fairgrounds and F.W. Kent Park are priority areas
1	Expand coverage of the outdoor warning siren system	Johnson County EMA	Neighboring communities	County, Hazard Mitigation Grant Program, Pre-Disaster Mitigation, others to be identified	High	Medium	
1	Bury power lines at critical facilities	County Engineer	Local utility providers	County, others to be identified	High	High	

Continued

Priority Level	Mitigation Action	Lead Agency	Potential Partners	Potential Funding Source	Benefit	Cost	Notes
1	Identify cooling centers	Johnson County Public Health	Johnson County Emergency Management Agency, School Districts	Not Applicable	Medium	Low	
1	Pumps for critical facilities	County Engineer	Johnson County Emergency Management Agency	County, others to be identified	High	Medium	
1	Elevate and protect transportation infrastructure	County Engineer	Iowa Department of Transportation, Johnson County Emergency Management	County, Hazard Mitigation Grant Program, Pre-Disaster Mitigation, others to be identified	High	High	
1	Establish a flood protected travel corridor between Linn and Johnson County	County Engineer	Iowa Department of Transportation, Johnson County Emergency Management	County, Hazard Mitigation Grant Program, Pre-Disaster Mitigation, others to be identified	High	High	

Discuss future monitoring of the plan

- Information to consider
 - Plan must be updated every 5 years (April 2019)
 - Updates typically begin 2 years before plan expiration per planning grant guidelines
- Monitoring ideas to consider
 - Internal review of the plan – annually, biannually, etc.
 - Review when Hazard Mitigation Grant Program funds are available from the state
 - Review before budget/Capital Improvements Program preparation
 - Others?

Moving forward

- Review of hazard risk assessment, mitigation strategy, and future monitoring of plan – ongoing for next 5 years
- 30-day public comment period – December 2013
- Submitted plan for review – January 2014
- Back from FEMA with comments
- Adoption Process underway County Wide
- Need Adoption by Board within 2 weeks
- Grant close-out – by end of April 2014

Questions & Thank You!

