

# 1 INTRODUCTION AND PLANNING PROCESS

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## 1.1 Purpose

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Dallas County and its participating cities and public school districts prepared this Multi-Jurisdictional Hazard Mitigation Plan update to guide hazard mitigation planning to better protect the people and property of the planning area from the effects of hazard events.

This plan demonstrates the jurisdictions’ commitments to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources. This plan was also developed to make Dallas County and the participating jurisdictions eligible for certain federal grant programs, specifically the Federal Emergency Management Agency’s (FEMA) Hazard Mitigation Assistance (HMA) grants including the Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program.

## 1.2 Background and Scope

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Each year in the United States, disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.

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.” The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society \$4 in avoided future losses, in addition to saving lives and preventing injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005).

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. Dallas

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County and the participating incorporated cities and public school districts that participated in this plan update developed a Multi-Jurisdictional Hazard Mitigation Plan that was approved by FEMA on April 5, 2013 (hereafter referred to as the *2013 Dallas County Hazard Mitigation Plan*). Therefore, this current planning effort serves to update the previous plan.

This plan documents the hazard mitigation planning process undertaken by the Dallas County Hazard Mitigation Planning Committee (HMPC). It identifies relevant hazards and vulnerabilities in the planning area and sets forth an updated mitigation strategy to decrease vulnerability and increase resiliency and sustainability in Dallas County.

The Dallas County Multi-Jurisdictional Hazard Mitigation Plan is a multi-jurisdictional plan that geographically covers the participating jurisdictions within Dallas County's boundaries (hereinafter referred to as the planning area). The following jurisdictions officially participated in the planning process:

- Dallas County
- City of Adel
- City of Bouton
- City of Dallas Center
- City of Dawson
- City of DeSoto
- City of Dexter
- City of Granger
- City of Linden
- City of Minburn
- City of Perry
- City of Redfield
- City of Van Meter
- City of Waukee
- City of Woodward
- Adel-DeSoto-Minburn Schools
- Dallas Center-Grimes Schools
- Perry Schools
- Van Meter Schools
- Waukee Schools
- West Central Valley Schools
- Woodward-Granger Schools

This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the *Federal Register* on February 26, 2002 (44 CFR §201.6), and finalized on October 31, 2007. (Hereafter, these requirements and regulations will be referred to collectively as the Disaster Mitigation Act.) Additionally, this plan is prepared in accordance with the 2013 *Local Mitigation Planning Handbook* published by FEMA.

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While the Disaster Mitigation Act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the requirements that local hazard mitigation plans must meet in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

Information in this plan will be used to help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The Dallas County planning area has been affected by hazards in the past and the participating jurisdictions are therefore committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.

## 1.3 Plan Organization

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This Dallas County Multi-Jurisdictional Hazard Mitigation Plan update 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

This is the same format that was used for the 2013 Dallas County Hazard Mitigation Plan.

## 1.4 Planning Process

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**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.**

In February 2017, the State of Iowa Homeland Security and Emergency Management Department contracted with Amec Foster Wheeler, Environment & Infrastructure, Inc. to facilitate the update of the Dallas County Multi-Jurisdictional Local Hazard Mitigation Plan. Amec Foster Wheeler's role was to:

- Assist in establishing the Hazard Mitigation Planning Committee (HMPC) as defined by the Disaster Mitigation Act (DMA),
- Ensure the updated plan meets the DMA requirements as established by federal regulations and following FEMA's planning guidance,
- Facilitate the entire planning process,
- Identify the data requirements that HMPC participants could provide and conduct the research and documentation necessary to augment that data,

- Assist in facilitating the public input process,
- Produce the draft and final plan update documents, and
- Coordinate the Iowa Homeland Security and Emergency Management Department and FEMA plan reviews.

### 1.4.1 Multi-Jurisdictional Participation

**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.**

Dallas County invited the incorporated cities, public school districts, and various other stakeholders in mitigation planning (identified in Appendix B) to participate in the Dallas County Multi-Jurisdictional Hazard Mitigation Plan update process. The jurisdictions that elected to participate in this plan are listed above in section 1.2. The DMA requires that each jurisdiction that participates in the planning process must officially adopt the multi-jurisdictional hazard mitigation plan. Each jurisdiction that chose to participate in the planning process and development of the plan was required to meet plan participation requirements defined at the first planning meeting, which includes the following:

- Designate a representative to serve on the HMPC;
- Participate in at least one of the three HMPC planning meetings by either direct representation or authorized representation;
- Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact their jurisdiction;
- Provide data to describe current capabilities;
- Develop/update mitigation actions (at least one) specific to each jurisdiction;
- Provide comments on plan drafts as requested;
- Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan; and
- Formally adopt the mitigation plan.

All of the jurisdictions listed as official participants in this plan met all of these participation requirements. **Table 1.1** shows the representation of each participating jurisdiction at the planning meetings, provision of Data Collection Guides, and update/development of mitigation actions. Sign-in sheets are included in Appendix B: Planning Process Documentation.

**Table 1.1. Jurisdictional Participation in Planning Process**

Jurisdiction	Kick-off Meeting	Planning Meeting #2	Planning Meeting #3	Other Meeting	Data Collection Guide	Status of Previous Actions	Mitigation Action Plans
Dallas County	x	x	x		x	x	x
City of Adel	x	x	x		x	x	x
City of Bouton	x	x	x		x	x	x
City of Dallas Center	x	x	x		x	x	x
City of Dawson			x		x	x	x
City of DeSoto				9/19/2017	x	x	x

Jurisdiction	Kick-off Meeting	Planning Meeting #2	Planning Meeting #3	Other Meeting	Data Collection Guide	Status of Previous Actions	Mitigation Action Plans
City of Dexter			x		x	x	x
City of Granger	x	x	x		x	x	x
City of Linden				10/13/2017	x	x	x
City of Minburn	x		x		x	x	x
City of Perry	x	x			x	x	x
City of Redfield		x	x		x	x	x
City of Van Meter		x	x		x	x	x
City of Woodward	x	x	x		x	x	x
City of Waukee	x	x			x	x	x
Dallas Center Grimes School District		x			x	x	x
Adel DeSoto Minburn School District	x				x	x	x
Perry School District	x	x			x	x	x
Van Meter School District	x		x		x	x	x
Waukee School District			x		x	x	x
West Central Valley School District	x	x			x	x	x
Woodward-Granger School District	x		x		x	x	x

## 1.4.2 The Planning Steps

Amec Foster Wheeler and Dallas County worked together to establish the framework and process for this planning effort using FEMA's *Local Mitigation Planning Handbook* (March 2013). The plan update was completed utilizing the 9-task approach within a broad four-phase process:

- 1) Organize resources,
- 2) Assess risks,
- 3) Develop the mitigation plan, and
- 4) Implement the plan and monitor progress.

Into this process, Amec Foster Wheeler integrated a detailed 10-step planning process adapted from FEMA's Community Rating System (CRS) and Flood Mitigation Assistance programs. Thus, the process used for this plan meets the requirements of the Disaster Mitigation Act of 2000 as well as the basic requirements for activity 510 under the Community Rating System. **0** shows how the process followed fits into FEMA's original four-phase DMA process as well as the revised Nine Task Process outlined in the 2013 *Local Mitigation Planning Handbook* and the 10-step CRS process.

**Table 1.2. Mitigation Planning Process Used to Develop the Dallas County Multi-Jurisdictional Local Hazard Mitigation Plan**

Phase	Community Rating System (CRS) Planning Steps (Activity 510)	Local Mitigation Planning Handbook Tasks (44 CFR Part 201)
Phase I	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)(1)
	Step 3. Coordinate	Task 4: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Phase II	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	
Phase III	Step 6. Set goals	Task 6: Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i); 44 CFR 201.6(c)(3)(ii); and 44 CFR 201.6(c)(3)(iii)
	Step 7. Review possible activities	
	Step 8. Draft an action plan	
Phase IV	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)

## Phase I Organize Resources

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

The planning process resulting in the preparation of this plan document officially began with an initial coordination Conference Call/Webinar on March 15, 2017. Participants of the meeting included the Dallas County Emergency Management Coordinator, Dallas County GIS Coordinator, Iowa Homeland Security and Emergency Management Department Project Officer and the Amec Foster Wheeler Mitigation Planner. The purpose of this meeting was to determine the jurisdictions and other stakeholders that would be invited to participate on the HMPC (Step 1), set tentative planning meeting dates, identify GIS needs and resources, discuss the hazards to be included in the plan update and options for the flood risk assessment methodology, and develop an initial public participation strategy. Detailed meeting minutes are included in Appendix B.

After the initial coordination meeting, a formal Kick-off planning conference call/webinar was held on May 9, 2017 followed by two additional planning meetings held on July 18, 2017 and August 31, 2017. A complete list of all representatives of the agencies and organizations that participated on the Dallas County HMPC is provided in Appendix B.

The HMPC communicated during the planning process with a combination of webinars, face-to-face meetings, phone interviews, and email correspondence. The meeting schedule and topics are listed in **Table 1.3**. The meeting minutes for each of the meetings are included in Appendix B.

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**Table 1.3. Schedule of HMPC Meetings**

Meeting	Topic	Date
Informational Meeting	General overview of planning process/requirements and schedule.	March 15, 2017
Kick-off Meeting	Introduction to DMA, the planning process, hazard identification and public input strategy. Distribution of data collection guide to jurisdictions. Preliminary hazard data. Discussion of compiled GIS data for critical facility inventory.	May 9, 2017
Planning Meeting #2	Review of draft Risk Assessment, update plan goals, instructions to update status of previous mitigation actions	July 18, 2017
Planning Meeting #3	Development of new mitigation actions, mitigation action planning and prioritization. Determine process to monitor, evaluate, and update plan.	August 31, 2017
Other Planning Meetings	Separate meetings were held with the Cities of DeSoto and Linden as these two cities were not able to attend the regular HMPC meetings. These conference call meetings consisted of a summary of the information and requirements presented in the regular HMPC meetings.	September 19, 2017 October 13, 2017

During the kick-off meeting Amec Foster Wheeler presented information on the scope and purpose of the plan, participation requirements of HMPC members, and the proposed project work plan and schedule. Plans for public involvement (Step 2) and coordination with other agencies and departments (Step 3) were discussed. Amec Foster Wheeler also introduced hazard identification requirements and data needs. The HMPC discussed potential hazards as well as past events and impacts and refined the identified hazards to be relevant to Dallas County. The hazard ranking methodology utilized by Iowa Homeland Security and Emergency Management Department in the State Hazard Mitigation Plan was introduced and preliminary information was presented for each hazard identified.

Participants were given the Amec Foster Wheeler Data Collection Guide to facilitate the collection of information needed to support the plan, such as data on historic hazard events, values at risk, and current capabilities. Each participating jurisdiction completed and returned the worksheets in the Data Collection Guide to Amec Foster Wheeler. Amec Foster Wheeler integrated this information into the plan, supporting the development of Chapters 2 and 3.

### **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.**

At the kick-off meeting, the HMPC discussed options for soliciting public input on the mitigation plan. To provide an opportunity for the public to comment during the drafting stage, the committee determined that the most effective method would be dissemination of a survey. The survey was announced via the following media outlets: *Dallas County News* and *Perry Chief*. Copies of publications are included in Appendix B.

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The public survey was developed specific to the Dallas County Mitigation Plan and provided a brief plan summary as well as a questionnaire to capture public and stakeholder input. The survey was made available online as well as in hard copy at public libraries throughout the County. A copy of the survey is provided in Appendix B.

In addition, to notification through media outlets described above, committee members distributed the survey to members of the public and key stakeholders in their own jurisdiction. In all, 80 surveys were completed.

The survey asked the public and stakeholders to indicate their opinion on the likelihood for each hazard to impact their jurisdiction. They were asked to rate the probability of each hazard profiled in this plan as 1-unlikely, 2-occasional, 3-likely, and 4-highly likely. The summary results of this question are provided in **Figure 1.1**.

**Figure 1.1. Survey Results—Probability of Hazards**

	UNLIKELY	OCCASIONAL	LIKELY	HIGHLY LIKELY	TOTAL	WEIGHTED AVERAGE
Thunderstorm/Lightning/Hail	0.00% 0	16.46% 13	26.58% 21	56.96% 45	79	3.41
Tornado/Windstorm	0.00% 0	24.05% 19	22.78% 18	53.16% 42	79	3.29
Severe Winter Storm	0.00% 0	24.05% 19	25.32% 20	50.63% 40	79	3.27
Extreme Heat	3.80% 3	41.77% 33	36.71% 29	17.72% 14	79	2.68
Transportation Incident	17.72% 14	26.58% 21	26.58% 21	29.11% 23	79	2.67
Drought	8.97% 7	47.44% 37	25.64% 20	17.95% 14	78	2.53
Flash Flood	17.72% 14	35.44% 28	29.11% 23	17.72% 14	79	2.47
Grass or Wildland fire	24.05% 19	36.71% 29	24.05% 19	15.19% 12	79	2.30
Hazardous Materials Incident	25.32% 20	34.18% 27	26.58% 21	13.92% 11	79	2.29
River Flooding	35.44% 28	26.58% 21	16.46% 13	21.52% 17	79	2.24
Animal/Plant/Crop Disease	25.32% 20	45.57% 36	18.99% 15	10.13% 8	79	2.14
Human Disease	37.97% 30	36.71% 29	15.19% 12	10.13% 8	79	1.97
Infrastructure Failure	34.21% 26	44.74% 34	13.16% 10	7.89% 6	76	1.95
Expansive Soils	55.84% 43	27.27% 21	11.69% 9	5.19% 4	77	1.66
Terrorism	62.34% 48	22.08% 17	12.99% 10	2.60% 2	77	1.56
Sinkholes	72.73% 56	16.88% 13	10.39% 8	0.00% 0	77	1.38
Dam/Levee Failure	82.05% 64	5.13% 4	8.97% 7	3.85% 3	78	1.35
Radiological Incident	80.52% 62	16.88% 13	0.00% 0	2.60% 2	77	1.25
Landslide	89.74% 70	5.13% 4	5.13% 4	0.00% 0	78	1.15
Earthquake	89.61% 69	9.09% 7	0.00% 0	1.30% 1	77	1.13

Source: SurveyMonkey Results

The survey also asked the public and stakeholders to indicate their opinion on the potential magnitude of each hazard on their jurisdiction. They were asked to rate the probability of each hazard profiled in this plan as 1-negligible, 2-limited, 3-critical, and 4-catastrophic. The summary results of this question are provided in **Figure 1.2**.

**Figure 1.2. Survey Results—Magnitude of Hazards**

	NEGLIGIBLE	LIMITED	CRITICAL	CATASTROPHIC	TOTAL	WEIGHTED AVERAGE
▼ Tornado/Windstorm	2.53% 2	15.19% 12	44.30% 35	37.97% 30	79	3.18
▼ Severe Winter Storm	1.27% 1	31.65% 25	56.96% 45	10.13% 8	79	2.76
▼ Thunderstorm/Lightning/Hail	2.53% 2	41.77% 33	44.30% 35	11.39% 9	79	2.65
▼ Drought	10.26% 8	46.15% 36	29.49% 23	14.10% 11	78	2.47
▼ Flash Flood	18.99% 15	34.18% 27	31.65% 25	15.19% 12	79	2.43
▼ Hazardous Materials Incident	22.78% 18	30.38% 24	37.97% 30	8.86% 7	79	2.33
▼ Extreme Heat	8.86% 7	55.70% 44	30.38% 24	5.06% 4	79	2.32
▼ River Flooding	29.11% 23	31.65% 25	20.25% 16	18.99% 15	79	2.29
▼ Transportation Incident	26.58% 21	31.65% 25	32.91% 26	8.86% 7	79	2.24
▼ Infrastructure Failure	28.57% 22	31.17% 24	31.17% 24	9.09% 7	77	2.21
▼ Grass or Wildland Fire	27.85% 22	36.71% 29	25.32% 20	10.13% 8	79	2.18
▼ Human Disease	35.44% 28	26.58% 21	29.11% 23	8.86% 7	79	2.11
▼ Terrorism	43.04% 34	21.52% 17	17.72% 14	17.72% 14	79	2.10
▼ Animal/Plant/Crop Disease	42.31% 33	28.21% 22	16.67% 13	12.82% 10	78	2.00
▼ Radiological Incident	68.83% 53	11.69% 9	7.79% 6	11.69% 9	77	1.62
▼ Expansive Soils	60.53% 46	28.95% 22	6.58% 5	3.95% 3	76	1.54
▼ Dam/Levee Failure	69.23% 54	15.38% 12	8.97% 7	6.41% 5	78	1.53
▼ Earthquake	69.62% 55	18.99% 15	5.06% 4	6.33% 5	79	1.48
▼ Sinkholes	69.62% 55	18.99% 15	8.86% 7	2.53% 2	79	1.44
▼ Landslide	79.75% 63	15.19% 12	3.80% 3	1.27% 1	79	1.27

Source: SurveyMonkey Results

In the survey, the public was also asked to review 11 types of mitigation actions considered by the Iowa Homeland Security and Emergency Management Department for FEMA funding. The Dallas County HMPC also considered these types of projects in the Dallas County Multi-Jurisdictional Hazard Mitigation Plan. The survey asked the public to place a check next to the mitigation project types that they felt could benefit their community. **Figure 1.3** provides the compiled results of this question.

**Figure 1.3. Survey Results—Types of Projects**

ANSWER CHOICES	RESPONSES
▼ New Tornado Safe Room Construction	72.97% 54
▼ Minor Localized Flood Reduction Projects (stormwater management or other localized flood control projects)	60.81% 45
▼ Structural Retrofitting of Existing Buildings to Add a Tornado Saferoom	51.35% 38
▼ Electrical Utilities Infrastructure Retrofit (i.e. strengthening lines/connections to withstand ice/wind damages, burying power lines)	39.19% 29
▼ Soil Erosion Stabilization	28.38% 21
▼ Flood-prone Property Acquisition & Structure Demolition/Relocation	24.32% 18
▼ Wildfire Mitigation	21.62% 16
▼ Flood-prone Structure Elevation	20.27% 15
▼ Retrofitting of Existing Buildings and Facilities to Prevent Wind Damage	20.27% 15
▼ Floodproofing of Historical and/or Non-residential Structures	10.81% 8

Source: SurveyMonkey Results

The public was also asked to comment on any other issues that the Dallas County HMPC should consider in developing a strategy to reduce future losses caused by natural hazard events. Some of the additional issues the public indicated in need of attention are provided below:

- “This is a good plan, however government overreach will happen.”
- “Quit forgetting about Northwestern Dallas County.”
- “Study of river flow through Adel, removing bottlenecks flow direction of channel and Mill Slough.”
- “Update sirens in Redfield, DeSoto, Dexter, Linden, Bouton, Dawson, then place strategically additional sirens through county in populated areas.”
- “There needs to be stricter engineering and building codes for new construction, specifically in regards to storm water management.”

The public was also given an opportunity to provide input on the final draft of the complete plan. The entire plan draft was made available on the County’s website as a PDF document. In addition, 2 hard copies were made available at the Perry Library and the Adel Library

Dallas County announced the availability of the entire final draft plan and the two-week final public comment period on the County website and via the following media outlets: *Perry Chief* and *Dallas County News*. Copies of the announcements are provided in Appendix B. The final public comment period was from November 27 to December 11, 2018.

The HMPC invited other targeted stakeholders to comment on the draft plan via an e-mail letter, which is described in greater detail in Step 3: Coordinate with Other Departments and Agencies. Minor comments were received and incorporated.

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**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.**

There are numerous organizations whose goals and interests interface with hazard mitigation in Dallas County. Coordination with these organizations and other community planning efforts is vital to the success of this plan. Dallas County invited neighboring counties, other local, state, and federal departments and agencies, as well as institutions of higher learning to the second planning meeting to learn about the hazard mitigation plan update initiative. In addition, the HMPC developed a list of additional stakeholders involved in hazard mitigation activities, to invite by e-mail letter to review and comment on the final draft of the Dallas County Multi-Jurisdictional Hazard Mitigation Plan prior to submittal to the State and FEMA. The stakeholders that were invited to meeting #2 and/or to comment on the final plan draft included in **Table 1.4**.

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**Table 1.4. Stakeholder Involvement**

<b>Stakeholder</b>	<b>Type</b>	<b>Invited to Meeting #3</b>	<b>Invited to Comment on Final Draft</b>
Iowa State University, Iowa Flood Center	Academia	x	x
Boone County Emergency Management	Adjacent County	x	x
Greene County Emergency Management	Adjacent County	x	x
Guthrie County Emergency Management	Adjacent County	x	x
Madison County Emergency Management	Adjacent County	x	x
Polk County Emergency Management	Adjacent County	x	x
Tyson Foods	Business	x	x
Environmental Protection Agency	Federal Agency	x	x
Federal Emergency Management Agency	Federal Agency	x	x
National Weather Service	Federal Agency	x	x
U.S. Army Corps of Engineers	Federal Agency	x	x
U.S. Geological Survey	Federal Agency	x	x
Des Moines Area Metropolitan Planning Organization	Regional Planning	x	x
Greater Dallas County Development Alliance	Regional Planning	x	x
Iowa Department of Agriculture and Land Stewardship	State Agency	x	x
Iowa Department of Natural Resources	State Agency	x	x
Iowa Homeland Security and Emergency Management	State Agency	x	x

Several additional stakeholder agencies were contacted to obtain data in preparation of the Risk Assessment. This included contact with specific representatives of stakeholder agencies, as well as accessing stakeholder data that has been made available to the public via the internet. These sources are identified where data is presented.

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

In addition, input was solicited from many other agencies and organizations that provided information but were not able to attend planning meetings. As part of the coordination with other agencies, the HMPC collected and reviewed existing technical data, reports, and plans. These included:

- Iowa Hazard Mitigation Plan (September 2013);
- Dallas County Hazard Mitigation Plan (April 2013);
- National Flood Insurance Program Policy and Loss Statistics;
- Flood Insurance Administration, Repetitive/Severe Repetitive Loss Property Data;
- Flood Insurance Rate Maps for all of Dallas County;
- Iowa Department of Natural Resources, Dam Safety Program Inventory of Dams for Dallas County;
- National Inventory of Dams;
- National Levee Database;
- Wildland/Urban Interface and Intermix areas from the SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin;

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- Various local plans such as Comprehensive Plans, Economic Development Plans, Capital Improvement Plans, etc. For a complete list of local plans that were reviewed and incorporated, see Chapter 2;
  - US Department of Agriculture’s (USDA) Risk Management Agency Crop Insurance Statistics

This information was used in the development of the hazard identification, vulnerability assessment, and capability assessment and in the formation of goals, objectives, and mitigation actions. These sources, as well as additional sources of information, are documented throughout the plan and in Appendix A, References.

## **Phase 2 Assess Risk (Handbook Task 5)**

### ***Step 4: Assess the Hazard: Identify and Profile Hazards***

Amec Foster Wheeler assisted the HMPC in a process to identify/update the hazards that have impacted or could impact communities in Dallas County. At the kick-off meeting, the HMPC examined the history of disaster declarations in Dallas County, the list of hazards considered in the 2013 Iowa State Hazard Mitigation Plan, and the hazards identified in the previous hazard mitigation plan. The committee then worked through this list of all potential hazards that could affect the planning area. They discussed past hazard events, types of damage, and where additional information might be found. Additional information on the hazard identification process and which hazards were identified for each jurisdiction is provided in Chapter 3.

During the kick-off meeting, the HMPC discussed past events and impacts on a county-wide basis to contribute to the risk assessment update. After the kick-off meeting, each jurisdiction completed a Data Collection Guide, including information on previous hazard events in their community. Utilizing the information from the Data Collection Guides as well as existing plans, studies, reports, and technical information as well as information available through internet research and GIS analysis, a profile was developed for each hazard identified. More information on the methodology and resources used to identify and profile the hazards can be found in Chapter 3.

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

Assets for each jurisdiction were identified through a combination of several resources. The Dallas County Assessor’s office provided access to datasets with parcel and building data as well as corporate boundaries, school district boundaries, and other available GIS layers. Population data was obtained from the U.S. Census Bureau. The critical facility inventory was updated from the inventory compiled during development of the 2013 Dallas County Hazard Mitigation Plan. Methodologies and results of the critical facility analysis are provided in Chapter 3 and Appendix E.

Additional assets such as historic, cultural, and economic assets as well as specific vulnerable populations and structures were obtained from a variety of sources as described in Chapter 3.

The HMPC also analyzed development since the last plan update and future development trends from data provided by each jurisdiction on the Data Collection Guide as well as minutes of the annual review meetings. Data was also obtained from the U.S. Census Bureau and from

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jurisdictions through other planning mechanisms such as Comprehensive Plans and Future Development Plans.

After profiling the hazards that could affect Dallas County and identifying assets, the HMPC collected information to describe the likely impacts of future hazard events on the participating jurisdictions. For each hazard, there is a discussion regarding future development as well as climate change impacts regarding how vulnerability to that specific hazard might be impacted in the future.

Existing mitigation capabilities were also considered in developing loss estimates. This assessment consisted of identifying the existing mitigation capabilities of participating jurisdictions. This involved collecting information about existing government programs, policies, regulations, ordinances, and plans that mitigate or could be used to mitigate risk from hazards. Participating jurisdictions collected information on their regulatory, personnel, fiscal, and technical capabilities, as well as previous and ongoing mitigation initiatives. This information is included in Chapter 2, Planning Area Profile and Capabilities.

Specific capabilities such as participation in the National Flood Insurance Program as well as designation as Fire Wise Communities or Storm Ready Communities and placement of storm sirens are incorporated in the vulnerability analysis discussions, where applicable.

Taking into consideration the vulnerability and capability assessments, and where sufficient information was available, a variety of methods was used to estimate losses for each profiled hazard. For geographic hazards such as river flooding, hazardous materials (fixed facilities), and wildfire, specific assets/areas at risk and loss estimates were determined through GIS analysis. For other hazards such as weather-related hazards, loss estimates were developed based on statistical analysis of historic events. For hazards such as dam failure, GIS data was not available to identify specific geographic boundaries at risk. Therefore, the risk assessment provides descriptions of the types of improvements located in approximated risk areas. For some human-caused hazards, loss estimates were scenario-based. The methodologies for each loss estimate are described in detail in Chapter 3. Within each hazard section, the text provides details on how the hazard varies by jurisdiction, where applicable. In addition, at the conclusion of each hazard section, a summary table indicates the specific probability, magnitude, warning time, and duration rating of the hazard for each jurisdiction, to show how the hazard varies. Where applicable, introductory text preceding the table highlights noted variables.

Results of the preliminary risk assessment were presented at Meeting #2 and the Draft Risk Assessment (Chapter 3) was provided to the HMPC for review and comment. Several comments, corrections, and suggestions were provided to Amec Foster Wheeler and incorporated into the risk assessment as appropriate.

## **Phase 3 Develop the Mitigation Plan (Handbook Task 6)**

### **Step 6: Set Goals**

Amec Foster Wheeler facilitated a discussion session with the HMPC during Meeting #2 to review and update goals. Common categories of mitigation goals were presented as well as the 2013 State Hazard Mitigation Plan goals.

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This planning effort is an update to an existing hazard mitigation plan. As a result, the goals from the *2011 Dallas County Hazard Mitigation Plan* were reviewed.

The revised/validated goals for this plan update are provided below:

- Protect critical facilities and infrastructure from natural hazards.
- Create a disaster resistant community by improving public understanding of natural hazards and risk by providing public awareness, preparedness, and mitigation information through various channels of communication.
- Improve capabilities to mitigate natural hazards by incorporating mitigation strategies in plans, policies, and programs.
- Prevent or reduce the impact of natural hazards for the residents, businesses, and municipalities of Dallas County.
- Strengthen communication among agencies and between agencies and the public.

### **Step 7: Review Possible Activities**

At meeting #2, a handout of previous actions was provided to all jurisdictions with instructions to provide updates for each action. Jurisdictions were encouraged to maintain a focused approach and continue forward only those actions that are aimed at implementing long-term solutions to prevent losses from hazards. The focus of Meeting #3 was to update the mitigation strategy by discussing relevant new actions considered necessary as a result of the updated risk assessment. The HMPC reviewed the following: plan goals, previous actions from the 2013 plan, key issues from the risk assessment, Iowa Homeland Security and Emergency Management's HMA funding priorities, public opinion survey results on types of actions desired, and FEMA's Mitigation Action Ideas publication.

The group discussed the types of mitigation actions/projects that could be done by the jurisdictions in Dallas County. Consideration was given to the analysis results provided in the risk assessment and the anticipated success for each project type. Projects relating to emergency response were discussed, but participants were encouraged to focus on long-term mitigation solutions since response-related mitigation actions occur on a routine basis as requirements of other plans. Complex projects that would necessitate use of large numbers of county resources were also discussed. This opportunity to discuss a broad range of mitigation alternatives allowed the jurisdictions to understand the overall priorities of the committee and to allow for discussion of the types of project most beneficial to each jurisdiction. As part of this discussion, consideration was given to the potential cost of each project in relation to the anticipated future cost savings.

The jurisdictions were also provided instructions for completing the Mitigation Action Plan for each continuing and newly developed action. The details from the Action Plan for each Continuing and New action are provided in Chapter 4. The completed and deleted actions are provided in Appendix C. Chapter 4 provides additional details regarding the process undertaken to refine the mitigation strategy to make Dallas County and its jurisdictions more disaster resistant.

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**Step 8: Draft an Action Plan**

A complete draft of the plan was made available online and in hard copy for review and comment by the public, other agencies and interested stakeholders. This review period was from November 27 to December 11, 2017. Methods for inviting interested parties and the public to review and comment on the plan were discussed in Steps 2 and 3, and materials are provided in Appendix B. Comments were integrated into a final draft for submittal to the Iowa Homeland Security and Emergency Management Division and FEMA.

**Phase 4 Implement the Plan and Monitor Progress****Step 9: Adopt the Plan (Handbook Task 8)**

To secure buy-in and officially implement the plan, the governing bodies of each participating jurisdiction adopted the plan. Scanned copies of resolutions of adoption are included in Appendix D of this plan.

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

The HMPC developed and agreed upon an overall strategy for plan implementation and for monitoring and maintaining the plan over time during Meeting #3. This strategy is described in Chapter 5, Plan Maintenance Process.