

PART 1

Jefferson County Multi-Hazard Mitigation Plan

A Multi-Jurisdictional Plan



Prepared under the direction of the
Jefferson County Hazard Mitigation Planning Committee



With the support of the Jefferson County EMA

December 2015

2014 Jefferson County Multi-Hazard Mitigation Plan

Jefferson County Hazard Mitigation Planning Committee

Participating Jurisdictions

Jefferson County	Town of Kimberly
City of Adamsville	City of Leeds
City of Bessemer	City of Lipscomb
City of Birmingham	City of Midfield
City of Brighton	Town of Morris
Town of Brookside	City of Mountain Brook
City of Center Point	Town of Mulga
City of Clay	City of Pinson
Town of County Line	City of Pleasant Grove
City of Fairfield	Town of Sylvan Springs
City of Fultondale	City of Tarrant
City of Gardendale	Town of Trafford
City of Graysville	City of Trussville
City of Homewood	City of Vestavia Hills
City of Hoover	City of Warrior
City of Hueytown	Town of West Jefferson
City of Irondale	

Non-Participating Jurisdictions

Town of Cardiff
City of Maytown
Town of North Johns

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Executive Summary

Background

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U. S.C. 5165 as amended by the Disaster Mitigation Act of 2000 (DMA) (P.L. 106-390), provides for States, Tribes, and Local Governments to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning.

The National Flood Insurance Act of 1968, as amended, 42 U. S. C. 4001 et seq. reinforced the need and requirement for mitigation plans, linking flood mitigation assistance to State, Tribal and Local Mitigation Plans. FEMA has implemented the various hazard mitigation planning provisions through regulations in 44 CFR Part 201, which also permit man-made hazards to be addressed in a local mitigation plan. These Federal regulations describe the requirement for a State Mitigation Plan as a condition of pre- and post-disaster assistance as well as the mitigation plan requirement for Local and Tribal governments as a condition of receiving hazard mitigation assistance. 44 CFR 201.6(d)(3) requires that a local jurisdiction must review and revise its local plan to reflect any changes and resubmit it for approval within five years in order to remain eligible for mitigation grant funding.

Organization of the Plan

The 2014 Jefferson County Multi-Hazard Mitigation Plan, is organized to parallel the 44 CFR Section 201.6 Federal requirements for a local mitigation plan, as interpreted by Local Mitigation Planning Handbook, FEMA March 2013. The organization of this plan is consistent with the organization of the 2013 Alabama Hazard Mitigation Plan, which also parallels the Federal requirements. The plan has seven chapters, as follows:

- Chapter 1. Introduction
- Chapter 2. Prerequisites
- Chapter 3. Community Profiles
- Chapter 4. The Planning Process
- Chapter 5. Risk Assessment
- Chapter 6. Mitigation Strategy
- Chapter 7. Plan Maintenance Process

This plan is also organized similar to the 2009 Jefferson County, Alabama Natural Hazards Mitigation Plan, which allows for easy cross reference. Each chapter of the 2014 plan references the requirements of 44 CFR Section 201.6 that it addresses.

Highlights of the Plan

Each hazard that is viewed as a possible risk to Jefferson County is described in detail; the vulnerability of the county and each jurisdiction to the hazards are addressed; goals, objectives, and mitigation strategies and actions are stated and mitigation plans that direct each jurisdiction in the implementation and monitoring of the measures are included in the plan.

Chapter 1. Introduction

Provides a general introduction to the plan. Explains the purpose of the plan and which jurisdictions participated in the plan. The chapter mentions the regulations that require the active participation of local jurisdictions in the mitigation planning process. Also included is the explanation of various funding sources that can be applied for if a plan update is submitted to FEMA and approved.

Chapter 2. Prerequisites

Addresses the different regulations governing the development and updating of the mitigation plan. Addresses 44 CFR Sec. 201.6 and the prerequisites required through this Code. Goes into greater detail about the various mitigation grants and other federal money available for the County's use for mitigation planning.

Also addresses multi-jurisdictional participation and plan adoption. Describes the relationship and responsibilities of the various entities involved in the planning process. Explains various means through which entities could participate in the planning process. The multi-jurisdictional plan adoption procedure is explained in the last section of the chapter.

Chapter 3. Community Profiles

Profiles the participating jurisdictions. Each jurisdiction within Jefferson County is described in detail. The overall geographic setting and history of Jefferson County and the participating jurisdictions are addressed. Summaries about the jurisdictions' government, demographics, economy, utilities, media, transportation and climate are included.

Chapter 4. The Planning Process

Explains the planning process in detail. Explains how the public was involved in the planning process, what steps the HMPC took in developing the plan, what documents were consulted in the plan and how the plan was prepared, reviewed and updated.

Chapter 5. Risk Assessment

Describes the process used to identify and prioritize the hazard risks to each Jefferson County jurisdiction. Describes the resources used to identify the hazards and provides detailed descriptions of each identified hazard. A hazard profile for each identified hazard includes a general description of

the nature of the hazard in Jefferson County, followed by an explanation of the location, extents, previous occurrences, and the probabilities of future occurrences.

Vulnerability assessments are reported for each identified hazard, including a summary of the impact of each hazard on each jurisdiction.

Chapter 6. Mitigation Strategies

Addresses the full range of mitigation strategies evaluated by the HMPC. Explains the common community vision for disaster resistance, the goals that the plan is trying to achieve, and objectives to be used to achieve these goals. Identifies and analyzes mitigation actions and projects. Discusses participation and compliance with the National Flood Insurance Program.

Chapter 7. Plan Maintenance Process

Describes the maintenance process for the 2014 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan. Explains the monitoring, evaluation and updating procedures and the need to incorporate the plan into other planning mechanisms. Also describes the means of soliciting continued public participation in the plan maintenance process.

Chapter 1 – Introduction

Background

Authority

Funding

Eligibility for FEMA Hazard Mitigation Assistance Grants

Jefferson County Natural Hazard Mitigation Plan (2004)

Jefferson County Multi-Hazard Mitigation Plan (2009)

Jefferson County Multi-Hazard Mitigation Plan (2014)

Background

The 2014 Jefferson County Multi-Hazard Mitigation Plan is a multi-jurisdictional guide for all communities within Jefferson County. It fulfills the requirements of the Federal Disaster Mitigation Act of 2000 (DMA 2000) as administered by the Alabama Emergency Management Agency (AEMA) and the Federal Emergency Management Agency (FEMA) Region IV. It has been written to address the need for continued eligibility for the FEMA Hazard Mitigation Assistance (HMA) Grant Programs.

Authority

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U. S.C. 5165 as amended by the Disaster Mitigation Act of 2000 (DMA) (P.L. 106-390), provides for States, Tribes, and local governments to undertake a risk-based approach to reducing risks to natural hazards through mitigation planning. The National Flood Insurance Act of 1968, as amended, 42 U. S. C. 4001 et seq. reinforced the need and requirement for mitigation plans, linking flood mitigation assistance to State, Tribal and local mitigation plans.

FEMA has implemented the various hazard mitigation planning provisions through regulations in 44 CFR Part 201, which also permit man-made hazards to be addressed in a local mitigation plan. These Federal regulations describe the requirement for a State mitigation plan as a condition of pre- and post-disaster assistance as well as a mitigation plan requirement for local and Tribal governments as a condition for receiving hazard mitigation assistance. 44 CFR 201.6(d)(3) requires that a local jurisdiction must review and revise its local plan to reflect any changes and resubmit it for approval within five years of FEMA approval in order to remain eligible for mitigation grant funding.

Funding

The Jefferson County EMA received funding from the Alabama EMA to complete the 2014 update of this plan.

Eligibility for FEMA Hazard Mitigation Assistance Grants

Adoption of this plan is the initial step towards continuing eligibility for FEMA Hazard Mitigation Assistance (HMA) grant assistance to participating localities. These FEMA grants include the following programs:

1. The Hazard Mitigation Grant Program (HMGP). The HMGP provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.
2. The Pre-Disaster Mitigation (PDM) Program. The PDM program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures while also reducing reliance on funding from actual disaster declarations. PDM grants are to be awarded on a competitive basis and without reference to state allocations, quotas, or other formula-based allocation of funds.
3. The Flood Mitigation Assistance (FMA) Program. The FMA program was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 (42 U.S.C. 4101) with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). FEMA provides FMA funds to assist states and communities implement measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program (NFIP).
4. The Repetitive Flood Claims (RFC) Program. The Repetitive Flood Claims program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.L. 108-264), which amended the National Flood Insurance Act (NFIA) of 1968 (42 U.S.C. 4001, et al). Up to \$10 million is available annually for FEMA to provide RFC funds to assist states and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).
5. The Severe Repetitive Loss (SRL) Program. The Severe Repetitive Loss program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004, which amended the National Flood Insurance Act of 1968 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss structures insured under the National Flood Insurance Program.

Jefferson County Natural Hazard Mitigation Plan (2004)

The planning process began in January 2003 with the appointment of the Hazard Mitigation Planning Committee (HMPC) by the Jefferson County Emergency Management Agency (JCEMA). The committee first convened in January 2003. FEMA approved the final plan on June 21, 2004.

Jefferson County Multi-Hazard Mitigation Plan (2009)

The HMPC re-convened in June 2009 to update the 2004 Hazard Mitigation plan as the 2009 Jefferson County Multi-Hazard Mitigation Plan. Due to the timing of the planning grant award, there was the potential for a lapse in eligibility for Jefferson County and its participating jurisdictions. In order to maintain eligibility for mitigation grant programs, an interim plan was developed while a major update was underway. The interim plan was approved by FEMA on December 3, 2009. Subsequently, work on the full update continued until it was completed in 2011. The HMPC adopted a resolution to approve the 2011 update as an amendment to the 2009 plan in November 2011.

The following jurisdictions failed to adopt the 2009 Plan:

- Bessemer
- Brighton
- Brookside
- Cardiff
- Clay
- Gardendale
- Kimberly
- Leeds
- Lipscomb
- Maytown
- Morris
- Mulga
- North Johns
- Trafford
- West Jefferson

Jefferson County Multi-Hazard Mitigation Plan (2014)

The 2014 Plan Update development was conducted in two separate sessions. ERI International was initially contracted by JCEMA to prepare the plan update with submission to AEMA for review prior to the 2009 plan expiration date of December 2, 2014. Members of the HMPC were invited to a meeting on August 8, 2014 to review the plan update. Submission of this update was sent to AEMA for review in October 2014. In January 2015, following an initial review, AEMA advised JCEMA that the plan update had many deficiencies. A recommendation was made to JCEMA to conduct a more complete planning process and address the plan deficiencies. JCEMA began this second planning process in February 2015. See Chapter 4 – The Planning Process and Appendix B for a full description of the plan development

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process. .

From the beginning of this second planning process, it was clear to members of the HMPC that plan maintenance had not been done in the intervening years between the adoption of the 2009 Plan and the development of the initial 2014 plan update. Additionally, the requirement of active participation in the planning process by jurisdictions covered under the plan resulted in jurisdictions reviewing the 2009 mitigation actions and feeling that those actions did not appropriately reflect what their jurisdiction was capable of accomplishing. Consequently, the participating jurisdictions of the HMPC determined that the 2014 Hazard Mitigation Plan would be updated using newly-developed mitigation actions, without reference to the previous actions.

The HMPC is comprised of representatives from incorporated and unincorporated areas of Jefferson County as well as other stakeholders and interested parties. Thirty-three of the 36 jurisdictions in Jefferson County participated in the planning process for the 2014 Plan Update. Three jurisdictions did not participate: the Town of Cardiff, the City of Maytown, and the Town of North Johns.

Through a comprehensive planning process and risk assessment, the plan creates a unified approach for Jefferson County communities to deal with identified hazards and associated risk issues. The plan serves as a guide for local governments in their ongoing efforts to reduce community vulnerabilities.

Chapter 2 – Prerequisites

Federal Prerequisites

Plan Approval Required for Mitigation Grants Eligibility

Multi-Jurisdictional Participation

Multi-Jurisdictional Plan Adoption

Federal Prerequisites

This Chapter of the Plan addresses the Prerequisites of 44 CFR Section 201.6(a) Plan Requirements (1), (4) and Section 201.6(c) Plan Content (5).

Section 201.6(a) Plan Requirements:

(1) A local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants. ... A local government must have a mitigation plan approved pursuant to this section in order to apply for and receive mitigation project grants under all other mitigation grant programs.

(4) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan...

Section 201.6(c) Plan Content. The plan shall include the following:

(5) Documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

Plan Approval Required for Mitigation Grants Eligibility

FEMA approval of this plan is the initial step towards continuing eligibility for FEMA grant assistance to participating localities and school districts under the following hazard mitigation assistance programs: the Hazard Mitigation Grant Program (HMGP), the Pre-Disaster Mitigation (PDM) Grant Program, the Flood Mitigation Assistance (FMA) Program, the Repetitive Flood Claims (RFC) Program, and the Severe Repetitive Loss (SRL) Program.

Once the plan is approved pending adoption, the governing bodies of the participating jurisdictions and school districts must formally adopt the plan and submit their adopting resolutions to FEMA through the Alabama EMA to receive official FEMA approval. This process must take place within twelve months of FEMA's notification of conditional approval pending adoption. If the plan is not approved by FEMA and locally adopted by resolution of the governing body, the jurisdiction or school board will not be eligible to apply for and receive project grants under any of the FEMA hazard

mitigation assistance programs. Hazard mitigation assistance programs have additional requirements for grant eligibility depending on the program funding source.

Multi-Jurisdictional Participation

The Jefferson County Emergency Management Agency (JCEMA) serves as the lead coordinating agency for mitigation planning. JCEMA works in conjunction with the Hazard Mitigation Planning Committee (HMPC). Admittedly, neither JCEMA nor the participating jurisdictions of the HMPC have conducted proper plan maintenance of the 2009 Jefferson County Multi-Hazard Mitigation Plan. However, during the 2014 Plan Update planning process, JCEMA and the HMPC have come to understand the importance and requirement of monitoring, evaluating, and updating the Hazard Mitigation Plan (HMP) prior to plan expiration and/or update and, thus, re-commit themselves to performing the necessary plan maintenance for this 2014 Plan Update.

In addition to the participating jurisdictions, other stakeholders affected by this plan – including Federal, State, business interests, academia, non-profits, and the general public – have contributed to the drafting of this plan (See Chapter 4 – The Planning Process and Appendix B for more detailed explanation of the organization of the HMPC and the participation of stakeholders in the planning process).

School districts are defined as local governments, according to Federal regulations at 44 CFR Section 201.2, and are therefore required to have a FEMA-approved local mitigation plan to be eligible for project grants under FEMA's Hazard Mitigation Assistance (HMA) programs. A school district may also demonstrate their participation as a separate government entity in another local government's approved mitigation plan to be eligible for project grants under FEMA hazard mitigation assistance programs.

The planning process for the interim plan presented opportunities for multi-jurisdictional participation. These multi-jurisdictional participation opportunities included the following activities:

- Attendance and participation in HMPC committee meetings during the drafting phase of the 2014 plan.
- Providing key staff support to complete HMPC questionnaires regarding local capabilities for conducting mitigation activities, identifying and rating hazards, profiling hazards and hazard events, evaluating alternative mitigation measures, and updating plan goals and objectives.
- Reviewing and providing comments on draft plan sections.
- Reviewing plans, studies, reports, regulations, ordinances, and codes related to hazard mitigation.
- Conferring with JCEMA personnel and others during individual jurisdictional meetings during the drafting phase of the plan update.
- Providing information to the HMPC on critical facilities and infrastructure.
- Communicating with elected officials and other jurisdictional constituents on the scope and contents of the draft plan.

Residents of each jurisdiction and other stakeholders were provided the following opportunities for participation in the planning process for the plan update:

- Attending HMPC meetings as observers of these open public forums, which were publicly announced.
- Attending and participating in the individual jurisdictional meetings which were publicly announced.
- Completing the Citizen Input for Hazard Mitigation Planning Surveys.
- Attending public hearings of the local governing bodies and offering comments.

Multi-Jurisdictional Plan Adoption

The governing bodies of each participating jurisdiction will adopt the 2014 Jefferson County Multi-Hazard Mitigation Plan by resolution following public notice and hearing. Adoption by all participating jurisdictions will take place within one year of the notification by FEMA conditional approval, and afterwards, a certified copy of each adopting resolution will be transmitted to FEMA through the Alabama EMA. Once the resolution has been received by FEMA, the 2014 plan will be formally approved on that date, which begins the next five year planning cycle. FEMA will issue a final approval notification.

Chapter 3 – Community Profiles

Community Profiles

Geographic Setting and History

Government

Physical Features

Climate

Demographics

Economy

Utilities

Media

Transportation

Community Profiles

The information in the chapter provides a context for understanding the mitigation actions that will be implemented to reduce the jurisdiction's vulnerability.

Geographic Setting and History

Jefferson County is the most populous county in Alabama. The 2010 population of Jefferson County was 658,466, and has a total area of 1,124 square miles. It was the setting of Alabama's industrial revolution during the nineteenth and early twentieth centuries and the site of many important moments in the civil rights movement. Today, the county is a business center, especially for the banking industry and the medical field.

Jefferson County, created from portions of Blount County by the Alabama Territorial Legislature December 13, 1819, is older than the State of Alabama. The land was ceded in 1814 from the Creek Indian Nation in compliance with the Treaty of Fort Jackson, which resulted from General Andrew Jackson's victory at Horseshoe Bend. Soldiers who had fought under Jackson first settled the area.

The county was named for Thomas Jefferson in honor of his many accomplishments, among them being: one of the authors of the Declaration of Independence; the founder of the University of Virginia, and the third President of the United States.

Jefferson County is located within the Tennessee Valley Ridge physiographic section of the State. Due to its location in north-central Alabama, amid the foothills of the Appalachian Mountains, the county's topography is characterized by rolling hills and valleys. Jefferson County's location is highlighted on Map 3.1 – Jefferson County Location.

A map of Alabama with its state boundaries highlighted in orange. The state is bordered by Mississippi to the west, Georgia to the north and east, and Florida to the south. Major interstate highways are shown as blue lines with their respective shields. The Birmingham area is circled in red. Other cities labeled include Montgomery, Mobile, and Tallahassee. The Gulf of Mexico is visible at the bottom.

Jefferson County's neighboring counties are Bibb, Blount, St. Clair, Shelby, Tuscaloosa and Walker. Thirty-five municipalities are located within the county's 1,119 square miles of land, including Birmingham, which is the largest city in Alabama and Jefferson County's county seat. From Birmingham, Atlanta is located 142 highway miles to the northeast, Montgomery 90 miles to the southeast, Tuscaloosa 58 miles to the southwest, and Huntsville 101 miles north as shown on Table 3.1 – Driving Distances to Nearby Cities.

City	Distance (miles)
Tuscaloosa, AL	58
Montgomery, AL	90
Huntsville, AL	101
Atlanta, GA	142
Nashville, TN	200

City	Distance (miles)
Mobile, AL	241
New Orleans, LA	241

Jefferson County is comprised of thirty-five incorporated communities, which are shown on Map 3.2 – Jefferson County Municipalities, as follows:

City of Adamsville	City of Leeds <i>(partially in St. Clair and Shelby Counties)</i>
City of Bessemer	City of Lipscomb
City of Birmingham <i>(partially in Shelby County)</i>	Town of Maytown
City of Brighton	City of Midfield
Town of Brookside	Town of Morris
Town of Cardiff	City of Mountain Brook
City of Center Point	Town of Mulga
City of Clay	Town of North Johns
Town of County Line <i>(partially in Blount County)</i>	City of Pinson
City of Fairfield	City of Pleasant Grove
City of Fultondale	Town of Sylvan Springs
City of Gardendale	City of Tarrant
City of Graysville	Town of Trafford
City of Homewood	City of Trussville <i>(partially in St. Clair County)</i>
City of Hoover <i>(partially in Shelby County)</i>	City of Vestavia Hills <i>(partially in Shelby County)</i>
City of Hueytown	City of Warrior
City of Irondale	Town of West Jefferson
City of Kimberly	

The following municipalities are primarily located in the counties indicated but are partially located in Jefferson County; they are not included in this plan:

Town of Argo *(partially in St. Clair County)*
City of Helena *(partially in Shelby County)*
City of Sumiton *(partially in Walker County)*

Jefferson County Municipalities

Data Source: U.S. Census 2000
Jefferson County, 2002

Map Scale: 0 1 2 3 Miles

Legend:

Population Range	Color
0-499	Light Blue
500-999	Light Green
1,000-4,999	Light Yellow
5,000-9,999	Light Orange
10,000-49,999	Light Purple
50,000-99,999	Light Pink
100,000-499,999	Light Red
500,000-999,999	Light Brown
1,000,000+	Light Gray

Map Labels: Walker, Blount, Tuscaloosa, and other surrounding areas.

City of Adamsville

City of Bessemer

Jefferson County Emergency Management Agency

City of Birmingham

The City of Birmingham is located in central Jefferson County. It has a 2010 population of 210,609 and an area of approximately 149.9 square miles. Birmingham was founded on June 1, 1871, as an industrial enterprise but not officially incorporated until December 19, 1871. It was named after Birmingham, the major industrial city of England. The rapid pace of Birmingham's growth through the turn of the century earned it the nicknames "The Magic City" and "The Pittsburgh of the South." Much like Pittsburgh, Birmingham's major industries were iron and steel production. In the 1960s, Birmingham received national and international attention as a center of the Civil Rights Movement. In 1963, Martin Luther King, Jr., imprisoned for organizing a nonviolent protest, wrote the now famous Letter from Birmingham Jail. Today, the iron and steel industries have been eclipsed by banking and medical services as the core of the city's economic base.

City of Brighton

The City of Brighton is located in southwestern Jefferson County. It has a 2010 population of 2,945 and an area of approximately 1.4 square miles. Brighton was originally named Woodward Crossing after a railroad spur that connected it to Woodward. When the post office was established in 1894, the city was renamed Brighton after an English resort town.

Town of Brookside

The Town of Brookside is located in western Jefferson County. It has a 2010 population of 1,363 and an area of 6.0 square miles. Brookside received its name from Five Mile Creek that flows through the town. The Brookside mine was opened in 1886 by the Coalburg Coal and Coke Company and purchased a year later by Sloss as a source of fuel for their Birmingham blast furnaces. Recruitment efforts for skilled laborers extended internationally, and Brookside became the home of many Eastern European immigrants. These immigrants built the only Russian Orthodox Church south of the Mason-Dixon Line in 1916. In 2003, Five Mile Creek overflowed its banks and washed away most of the town's old commercial buildings and destroyed the Brookside Town Hall, along with several homes. Many residents were displaced. In September, 2008, Brookside opened its doors to the new municipal complex located off Brookside Coalburg Road. Brookside was incorporated in 1898.

Town of Cardiff

The Town of Cardiff is located in western Jefferson County. It has a 2010 population of 55 and an area of 0.2 square miles. Cardiff is the smallest incorporated community in Jefferson County. It is named after the capital of Wales. Cardiff is one of four Jefferson County cities named after cities in Great Britain. Cardiff began as a town centered on coal mining. In May 2003, a flood destroyed a swatch of buildings closest to the Five Mile Creek. The town is now but a dent in the land and covered with kudzu, Cardiff is becoming a ghost town. Cardiff was incorporated in 1900.

City of Center Point

The City of Center Point is located in northeastern Jefferson County. It has a 2010 population of 16,921 and an area of 8.1 square miles. In the 1960's, the residential growth in the area was so dramatic that its population of over 60,000 by the 1970s gave Center Point the distinction of being the most populous unincorporated place in the United States. Center Point was incorporated on March 12, 2002.

City of Clay

The City of Clay is located in northeastern Jefferson County. It has a 2010 population of 9,708 and an area of approximately 10.3 square miles. Clay was founded in 1878 and is known for its clay soil. Clay was the first site for the YMCA for Jefferson County. Clay was incorporated on June 6, 2000.

Town of County Line

The Town of County line is located in northeastern Jefferson County. It has a 2010 population of 61 and an area of 0.9 square miles. County Line was incorporated in March 1, 1972.

City of Fairfield

The City of Fairfield is located in southwestern Jefferson County. It has a 2010 population of 11,117 and an area of approximately 3.5 square miles. The Tennessee Coal, Iron and Railroad Company created Fairfield to house workers for the Fairfield Works plant, which is now owned by U.S. Steel. In the 1960's, Fairfield opened up Western Hills Mall, which was the second enclosed mall in the Birmingham area. Fairfield was incorporated in 1910 when Theodore Roosevelt spoke at its dedication ceremony.

City of Fultondale

The City of Fultondale is located in northern Jefferson County. It has a 2010 population of 8,380 and an area of approximately 12.2 square miles. The town's name is derived from the combination of the names of two nearby communities, Fulton Springs and Glendale. Several businesses in Fultondale were damaged by the April 27, 2011 tornado outbreaks. Fultondale was incorporated in 1947.

City of Gardendale

The City of Gardendale is located in northern Jefferson County. It has a 2010 population of 13,893 and an area of approximately 57 square miles. The area today known as Gardendale was first settled in 1825 under the name of Jugtown, after a jug and churn factory. The name was changed to Gardendale in 1906. The city was officially incorporated in 1955. In 1996, the Olympic Torch passed through Gardendale in route to the Summer Olympic Games in Atlanta.

City of Graysville

The City of Graysville is located in northwestern Jefferson County. It has a 2010 population of 2,165 and an area of approximately 6.3 square miles. Graysville was originally called Gin Town, named after a cotton gin that had operated there. It was later renamed for a local family. The city has hosted an annual “Mayberry Comes to Graysville” festival to celebrate the legacy of television's “Andy Griffith Show.” Graysville was incorporated in November 17, 1945.

City of Homewood

The City of Homewood is located in southeastern Jefferson County. It has a 2010 population of 25,167 and an area of approximately 8.3 square miles. Homewood is the densest city in Alabama. The Homewood High School Patriots Marching Band has marched in the Macy’s Thanksgiving Day Parade in New York City and the Tournament of Roses Parade in Pasadena, California. Homewood was incorporated on October 29, 1926.

City of Hoover

The City of Hoover is located in southwestern Jefferson County. It has a 2010 population of 58,582 and an area of approximately 43.1 square miles. The city is named for William H. Hoover, founder of Employers Insurance of Alabama, who initially developed the area for the employees of his company. Hoover is home to the Riverchase Galleria, one of Alabama’s largest shopping malls and one of the largest enclosed malls in the southeastern United States. Hoover’s population has more than doubled since 1990, making Hoover the sixth largest city in Alabama. The City of Hoover was incorporated in 1967.

City of Hueytown

The City of Hueytown is located in western Jefferson County. It has a 2010 population of 16,105 and an area of 14 square miles. Hueytown was home to the legendary “NASCAR Alabama Gang,” a family of NASCAR drivers, and several thoroughfares in the city are named for the drivers. It also made international headlines in 1992 with the unexplained “Hueytown Hum”, a mysterious noise believed to be related to large ventilation fans for an underground coal mine in the area. Hueytown was incorporated on May 6, 1960.

City of Irondale

The City of Irondale is located in eastern Jefferson County. It has a 2010 population of 12,349 and an area of 9 square miles. The city began as a mining and railroad community. The book Fried Green Tomatoes at the Whistle Stop Cafe, written by Irondale native Fannie Flagg, is loosely based on the town and the landmark Irondale Cafe. In 1916, a magnitude 5.1 earthquake struck Irondale. The earthquake was felt in neighboring states. In 1981, Mother Angelica founded the Eternal Word Television Network (EWTN) in the city. Irondale was incorporated October 19, 1887.

City of Kimberly

The City of Kimberly is located in northern Jefferson County. It has a 2010 population of 2,711 and an area of 4 square miles. Beginning June 29, 2011, due to the population increasing from 1,801 persons in 2000 to 2,711 persons in 2010, the town began operating as a city, per Alabama law. Like other jurisdictions north of Birmingham, Kimberly was originally settled as a coal-mining town. Kimberly was incorporated in 1951.

City of Leeds

The City of Leeds is located in eastern Jefferson County. It has a 2010 population of 11,773 and an area of 22.5 square miles. The tale of John Henry was believed to have originated in Leeds. In this folk story, John Henry, the "steel-drivin' man", raced and won against a steam engine in the laying of railroad that penetrated the Oak Mountain Tunnel in Leeds. Today, Leeds is known for the Barber Vintage Motorsports Museum and Racetrack. Leeds was incorporated on April 27, 1887.

City of Lipscomb

The City of Lipscomb is located in southwestern Jefferson County. It has a 2010 population of 2,210 and an area of 1.1 square miles. Originally it was named Wheeling after Wheeling, West Virginia because the owners of Woodward Iron Company, employed many of the residents. Lipscomb was named for L.Y. Lipscomb, one of three brothers who first settled in the area in 1885 and ran a general store on the old South Bessemer car line which opened in 1890. Lipscomb was incorporated in June 30, 1910.

Town of Maytown

The Town of Maytown is located in northwest Jefferson County. It has a 2010 population of 385 and an area of 2.7 square miles. On May 28, 2007 the only business in the town limits, the Tri-Cities Convenience Store, was destroyed by fire. Maytown suffered damages by an F5 tornado on April 8, 1998. Maytown was incorporated in 1956.

City of Midfield

The City of Midfield is located in southwestern Jefferson County. It has a 2010 population of 5,365 and an area of 2.6 square miles. Midfield grew rapidly after World War II with the construction of the Bessemer Superhighway, the first lighted four-lane highway in Alabama. Midfield obtained its name because of the fact that it is situated between Birmingham and Bessemer. Midfield was incorporated on October 7, 1953.

Town of Morris

The Town of Morris is located in northern Jefferson County. It has a 2010 population of 1,859 and an area of 3.1 square miles. The town is named after Mary Hunter "Mae" Morris, an early female pioneer

of the region. According to Wikipedia Morris is named as the most Conservative town in Alabama. Morris was incorporated in 1885.

City of Mountain Brook

The City of Mountain Brook is located in southeastern Jefferson County. It has a 2010 population of 20,413 and an area covering 12.2 square miles. Mountain Brook was originally developed in 1929 by Robert Jemison, Jr. as an extensive residential subdivision. Warren H. Manning, a Boston-based landscape architect, formulated the plan to create estate-sized lots along winding scenic roads with commercial development. Home to the nation's first office park, built in 1955, it featured the then novel concepts of ample free parking and low-profile office buildings surrounded by waterspouts and landscaped grounds. Mountain Brook is the wealthiest municipality in Alabama; and, in 2008, Mountain Brook was ranked as the 9th wealthiest city in the United States. Mountain Brook was incorporated in May 24, 1942.

Town of Mulga

The Town of Mulga is located in western Jefferson County. It has a 2010 population of 836 and an area of 0.6 square miles. Mulga was a coal mining community built by the Birmingham Coal and Iron Company around the Mulga Mine. Mulga was first recognized as a distinct community in 1907, with the establishment of a post office. Its communities were damaged by an F5 tornado on April 8, 1998. Mulga was incorporated in 1947.

Town of North Johns

The Town of North Johns is located in southwestern Jefferson County. It has a 2010 population of 145 and an area of 0.2 square miles. The community was founded as a coal mining settlement and named for Welsh mining engineer Llewelyn Johns, who worked for the DeBardeleben Coal Company. A post office was established at Johns in 1889 and closed in 1973. It is the second smallest incorporated town in Jefferson County. North Johns was incorporated in 1912.

City of Pinson

The City of Pinson is located in northeastern Jefferson County. It has a 2010 estimated population of 7,163 and an area of 7.0 square miles. The community was originally known as Hagood's Crossroads for the early settler Zachariah Hagood and his family. It was later re-named Mount Pinson, presumably after Pinson, Tennessee. In the early 1800's, Andrew Jackson's soldiers became the area's first settlers following their victory at Horseshoe Bend. Pinson is one of the oldest communities in Alabama. Pinson was incorporated March 30, 2004.

City of Pleasant Grove

The City of Pleasant Grove is located in western Jefferson County. It has a 2010 population of 10,110 and an area of 8.8 square miles. The community was originally known as Frog Pond, and was renamed for Pleasant Grove Baptist Church before 1884. The community became incorporated in order to

apply for federal funding for a municipal water system because many family wells had been drained as a result of coal mining operations in the area. Pleasant Grove was incorporated in January 1937.

Town of Sylvan Springs

The town of Sylvan Springs is located in western Jefferson County. It has a 2010 population of 1,542 and an area of 3.5 square miles. The town arose in an area where a few families had settled in the 1880s and built the Old Grove Methodist Church. It was first known as “Hoagtown”, for William T. Hogan, stepson of early Sylvan Springs Community Center settler Dudley Goolsby. It was renamed for a nearby fresh water source. This area was damaged by an F5 tornado on April 8, 1998. Sylvan Springs was incorporated in May 22, 1957.

City of Tarrant

The City of Tarrant is located in east-central Jefferson County. It has a 2010 population of 6,397 and an area of 6.4 square miles. A contest was held to name the new town in 1915. Several people suggested Tarrant in honor of Benjamin Tarrant, who had lived in this community most of his life. Other sources claim the city was named for Felix I. Tarrant, President of National Cast Iron Pipe Company, which built the first major industrial plant in the area in 1912. Tarrant was incorporated in August 17, 1918.

Town of Trafford

The Town of Trafford is located in northern Jefferson County. It has a 2010 population of 646 and an area of 2.4 square miles. Trafford initially called itself Union City; it grew up along the Louisville and Nashville Railroad. Because another town in the state was already named Union City, town inhabitants changed it to Trafford after a prominent landowner in the area. Trafford was incorporated in 1948.

City of Trussville

The City of Trussville is located in eastern Jefferson County. It has a 2010 population of 19,450 and an area of 22.2 square miles. In 1821, Warren Truss and his brothers, John and Sam, constructed a grist mill on the Cahaba River. In recent years, Trussville has been one of the fastest growing communities in the Birmingham metropolitan area. Trussville has been recognized as one of the most livable cities in the state and country. It was named one of the ten best towns in Alabama and included in Money magazine's list of 100 best places to live in America. Trussville was incorporated on June 10, 1947.

City of Vestavia Hills

The City of Vestavia Hills is located in southern Jefferson County. It has a 2010 population of 34,019 and an area of 19.41 square miles. Vestavia Hills is named after Birmingham Mayor George B. Ward's 20-acre estate, which featured a house built to resemble the Temple of Vesta in Rome, Italy. A domed gazebo, built to resemble the Roman goddess Sybil in Tivoli, is now situated on a major intersection at the northern entrance to Vestavia Hills. The city sits at the top of Shades Mountain, which is part

of the southernmost reaches of the Appalachian Mountains. Vestavia Hills was incorporated on November 8, 1950.

City of Warrior

The City of Warrior is located in northern Jefferson County. It has a 2010 population of 3,176 and an area of 908 square miles. Once the home of a Creek Indian town, the area on which Warrior now stands was opened for settlement after the Creek defeat in the Creek War of 1813-14. The city takes its name from the Warrior coal fields, which J.T. Pierce opened in 1872. The coal fields were named after the Black Warrior River that drains them. The town, which was built on a spur of the L&N Railroad, was originally Warrior Station. The Warrior Post Office was established in 1872, Warrior is one of the oldest incorporated communities in Jefferson County. In 1996, the Olympic torch passed through on the way to the 1996 Summer Olympics in Atlanta. Warrior was incorporated in either 1889 or 1899, though most records cite the 1889 date.

Town of West Jefferson

The Town of West Jefferson is located in northwestern Jefferson County. It has a 2010 population of 338 and an area of 0.7 square miles. The first settlers in what would become West Jefferson were primarily farmers who arrived in the 1880s. During the next decade, mines began opening in the area, spurred by the expanding steel and iron industry. The Alabama Power Miller Steam Plant is located nearby the town. West Jefferson was incorporated in October 1964.

Government

A five-member County Commission is the governing body of Jefferson County. Commissioners are elected from five districts within the County for four-year terms. All of the Jefferson County municipalities have a mayor. In 2009, the Alabama Legislature authorized the County to appoint a County Manager.

The Jefferson County Commission, by resolution on November 13, 1951, (pursuant to federal and state law) created the Birmingham/Jefferson County Civil Defense Corps. The local governing bodies within the county passed resolutions/ordinances joining in this organization, creating a "Civil Defense Council" to govern the joint "civil defense program." This was later changed to the Emergency Management Council and the Emergency Management Agency. The Council is authorized and empowered to make, amend, and rescind any and all necessary orders, rules and regulations for direction and control of the civil defense program. As needed, the Council requests municipalities to adopt proper ordinances implementing within each municipality the orders, rules, and regulations of the council.

The Council is charged with establishing and maintaining an emergency management organization, and developing policies to prepare for, respond to, and recover from emergencies and disasters that threaten or occur in Jefferson County. The policies are established through the promulgation of a Comprehensive Emergency Management Plan.

A Chairperson and Vice Chairperson govern the Council. In the absence of the Chairperson and the Vice Chairperson, the EMA Coordinator has the responsibility to carry out Council policy in all matters.

The Jefferson County Emergency Management Council has designated the EMA Director to be responsible for day-to-day operations, including the implementation of policies and procedures issued by the Council. The EMA Director reports to the Emergency Management Council President.

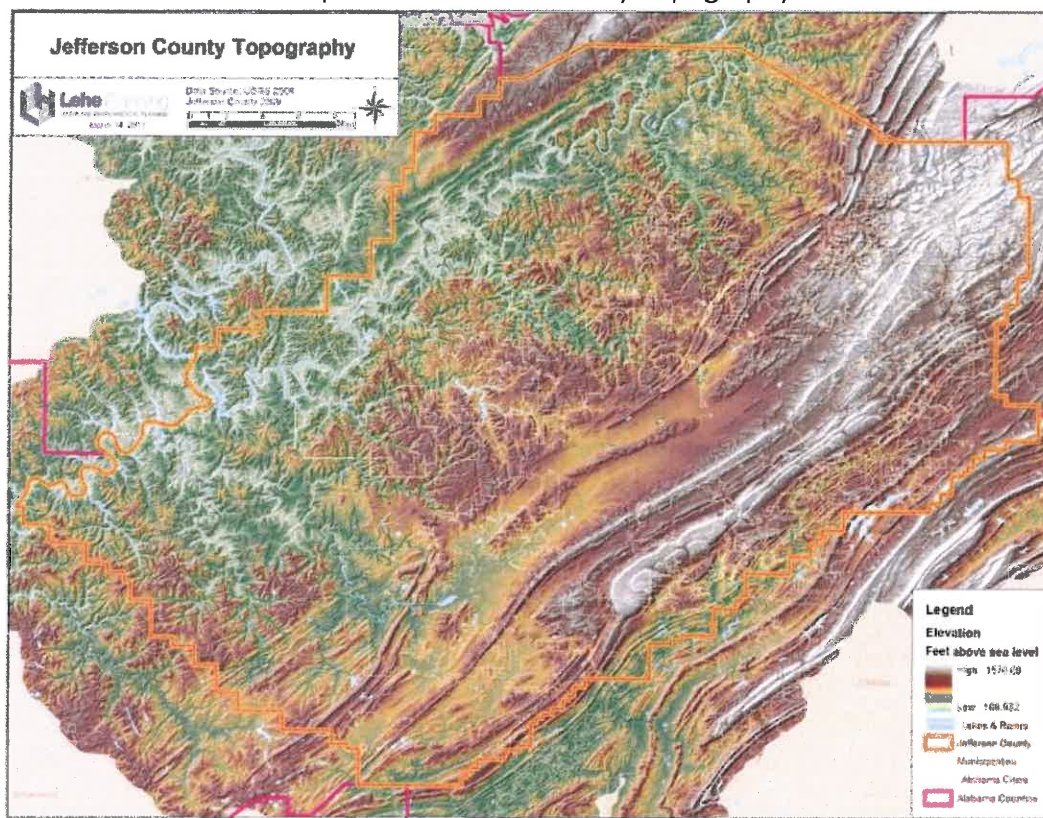
Physical Features

Jefferson County is located in the foothills of the Appalachian Mountains. The primary topographic features are a series of parallel ridges and valleys ranging from 300 to 1,200 feet in elevation running through the county in a northeast to southwest direction. Located in southeastern Jefferson County, Shades Mountain at 1,150 feet is the county's highest elevation, followed by Red Mountain at 950 feet. Shades Valley, which is characterized by steep valley walls and a narrow floor, lies between the two mountains. Shades Valley is split by a low, meandering ridge known as Little Shades Mountain. See Map 3.3 – Jefferson County Topography.

Sand Mountain, which rises to an elevation of 700 feet, is located northwest of Red Mountain. Jones and Opossum Valleys, which are wide and flat-bottomed valleys, lie between Red Mountain and Sand Mountain. Slopes generally range from 0 to 20 percent. Most of the flat land is located in the Jones, Opossum, and Pinson and Shade valleys. Most of the county's geology consists of deposits of sandstone, shale, chert, dolomite and limestone.

The county generally drains in a westerly direction into either the Warrior or Cahaba River. Shades Creek, Little Shades Creek, and Patton Creek flow into the Cahaba, while Valley Creek and Village Creek are the major streams draining into the Warrior River. Numerous other smaller tributaries feed into these larger basins. (*Source: Encyclopedia of Alabama*)

Map 3.3 – Jefferson County Topography



Source – Lehe Planning

Climate

Jefferson County has a mild, temperate climate. Summers are generally hot and humid with scattered afternoon thunderstorms. Winter weather is influenced by successive cold fronts moving from west to east that draw moisture out of the Gulf and sometimes produce heavy downpours. Rainfall occurs an average of 117 days per year. Snowfall and freezing temperatures are infrequent. Table 3.2 – Climate Information provides average temperatures and precipitation amounts.

Table 3.2 – Climate Information

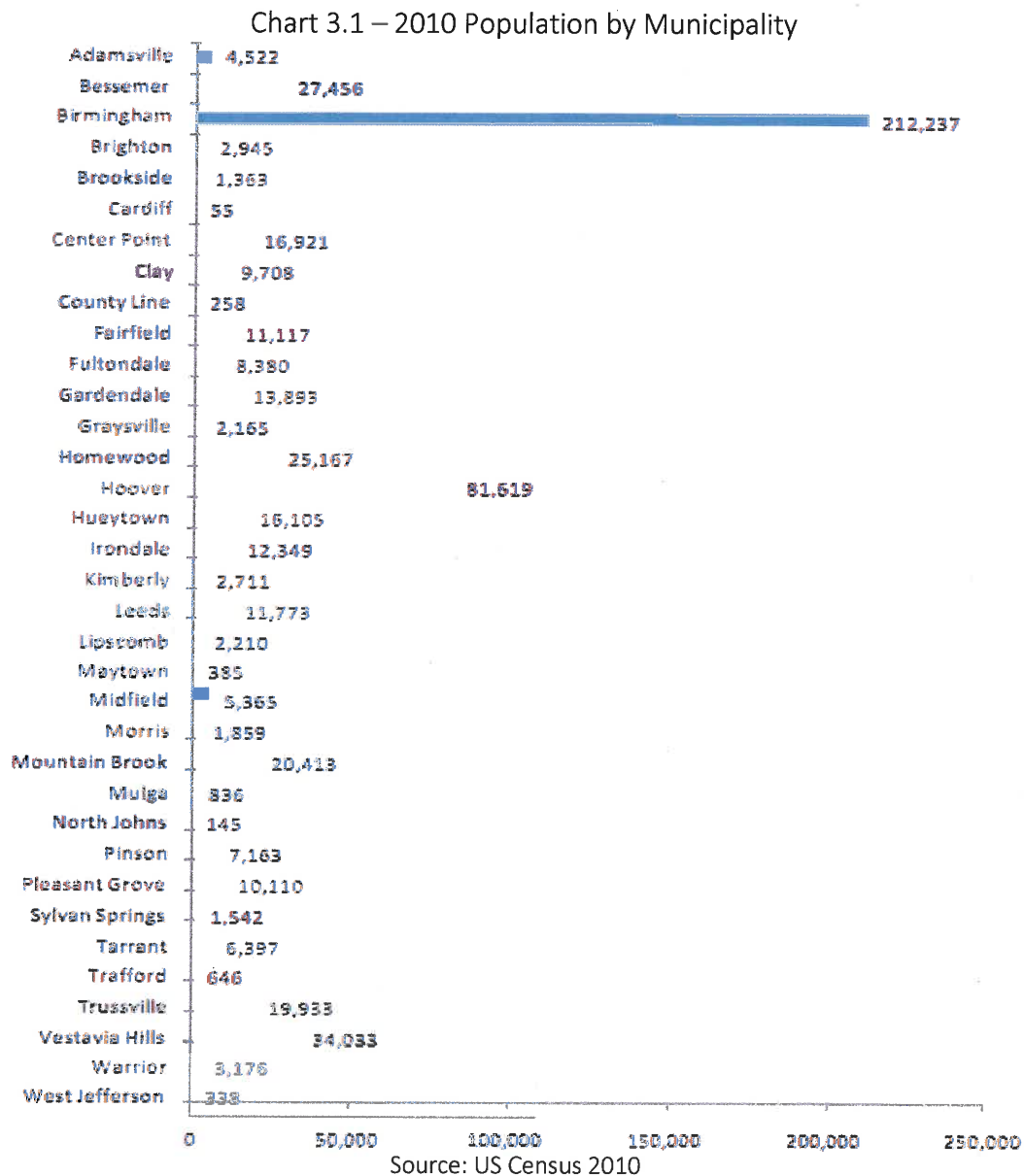
Item	Average
Average Annual Minimum Temperature	51.3 degrees
Average Annual Maximum Temperature	72.7 degrees
Average Annual Temperature	62.0 degrees
Average Annual Rainfall	52.6 inches
Average Annual Snowfall	2.1 inches

Source: National Weather Service

Demographics

2010 US Census Population

The 2010 US Census provides the population for Jefferson County and its municipalities. Jefferson County, with an estimated population of 658,466, is the largest county in Alabama. With a population of 210,609, the City of Birmingham is the largest city in Alabama and home to 32 percent of the county's total population, as shown on Chart 3.1 – 2010 Population by Municipality. Hoover is the sixth largest city in Alabama. Twenty-one of Jefferson County's 35 municipalities have populations below 10,000.



Population Growth

Table 3.3 – Jefferson County Population Changes 1970-2010 shows the changing populations of Jefferson County and its jurisdictions over the past fifty years. The State of Alabama population changes are included for comparison.

After three decades of modest growth, Jefferson County began to lose population in 2000. The population of the City of Birmingham has declined in both decades since 1980 and is down 38.8% for the 1970 to 2010 period as a whole. Growth data is not available for Center Point, Clay or Pinson, as these communities were not incorporated during the 2000 Census. See also section 5.7 “General Description of Land Use and Development Trends” for a discussion of population growth rates.

Table 3.3 – Jefferson County Population Changes 1970-2010

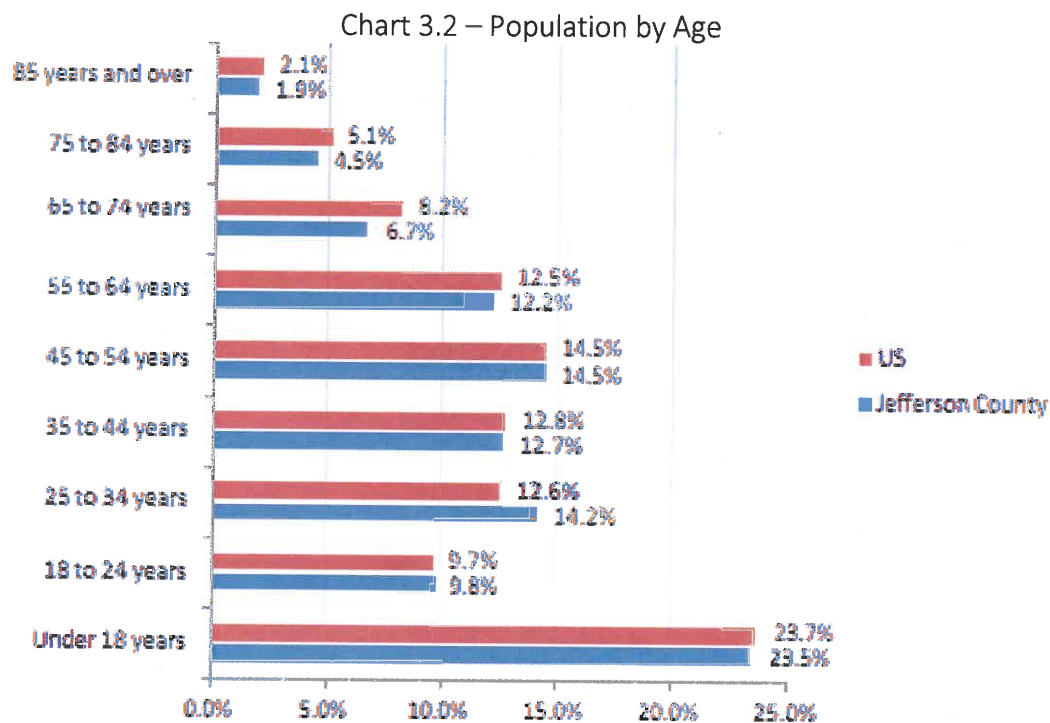
JURISDICTION	1970	1980	1990	2000	2010	Pop Change 1970-2010	% Change 1970-2010	Pop Change 2000-2010	% Change 2000-2010
State of Alabama	3,444,354	3,894,025	4,040,389	4,447,100	4,779,736	1,335,382	38.8%	332,636	7.5%
Jefferson County	644,991	671,371	651,520	662,047	658,466	13,475	2.1%	-3,581	-0.5%
Adamsville	2,412	2,498	4,161	4,965	4,522	2,110	87.5%	-443	-8.9%
Bessemer	33,428	31,729	33,497	29,672	27,456	-5,972	-17.9%	-2,216	-7.5%
Birmingham	300,910	284,413	265,986	242,820	212,237	-88,673	-29.5%	-30,583	-12.6%
Brighton	2,277	5,308	4,518	3,640	2,945	668	29.3%	-695	-19.1%
Brookside	990	1,409	1,365	1,393	1,363	373	37.7%	-30	-2.2%
Cardiff	127	140	72	82	55	-72	-56.7%	-27	-32.9%
Center Point*	-	-	-	15,877	16,921	-	-	1,044	6.6%
Clay*	-	-	-	8,640	9,708	-	-	1,068	12.4%
County Line	199	199	189	257	258	59	29.6%	1	0.4%
Fairfield	14,369	13,242	12,200	12,381	11,117	-3,252	-22.6%	-1,264	-10.2%
Fultondale	5,163	6,217	6,400	6,595	8,380	3,217	62.3%	1,785	27.1%
Gardendale	6,537	8,005	9,251	11,626	13,893	7,356	112.5%	2,267	19.5%
Graysville	3,182	2,642	2,241	2,344	2,165	-1,017	-32.0%	-179	-7.6%
Homewood	21,245	21,412	22,922	25,043	25,167	3,922	18.5%	124	0.5%
Hoover	688	18,996	39,788	62,742	81,619	80,931	11763.2%	18,877	30.1%
Hueytown	7,095	13,452	15,280	15,364	16,105	9,010	127.0%	741	4.8%
Irondale	3,166	6,510	9,454	9,813	12,349	9,183	290.1%	2,536	25.8%
Kimberly	847	1,043	1,096	1,801	2,711	1,864	220.1%	910	50.5%
Leeds	6,991	8,638	9,946	10,353	11,773	4,782	68.4%	1,420	13.7%
Lipscomb	3,225	3,741	2,892	2,458	2,210	-1,015	-31.5%	-248	-10.1%
Maytown	667	538	651	435	385	-282	-42.3%	-50	-11.5%
Midfield	6,621	6,182	5,559	5,626	5,365	-1,256	-19.0%	-261	-4.6%
Morris	519	623	1,136	1,827	1,859	1,340	258.2%	32	1.8%
Mountain Brook	19,474	19,718	19,810	20,604	20,413	939	4.8%	-191	-0.9%
Mulga	582	405	261	973	836	254	43.6%	-137	-14.1%
North Johns	241	243	177	142	145	-96	-39.8%	3	2.1%
Pinson**	-	-	-	-	7,163	-	-	-	-
Pleasant Grove	5,090	7,102	8,458	9,983	10,110	5,020	98.6%	127	1.3%
Sylvan Springs	344	450	1,470	1,465	1,542	1,198	348.3%	77	5.3%
Tarrant	6,835	8,148	8,046	7,022	6,397	-438	-6.4%	-625	-8.9%
Trafford	628	673	739	523	646	18	2.9%	123	23.5%
Trussville	2,985	3,507	8,266	12,924	19,933	16,948	567.8%	7,009	54.2%
Vestavia Hills	12,250	15,722	19,749	24,476	34,033	21,783	177.8%	9,557	39.0%

JURISDICTION	1970	1980	1990	2000	2010	Pop Change 1970-2010	% Change 1970-2010	Pop Change 2000-2010	% Change 2000-2010
Warrior	2,621	3,260	3,280	3,169	3,176	555	21.2%	7	0.2%
West Jefferson	233	357	388	344	338	105	45.1%	-6	-1.7%
*Not incorporated in 2000; based on July 1, 2000 estimate									
**Not incorporated in 2000; no estimate available									

Source: U.S. Census Bureau, 2010

Age Distribution

The 2010 American Community Survey indicates that 33.3 percent of Jefferson County's population is under the age of 25. This age group will have a substantial impact on common facility requirements for schools and parks. The 25-64 age groups constitute most of the labor force and collectively represent a majority—53.6%—of Jefferson County's population. The age group composed of citizens aged 65 years or older represents approximately 13.1 percent of the population. Individuals in this senior age group have special health, housing, and transportation needs, which can become particularly acute during natural hazards. Chart 3.2 – Population by Age, depicts the breakdown of Jefferson County by the age of residents.



Source: US Census 2010 American Community Survey

Racial Composition

The racial composition of Jefferson County varies considerably, as shown in Table 3.4 – Population by Race and Hispanic Origin. According to the 2010 Census, African Americans composed a majority of the population in the jurisdictions of Bessemer (71.2%), Birmingham (73.4%), Brighton (81.0%), Center Point (62.9%), Fairfield (94.6%), Lipscomb (61.0%), Midfield (81.6%), and Tarrant (52.3%). Residents of all races who self-identified as "Hispanic" accounted for more than 5% of the population in Brighton

(13.8%), Fultondale (10.8%), Hoover (6.0%), Irondale (7.8%), Leeds (6.6%), Lipscomb (19.7%), and Tarrant (9.0%). A majority of Jefferson County residents—53.0%--are classified as white by the Census Bureau.

Table 3.4 – Population by Race and Hispanic Origin

Location	2010 Population	White	Black	American Indian	Asian	Other Race	Two or More Races	Hispanic (of any race)
Jefferson County	658,466	53.0%	42.0%	0.3%	1.4%	2.2%	1.1%	3.9%
Adamsville	4,522	52.3%	44.9%	0.5%	0.3%	1.1%	0.8%	2.3%
Bessemer	27,456	24.3%	71.2%	0.3%	0.2%	3.1%	0.9%	4.1%
Birmingham	212,237	22.3%	73.4%	0.2%	1.0%	2.0%	1.0%	3.6%
Brighton	2,945	6.5%	81.0%	1.0%	0.0%	10.8%	0.9%	13.8%
Brookside	1,363	79.5%	18.5%	0.3%	0.1%	0.2%	1.4%	0.7%
Cardiff	55	94.5%	5.5%	0.0%	0.0%	0.0%	0.0%	0.0%
Center Point*	16,921	32.6%	62.9%	0.2%	0.4%	2.8%	1.1%	4.8%
Clay*	9,708	84.1%	13.3%	0.3%	0.6%	0.6%	1.1%	1.3%
County Line	258	94.2%	1.2%	3.1%	1.2%	0.0%	0.4%	0.4%
Fairfield	11,117	4.2%	94.6%	0.0%	0.0%	0.7%	0.4%	1.1%
Fultondale	8,380	75.1%	16.6%	0.4%	1.0%	4.7%	2.0%	10.8%
Gardendale	13,893	88.4%	8.6%	0.3%	1.2%	0.6%	1.0%	1.5%
Graysville	2,165	73.9%	23.6%	0.4%	0.2%	0.4%	1.4%	1.7%
Homewood	25,167	74.6%	17.3%	0.2%	2.2%	4.4%	1.4%	1.7%
Hoover	81,619	75.1%	14.8%	0.2%	5.1%	3.2%	1.5%	6.0%
Hueytown	16,105	70.0%	27.2%	0.3%	0.5%	1.1%	1.0%	2.0%
Irondale	12,349	56.3%	35.4%	0.3%	1.4%	5.1%	1.4%	7.8%
Kimberly	2,711	96.2%	1.8%	0.4%	0.6%	0.3%	0.7%	0.8%
Leeds	11,773	78.7%	14.3%	0.4%	0.6%	4.0%	2.0%	6.6%
Lipscomb	2,210	22.0%	61.0%	1.1%	0.0%	15.0%	0.9%	19.7%
Maytown	385	89.4%	9.6%	0.3%	0.0%	0.0%	0.8%	0.0%
Midfield	5,365	16.4%	81.6%	0.1%	0.2%	0.7%	0.9%	1.4%
Morris	1,859	97.7%	1.0%	0.1%	0.3%	0.5%	0.4%	1.1%
Mountain Brook	20,413	97.2%	1.0%	0.1%	0.9%	0.2%	0.6%	1.0%
Mulga	836	81.0%	16.9%	0.1%	0.0%	0.7%	1.3%	0.6%
North Johns	145	49.7%	46.2%	4.1%	0.0%	0.0%	0.0%	0.0%
Pinson*	7,163	79.0%	17.0%	0.2%	0.4%	2.2%	1.0%	3.7%
Pleasant Grove	10,110	53.7%	44.8%	0.3%	0.2%	0.2%	0.7%	0.6%
Sylvan Springs	1,542	97.3%	1.4%	0.5%	0.0%	0.1%	0.7%	0.5%
Tarrant	6,397	39.0%	52.3%	0.8%	0.3%	6.1%	1.5%	9.0%
Trafford	646	92.7%	6.2%	0.2%	0.0%	0.2%	0.8%	0.9%
Trussville	19,933	90.3%	6.6%	0.2%	1.6%	0.6%	0.8%	0.9%
Vestavia Hills	34,033	90.4%	3.8%	0.2%	3.8%	0.8%	1.0%	2.5%
Warrior	3,176	83.1%	14.2%	0.2%	0.4%	0.3%	1.8%	0.8%
West Jefferson	338	96.7%	1.2%	0.0%	0.0%	0.0%	2.1%	0.3%
Unincorporated Census Designated Place (CDP)								

Source: U.S. Census Bureau, 2010

Gender

Table 3.5 – Population by Gender, shows the percentage of male to female within incorporated and unincorporated Jefferson County. Nationally, the female population is proportionately higher than males due to their higher longevity.

Table 3.5 – Population by Gender

Community	Male	Female
Jefferson County	47.4%	47.1%
Adamsville	52.6%	52.4%
Bessemer	45.0%	54.7%
Birmingham	47.0%	53.9%
Brighton	44.9%	53.5%
Brookside	43.0%	51.5%
Cardiff	47.1%	53.7%
Center Point*	45.3%	52.8%
Clay*	48.5%	50.5%
County Line	48.1%	46.7%
Fairfield	44.8%	55.8%
Fultondale	50.2%	52.1%
Gardendale	48.1%	53.2%
Graysville	50.1%	53.7%
Homewood	49.3%	53.8%
Hoover	48.6%	51.3%
Hueytown	49.0%	52.6%
Irondale	48.5%	52.2%
Kimberly	51.4%	50.1%
Leeds	47.1%	52.1%
Lipscomb	49.0%	50.9%
Maytown	46.5%	51.3%
Midfield	41.9%	53.9%
Morris	43.9%	51.5%
Mountain Brook	46.4%	52.7%
Community	Male	Female
Mulga	50.9%	53.9%
North Johns	45.5%	51.4%
Pinson*	48.7%	51.7%
Pleasant Grove	44.2%	52.6%
Sylvan Springs	48.5%	51.7%
Tarrant	44.1%	53.1%
Trafford	51.8%	52.6%
Trussville	47.9%	51.3%
Vestavia Hills	46.1%	53.0%
Warrior	47.6%	53.4%
West Jefferson	42.9%	51.2%

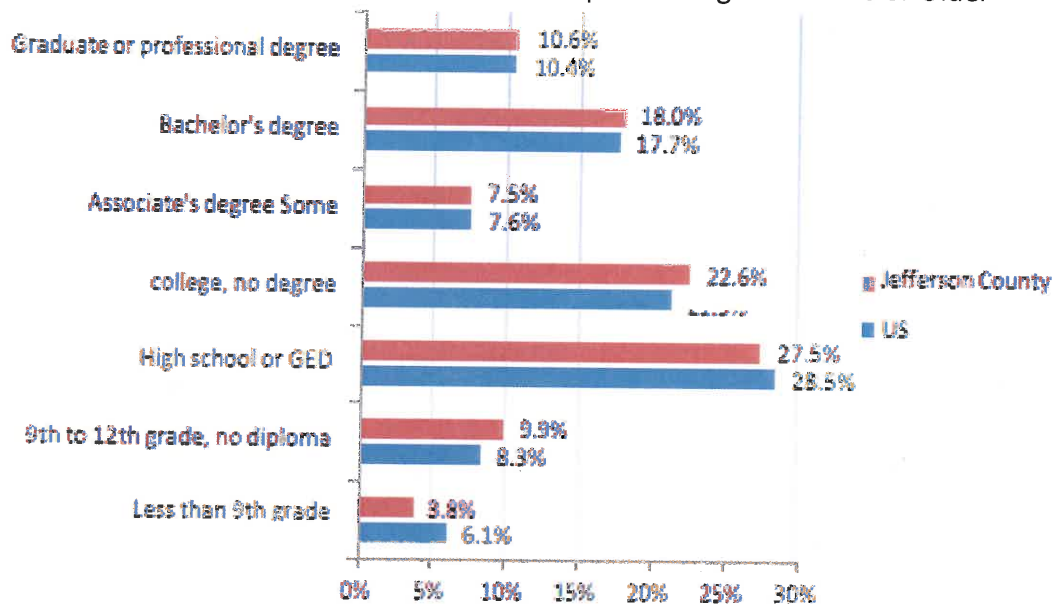
*Unincorporated Census Designated Place (CDP) in 2000

Source: U.S. Census Bureau, American Community Survey

Educational Attainment

Chart 3.3 – Education Attainment of Population Ages 25 Years or Older, compares Jefferson County and the U.S. population, according to the 2010 American Survey by the Census Bureau. The share of Jefferson County's population with a bachelor's degree or higher—28.6%-- is slightly above the national average of 28.1%.

Chart 3.3 – Education Attainment of Population Ages 25 Years or Older



Source: US Census 2010 American Community Survey

Economy

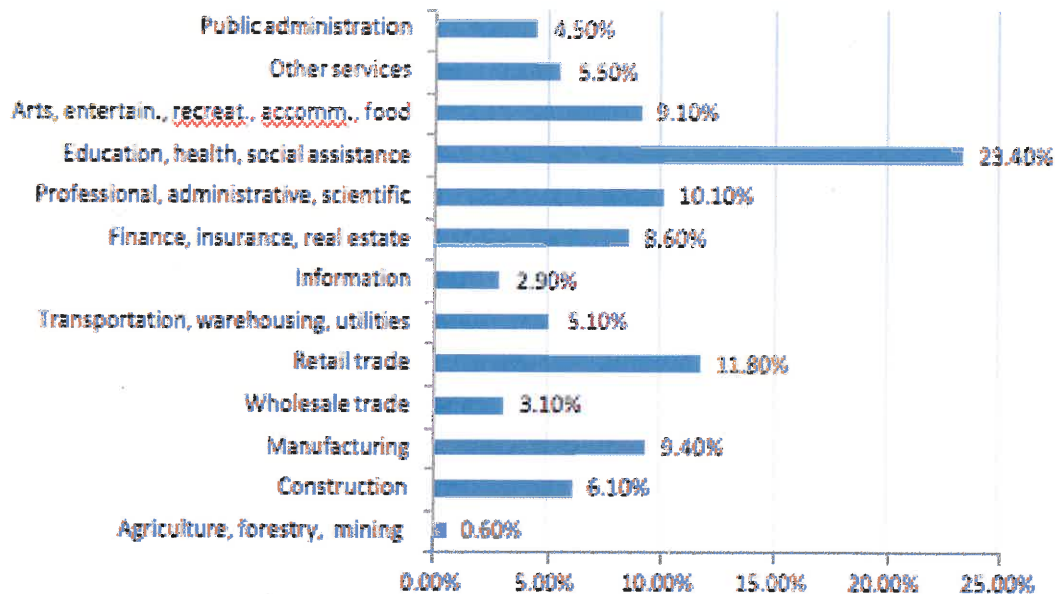
Business and Industry

Birmingham and the surrounding area developed rapidly around the steel industry in the early 1900's. The area was once known as "The Pittsburgh of the South." Now, Birmingham is recognized for its health services, medical research, engineering, and financial services industries. Half of the Fortune 500 companies maintain offices in the Birmingham metro area. As of 2010, Birmingham has one Fortune 500 public company: Regions Financial Corporation (#447).

Chart 3.4 – Employment by Occupational Group and Chart 3.5 – Major Employers with 1200+ Employees depict Jefferson County's employment by industry type and major employers, respectively. The education / health / social services fields host more jobs than any other category in Jefferson County. The field includes employers such as University of Alabama at Birmingham, Baptist Health System, and some government agencies.

Retail trade and employs the second highest numbers of workers. Although many of the largest steel mills have closed, Jefferson County is still the site of major manufacturers including Motion Industries, the largest distributor of bearing, mechanical, electric, and fluid power components in the U.S., and Vulcan Materials, the world's largest producer of construction aggregates. Though not located in the county, the automobile industry is the newest manufacturer in the area. Mercedes-Benz and Honda have located automotive manufacturing facilities just west and east of Jefferson County, respectively.

Chart 3.4 – Employment by Occupational Group



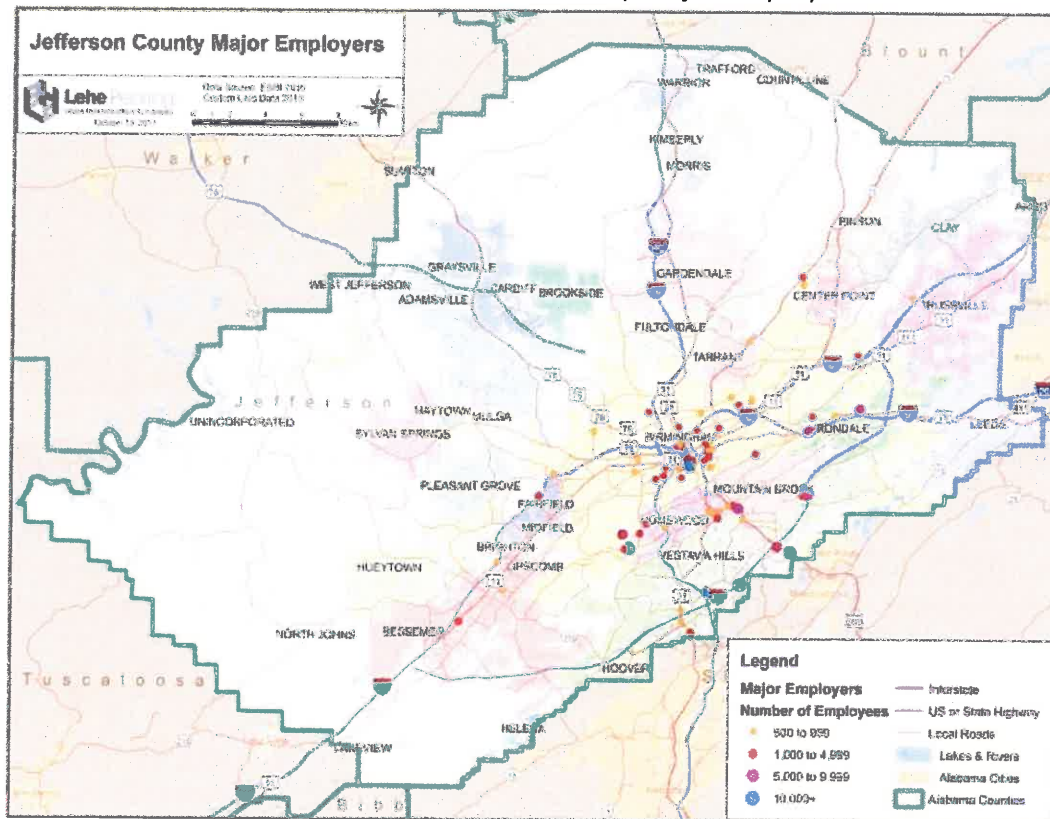
Source: US Census 2010 American Community Survey

Chart 3.5 – Jefferson County Major Employers

Company	Employment	Service Description
University of Alabama at Birmingham*	23,000	Education and health care services
Regions Financial Corporation	7,668	Banking, corporate headquarters and operations center
AT&T	5,750	Information, regional operations
St. Vincent's Health System	4,644	Health care services, hospital network serving metro Birmingham
Children's of Alabama	4,497	Health care services, regional specialized health care
Blue Cross Blue Shield of Alabama	4,000	Insurance, employee benefits, corporate headquarters
Alabama Power Company	3,982	Utilities services, electrical
Baptist Health System	3,200	Health care services, management
BBVA Compass	2,606	Banking, financial services, North American headquarters
American Cast Iron Pipe Company	2,400	Manufacturing, primary metals manufacturer of ductile iron products
Buffalo Rock Company	2,200	Manufacturing, food products, independent Pepsi bottler
Southern Company Services	2,116	Utilities, operations, shared services division of Southern Company
Brookwood Medical Center	2,037	Health care services, hospital
U.S. Steel	1,900	Manufacturing, pipe mill
Trinity Medical Center	1,879	Health care services, hospital
Social Security Administration	1,800	Financial services, social security benefits processing
Drummond Company	1,625	Natural resources and mining, corporate headquarters
Birmingham Veterans Affairs Medical Center	1,525	Health care services, regional comprehensive medical facility
Wells Fargo	1,466	Banking, Customer operations center
Protective Life Corporation	1,340	Insurance, North American headquarters
McDonalds (CLP Corporation)	1,300	Management, retail, Alabama's largest McDonald's franchisee
State Farm Insurance	1,300	Insurance, regional operations center
Samford University	1,231	Education services, post-secondary, university

Source: Birmingham Business Alliance, April 2014 *Includes UAB Health Services Foundation Employment

Map 3.4 – Jefferson County Major Employers

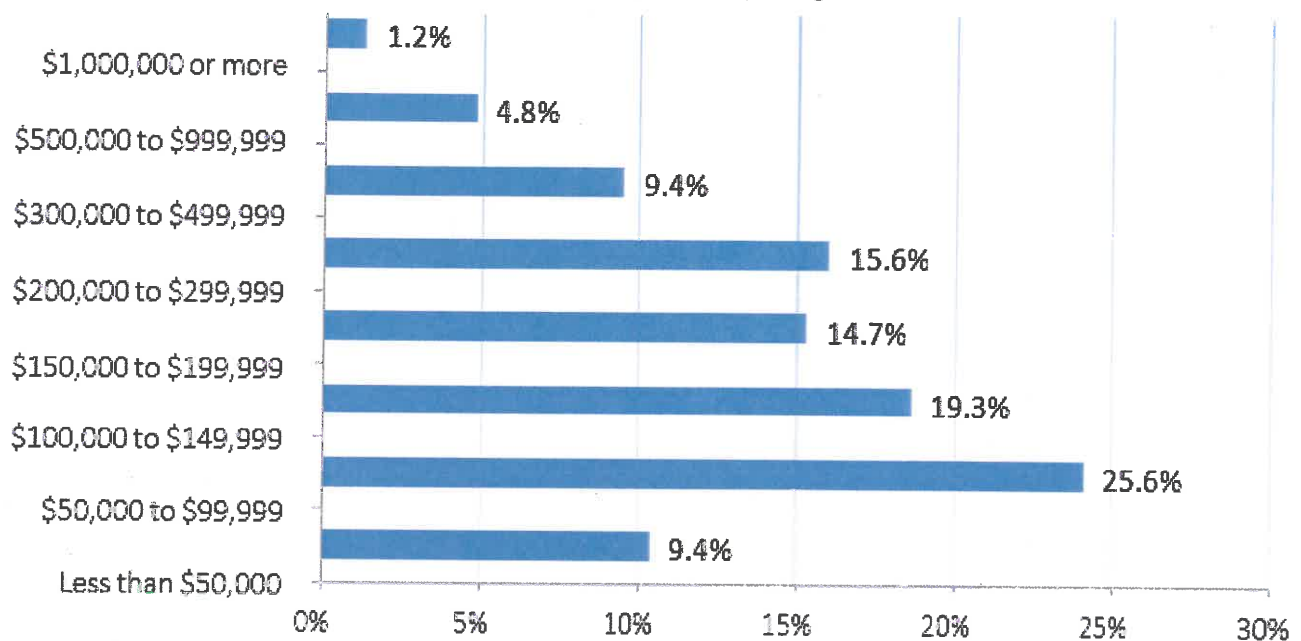


Source: Lehe Planning

Income and Housing

The median household income for Jefferson County is \$41,853 compared to a state median of \$40,474; according to 2010 Census. Approximately 14.4 percent of families live below the poverty line, while the statistic for Alabama as a whole is 14.7 percent. The number of housing units by range of value is shown in Chart 3.6 – Housing Units by Range of Value. The median value for a home in Jefferson County in 2010 was \$141,500.

Chart 3.6 – Housing Units by Range of Value



Source: U.S. Census Bureau, 2010 American Community Survey

Utilities

Alabama Power, a Southern Company subsidiary, provides most of the electrical power for Jefferson County, with Tennessee Valley Authority (TVA) serving some areas. Alabama Gas Company provides natural gas to Jefferson County homes and businesses. The Birmingham Water Works Board furnishes drinking water to approximately 700,000 people in the Central Alabama region through almost 4,000 miles of pipe, making it one of the largest water providers in the country. Raw water is drawn from the Sipsey Fork, Mulberry Fork and Inland Lake/Blackburn Fork in the Black Warrior Basin; and from the Big Cahaba River, Little Cahaba River and Lake Purdy in the Cahaba Basin. The water system has its own laboratory testing facility for water quality analyses. The sanitary sewer collection system in Jefferson County consists of over 2,500 miles of pipe, 60,000 manholes, and nine wastewater treatment facilities. Jefferson County manages a maximum capacity of 250 million gallons of sanitary sewer volume per day through its treatment facilities.

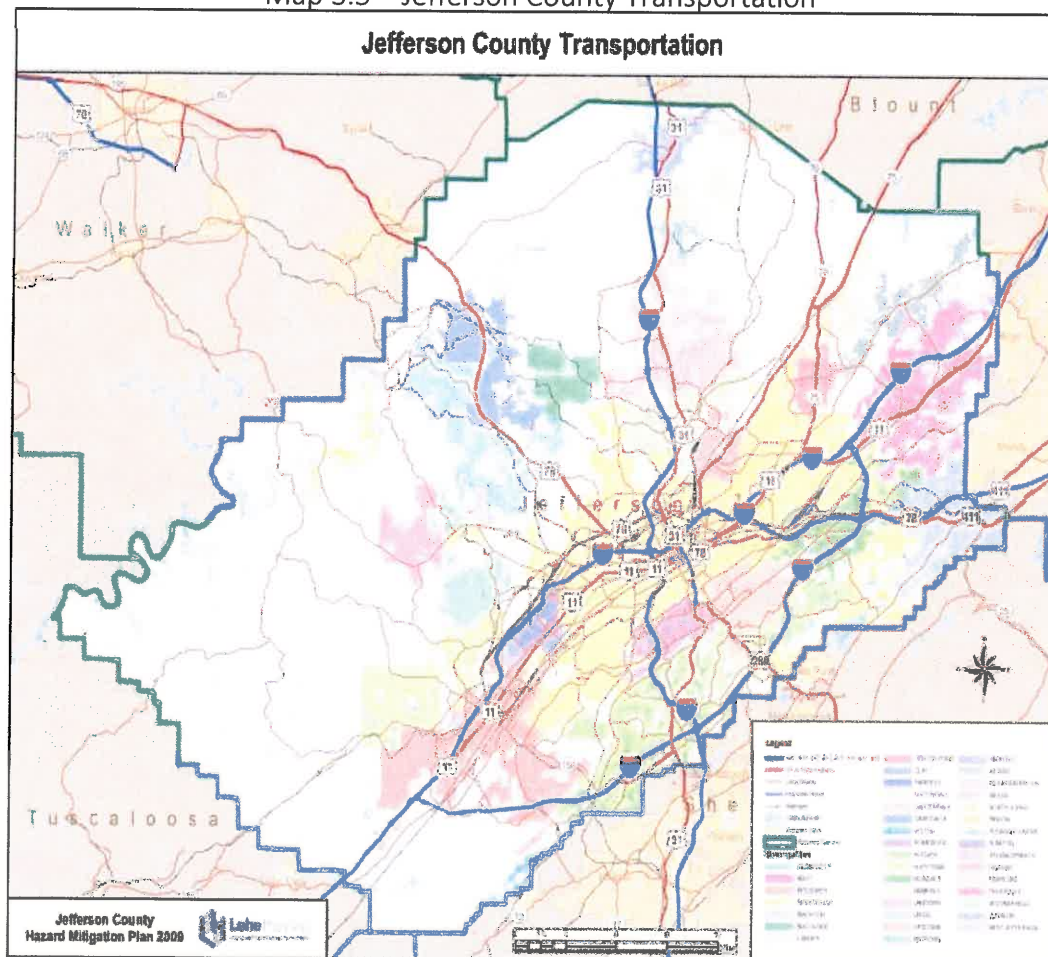
Media

The Jefferson County area is served by over thirty radio stations and seven television stations. The Eternal World Television Network, the worldwide Catholic cable television network, is headquartered in the county. The two cable providers are Charter Communications and BrightHouse. The main providers of satellite television service are Direct TV and DishNetwork. The Birmingham News provides daily news coverage to the people living in the metropolitan area through an online website.

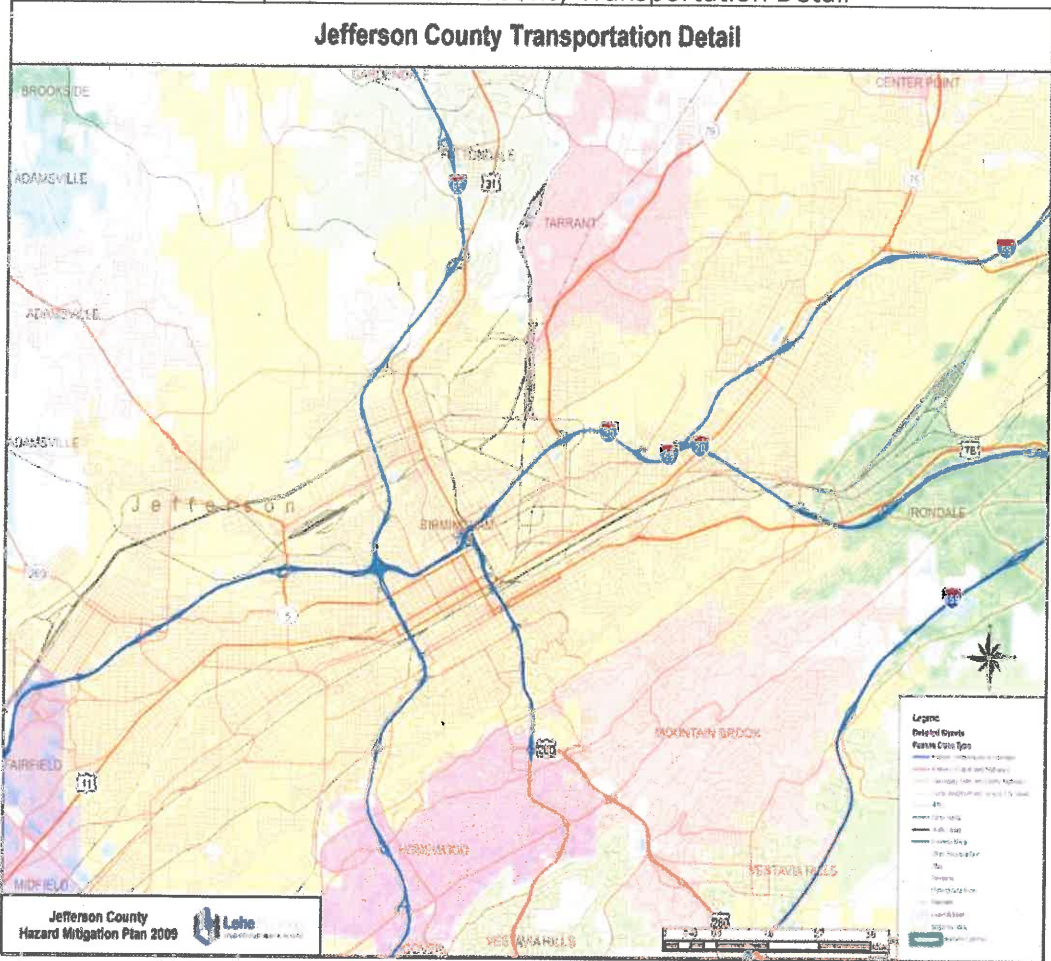
Transportation

Interstates: I-20, I-22, I-59, I-65, and I-459 all pass through Jefferson County, with I-459 serving as a southern beltway for the Birmingham metropolitan area. Jefferson County is served by most major regional trucking lines as well as seven major railroads: BNSF Railway, CXS Transportation, Norfolk Southern Railway, Birmingham Southern Railway, Alabama and Tennessee Railway, Birmingham Southern Railroad, and Jefferson Warrior Railroad. Greyhound bus service and AMTRAK passenger service are available in downtown Birmingham. The Birmingham-Shuttlesworth International Airport, located in the city of Birmingham, is Alabama's largest and busiest airport. The Port of Birmingham, located in the western part of the county on the Warrior River, is the largest inland commodities shipping center on the Tennessee-Tombigbee waterway system.

Map 3.5 – Jefferson County Transportation



Map 3.6 – Jefferson County Transportation Detail



Source: Lehe Planning

Chapter 4 - The Planning Process

Federal Requirements for the Planning Process

Summary of Plan Updates

Preparation of the Plan

How the Plan was updated

The Hazard Mitigation Planning Committee

Review and Incorporation of Applicable Plans and Documents

How the Public was involved in the Planning Process

Interagency and Intergovernmental Participation in the Planning Process

The Plan Review and Update Process

Federal Requirements for the Planning Process

This chapter of the Plan addresses the Planning Process requirements of 44 CFR Section 201.6 (b) and (c)(1) and the process for the plan review and update requirements of Section 201.6 (d)(3), as follows:

“201.6 (b) Planning process. 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:

An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

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; and

Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

“201.6 (c) Plan content. The plan shall include the following:

(1) Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.”

“201.6 (d) Plan review.

(3) A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for mitigation project grant funding.”

Summary of Plan Updates

Table 4.1 – Summary of Plan Updates. Summarizes changes in the 2014 Plan Update as a result of the planning process:

Table 4.1 – Summary of Plan Updates

Section	Change
Opportunities for Public Comment on the Plan	The public was invited to and involved in HMPC meetings and jurisdictional meetings and encouraged to comment on all parts of the 2014 Plan Update. The public will be invited to comment on the Plan prior to adoption and will be invited to scheduled HMPC and jurisdictional meetings throughout the 5-year plan maintenance period.
Opportunities for Involvement in the Planning Process	Attendance at meetings; review of previous Mitigation Actions; Completion of Citizen Input for HM Planning Survey; Supply of jurisdictional-specific capabilities and mitigation strategies and actions.
Review of Plans and Documents	The planning process included a thorough review and incorporation of local, State, and Federal plans and guidance.
How the Plan was Prepared	HMPC meetings; Jurisdictional meetings; Public education meetings on Hazard Mitigation; more direct involvement and oversight by Jefferson County EMA; more direct involvement in plan development by jurisdictions and the HMPC.; Solicitation of citizen involvement.
Who was Involved in the Planning Process	HMPC members; other stakeholders; citizens; neighboring county personnel.
The Plan Review and Update Process	The second planning session of the 2014 Plan Update involved a change from use of a paid contractor to produce the plan to direct involvement and plan update by the HMPC and jurisdictions, other stakeholders, and citizens.

Preparation of the Plan

The initial 2014 Plan Update was prepared by ERI International. This current 2014 Plan Update was prepared under the direction of the HMPC with the support of JCEMA.

How the Plan was updated

Initial Planning Process

Using grant funds provided to Jefferson County EMA from Alabama EMA, JCEMA entered into a contract effective February 15, 2014 with ERI International to update the 2014 Jefferson County HMP. Work on the 2014 HMP Update was to begin on March 1, 2014 with completion by August 31, 2014.

In April 2014, a “kick-off” meeting was held at the JCEMA office with ERI staff to review the scope of work, deliverables, and timelines to satisfy the HMP update contract terms. On July 7, 2014, a letter was sent to all Mayors and Commissioners in Jefferson County from JCEMA requesting the completion of a Mitigation Actions Tool, with submission to JCEMA no later than July 25, 2014. On July 29, 2014, a Media Advisory was distributed advising of a Public Meeting to be held on August 8, 2014 from 1:00pm-3:00pm in the JCEMA Training Room to review the updated 2014 Jefferson County Multi-Hazard Mitigation Plan prepared by ERI International. On November 18, 2014, the plan was submitted to Alabama EMA. In January 2015, JCEMA was informed by AEMA via conference call that the plan had major deficiencies and plan approval was unlikely. AEMA recommended that JCEMA start over with the development of the 2014 HMP Update due to the number deficiencies in the submitted update. Because the contract for the rejected plan update did not contain a performance clause and the planning funds had already been used, the decision was made by JCEMA personnel to start over with the plan development using the HMPC and local stakeholders (See Appendix G for the Initial Planning Process Documentation).

Second Planning Process

During the second planning process, the HMPC was re-activated and an effort made to include participation by representatives from each jurisdiction in Jefferson County. A letters were sent to the Mayor of each jurisdiction explaining the rejection of the initial Plan Update, the expiration of the 2009 HMP, and the start of another plan update planning session (See Appendix H for a copy of the letter). Emails and phone calls followed urging jurisdictional representatives and other stakeholders to attend the 2014 Hazard Mitigation Plan Update Kick-off Meeting to be held on February 20, 2015 and asking for on-going participation on the HMPC. JCEMA served as the coordinator of the HMPC and conducted several meetings to assist with the planning process. HMPC meetings were held in the JCEMA Training Room on the following dates:

- February 20, 2015 - 10:00am
- March 20, 2015 - 10:00am
- April 24, 2015 - 10:00am
- May 22, 2015 - 10:00am
- June 30, 2015 - 10:00am
- December 9, 2015 - 1:00pm

Each jurisdiction was asked to review and adjust, as necessary, the Hazard Mitigation Actions included in the rejected Plan Update, and to provide specific information for consideration in the current Plan Update, including: greatest vulnerabilities and hazards affecting their jurisdictions; municipal and capital improvement plans as well as building and zoning codes which could affect Hazard Mitigation strategies; critical facilities in the jurisdiction, and current development plans.

Most jurisdictions were unfamiliar with Hazard Mitigation Plan development – having previously relied on paid contractors hired by JCEMA to produce the county’s multi-jurisdictional plan – so jurisdictional meetings were scheduled to provide one-on-one education of and assistance with the requirements of

the Hazard Mitigation Plan Update (See Appendix F for the HMP Development Timeline and Appendix H for sign-in sheets for the HMPC, jurisdictional, and public education meetings). As the jurisdictions began to review the 2009 Mitigation Actions during this second planning process, the jurisdictions determined that developing new actions would be more appropriate than updating the 2009 Mitigation Actions because the previous actions did not appropriately reflect what the jurisdictions had or could accomplish.

The Hazard Mitigation Planning Committee

The Jefferson County Hazard Mitigation Planning Committee (HMPC), comprised of representatives from the jurisdictions and organizations concerned with hazard mitigation in Jefferson County, guided the development of this plan. The Jefferson County Emergency Management Agency (JCEMA) serves as the lead local agency supporting the drafting, adoption, and ongoing implementation of the plan. JCEMA supports committee activities and represents the interests of all Jefferson County jurisdictions and agencies, including school boards and utilities. Jefferson County has jurisdiction within all incorporated and unincorporated areas of the county and, through normal business practices, performs services such as planning, engineering, public works, emergency management and any other services authorized by inter-governmental agreement for support of municipal operations. JCEMA members of the HMPC represent all municipalities within Jefferson County as well as unincorporated communities within the county.

The membership may change from time to time, as a result of elections and staff changes that affect the appointed representatives from the participating jurisdictions.

Table 4.2 – The Hazard Mitigation Planning Committee

Jurisdiction	Title	Representative
Adamsville	Fire Chief	Scott Harbison
Bessemer	Fire Chief	Paul Syx
Birmingham	Flood Plain Manager	Denise Bell
Brighton	City Clerk	Hazel Williams
Brookside	Police Chief	Jason Springfield
Center Point	Public Works Director	Bobbie Loggins
Clay	City Manager	Ronnie Dixon
County Line	Town Clerk	Brenda Philpot
Fairfield	Fire Chief	Kevin Sutton
Fultondale	Fire Marshal	Scott Fassina
Gardendale	Police Lieutenant	Bobby Price
Graysville	Mayor	Mary Sue Morgan
Homewood	Chief of Staff	J.J. Bischoff
Hoover	Executive Officer for Fire Dept.	Rusty Lowe
Hueytown	Fire Chief	Terry Hagood
Irondale	Asst. Fire Chief	James Doss
Kimberly	City Clerk	Sandy Waid
Leeds	Planner	Brad Watson
Lipscomb	City Clerk	Thelma Ford
Midfield	Public Works Director	Jeff Zissette
Morris	Mayor	Joe Pylant
Mountain Brook	Fire Battalion Chief	Chris Mullins
Mulga	Town Clerk	Miranda Black

Jurisdiction	Title	Representative
Pinson	Zoning Administrator	Bob Jones
Pleasant Grove	Fire Chief	Robert Knight
Sylvan Springs	Fire Chief	Rusty Johnson
Tarrant	Fire Chief	Ricky Milligan
Trafford	Town Council Member	Carolyn Tyler
Trussville	Fire Chief	Russell Ledbetter
Vestavia Hills	Asst. Fire Chief	Marvin Green
Warrior	Building Inspector	Mike Tumlin
West Jefferson	Town Council Member	Charles Hughes
Unincorporated Jefferson County	Emergency Management Officer	Annette Davis

See Appendix H for the full email list of members of the HMPC including all jurisdictional representatives and other stakeholders and meeting sign in sheets for all HMPC and other HMP Update meetings.

The Mission of the Hazard Mitigation Planning Committee

The HMPC adopted the following mission statement in 2004 and retained it for this update:

The mission of the Jefferson County Hazard Mitigation Planning Committee is to oversee and establish a comprehensive hazard mitigation planning process that:

- Engages public participation and support;
- Helps to facilitate Federal, State, regional and local agencies' assistance;
- Constantly monitors and evaluates the potential risks of hazards to life and property;
- Actively mobilizes all available community resources and measures to mitigate the threats of hazards.

Review and Incorporation of Applicable Plans and Documents

HMPC and other jurisdictional members reviewed local plans, studies, reports, ordinances, regulations and technical information pertaining to hazard mitigation as applicable. These documents were examined to see what mitigation measures were currently being pursued and what new measures could be included in the 2014 Plan Update.

Integrated into this 2014 Plan Update is information from the following plans, studies, and reports, among other resources:

- Jurisdictional Comprehensive Plans
- Jurisdictional Zoning and Building Codes
- NOAA and NWS records
- FEMA and local disaster reports
- Flood Insurance Studies and Flood Insurance Rate Maps
- United States Geological Survey data
- US Census data
- National Climatic Data Center records

- State of Alabama Hazard Mitigation Plan

How the Public was involved in the Planning Process

In an effort to involve the public in the planning process, a Citizen Input Survey was developed and distributed to citizens across Jefferson County. The survey solicited information on the natural hazards which have affected citizens, hazards expected to affect citizens in the future, and the community assets and mitigation priorities important to citizens. Copies of the survey were distributed and completed copies collected: at all meetings/activations at Jefferson County EMA; at all meetings attended by JCEMA staff; in the jurisdictions by members of the HMPC; in the lobby of the Jefferson County Department of Health by JCDH personnel; and at meetings and service calls conducted by American Red Cross personnel. Additionally, the survey was posted on the websites of Jefferson County jurisdictions who had a site. (See Appendix D for a copy of the Citizen Input Survey). The completed hard copies of the Citizen Input Survey are on file at Jefferson County EMA.

To expand the outreach to the public, members of the HMPC established a Survey Monkey site to receive online completions of the Citizen Input Survey. The address of the Survey Monkey website was <https://www.surveymonkey.com/s/JeffersonCoHazardMitigation>. The website was opened on March 30, 2015 and remained open until June 24, 2015 (87 days). In order to track the results from both the hard copies and the online surveys, American Red Cross volunteers logged all hard copy information into the Survey Monkey site. The address of the Survey Monkey results site was <https://www.surveymonkey.com/results/SM-RVDNZWK9/>. Over 1530 survey responses were tabulated. (See Appendix E for overall results for Jefferson County from the Survey Monkey site).

Residents of each jurisdiction and other stakeholders were provided the following opportunities for participation in the planning process for the 2014 Plan Update:

- Attend HMPC meetings which were publicly announced and posted on the JCEMA Facebook page.
- Attend and participate in the individual jurisdictional meetings which were publicly announced.
- Complete the Citizen Input for Hazard Mitigation Planning Surveys.
- Attend public hearings of the local governing bodies and offer comments on mitigation strategies.

The public will be invited to attend the public meeting and plan review conducted by each jurisdiction prior to plan adoption by its governing body. This will give the public yet another opportunity for involvement in the planning process. Additionally, as part of the ongoing monitoring, evaluation, and updating of the plan, each jurisdiction will schedule an annual public meeting to review their mitigation goals, strategies, risk assessment, and potential funding sources. The public will be invited to these annual meetings.

Interagency and Intergovernmental Participation in the Planning Process

Efforts to include stakeholders from a cross-section of the county in the planning process involved meetings with:

Federal Agencies:

National Weather Service

State Agencies:

Alabama Emergency Management Agency

Alabama Department of Health (Jefferson County Department of Health)

Geological Survey of Alabama

Alabama Forestry Commission

Alabama Department of Economic and Community Affairs

Academia and Non-profit Agencies:

University of Alabama at Birmingham (UAB)

University of Alabama

School Board Superintendents in Jefferson County – requested to be included under jurisdictions

American Red Cross

Jefferson County VOAD

Neighboring Counties: (See Appendix H for 12/17/15 Meeting Sign-in where the JC HMP was reviewed)

Shelby County EMA

Walker County EMA

Tuscaloosa County EMA

Blount County

The Plan Review and Update Process

The plan review and update process resulted in a comprehensive update of the 2014 HMP which was achieved through a process that involved the following tasks, among others:

- Review and evaluation of the appropriateness of Community Mitigation Action Programs adopted in the 2009 plan, with a decision made by the jurisdictions and HMPC to create new Mitigation Actions more aligned with the current capabilities of each participating jurisdiction.
- Review of local capabilities to carry out mitigation measures.
- Reprioritization of mitigation actions and projects.
- Review of the Community Profiles to reflect changed demographics, economic characteristics, and growth and development trends.
- A review of risks to include recorded as well as anecdotal information on hazards which have affected the jurisdictions.
- Identification and analysis of a comprehensive range of mitigation alternatives.
- A review of and recommitment to the vision of disaster-resistant communities and support of the 2013 State goals for hazard mitigation.

Chapter 5 – Risk Assessment

Federal Requirements for Risk Assessments
Identification and Description of Hazards
Hazard Profiles
Summary of Hazards and Community Impacts
Repetitively-Damaged NFIP-Insured Structures
Risks that Vary Among the Jurisdictions

Federal Requirements for Risk Assessments

This chapter of the Plan addresses the Risk Assessment requirements of 44 CFR Section 201.6(c)(2), as follows:

201.6(c)(2) A Risk Assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

- (i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
- (ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:
 - A. The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;
 - B. An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate;
 - C. Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.
- (iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

Identification and Description of Hazards

Identification of Hazards Affecting Each Jurisdiction

Types of Hazards

The types of hazards affecting each Jefferson County jurisdiction are listed in Table 5.1 – Identified Jefferson County Hazards. This table of identified hazards also notes multiple natural hazards that may be associated with and caused by certain hazard events.

Table 5.1 – Identified Jefferson County Hazards

Hazards	Associated Hazards	Jurisdictions Affected
Flooding		All jurisdictions affected; some more severe than others.
Tornadoes	High Winds Severe Storms	All jurisdictions affected equally.
Severe Storms	Thunderstorms Hail; Lightning High Winds Tornadoes Floods	All jurisdictions affected equally.
Winter Storms/Freezes	Snow Storms; Ice Storms; Extreme Cold	All jurisdictions affected equally.
Wildfires		All jurisdictions affected equally.
Hurricanes	Tropical Storms Tropical Depressions Severe Storms; High Winds Floods	All jurisdictions affected equally.
Droughts / Heat Waves	Extreme Heat; Wildfires; Sinkholes	All jurisdictions affected equally.
Landslides		Varies among jurisdictions.
Sinkholes / Land Subsidence		Varies among jurisdictions.
Earthquakes	Landslides	All jurisdictions affected equally.
Dam / Levee Failures	Floods	Varies among jurisdictions.

Source: Jefferson County EMA

Sources for Identifying Jefferson County Hazards

The planning team used the following sources for identifying hazards in Jefferson County:

2013 Alabama State Plan. The 2013 update of the State Plan served as an additional resource for identifying local hazards in this plan update. All new hazards identified by the State were compared against the local list and differences were noted. Table 5.2 – Comparison of Identified Jefferson County Hazards to the State Plan, compares the hazards identified in this 2014 plan update to those identified in the 2013 Alabama State Plan and explains the differences.

Table 5.2 – Comparison of Identified Jefferson County Hazards to State Plan

Hazards Identified in 2013 Alabama State Plan	Equivalent 2014 Jefferson County Identified Hazards	Differences
Floods (storm surge, riverine, flash floods, etc.)	Floods	Coastal and riverine flooding; Storm surge not applicable to Jefferson County.
High Winds (hurricanes, tornadoes and windstorms)	Tornadoes – High Winds Severe Storms – High Winds Hurricanes – High Winds	High winds included as components of tornadoes, severe storms, and hurricanes in Jefferson County plan.
Winter/ice Storms	Winter Storms/Freezes	Jefferson County plan identifies extreme cold as an associated hazard.
Landslides	Landslides	Jefferson County plan identifies mudslides as an associated natural hazard.
Land Subsidence	Sinkholes (Land Subsidence)	Difference in terminology.

Earthquakes	Earthquakes	Jefferson County plan identifies landslides as an associated natural hazard.
Droughts	Droughts/Heat Waves	Included as a component of droughts/heat waves in Jefferson County plan. Jefferson County plan identifies sinkholes as a consequence of droughts/heat waves.
Hail	Severe Storms – Hail	Included as a component of severe storms in Jefferson County plan.
Wildfires	Wildfires	Jefferson County plan associates wildfires with droughts/heat waves.
Extreme Temperatures	Droughts/Heat Waves – Extreme Heat Winter Storms/Freezes – Extreme Cold	Included as components of droughts/heat waves and winter storms/freezes in Jefferson County plan.
Lightning	Severe Storms – Lightning	Included as a component of severe storms in Jefferson County plan.
Dam Failures	Dam/Levee Failures	Jefferson County plan associates floods with dam/levee failures.
Tsunamis	None	Scientists agree that tsunamis are not a threat to coastal Alabama.

Source: Jefferson County EMA

Floods Description

A flood is a natural event for rivers and streams. Excess water from snowmelt, rainfall, or storm surge accumulates and overflows onto the banks and adjacent floodplains. Floodplains are lowlands, adjacent to rivers, lakes, and oceans that are subject to recurring floods.

Hundreds of floods occur each year, making it one of the most common hazards in all 50 states and U.S. territories. Floods kill an average of 150 people a year nationwide. They can occur at any time of the year, in any part of the country, and at any time of day or night. Floodplains in the U.S. are home to over nine million households. Most injuries and deaths occur when people are swept away by flood currents, and most property damage results from inundation by sediment-filled water.

Several factors determine the severity of floods, including rainfall intensity (or other water source) and duration. A large amount of rainfall over a short time span can result in flash flood conditions. A small amount of rain can also result in floods in locations where the soil is saturated from a previous wet period or if the rain is concentrated in an area of impermeable surfaces such as large parking lots, paved roadways, or other impervious developed areas.

Topography and ground cover are also contributing factors for floods. Water runoff is greater in areas with steep slopes and little or no vegetative ground cover. Frequency of inundation depends on the climate, soil, and channel slope. In regions where substantial precipitation occurs in a particular season each year, or in regions where annual flooding is derived principally from snowmelt, the floodplains may be inundated nearly every year. In regions without extended periods of below-freezing temperatures, floods usually occur in the season of highest precipitation. In areas where flooding is caused by melting snow, and occasionally compounded by rainfall, the flood season is spring or early summer.

Fortunately, most of the known floodplains in the United States have been mapped by FEMA, which administers the National Flood Insurance (NFIP). When a flood study is completed for the NFIP, the information and maps are assembled into a Flood Insurance Study (FIS). A FIS is a compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community and includes causes of flooding. The FIS report and associated maps delineate Special

Flood Hazard Areas (SFHAs), designate flood risk zones, and establish base flood elevations (BFEs), based on the flood that has a 1% chance of occurring annually, or the 100-year flood. Paper Flood Insurance Rate Maps (FIRMs) and FIS reports are gradually being replaced by DFIRMs (digital FIRMs).

The 100-year flood designation applies to the area that has a 1 percent chance, on average, of flooding in any given year. However, a 100-year flood could occur two years in a row, or once every 10 years. The 100-year flood is also referred to as the base flood. The base flood is the standard that has been adopted for the NFIP. It is a national standard that represents a compromise between minor floods and the greatest flood likely to occur in a given area and provides a useful benchmark.

Base Flood Elevation (BFE), as shown on the FIRM, is the elevation of the water surface resulting from a flood that has a 1% chance of occurring in any given year. The BFE is the height of the base flood, usually in feet, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, the North American Vertical Datum (NAVD) of 1988, or other datum referenced in the FIS report.

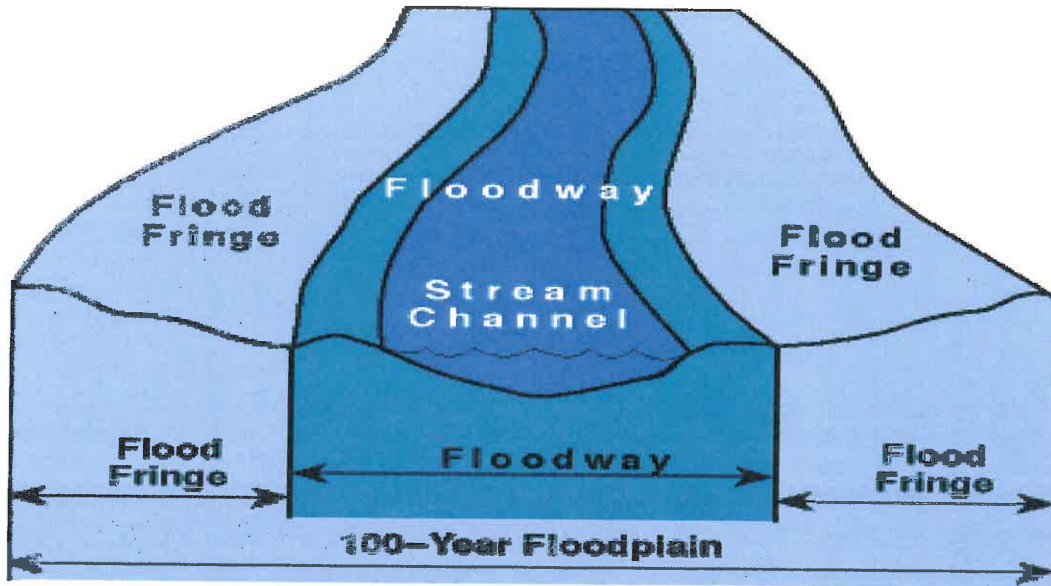
Special Flood Hazard Area (SFHA) is the shaded A-Zone or V-Zone area on a FIRM that identifies an area that has a 1% chance of being flooded in any given year or the 100-year floodplain. FIRMs show different floodplains with different zone designations, as shown on Table 5.3 – Flood Zone Designations. These are used for insurance rating purposes, but are also necessary for flood permitting and flood hazard mitigation planning purposes. The 500-Year Floodplain is the shaded X-Zone area shown on a FIRM that has a 0.2% chance of being flooded in any given year.

Floodway is the stream channel and that portion of the adjacent floodplain that must remain open to permit passage of the base flood without substantial increases in flood heights. The Flood Fringe is the remainder of the 100-year floodplain. The following graphic shows the components of a floodplain along a stream:

Table 5.3 – Flood Zone Designations

Zones	Flood Zones
100-year floodplain areas of high risk.	
A	The base floodplain mapped by approximate methods, i.e., BFEs are not determined. This is often called an unnumbered A zone or an approximate A zone.
AE	The base floodplain where base flood elevations are provided.
AO	The base floodplain with sheet flow, ponding, or shallow flooding. Base flood depths (feet above ground) are provided.
AH	Shallow flooding base floodplain. BFEs are provided.
A99	Area to be protected from base flood by levees or Federal flood protection systems under construction. BFEs are not determined.
AR	The base floodplain that results from the de-certification of a previously accredited flood protection system that is in the process of being restored to provide a 100-year or greater level of flood protection.
100-year coastal floodplain areas of high risk	
V	The coastal area subject to a velocity hazard (wave action) where BFEs are not determined on the FIRM.
VE	The coastal area subject to a velocity hazard (wave action) where BFEs are provided on the FIRM.
Zone	Areas of minimal to moderate risk outside the 100-year floodplain.
X Shaded	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Also includes areas protected by levees from the 100-year flood and shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
Unshaded	Area of minimal flood hazard determined to be outside the 500-year floodplain.
Area of undetermined but possible flood hazards.	

Source: FEMA



Source: FEMA

A range of floods, other than just the 100-year flood, could happen within an area. Buildings in very close proximity to a stream or shore line, for example, might experience flooding much more frequently.

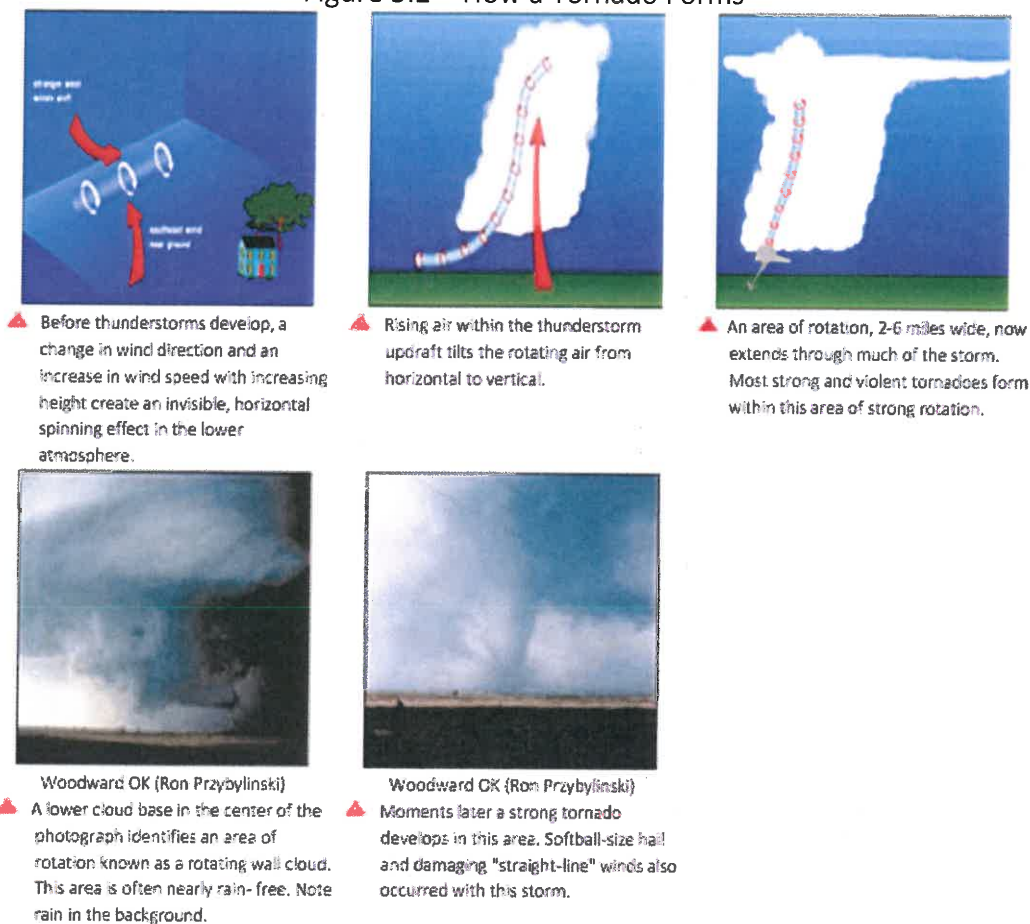
Tornadoes Description

Tornadoes are one of nature's most violent storms, which are characterized by a rapidly rotating column of air extending from the base of a thunderstorm to the ground. In an average year, approximately 1,000 tornadoes are reported across the United States, resulting in over 1,500 injuries and 80 deaths, the greatest number of wind-related deaths. The most violent tornadoes, with wind speeds of 250 mph or more, are capable of tremendous destruction. Damage paths can be more than one mile wide and 50 miles long. Tornadoes can occur anywhere and come in all shapes and sizes.

In Alabama, peak tornado season is generally March through May with a secondary season in late fall; however, tornadoes can strike at any time of the year if the essential conditions are present. Tornadoes in the peak season are often associated with strong, frontal systems that form in central states and move east. Occasionally, large outbreaks of tornadoes occur with this type of weather pattern. Several states may be affected by numerous severe storms and tornadoes.

Tornadoes can occur in thunderstorms that develop in warm, moist air masses in advance of eastward-moving cold fronts. These thunderstorms often produce large hail and strong winds, in addition to tornadoes. Thunderstorms spawn tornadoes when cold air overrides a layer of warm air, causing the warm air to rise rapidly. Tornadoes occasionally accompany tropical storms and hurricanes that move over land. They are most common to the right and ahead of the path of the storm center as it comes onshore. The winds produced from wildfires have also been known to produce tornadoes. The following graphic describes the formation of a tornado:

Figure 5.2 – How a Tornado Forms



Source: Tornadoes – A Preparedness Guide, National Weather Service, February 1995

Meteorologists rely on weather radar to provide information on developing storms. The National Weather Service is strategically locating Doppler radars across the country which can detect air movement toward or away from the radar. Early detection of increasing rotation aloft within a thunderstorm can allow life-saving warnings to be issued before the tornado forms.

When conditions are favorable for severe weather to develop, a severe thunderstorm or tornado WATCH is issued. Weather Service personnel use information from weather radar, spotters, and other sources to issue severe thunderstorm and tornado WARNINGS for areas where severe weather is imminent. Severe thunderstorm warnings are passed to local radio and television stations and are broadcast over local NOAA Weather Radio stations serving the warned areas. These warnings are also relayed to local emergency management and public safety officials who can activate local warning systems to alert communities.

In 1971, Dr. T. Theodore Fujita of the University of Chicago developed the original F-scale for wind damages, including tornadoes. The original F-scale, however, was recently replaced by an enhanced version effective February 1, 2007. The Enhanced F-scale is a more precise method of tornado damage assessment that classifies damage according to calibrations developed by engineers and meteorologists across 28 different types of damage indicators. The underlying premise is that a tornado scale needs to take into account the varying strengths and weaknesses of different types of

construction. As with the original F-scale, the enhanced version rates the tornado as a whole based on most intense damage within the path. Historical tornadoes before February 1, 2007, will not be re-evaluated using the Enhanced F-scale.

Table 5.5 – Enhanced F Scale for Tornado Damage

Fujita Scale		Derived EF Scale		Operational EF Scale		
F#	Fastest ¼ mile mph	3 Second Gust mph	EF #	3 Second Gust mph	EF #	3 Second Gust mph
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: NOAA Storm Prediction Center's On-Line Frequently Asked Questions about Tornadoes

Table 5.6 – Fujita Tornado Damage Scale

Scale	Wind Estimate	Damage	Description
F0	<73 mph	Light	Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1	73-112 mph	Moderate	Peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos blown off roads.
F2	113-157 mph	Considerable	Roofs torn off frame houses; mobile homes demolished; boxcars overturned; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
F3	158-206 mph	Severe	Roofs and some walls torn off well-constructed houses; trains overturned; most trees in forest uprooted; heavy cars lifted off the ground and thrown.
F4	207-260 mph	Devastating	Well-constructed houses leveled; structures with weak foundations blown away some distance; cars thrown and large missiles generated.
F5	261-318 mph	Incredible	Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 meters (109 yds.); trees debarked; incredible phenomena will occur.

Source: NOAA Storm Prediction Center's On-Line Frequently Asked Questions about Tornadoes

The description of tornadoes presented in this section is based upon information extracted from the FEMA "How to Guides Understanding Your Risks" (FEMA 386-2), FEMA, August 2001, and "Using HAZUS-MH for Risk Assessment" (FEMA 433), FEMA, August 2004. "Tornadoes – A Preparedness Guide", National Weather Service, February 1995, and the "NOAA Storm Prediction Center's On-Line Frequently Asked Questions" about Tornadoes.

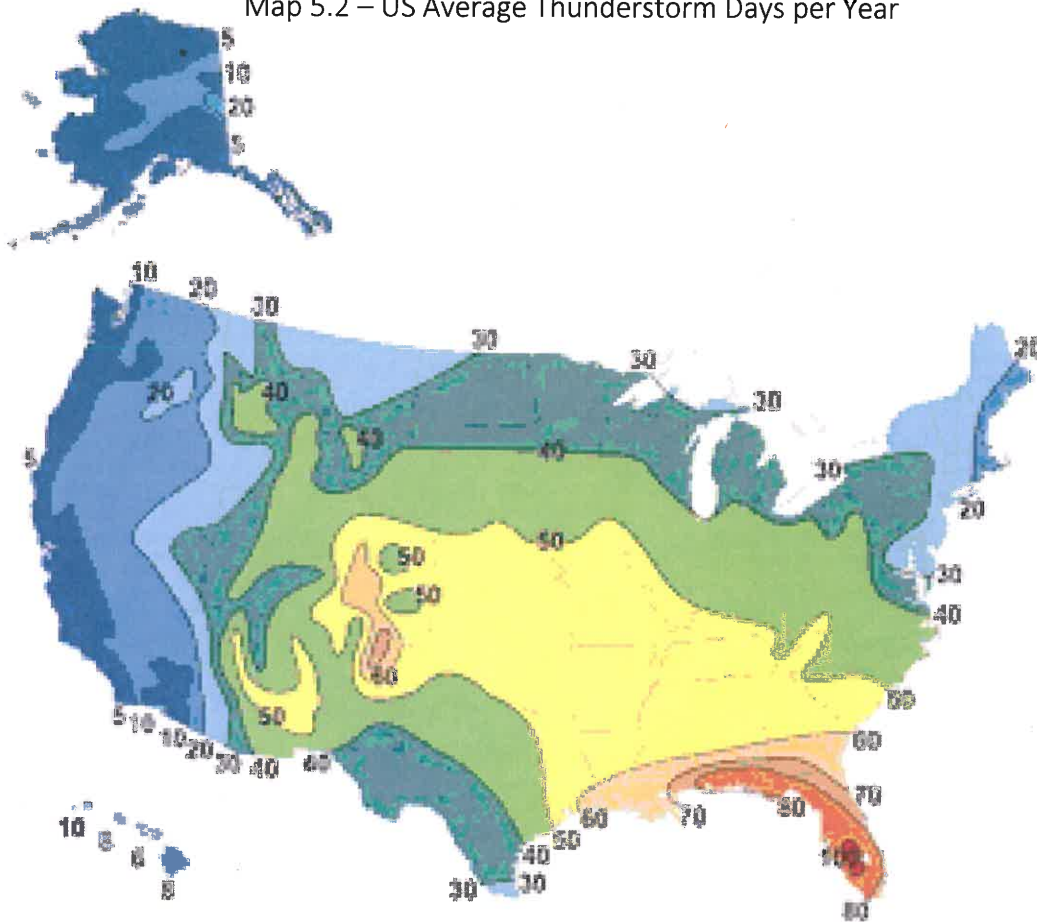
Severe Storms Description

Severe storms, as referred to in this plan, include severe thunderstorms with damaging lightning, hail, and straight-line winds. Severe storms are also associated with tornadoes, hurricanes, and floods, which are described separately in this plan. Thunderstorms affect relatively small areas when compared with hurricanes and winter storms. The typical thunderstorm is 15 miles in diameter and lasts an average of 30 minutes. Despite their small size, thunderstorms can be dangerous.

Of the estimated 100,000 thunderstorms that occur each year in the United States, about 10 percent are classified as severe. The National Weather Service considers a thunderstorm severe if it produces hail at least 3/4-inch in diameter, winds of 58 mph or stronger, or a tornado. See Map 5.2 – US Average Thunderstorm Days per Year.

Thunderstorms are formed by a combination of moisture to form clouds and rain, unstable air, that is, warm air that can rise rapidly, and lift from cold or warm fronts, sea breezes, mountains, or the sun's heat which are capable of lifting air. The National Weather Service estimates over 40,000 thunderstorms occur each day world-wide or close to 16 million annually. In the U.S., roughly 100,000 thunderstorms occur each year. The following map shows the average number of thunderstorm days each year throughout the U.S.

Map 5.2 – US Average Thunderstorm Days per Year



Source: National Weather Service

Figure 5.3 – Estimating Hail Size with Visual Clues

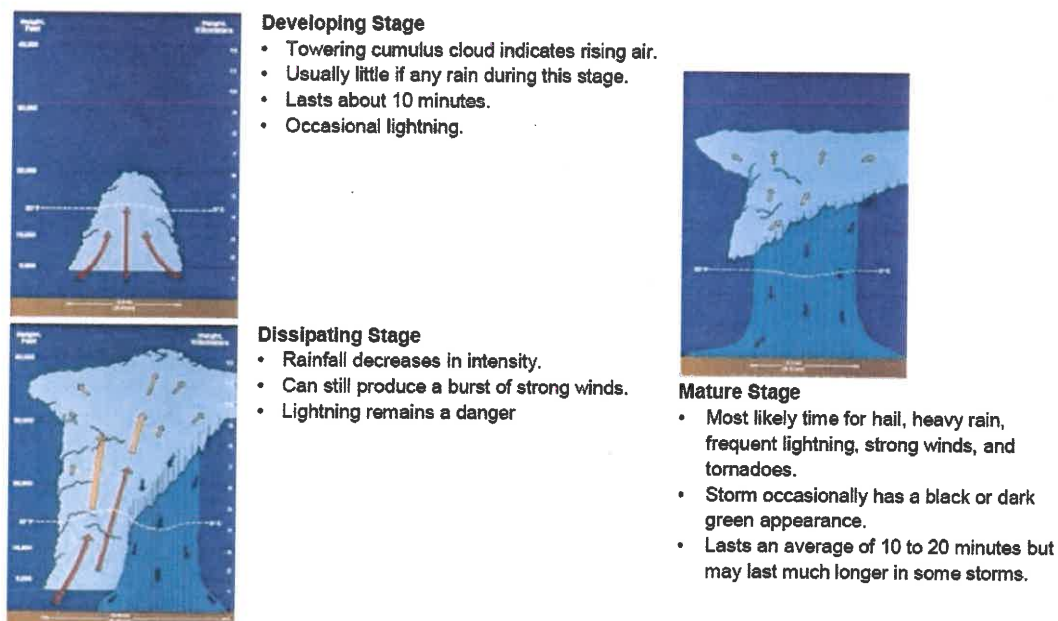
Hail Diameter Size in Inches	Size Description
.25 – .325	Pea
.5	Small Marble
.75	Penny
.875	Nickel
1	Quarter – Severe Thunderstorm Warning Threshold
1.25	Half Dollar
1.75	Golf Ball
2	Lime
2.5	Tennis Ball
2.75	Baseball
3	Large Apple
4	Softball
4.5	Grapefruit
4.75 – 5	Computer CD / DVD

Source: Vaisala National Lightning Detection Network

Extent: Jefferson County's extent for hail is 2.75 inches in diameter which is equivalent to the size of a baseball.

According to Vaisala National Lightning Detection Network 2005 – 2014, Jefferson County's extent for lightning strikes are 12 – 20 flashes per square mile per year.

Figure 5.4 – Life Cycle of a Thunderstorm



Source: National Weather Service

Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas. Rising and descending air within a thunderstorm separates these positive and negative charges. Water and ice particles also affect charge distribution. A cloud-to-ground lightning strike begins as an invisible channel of electrically charged air moving from the cloud toward the ground. When one channel nears an object on the ground, a powerful surge of electricity from the ground moves upward to the clouds and produces the visible lightning strike. Here are some facts about lightning from the National Weather Service:

- Lightning causes an average of 80 fatalities and 300 injuries each year.
- Lightning occurs in all thunderstorms.
- Each year lightning strikes the earth 20 million times. The energy from one lightning flash could light a 100-watt light bulb for more than three months.
- Most lightning fatalities and injuries occur when people are caught outdoors in the summer months during the afternoon and evening.
- Lightning can occur from cloud-to-cloud, within a cloud, cloud-to-ground, or cloud-to-air.
- Many fires in the western United States and Alaska are started by lightning. The air near a lightning strike is heated to 50,000°F--hotter than the surface of the sun!
- The rapid heating and cooling of the air near the lightning channel causes a shock wave that results in thunder.

Another damaging effect of severe storms is hail. See Figure 5.5 – Hail Stones. Hail stones are large ice particles produced by intense thunderstorms. Strong rising currents of air within a storm, called updrafts, carry water droplets to a height where freezing occurs. Ice particles grow in size, becoming too heavy to be supported by the updraft, and fall to the ground. Large stones can fall at speeds faster than 100 mph. Hail causes substantial damage to property and crops each year in the U.S.

Figure 5.5 – Hail Stones



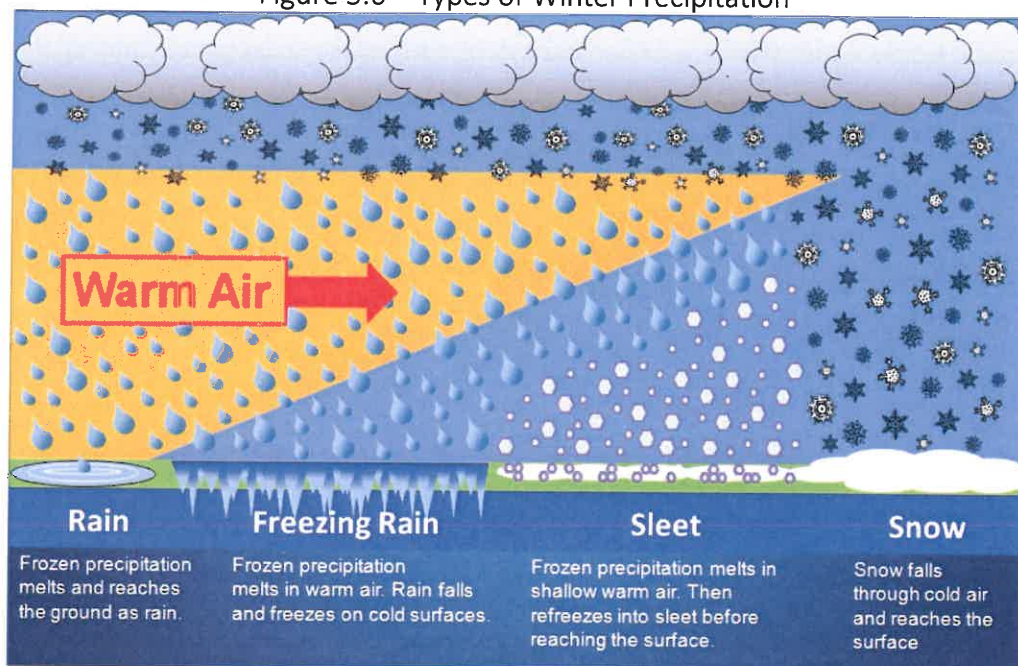
Source: Bing.com

Most thunderstorm wind damage is caused by straight-line winds, which can exceed 100 mph. One type of straight-line wind, the downburst, is a small area of rapidly descending air beneath a thunderstorm. A downburst can cause damage equivalent to a strong tornado. The description of severe storms presented in this section is based upon information extracted from National Weather Service on-line publications.

Winter Storms/Freezes Description

Winter storms and blizzards originate as mid-latitude depressions or cyclonic weather systems, sometimes following the meandering path of the jet stream. A blizzard combines heavy snowfall, high winds, extreme cold, and ice storms. The origins of the weather patterns that cause severe winter storms are primarily from four sources in the continental United States. Winter storms in the southeast region of the United States are usually a result of Canadian and Arctic cold fronts from the north and mid-western states combining with tropical cyclonic weather systems in the Gulf of Mexico. Typical winter storms in the Southeast include ice storms, crop-killing freezes and occasional snow.

Figure 5.6 – Types of Winter Precipitation



Source: National Weather Service

Types of events that occur within a winter storm include freezing rain, sleet, blizzards, and frost/freeze. Freezing rain is rain that freezes when it hits the ground which coats roads, trees and power lines. Sleet is rain that turns into ice pellets before hitting the ground. A blizzard is snowfall with sustained winds or frequent gusts up to 35mph and considerable amounts of blowing snow. The expectation is that blizzard conditions will last 3 or more hours. Freezes occur when the temperatures will go below freezing. Many times frost/freezes cause substantial damage to crops.

Wildfires Description

Wildfires are a serious and growing hazard over much of the United States, posing great threats to life and property, particularly when moving from rural forest or rangeland into developed urban areas. Millions of acres burn every year in the United States as a result of wildfires, causing millions of dollars in damage. Each year more than 100,000 wildfires occur in the United States, almost 90 percent of which are started by humans; the rest are caused by lightning. Weather is one of the most significant factors in determining the severity of wildfires. The intensity of fires and the rate with which they spread is directly related to wind speed, temperature, and relative humidity. Climatic conditions, such as long-term drought, also play a major role in the number and the intensity of wildfires.

A wildfire is an uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures. They often begin unnoticed and spread quickly and are usually signaled by dense smoke that fills the area for miles around. Naturally occurring and non-native species of grasses, brush, and trees fuel wildfires.

A wildland fire is a wildfire in an area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities. An Urban-Wildland Interface fire is a wildfire in a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

States with a large amount of wooded, brush and grassy areas, such as Alabama, are at highest risk of wildfires. Additionally, areas anywhere that have experienced prolonged droughts or are excessively dry, are also at risk of wildfires.

People start more than four out of every five wildfires, usually as debris burns, arson, or carelessness. Lightning strikes are the next leading cause of wildfires. Wildfire behavior is based on three primary factors:

- Fuel, topography, and weather.

The type, and amount of fuel, as well as its burning qualities and level of moisture affect wildfire potential and behavior. The continuity of fuels, expressed in both horizontal and vertical components is also a factor, in that it expresses the pattern of vegetative growth and open areas. Topography is important because it affects the movement of air (and thus the fire) over the ground surface. The slope and shape of terrain can change the rate of speed at which the fire travels. Weather affects the probability of wildfire and has a significant effect on its behavior. Temperature, humidity and wind (both short and long term) affect the severity and duration of wildfires.

- Protecting Alabama's rural areas from wildfire is the number one priority of the Alabama Forestry Commission. Wildfires burn thousands of acres of forestlands in Alabama every year. Through the efforts of the Forestry Commission and local volunteer fire departments, those wildfires are decreasing, but they still take a major toll on Alabama's forest resources.

The Forestry Commission has a modern aggressive detection system that allows it to discover and suppress wildfires in the most efficient way possible. A fleet of airplanes regularly patrols over the forest and looks for wildfires. In addition, the public can report wildfires 24 hours a day through a toll-free telephone system. When a fire is reported, a dispatch center sends Forestry Commission crews and volunteer fire departments as needed to suppress it.

Volunteer fire departments are an essential part of the team when it comes to suppressing wildfires. The Forestry Commission works to help establish, train and maintain rural community fire departments in every county. This strong partnership of government and volunteer agencies working together provides cost efficient, effective fire service.

The Forestry Commission suppresses a wildfire by building a —fire break || which contains the fire by removing fuel from the fire so it cannot spread. These breaks are built using a bulldozer outfitted with a fire plow, which cuts a three foot wide trench across the site, removing all vegetation and exposing bare soil. On hilly sites, these firebreaks are built by hand using rakes and other tools by 20 person crews.

In extreme circumstances where several homes are threatened by a wildfire, the Forestry Commission can call in helicopters with large water buckets. These buckets do not put out the fire, but reduce its intensity so that the Commission crew can plow it out. The helicopter service is extremely expensive and is only done in severe fire conditions.

The description of wildfires presented in this section is based upon information extracted from the FEMA How to Guides Understanding Your Risks (FEMA 386-2), August 2001, Using HAZUS-MH for Risk Assessment How to Guide (FEMA 433), August 2004, and the Alabama Forestry Commission.

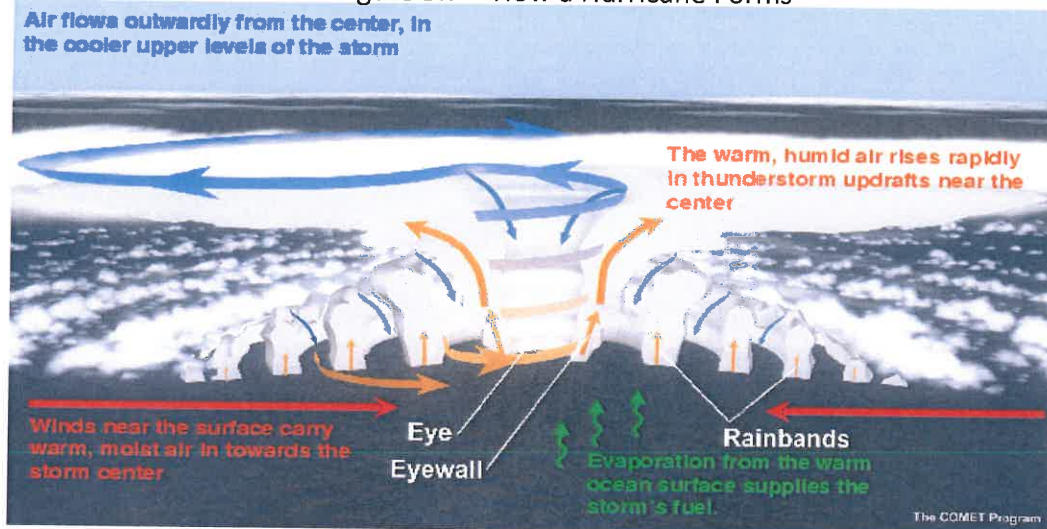
Hurricanes Description

Hurricanes, as referred to in this plan, include all types of tropical cyclones: hurricanes, tropical storms, and tropical depressions. A tropical cyclone is a rotating weather system that develops in the tropics. A tropical depression is an organized system of persistent clouds and thunderstorms with low level closed circulation and maximum sustained winds of 38 mph or less. A tropical storm is an organized system of strong thunderstorms with a well-defined circulation and maximum sustained winds of 39 to 73 mph. All of these tropical cyclones begin as a disturbance.

A disturbance may result from a number of different weather events including Easterly Waves, West African Disturbance Line, Tropical Upper Tropospheric Trough or an Old Frontal Boundary. In order for a tropical disturbance to develop into a hurricane, three things must occur. First, the disturbance must gather energy and heat through contact with warm ocean waters. Next, added moisture evaporated from the sea surface then provides power to the tropical storm. And last, the seedling storm forms a wind pattern near the ocean surface that spirals inward. Warm water is the most important of the three, as it provides the fuel for a disturbance to eventually develop into a hurricane.

A hurricane is a tropical weather system with a well-defined circulation and sustained winds of 74 mph or higher. Even inland areas, well away from the coastline, can experience destructive winds, tornadoes and floods from tropical storms and hurricanes.

Figure 5.7 – How a Hurricane Forms



Source: NOAA Geophysical Fluid Dynamics Laboratory

The Atlantic hurricane season begins on June 1 and lasts through November. Within the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico annually there are an average of 11 tropical storms, 6 of which become hurricanes. In a typical three-year span, the US coastline is struck an average five times; two that are major hurricanes, category 3 or higher.

Hurricanes pose the greatest threat to life and property, but tropical depressions and storms can also cause extensive damage and loss of life. Hurricanes are categorized on a scale of 1 to 5 based on their sustained wind speed. Herbert Saffir, a consulting engineer in Coral Gables, Florida, and Dr. Robert Simpson, then director of the National Hurricane Center, developed this scale in the 1970's. Category 3–5 hurricanes are considered to be major storms. The Saffir-Simpson scale is based primarily on wind speeds and includes estimates of barometric pressure and storm surge associated with each of the five categories.

Table 5.7 – Saffir-Simpson Scale

Cat.	Wind Speed	Storm Surge	Expected Damage
1	74-95 mph	4 – 5 feet above normal sea level	Minimal: Damage is done primarily to shrubbery and trees, unanchored mobile homes are damaged, some signs are damaged, no real damage is done to structures
2	96-110 mph	6 – 8 feet above normal sea level	Moderate: Some trees are toppled, some roof coverings are damaged, major damage is done to mobile homes
3	111-130 mph	9 – 12 feet above normal sea level	Extensive: Large trees are toppled, some structural damage is done to roofs, mobile homes are destroyed, and structural damage is done to small homes and utility buildings.
4	131-155 mph	13 – 18 feet above normal sea level	Extreme: Extensive damage is done to roofs, windows, and doors; roof systems on small buildings completely fail, some curtain walls fail
5	>155 mph	>18 feet above normal sea level	Catastrophic: Roof damage is considerable and widespread, window and door damage is severe, there are extensive glass failures and entire buildings could fail.

Source: National Hurricane Center

According to the Saffir Simpson Scale show on Table 5.7 – Saffir-Simpson Scale, Jefferson County's extent is a Category 4 Hurricane.

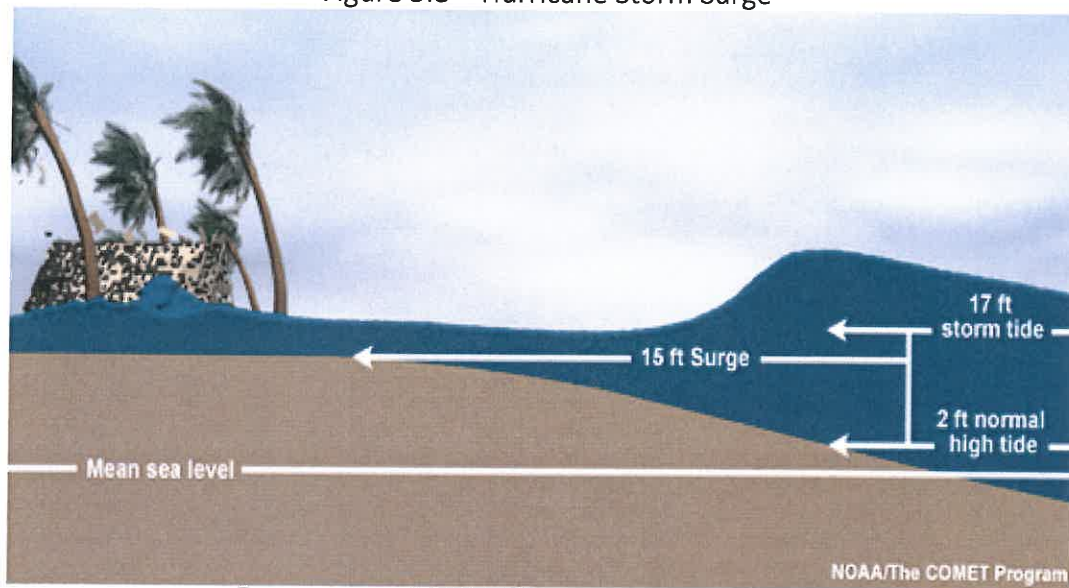
The main parts of a hurricane are the eye, the eye wall, and rain bands. The eye of a hurricane is the calmest part. The eye is typically 20-40 miles across and has light winds that don't exceed 15 mph. An eye will usually develop when the maximum sustained wind speed is more than 74mph. The strong rotation around the cyclone balances inflow to the center, causing air to ascend about 10-20 miles from the center forming the eyewall. A vacuum of air at the center is caused due to the strong rotation, the vacuum allows air flowing out of the top of the eyewall to turn inward and sink to replace the loss of air mass near the center. Due to the sinking air, cloud formation is suppressed. The passage of the eye is the calmest part of the hurricane. Since there is a light wind and fair weather, many believe that the storm has passed, which can prove dangerous. Immediately after the passage of the eye, the eyewall winds return but in an opposite direction.

The eyewall is the part of a hurricane where the strong winds meet the eye. The eyewall is a group of tall thunderstorms that produce heavy rain and the strongest winds within the storm. Changes in the structure of the eye and eyewall can cause changes in the wind speed, which is an indicator of the storm's intensity. An eye may grow or shrink in size and additional eyewalls can form.

The rain bands are the outermost part of the hurricane. They are bands of clouds and thunderstorms that trail away from the eyewall in a spiral fashion. These bands produce heavy rain and strong winds, as well as tornadoes.

A hurricane also has additional hazards associated with it, both direct and indirect. The secondary hazards include storm surge, wind gusts, squalls, inland flooding and tornadoes. Storm surge is water that is pushed toward the shore by the winds around the storm. Storm surge combines with the normal tides to create the hurricane storm tide. Wind driven waves also combine into hurricane storm tide. The rise in water level can cause severe flooding in coastal areas. The level of surge is dependent upon the slope of the continental shelf. A shallow slope off of the coast allows a higher surge to inundate the area.

Figure 5.8 – Hurricane Storm Surge



Source: National Hurricane Center

In addition to storm surge, hurricanes are also known for damaging winds. They are rated according to their sustained wind speed. This scale does not account for gusts and squalls. Gusts are short and rapid bursts in wind speed. They are caused by turbulence over land mixing faster air aloft to the surface. Squalls are longer period of increased wind speeds; they are normally located within the outer rain bands.

Hurricanes, tropical storms, and depressions many times bring torrential rains and flooding. This flooding may last many days after the storm has passed. The strength of the storm does not always affect the level of flooding. A slow, weak tropical storm can cause more damage due to flooding than a more powerful fast moving hurricane.

Tornadoes also occur within a tropical cyclone. They are most likely to occur in the right-front quadrant of the storm, but can be embedded within the rain bands well away from the center of the storm. Some hurricanes produce no tornadoes, while others develop numerous ones. According to NOAA studies, half of all land falling hurricanes produce at least one tornado. The effects of a tornado, in addition to hurricane force winds, can produce substantial wind damages. A tornado can develop at any point during landfall, but normally occur within 12 hours after landfall, during daylight hours. Due to the likelihood of a tornado within a hurricane, a tornado watch is normally issued along the anticipated path of a hurricane before landfall.

The description of hurricanes presented in this section is based upon information extracted from the NOAA publication *Hurricanes Unleashing Nature's Fury, A Preparedness Guide*, Revised January 2007 and the NWS Jet Stream Online School for Weather.

Droughts/Heat Waves Description

A drought can occur almost anywhere, and its features vary from place to place depending on culture and geography. According to the National Drought Mitigation Center (NDMC), there are four ways of measuring drought.

First is a meteorological drought, which is a decrease in precipitation in some period of time. These are usually region-specific, and based on a thorough understanding of regional climatology. Meteorological measurements are the first sign of drought.

An agricultural drought occurs when there is not enough soil moisture to meet the needs of a particular crop at a particular time. Agricultural drought occurs after a meteorological drought, but before hydrological drought.

Hydrological drought is deficiencies in surface and subsurface water supplies. It is measured as stream flow and at lake, reservoir and groundwater levels. There is a time lag between lack of rain and less water in rivers, streams, reservoirs and lakes. When precipitation is deficient over time, it will show in these water levels.

The last type of drought defined by NDMC is a socioeconomic drought, which occurs when water shortages begin to affect people. In addition to the impacts discussed above, water level decline due to drought can also cause sinkholes to form.

The Alabama Drought Management Plan, by the Office of Water Resources of the Alabama Department of Economic and Community Affairs (ADECA) explains the potential threats of droughts to Alabama and the need for effective drought planning and management, as follows:

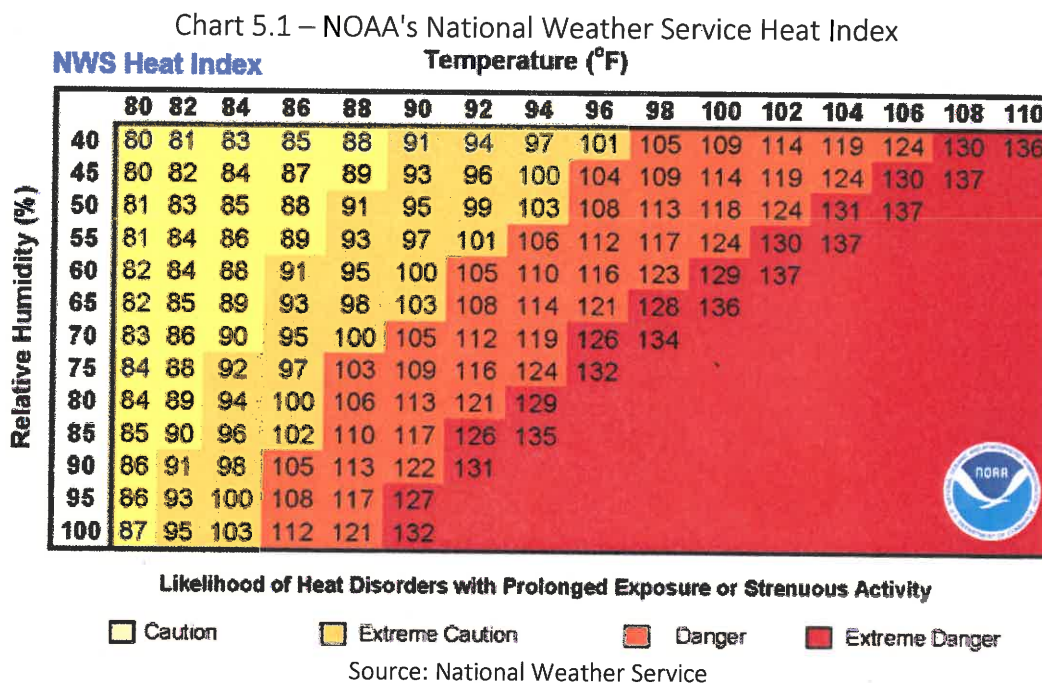
In recent years, drought conditions have endangered Alabama's water resources and adversely affected the livelihood of many people. Drought is a natural event that, unlike floods or tornadoes, does not occur in a violent burst but gradually happens; furthermore, the duration and extent of drought conditions are unknown because rainfall is unpredictable in amount, duration and location. The devastation (environmental, social, and economic) experienced in recent years due to drought conditions has not been successfully mitigated because previous responses to drought conditions at all levels of government has been slow and fragmented, with little focus on preparedness and mitigation. In an effort to be more proactive, the Office of Water Resources worked closely with numerous local, state, and federal agencies and other water resources professionals to develop and implement this statewide approach to drought planning and management.

The State drought plan establishes four phases of drought conditions – drought watch, advisory, warning, and emergency – identified by a compilation of drought indices, which include Crop Moisture Index, Palmer Drought Severity Index, Stream Flow, Reservoir Elevation Level, and Groundwater. Each of these phases requires varying levels of management.

The U.S. Drought Monitor by the National Drought Mitigation Center (NDMC) uses a four-tier system to continuously monitor drought intensity based on another combination of drought indices. D1 is the first drought stage with severe conditions, and D4 is most intense drought stage with exceptional

drought conditions. D0 includes drought watch areas that are abnormally dry and on the verge of drought or recovering from drought. The primary adverse physical effects of drought are classified as “A” - adverse impacts to agricultural crops, pastures, and grasslands or “H” - adverse impacts to hydrologic resources for water supply, including rivers, reservoirs, and groundwater.

According to NOAA, extreme heat is the number one weather related killer taking an average of 1,500 people in the U.S. annually. The National Weather Service will issue watches and warnings when the heat index is expected to exceed 105 -110F for at least two consecutive days. The heat index is given in degrees Fahrenheit (*F) and is a measure of how hot it really feels when the relative humidity is added to the actual air temperature.



The description of droughts/extreme heat presented in this section is extracted from: National Drought Mitigation Center, Defining Drought: Overview and NOAA, Heat Wave: A Major Summer Killer.

Landslide (Debris Flow) Description

Landslides occur and can cause damage in all 50 States, at an estimated annual cost of about \$3.5 billion per year. Between 25 and 50 deaths per year in the U.S. are attributable to debris flows. Landslides cause damage to the natural environment and economic losses, due to reduced real estate values, decreased agricultural and forestry productivity, among other adverse economic effects. Severe storms, earthquakes, coastal wave attack, and wildfires can cause widespread slope instability and result in landslides. Landslide danger may be high, even as emergency personnel are providing rescue and recovery services for these other hazard events.

A Landslide is a downward and outward movement of slope-forming soil, rock, and vegetation under the influence of gravity, which includes a wide range of ground movement. Numerous types of events,

including natural and man-made changes within the environment, can trigger debris flows. Examples of these changes that cause weaknesses in the composition or structures of the rock or soil include heavy rain, changes in ground water level, seismic activity, or construction activity. Man-made landslides may result from activities such as terracing, cut and fill construction, building construction, mining operations, and changes in irrigation or surface runoff.

There are different types of landslides. Rock falls are rapid movement of bedrock characterized by free-fall, bouncing and rolling. Slides are movements of soil or rock along a distinct surface of rupture that separates the slide material from the more stable underlying material. There are two major types of slides: rotational and translational slides. In a rotational slide the surface of rupture is curved concavely upward and the slide block rotates around an axis parallel to the slope contours. A translational slide is a mass that moves down and outward along a relatively planar surface with little rotational movement or backward tilting. Flows are mass movements of water-saturated material. The movement of flows can be extremely rapid (debris avalanche), very rapid (debris flow) or very slow (earth flow). Here are some significant landslide facts from the USGS:

- Landslides often accompany earthquakes, floods, storm surges, hurricanes, wildfires, or volcanic activity. They are often more damaging and deadly than the triggering event (examples: the 1964 Alaska earthquake-induced landslides and the 1980 Mount St. Helens volcanic debris flow).
- Human activities and population expansion are major factors in increased landslide damage and costs.
- The May 1980 eruption of Mount St. Helens caused the largest landslide in history— a rock slide-debris avalanche large enough to fill 250 million dump trucks to the brim traveled about 14 miles, destroying nine highway bridges, numerous private and public buildings, and many miles of highways, roads, and railroads. The debris avalanche also formed several new lakes by damming the North Fork Toutle River and its tributaries. These lakes posed hazards to downstream communities because of the possible failure of the dams, which could have resulted in catastrophic flooding.
- Although the National Flood Insurance Act covers certain damage from mudflows, insurance against landslides is generally unavailable in most areas of the United States. As a result, many victims of landslides resort to litigation in order to recover damages.

The description of landslides presented in this section is extracted from the Geological Survey of Alabama, Geologic Hazards Section and the USGS Landslides Hazards Program.

Historical Landslides

Landslide Susceptibility

Very High	High
High	Moderate

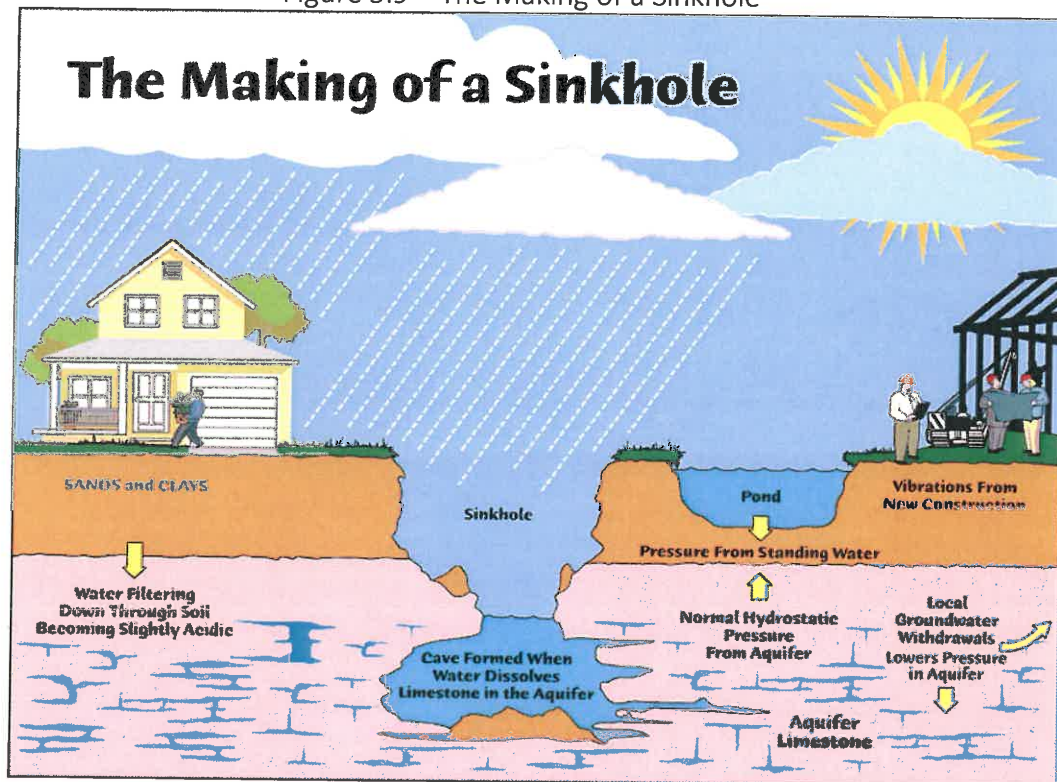
Sources: Esri, DeLorme, USGS, NPS

Sinkholes (Land Subsidence) Description

Sinkholes are a common, naturally occurring geologic feature that is hazardous to property and the environment. Although many new sinkholes develop naturally, their increasing frequency corresponds to the accelerated development of ground-water and land resources. Usually little more than a nuisance, new sinkholes can sometimes cause substantial property damage and structural problems for buildings and roads. See Figure 5.9 – The Making of a Sinkhole below.

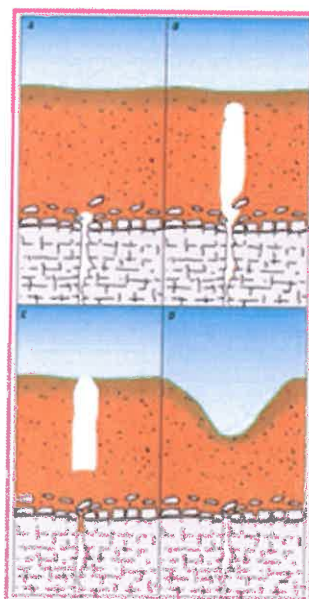
Sinkholes are common where the rock below the land surface is limestone, carbonate rock, salt beds, or rocks that can naturally be dissolved by ground water circulating through them. As the rock dissolves, spaces and caverns develop underground. Sinkholes are dramatic because the land usually stays intact for a while until the underground spaces get too big. If there is not enough support for the land above the spaces, then a sudden collapse of the land surface can occur. These collapses can be small or they can be huge and can occur where a house or road is on top. See Figure 510 – Formation of a Collapse below.

Figure 5.9 – The Making of a Sinkhole



Source: Southwest Florida Water Management District

Figure 5.10 – Formation of a Collapse



A - Soil bridges gap where sediment has been washing into a solution enlarged fracture.

B - Over time, the void migrates upward through the soil.

C - After the bridge thins, a sudden collapse occurs.

D - The collapse often plugs the drain and erosion will, after many years, transform the collapse into a more bowl-shaped sinkhole.

Source: USGS Publication – *Science of Changing the World*

Sinkholes range in size from several square yards to hundreds of acres. They may be quite shallow or may extend hundreds of feet deep. The most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. Figure 5.11 – Sinkhole Collapse of a House shows a sinkhole that quickly opened up causing major damage to a house and yard.

Figure 5.11 – Sinkhole Collapse of a House



Source: newsmax.com

A change in the local environment affecting the soil mass initiates sinkhole collapses and areas of subsidence. This change is called the "triggering mechanism." Water, either surface or ground water, is generally the most important agent effecting environmental changes that cause subsidence. Triggering mechanisms for subsidence include water level decline, changes in ground-water flow, increased loading, and deterioration (relates to abandoned coal mines).

New sinkholes have been correlated to land-use practices, especially from ground-water pumping and from construction and development practices. Sinkholes can also form when natural water-drainage patterns are changed and new water-diversion systems are developed. Some sinkholes form when the land surface is changed, such as when industrial and runoff-storage ponds are created. The substantial weight of the new material can trigger an underground collapse of supporting material, thus causing a sinkhole.

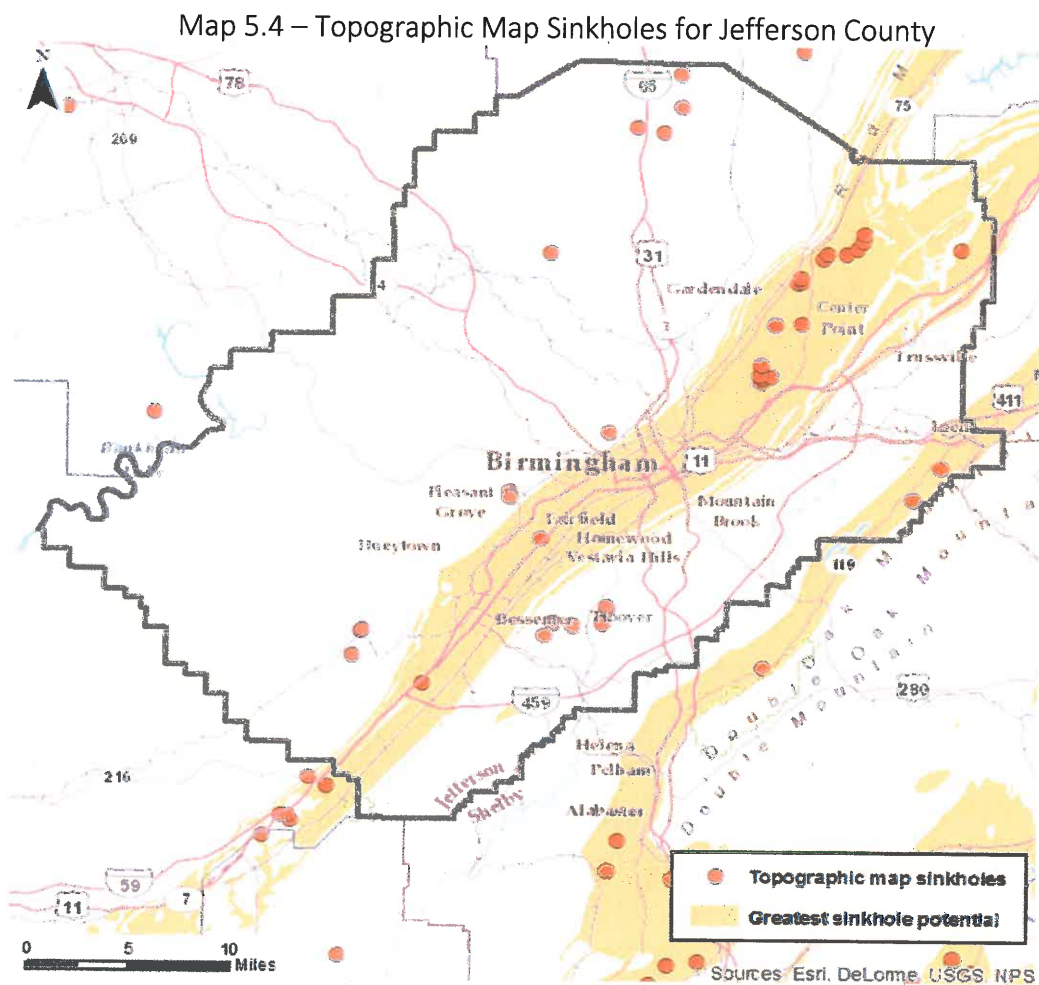
Increased numbers of sinkholes can generally be attributed to changing or loading of the earth's surface with development such as retention ponds, buildings, changes in drainage patterns, heavy traffic, drilling vibrations or a sudden or gradual decline in groundwater levels. In urban areas, all these impacts may occur at the same time, accelerating any sinkhole tendencies. Urban construction, coupled with limestone depths of less than 200 feet, contributes to the development of many of the modern sinkholes.

The built-up sediments that cover buried cavities in the aquifer systems are delicately balanced by ground-water fluid pressure. The water below ground is actually helping to keep the surface soil in place. Ground-water pumping for urban water supply and for irrigation can produce new sinkholes in sinkhole-prone areas. If pumping results in a lowering of ground-water levels, then underground structural failure, and thus, sinkholes, can occur.

Lowering water levels is one of the most significant triggering mechanisms for subsidence in a karst terrain. Water-level decline may occur naturally or be induced by man. Factors leading to a decline in water levels include the pumping of water from wells, localized drainage from construction, dewatering from mining, and periods of drought.

Sinkholes also threaten water and environmental resources by draining streams, lakes, and wetlands, and creating pathways for transmitting surface waters directly into underlying aquifers. Where these pathways are developed, movement of surface contaminants into the underlying aquifer systems can persistently degrade ground-water resources. In some areas, sinkholes are used as storm drains, and because they are a direct link with the underlying aquifer systems it is important that their drainage areas be kept free of contaminants. Conversely, when sinkholes become plugged, they can cause flooding by capturing surface-water flow and can create new wetlands, ponds, and lakes.

The description of sinkholes presented in this section is based upon information extracted from the FEMA How to Guide Understanding Your Risks (FEMA 386-2), FEMA, August 2001, and other sources from the Geological Survey of Alabama Geological Hazards Program, Southwest Florida Water Management District, and the U.S. Geological Survey Mid-Centinent Geographic Science Center.



Source: Geological Survey of Alabama – Dec 15, 2015

Earthquakes Description

An earthquake is the shaking and vibration at the surface of the earth resulting from underground movement along a fault plane. Earthquakes are caused by the release of built-up stress within rocks along geologic faults or by the movement of magma in volcanic areas. They usually occur without warning and are usually followed by aftershocks. Earthquakes can affect hundreds of thousands of square miles and cause tens of billions of dollars of damage to property. An earthquake event can cause injury and loss of life to hundreds of thousands of persons and can greatly disrupt the social and economic functioning of the affected area. Secondary hazards during an earthquake may occur, such as surface faulting, sinkholes, and landslides.

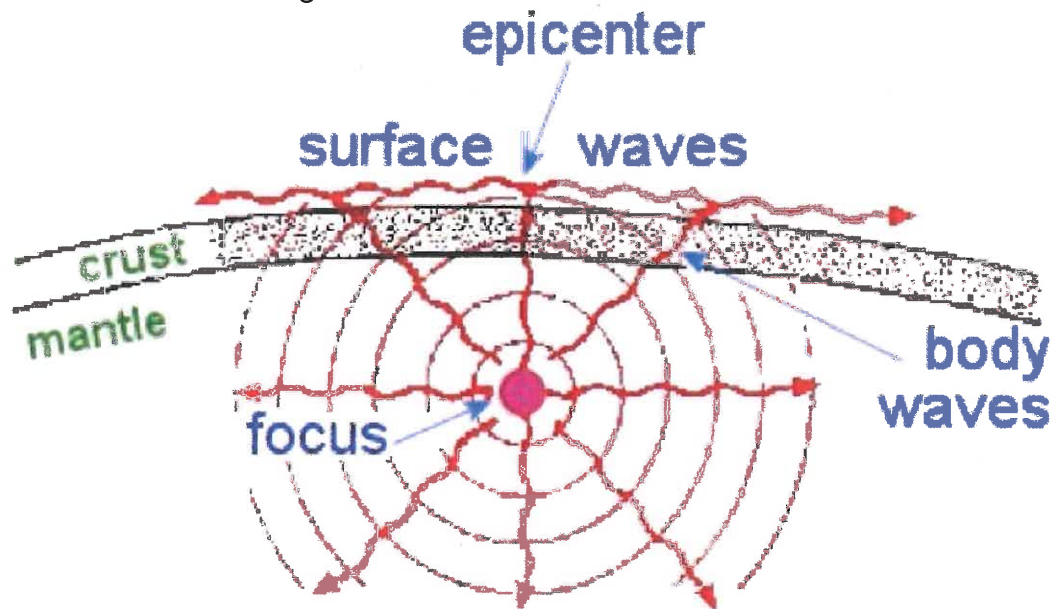
Earthquakes are caused by the rupture or sudden movement of a fault where stresses have accumulated along opposing fault planes of the earth's outer crust. These fault planes are usually found along the borders of the earth's tectonic plates which generally follow the outlines of the continents. However, fault planes may occur at the interior of the plates. The plates range from 50 to 60 miles in thickness and move slowly and continuously over the earth's interior. Where the plates move past each other, they continually bump, slide, catch, and hold. When the stress exceeds the elastic limit of the rock, an earthquake occurs. Generally, the larger the earthquake, the greater the potential for surface fault rupture.

The area of greatest seismic activity in the United States is along the Pacific coast in California and Alaska, but as many as forty states can be characterized as having at least moderate earthquake risk. For example, seismic activity has been recorded in Boston, Massachusetts; New Madrid, Missouri; and Charleston, South Carolina, places not typically thought of as earthquake zones. Areas prone to earthquakes are relatively easy to identify in the Western United States based on known geologic formations; however, predicting exactly when and where earthquakes will occur is very difficult everywhere. Records show that building inventories in over 40 states are vulnerable to earthquake damage.

Most property damage and earthquake-related deaths result from the failure and collapse of structures caused by ground shaking or ground motion. Ground shaking is the motion felt on the earth's surface caused by seismic waves generated by an earthquake. The strength of the ground shaking is determined by the magnitude of the earthquake, the surface distance from the earthquake's epicenter and type of fault, and by the site and regional geology.

Ground shaking causes waves in the earth's interior, known as seismic waves, and along the earth's surface, known as surface waves. There are two types of seismic waves: primary waves which are longitudinal that cause back-and-forth oscillation along the direction of travel (vertical motion); and secondary waves or shear waves which are slower than primary waves and cause structures to vibrate from side-to-side (horizontal motion). Surface waves travel more slowly than and are usually significantly less damaging than seismic waves, as illustrated by Figure 5.12 – Seismic and Surface Waves.

Figure 5.12 – Seismic and Surface Waves



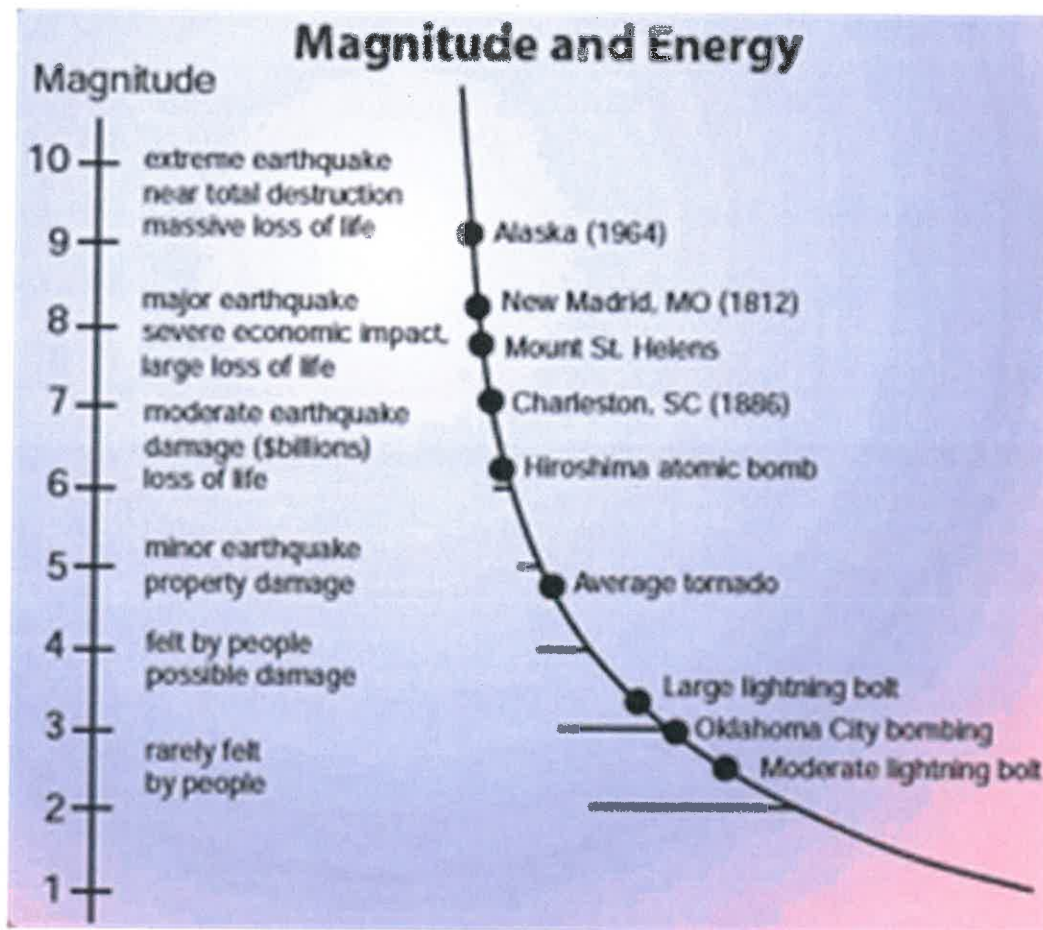
Source: Studyblue.com

Additional earthquake related hazards include landslides, liquefaction, and amplification. Earthquake-induced landslides are secondary earthquake hazards that occur from ground shaking. They can destroy roads, buildings, utilities, and other critical facilities necessary to respond to or recover from an earthquake. As sloped lands are developed, earthquake-induced landslides pose additional threats to homes and infrastructure.

Soil type can substantially increase earthquake risk. Liquefaction occurs, when ground shaking causes saturated soft soils to change from a solid to a liquid state. Liquefaction results in the loss of soil strength and three potential types of ground failure: lateral spreading, flow failure, and loss of bearing strength. Buildings and their occupants are at risk when the ground can no longer support buildings and structures. Areas susceptible to liquefaction include areas with high ground water tables and sandy soils. The extreme earthquake damage to San Francisco in 1989 was due to liquefaction of the soil used to fill in waterfront properties.

Amplification (strengthening) of shaking also results in areas of soft soils which includes fill, loose sand, waterfront, and lake bed clays. Amplification increases the magnitude of the seismic waves generated by the earthquake.

Chart 5.2 – Earthquake Magnitude Scale



Source: USGS

Seismic activity is described in terms of magnitude and intensity. Magnitude describes the total energy released and intensity describes the effects at a particular location. Magnitude is defined as the measure of the amplitude of the seismic wave and is expressed by the Richter scale. The Richter scale is a logarithmic measurement where an increase in the scale by one whole number represents a tenfold increase in the measured amplitude of the earthquake.

Intensity is defined as the measure of the strength of the shock at a particular location and is expressed by the Modified Mercalli Intensity (MMI) scale. It was developed in 1931 by the American seismologists Harry Wood and Frank Neumann. The scale consists of a series of certain key responses such as people awakening, movement of furniture, the damage to structures, and total destruction. The lower numbers of the intensity scale generally deal with the manner in which the earthquake is felt by people. The higher numbers of the scale are based on observed structural damage. This scale, composed of 12 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. It does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects. Table 5.8 – Earthquake Scales Comparison below compares the Modified Mercalli Intensity scale with the Richter scale.

Table 5.8 – Earthquake Scales Comparison

Modified Mercalli Intensity and Richter Scale Comparison			
Scale	Intensity	Description of Effects	Corresponding Richter Scale Magnitude
I	Instrumental	Detected only on seismographs	
II	Feeble	Some people feel it	<4.2
III	Slight	Felt by people resting; like a truck rumbling past	
IV	Moderate	Felt by people walking	
V	Slightly Strong	Sleepers awake; church bells ring	<4.8
VI	Strong	Trees sway; suspended objects swing, objects fall off shelves	<5.4
VII	Very Strong	Mild Alarm; walls crack; plaster falls	<6.1
VIII	Destructive	Moving cars uncontrollable; masonry fractures, poorly constructed buildings damaged	
IX	Ruinous	Some houses collapse; ground cracks; pipes break open	<6.9
X	Disastrous	Ground cracks profusely; many buildings destroyed; liquefaction and landslides widespread	<7.3
XI	Very Disastrous	Most buildings and bridges collapse; roads, railways, pipes and cables destroyed; general triggering of other hazards	<8.1
XII	Catastrophic	Total destruction; trees fall; ground rises and falls in waves	>8.1

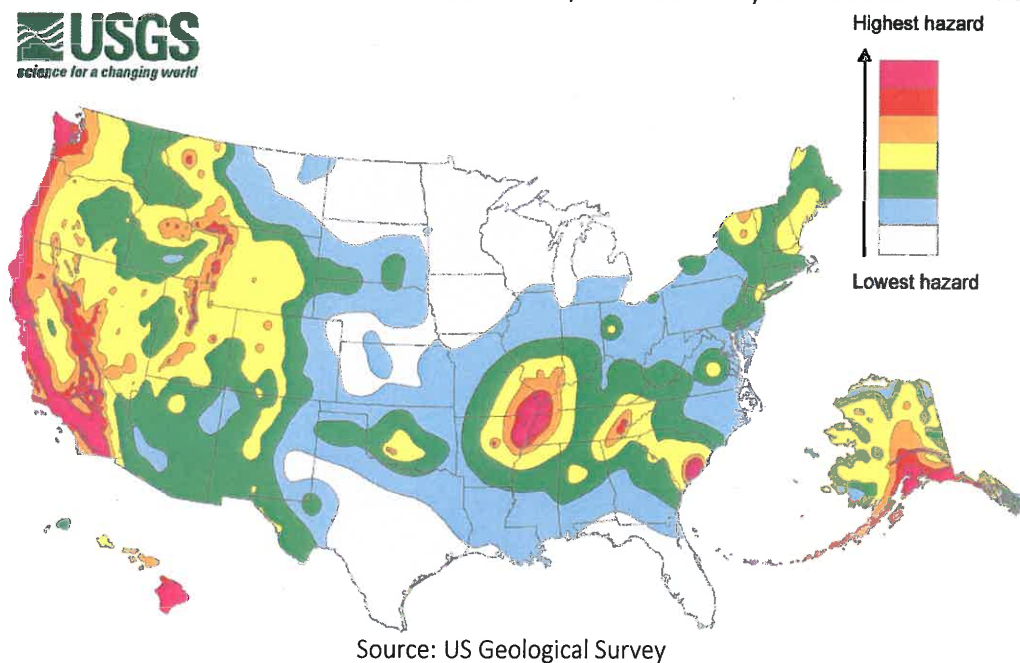
Source: FEMA

Another measurement of seismic activity is Peak Ground Acceleration (PGA) which measures the rate of change of motion relative to the rate of acceleration due to gravity. An object falling to earth will fall faster and faster, until it reaches terminal velocity. This principle is known as acceleration and represents the rate at which speed is increasing. This movement can be described by its changing position as a function of time, or by its acceleration as a function of time.

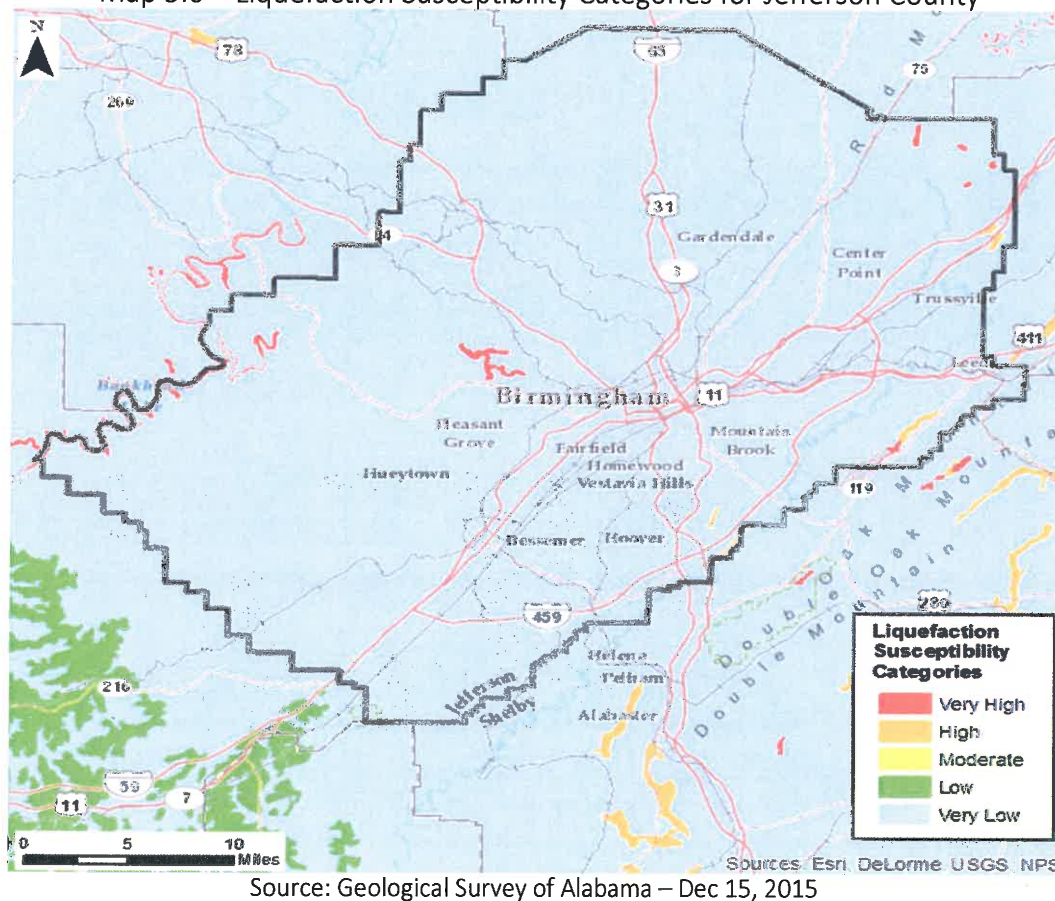
The peak acceleration is the maximum acceleration experienced by the object during the course of the earthquake motion. Peak ground acceleration can be measured in g (the acceleration due to gravity at the earth's surface is 9.8 meters per second squared). For example, acceleration of the ground surface of 244 cm/sec/sec (where g equals 9.8 meters per second squared) equals a PGA of 25.0 percent.

This is a common earthquake measurement that shows three things: the geographic area affected (the areas shown in color), the probability of an earthquake at each given level of severity, and the severity (the PGA is indicated by color) as shown below:

Map 5.5 – PGA Acceleration for 2014 Southeast w/2% Probability of Exceedance in 50 Years



Map 5.6 – Liquefaction Susceptibility Categories for Jefferson County



The description of earthquakes presented in this section is based upon information extracted from the FEMA How to Guides Understanding Your Risks (FEMA 386-2), August 2001, Using HAZUS-MH for Risk Assessment How to Guide (FEMA 433), August 2004, 2007 Alabama State Hazard Mitigation Plan, U.S. Geological Survey Earthquakes Hazard Program, and various FEMA-adopted plans.

Dam/Levee Failures Description

Dam failure or levee failure can occur with little warning. Strong storms may produce a flood in a few hours or minutes for upstream locations, which can cause a dam or levee failure. Flash floods occur within six hours of the beginning of heavy rainfall and dam failure may occur within hours of the first sign of a breach. Dam failures are potentially the worst flood event.

There are more than 80,000 dams in the United States according to the 2007 update of the National Inventory of Dams. According to FEMA, one third of these pose a high or significant hazard to life and property if failure occurs. 56% of dams are privately owned, and the dam owner is responsible for the safety and liability of the dam as well for upkeep, upgrade and repair. This compounds the risk that is posed due to dam or levee failure.

The description of dam/levee failures presented in this section is extracted from FEMA, Disaster Types, and Dam Failure.

Hazard Profiles

Floods Profile

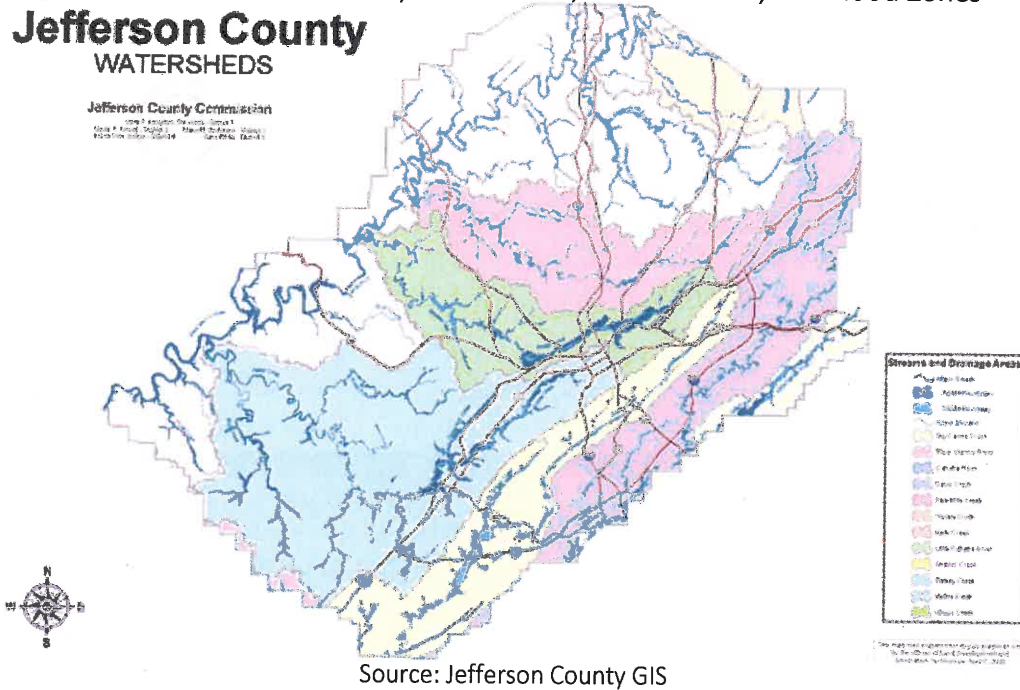
Jefferson County has experienced significant flood damages over the past 35 years. Most flooding is of a flash type, along streams and tributaries. Floods are one of the most significant hazards of concern and many recent events have been reported in local newspapers.

Location, Extent and Intensity of Potential Floods

The location and extent of potential flooding can be seen on Map 5.7 – Jefferson County Watersheds, Water Bodies, and Flood Zones, which shows the locations of floodplains as indicated by the Flood Insurance Rate Maps (FIRMs) of the National Flood Insurance Program (NFIP) as well as the watershed boundaries of each waterway. Jefferson County contains the following drainage basins: Big Canoe Creek, Black Warrior River, Cahaba River, Davis Creek, Five Mile Creek, Gurley Creek, Kelly Creek, Little Cahaba River, Shades Creek, Turkey Creek, Valley Creek, and Village Creek.

The watersheds that have historically experienced the greatest flooding include: Village Creek, Valley Creek, Five Mile Creek, Upper Shade Creek, and Turkey Creek. The extent of each flood varies according to the amount of rainfall, the rate of storm water flow, and the capacity of the receiving channel to discharge flood waters.

Map 5.7 – Jefferson County Watersheds, Water Bodies, and Flood Zones



Previous Occurrences of Floods

Extensive flooding in Jefferson County has occurred both historically and during present times. Several areas in the County have been identified as chronic flood-prone areas and are listed below:

- Five Mile Creek basin, communities of Tarrant, Fultondale, Brookside
- Areas of unincorporated Jefferson County,
- Turkey Creek floods
- Pinson
- Shades Creek Area
- Mountindale areas
- City of Birmingham
- Mountain Brook Village area
- Portions of Homewood
- Unincorporated Jefferson County near intersection of Greensprings Highway and Lakeshore Parkway.
- Griffin Creek in Homewood
- Roseland Drive and Broadway Avenue.
- Cahaba River
- Trussville
- Patton Creek

Probability of Future Flood Events

The communities identified during the Plan update data lists areas of the county that have experienced flooding during the last update period are likely to continue to experience flood hazard impacts. However, recent and on-going mitigation projects should lessen the impact of flood events among many jurisdictions.

Tornadoes Profile

On average, Jefferson County has been visited by more than one tornado per year. Assessment of Tornado Threat software indicates tornado activity typically occurs within a 20-mile radius of the center of Jefferson County and happen typically during the Spring months of March, April and May; and significantly more frequently in the afternoon and evening, rather than the morning.

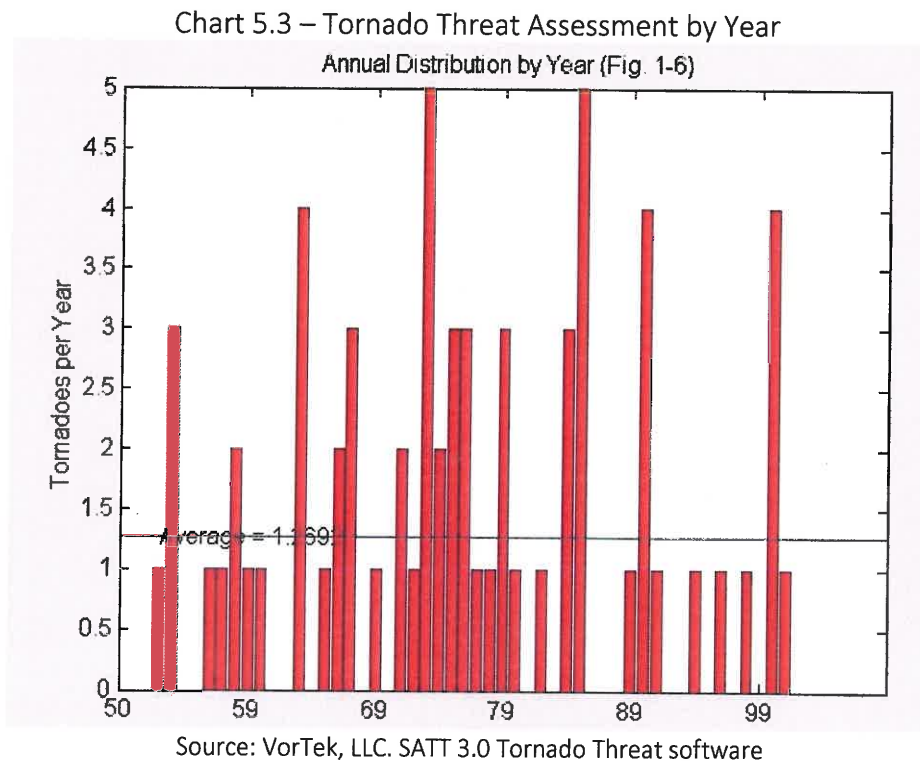
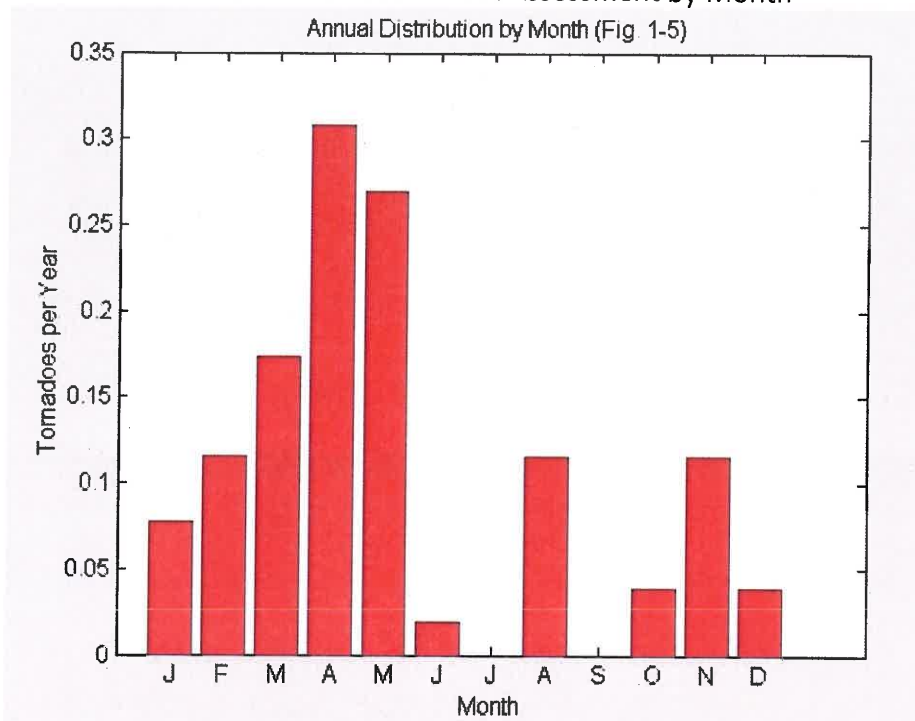
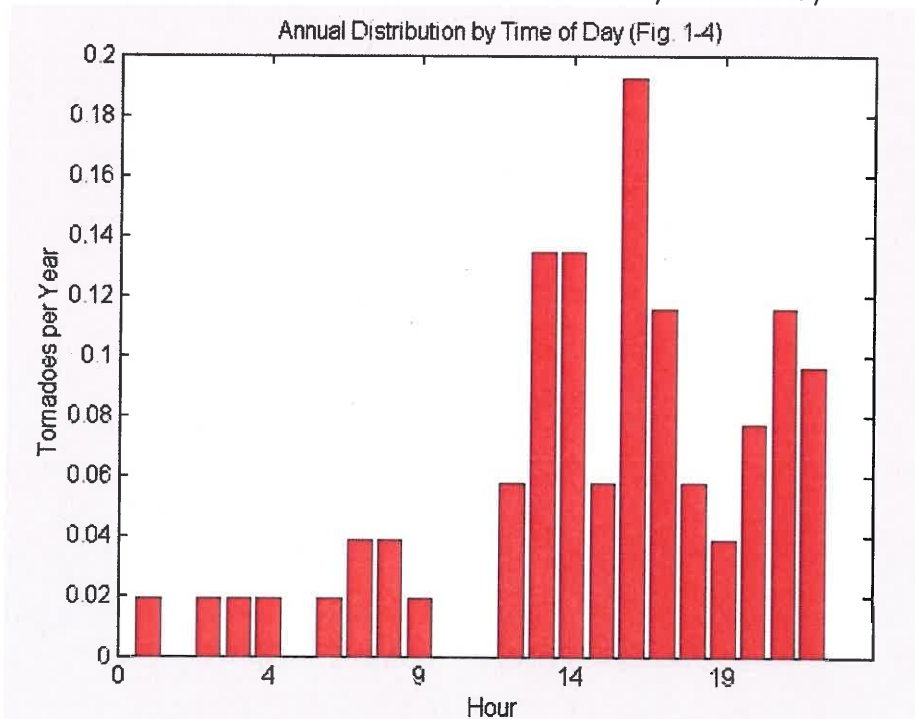


Chart 5.4 – Tornado Threat Assessment by Month



Source: VorTek, LLC. SATT 3.0 Tornado Threat software

Chart 5.5 – Tornado Threat Assessment by Time of Day



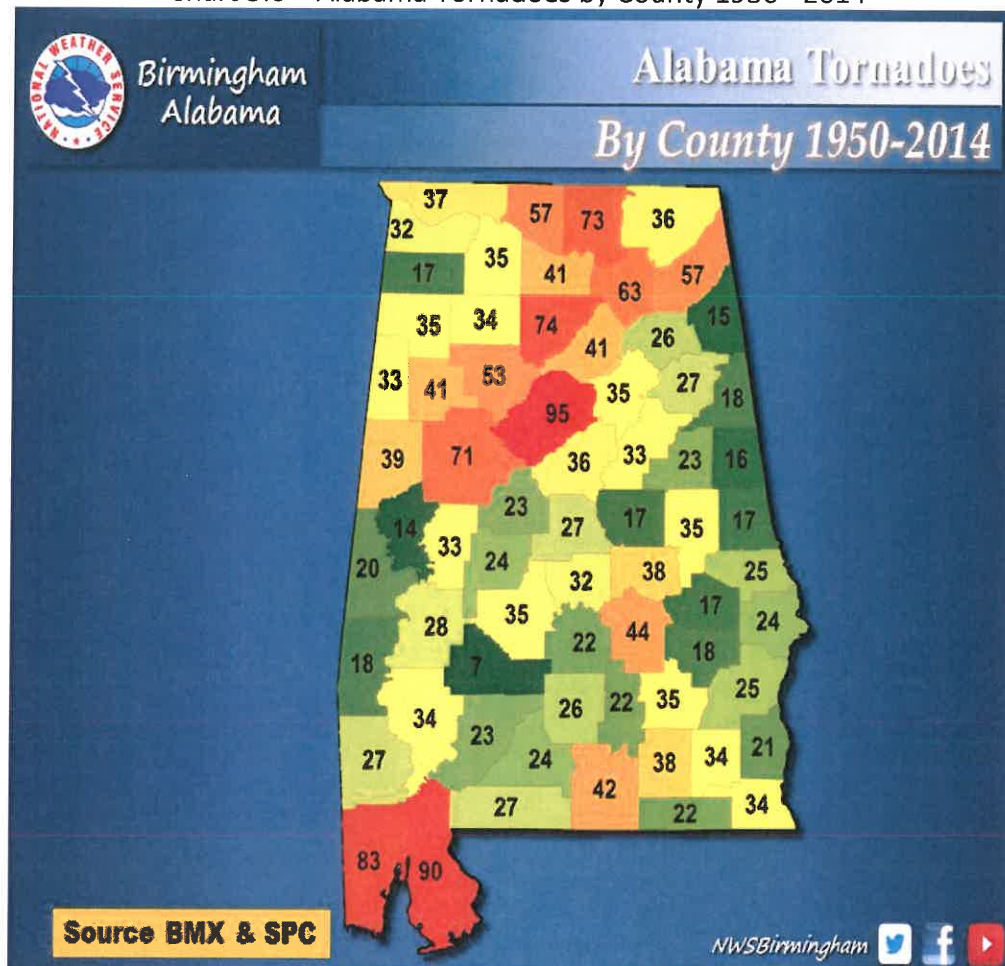
Source: VorTek, LLC. SATT 3.0 Tornado Threat software

Location, Extent and Intensity of Potential Tornadoes

Tornadoes are location-specific random events. It has been shown historically that all areas and jurisdictions in Jefferson County are equally at risk for tornadoes.

Jefferson County tornadoes, on average, tend to be severe and the average intensity of tornadoes overall is rated as an F-2 category.

Chart 5.6 – Alabama Tornadoes by County 1950 - 2014



Source: NWS Birmingham

Previous Occurrences of Tornadoes

National Climatic Data Center records for tornadoes indicates that Jefferson County has been visited by at least one tornado annually, from 1952 to 2014 (for the complete NCDC listing, see Appendix E Hazard Profile Data). During this period, the county experienced a total of 95 events, averaging about 1.5 per year. Those tornadoes have accounted for 109 deaths and 1608 injuries and over \$1 billion in property damage as summarized in Table 5.9 – Annual Summary of Tornado Events, 1952-2014 below.

Table 5.9 – Annual Summary of Tornado Events, 1952-2014

Location	Date	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Jefferson County	Wednesday, February 13, 1952	F3	1	26	250,000	250,000
Jefferson County	Monday, April 06, 1953	F3	0	12	2,500	2,500
Jefferson County	Friday, May 01, 1953		0	0	2,500	2,500
Jefferson County	Monday, May 04, 1953	F0	0	0	25,000	25,000
Jefferson County	Sunday, April 15, 1956	F4	25	200	25,000,000	2,500,000
Jefferson County	Monday, November 18, 1957	F2	1	35	25,000,000	2,500,000
Jefferson County	Tuesday, April 29, 1958	F1	0	0	25,000	25,000
Jefferson County	Tuesday, April 29, 1958	F2	0	0	25,000	25,000
Jefferson County	Tuesday, May 12, 1959	F3	0	5	250,000	250,000
Jefferson County	Saturday, October 08, 1960	F0	0	0	0	0
Jefferson County	Tuesday, March 05, 1963	F4	0	35	250,000	250,000
Jefferson County	Monday, May 27, 1963	F2	0	0	25,000	25,000
Jefferson County	Thursday, March 03, 1966	F1	0	2	25,000	25,000
Jefferson County	Tuesday, April 26, 1966	F0	0	0	0	0
Jefferson County	Thursday, November 10, 1966	F1	0	0	25,000	25,000
Jefferson County	Saturday, May 06, 1967	F3	1	25	2,500,000	2,500,000
Jefferson County	Tuesday, December 19, 1967	F2	0	0	25,000	25,000
Jefferson County	Saturday, May 17, 1969	F1	0	0	25,000	25,000
Jefferson County	Friday, February 26, 1971	F1	3	0	25,000	25,000
Jefferson County	Saturday, March 06, 1971	F2	0	2	25,000	25,000
Jefferson County	Friday, October 27, 1972	F2	0	0	250,000	250,000
Jefferson County	Sunday, May 27, 1973	F2	0	3	250,000	250,000
Jefferson County	Sunday, May 27, 1973	F3	1	44	25,000,000	25,000,000
Jefferson County	Saturday, December 29, 1973	F1	0	0	0	0
Jefferson County	Wednesday, April 03, 1974	F2	0	0	25,000	25,000
Jefferson County	Monday, November 04, 1974	F1	0	0	25,000	25,000
Jefferson County	Friday, January 10, 1975	F2	0	4	250,000	250,000
Jefferson County	Friday, January 10, 1975	F1	0	0	250,000	250,000
Jefferson County	Tuesday, January 13, 1976	F2	0	1	250,000	250,000
Jefferson County	Thursday, May 06, 1976	F2	0	0	25,000	25,000
Jefferson County	Sunday, August 15, 1976	F2	0	0	2,500	2,500
Jefferson County	Monday, April 04, 1977	F5	22	130	25,000,000	25,000,000
Jefferson County	Friday, July 08, 1977	F2	0	0	250,000	250,000
Jefferson County	Monday, April 24, 1978	F0	0	0	2,500	2,500
Jefferson County	Friday, May 04, 1979	F0	0	0	0	0
Jefferson County	Wednesday, May 30, 1979	F1	0	1	250,000	250,000
Jefferson County	Friday, November 09, 1979	F1	0	0	25,000	25,000
Jefferson County	Thursday, March 20, 1980	F1	0	0	0	0
Jefferson County	Friday, April 25, 1980	F2	0	0	250,000	250,000
Jefferson County	Monday, June 28, 1982	F1	0	1	250,000	250,000
Jefferson County	Sunday, July 11, 1982	F1	0	0	2,500	2,500
Jefferson County	Wednesday, March 28, 1984	F1	0	0	25,000	25,000
Jefferson County	Wednesday, May 02, 1984	F0	0	0	25,000	25,000
Jefferson County	Monday, May 07, 1984	F1	0	2	5,000	25,000
Jefferson County	Friday, August 16, 1985	F2	0	0	250,000	250,000
Jefferson County	Friday, August 16, 1985	F1	0	0	25,000	25,000
Jefferson County	Friday, August 16, 1985	F1	0	0	25,000	25,000
Jefferson County	Friday, August 16, 1985	F1	0	0	25,000	25,000
Jefferson County	Sunday, March 05, 1989	F0	0	0	2,500	2,500
Jefferson County	Saturday, February 03, 1990	F1	0	2	2,500,000	2,500,000
Jefferson County	Saturday, February 03, 1990	F1	0	15	2,500,000	2,500,000
Jefferson County	Saturday, February 03, 1990	F1	0	0	2,500,000	2,500,000
Jefferson County	Monday, April 29, 1991	F0	0	0	0	0
Birmingham	Saturday, April 20, 1996	F0	0	0	75,000	75,000
Oak Grove	Wednesday, April 08, 1998	F5	32	258	200,000,000	200,000,000

Location	Date	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Hoover	Friday, March 10, 2000	F1	0	0	500,000	500,000
Forestdale	Sunday, April 02, 2000	F1	0	0	150,000	150,000
Oak Grove	Monday, April 03, 2000	F2	0	0	75,000	75,000
Oak Grove	Monday, April 03, 2000	F0	0	0	20,000	20,000
Vestavia Hills	Monday, April 03, 2000	F1	0	0	4,000,000	4,000,000
Argo	Saturday, November 24, 2001	F2	0	1	200,000	200,000
McCalla	Sunday, November 10, 2002	F2	0	0	500,000	500,000
Hueytown	Monday, May 31, 2004	F0	0	0	250,000	250,000
Bluff Park	Monday, May 31, 2004	F0	0	0	500,000	500,000
McCalla	Wednesday, November 24, 2004	F0	0	0	70,000	70,000
Graysville	Monday, November 28, 2005	F0	0	0	16,000	16,000
Hueytown	Monday, November 28, 2005	F0	0	0	39,000	39,000
Gardendale	Saturday, April 08, 2006	F1	0	1	500,000	500,000
Roebuck Plaza	Saturday, April 08, 2006	F1	0	0	300,000	300,000
Oakwood	Thursday, March 01, 2007	EF1	0	0	100,000	100,000
Sayre	Wednesday, April 11, 2007	EF1	0	0	20,000	20,000
Leeds	Tuesday, February 26, 2008	EF1	1	0	1,000,000	1,000,000
Hopkins	Friday, April 11, 2008	EF0	0	0	5,000	5,000
Vestavia Hills	Friday, April 11, 2008	EF0	0	0	50,000	50,000
Warrior	Wednesday, May 06, 2009	EF1	0	0	50,000	50,000
Corner	Saturday, April 24, 2010	EF1	0	0	50,000	50,000
Huffman	Tuesday, October 26, 2010	EF1	0	0	50,000	50,000
Homewood	Monday, April 11, 2011	EF1	0	0	65,000	65,000
Kimbrel	Wednesday, April 27, 2011	EF0	0	0	80,000	80,000
Warrior	Wednesday, April 27, 2011	EF1	0	0	5,300,000	5,300,000
Cahaba Heights	Wednesday, April 27, 2011	EF0	0	0	15,000	15,000
Cahaba Heights	Wednesday, April 27, 2011	EF2	0	20	18,000,000	18,000,000
Weller	Wednesday, April 27, 2011	EF4	20	700	700,000,000	700,000,000
Clay	Wednesday, April 27, 2011	EF1	0	0	105,000	105,000
Oak Grove	Monday, January 23, 2012	EF2	1	1	0	0
Ketona	Monday, January 23, 2012	EF3	1	75	0	0
Greenwood	Sunday, October 14, 2012	EF0	0	0	0	0
Thomas Junction	Monday, December 10, 2012	EF1	0	0	0	0
Morris	Monday, April 28, 2014	EF1	0	4	0	0
Mulga Mines	Monday, April 28, 2014	EF2	0	3	0	0
Weller	Monday, April 28, 2014	EF1	0	0	0	0
Weller	Monday, April 28, 2014	EF0	0	0	0	0
Ishkooda	Monday, April 28, 2014	EF2	0	0	0	0
Totals:		109	1608		1,045,830,000	1,000,850,000

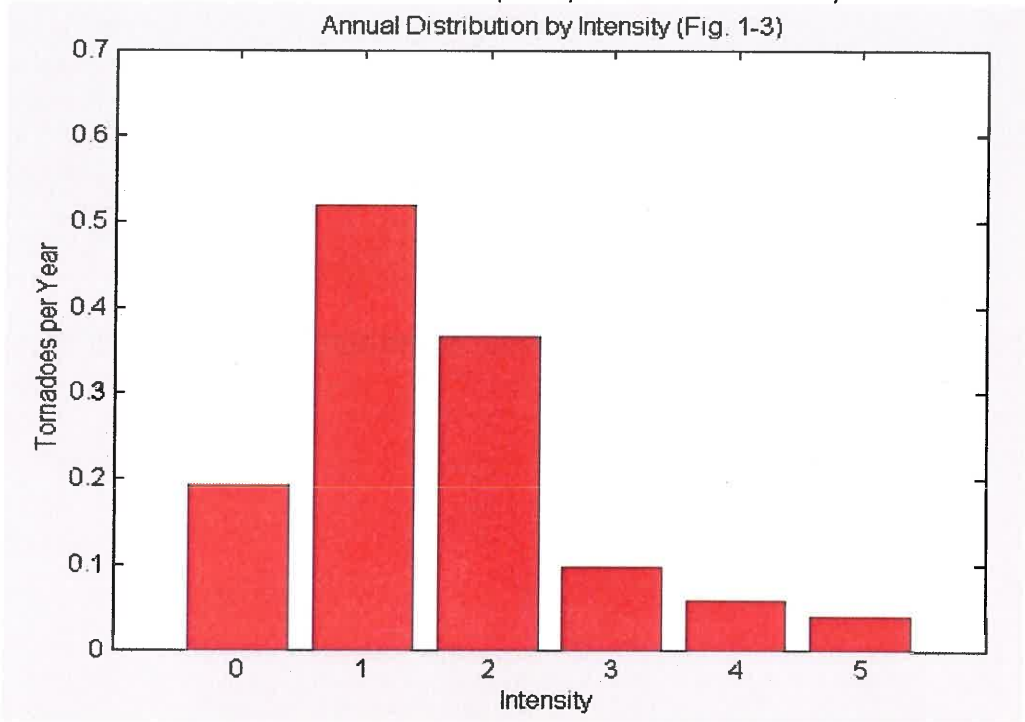
Source: National Climatic Data Center

Probability of Future Tornado Events

Meteorologists are quick to point out that tornado frequency, intensities, and locations are totally unpredictable. Past records are no guarantee of the probability of future events. If however, past trends were to continue, Jefferson County can anticipate continued frequent, and often intense, tornadic activity, as indicated by Table 5.9 – Annual Summary of Tornado Events, 1952-2014 above. The threat of a strike is distributed uniformly among all communities. The average intensity of a Jefferson County tornado has historically been around an EF-2 often causing a significant amount of damage, injuries and loss of life see Chart 5.127 – Annual Frequency of Tornado Intensity, above. Further, the potential for hurricanes and the large number of thunderstorms annually visited upon the area, ensure a significant risk level will continue for Jefferson County (The risk of hurricanes and severe thunderstorms are addressed separately.). Chart 5.8 – Alabama Tornado Threat Contours illustrates the tornado threat levels

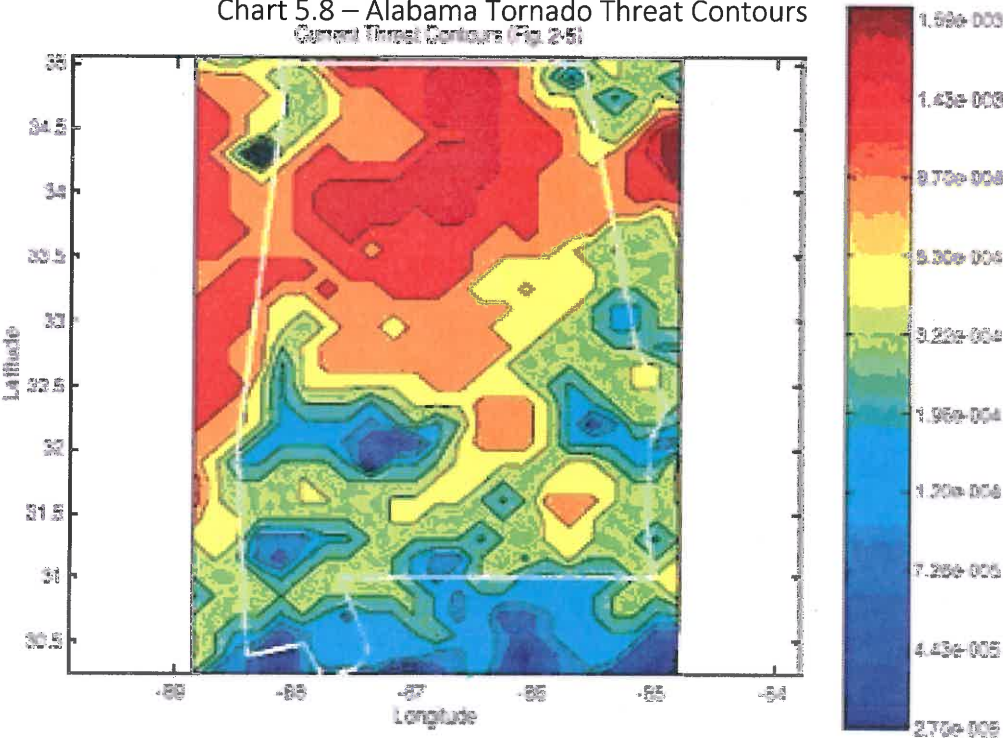
throughout Alabama, based on historical events. Jefferson County lies within a moderately high threat area in North-Central Alabama.

Chart 5.7 – Annual Frequency of Tornado Intensity
Annual Distribution by Intensity (Fig. 1-3)



Source: VorTek, LLC. SATT 3.0 Tornado Threat software

Chart 5.8 – Alabama Tornado Threat Contours
Current Threat Contours (Fig. 2-5)



Source: VorTek, LLC. SATT 3.0 Tornado Threat software

Severe Storms Profile

According to the HMPC and surveys of community opinions (see Appendix E, Survey Monkey Citizen Input Results for Jefferson County), severe storms are the highest natural hazard threat to Jefferson County communities. NOAA records confirm these public perceptions see Table 5.11 – Annual Summary of Severe Storm Events, 1955-2015. Severe storms bringing high winds, thunderstorms, lightning, and hail are common Jefferson County occurrences, and occasionally, tornadoes are associated with these events. National Weather Service data comparing the number of events per year with other regions of the country, suggests that Jefferson County can expect to see thunderstorms more than 1/6 of the days per year based on observations between 1950 and 2015, though not all are severe.

Location, Extent and Intensity of Potential Severe Storms

All areas of Jefferson County have experienced frequent severe storms, including thunderstorms, high winds, heavy precipitation, hail, and lightning and share equal risks for all types of severe storms. The locations of these historical events cannot be mapped.

The extent of each storm event markedly varies according to storm severity and duration. Storm severity can be measured by the storm characteristics, which may include heavy precipitation, large hail, intense lightning, and high winds. The exact extent of severe storms is not predictable. Severe storms can also result in flooding due to heavy precipitation and wildfires due to lightning and will accompany hurricanes and tornadoes.

Large hail, though very rare, can cause injury or loss of life and major property damages. Normally, however, hail damage is limited to automobiles and minor building damage. Both lightning and high winds have the potential to cause loss of life and considerable property damage. The power of lightning's electrical charge and intense heat can electrocute on contact, split trees, and ignite fires. High winds are often the cause of power outages and can cause severe damages to buildings and infrastructure by fallen trees and direct wind gusts.

Previous Occurrences of Severe Storms

National Climatic Data Center (NCDC) records indicate frequent annual severe storm occurrences in Jefferson County between 1955 and 2015; severe storms include thunderstorms, high winds, lightning and hail, as indicated in Table 5.10 – Annual Summary of Severe Storm Events, 1955-2015, below. During this period, there were over 600 severe storm events reported for Jefferson County averaging 10.33 events per year. Total damages have been substantial in some cases; even lacking unavailable damage estimates for the earlier years covered in the table. The average annual damage from severe storms still approaches \$6 million.

Table 5.10 – Annual Summary of Severe Storm Events for Jefferson County, 1955-2015

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
March 21, 1955	Thunderstorm Wind	0 kts.	0	0	0	0
April 6, 1955	Hail	1.75 in.	0	0	0	0
April 6, 1955	Thunderstorm Wind	0 kts.	0	0	0	0
July 28, 1955	Thunderstorm Wind	52 kts.	0	0	0	0
October 28, 1955	Thunderstorm Wind	0 kts.	0	0	0	0
April 15, 1956	Thunderstorm Wind	60 kts.	0	0	0	0
August 19, 1956	Thunderstorm Wind	65 kts.	0	0	0	0
April 3, 1958	Hail	2.00 in.	0	0	0	0
May 10, 1958	Hail	1.75 in.	0	0	0	0
March 21, 1959	Hail	3.00 in.	0	0	0	0
May 12, 1959	Thunderstorm Wind	0 kts.	0	0	0	0
July 12, 1959	Thunderstorm Wind	64 kts.	0	0	0	0
March 29, 1960	Hail	3.00 in.	0	0	0	0
March 30, 1960	Thunderstorm Wind	0 kts.	0	0	0	0
July 4, 1960	Thunderstorm Wind	0 kts.	0	0	0	0
March 13, 1961	Hail	2.00 in.	0	0	0	0
April 15, 1961	Hail	1.75 in.	0	0	0	0
April 15, 1961	Thunderstorm Wind	51 kts.	0	0	0	0
May 8, 1961	Thunderstorm Wind	61 kts.	0	0	0	0
July 22, 1961	Thunderstorm Wind	50 kts.	0	0	0	0
August 20, 1961	Hail	0.75 in.	0	0	0	0
February 23, 1962	Thunderstorm Wind	50 kts.	0	0	0	0
March 21, 1962	Thunderstorm Wind	50 kts.	0	0	0	0
March 30, 1962	Hail	1.50 in.	0	0	0	0
March 30, 1962	Thunderstorm Wind	50 kts.	0	0	0	0
June 24, 1962	Thunderstorm Wind	0 kts.	0	0	0	0
July 4, 1962	Thunderstorm Wind	62 kts.	0	0	0	0
August 5, 1962	Thunderstorm Wind	63 kts.	0	0	0	0
August 7, 1962	Thunderstorm Wind	50 kts.	0	0	0	0
August 20, 1962	Thunderstorm Wind	51 kts.	0	0	0	0
March 12, 1963	Hail	1.75 in.	0	0	0	0
April 29, 1963	Thunderstorm Wind	50 kts.	0	0	0	0
July 24, 1963	Thunderstorm Wind	0 kts.	0	0	0	0
March 9, 1964	Thunderstorm Wind	55 kts.	0	0	0	0
April 28, 1964	Hail	2.00 in.	0	0	0	0
December 24, 1964	Thunderstorm Wind	0 kts.	0	0	0	0
April 12, 1965	Thunderstorm Wind	55 kts.	0	0	0	0
May 20, 1965	Hail	1.25 in.	0	0	0	0
July 7, 1965	Hail	1.75 in.	0	0	0	0
July 14, 1965	Thunderstorm Wind	0 kts.	0	0	0	0
July 24, 1965	Thunderstorm Wind	0 kts.	0	0	0	0
November 10, 1966	Thunderstorm Wind	0 kts.	0	0	0	0
March 6, 1967	Thunderstorm Wind	54 kts.	0	0	0	0
May 6, 1967	Hail	1.75 in.	0	0	0	0
May 7, 1967	Thunderstorm Wind	0 kts.	0	0	0	0
December 2, 1967	Thunderstorm Wind	65 kts.	0	0	0	0
December 19, 1967	Thunderstorm Wind	0 kts.	0	0	0	0
May 11, 1968	Hail	1.00 in.	0	0	0	0
May 17, 1968	Hail	1.25 in.	0	0	0	0
June 12, 1968	Thunderstorm Wind	0 kts.	0	0	0	0
June 19, 1968	Hail	1.00 in.	0	0	0	0
June 19, 1968	Thunderstorm Wind	0 kts.	0	0	0	0
August 19, 1968	Thunderstorm Wind	0 kts.	0	0	0	0
August 22, 1968	Thunderstorm Wind	0 kts.	0	0	0	0
December 27, 1968	Thunderstorm Wind	0 kts.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
March 23, 1969	Thunderstorm Wind	0 kts.	0	0	0	0
April 17, 1969	Thunderstorm Wind	0 kts.	0	0	0	0
May 31, 1969	Thunderstorm Wind	60 kts.	0	0	0	0
June 19, 1969	Thunderstorm Wind	52 kts.	0	0	0	0
March 19, 1970	Hail	1.00 in.	0	0	0	0
April 1, 1970	Hail	1.75 in.	0	0	0	0
May 28, 1970	Hail	1.00 in.	0	0	0	0
July 20, 1970	Thunderstorm Wind	0 kts.	0	0	0	0
August 1, 1970	Hail	0.75 in.	0	0	0	0
November 20, 1970	Thunderstorm Wind	0 kts.	0	0	0	0
February 22, 1971	Hail	1.75 in.	0	0	0	0
February 22, 1971	Thunderstorm Wind	0 kts.	0	0	0	0
March 6, 1971	Thunderstorm Wind	0 kts.	0	0	0	0
March 22, 1971	Thunderstorm Wind	0 kts.	0	0	0	0
March 25, 1971	Hail	0.75 in.	0	0	0	0
April 23, 1971	Hail	1.75 in.	0	0	0	0
June 2, 1971	Hail	1.75 in.	0	0	0	0
June 3, 1971	Hail	1.75 in.	0	0	0	0
June 5, 1971	Hail	1.75 in.	0	0	0	0
June 18, 1971	Hail	0.75 in.	0	0	0	0
July 25, 1971	Thunderstorm Wind	0 kts.	0	0	0	0
April 7, 1972	Hail	1.00 in.	0	0	0	0
April 16, 1972	Thunderstorm Wind	50 kts.	0	0	0	0
May 2, 1972	Thunderstorm Wind	0 kts.	0	0	0	0
July 2, 1972	Hail	1.75 in.	0	0	0	0
July 3, 1972	Thunderstorm Wind	0 kts.	0	0	0	0
May 11, 1973	Thunderstorm Wind	78 kts.	0	0	0	0
May 12, 1973	Hail	1.75 in.	0	0	0	0
May 19, 1973	Hail	0.75 in.	0	0	0	0
May 19, 1973	Thunderstorm Wind	0 kts.	0	0	0	0
May 27, 1973	Thunderstorm Wind	50 kts.	0	0	0	0
June 21, 1973	Thunderstorm Wind	0 kts.	0	0	0	0
June 27, 1973	Hail	0.75 in.	0	0	0	0
July 1, 1973	Hail	0.75 in.	0	0	0	0
August 13, 1973	Hail	2.75 in.	0	0	0	0
August 13, 1973	Thunderstorm Wind	0 kts.	0	0	0	0
November 27, 1973	Thunderstorm Wind	0 kts.	0	0	0	0
January 28, 1974	Thunderstorm Wind	50 kts.	0	0	0	0
March 21, 1974	Thunderstorm Wind	58 kts.	0	0	0	0
March 29, 1974	Hail	1.75 in.	0	0	0	0
March 29, 1974	Thunderstorm Wind	0 kts.	0	0	0	0
April 1, 1974	Hail	1.75 in.	0	0	0	0
April 3, 1974	Hail	1.75 in.	0	0	0	0
April 4, 1974	Hail	1.00 in.	0	0	0	0
April 8, 1974	Hail	0.75 in.	0	0	0	0
April 22, 1974	Hail	0.78 in.	0	0	0	0
May 2, 1974	Hail	2.75 in.	0	0	0	0
July 3, 1974	Hail	0.75 in.	0	0	0	0
July 14, 1974	Thunderstorm Wind	53 kts.	0	0	0	0
August 29, 1974	Thunderstorm Wind	0 kts.	0	0	0	0
January 10, 1975	Thunderstorm Wind	57 kts.	0	0	0	0
March 7, 1975	Hail	1.75 in.	0	0	0	0
March 24, 1975	Thunderstorm Wind	0 kts.	0	0	0	0
April 2, 1975	Hail	1.75 in.	0	0	0	0
July 6, 1975	Thunderstorm Wind	0 kts.	0	0	0	0
March 20, 1976	Thunderstorm Wind	60 kts.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
March 26, 1976	Thunderstorm Wind	52 kts.	0	0	0	0
March 29, 1976	Hail	1.75 in.	0	0	0	0
March 29, 1976	Thunderstorm Wind	0 kts.	0	0	0	0
May 6, 1976	Hail	1.75 in.	0	0	0	0
May 15, 1976	Hail	1.00 in.	0	0	0	0
July 13, 1976	Thunderstorm Wind	0 kts.	0	0	0	0
August 16, 1976	Thunderstorm Wind	57 kts.	0	0	0	0
February 26, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
March 12, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
April 4, 1977	Hail	1.75 in.	0	0	0	0
April 4, 1977	Thunderstorm Wind	62 kts.	0	0	0	0
May 8, 1977	Hail	1.75 in.	0	0	0	0
June 19, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
June 24, 1977	Hail	1.50 in.	0	0	0	0
June 24, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
July 9, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
July 14, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
July 15, 1977	Hail	1.75 in.	0	0	0	0
July 15, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
July 17, 1977	Hail	1.75 in.	0	0	0	0
July 17, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
July 19, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
September 14, 1977	Thunderstorm Wind	0 kts.	0	0	0	0
December 5, 1977	Hail	2.50 in.	0	0	0	0
January 25, 1978	Thunderstorm Wind	52 kts.	0	0	0	0
April 18, 1978	Hail	2.00 in.	0	0	0	0
May 12, 1978	Hail	1.75 in.	0	0	0	0
May 12, 1978	Thunderstorm Wind	56 kts.	0	0	0	0
May 26, 1978	Thunderstorm Wind	0 kts.	0	0	0	0
June 6, 1978	Thunderstorm Wind	61 kts.	0	0	0	0
June 12, 1978	Hail	1.75 in.	0	0	0	0
June 12, 1978	Thunderstorm Wind	0 kts.	0	0	0	0
July 10, 1978	Thunderstorm Wind	0 kts.	0	0	0	0
July 31, 1978	Thunderstorm Wind	61 kts.	0	0	0	0
August 8, 1978	Hail	2.00 in.	0	0	0	0
March 3, 1979	Thunderstorm Wind	0 kts.	0	0	0	0
March 23, 1979	Thunderstorm Wind	0 kts.	0	0	0	0
April 9, 1979	Thunderstorm Wind	52 kts.	0	0	0	0
April 26, 1979	Hail	1.75 in.	0	0	0	0
May 11, 1979	Hail	1.75 in.	0	0	0	0
July 2, 1979	Hail	1.00 in.	0	0	0	0
July 2, 1979	Thunderstorm Wind	0 kts.	0	0	0	0
July 3, 1979	Hail	1.00 in.	0	0	0	0
July 18, 1979	Thunderstorm Wind	0 kts.	0	0	0	0
August 10, 1979	Thunderstorm Wind	52 kts.	0	0	0	0
April 25, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
May 16, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
May 17, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
June 29, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
July 6, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
September 17, 1980	Thunderstorm Wind	0 kts.	0	0	0	0
March 18, 1981	Hail	0.75 in.	0	0	0	0
June 12, 1981	Thunderstorm Wind	0 kts.	0	0	0	0
June 25, 1981	Hail	1.75 in.	0	0	0	0
August 7, 1981	Thunderstorm Wind	0 kts.	0	0	0	0
August 11, 1981	Thunderstorm Wind	0 kts.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
August 16, 1981	Thunderstorm Wind	0 kts.	0	0	0	0
January 3, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
March 15, 1982	Hail	1.00 in.	0	0	0	0
March 15, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
April 26, 1982	Hail	1.75 in.	0	0	0	0
May 18, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
May 26, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
June 4, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
June 28, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
July 20, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
July 21, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
July 21, 1982	Thunderstorm Wind	0 kts.	0	0	0	0
March 5, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
March 5, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
April 1, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
April 23, 1983	Hail	1.00 in.	0	0	0	0
May 3, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
July 17, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
August 5, 1983	Thunderstorm Wind	58 kts.	0	0	0	0
August 6, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
August 8, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
August 22, 1983	Hail	0.75 in.	0	0	0	0
August 22, 1983	Thunderstorm Wind	50 kts.	0	0	0	0
August 25, 1983	Thunderstorm Wind	50 kts.	0	0	0	0
November 23, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
December 6, 1983	Thunderstorm Wind	0 kts.	0	0	0	0
December 11, 1983	Hail	0.75 in.	0	0	0	0
March 28, 1984	Thunderstorm Wind	0 kts.	0	0	0	0
April 28, 1984	Hail	0.75 in.	0	0	0	0
May 2, 1984	Hail	1.75 in.	0	0	0	0
May 3, 1984	Thunderstorm Wind	0 kts.	0	0	0	0
May 7, 1984	Thunderstorm Wind	0 kts.	0	0	0	0
May 28, 1984	Hail	1.75 in.	0	0	0	0
June 20, 1984	Thunderstorm Wind	0 kts.	0	0	0	0
June 30, 1984	Hail	1.00 in.	0	0	0	0
June 30, 1984	Thunderstorm Wind	0 kts.	0	0	0	0
July 5, 1984	Hail	1.00 in.	0	0	0	0
July 5, 1984	Hail	1.00 in.	0	0	0	0
June 10, 1985	Hail	1.75 in.	0	0	0	0
July 11, 1985	Thunderstorm Wind	0 kts.	0	0	0	0
July 15, 1985	Thunderstorm Wind	52 kts.	0	0	0	0
July 22, 1985	Thunderstorm Wind	0 kts.	0	0	0	0
August 1, 1985	Thunderstorm Wind	0 kts.	0	0	0	0
December 1, 1985	Thunderstorm Wind	61 kts.	0	0	0	0
February 4, 1986	Thunderstorm Wind	0 kts.	0	1	0	0
March 12, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
March 18, 1986	Thunderstorm Wind	0 kts.	0	2	0	0
June 24, 1986	Thunderstorm Wind	52 kts.	0	0	0	0
June 26, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
July 13, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
July 17, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
July 21, 1986	Hail	1.75 in.	0	0	0	0
July 21, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
July 28, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
August 16, 1986	Thunderstorm Wind	61 kts.	0	0	0	0
August 26, 1986	Thunderstorm Wind	56 kts.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
September 21, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
October 1, 1986	Thunderstorm Wind	0 kts.	0	0	0	0
May 25, 1987	Thunderstorm Wind	0 kts.	0	0	0	0
June 3, 1987	Hail	1.75 in.	0	0	0	0
June 3, 1987	Thunderstorm Wind	0 kts.	0	0	0	0
July 4, 1987	Thunderstorm Wind	0 kts.	0	0	0	0
August 2, 1987	Hail	1.75 in.	0	0	0	0
November 16, 1987	Thunderstorm Wind	0 kts.	0	0	0	0
December 15, 1987	Thunderstorm Wind	75 kts.	0	0	0	0
January 19, 1988	Thunderstorm Wind	52 kts.	0	0	0	0
April 25, 1988	Hail	1.00 in.	0	0	0	0
May 9, 1988	Hail	1.75 in.	0	0	0	0
May 9, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
May 10, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
May 23, 1988	Thunderstorm Wind	60 kts.	0	0	0	0
June 21, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
June 25, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
June 26, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
July 15, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
July 16, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
August 3, 1988	Hail	1.75 in.	0	0	0	0
August 3, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
August 11, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
November 4, 1988	Thunderstorm Wind	0 kts.	0	0	0	0
February 21, 1989	Hail	0.75 in.	0	0	0	0
February 21, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
March 5, 1989	Hail	1.00 in.	0	0	0	0
March 20, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
March 20, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
March 21, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
March 29, 1989	Thunderstorm Wind	56 kts.	0	0	0	0
April 4, 1989	Hail	0.75 in.	0	0	0	0
April 4, 1989	Thunderstorm Wind	69 kts.	0	0	0	0
April 5, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
May 5, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
June 2, 1989	Hail	1.00 in.	0	0	0	0
June 4, 1989	Thunderstorm Wind	61 kts.	0	0	0	0
June 14, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
August 6, 1989	Thunderstorm Wind	0 kts.	0	0	0	0
November 15, 1989	Thunderstorm Wind	57 kts.	0	0	0	0
February 10, 1990	Thunderstorm Wind	0 kts.	0	5	0	0
April 10, 1990	Thunderstorm Wind	52 kts.	0	0	0	0
May 1, 1990	Hail	1.75 in.	0	0	0	0
May 3, 1990	Hail	0.75 in.	0	0	0	0
May 3, 1990	Thunderstorm Wind	60 kts.	0	0	0	0
May 20, 1990	Thunderstorm Wind	0 kts.	0	0	0	0
June 21, 1990	Thunderstorm Wind	52 kts.	0	0	0	0
June 22, 1990	Hail	0.75 in.	0	0	0	0
June 22, 1990	Thunderstorm Wind	0 kts.	0	0	0	0
July 2, 1990	Hail	1.75 in.	0	0	0	0
July 2, 1990	Thunderstorm Wind	0 kts.	0	0	0	0
July 10, 1990	Hail	1.75 in.	0	0	0	0
July 23, 1990	Hail	1.75 in.	0	0	0	0
August 2, 1990	Thunderstorm Wind	70 kts.	0	0	0	0
August 20, 1990	Thunderstorm Wind	75 kts.	0	0	0	0
August 21, 1990	Thunderstorm Wind	0 kts.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
February 19, 1991	Thunderstorm Wind	0 kts.	0	0	0	0
March 29, 1991	Thunderstorm Wind	60 kts.	0	0	0	0
April 9, 1991	Hail	1.75 in.	0	0	0	0
April 27, 1991	Thunderstorm Wind	0 kts.	0	0	0	0
April 28, 1991	Thunderstorm Wind	0 kts.	0	0	0	0
May 5, 1991	Thunderstorm Wind	0 kts.	0	4	0	0
February 25, 1992	Hail	1.00 in.	0	0	0	0
April 20, 1992	Hail	0.75 in.	0	0	0	0
April 20, 1992	Thunderstorm Wind	0 kts.	0	0	0	0
June 18, 1992	Thunderstorm Wind	0 kts.	0	0	0	0
July 5, 1992	Thunderstorm Wind	56 kts.	0	0	0	0
August 27, 1992	Thunderstorm Wind	0 kts.	0	0	0	0
January 24, 1993	Thunderstorm Wind	0 kts.	0	0	0	0
April 15, 1993	Hail	0.75 in.	0	0	0	0
May 3, 1993	Hail	1.75 in.	0	0	0	0
August 20, 1993	Thunderstorm Wind	0 kts.	0	0	0	0
March 27, 1994	Hail	3.00 in.	0	0	0	0
March 27, 1994	Thunderstorm Wind	50 kts.	0	0	0	0
April 15, 1994	Hail	1.75 in.	0	0	0	0
April 15, 1994	Thunderstorm Wind	0 kts.	0	2	50,000	0
April 27, 1994	Thunderstorm Wind	0 kts.	0	0	50,000	0
May 15, 1994	Hail	0.88 in.	0	0	0	0
May 15, 1994	Thunderstorm Wind	0 kts.	0	0	50,000	0
June 7, 1994	Thunderstorm Wind	50 kts.	0	0	10,000	0
June 22, 1994	Hail	0.75 in.	0	0	0	0
June 22, 1994	Thunderstorm Wind	0 kts.	0	0	5,000	0
June 25, 1994	Hail	1.75 in.	0	0	0	0
January 6, 1995	Thunderstorm Wind	0 kts.	0	0	0	0
March 7, 1995	Hail	0.75 in.	0	0	0	0
April 11, 1995	Hail	0.88 in.	0	0	0	0
April 20, 1995	Thunderstorm Wind	60 kts.	0	0	110,000	0
April 22, 1995	Hail	0.75 in.	0	0	0	0
April 22, 1995	Thunderstorm Wind	0 kts.	0	0	0	0
May 15, 1995	Hail	0.88 in.	0	0	0	0
May 15, 1995	Thunderstorm Wind	62 kts.	0	0	525,000	0
May 25, 1995	Hail	0.75 in.	0	0	0	0
June 6, 1995	Hail	0.88 in.	0	0	0	0
June 6, 1995	Thunderstorm Wind	0 kts.	0	0	0	0
June 10, 1995	Hail	0.75 in.	0	0	0	0
June 10, 1995	Thunderstorm Wind	0 kts.	0	0	25,000	0
July 3, 1995	Hail	1.00 in.	0	0	2,000	0
March 6, 1996	Thunderstorm Wind	55 kts.	0	0	45,000	0
March 18, 1996	Hail	0.75 in.	0	0	25,000	5,000
March 18, 1996	Thunderstorm Wind	50 kts.	0	0	45,000	0
April 14, 1996	Thunderstorm Wind	58 kts.	0	0	200,000	0
April 20, 1996	Thunderstorm Wind	55 kts.	0	0	225,000	4,000
April 23, 1996	Thunderstorm Wind	52 kts.	0	0	60,000	4,000
May 24, 1996	Hail	1.00 in.	0	0	55,000	2,000
May 24, 1996	Lightning		0	0	25,000	0
May 24, 1996	Thunderstorm Wind	55 kts.	0	0	42,000	0
June 11, 1996	Hail	0.88 in.	0	0	25,000	0
July 22, 1996	Thunderstorm Wind	50 kts.	0	0	30,000	0
July 24, 1996	Thunderstorm Wind	50 kts.	0	0	25,000	0
August 24, 1996	Hail	0.75 in.	0	0	10,000	0
January 5, 1997	Thunderstorm Wind	50 kts.	0	0	10,000	0
January 24, 1997	Hail	1.75 in.	0	0	71,000	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
February 27, 1997	High Wind	45 kts.	0	0	5,000	0
April 22, 1997	Hail	0.75 in.	0	0	2,000	0
May 9, 1997	Thunderstorm Wind	60 kts.	0	0	10,000	0
June 17, 1997	Hail	0.75 in.	0	0	3,000	0
July 5, 1997	High Wind	39 kts.	0	0	45,000	0
July 28, 1997	Thunderstorm Wind	50 kts.	0	0	4,000	0
August 14, 1997	Lightning		0	0	2,000	0
September 9, 1997	Hail	1.75 in.	0	0	4,000	0
November 1, 1997	Hail	0.75 in.	0	0	2,000	0
January 7, 1998	Thunderstorm Wind	50 kts.	0	0	5,000	0
February 22, 1998	High Wind	44 kts.	0	0	3,000	0
February 26, 1998	Hail	0.75 in.	0	0	0	0
March 19, 1998	Hail	0.75 in.	0	0	0	0
April 8, 1998	Hail	1.00 in.	0	0	2,000	2,000
April 14, 1998	Hail	2.50 in.	0	0	136,000	32,000
April 18, 1998	Hail	1.75 in.	0	0	95,000	15,000
May 6, 1998	Hail	1.00 in.	0	0	2,000	0
May 9, 1998	Hail	0.75 in.	0	0	0	0
May 9, 1998	Thunderstorm Wind	50 kts.	0	0	50,000	0
June 5, 1998	Thunderstorm Wind	55 kts.	0	0	90,000	0
June 15, 1998	Thunderstorm Wind	55 kts.	0	0	50,000	0
June 19, 1998	Hail	0.88 in.	0	0	0	0
June 20, 1998	Hail	0.88 in.	0	0	0	0
July 9, 1998	Lightning		0	1	0	0
July 9, 1998	Thunderstorm Wind	51 kts.	0	0	3,000	0
July 20, 1998	Thunderstorm Wind	50 kts.	0	0	5,000	0
July 26, 1998	Thunderstorm Wind	65 kts.	0	0	650,000	0
August 31, 1998	Hail	0.75 in.	0	0	0	0
January 22, 1999	Hail	1.00 in.	0	0	8,000	0
January 22, 1999	Thunderstorm Wind	65 kts.	0	0	33,000	0
February 27, 1999	Thunderstorm Wind	50 kts.	0	5	8,000	0
May 22, 1999	Hail	0.75 in.	0	0	0	0
May 23, 1999	Thunderstorm Wind	50 kts.	0	0	0	0
June 2, 1999	Hail	0.75 in.	0	0	0	0
June 5, 1999	Thunderstorm Wind	50 kts.	0	0	0	0
July 7, 1999	Thunderstorm Wind	50 kts.	0	0	50,000	0
October 3, 1999	Hail	1.75 in.	0	0	7,000	0
February 13, 2000	Hail	0.75 in.	0	0	0	0
February 13, 2000	Thunderstorm Wind	60 kts. E	0	1	300,000	0
March 10, 2000	Hail	1.75 in.	0	0	5,000	0
March 10, 2000	Thunderstorm Wind	90 kts. E	0	0	322,000	0
March 30, 2000	Hail	0.75 in.	0	0	0	0
April 2, 2000	Hail	1.00 in.	0	0	4,000	0
April 2, 2000	Thunderstorm Wind	60 kts. E	0	0	5,000	0
April 3, 2000	Hail	1.00 in.	0	0	2,000	0
April 3, 2000	Lightning		0	0	5,000	0
April 3, 2000	Thunderstorm Wind	55 kts. E	0	0	3,000	0
April 27, 2000	Hail	1.00 in.	0	0	2,000	0
May 25, 2000	Lightning		0	1	0	0
June 16, 2000	Lightning		0	1	1,000	0
June 25, 2000	Hail	1.00 in.	0	0	3,000	0
July 15, 2000	Thunderstorm Wind	55 kts. E	0	0	2,000	0
July 20, 2000	Hail	0.75 in.	0	0	0	0
July 20, 2000	Thunderstorm Wind	60 kts. E	0	0	45,000	0
July 26, 2000	Hail	0.75 in.	0	0	0	0
July 26, 2000	Thunderstorm Wind	55 kts. E	0	0	32,000	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
July 31, 2000	Thunderstorm Wind	50 kts. E	0	0	2,000	0
August 4, 2000	Hail	0.75 in.	0	0	0	0
August 4, 2000	Thunderstorm Wind	50 kts. E	0	0	2,000	0
August 9, 2000	Thunderstorm Wind	50 kts. E	0	0	1,000	0
August 10, 2000	Thunderstorm Wind	55 kts. E	0	0	25,000	0
September 23, 2000	Lightning		0	5	0	0
November 8, 2000	Thunderstorm Wind	50 kts. E	0	0	2,000	0
November 24, 2000	High Wind	45 kts. E	0	0	2,000	0
December 16, 2000	Hail	2.75 in.	0	0	30,000	0
January 29, 2001	Thunderstorm Wind	50 kts. E	0	0	2,000	0
February 16, 2001	Thunderstorm Wind	75 kts. E	1	4	400,000	0
February 22, 2001	Hail	1.00 in.	0	0	0	0
April 3, 2001	Hail	1.75 in.	0	0	10,000	0
May 28, 2001	Hail	1.00 in.	0	0	0	0
May 31, 2001	Thunderstorm Wind	50 kts. E	0	0	1,000	0
June 3, 2001	Hail	0.75 in.	0	0	0	0
June 3, 2001	Thunderstorm Wind	50 kts. E	0	0	4,000	0
June 26, 2001	Hail	1.75 in.	0	0	5,000	0
July 5, 2001	Thunderstorm Wind	55 kts. E	0	0	15,000	0
July 20, 2001	Thunderstorm Wind	50 kts. E	0	0	10,000	0
July 21, 2001	Lightning		0	0	150,000	0
November 24, 2001	Hail	2.75 in.	0	0	35,000	0
March 30, 2002	Hail	2.75 in.	0	0	175,000	0
April 29, 2002	Hail	0.88 in.	0	0	0	0
April 29, 2002	Thunderstorm Wind	50 kts. E	0	0	8,000	0
May 9, 2002	Hail	1.75 in.	0	0	5,000	0
June 6, 2002	Thunderstorm Wind	55 kts. E	0	0	2,000	0
June 27, 2002	Hail	0.88 in.	0	0	0	0
June 27, 2002	Thunderstorm Wind	50 kts. E	0	0	2,000	0
July 2, 2002	Hail	0.75 in.	0	0	0	0
July 12, 2002	Lightning		0	0	8,000	0
August 20, 2002	Hail	0.88 in.	0	0	0	0
August 20, 2002	Thunderstorm Wind	50 kts. E	0	0	3,000	0
September 26, 2002	High Wind	40 kts. E	0	0	8,000	0
October 6, 2002	Hail	0.75 in.	0	0	0	0
October 6, 2002	Thunderstorm Wind	50 kts. E	0	0	10,000	0
March 18, 2003	Hail	1.00 in.	0	0	5,000	0
April 25, 2003	Hail	0.75 in.	0	0	0	0
May 2, 2003	Hail	2.75 in.	0	0	100,025,000	0
May 5, 2003	Hail	1.00 in.	0	0	0	0
May 5, 2003	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
May 6, 2003	Thunderstorm Wind	50 kts. EG	0	0	8,000	0
May 7, 2003	Hail	0.75 in.	0	0	0	0
May 7, 2003	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
May 16, 2003	Hail	1.75 in.	0	0	7,000	0
May 16, 2003	Lightning		0	0	60,000	0
May 16, 2003	Thunderstorm Wind	60 kts. EG	0	0	20,000	0
May 17, 2003	Hail	0.75 in.	0	0	0	0
June 2, 2003	Hail	1.25 in.	0	0	0	0
June 11, 2003	Thunderstorm Wind	55 kts. EG	0	0	14,000	0
June 12, 2003	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
June 17, 2003	Thunderstorm Wind	60 kts. EG	0	0	27,000	0
June 19, 2003	Hail	0.75 in.	0	0	0	0
July 10, 2003	Lightning		0	0	12,000	0
July 10, 2003	Thunderstorm Wind	50 kts. EG	0	0	5,000	0
July 21, 2003	Thunderstorm Wind	50 kts. EG	0	0	8,000	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
August 3, 2003	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
November 18, 2003	Thunderstorm Wind	60 kts. EG	0	0	16,000	0
February 5, 2004	Hail	1.75 in.	0	0	6,000	0
February 5, 2004	Thunderstorm Wind	65 kts. ES	0	0	168,000	0
May 17, 2004	Lightning		0	1	0	0
May 31, 2004	Thunderstorm Wind	60 kts. EG	0	0	225,000	0
July 12, 2004	Thunderstorm Wind	61 kts. EG	0	0	35,000	0
July 25, 2004	Hail	0.88 in.	0	0	0	0
August 12, 2004	Thunderstorm Wind	50 kts. EG	0	0	7,000	0
September 16, 2004	High Wind	60 kts. EG	0	0	10,000,000	0
March 13, 2005	Hail	0.75 in.	0	0	0	0
March 30, 2005	Hail	1.00 in.	0	0	0	0
April 22, 2005	Hail	0.88 in.	0	0	6,000	0
April 30, 2005	Thunderstorm Wind	52 kts. EG	0	0	9,000	0
May 20, 2005	Hail	0.88 in.	0	0	0	0
May 20, 2005	Thunderstorm Wind	51 kts. EG	0	0	11,000	0
July 27, 2005	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
August 5, 2005	Hail	1.00 in.	0	0	0	0
August 5, 2005	Thunderstorm Wind	50 kts. EG	0	0	118,000	0
August 15, 2005	Hail	0.75 in.	0	0	1,000	0
February 3, 2006	Hail	0.75 in.	0	0	0	0
February 3, 2006	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
March 9, 2006	Thunderstorm Wind	50 kts. EG	0	1	20,000	0
April 3, 2006	Hail	1.00 in.	0	0	0	0
April 8, 2006	Hail	1.75 in.	0	0	0	0
April 8, 2006	Thunderstorm Wind	68 kts. MG	0	0	194,000	0
April 19, 2006	Hail	1.00 in.	0	0	0	0
April 20, 2006	Hail	1.75 in.	0	0	0	0
May 9, 2006	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
June 22, 2006	Hail	1.00 in.	0	0	0	0
June 23, 2006	Thunderstorm Wind	50 kts. EG	0	0	5,000	0
July 19, 2006	Thunderstorm Wind	60 kts. EG	0	0	13,000	0
July 22, 2006	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
July 29, 2006	Thunderstorm Wind	50 kts. EG	0	0	7,000	0
July 30, 2006	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
November 30, 2006	Thunderstorm Wind	50 kts. EG	0	0	7,000	0
February 13, 2007	Hail	1.00 in.	0	0	0	0
March 1, 2007	Hail	1.75 in.	0	0	0	0
April 11, 2007	Thunderstorm Wind	50 kts. EG	0	0	5,000	0
June 24, 2007	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
June 27, 2007	Lightning		0	0	0	0
June 28, 2007	Thunderstorm Wind	43 kts. EG	0	0	1,000	0
August 3, 2007	Hail	0.75 in.	0	0	0	0
August 3, 2007	Thunderstorm Wind	50 kts. EG	0	0	20,000	0
August 10, 2007	Thunderstorm Wind	50 kts. EG	0	0	15,000	0
August 24, 2007	Hail	0.75 in.	0	0	0	0
August 27, 2007	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
February 26, 2008	Hail	0.75 in.	0	0	0	0
February 26, 2008	Thunderstorm Wind	61 kts. EG	0	0	20,000	0
March 15, 2008	Hail	1.25 in.	0	0	0	0
March 15, 2008	Thunderstorm Wind	50 kts. EG	0	0	10,000	0
April 4, 2008	Thunderstorm Wind	50 kts. EG	0	0	9,000	0
April 11, 2008	Hail	2.75 in.	0	0	0	0
May 8, 2008	Hail	0.75 in.	0	0	0	0
May 8, 2008	Thunderstorm Wind	50 kts. EG	0	0	6,000	0
June 1, 2008	Hail	1.00 in.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
June 1, 2008	Thunderstorm Wind	35 kts. EG	0	0	100	0
June 11, 2008	Hail	1.25 in.	0	0	0	0
June 11, 2008	Thunderstorm Wind	50 kts. EG	0	1	5,500	0
June 12, 2008	Hail	1.00 in.	0	0	0	0
June 25, 2008	Hail	0.88 in.	0	0	0	0
June 25, 2008	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
July 5, 2008	Thunderstorm Wind	50 kts. EG	0	0	1,000	0
July 21, 2008	Thunderstorm Wind	52 kts. EG	0	0	25,000	0
July 22, 2008	Hail	0.75 in.	0	0	0	0
July 29, 2008	Hail	0.75 in.	0	0	0	0
July 29, 2008	Thunderstorm Wind	70 kts. EG	0	0	22,000	0
August 2, 2008	Hail	1.00 in.	0	0	0	0
August 2, 2008	Thunderstorm Wind	52 kts. MG	0	0	0	0
February 18, 2009	Hail	1.00 in.	0	0	0	0
February 27, 2009	Hail	0.75 in.	0	0	0	0
March 26, 2009	Lightning		0	0	20,000	0
March 26, 2009	Thunderstorm Wind	43 kts. EG	0	0	15,000	0
April 2, 2009	Thunderstorm Wind	50 kts. EG	0	0	15,000	0
April 10, 2009	Hail	1.00 in.	0	0	0	0
April 19, 2009	Hail	0.75 in.	0	0	0	0
May 3, 2009	Hail	1.00 in.	0	0	0	0
May 6, 2009	Thunderstorm Wind	60 kts. EG	0	0	100,000	0
June 12, 2009	Thunderstorm Wind	52 kts. EG	0	0	57,000	0
June 14, 2009	Thunderstorm Wind	56 kts. EG	0	0	9,000	0
June 15, 2009	Hail	0.88 in.	0	0	0	0
June 15, 2009	Thunderstorm Wind	52 kts. EG	0	0	2,000	0
July 12, 2009	Hail	0.75 in.	0	0	0	0
July 13, 2009	Thunderstorm Wind	40 kts. EG	0	0	1,000	0
August 20, 2009	Thunderstorm Wind	39 kts. EG	0	0	500	0
August 21, 2009	Thunderstorm Wind	39 kts. EG	0	0	10,000	0
December 8, 2009	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
December 9, 2009	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
February 22, 2010	Lightning		0	0	50,000	0
April 8, 2010	Lightning		0	0	200,000	0
April 24, 2010	Hail	0.75 in.	0	0	0	0
May 20, 2010	Lightning		0	1	0	0
May 20, 2010	Thunderstorm Wind	56 kts. EG	0	0	0	0
May 21, 2010	Thunderstorm Wind	50 kts. EG	0	0	5,000	0
June 4, 2010	Lightning		0	0	3,000	0
June 14, 2010	Thunderstorm Wind	58 kts. MG	0	0	0	0
June 15, 2010	Hail	1.75 in.	0	0	0	0
June 15, 2010	Thunderstorm Wind	55 kts. EG	0	0	13,500	0
June 17, 2010	Thunderstorm Wind	55 kts. EG	0	0	2,000	0
June 19, 2010	Hail	1.00 in.	0	0	0	0
June 19, 2010	Thunderstorm Wind	55 kts. EG	0	0	11,000	0
June 25, 2010	Thunderstorm Wind	50 kts. EG	0	0	3,000	0
August 15, 2010	Thunderstorm Wind	55 kts. EG	0	0	8,000	0
October 12, 2010	Hail	1.00 in.	0	0	0	0
October 12, 2010	Lightning		0	2	0	0
October 24, 2010	Hail	1.75 in.	0	0	0	0
October 24, 2010	Thunderstorm Wind	60 kts. EG	0	0	13,000	0
October 26, 2010	Hail	1.00 in.	0	0	0	0
October 26, 2010	Thunderstorm Wind	55 kts. EG	0	0	10,000	0
February 24, 2011	Thunderstorm Wind	55 kts. EG	0	0	22,000	0
February 25, 2011	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
February 28, 2011	Hail	1.75 in.	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
February 28, 2011	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
March 26, 2011	Hail	1.00 in.	0	0	0	0
March 28, 2011	Hail	1.00 in.	0	0	0	0
April 4, 2011	Thunderstorm Wind	50 kts. EG	0	0	12,000	0
April 11, 2011	Thunderstorm Wind	90 kts. ES	0	0	55,000	0
April 15, 2011	Thunderstorm Wind	43 kts. EG	0	0	1,000	0
April 20, 2011	Thunderstorm Wind	50 kts. EG	0	0	8,500	0
April 27, 2011	Thunderstorm Wind	60 kts. EG	0	0	3,000	0
May 13, 2011	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
May 26, 2011	Hail	1.00 in.	0	0	0	0
May 26, 2011	Thunderstorm Wind	50 kts. EG	0	0	2,000	0
June 16, 2011	Hail	0.88 in.	0	0	0	0
June 16, 2011	Thunderstorm Wind	50 kts. EG	0	0	5,000	0
June 17, 2011	Thunderstorm Wind	50 kts. EG	0	0	4,500	0
June 21, 2011	Thunderstorm Wind	61 kts. EG	0	0	19,000	0
June 24, 2011	Thunderstorm Wind	56 kts. EG	0	0	0	0
June 25, 2011	Hail	1.00 in.	0	0	0	0
June 27, 2011	Hail	1.75 in.	0	0	0	0
June 27, 2011	Thunderstorm Wind	50 kts. EG	0	0	1,000	0
July 4, 2011	Hail	1.00 in.	0	0	0	0
July 4, 2011	Thunderstorm Wind	58 kts. MG	0	0	0	0
July 13, 2011	Hail	1.00 in.	0	0	0	0
August 7, 2011	Thunderstorm Wind	50 kts. EG	0	0	4,000	0
August 20, 2011	Thunderstorm Wind	43 kts. EG	0	0	500	0
September 5, 2011	High Wind	56 kts. MG	0	0	15,000	0
February 29, 2012	Hail	0.75 in.	0	0	0	0
March 2, 2012	Hail	2.00 in.	0	0	0	0
March 2, 2012	Thunderstorm Wind	50 kts. EG	0	0	0	0
March 31, 2012	Hail	3.00 in.	0	0	0	0
April 5, 2012	Thunderstorm Wind	50 kts. MG	0	0	0	0
May 6, 2012	Hail	1.00 in.	0	0	0	0
May 21, 2012	Hail	1.00 in.	0	0	0	0
May 21, 2012	Thunderstorm Wind	60 kts. EG	0	0	0	0
May 22, 2012	Hail	1.00 in.	0	0	0	0
May 22, 2012	Thunderstorm Wind	52 kts. EG	0	0	0	0
June 3, 2012	Hail	1.75 in.	0	0	0	0
June 3, 2012	Thunderstorm Wind	50 kts. EG	0	0	0	0
June 11, 2012	Thunderstorm Wind	52 kts. MG	0	0	0	0
June 14, 2012	Hail	1.00 in.	0	0	0	0
July 1, 2012	Hail	1.00 in.	0	0	0	0
July 9, 2012	Thunderstorm Wind	50 kts. EG	0	0	0	0
July 31, 2012	Hail	1.00 in.	0	0	0	0
July 31, 2012	Thunderstorm Wind	58 kts. EG	0	0	0	0
March 5, 2013	Thunderstorm Wind	50 kts. EG	0	0	0	0
March 18, 2013	Hail	0.88 in.	0	0	0	0
March 18, 2013	Thunderstorm Wind	55 kts. EG	0	0	0	0
March 23, 2013	Hail	0.75 in.	0	0	0	0
June 13, 2013	Thunderstorm Wind	50 kts. EG	0	0	0	0
June 17, 2013	Thunderstorm Wind	50 kts. EG	0	0	0	0
July 23, 2013	Thunderstorm Wind	50 kts. EG	0	0	0	0
May 25, 2014	Hail	1.00 in.	0	0	0	0
June 7, 2014	Thunderstorm Wind	50 kts. EG	0	0	0	0
October 13, 2014	Thunderstorm Wind	50 kts. EG	0	0	0	0
January 25, 2015	Thunderstorm Wind	50 kts. MG	0	0	0	0
March 31, 2015	Hail	1.00 in.	0	0	0	0
April 19, 2015	Thunderstorm Wind	50 kts. EG	0	0	0	0

Date	Type	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
June 9, 2015	Thunderstorm Wind	60 kts. EG	0	0	0	0
June 30, 2015	Hail	1.00 in.	0	0	0	0
June 30, 2015	Thunderstorm Wind	50 kts. EG	0	0	0	0
July 14, 2015	Thunderstorm Wind	56 kts. MG	0	0	0	0
August 10, 2015	Thunderstorm Wind	50 kts. EG	0	0	0	0
Totals:			1	38	116,571,100	64,000

Source: National Climatic Data Center

Probability of Future Severe Storm Events

Frequent annual events are certain. Past trends show multiple annual occurrences of thunderstorms, hail, and lightning, which trends are likely to continue and can be expected to affect all Jefferson County jurisdictions. High winds, which sometimes accompany severe storms as described here, are however, somewhat less frequent. Large, damaging hail does occasionally occur, but is relatively rare.

Winter Storms/Freezes Profile

Although winter storms in Alabama are not as common as in more northern regions of the U.S., Jefferson County frequently experiences winter storms and extreme colds. Such storms are usually relatively mild, characterized by an occasional dusting of snow or short freezing rainfalls. Rarely does snowfall exceed two inches nor does freezes disrupt road travel for long periods. On average the County receives about 1.14 inches of snowfall per year. When the occasional snow storm or severe freeze does occur, however, major transportation disruptions and power outages may be experienced. This is largely due to local inexperience in coping with such infrequent occurrences. Consequently, the risks associated with this type of weather are largely a direct correlation to the community's ability to handle the storm. These risks include loss of life due to cold, loss of electricity for extended periods of time, agricultural damage, and road hazards. Fallen trees and limbs and heavy snow loads can cause roof collapses and downed power and communications lines. Heavy snowfalls over two inches and long-lasting freezes are more infrequent but create higher risks. Disruptions can last for several days following these extreme winter storm conditions.

Location, Extent and Intensity of Potential Winter Storms/Freezes

Jefferson County and its participating jurisdictions are equally likely to experience winter storms/freezes, which may include snow, freezing rains, and extreme temperature lows. All areas of the county are equally exposed to these types of weather events with somewhat colder temperatures and snowfall frequency in the higher elevations.

On average, Jefferson County experiences annual disruptions and some damages due to severe winter storms/freezes. The average snowfall is 1.2 inches yearly, but some events have produced major disruptions and damages. Winter temperatures on average are above freezing, but occasional freezes do occur. The HMPC rated the extent of winter storms/freezes as moderately high.

Previous Occurrences of Winter Storms/Freezes

Table 5.11 – Winter Storm Events and Damages and Table 5.12 – Extreme Cold Events and Damages below, provide summaries of the historical data available from the National Climatic Data Center (NCDC) on winter storm and extreme cold events, respectively, since 1995. Prior to 1995, no official records are available from the NCDC. According to these records, since 1995 there have been 11 recorded winter storm events and 22 extreme cold events affecting Jefferson County.

The greatest single event in recent memory occurred in March 1993 when 13 inches of snowfall fell on most of Jefferson County within a 24 hour period, and damages statewide totaled \$5.0 billion dollars. This event is commonly referred to as the — Blizzard of 1993, which had severe impacts throughout the eastern U.S., affecting 26 states and parts of Canada. The storm began on Friday March 12, 1993, and lasted through mid- day Saturday, March 13, 1993. By mid-day Saturday snow had accumulated to 13 inches over most of the County. An estimated 400,000 homes in Alabama were without electricity, many for several days. Compounding the snow and power outages, temperatures fell well into the single digits and teens across much of the state Saturday night. There were at least 14 deaths associated with the storm. The entire state was declared a Federal Disaster Area.

From January through March, 1996, a series of winter storm and extreme cold events impacted the northern approximately two-thirds of Alabama, causing over \$53 million in mostly crop damage. Beginning the evening of Saturday, January 6, a winter storm brought a mixture of freezing rain, sleet, and snow to the northern two-thirds of Alabama. Precipitation began as freezing rain and sleet but quickly changed to snow. The precipitation coated roads and caused serious travel problems across the northern sections of the state, lasting through the Monday morning the 8th. Snowfall amounts were generally light with many locations in the Jefferson County area accumulating from one-quarter of an inch to an inch and a half.

Less than a month later during Thursday afternoon February 1st, a winter storm brought freezing precipitation to the northern half of Alabama, including Jefferson County. A period of freezing rain followed by light snow brought traffic to a complete standstill across the area. Power outages were widespread but not as severe as they might have been, with pockets of outages caused by downed trees due to ice accumulations. Snow accumulations ranged from one to three inches across the area and some school systems were closed for several days. Most precipitation had ended across the state by Saturday morning, the 3rd, and was followed by a strong Arctic cold front lasting through Monday, the 5th, which saw record lows established all across the state. Birmingham experienced a record low of 4°F on February 3rd, and 6°F on February 5th.

The morning of March 7th, saw the beginning of three full days of sustained extreme cold weather across much of the state, causing \$54 million dollars of crop damage. During this event, Birmingham recorded record lows of 18°F on March 8th and on March 9th 15°F.

Table 5.11 – Winter Storm Events and Damages

Date	Type	Deaths	Injuries	Property Damage	Crop Damage
Saturday, January 06, 1996	Winter Storm	0	0	10,000	1,000
Thursday, February 01, 1996	Winter Storm	0	0	25,000	0
Friday, January 28, 2000	Winter Storm	0	0	25,000	0
Sunday, January 09, 2011	Winter Storm	0	0	0	0
Tuesday, January 28, 2014	Winter Storm	0	0	0	0
Wednesday, February 12, 2014	Winter Storm	0	0	0	0
Totals:		0	0	60,000	1,000

Source: National Climatic Data Center

Table 5.12 – Extreme Cold Events and Damages

Date	Type	Deaths	Injuries	Cost
April 9, 2000	Extreme Cold/wind Chill	0	0	0.00K
October 9, 2000	Extreme Cold/wind Chill	0	0	0.00K
October 10, 2000	Extreme Cold/wind Chill	0	0	0.00K
December 1, 2000	Extreme Cold/wind Chill	0	0	0.00K
December 31, 2000	Extreme Cold/wind Chill	1	0	0.00K
September 26, 2001	Extreme Cold/wind Chill	0	0	0.00K
October 17, 2001	Extreme Cold/wind Chill	0	0	0.00K
February 28, 2002	Extreme Cold/wind Chill	0	0	0.00K
February 28, 2002	Extreme Cold/wind Chill	0	0	0.00K
May 20, 2002	Extreme Cold/wind Chill	0	0	0.00K
January 24, 2003	Extreme Cold/wind Chill	0	0	0.00K
Totals:		1	0	0.00K

Source: National Climatic Data Center

Probability of Future Winter Storm/Freeze Events

Based on historical information, Jefferson County can expect an average of one winter storm event per year. Although one can extract data and probability of occurrence from historical information, the risk of a winter storm occurring and the location of damage are random. The risks associated with the average annual hazard are slight, but the more infrequent but severe winter storms/freezes have potentially severe risks. These severe winter events can cause major transportation disruptions, lengthy power outages, substantial property damages, and occasional loss of life.

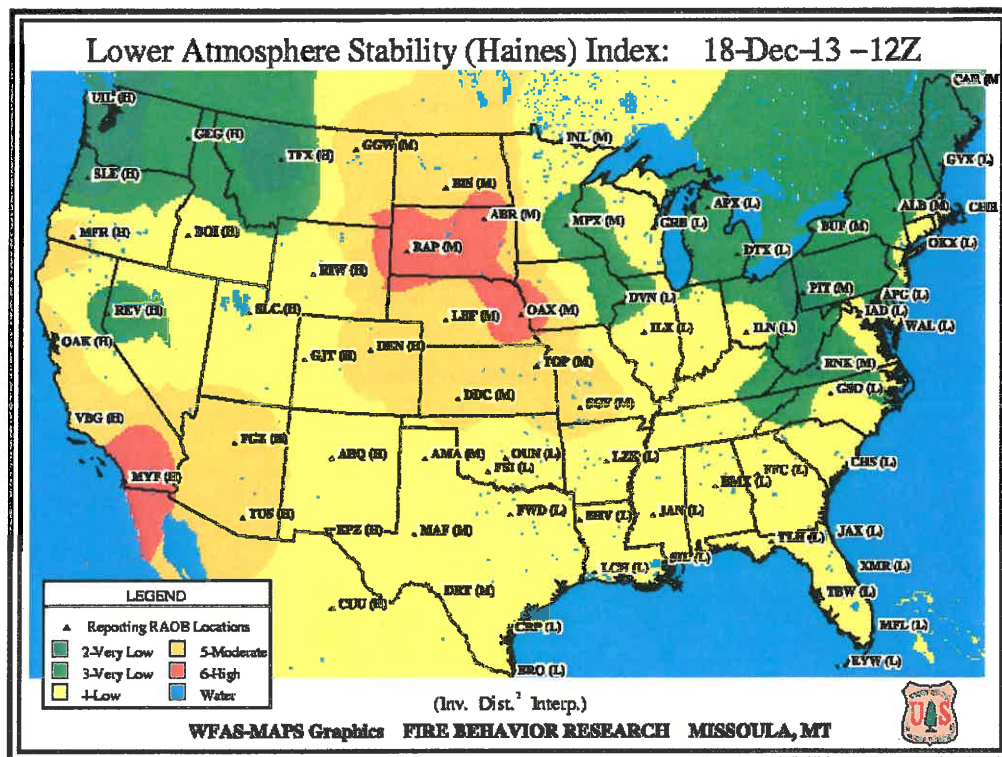
Wildfire Profile

The two primary categories of wildfires experienced in Jefferson County are wild land fires and interface fires. Wild land fires are fueled exclusively by natural vegetation. Jefferson County has significant forested lands, grass lands, and brush to fuel wildfires. Interface fires are fueled by both vegetation and the built up environment. Due to the current growth in Jefferson County, significant new development is pushing urbanization into rural landscapes. This is known as the wild land-urban interface. With this urban-to-rural movement comes the increased risk of man-made wildfires.

A major problem in relation to wildfires is non-permitted burns. These burns tend to rage out of control, leading to damaging fires. Without the practice of prescribed burns, thinning, mowing and the use of herbicides, vegetation that will spread fires can proliferate causing more of a threat with

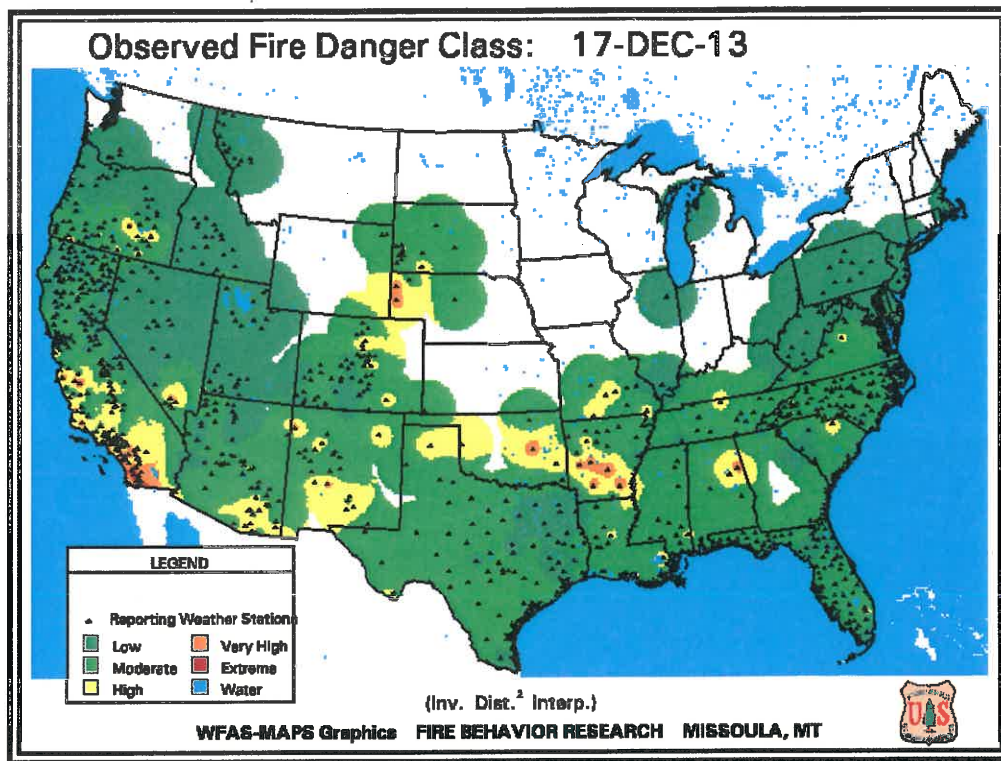
the additional fuel sources for wildfires. The practice of prescribed burns not only helps reduce the fuels available for wildfires, but also aids in the development of certain habitats and the regeneration of certain species. The following maps illustrate areas across the country and their susceptibility to wildfires.

Map 5.8 – National Fire Hazard Map 1



Source: National Climatic Data Center

Map 5.9 – National Fire Hazard Map 2



Source: National Climatic Data Center

Location Extent and Intensity of Potential Wildfires

It is primarily the rural areas of unincorporated Jefferson County that are susceptible to wildfires; however, wildfires can occur in any area where there is the proper fuel, topography, and weather mix. The vulnerable wild land-urban interface makes all cities and towns equally susceptible.

Jefferson County has multiple fuel sources and is prone to periodic drought and thunderstorms which increase the potential severity of wildfires significantly. Considerable expanses of forestland in the rural portions of the county provide an abundant fuel source. Weather conditions, given the high frequency of severe storms with lightning and periodic severe drought conditions, can exacerbate wildfires.

Another factor that has direct impact on wildfire formation and increase the risk for wildfires in Jefferson County is topography. Topography can have a powerful influence on wildfire behavior. Slope, canyons, gulches, and hollows can greatly increase the rate of spread and hamper access. These slopes lend themselves to rapid spreading fires due to their angle. The greater the slope, the faster the flames move and the longer the flames. Wildfires can reach into overhanging canopies, allowing spread not only through the lower areas of the forest, but the ability to jump to other trees. The ridge and valley pattern extent in the eastern and southern portions of Jefferson County can make suppression efforts in these areas difficult and time consuming.

The degree of exposure of properties at the wild land-urban interface also affects the extent of wildfires in Jefferson County, especially at the edge of developed areas of cities and town. High risk properties located within these interface areas have the greatest potential for property damages and threats to life.

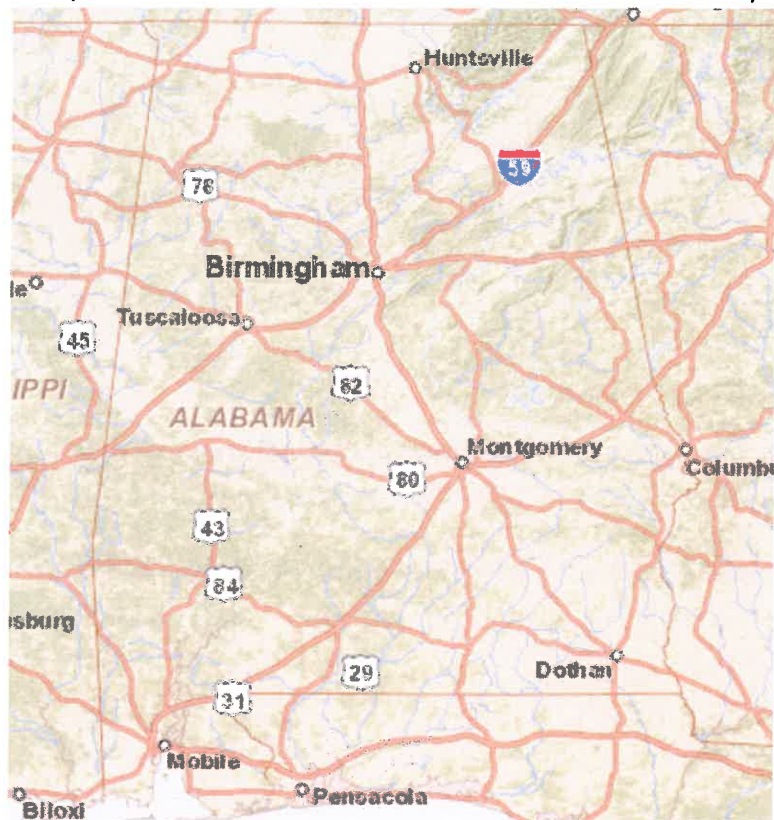
Finally, firefighting resources can affect the severity of wildfires. Rural fire departments are almost exclusively made up of volunteers and usually have limited resources that are stretched during periods when numerous fires occur. These limited firefighting resources can compound the risk and extent of wildfire damages.

Past Occurrences of Wildfires

Jefferson County has suffered many large fires in the recent past. According to the Alabama Forestry Commission, Jefferson County averages 140 wildfires per year with an average of 1,533 acres burned. Specifics on individual wildfires may be found by contacting the Alabama Forestry Commission. This data is not readily available. Recent significant events include fires that occurred in the City of Hoover and Western Jefferson County around the Towns of Maytown and Sylvan Springs in 1999.

The weather is a natural contributor to wildfire occurrences. Extreme dry weather creates the perfect conditions for woodlands ready to spread fire rapidly. Droughts increase the inflammability of vegetation and pose greater difficulty in suppressing fires. In the midst of the 2006-2008 drought, in March 2007, a very dry month, there were approximately 1,000 acres a day burned in the State of Alabama. In addition to drought, lightning can strike woodlands setting them on fire and trees that had been downed through severe weather events can add to the vegetative fuels to make timber for fires. Map 5.10 – Recent Wildfire Locations in Jefferson County identifies the location of previous wildfires shown in yellow.

Map 5.10 – Recent Wildfire Locations in Jefferson County



Source: Alabama Forestry Commission

Probability of Future Wildfire Events

Based on historical information, the county can expect an average of eight significant wildfires per year. Although one can extract data and probability of occurrence from historical information, the risk of a wildfire occurring and the location of damage appear to be random.

Hurricanes Profile

Although Jefferson County is more than 200 miles inland from the Gulf Coast, it is not immune to the damaging effects of hurricanes. Since 1994, 20 hurricanes/tropical storms have affected the state of Alabama, see Table 5.14 – Alabama Hurricane Events 1950 - 2012, below. Although not all had an impact on Jefferson County, it is difficult to estimate how many severe thunderstorms and tornadoes may have been caused by a tropical storm or hurricane. All of the tropical systems were well below tropical storm strength when they affected Jefferson County. The strongest of these storms was Hurricane Katrina.

The National Oceanic and Atmospheric Administration (NOAA) reports the impact of the most significant hurricane event to affect Jefferson County, Hurricane Katrina, as follows:

Hurricane Katrina made landfall along the Gulf Coast early Monday morning August 29, 2005, as a large category four hurricane. Sustained winds were around 145 mph in southeast Louisiana. Katrina

continued northward affecting areas from New Orleans to Mobile. Devastating damage occurred along the Gulf Coast and New Orleans sustained major damage and flooding. Katrina weakened to a tropical storm by Monday evening, August 29, 2005, northwest of Meridian. Katrina continued northward across eastern Mississippi overnight. Katrina produced local effects that were widespread across central Alabama. Numerous trees and power lines were knocked down during Katrina. Numerous structures, homes and vehicles were damaged. Power outages were extensive. Thousands of trees and power lines were brought down, minor to major structural damage occurred and power outages were lengthy and widespread. Several locations remained without power for a week or longer.

Six tornadoes occurred across central Alabama in association with Katrina, for F-0's and two F-1's. Storm total rain amounts ranged from one inch or less in the northeast to 5 to 6 inches in the northwest counties near the Mississippi state line. Only Tuscaloosa County reported flash flooding with minor flooding occurring in the upper Tombigbee River. Alabama Power reported that this was the worst event in their history for damage and power outages statewide.

A few storm total rain amounts include Hamilton - 4.82 inches, Addison - 3.62 inches, Troy - 2.18 inches and Selma - 2.00 inches. A few peak wind gusts reported include Birmingham - 60 mph, Cuba - 80 mph, Fayette - 75 mph, Oakmulgee - 49 mph and Vance - 68 mph. Many locations west of a line from Selma to Hamilton may have experienced wind gusts up to 80 mph.

Two men were injured in Tuscaloosa County when a tree fell in front of their vehicle and then the vehicle slid under it. One person was slightly injured when a tree fell on their home in Pickens County. One man was injured when a tree fell on his car in Marengo County. In Hale County, two people were injured when a tree fell on their mobile home. One man was injured when a tree fell onto his home. One man was injured when he left his vehicle as trees fell around him and he was subsequently hit by another vehicle.

The remnants of Hurricane Katrina moved northward along the Alabama/Mississippi state line. Katrina was still a strong tropical storm as the center passed just west of North Alabama during the evening hours of August 29th. Most of North Alabama experienced tropical storm force wind gusts for several hours with a few wind gusts as high as 60 mph being reported. While structural damage was very limited, a few homes did receive minor roof damage due to the loss of a few shingles. Numerous trees and power lines were blown down across the entire area and thousands of people lost power. Katrina moved relatively quickly to the north and thus rainfall was limited. Rainfall amounts were around four to five inches near the Alabama/Mississippi line but tapered off significantly farther to the east with locations near the Alabama/Georgia line only seeing a half inch or less.

Location, Extent and Intensity of Potential Hurricanes

All Jefferson County locations and jurisdictions generally share equal risk for hurricanes. Hurricanes and tropical storms lose intensity and experience significant reductions in wind velocity as they move inland. Due to Jefferson County's inland location, therefore, the primary risk from hurricanes is the impact of high winds, the formation of tornados and flooding.

Tropical storms and depressions often bring torrential rains and flooding, which may last for days after the storm has passed. The dissipated strength of the inland storm does not necessarily affect the amount of rainfall and resultant flood levels. A weak tropical storm or depression moving slowly or lingering can cause more damage due to flooding than a fast moving hurricane. Tornadoes may also occur but not always - some produce none, while others spawn numerous ones. According to hurricane records, half produce one or more tornadoes with capabilities to compound wind damages. A tornado normally occurs within 12 hours of landfall and during daylight hours. This timeframe is within reach of Jefferson County. Normally, a tornado watch will usually follow the projected inland path of a hurricane.

Previous Occurrences of Hurricanes

Prior to Hurricane Katrina, 1995's Hurricane Opal was the most significant storm to affect Jefferson County. NOAA reports the impact of that event as follows:

Hurricane Opal moved ashore in the Florida Panhandle then moved north-northeast across the state of Alabama. Damage was extensive and no county in the state was spared some effect of the storm. Damage was the greatest in the eastern counties with damage decreasing from east-to-west across the state. Damage also decreased as you went north in the state. Damage varied with many trees, signs, and power lines downed. At the worst, 2.6 million people in Alabama were without electricity, some for over a week.

The center of the storm entered the state near the Covington/Escambia County line on the Florida border. It moved north-northeast with the center moving just west of the city of Montgomery, near the City of Talladega, and near Fort Payne before exiting the state near the northeast tip. Primary damage came from strong wind which toppled trees and power lines and damaged signs. Mobile homes were damaged both by falling trees and by strong wind. Wind speeds varied across the state. Heavy rain also caused creeks and streams to swell to bank full and beyond, however, there were very few reports of water flooding buildings. Water damage occurred to structures in many locations where wind or falling trees damaged roofs.

Two people were killed in Gadsden, Etowah County, when high wind toppled a massive oak tree onto their mobile home. Several other people were killed in the state but those deaths such as house fires and asphyxiation were not directly attributable to the weather. Damage figures are estimates from information obtained from the American Red Cross, Alabama Emergency Management Agency, and newspaper articles. Additional information on Hurricane Opal can be found under the heading for Southwest Alabama prepared by the National Weather Service Office in Mobile and under Southeast Alabama prepared by the National Weather Service Office in Tallahassee, FL.

As discussed above, some 20 hurricanes have impacted Alabama since 1994, with varying impacts on Jefferson County, mostly due to high winds and severe thunderstorms, and the occasional tornado. Table 5.13 – Alabama Hurricane Events 1950 – 2012 lists these nineteen hurricanes.

Table 5.13 – Alabama Hurricane Events 1950-2012

Name	Date	Category
Baker	August 31, 1950	1
Camille	August 17, 1969	5
Eloise	September 23, 1975	1
Frederic	September 13, 1979	4
Elena	September 2, 1985	3
Juan	November 1, 1985	1
Andrew	August 28, 1992	5
Opal	October 5, 1995	4
Danny	July 22, 1997	1
Georges	October 1, 1998	4
Ivan	September 17, 2004	5
Dennis	July 11, 2005	4
Irene	August 4, 2005	3
Katrina	August 30, 2005	5
Rita	September 26, 2005	5
Gustav	September 7, 2008	4
Ike	September 15, 2008	4
Isaac	September 3, 2012	1
Sandy	October 25, 2012	3

Source: Wikipedia December 18, 2015

Table 5.14 – Most Costly Hurricanes, 1995-2011, below, provides summary statistics on the most significant hurricanes to impact Alabama by cost since 1992.

Table 5.14 – Most Costly Alabama Hurricanes, 1995-Current

Name	Cost	Year	Category
Katrina	125. Billion	2005	5
Andrew	26.5 Billion	1992	5
Ivan	23.3 Billion	2004	5
Irene	16.6 Billion	2011	3
Georges	9.72 Billion	1998	4
Gustav	6.61 Billion	2008	4
Opal	5.41 Billion	1995	4

Source: Wikipedia December 18, 2015

Probability of Future Hurricane Events

As is the case with most natural hazards, past records are no guarantee of the probability of future hurricane events affecting Jefferson County. However, based on historical data, the County can reasonably expect some impact from at least one hurricane or tropical storm per year. The level of risk and location of potential damage within Jefferson County is random, and cannot be accurately predicted with historical data.

Droughts/Heat Waves Profile

The biggest weather story of 2007 for Jefferson County and Central Alabama was the historic drought, with that year becoming the driest on record. With drought conditions carrying over from 2006, by

late spring of 2007, the drought moved up to a D4 Exceptional Drought intensity, the highest intensity, which is characterized by widespread crop and pasture losses, wildfires, and severe shortages of water resources in reservoirs, streams, and wells. The drought was not limited to Jefferson County and Central Alabama; it became widespread, affecting most of the southeastern U.S.

During this historic drought of 2006-2008, exceptional conditions affected every segment of the population: crop yields were greatly below normal; livestock suffered as ponds and wells dried up; forestry weakened; trees became more brittle and vulnerable to snapping during severe weather events; lake levels fell with many boats and docks in Central Alabama standing on dry land and marinas closing; major shipping routes throughout Alabama became almost impassable; and lawns and gardens dried up as many communities imposed strict water restrictions. Drought conditions persisted throughout 2008 until being lifted on December 16. The weather story of year 2007 was heightened by one of the warmest years of record in Central Alabama.

Location, Extent and Intensity of Potential Droughts/Heat Waves

Droughts and heat waves occur countywide, affecting all Jefferson County jurisdictions. Some areas may be more susceptible to the effects of drought such as agricultural areas and areas with vulnerable water supplies.

The drought event that occurred during 2007 was the driest time in recorded history, which dates back over a century. The National Weather Service in Huntsville indicated that Jefferson County was in a mild to moderate drought as early as June 2006 that continued to worsen through 2007. It ranks as the driest calendar year in history with only about 25% of the annual average of nearly 60 inches. During the spring of 2008 there was some needed rain when the drought status was downgraded and lifted by year's end.

Previous Occurrences of Potential Droughts/Heat Waves

Jefferson County occasionally experiences short droughts, as well as nearly four extreme summer heat events annually. Often periods of successive annual drought events are followed by several years with no recorded drought conditions. Records at the National Oceanographic and Atmospheric Administration (NOAA) and the National Climatic Data Center (NCDC) recorded one drought each, in 1999 and 2000, with no subsequent drought conditions until the major drought of 2006-2008. The events of 1999-2000 were part of the same weather pattern that impacted area streams, lakes and the public water supply, and may have contributed to the formation of numerous sinkholes in the City of Trussville during 2001. Additionally, a federal disaster resulting from drought was declared on August 16, 1977, Source: FEMA Region IV.

According to the NCDC records, there have been 25 drought events and 45 extreme heat events affecting Jefferson County since 1999 and 1995, respectively. The following tables summarize these events annually, and a more detailed account of these events is recorded in Appendix E — Hazard Profile Data.

Table 5.15 – Drought Events Annual summary 1999 - Current

Date	Type	Deaths	Injuries
8/1/1999	Drought	0	0
5/1/2000	Drought	0	0
7/18/2006	Drought	0	0
8/1/2006	Drought	0	0
9/1/2006	Drought	0	0
3/27/2007	Drought	0	0
4/1/2007	Drought	0	0
5/1/2007	Drought	0	0
6/1/2007	Drought	0	0
7/1/2007	Drought	0	0
8/1/2007	Drought	0	0
9/1/2007	Drought	0	0
10/1/2007	Drought	0	0
11/1/2007	Drought	0	0
12/1/2007	Drought	0	0
1/1/2008	Drought	0	0
2/1/2008	Drought	0	0
3/1/2008	Drought	0	0
4/1/2008	Drought	0	0
5/1/2008	Drought	0	0
6/1/2008	Drought	0	0
7/1/2008	Drought	0	0
8/1/2008	Drought	0	0
10/12/2010	Drought	0	0
8/2/2011	Drought	0	0
Totals:		0	0

Source: National Climatic Data Center

Table 5.16 – Extreme Heat Events Annual Summary 1996-Current

Date	Type	Deaths	Injuries	Cost
2/23/1996	Heat	0	0	0
5/23/1996	Heat	0	0	0
5/24/1996	Heat	0	0	0
1/3/1997	Heat	0	0	0
3/1/1997	Heat	0	0	0
9/27/1998	Heat	0	0	0
11/1/1998	Heat	0	0	0
12/1/1998	Heat	0	0	0
12/4/1998	Heat	0	0	0
12/5/1998	Heat	0	0	0
12/6/1998	Heat	0	0	0
2/6/1999	Heat	0	0	0
2/7/1999	Heat	0	0	0
2/11/1999	Heat	0	0	0
4/1/1999	Heat	0	0	0
4/3/1999	Heat	0	0	0
8/1/1999	Heat	0	0	0
8/11/1999	Heat	0	0	0
8/13/1999	Heat	0	0	0
8/19/1999	Heat	0	0	0
1/2/2000	Heat	0	0	0
1/3/2000	Heat	0	0	0
5/1/2000	Heat	0	0	0
7/19/2000	Heat	0	0	0
7/20/2000	Heat	0	0	0

Date	Type	Deaths	Injuries	Cost
11/1/2000	Heat	0	0	0
2/16/2001	Heat	0	0	0
1/29/2002	Heat	0	0	0
1/29/2002	Heat	0	0	0
4/19/2002	Heat	0	0	0
4/20/2002	Heat	0	0	0
11/10/2002	Heat	0	0	0
11/2/2003	Heat	0	0	0
11/3/2003	Heat	0	0	0
11/5/2003	Heat	0	0	0
1/3/2004	Heat	0	0	0
1/2/2005	Heat	0	0	0
1/3/2005	Heat	0	0	0
11/8/2005	Heat	0	0	0
11/9/2005	Heat	0	0	0
1/2/2006	Heat	0	0	0
8/8/2007	Heat	1	31	0
8/1/2010	Heat	0	0	100,000
7/1/2012	Heat	0	0	0
7/5/2012	Heat	0	0	0
Totals:		1	31	100,000

Source: National Climatic Data Center

Probability of Future Drought/Heat Wave Events

Based on historical information, the County can expect four to five excessive heat events per year and one drought every two to three years. Although one can extract data and probability of occurrence from historical information, the risk of drought and heat waves and the location of damage are random.

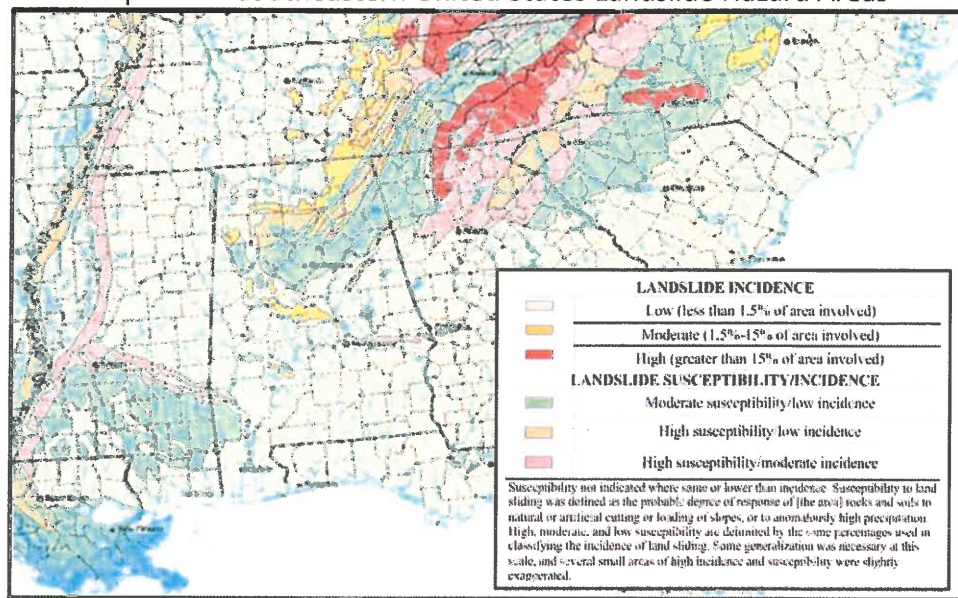
Landslide / Debris Flow

On September 22, 2011 the National Weather Service in Birmingham reported rainfall amounts of 4.95 inches which occurred near Leeds, causing a landslide to occur causing several large rocks to block Dunnivant Road. The majority of landslides in the county result in the collapse of a constructed slope during a rain event.

Location, Extent and Intensity of Potential Debris Flows.

The effects of landslides are often misrepresented as being the result of a landslide triggered event, such as a flood, earthquake, volcanic eruption, hurricane, or coastal storm. The impact from a landslide can include loss of life (FEMA, 25–50 people annually in the US) damage to buildings, lost productivity, disruption in utilities and transportation systems, and reduced property values. As can be seen on Map 5.11 – Southeastern United States Landslide Hazard Areas, Jefferson County lies in an area having a moderate level of susceptibility, but a low incidence of debris flows.

Map 5.11 – Southeastern United States Landslide Hazard Areas



Source: USGS

Previous Occurrences of Landslides

The topography and geology of Jefferson County is susceptible to the effects of landslides. Although we do not have a large history of recorded landslides, the area prone to landslides include hilly and mountainous terrain especially in areas experiencing new development. Slope failures primarily occur due to improper excavation and failure to protect recently excavated slopes.

Probability of Future Landslide Events

Since historical data of landslide events for Jefferson County is limited, the probability of future occurrences cannot be predicted. These are random events.

Table 5.17 – Landslide Annual Summary 1995 - 2011

Date	Type	Deaths	Injuries	Cost
9/22/2011	Debris Flow	0	0	0
Totals:		0	0	0

Source: National Climatic Data Center

Sinkholes (Land Subsidence) Profile

Located in the north central portion of the state, the southeastern approximate one-third of Jefferson County is underlain by limestone formations, see Map 5.12 – Limestone Outcrops in Alabama. When limestone interacts with underground water, the water dissolves the limestone to form karst topography which is an amalgamation of caves, underground channels, and a rough and bumpy ground surface. The underground water carves channels and caves that are susceptible to collapse from the surface. Alabama contains over 2,000 caves because of the karst topography.

Building on or near karst areas can pose potential problems and great expense because of damage to buildings or cave-ins forming along roads. When subsidence occurs in developed areas, it can have a significant community impact, including loss of property value, increased cost of insurance and potential injury.

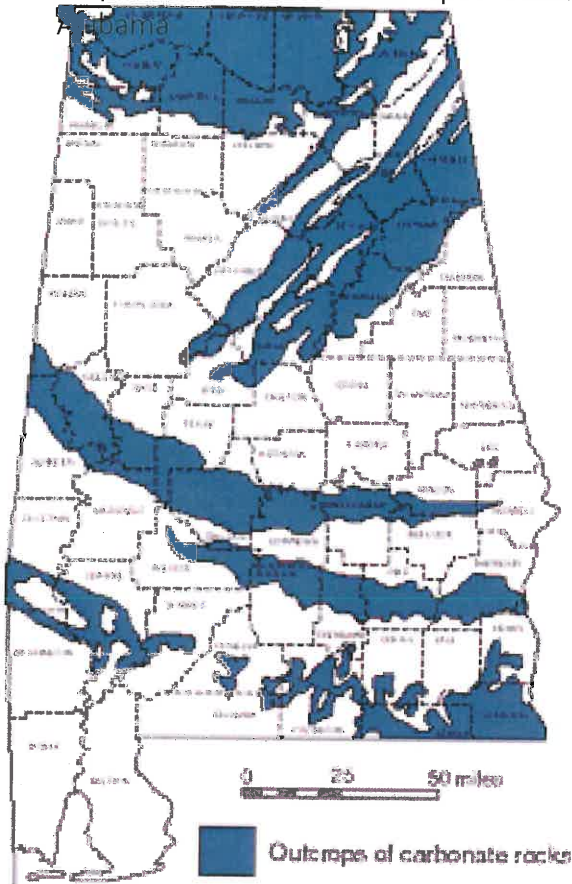
In general, the primary cause of land subsidence is human activity. The human activities that may trigger subsidence include mining and the withdrawal of groundwater. Vibrations from machinery, cars, and drilling equipment can exacerbate sinkholes. Geological Survey of Alabama (GSA) geologists estimate that the substantial increase in sinkhole activity in Alabama since 1950 parallels the period of the State's greatest economic growth.

In addition to human activity, droughts and excessive rainfall can also lead to the formation of sinkholes. According to University of Alabama at Birmingham (UAB) geologist Scott Brande, Ph.D., much of the recent sinkhole activity in Alabama is likely due to the drought of the summer of 2000. Another major period of droughts occurred in 2007 and 2008. During a drought, the groundwater table falls and caves that are normally filled with water may lose the support that the water provided. Eventually, cracks formed during the drought period will cause the roof of the cavity to fail.

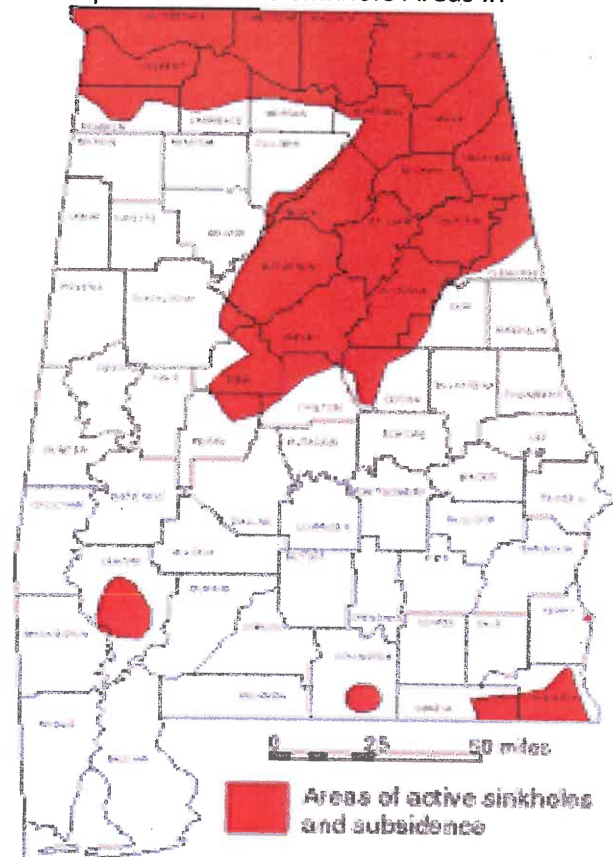
Location, Extent and Intensity of Potential Sinkholes

According to the GSA, Jefferson County is located almost entirely within an area of high sinkhole activity and subsistence, as shown on Map 5.13 – Active Sinkhole Areas in Alabama. Portions of Jefferson County are susceptible to the development of sinkholes. Those that occur are primarily due to the limestone formations or from underground mines. When subsidence occurs in developed areas, it can have a significant impact on the communities including loss of property value, increased cost on insurance and potential injury.

Map 5.12 – Limestone Outcrops in Alabama



Map 5.13 – Active Sinkhole Areas in



Source: Geological Survey of Alabama

Previous Occurrences of Sinkholes

The GSA estimates over 4,000 sinkholes in Alabama; however, no recent historic data has been compiled in Jefferson County. Further, little documentation about recent sinkhole activities has been archived. To address this informational gap, the GSA is currently creating a new statewide inventory of sinkholes.

Jefferson County is located in a part of the state where the geology is highly susceptible to subsidence, see above Map 5.12 – Limestone Outcrops in Alabama. The Trussville area and the western portion of the county have historically experienced the most damage from land subsidence. A rash of sinkholes has been documented recently, primarily in the Tarrant area, and to a lesser extent in Birmingham. This outbreak of sinkhole activity is likely a by-product of the historic 2006-2008 drought.

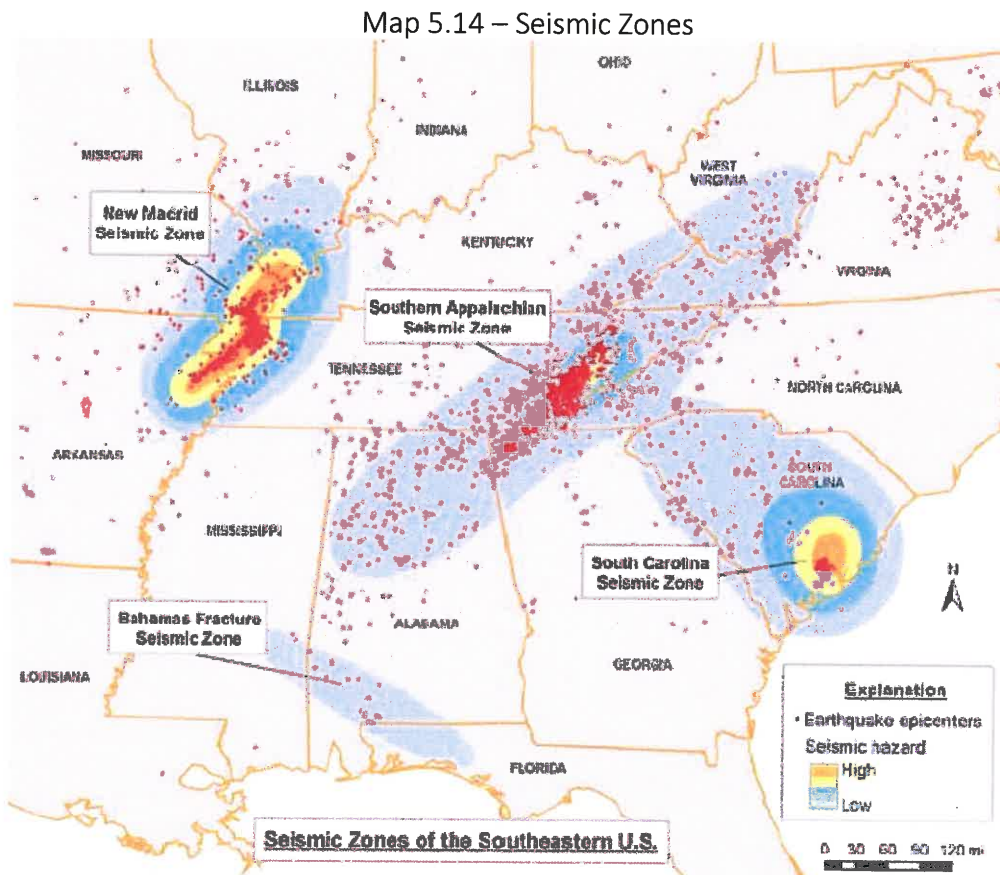
Probability of Future Sinkhole Events

The probability of future occurrences cannot be accurately predicted. Sinkholes are random events, which can be influenced by man's activity, ground water withdrawals, or drought. However, because the county has active sinkholes within areas of increasing urbanization, the probability of future events will likely remain reasonably high, and past trends will likely continue. According to the FEMA

insurance reports, the number of sinkholes in the U.S. has steadily increased over the last several decades, and insurance claims for damages as a result of sinkholes have increased dramatically. The new data collection efforts by the Geological Survey of Alabama may help geologists better predict sinkhole activity within Jefferson County.

Earthquakes Profile

Earthquakes are not uncommon in Alabama, with hundreds of recorded events since 1886. Most of these Alabama earthquakes have been associated with the Southern Appalachian Seismic Zone, as shown on Map 5.14 – Seismic Zones below. Although the Southern Appalachian Seismic extends into an area of low seismic hazard in northern and central Alabama, the impacts of Alabama's largest earthquake of record, the 5.1 magnitude Irondale earthquake of 1916, could be felt in Jefferson County and far beyond. The April 29, 2003, earthquake near Fort Payne measured 4.9 in magnitude in adjacent Dekalb County and many aftershocks followed.



Source: Geological Survey of Alabama

Location, Extent and Intensity of Potential Earthquakes

All of Jefferson County has a low degree of susceptibility to earthquakes, but the impacts can vary depending on the magnitude and epicenter location. Damages to buildings and infrastructure depend not only on the energy released during an earthquake but also underlying soils and geological characteristics.

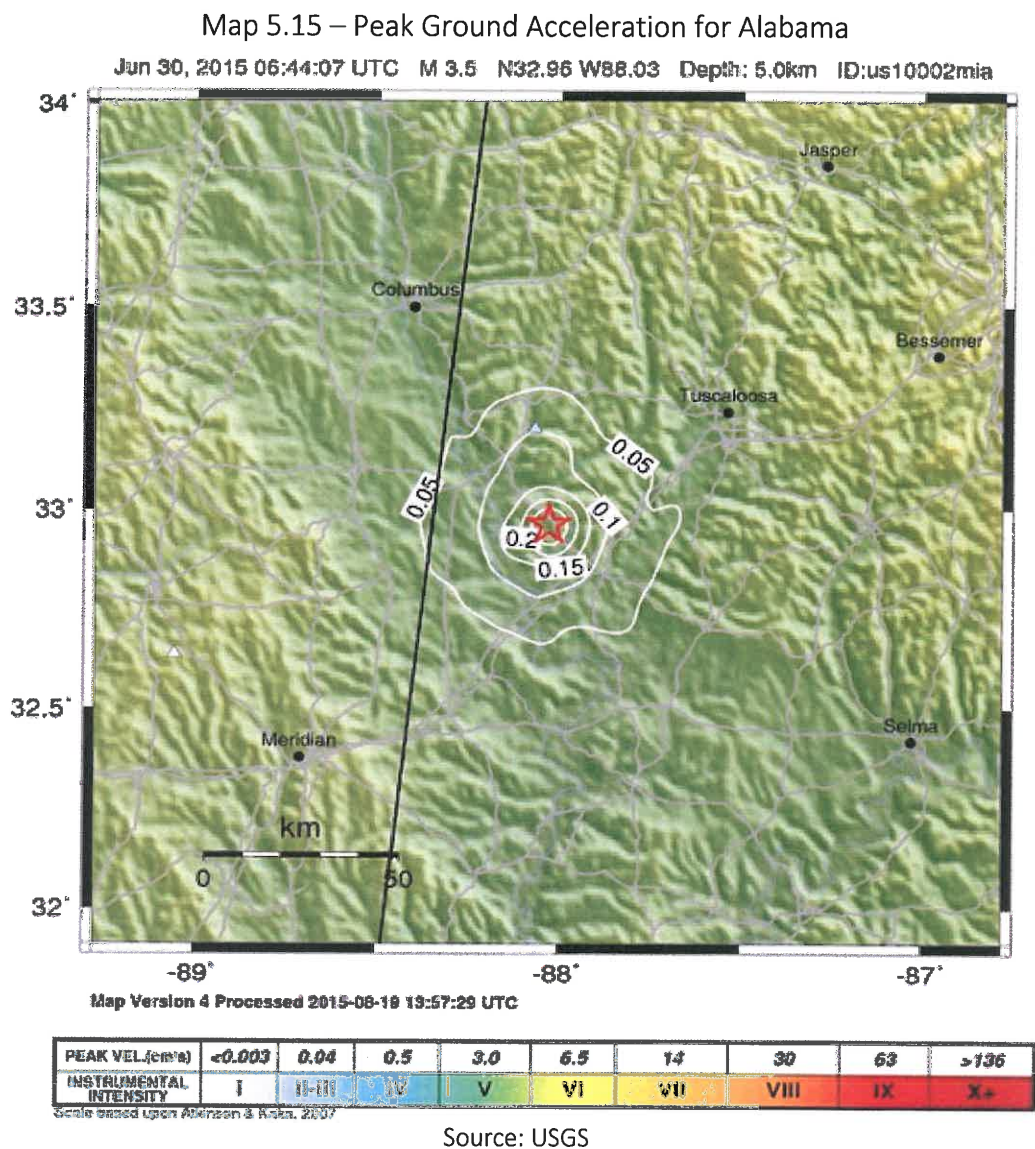
According to the Geological Survey of Alabama (GSA), recent seismograph records indicate that earthquakes are frequent but not strong enough to be felt on the land surface. Earthquakes can occur anywhere at any time in Alabama, but most are likely to do little or no damage. Damage reports of incidents have been relatively minor. As discussed in the earthquakes description in this chapter, the severity of an earthquake is measured according to the Modified Mercalli Intensity Scale, shown again in Table 5.18 – Modified Mercalli Intensity Scale below and the magnitude is the measure of energy released by the earthquake on a scale of 1 to 10, with a Jefferson County having a magnitude 4, being felt on land and causing some damage.

Table 5.18 – Modified Mercalli Intensity Scale

I	Not Felt	Not felt except by a very few under especially favorable conditions
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight
VII	Very Strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent
XI	Extreme	Few, if any, (masonry) structures remain standing. Bridges destroyed. Broad fissures in ground. Underground pipe lines completely out of service. Earth slumps and land slips in soft ground. Rails bent greatly
XII	Extreme	Damage total. Waves seen on ground surfaces. Lines of sight and level distorted. Objects thrown upward into the air

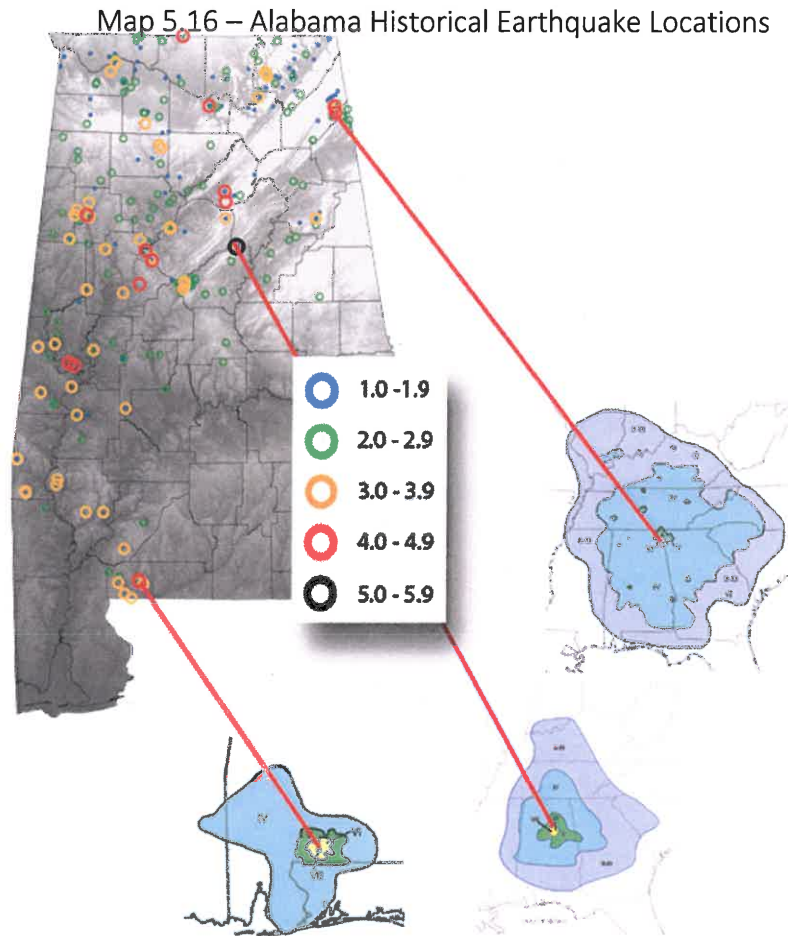
Source: Geological Survey of Alabama

Ground motion maps are often used to assess the magnitude and frequency of seismic events. These maps measure the probability of exceeding a peak ground motion measured as peak ground acceleration (PGA) within a given period of years. Map 5.15 – Peak Ground Acceleration for Alabama shows the potential severity of earthquakes in northeast Alabama. Jefferson County's severity for a 50 year / 2% probabilistic event is moderately low at 12-14% g, where % g is percentage of the total horizontal ground acceleration of the earthquake event.



Previous Occurrences of Earthquakes

Map 5.16 – Alabama Historical Earthquake Locations shows the location and magnitude of recorded earthquakes from 1886 through May 2009. Very few earthquakes with a magnitude greater than 4.0 have been recorded.



Epicenters from 1886 to 2007 and their respective magnitudes
Source: AEMA Earthquake Awareness

Table 5.19 – Historical Earthquakes, 1886 to current

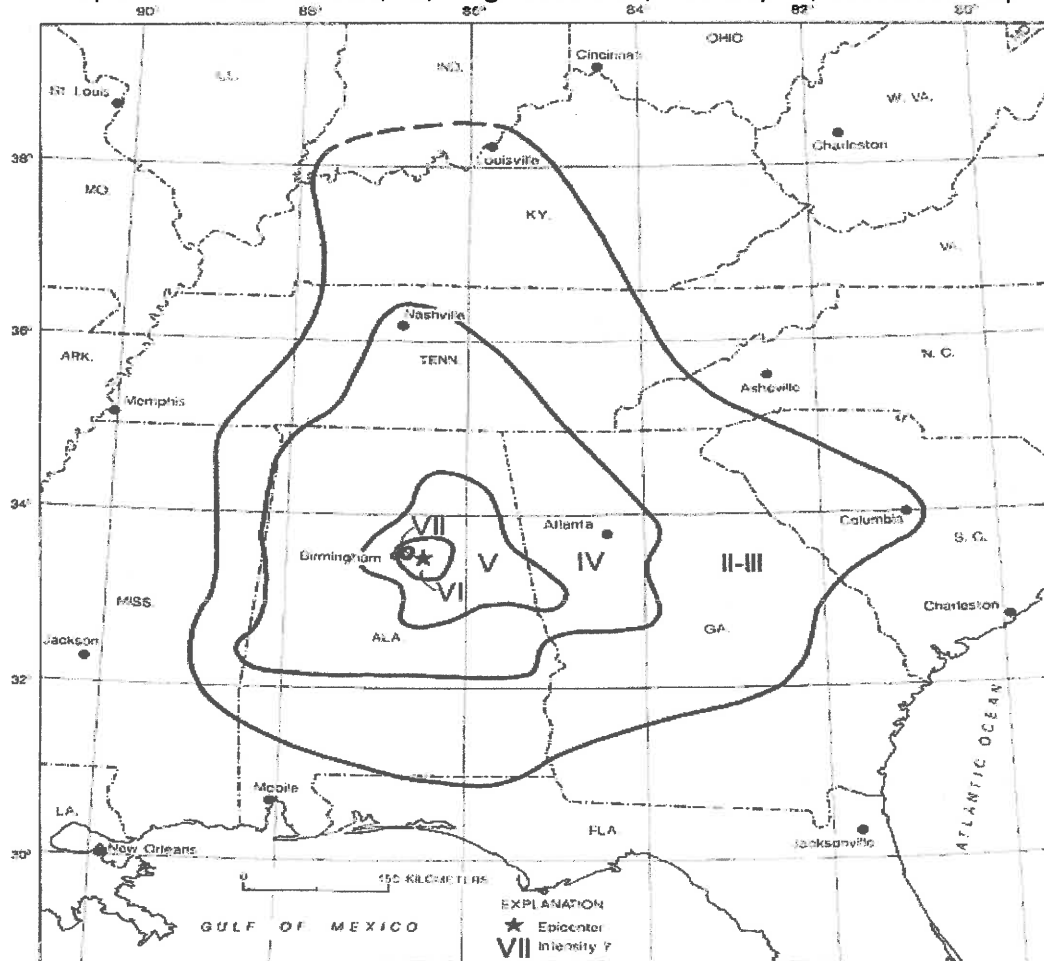
Date	County	Nearest City or Town	Magnitude	Impacts/Notes
2/4/1886	DeKalb	Valley Head	-	(III)
6/16/1927	Jackson	Scottsboro	-	(IV)
6/24/1939	Madison	Huntsville	-	(IV)
4/23/1957	Madison	Farley	-	(VI)
2/18/1964	DeKalb	Ala.-Ga.	-	(IV)
9/28/1975	Blount	Cedar Springs	-	(VI)
5/7/1981	Cullman	Cullman	2.1	Not felt
8/9/1984	Madison	Huntsville	2.9	Not felt
8/24/1984	Madison	Huntsville	1.4	Not felt
8/26/1984	Jackson	Mud Creek	1.3	Not felt
2/19/1985	Jackson	Bridgeport	1.1	Not felt
1/28/1986	Blount	Hendrix	0.9	Not felt
9/3/1986	Jackson	Fackler	1.8	Not felt
11/7/1987	DeKalb	Fort Payne	1.2	Not felt
2/3/1987	Jackson	Hollytree	2.4	Not felt
2/20/1989	Madison	Huntsville	1.3	Not felt
4/23/1989	Cullman	Jones Chapel	1.7	Not felt
6/11/1989	Jackson	Stevenson	0.8	Not felt

Date	County	Nearest City or Town	Magnitude	Impacts/Notes
9/26/1989	Cullman	Lewis Smith Lake	1.7	Not felt
12/15/1990	Morgan	Decatur	1.8	Not felt
1/21/1991	Marshall	Guntersville Dam	1.9	Not felt
3/28/1991	Madison	Huntsville	1.8	Not felt
11/4/1991	Cullman	Cullman	2.3	Not felt
11/10/1991	DeKalb	Dugout Valley	1.8	Not felt
11/17/1991	Cullman	Cullman	1.9	Not felt
3/17/1992	Morgan	Decatur	2	Not felt
4/20/1994	Blount	Blount Springs	2.3	Not felt
5/25/1994	Jackson	Stevenson	2.3	Not felt
7/4/1994	Marshall	Guntersville	0.8	Not felt
10/5/1994	Jackson	Scottsboro	1.2	Not felt
7/31/1997	Jackson	Stevenson	1.6	Not felt (possible blasting event)
8/20/1997	Jackson	Scottsboro	2.3	8 mi SE of Scottsboro
9/14/1997	DeKalb	Fort Payne	1.6	
5/10/1998	Etowah	Gadsden	2.5	
7/30/1998	Jackson	Scottsboro	2	7 mi west of Scottsboro
10/22/1998	Jackson	Scottsboro	1.6	Scottsboro
10/11/1999	Blount	Oneonta	2.5	10 miles NE of Oneonta
4/21/2000	Blount	Oneonta	2.4	7 miles SW of Oneonta
3/12/2001	Marshall	Guntersville	2.3	9 miles NW of Guntersville
6/21/2001	Jackson	Stevenson	2.3	3 miles W of Stevenson
9/10/2001	Marshall	Guntersville	1.7	10 miles NE of Guntersville
12/7/2001	Jackson	Scottsboro	1.6	11 miles WNW of Scottsboro
12/24/2001	Jackson	Scottsboro	2.4	12 miles WNW of Scottsboro.
2/4/2003	Jackson	Scottsboro	1.9	
4/29/2003	DeKalb	Mentone	4.9	10 miles ENE of Fort Payne
6/22/2003	DeKalb	Fort Payne	1.9	7 miles NNE of Fort Payne
7/6/2003	DeKalb	Mentone/aftershock	2.4	
7/15/2003	DeKalb	Mentone/aftershock	2.5	
7/25/2003	DeKalb	Rainsville	2	12 miles WSW of Rainsville
8/16/2003	DeKalb	Alpine/aftershock	2	
6/21/2004	DeKalb	Fort Payne	2.2	3 miles NE of Fort Payne
11/23/2006	Jackson	Larkinsville	1.8	5 miles WNW Scottsboro
6/2/2008	Jackson	Dutton	2.2	3 miles NNW of Dutton
7/18/2008	Jackson	Francisco	2.3	2.9 miles WSW of Francisco
8/1/2008	Jackson	Lim Rock	2.3	1 mile SW of Lim Rock
5/3/2009	Jackson	Woodville, AL	2.2	2 miles NNE from Woodville
To Current			0	NA

Source: Geological Survey of Alabama

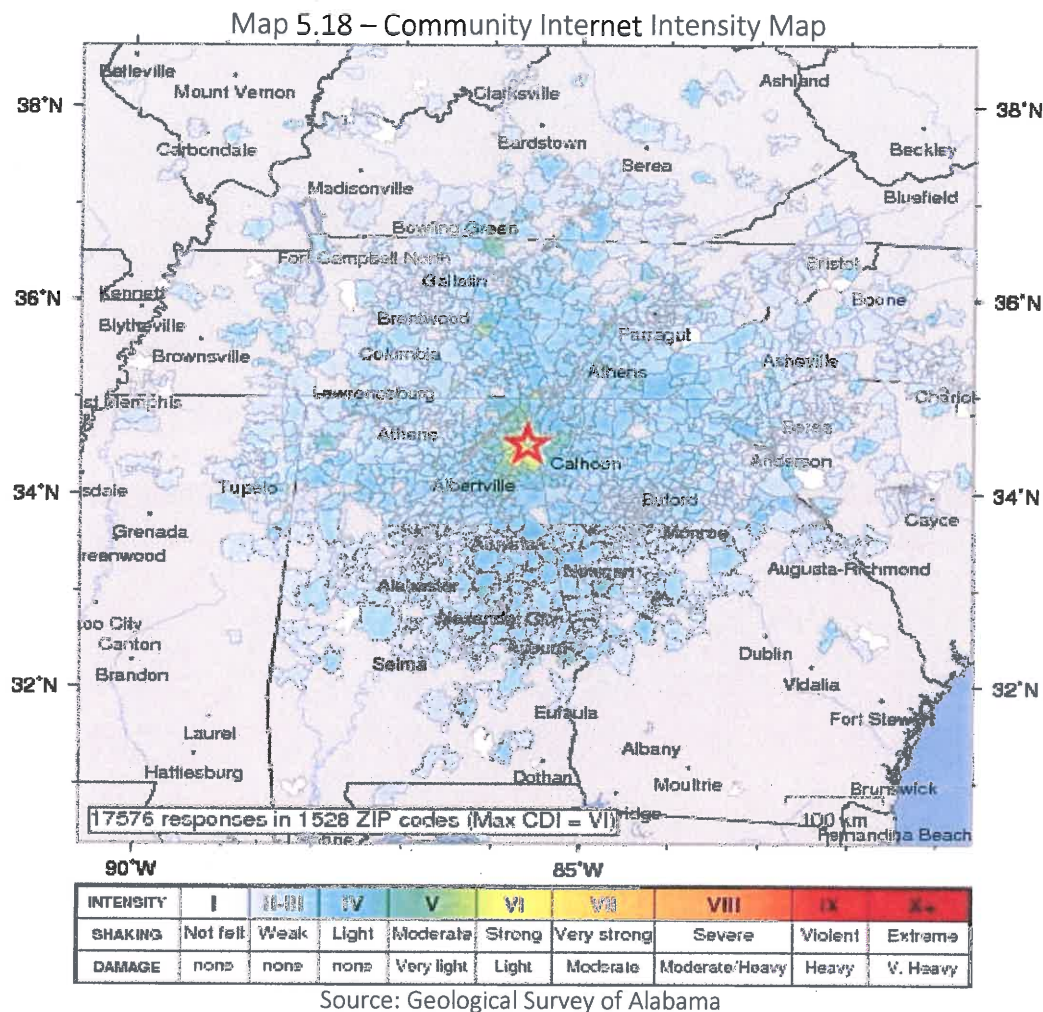
Map 5.17 – 1916 Irondale, AL, Magnitude 5.10, Intensity VII, Iseismic Map below shows the impact of the of the October 18, 1916, Irondale earthquake on Jefferson County, where the measured intensity was between VI and VII, shaking was felt and damages and disruptions occurred.

Map 5.17 – 1916 Irondale, AL, Magnitude 5.10, Intensity VII, Isoseismic Map



Source: Geological Survey of Alabama

To assess the impacts of the 2003 Fort Payne Earthquake, 10 miles north of Fort Payne, in DeKalb County, the USGS prepared a Community Internet Intensity Map, which is shown below as Map 5.18 – Community Internet Intensity Map. According to the USGS, the Community Internet Intensity Map (CIIM) summarizes the online questionnaire responses provided by Internet users. An intensity number is assigned to each community from which a completed CIIM questionnaire was received; each intensity value reflects the effects of earthquake shaking from citizens and on structures in the community. The color-coded ZIP Code zone on the map represents the average of the individual intensity values in that ZIP Code zone.



Probability of Future Earthquake Events

Although the GSA records show frequent earthquake occurrences in the vicinity of Jefferson County, the probability of damaging earthquakes is not at all likely. Even though the probability of an earthquake event is high, the likelihood of a high magnitude earthquake is extremely low. The historical probability of a damage-causing earthquake with a magnitude exceeding 5.0 within close enough proximity to Jefferson County confirms the unlikelihood of a damaging event.

The 1916 Irondale earthquake is the only earthquake on record that exceeded a 5.0 magnitude over the last 123 years in Jefferson County. The results of the Hazard Mitigation Planning Committee – Hazard identification and Ratings (See Appendix D) supports this same conclusion by giving an average rating for all jurisdictions of low for both probability and extents.

Levee Failures Profile

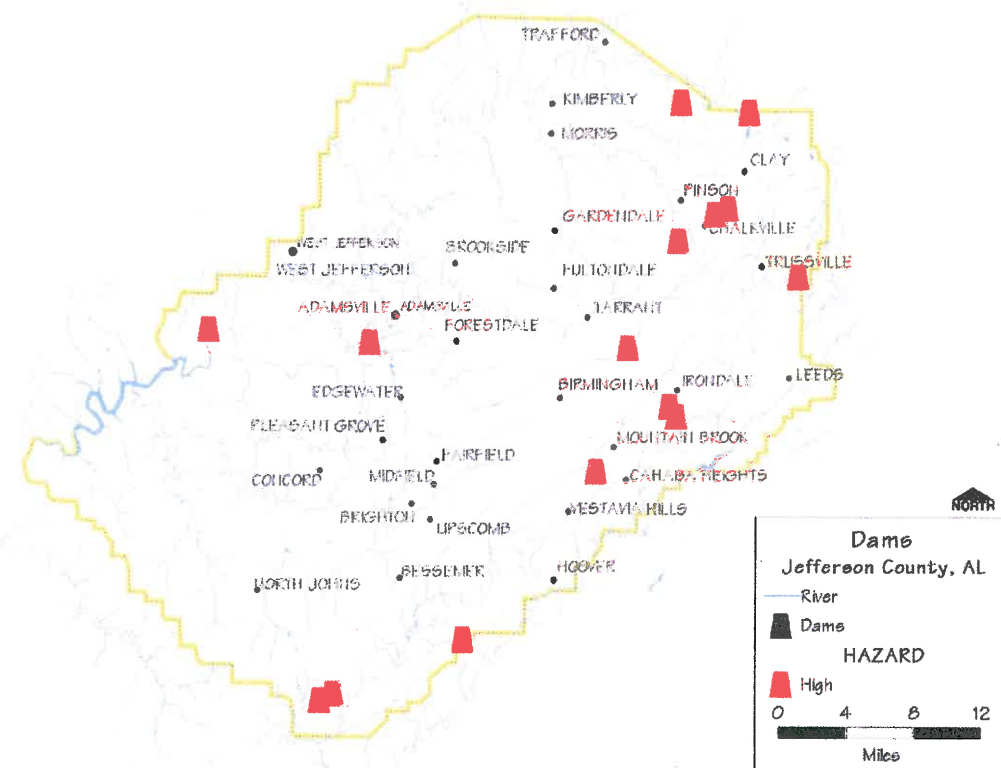
Alabama is only one of two states in the U.S. that currently has no statewide dam safety and inspection program. There have been numerous attempts, beginning in 2002, to pass dam safety legislation, with the last failed effort introduced in the Alabama legislature in February 2008 by HB 454, Alabama

Dam Inventory and Classification Act. This bill would have established the Alabama Dam Security and Safety Program within the Alabama Department of Economic and Community Affairs (ADECA) Office of Water Resources. This is the agency which also administers the National Flood Insurance Program. Once established, the program would provide for a full inventory of dams throughout the state and help benefit public safety and emergency response operations in the event of a natural disaster. The new program would have provided for the permitting and certification of dams that meet specified criteria designed to reduce dam failure.

Location, Extent and Intensity of Potential Dam/Levee Failure

The U.S. Corps of Engineers has mapped all potential inundation areas, and these maps are maintained in the offices of the Jefferson County EMA. As shown on Map 5.19 – Jefferson County Dams there are dams located throughout the county. The dams with the largest reservoirs are indicated as more significant hazards.

Map 5.19 – Jefferson County Dams



Source: HAZUS 1999 Database

Previous Occurrence of Dam/Levee Failure

There have been no documented dam/levee failures within Jefferson County.

Probability of Future Dam/Levee Failure Events

The risks to Jefferson County associated with dam/levee failure are minimal. The probability of future occurrences of dam/levee failures are described in a series of 15 dam inundation studies prepared by the Corps of Engineers in 1984, copies of which are on file in the EMA office.

Summary of Hazards and Community Impacts

Table 5.20 – Summary of Hazards and Community Impacts in this section presents an overview of Jefferson County’s vulnerability to the hazards identified in this Plan. County impacts include the following descriptions and measurements:

- **Location.** This indicator of community impact measures the geographic extent of the identified hazard as county-wide, where the entire geographic area is affected, location specific, where a portion of the community is affected, or minimal, where none or a very insignificant area is affected by the hazard.
- **Probability.** This measures the likelihood of the hazard occurring within the community, based on frequency of previous occurrences noted in the hazard profiles. The probability scale for frequency is from very low (rare occurrences) to low (every ten or so years) to moderate (every three to ten years) to high (every two to five years) to very high (every year).
- **Extent.** This indicates the severity level of the hazard and its potential for causing casualties, business losses, and damage to structures. Very high means a potential for devastating casualties, business losses, and structure damage and not severe means insignificant impacts with no potential casualties and minimal economic losses.
- **Level of Exposure.** This estimates the percentage of structures within the community, including buildings, critical facilities, and infrastructure lifelines, that are exposed to the hazard. High includes more than approximately 25% of the structures, medium includes 10% to 25% of the structures, and low includes less than 10% of the structures.
- **Level of Damage Potential.** This rates the degree of damage that can be expected should an event take place. A high rating means that more than approximately 5% of the structures in a community could be damaged, medium means 1% to 5%, and low means less than 1% of the structures would be affected by the hazard.

Table 5.20 – Summaries of Hazards and Community Impacts

COMMUNITY IMPACTS OF TORNADOES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	High	Severe	High	High
Bessemer	County-wide	High	Severe	High	High
Birmingham	County-wide	High	Severe	High	High
Brighton	County-wide	High	Severe	High	High
Brookside	County-wide	High	Severe	High	High
Cardiff	County-wide	High	Severe	High	High
Center Point	County-wide	High	Severe	High	High
Clay	County-wide	High	Severe	High	High

COMMUNITY IMPACTS OF TORNADES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
County Line	County-wide	High	Severe	High	High
Fairfield	County-wide	High	Severe	High	High
Fultondale	County-wide	High	Severe	High	High
Gardendale	County-wide	High	Severe	High	High
Graysville	County-wide	High	Severe	High	High
Homewood	County-wide	High	Severe	High	High
Hoover	County-wide	High	Severe	High	High
Hueytown	County-wide	High	Severe	High	High
Irondale	County-wide	High	Severe	High	High
Kimberly	County-wide	High	Severe	High	High
Leeds	County-wide	High	Severe	High	High
Lipscomb	County-wide	High	Severe	High	High
Maytown	County-wide	High	Severe	High	High
Midfield	County-wide	High	Severe	High	High
Morris	County-wide	High	Severe	High	High
Mountain Brook	County-wide	High	Severe	High	High
Mulga	County-wide	High	Severe	High	High
North Johns	County-wide	High	Severe	High	High
Pleasant Grove	County-wide	High	Severe	High	High
Sylvan Springs	County-wide	High	Severe	High	High
Tarrant	County-wide	High	Severe	High	High
Trafford	County-wide	High	Severe	High	High
Trussville	County-wide	High	Severe	High	High
Vestavia Hills	County-wide	High	Severe	High	High
Warrior	County-wide	High	Severe	High	High
West Jefferson	County-wide	High	Severe	High	High
Jefferson County	County-wide	High	Severe	High	High

COMMUNITY IMPACTS OF SEVERE STORMS					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	Moderate	Moderately Severe	High	Low
Bessemer	County-wide	Moderate	Moderately Severe	High	Low
Birmingham	County-wide	Moderate	Moderately Severe	High	Low
Brighton	County-wide	Moderate	Moderately Severe	High	Low
Brookside	County-wide	Moderate	Moderately Severe	High	Low
Cardiff	County-wide	Moderate	Moderately Severe	High	Low
Center Point	County-wide	Moderate	Moderately Severe	High	Low
Clay	County-wide	Moderate	Moderately Severe	High	Low
County Line	County-wide	Moderate	Moderately Severe	High	Low
Fairfield	County-wide	Moderate	Moderately Severe	High	Low
Fultondale	County-wide	Moderate	Moderately Severe	High	Low
Gardendale	County-wide	Moderate	Moderately Severe	High	Low
Graysville	County-wide	Moderate	Moderately Severe	High	Low
Homewood	County-wide	Moderate	Moderately Severe	High	Low
Hoover	County-wide	Moderate	Moderately Severe	High	Low
Hueytown	County-wide	Moderate	Moderately Severe	High	Low
Irondale	County-wide	Moderate	Moderately Severe	High	Low
Kimberly	County-wide	Moderate	Moderately Severe	High	Low

COMMUNITY IMPACTS OF SEVERE STORMS					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Leeds	County-wide	Moderate	Moderately Severe	High	Low
Lipscomb	County-wide	Moderate	Moderately Severe	High	Low
Maytown	County-wide	Moderate	Moderately Severe	High	Low
Midfield	County-wide	Moderate	Moderately Severe	High	Low
Morris	County-wide	Moderate	Moderately Severe	High	Low
Mountain Brook	County-wide	Moderate	Moderately Severe	High	Low
Mulga	County-wide	Moderate	Moderately Severe	High	Low
North Johns	County-wide	Moderate	Moderately Severe	High	Low
Pleasant Grove	County-wide	Moderate	Moderately Severe	High	Low
Sylvan Springs	County-wide	Moderate	Moderately Severe	High	Low
Tarrant	County-wide	Moderate	Moderately Severe	High	Low
Trafford	County-wide	Moderate	Moderately Severe	High	Low
Trussville	County-wide	Moderate	Moderately Severe	High	Low
Vestavia Hills	County-wide	Moderate	Moderately Severe	High	Low
Warrior	County-wide	Moderate	Moderately Severe	High	Low
West Jefferson	County-wide	Moderate	Moderately Severe	High	Low
Jefferson County	County-wide	Moderate	Moderately Severe	High	Low

COMMUNITY IMPACTS OF FLOODS					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	Location Specific	Moderate	Somewhat Severe	Low	Low
Bessemer	Location Specific	High	Moderately Severe	Low	Med
Birmingham	Location Specific	Very High	Severe	Low	High
Brighton	Location Specific	Very High	Severe	Low	High
Brookside	Location Specific	Very High	Severe	Low	High
Cardiff	Location Specific	Very High	Severe	Low	High
Center Point	Location Specific	Very High	Severe	Low	High
Clay	Location Specific	High	Moderately Severe	Low	Med
County Line	Location Specific	Very Low	Not Severe	Low	Low
Fairfield	Location Specific	Very Low	Not Severe	Low	Low
Fultondale	Location Specific	High	Moderately Severe	Low	Med
Gardendale	Location Specific	High	Moderately Severe	Low	Med
Graysville	Location Specific	Very High	Severe	Low	High
Homewood	Location Specific	High	Moderately Severe	Low	Med
Hoover	Location Specific	Very High	Severe	Low	High
Hueytown	Location Specific	High	Moderately Severe	Low	Med
Irondale	Location Specific	Low	Somewhat Severe	Low	Low
Kimberly	Location Specific	Very High	Not Severe	Low	Low
Leeds	Location Specific	Very High	Severe	Low	High
Lipscomb	Location Specific	Low	Somewhat Severe	Low	Low
Maytown	Location Specific	Very High	Not Severe	Low	Low
Midfield	Location Specific	Low	Somewhat Severe	Low	Low
Morris	Location Specific	Very High	Not Severe	Low	Low
Mountain Brook	Location Specific	Very High	Severe	Low	High
Mulga	Location Specific	Low	Somewhat Severe	Low	Low
North Johns	Location Specific	Very High	Not Severe	Low	Low
Pleasant Grove	Location Specific	Very High	Not Severe	Low	Low
Sylvan Springs	Location Specific	Low	Somewhat Severe	Low	Low

COMMUNITY IMPACTS OF FLOODS					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Tarrant	Location Specific	Very High	Severe	Low	High
Trafford	Location Specific	Very Low	Not Severe	Low	Low
Trussville	Location Specific	Very High	Severe	Low	High
Vestavia Hills	Location Specific	Very High	Severe	Low	High
Warrior	Location Specific	Very Low	Not Severe	Low	Low
West Jefferson	Location Specific	Very High	Severe	Low	High
Jefferson County	Location Specific	Very High	Severe	Low	High

COMMUNITY IMPACTS OF HURRICANES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	Low	Moderately Severe	High	Low
Bessemer	County-wide	Low	Moderately Severe	High	Low
Birmingham	County-wide	Low	Moderately Severe	High	Low
Brighton	County-wide	Low	Moderately Severe	High	Low
Brookside	County-wide	Low	Moderately Severe	High	Low
Cardiff	County-wide	Low	Moderately Severe	High	Low
Center Point	County-wide	Low	Moderately Severe	High	Low
Clay	County-wide	Low	Moderately Severe	High	Low
County Line	County-wide	Low	Moderately Severe	High	Low
Fairfield	County-wide	Low	Moderately Severe	High	Low
Fultondale	County-wide	Low	Moderately Severe	High	Low
Gardendale	County-wide	Low	Moderately Severe	High	Low
Graysville	County-wide	Low	Moderately Severe	High	Low
Homewood	County-wide	Low	Moderately Severe	High	Low
Hoover	County-wide	Low	Moderately Severe	High	Low
Hueytown	County-wide	Low	Moderately Severe	High	Low
Irondale	County-wide	Low	Moderately Severe	High	Low
Kimberly	County-wide	Low	Moderately Severe	High	Low
Leeds	County-wide	Low	Moderately Severe	High	Low
Lipscomb	County-wide	Low	Moderately Severe	High	Low
Maytown	County-wide	Low	Moderately Severe	High	Low
Midfield	County-wide	Low	Moderately Severe	High	Low
Morris	County-wide	Low	Moderately Severe	High	Low
Mountain Brook	County-wide	Low	Moderately Severe	High	Low
Mulga	County-wide	Low	Moderately Severe	High	Low
North Johns	County-wide	Low	Moderately Severe	High	Low
Pleasant Grove	County-wide	Low	Moderately Severe	High	Low
Sylvan Springs	County-wide	Low	Moderately Severe	High	Low
Tarrant	County-wide	Low	Moderately Severe	High	Low
Trafford	County-wide	Low	Moderately Severe	High	Low
Trussville	County-wide	Low	Moderately Severe	High	Low
Vestavia Hills	County-wide	Low	Moderately Severe	High	Low
Warrior	County-wide	Low	Moderately Severe	High	Low
West Jefferson	County-wide	Low	Moderately Severe	High	Low
Jefferson County	County-wide	Low	Moderately Severe	High	Low

COMMUNITY IMPACTS OF WINTER STORMS/FREEZES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	Moderate	Moderately Severe	High	Low
Bessemer	County-wide	Moderate	Moderately Severe	High	Low
Birmingham	County-wide	Moderate	Moderately Severe	High	Low
Brighton	County-wide	Moderate	Moderately Severe	High	Low
Brookside	County-wide	Moderate	Moderately Severe	High	Low
Cardiff	County-wide	Moderate	Moderately Severe	High	Low
Center Point	County-wide	Moderate	Moderately Severe	High	Low
Clay	County-wide	Moderate	Moderately Severe	High	Low
County Line	County-wide	Moderate	Moderately Severe	High	Low
Fairfield	County-wide	Moderate	Moderately Severe	High	Low
Fultondale	County-wide	Moderate	Moderately Severe	High	Low
Gardendale	County-wide	Moderate	Moderately Severe	High	Low
Graysville	County-wide	Moderate	Moderately Severe	High	Low
Homewood	County-wide	Moderate	Moderately Severe	High	Low
Hoover	County-wide	Moderate	Moderately Severe	High	Low
Hueytown	County-wide	Moderate	Moderately Severe	High	Low
Irondale	County-wide	Moderate	Moderately Severe	High	Low
Kimberly	County-wide	Moderate	Moderately Severe	High	Low
Leeds	County-wide	Moderate	Moderately Severe	High	Low
Lipscomb	County-wide	Moderate	Moderately Severe	High	Low
Maytown	County-wide	Moderate	Moderately Severe	High	Low
Midfield	County-wide	Moderate	Moderately Severe	High	Low
Morris	County-wide	Moderate	Moderately Severe	High	Low
Mountain Brook	County-wide	Moderate	Moderately Severe	High	Low
Mulga	County-wide	Moderate	Moderately Severe	High	Low
North Johns	County-wide	Moderate	Moderately Severe	High	Low
Pleasant Grove	County-wide	Moderate	Moderately Severe	High	Low
Sylvan Springs	County-wide	Moderate	Moderately Severe	High	Low
Tarrant	County-wide	Moderate	Moderately Severe	High	Low
Trafford	County-wide	Moderate	Moderately Severe	High	Low
Trussville	County-wide	Moderate	Moderately Severe	High	Low
Vestavia Hills	County-wide	Moderate	Moderately Severe	High	Low
Warrior	County-wide	Moderate	Moderately Severe	High	Low
West Jefferson	County-wide	Moderate	Moderately Severe	High	Low
Jefferson County	County-wide	Moderate	Moderately Severe	High	Low

COMMUNITY IMPACTS OF DROUGHTS/HEAT WAVES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	Low	Moderately Severe	High	Low
Bessemer	County-wide	Low	Moderately Severe	High	Low
Birmingham	County-wide	Low	Moderately Severe	High	Low
Brighton	County-wide	Low	Moderately Severe	High	Low
Brookside	County-wide	Low	Moderately Severe	High	Low
Cardiff	County-wide	Low	Moderately Severe	High	Low
Center Point	County-wide	Low	Moderately Severe	High	Low
Clay	County-wide	Low	Moderately Severe	High	Low
County Line	County-wide	Low	Moderately Severe	High	Low
Fairfield	County-wide	Low	Moderately Severe	High	Low

COMMUNITY IMPACTS OF DROUGHTS/HEAT WAVES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Fultondale	County-wide	Low	Moderately Severe	High	Low
Gardendale	County-wide	Low	Moderately Severe	High	Low
Graysville	County-wide	Low	Moderately Severe	High	Low
Homewood	County-wide	Low	Moderately Severe	High	Low
Hoover	County-wide	Low	Moderately Severe	High	Low
Hueytown	County-wide	Low	Moderately Severe	High	Low
Irondale	County-wide	Low	Moderately Severe	High	Low
Kimberly	County-wide	Low	Moderately Severe	High	Low
Leeds	County-wide	Low	Moderately Severe	High	Low
Lipscomb	County-wide	Low	Moderately Severe	High	Low
Maytown	County-wide	Low	Moderately Severe	High	Low
Midfield	County-wide	Low	Moderately Severe	High	Low
Morris	County-wide	Low	Moderately Severe	High	Low
Mountain Brook	County-wide	Low	Moderately Severe	High	Low
Mulga	County-wide	Low	Moderately Severe	High	Low
North Johns	County-wide	Low	Moderately Severe	High	Low
Pleasant Grove	County-wide	Low	Moderately Severe	High	Low
Sylvan Springs	County-wide	Low	Moderately Severe	High	Low
Tarrant	County-wide	Low	Moderately Severe	High	Low
Trafford	County-wide	Low	Moderately Severe	High	Low
Trussville	County-wide	Low	Moderately Severe	High	Low
Vestavia Hills	County-wide	Low	Moderately Severe	High	Low
Warrior	County-wide	Low	Moderately Severe	High	Low
West Jefferson	County-wide	Low	Moderately Severe	High	Low
Jefferson County	County-wide	Low	Moderately Severe	High	Low

COMMUNITY IMPACTS OF WILDFIRES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	Location Specific	Moderate	Moderately Severe	Low	Med
Bessemer	Location Specific	Moderate	Somewhat Severe	Low	Low
Birmingham	Location Specific	Moderate	Somewhat Severe	Low	Low
Brighton	Location Specific	Moderate	Somewhat Severe	Low	Low
Brookside	Location Specific	Moderate	Somewhat Severe	Low	Low
Cardiff	Location Specific	Moderate	Somewhat Severe	Low	Low
Center Point	Location Specific	Moderate	Somewhat Severe	Low	Low
Clay	Location Specific	Moderate	Somewhat Severe	Low	Low
County Line	Location Specific	Moderate	Somewhat Severe	Low	Low
Fairfield	Location Specific	Moderate	Somewhat Severe	Low	Low
Fultondale	Location Specific	Low	Moderately Severe	Low	Med
Gardendale	Location Specific	Low	Somewhat Severe	Low	Low
Graysville	Location Specific	Moderate	Somewhat Severe	Low	Low
Homewood	Location Specific	Moderate	Somewhat Severe	Low	Low
Hoover	Location Specific	Low	Somewhat Severe	Low	Low
Hueytown	Location Specific	Moderate	Somewhat Severe	Low	Low
Irondale	Location Specific	Low	Not Severe	Low	Low
Kimberly	Location Specific	Moderate	Somewhat Severe	Low	Low
Leeds	Location Specific	Moderate	Somewhat Severe	Low	Low
Lipscomb	Location Specific	Moderate	Somewhat Severe	Low	Low

COMMUNITY IMPACTS OF WILDFIRES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Maytown	Location Specific	Moderate	Moderately Severe	Low	Med
Midfield	Location Specific	Moderate	Somewhat Severe	Low	Low
Morris	Location Specific	Moderate	Moderately Severe	Low	Med
Mountain Brook	Location Specific	Low	Somewhat Severe	Low	Low
Mulga	Location Specific	Moderate	Somewhat Severe	Low	Low
North Johns	Location Specific	Moderate	Somewhat Severe	Low	Low
Pleasant Grove	Location Specific	Moderate	Moderately Severe	Low	Med
Sylvan Springs	Location Specific	Moderate	Somewhat Severe	Low	Low
Tarrant	Location Specific	Low	Somewhat Severe	Low	Low
Trafford	Location Specific	Moderate	Somewhat Severe	Low	Low
Trussville	Location Specific	Moderate	Somewhat Severe	Low	Low
Vestavia Hills	Location Specific	Moderate	Somewhat Severe	Low	Low
Warrior	Location Specific	Moderate	Somewhat Severe	Low	Low
West Jefferson	Location Specific	Low	Somewhat Severe	Low	Low
Jefferson County	Location Specific	Low	Somewhat Severe	Low	Low

COMMUNITY IMPACTS OF DAM/LEVEE FAILURES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	Location Specific	Very Low	Not Severe	Low	Low
Bessemer	Location Specific	Very Low	Not Severe	Low	Low
Birmingham	Location Specific	Very Low	Not Severe	Low	Low
Brighton	Location Specific	Very Low	Not Severe	Low	Low
Brookside	Location Specific	Very Low	Not Severe	Low	Low
Cardiff	Location Specific	Very Low	Not Severe	Low	Low
Center Point	Location Specific	Very Low	Not Severe	Low	Low
Clay	Location Specific	Very Low	Not Severe	Low	Low
County Line	Location Specific	Very Low	Not Severe	Low	Low
Fairfield	Location Specific	Very Low	Not Severe	Low	Low
Fultondale	Location Specific	Very Low	Not Severe	Low	Low
Gardendale	Location Specific	Very Low	Not Severe	Low	Low
Graysville	Location Specific	Very Low	Not Severe	Low	Low
Homewood	Location Specific	Very Low	Not Severe	Low	Low
Hoover	Location Specific	Very Low	Not Severe	Low	Low
Hueytown	Location Specific	Very Low	Not Severe	Low	Low
Irondale	Location Specific	Very Low	Not Severe	Low	Low
Kimberly	Location Specific	Very Low	Not Severe	Low	Low
Leeds	Location Specific	Very Low	Not Severe	Low	Low
Lipscomb	Location Specific	Very Low	Not Severe	Low	Low
Maytown	Location Specific	Very Low	Not Severe	Low	Low
Midfield	Location Specific	Very Low	Not Severe	Low	Low
Morris	Location Specific	Very Low	Not Severe	Low	Low
Mountain Brook	Location Specific	Very Low	Not Severe	Low	Low
Mulga	Location Specific	Very Low	Not Severe	Low	Low
North Johns	Location Specific	Very Low	Not Severe	Low	Low
Pleasant Grove	Location Specific	Very Low	Not Severe	Low	Low
Sylvan Springs	Location Specific	Very Low	Not Severe	Low	Low
Tarrant	Location Specific	Very Low	Not Severe	Low	Low
Trafford	Location Specific	Very Low	Not Severe	Low	Low

COMMUNITY IMPACTS OF DAM/LEEVE FAILURES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Trussville	Location Specific	Very Low	Not Severe	Low	Low
Vestavia Hills	Location Specific	Very Low	Not Severe	Low	Low
Warrior	Location Specific	Very Low	Not Severe	Low	Low
West Jefferson	Location Specific	Very Low	Not Severe	Low	Low
Jefferson County	Location Specific	Very Low	Not Severe	Low	Low

COMMUNITY IMPACTS OF LANDSLIDES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	Location Specific	Low	Not Severe	Low	Low
Bessemer	Location Specific	Low	Not Severe	Low	Low
Birmingham	Location Specific	Low	Somewhat Severe	Low	Low
Brighton	Location Specific	Low	Not Severe	Low	Low
Brookside	Location Specific	Low	Not Severe	Low	Low
Cardiff	Location Specific	Low	Not Severe	Low	Low
Center Point	Location Specific	Very Low	Not Severe	Low	Low
Clay	Location Specific	Low	Not Severe	Low	Low
County Line	Location Specific	Low	Not Severe	Low	Low
Fairfield	Location Specific	Low	Not Severe	Low	Low
Fultondale	Location Specific	Very Low	Not Severe	Low	Low
Gardendale	Location Specific	Very Low	Not Severe	Low	Low
Graysville	Location Specific	Very Low	Not Severe	Low	Low
Homewood	Location Specific	Very Low	Not Severe	Low	Low
Hoover	Location Specific	Very Low	Not Severe	Low	Low
Hueytown	Location Specific	Very Low	Not Severe	Low	Low
Irondale	Location Specific	Very Low	Not Severe	Low	Low
Kimberly	Location Specific	Low	Not Severe	Low	Low
Leeds	Location Specific	Very Low	Not Severe	Low	Low
Lipscomb	Location Specific	Very Low	Not Severe	Low	Low
Maytown	Location Specific	Low	Somewhat Severe	Low	Low
Midfield	Location Specific	Very Low	Not Severe	Low	Low
Morris	Location Specific	Low	Not Severe	Low	Low
Mountain Brook	Location Specific	Very Low	Not Severe	Low	Low
Mulga	Location Specific	Very Low	Not Severe	Low	Low
North Johns	Location Specific	Low	Not Severe	Low	Low
Pleasant Grove	Location Specific	Low	Not Severe	Low	Low
Sylvan Springs	Location Specific	Very Low	Not Severe	Low	Low
Tarrant	Location Specific	Very Low	Not Severe	Low	Low
Trafford	Location Specific	Low	Not Severe	Low	Low
Trussville	Location Specific	Moderate	Somewhat Severe	Low	Low
Vestavia Hills	Location Specific	Very Low	Not Severe	Low	Low
Warrior	Location Specific	Low	Not Severe	Low	Low
West Jefferson	Location Specific	Very Low	Not Severe	Low	Low
Jefferson County	Location Specific	Very Low	Not Severe	Low	Low

COMMUNITY IMPACTS OF EARTHQUAKES					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	County-wide	Very Low	Moderately Severe	High	Low
Bessemer	County-wide	Very Low	Moderately Severe	High	Low
Birmingham	County-wide	Very Low	Moderately Severe	High	Low
Brighton	County-wide	Very Low	Moderately Severe	High	Low
Brookside	County-wide	Very Low	Moderately Severe	High	Low
Cardiff	County-wide	Very Low	Moderately Severe	High	Low
Center Point	County-wide	Very Low	Moderately Severe	High	Low
Clay	County-wide	Very Low	Moderately Severe	High	Low
County Line	County-wide	Very Low	Moderately Severe	High	Low
Fairfield	County-wide	Very Low	Moderately Severe	High	Low
Fultondale	County-wide	Very Low	Moderately Severe	High	Low
Gardendale	County-wide	Very Low	Moderately Severe	High	Low
Graysville	County-wide	Very Low	Moderately Severe	High	Low
Homewood	County-wide	Very Low	Moderately Severe	High	Low
Hoover	County-wide	Very Low	Moderately Severe	High	Low
Hueytown	County-wide	Very Low	Moderately Severe	High	Low
Irondale	County-wide	Very Low	Moderately Severe	High	Low
Kimberly	County-wide	Very Low	Moderately Severe	High	Low
Leeds	County-wide	Very Low	Moderately Severe	High	Low
Lipscomb	County-wide	Very Low	Moderately Severe	High	Low
Maytown	County-wide	Very Low	Moderately Severe	High	Low
Midfield	County-wide	Very Low	Moderately Severe	High	Low
Morris	County-wide	Very Low	Moderately Severe	High	Low
Mountain Brook	County-wide	Very Low	Moderately Severe	High	Low
Mulga	County-wide	Very Low	Moderately Severe	High	Low
North Johns	County-wide	Very Low	Moderately Severe	High	Low
Pleasant Grove	County-wide	Very Low	Moderately Severe	High	Low
Sylvan Springs	County-wide	Very Low	Moderately Severe	High	Low
Tarrant	County-wide	Very Low	Moderately Severe	High	Low
Trafford	County-wide	Very Low	Moderately Severe	High	Low
Trussville	County-wide	Very Low	Moderately Severe	High	Low
Vestavia Hills	County-wide	Very Low	Moderately Severe	High	Low
Warrior	County-wide	Very Low	Moderately Severe	High	Low
West Jefferson	County-wide	Very Low	Moderately Severe	High	Low
Jefferson County	County-wide	Very Low	Moderately Severe	High	Low

COMMUNITY IMPACTS OF SINKHOLES (LAND SUBSIDENCE)					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Adamsville	Location Specific	Low	Somewhat Severe	Low	Med
Bessemer	Location Specific	Low	Somewhat Severe	Low	Med
Birmingham	Location Specific	Moderate	Somewhat Severe	Low	Med
Brighton	Location Specific	Low	Somewhat Severe	Low	Med
Brookside	Location Specific	Moderate	Somewhat Severe	Low	Med
Cardiff	Location Specific	Moderate	Somewhat Severe	Low	Med
Center Point	Location Specific	Low	Not Severe	Low	Low
Clay	Location Specific	Low	Somewhat Severe	Low	Med
County Line	Location Specific	Low	Somewhat Severe	Low	Med
Fairfield	Location Specific	Moderate	Somewhat Severe	Low	Med

COMMUNITY IMPACTS OF SINKHOLES (LAND SUBSIDENCE)					
Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure					
Jurisdiction	Location (Geographic Extent of Hazard in the Community)	Probability (Frequency of Hazard Occurrence in the Community)	Extent (Magnitude or Severity of Hazard in Event of Occurrence)	Level of Exposure (Degree of Structures Exposed to the Hazard)	Damage Level Potential (Percentage of Likely Damage to Exposed Structures)
Fultondale	Location Specific	Low	Not Severe	Low	Low
Gardendale	Location Specific	Low	Not Severe	Low	Low
Graysville	Location Specific	Low	Not Severe	Low	Low
Homewood	Location Specific	Low	Not Severe	Low	Low
Hoover	Location Specific	Low	Not Severe	Low	Low
Hueytown	Location Specific	Low	Not Severe	Low	Low
Irondale	Location Specific	Moderate	Moderately Severe	Low	Med
Kimberly	Location Specific	Low	Somewhat Severe	Low	Med
Leeds	Location Specific	Low	Not Severe	Low	Low
Lipscomb	Location Specific	Low	Not Severe	Low	Low
Maytown	Location Specific	Moderate	Somewhat Severe	Low	Med
Midfield	Location Specific	Low	Not Severe	Low	Low
Morris	Location Specific	Low	Somewhat Severe	Low	Med
Mountain Brook	Location Specific	Low	Not Severe	Low	Low
Mulga	Location Specific	Low	Not Severe	Low	Low
North Johns	Location Specific	Low	Somewhat Severe	Low	Med
Pleasant Grove	Location Specific	Low	Somewhat Severe	Low	Med
Sylvan Springs	Location Specific	Low	Not Severe	Low	Low
Tarrant	Location Specific	Low	Not Severe	Low	Low
Trafford	Location Specific	Low	Somewhat Severe	Low	Med
Trussville	Location Specific	Very Low	Not Severe	Low	Low
Vestavia Hills	Location Specific	Low	Not Severe	Low	Low
Warrior	Location Specific	Low	Somewhat Severe	Low	Med
West Jefferson	Location Specific	Low	Not Severe	Low	Low
Jefferson County	Location Specific	Moderate	Somewhat Severe	Low	Med

Repetitively-Damaged NFIP-Insured Structures

FEMA defines a repetitive loss property as those which have two or more losses of at least \$1,000 and have been paid under the National Flood Insurance Program (NFIP) within any 10 year period. According to ADECA Floodplain Management Unit, there are 253 NFIP Repetitive Loss Structures within Jefferson County as of December 18, 2015. Table 5.21 – National Flood Insurance Repetitive Loss describes the number of policies in force and includes the number of repetitive loss properties by address and includes the type property was effected.

ADECA Floodplain Management Unit also states there are 5 NFIP Severe Repetitive Loss Structures within Jefferson County as of December 18, 2015. Table 5.21 – National Flood Insurance Severe Repetitive Loss describes the number of policies in force and includes the number of severe repetitive loss properties there are by address and type.

Table 5.21 – National Flood Insurance Repetitive Loss

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4); Assumed Condo (AC); Non-Resident (NR); Other-Resident (OR); Single Family (SF)								
2501-07 Lane Park Rd	2-4	04/07/2014	07/21/2013	09/22/2002			3	\$43,885.43
1308 9th St	2-4	03/10/2000	01/07/1998	01/29/1996			3	\$16,589.07
1523 Coosa St	2-4	11/27/1983	05/19/1983	12/01/1982	04/13/1979	02/23/1979	5	\$35,160.55

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4), Assumed Condo (AC), Non-Resident (NR), Other-Resident (OR), Single Family (SF)								
3946-A 16th Av N	2-4	12/01/1982	04/13/1979				2	\$2,277.00
4196 Glen Brook Rd	2-4	05/07/2003	03/10/2000				2	\$75,962.98
8408 1st Av N	AC	04/07/2014	07/31/2012				2	\$101,882.98
8420 1st Av N	AC	04/06/2014	09/16/2004	05/07/2003	07/12/2002		4	\$190,771.96
2 S 41ST St	AC	07/29/2008	08/03/2003	05/07/2003	09/21/2002		4	\$638,532.22
3608 Messer Airport Hwy	AC	04/13/1979	05/08/1978				2	\$17,800.00
PO Box 1147	AC	07/10/1979	04/13/1979				2	\$6,136.20
2122 Hillside Cir	AC	09/22/2002	04/20/2000	04/02/2000			3	\$20,847.58
2821 Emerald Av	AC	09/05/2011	02/06/2004	09/08/1991	05/12/1991	02/15/1990	7	\$40,187.15
2709 Lane Park Rd	AC	09/22/2002	06/14/1999	10/03/1995			3	\$149,870.88
4539 Bessemer Super Hwy	NR	09/16/2004	02/06/2004	09/22/2002	01/07/1998	12/03/1983	7	\$79,408.15
8707 ParkWAY E	NR	05/07/2003	05/05/2003	07/12/2002	03/10/2000		3	\$195,065.31
9952 ParkWAY E	NR	09/17/2009	07/14/2005	05/09/2003	05/07/2003		3	\$216,988.99
4281 Main St	NR	05/18/2013	02/05/2004	05/07/2003	03/10/2000		4	\$130,257.19
50 McDonald St	NR	05/07/2003	03/11/2000				2	\$52,213.78
4028 Morris Av	NR	10/05/1995	05/26/1984	12/01/1982			3	\$10,158.29
216 N Oporto Madrid Blvd	NR	09/06/2011	11/10/2009	09/17/2004	09/21/2002		4	\$26,315.34
3525 Richard Arrington Blvd N	NR	04/07/2014	09/05/2011	10/03/1995			3	\$818,949.72
1065 Avenue V	NR	02/05/2004	05/07/2003				2	\$12,601.24
3624-4210 10th Av N	NR	09/16/2004	09/21/2002	10/03/1995			3	\$127,710.63
3641 10th Av N	NR	12/01/1982	04/13/1979				2	\$135,565.33
1045 20th St S	NR	09/05/2011	07/13/2011				2	\$18,474.56
1800 3rd St W	NR	09/16/2004	12/03/1983	12/02/1983	11/27/1983	05/19/1983	4	\$478,498.77
1800 3rd St W	NR	02/05/2004	05/07/2003	10/03/1995			3	\$230,326.78
1800 3rd St W	NR	02/05/2004	05/07/2003				2	\$215,399.39
728 N 31ST St	NR	07/31/1982	04/13/1979	05/28/1978			3	\$43,821.33
100 41ST St S	NR	07/21/2013	06/05/2013				2	\$28,033.82
3520 8th Av N	NR	04/07/2014	09/05/2011	09/16/2004			3	\$461,239.02
1532 Cahaba St	NR	12/03/1983	12/01/1982	04/13/1979			3	\$10,705.14
103 Market St	NR	05/08/2003	05/19/1983	04/12/1979			3	\$66,155.44
425 Decatur Hwy	NR	05/07/2003	03/10/2000	04/09/1998			3	\$218,170.67
1650 28th Ct S	NR	07/04/2015	04/07/2014				2	\$61,960.55
3118 BELWOOD Dr	NR	06/25/1999	01/07/1998				2	\$49,260.86
5536 JOHNSON St	NR	03/09/2011	09/19/2009				2	\$41,897.37
4278 Main St	NR	02/05/2004	05/07/2003				2	\$186,963.15
4285 Main St	NR	05/18/2013	02/05/2004	05/07/2003			3	\$176,067.77
4286 Main St	NR	05/07/2003	03/10/2000				2	\$46,690.75
4289 Main St	NR	02/05/2004	05/07/2003				2	\$31,561.40
1455 Red Hollow Rd	NR	07/15/2005	05/07/2003	03/10/2000			3	\$341,748.96
1685 10th St	NR	07/14/2005	09/16/2004				2	\$12,306.82
2629 2631 Cahaba Rd	NR	07/26/2004	06/14/1999				2	\$2,566.84
2700 Culver Rd	NR	09/22/2002	06/14/1999				2	\$192,020.45
2715 Culver Rd REAR	NR	06/14/1999	05/27/1996				2	\$27,812.78
205 Overbrook Rd	NR	07/21/2013	07/10/2013	05/31/2010			3	\$95,658.86
4280 Main St	NR	05/18/2013	02/06/2004	05/07/2003			3	\$33,380.53
80 McDonald St	NR	05/07/2003	07/12/2002	03/10/2000	10/03/1995		4	\$179,282.24
110 Morrow Av	NR	05/07/2003	04/03/2001	05/19/1983	12/01/1982		4	\$63,538.71
1451 Montgomery Hwy	NR	07/26/2004	09/22/2002				2	\$306,729.70
1112 26TH St S	OR	07/21/2013	07/13/2011				2	\$146,520.37
1300 Avenue T	OR	07/31/1982	06/03/1982	03/30/1981	04/12/1980		4	\$29,302.78
106 Saint John Dr NW	OR	05/07/2003	04/03/2001	04/02/2000	03/10/2000	07/02/1998	5	\$98,293.62

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4); Assumed Condo (AC), Non-Resident (NR), Other-Resident (OR), Single Family (SF)								
2509 Park Lane Ct S	OR	09/22/2002	06/14/1999	10/03/1995			3	\$260,531.96
2517 Park Lane Ct S	OR	09/22/2002	06/14/1999	10/03/1995			3	\$234,580.15
Rt 4 Box 339	SF	12/03/1983	04/12/1979				2	\$13,940.66
135 Houston Dr	SF	04/08/2014	09/05/2011	09/16/2004	02/06/2004	02/05/2004	6	\$140,968.13
137 Houston Dr	SF	02/05/2004	09/21/2002	01/07/1998	11/27/1983	12/01/1982	5	\$15,956.52
139 Houston Dr	SF	12/03/1983	12/01/1982				2	\$5,539.75
2016 Long 14th St	SF	09/05/2011	02/05/2004				2	\$48,144.00
2005 Short 14th St N	SF	09/05/2011	02/06/2004	01/07/1998	01/27/1996	12/03/1983	6	\$82,036.03
2031 Short 14th St N	SF	09/05/2011	02/05/2004	01/07/1998	01/26/1996		4	\$108,569.34
212 1st Av W	SF	12/05/1983	04/13/1979				2	\$3,449.40
2030 13th WAY	SF	04/08/2014	09/05/2011				2	\$46,990.80
1305 21st St N	SF	12/03/1983	04/13/1979				2	\$7,896.21
1314 22nd Av	SF	02/06/2004	01/26/1996	12/02/1983			3	\$27,126.27
1338 22nd Cir N	SF	04/07/2014	09/05/2011	02/06/2004			3	\$36,024.03
1300 8th Av North	SF	05/28/1996	06/30/1989				2	\$13,086.73
501 8th Av N	SF	09/15/2014	09/05/2011				2	\$9,209.60
7524 3rd Av N	SF	07/31/2012	09/05/2011	09/16/2004	08/03/2003	05/07/2003	7	\$43,651.96
3225 Beulah Av SW	SF	09/05/2011	09/22/2002	12/01/1982			3	\$38,046.73
1101 Cheyenne Blvd	SF	05/07/2003	03/10/2000				2	\$16,465.52
209 Cheyenne Blvd	SF	07/12/2002	08/14/1998	07/27/1994			3	\$10,722.67
213 Cheyenne Blvd	SF	05/07/2003	07/12/2002	03/10/2000			3	\$55,106.73
5720 Country Club Dr	SF	09/06/2011	02/09/2004				2	\$7,027.20
5748 Country Club Dr	SF	09/06/2011	09/22/2002				2	\$52,567.09
5764 Country Club Dr	SF	09/05/2011	02/05/2004				2	\$52,957.59
5784 Country Club Dr	SF	02/06/2004	06/13/2003	09/22/2002			3	\$9,953.55
445 Camellia Rd	SF	09/16/2004	05/07/2003	03/10/2000			3	\$35,644.32
529 Camellia Rd	SF	07/14/2005	05/07/2003				2	\$42,840.02
533 Camellia Rd	SF	09/10/2009	07/14/2005	09/16/2004	07/12/2002		4	\$43,358.77
5637 Crestwood Blvd	SF	09/05/2001	06/28/1999				2	\$8,941.77
5605 Gaston Way	SF	09/07/2011	02/06/2004				2	\$85,951.77
4216 Groover Dr	SF	09/16/2004	06/14/1999				2	\$11,940.21
2120 Greensprings Hwy S	SF	04/20/2006	01/17/2006	10/13/2002	08/31/2001	04/03/2001	5	\$81,451.93
32 Hillview Ln	SF	09/17/2009	10/22/2007	06/02/2005			3	\$30,034.53
5761 King Dr	SF	04/06/2014	09/06/2011				2	\$26,459.63
1644 Kestwick Dri	SF	04/07/2014	07/26/2004				2	\$132,324.25
3205 Lee Av SW	SF	07/04/2015	09/05/2011	09/27/2002	12/03/1983	12/01/1982	7	\$50,554.44
3216 Lee Ct	SF	02/05/2004	12/03/1983	07/31/1982			3	\$4,306.94
3217 Lee Ct SW	SF	09/05/2011	02/06/2004	09/22/2002	08/31/2001		4	\$50,118.83
537 Lovelin St	SF	08/28/2011	02/06/2004				2	\$64,323.06
1520 Lake SITE Dr	SF	05/07/2003	04/05/2000				2	\$18,672.62
50 Main St	SF	08/02/2005	09/21/2002	07/12/2002			3	\$67,344.75
4236 Mountindale Rd	SF	04/07/2014	09/16/2004				2	\$19,684.62
4248 Mountindale Rd	SF	09/16/2004	06/14/1999				2	\$15,216.93
4252 Mountindale Rd	SF	09/16/2004	06/14/1999				2	\$11,773.00
4260 Mountindale Rd	SF	04/06/2014	09/16/2004	06/14/1999			3	\$31,395.32
4301 Mountindale Rd	SF	04/07/2014	09/16/2004				2	\$21,842.37
4324 Mountindale Rd	SF	04/07/2014	06/14/1999	10/04/1995			3	\$24,396.36
4341 Mountindale Rd	SF	04/07/2014	09/16/2004				2	\$24,914.72
4363 Mountindale Rd	SF	04/07/2014	09/16/2004	06/14/1999	10/03/1995		4	\$30,057.18
4369 Mountindale Rd	SF	09/16/2004	10/03/1995				2	\$7,386.18
4381 Mountindale Rd	SF	06/12/1999	10/03/1995				2	\$13,278.76

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4); Assumed Condo (AC); Non-Resident (NR); Other-Resident (OR); Single Family (SF)								
4409 Mountindale Rd	SF	04/07/2014	04/02/2000	06/14/1999	08/01/1998		4	\$21,544.47
1470 Marlin Springs Rd	SF	07/13/2005	05/08/2003	07/12/2002	04/03/2001	03/05/1996	6	\$41,128.14
6442 OLD BRADFORD Rd	SF	05/07/2003	03/10/2000				2	\$29,755.51
309 Park Cir	SF	04/18/2015	04/08/2014				2	\$4,481.32
1005 Park PL	SF	09/15/2004	05/07/2003				2	\$27,040.96
1036 Park PL	SF	05/07/2003	03/10/2000				2	\$38,063.14
802 Seven Springs Cir	SF	09/16/2004	02/05/2004				2	\$24,261.08
1525 Springville Rd	SF	05/07/2003	03/10/2000				2	\$10,718.32
4148 Stone River Rd	SF	06/14/1999	08/13/1998				2	\$16,800.68
1012 Shelton St	SF	05/07/2003	03/10/2000				2	\$34,972.03
1337 Avenue V	SF	09/05/2011	02/05/2004				2	\$11,125.15
5601 Valley Creek Dr	SF	09/16/2004	10/03/1995				2	\$8,327.58
5733 Valley Creek Dr	SF	09/05/2011	09/16/2004				2	\$6,047.53
4317 Warren Rd	SF	04/07/2014	09/16/2004	06/27/1999			3	\$15,670.70
4321 Warren Rd	SF	04/07/2014	06/15/1999	10/03/1995			3	\$47,571.76
4349 Warren Rd	SF	04/07/2014	09/16/2004	06/14/1999			3	\$36,749.25
1622 41ST W Ensley	SF	06/13/2003	08/31/2001				2	\$12,200.20
1917 10th PL	SF	09/05/2011	02/19/2004				2	\$50,033.51
237 13th Av NE	SF	05/07/2003	03/10/2000				2	\$17,647.28
241 13th Av NE	SF	05/08/2003	03/10/2000				2	\$4,828.37
257 13th Av NE	SF	05/07/2003	03/10/2000				2	\$11,662.58
6 16th Av W	SF	09/17/2004	05/07/2003	10/04/1995			3	\$18,497.62
2124 22nd Av N	SF	08/29/2005	09/16/2004	05/07/2003			3	\$16,166.41
2319 24TH Av N	SF	09/05/2011	09/16/2004	05/07/2003			3	\$70,898.48
3112 28th Av N	SF	03/10/2000	10/04/1995				2	\$8,192.32
3121 28th Av N	SF	09/16/2004	05/07/2003				2	\$24,531.72
8009 3rd Av N	SF	09/16/2004	05/07/2003				2	\$12,206.56
3164 30th Ct N	SF	09/16/2004	05/05/2003				2	\$12,974.73
1001 33rd St	SF	08/31/2001	12/01/1982	07/31/1982	04/13/1979		4	\$8,864.38
7713 4th Av N	SF	05/07/2003	11/09/2000				2	\$17,670.79
7124 4th Ct N	SF	07/07/2012	05/07/2003				2	\$24,414.24
7125 4th Ct N	SF	07/10/2006	05/07/2003				2	\$7,282.22
7527 5th Av N	SF	05/07/2003	03/10/2000				2	\$7,088.35
4100 68th St N	SF	05/07/2003	10/05/1995				2	\$9,383.71
4109 68th St N	SF	09/16/2004	05/07/2003				2	\$25,097.63
616 7TH Av	SF	07/10/2005	05/07/2003				2	\$22,769.53
4316 74th PL N	SF	09/16/2004	05/07/2003				2	\$9,519.36
502 75TH St N	SF	09/16/2004	05/07/2003				2	\$11,276.43
509 8th St	SF	05/07/2003	03/10/2000				2	\$15,544.81
304 83rd St N	SF	04/20/2006	05/07/2003	07/12/2002	04/12/2001		4	\$37,500.64
PO Box 847	SF	09/02/1985	09/12/1979				2	\$12,997.91
1600 Cahaba St	SF	12/03/1983	12/01/1982	04/12/1979			3	\$12,874.35
1331 Coosa St	SF	12/01/1982	04/13/1979				2	\$3,794.82
1535 Coosa St	SF	11/28/1983	05/19/1983	12/01/1982	04/13/1979		4	\$20,950.82
1618 Coosa St	SF	12/01/1982	04/13/1979				2	\$9,410.84
5757 Country Club Dr	SF	02/05/2004	09/22/2002	03/17/2000	10/04/1995		4	\$58,936.06
1327 Escambia St	SF	12/03/1983	12/01/1982				2	\$5,160.16
1337 Escambia St	SF	12/03/1983	04/12/1979				2	\$5,815.56
1214 Avenue J	SF	12/03/1983	04/13/1979				2	\$10,161.54
1121 Av K	SF	12/03/1983	04/13/1979				2	\$17,477.16
1100 Avenue L	SF	03/06/1996	01/26/1996				2	\$17,400.00

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4), Assumed Condo (AC), Non-Resident (NR), Other-Resident (OR), Single Family (SF)								
1116 Avenue L	SF	12/03/1983	04/13/1979				2	\$5,408.08
4225 Mountaindale Rd	SF	06/28/1999	06/14/1999	01/07/1998			3	\$41,939.45
4229 Mountaindale Rd	SF	06/14/1999	08/13/1998	10/03/1995			3	\$17,302.76
4245 Mountaindale Rd	SF	06/14/1999	10/03/1995				2	\$82,290.82
4261 Mountaindale Rd	SF	06/14/1999	10/04/1995				2	\$11,427.53
4317 Mountaindale Rd	SF	06/14/1999	10/03/1995	12/01/1982			3	\$25,721.84
1613 Avenue T	SF	01/08/1998	01/26/1996				2	\$9,248.45
3943 14th Av N	SF	11/27/1983	12/01/1982	04/12/1979			3	\$11,437.24
30 16th Av W	SF	09/16/2004	05/07/2003				2	\$37,495.23
3925 16th Av N	SF	11/27/1983	12/01/1982				2	\$15,280.09
313 17th Av N	SF	12/03/1983	05/19/1983				2	\$16,454.91
328 17th Av N	SF	12/03/1983	05/19/1983	12/04/1982			3	\$10,166.66
3132 27TH Ct N	SF	09/16/2004	05/07/2003				2	\$103,121.76
809 3rd Av	SF	05/07/2003	12/26/2002	03/10/2000			3	\$72,314.49
500 Lilac Dr	SF	05/07/2003	03/10/2000				2	\$48,006.98
102 Dolomite Av	SF	12/03/1983	05/19/1983	03/18/1980	05/08/1978		4	\$13,848.47
1031 Rose Av	SF	08/13/2013	07/17/2013	09/04/2011	07/22/2006	07/20/2000	5	\$27,670.48
209 Main St	SF	05/07/2003	04/04/2001				2	\$18,181.79
170 Parker St	SF	03/10/2000	01/07/1998	03/06/1996	01/26/1996		4	\$136,692.12
1641 Marlin Springs Rd	SF	09/05/2011	09/17/2009				2	\$39,560.63
132 GRANGER Dr	SF	06/10/1985	05/19/1983				2	\$10,002.91
1507 Oxmoor Rd	SF	12/03/1983	03/03/1979				2	\$6,210.07
2648 Creekview Dr	SF	04/07/2014	07/26/2004	09/22/2002	03/06/1996	01/26/1996	6	\$49,431.46
1731 Hummingbird Ln	SF	07/26/2004	04/03/2000	10/03/1995	11/22/1992	02/15/1990	14	\$143,842.84
1641 Kestwick Dr	SF	04/07/2014	09/16/2004	12/03/1983	12/01/1982	03/17/1980	5	\$87,926.42
1645 Kestwick Dr	SF	09/16/2004	07/27/2004	02/16/1990			3	\$29,815.76
1644 Kestwick Dr	SF	03/17/1980	04/13/1979				2	\$4,329.94
2805 Emerald Av	SF	09/06/2011	02/05/2004				2	\$26,669.39
2813 Emerald Av	SF	02/05/2004	01/26/1996	10/03/1995	04/13/1979		4	\$38,685.70
2816 Emerald Av	SF	09/05/2011	02/06/2004	12/02/1983			3	\$98,786.71
2817 Emerald Av	SF	09/05/2011	02/05/2004				2	\$93,627.96
2021 Mississippi Av	SF	04/07/2014	09/05/2011	02/06/2004	12/02/1983		4	\$102,047.78
2023 Mississippi Av	SF	12/03/1983	04/12/1979				2	\$27,060.84
2113 Mississippi Av	SF	09/05/2011	12/28/1983	04/13/1979			3	\$37,422.66
2130 Mississippi Av	SF	12/03/1983	04/13/1979				2	\$29,313.75
2839 Novel Dr	SF	02/06/2004	03/07/1998	01/26/1996			3	\$18,755.15
2000 25TH Av	SF	09/16/2004	02/06/2004	01/27/1996	12/03/1983	03/06/1979	5	\$42,011.03
2020 25TH Av N	SF	04/07/2014	09/05/2011				2	\$46,166.77
2024 25TH Av	SF	09/06/2011	02/05/2004				2	\$31,515.69
3021 Cahaba Cliffs Dr	SF	09/03/2001	04/03/2000				2	\$8,812.63
405 Della Rose Dr	SF	02/05/2004	05/07/2003	07/15/2002			3	\$13,133.85
4025 Dolly Ridge Rd	SF	04/20/2006	06/12/2005				2	\$26,815.86
4033 Dolly Ridge Rd	SF	04/20/2006	09/16/2004				2	\$35,634.80
4037 Dolly Ridge Rd	SF	07/31/2012	01/26/2012	06/14/2009	05/11/2008	05/11/2007	9	\$96,849.61
1308 Echols Dr	SF	05/07/2003	03/10/2000				2	\$29,617.74
713 Earline St	SF	05/07/2003	03/10/2000	08/14/1998			3	\$13,826.57
1509 Griffin Dr	SF	09/05/2011	02/06/2004				2	\$40,973.29
2030 Long 14th St	SF	04/07/2014	09/05/2011				2	\$48,438.84
619 Macon St	SF	06/28/2001	04/02/2000	03/11/2000	08/27/1992		4	\$12,122.74
6236 Moss Rock Dr	SF	05/07/2003	03/15/2000				2	\$36,154.60
4421 Oak Lane Cir	SF	02/05/2004	05/07/2003	04/03/2001	04/03/2000	03/10/2000	6	\$63,885.35

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: 2-4 Family (2-4); Assumed Condo (AC), Non-Resident (NR), Other-Resident (OR), Single Family (SF)								
4441 OAK Lane Cir	SF	04/03/2001	03/10/2000				2	\$7,346.01
204 Saturn Ln	SF	08/29/2015	07/30/2012				2	\$24,064.00
3213 Sweeney Hollow Rd	SF	05/07/2003	03/10/2000	03/06/1996			3	\$32,930.61
612 7th Av	SF	02/05/2004	05/07/2003				2	\$10,543.17
2008 25TH Av	SF	12/03/1983	04/14/1979				2	\$20,579.67
1815 6TH St NW	SF	09/02/2001	03/30/2001				2	\$4,741.56
4890 Bud Holmes Rd	SF	03/10/2000	03/06/1996	02/16/1990			3	\$80,931.61
717 Earline St	SF	05/07/2003	03/10/2000	08/14/1998	03/06/1996		4	\$33,400.45
4160 Glenbrook Rd	SF	03/10/2000	03/06/1996				2	\$39,481.58
3129 Sweeney Hollow Rd	SF	03/10/2000	03/06/1996	02/15/1990			3	\$57,595.33
3211 Sweeney Hollow Rd	SF	03/10/2000	01/07/1998				2	\$28,794.27
3305 Sweeney Hollow Rd	SF	03/10/2000	03/06/1996				2	\$28,021.96
3309 Sweeney Hollow Rd	SF	03/10/2000	03/06/1996				2	\$22,472.96
6673 Tapawingo Rd	SF	03/10/2000	01/07/1998				2	\$31,690.02
617 6th St	SF	05/07/2003	04/30/2002	04/03/2001			3	\$22,468.09
1020 Shelton St	SF	05/07/2003	04/30/2002	03/10/2000			3	\$47,752.30
1249 Ashville Rd NE	SF	09/16/2004	05/07/2003				2	\$21,004.53
1400 Ashville Rd	SF	04/07/2014	09/05/2011	09/17/2009	07/14/2005		4	\$59,445.58
301 Cogbill St	SF	05/07/2003	06/28/1999				2	\$31,212.60
1701 Linden St	SF	07/21/2005	05/05/2003	06/28/1999			3	\$49,899.44
927 1/2 Parkway Dr SE	SF	01/06/1998	02/28/1997				2	\$13,008.03
1501 Griffin Dr	SF	09/05/2011	02/05/2004	12/03/1983			3	\$50,387.92
1509 Griffin Dr	SF	12/03/1983	04/13/1979				2	\$5,001.00
533 Lovelin St	SF	02/06/2004	09/22/2002	12/03/1983	12/01/1982	04/13/1979	5	\$26,318.32
220 PINEWOOD Av	SF	09/17/2009	08/31/2001				2	\$7,417.22
4147 Appomatox Ln	SF	04/07/2014	09/06/2011	06/14/1999	08/13/1998	10/03/1995	5	\$322,228.31
4155 Appomatox Ln	SF	04/06/2014	06/14/1999	08/14/1998	10/04/1995		4	\$90,115.55
2516 Heathermoor Rd	SF	09/16/2004	09/22/2002	04/03/2000			3	\$12,504.94
3821 Knollwood Dr	SF	09/22/2002	01/24/1997				2	\$8,504.01
3542 Mill Springs Rd	SF	04/15/1980	04/22/1979				2	\$6,782.30
32 W Montcrest Dr	SF	05/03/2009	04/02/2000				2	\$8,507.83
2850 Surrey Rd	SF	06/14/1999	05/27/1996				2	\$45,081.66
4327 Warren Rd	SF	04/07/2014	09/16/2004				2	\$17,051.07
534 Country Club Dr	SF	11/27/1983	04/13/1979				2	\$5,519.22
600 Country Club Dr	SF	12/02/1983	04/12/1979				2	\$16,776.97
601 Country Club Dr	SF	12/03/1983	11/27/1983	05/19/1983	12/01/1982	04/12/1979	4	\$23,091.20
529 Valley Creek Dr	SF	12/03/1983	07/31/1982	04/13/1979			3	\$8,114.26
1109 34TH St	SF	12/03/1983	03/30/1981				2	\$10,119.00
18 McDonald St	SF	05/08/2003	03/10/2000				2	\$63,796.43
57 McDonald St	SF	05/07/2003	07/13/2002	04/03/2001	03/11/2000		4	\$65,267.60
1836 Georgia St	SF	03/10/2000	03/06/1996				2	\$23,271.31
815 Georgia St	SF	03/11/2000	03/05/1996				2	\$16,784.48
2475 Pinson Hwy Lot 83	SF	01/07/1998	03/13/1996				2	\$4,727.06
4041 Dolly Ridge Rd	SF	04/07/2014	07/10/2013				2	\$14,185.95
3436 Loch Haven Dr	SF	12/03/1983	04/12/1979				2	\$13,106.26
3200 Westbrook Dr	SF	05/27/2015	08/07/2013				2	\$26,491.02

Source: ADECA Floodplain Management Unit 12/15/15

Table 5.22 – National Flood Insurance Severe Repetitive Loss

Address	Type	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Dt of Loss	Losses	Total Paid
Type Occupancy: Single Family (SF)								

135 Houston Dr	SF	04/08/2014	09/05/2011	09/16/2004	02/06/2004	09/22/2002	01/07/1998	\$140,968.13
2648 Creekview Dr	SF	04/07/2014	07/26/2004	09/22/2002	03/06/1996	01/26/1996	10/04/1995	\$49,431.46
2821 Emerald Av	SF	09/05/2011	02/06/2004	09/08/1991	05/12/1991	02/15/1990	11/19/1988	\$40,187.15
1400 Ashville Rd	SF	04/07/2014	09/05/2011	09/17/2009	07/14/2005			\$59,445.58
4147 Appomattox Ln	SF	04/07/2014	09/06/2011	06/14/1999	08/13/1998	10/03/1995		\$322,228.31
4155 Appomattox Ln	SF	04/06/2014	06/14/1999	08/14/1998	10/04/1995			\$90,115.55

Source: ADECA Floodplain Management Unit 12/15/15

Risks that Vary Among the Jurisdictions

This Plan has strongly emphasized the variations in risks among jurisdictions throughout all components of this Risk Assessment. In particular, the following sections of the Risk Assessment contain specific references to jurisdictional variations:

- Hazard identification. Each jurisdiction was independently assessed to identify hazards that could occur, based on the sources noted in Section 5.3.1 - Identification of Hazards Affecting Each Jurisdiction.
- Hazard profiles. Each of the hazard profiles in Section 5.4 note how the location, extent, previous occurrences, and probability of future events may vary or be uniform among all jurisdictions. Maps are included, where possible, to emphasize the locations of hazards in relation to jurisdictional limits.
- Summary of Community Impacts. Table 5.20 – Summaries of Hazards and Community Impacts, above provides an overview of the variations of specific hazard impacts to each jurisdiction.

Table 5.22 – Jurisdictional Risk Variations presents an overview of the common and unique risks within each jurisdiction and the unique characteristics of those risks.

Table 5.22 – Jurisdictional Risk Variations

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
Tornadoes	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Severe Storms	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Floods	Adamsville	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Bessemer	Unique Risks	Specific Location	High	Moderately Severe
	Birmingham	Unique Risks	Specific Location	Very High	Severe
	Brighton	Unique Risks	Specific Location	Very High	Severe
	Brookside	Unique Risks	Specific Location	Very High	Severe
	Cardiff	Unique Risks	Specific Location	Very High	Severe

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Center Point	Unique Risks	Specific Location	Very High	Severe
	Clay	Unique Risks	Specific Location	High	Moderately Severe
	County Line	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Fairfield	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Fultondale	Unique Risks	Specific Location	High	Moderately Severe
	Gardendale	Unique Risks	Specific Location	High	Moderately Severe
	Graysville	Unique Risks	Specific Location	Very High	Severe
	Homewood	Unique Risks	Specific Location	High	Moderately Severe
	Hoover	Unique Risks	Specific Location	Very High	Severe
	Hueytown	Unique Risks	Specific Location	High	Moderately Severe
	Irondale	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Kimberly	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Leeds	Unique Risks	Specific Location	Very High	Severe
	Lipscomb	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Maytown	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Midfield	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Morris	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Mountain Brook	Unique Risks	Specific Location	Very High	Severe
	Mulga	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	North Johns	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Pleasant Grove	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Sylvan Springs	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Tarrant	Unique Risks	Specific Location	Very High	Severe
	Trafford	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Trussville	Unique Risks	Specific Location	Very High	Severe
	Vestavia Hills	Unique Risks	Specific Location	Very High	Severe
	Warrior	Unique Risks	Minimal Coverage	Very Low	Not Severe
	West Jefferson	Unique Risks	Specific Location	Very High	Severe
	Jefferson County	Unique Risks	Specific Location	Very High	Severe
Hurricanes	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Winter Storms Freezes	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Droughts Heat Waves	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Wildfires	Adamsville	Unique Risks	Specific Coverage	Moderate	Moderately Severe
	Bessemer	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Birmingham	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Brighton	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Brookside	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Cardiff	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Center Point	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Clay	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	County Line	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Fairfield	Unique Risks	Specific Coverage	Moderate	Moderately Severe
	Fultondale	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Gardendale	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Graysville	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Homewood	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Hoover	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Hueytown	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Irondale	Unique Risks	Minimal Coverage	Low	Not Severe
	Kimberly	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Leeds	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Lipscomb	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Maytown	Unique Risks	Specific Coverage	Moderate	Moderately Severe
	Midfield	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Morris	Unique Risks	Specific Coverage	Moderate	Moderately Severe
	Mountain Brook	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Mulga	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	North Johns	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Pleasant Grove	Unique Risks	Specific Coverage	Moderate	Moderately Severe
	Sylvan Springs	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Tarrant	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Trafford	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Trussville	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Vestavia Hills	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Warrior	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	West Jefferson	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Jefferson County	Unique Risks	Minimal Coverage	Low	Somewhat Severe
Dam / Levee Failures	Adamsville	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Bessemer	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Birmingham	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Brighton	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Brookside	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Cardiff	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Center Point	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Clay	Unique Risks	Minimal Coverage	Very Low	Not Severe
	County Line	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Fairfield	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Fultondale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Gardendale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Graysville	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Homewood	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Hoover	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Hueytown	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Irondale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Kimberly	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Leeds	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Lipscomb	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Maytown	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Midfield	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Morris	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Mountain Brook	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Mulga	Unique Risks	Minimal Coverage	Very Low	Not Severe
	North Johns	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Pleasant Grove	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Sylvan Springs	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Tarrant	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Trafford	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Trussville	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Vestavia Hills	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Warrior	Unique Risks	Minimal Coverage	Very Low	Not Severe
	West Jefferson	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Jefferson County	Unique Risks	Minimal Coverage	Very Low	Not Severe
Landslides	Adamsville	Unique Risks	Minimal Coverage	Low	Not Severe
	Bessemer	Unique Risks	Minimal Coverage	Low	Not Severe
	Birmingham	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Brighton	Unique Risks	Minimal Coverage	Low	Not Severe
	Brookside	Unique Risks	Minimal Coverage	Low	Not Severe
	Cardiff	Unique Risks	Minimal Coverage	Low	Not Severe
	Center Point	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Clay	Unique Risks	Minimal Coverage	Low	Not Severe
	County Line	Unique Risks	Minimal Coverage	Low	Not Severe
	Fairfield	Unique Risks	Minimal Coverage	Low	Not Severe
	Fultondale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Gardendale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Graysville	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Homewood	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Hoover	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Hueytown	Unique Risks	Minimal Coverage	Very Low	Not Severe

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
	Irondale	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Kimberly	Unique Risks	Minimal Coverage	Low	Not Severe
	Leeds	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Lipscomb	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Maytown	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Midfield	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Morris	Unique Risks	Minimal Coverage	Low	Not Severe
	Mountain Brook	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Mulga	Unique Risks	Minimal Coverage	Very Low	Not Severe
	North Johns	Unique Risks	Minimal Coverage	Low	Not Severe
	Pleasant Grove	Unique Risks	Minimal Coverage	Low	Not Severe
	Sylvan Springs	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Tarrant	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Trafford	Unique Risks	Minimal Coverage	Low	Not Severe
	Trussville	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Vestavia Hills	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Warrior	Unique Risks	Minimal Coverage	Low	Not Severe
	West Jefferson	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Jefferson County	Unique Risks	Minimal Coverage	Very Low	Not Severe
Earthquakes	Adamsville	Common Risks	Not Unique	Not Unique	Not Unique
	Bessemer	Common Risks	Not Unique	Not Unique	Not Unique
	Birmingham	Common Risks	Not Unique	Not Unique	Not Unique
	Brighton	Common Risks	Not Unique	Not Unique	Not Unique
	Brookside	Common Risks	Not Unique	Not Unique	Not Unique
	Cardiff	Common Risks	Not Unique	Not Unique	Not Unique
	Center Point	Common Risks	Not Unique	Not Unique	Not Unique
	Clay	Common Risks	Not Unique	Not Unique	Not Unique
	County Line	Common Risks	Not Unique	Not Unique	Not Unique
	Fairfield	Common Risks	Not Unique	Not Unique	Not Unique
	Fultondale	Common Risks	Not Unique	Not Unique	Not Unique
	Gardendale	Common Risks	Not Unique	Not Unique	Not Unique
	Graysville	Common Risks	Not Unique	Not Unique	Not Unique
	Homewood	Common Risks	Not Unique	Not Unique	Not Unique
	Hoover	Common Risks	Not Unique	Not Unique	Not Unique
	Hueytown	Common Risks	Not Unique	Not Unique	Not Unique
	Irondale	Common Risks	Not Unique	Not Unique	Not Unique
	Kimberly	Common Risks	Not Unique	Not Unique	Not Unique
	Leeds	Common Risks	Not Unique	Not Unique	Not Unique
	Lipscomb	Common Risks	Not Unique	Not Unique	Not Unique
	Maytown	Common Risks	Not Unique	Not Unique	Not Unique
	Midfield	Common Risks	Not Unique	Not Unique	Not Unique
	Morris	Common Risks	Not Unique	Not Unique	Not Unique
	Mountain Brook	Common Risks	Not Unique	Not Unique	Not Unique
	Mulga	Common Risks	Not Unique	Not Unique	Not Unique
	North Johns	Common Risks	Not Unique	Not Unique	Not Unique
	Pleasant Grove	Common Risks	Not Unique	Not Unique	Not Unique
	Sylvan Springs	Common Risks	Not Unique	Not Unique	Not Unique
	Tarrant	Common Risks	Not Unique	Not Unique	Not Unique
	Trafford	Common Risks	Not Unique	Not Unique	Not Unique
	Trussville	Common Risks	Not Unique	Not Unique	Not Unique
	Vestavia Hills	Common Risks	Not Unique	Not Unique	Not Unique
	Warrior	Common Risks	Not Unique	Not Unique	Not Unique
	West Jefferson	Common Risks	Not Unique	Not Unique	Not Unique
	Jefferson County	Common Risks	Not Unique	Not Unique	Not Unique
Sinkholes	Adamsville	Unique Risks	Minimal Coverage	Low	Somewhat Severe

Hazard	Jurisdiction	Variation of Risks	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
Land Subsidence	Bessemer	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Birmingham	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Brighton	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Brookside	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Cardiff	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Center Point	Unique Risks	Minimal Coverage	Low	Not Severe
	Clay	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	County Line	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Fairfield	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Fultondale	Unique Risks	Minimal Coverage	Low	Not Severe
	Gardendale	Unique Risks	Minimal Coverage	Low	Not Severe
	Graysville	Unique Risks	Minimal Coverage	Low	Not Severe
	Homewood	Unique Risks	Minimal Coverage	Low	Not Severe
	Hoover	Unique Risks	Minimal Coverage	Low	Not Severe
	Hueytown	Unique Risks	Minimal Coverage	Low	Not Severe
	Irondale	Unique Risks	Minimal Coverage	Moderate	Moderately Severe
	Kimberly	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Leeds	Unique Risks	Minimal Coverage	Low	Not Severe
	Lipscomb	Unique Risks	Minimal Coverage	Low	Not Severe
	Maytown	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe
	Midfield	Unique Risks	Minimal Coverage	Low	Not Severe
	Morris	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Mountain Brook	Unique Risks	Minimal Coverage	Low	Not Severe
	Mulga	Unique Risks	Minimal Coverage	Low	Not Severe
	North Johns	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Pleasant Grove	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Sylvan Springs	Unique Risks	Minimal Coverage	Low	Not Severe
	Tarrant	Unique Risks	Minimal Coverage	Low	Not Severe
	Trafford	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	Trussville	Unique Risks	Minimal Coverage	Very Low	Not Severe
	Vestavia Hills	Unique Risks	Minimal Coverage	Low	Not Severe
	Warrior	Unique Risks	Minimal Coverage	Low	Somewhat Severe
	West Jefferson	Unique Risks	Minimal Coverage	Low	Not Severe
	Jefferson County	Unique Risks	Minimal Coverage	Moderate	Somewhat Severe

Chapter 6 Mitigation Strategy

Federal Requirements for the Mitigation Strategy

Goals for Hazard Mitigation

Participation and Compliance with the National Flood Insurance Program (NFIP)

Identification and Analysis of Mitigation Actions and Projects

Implementation of Mitigation Actions

Jurisdictional Mitigation Actions

Federal Requirements for the Mitigation Strategy

This chapter of the Plan addresses the Mitigation Strategy requirements of 44 CFR Section 201.6(c)(3), as follows:

“201.6(c)(3) A mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section shall include:

A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.

An action plan describing how the actions identified in paragraph (c)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

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

Goals for Hazard Mitigation

Description of How the Goals Were Developed

The goals in the 2014 plan have been updated based on current conditions. The Hazard Mitigation Planning Committee (HMPC) evaluated the validity and effectiveness of the goals from the previous

2009/2011 plan update and determined that most of the goal statements should be retained in the 2014 Plan Update. Although many were considered lofty, the HMPC decided to keep these goals and strive to achieve them as swiftly as possible. The previously approved plan also included objectives and this update carries forward many of the same objectives.

Among the considerations reviewed by the HMPC during the process of updating this goals section of the mitigation strategy in the 2014 plan were the following concerns:

- Whether the 2014 goals and objectives reflected the updates to the local risk assessment and the 2010 update to the State risk assessment;
- Whether the goals and objectives effectively directed mitigation actions and projects that helped reduce vulnerability to property and infrastructure;
- Whether the goals and objectives support the changed 2014 Mitigation Actions established by the jurisdictions; and
- Whether the goals reflect the adopted goals in the 2013 Alabama State Hazard Mitigation Plan.

The Vision for Disaster-Resistant Jefferson County Communities

Jefferson County and its municipalities envision active resistance to the threats of nature to human life and property through publicly supported mitigation measures with proven results. Jefferson County is committed to reduce the exposure and risk of natural hazards to its communities by activating all available resources through cooperative inter-governmental and private sector initiatives, and augmenting public knowledge and awareness.

This shared vision among all Jefferson County local governments can be achieved through a long-term hazard mitigation strategy that fully responds to the following hazards identified by this plan:

- floods
- tornadoes
- severe storms
- earthquakes
- winter storms/freezes
- droughts/heat waves
- wildfires
- sinkholes (land subsidence)
- hurricanes
- landslides
- dam/levee failures

The attainment of this vision requires successful implementation of a comprehensive range of mitigation measures that promote the following underlying principles and purposes:

- reduce or eliminate risks from natural hazards

- reduce the vulnerability of existing, new, and future development of buildings and infrastructure
- minimize exposure and vulnerability of people, buildings, critical facilities, and infrastructure to identified hazards
- increase public awareness and support of hazard mitigation
- establish interagency cooperation for conducting hazard mitigation activities
- strengthen communications and coordination among individuals and organizations
- integrate local hazard mitigation planning with State hazard mitigation planning, local comprehensive planning activities, and emergency operations planning
- protect people and property and reduce losses and damages to buildings and infrastructure

Community Goals and Objectives

The goals and objectives to guide the Mitigation Strategy and achieve the long-range vision shared among Jefferson County communities are presented here:

Local Planning and Regulations. Manage the development of land and buildings to minimize risks of loss due to natural and man-made hazards. Protect structures and their occupants and contents from the damaging effects of natural and man-made hazards.

Major Objectives:

- Incorporating risk assessment and hazard mitigation principles into comprehensive planning efforts.
- Incorporating a stand-alone element for hazard mitigation into the local comprehensive (land use) plan.
- Incorporating hazard mitigation into broader growth management (i.e., Smart Growth) initiatives.
- Incorporating a hazard risk assessment into the local development and subdivision review process.
- Adding hazard mitigation measures to existing adequate public facilities (APF) tests and programs.
- Ensuring natural hazards are considered in all land suitability analyses (LSA).
- Determining and enforcing acceptable land uses to alleviate the risk of damage by limiting exposure in such hazard areas.
- Developing a post-disaster reconstruction plan to facilitate decision making following a hazard event.
- Involving citizens in comprehensive planning activities that identify and mitigate hazards.
- Using bonus/incentive zoning to encourage mitigation measures for private land development.
- Using conditional use zoning to require or exact mitigation measures for private land development.
- Establishing a process to use overlay zones to require mitigation techniques in high-hazard districts.

- Adopting a post-disaster recovery ordinance based on a plan to regulate repair activity, generally depending on property location.
- Adopting environmental review standards.
- Incorporating proper species selection, planting, and maintenance practices into landscape ordinances.

Structure and Infrastructure Projects. Apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where found to be feasible, cost effective, and environmentally suitable.

Major Objectives:

- Incorporating hazard mitigation principles into all aspects of public-funded building.
- Incorporating mitigation retrofits for public facilities into the annual capital improvements program.
- Engineering or retrofitting roads and bridges to withstand hazards.
- Relocating or undergrounding electrical infrastructure.
- Designing and building water tanks or wells for use in times of water outage.
- Installing quick-connect emergency generator hook-ups for critical facilities

Natural Systems Protection. Preserve and restore the beneficial functions of the natural environment to promote sustainable community development that balances the constraints of nature with the social and economic demands of the community.

Major Objectives:

- Protecting and enhancing landforms that serves as natural mitigation features (i.e., riverbanks, wetlands, dunes, etc.).
- Using vegetative management, such as vegetative buffers, around streams and water sources.
- Protecting and preserving wetlands to help prevent flooding in other areas.
- Establishing and managing riparian buffers along rivers and streams.
- Retaining natural vegetative beds in storm water channels.
- Retaining thick vegetative cover on public lands flanking rivers.

Education and Awareness Programs. Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property.

Major Objectives:

- Developing and implementing a multi-hazard public awareness program.
- Providing information on all types of hazards, preparedness and mitigation measures, and responses during hazard events.
- Establishing a “hazard awareness week” in coordination with the media to promote hazard

- awareness (seasonal).
- Establishing an interactive website for educating the public on hazard mitigation and preparedness measures.
- Annually hosting a public hazards workshop or exposition for all residents.
- Establishing hazard information centers.
- Creating a speakers bureau for disaster-related topics that focus on mitigation and preparedness measures.
- Enhancing hazard awareness of the private sector, particularly lenders, insurance agents, and realtors.
- Scheduling an annual “what’s new in mitigation” briefing for the local governing body (possibly with SHMO, etc.).

Compatibility with 2013 Alabama State Plan Goals

The 2014 Jefferson County Multi-Hazard Mitigation Plan, vision, goals, and objectives are reflective of the goals adopted in the 2013 Alabama State Hazard Mitigation Plan. The State plan includes the following six goals for statewide hazard mitigation:

- Enhance the comprehensive statewide hazard mitigation system.
- Reduce the State of Alabama’s risk from natural hazards.
- Reduce vulnerability of new and future development.
- Reduce the State of Alabama’s vulnerability to natural hazards.
- Foster public support and acceptance of hazard mitigation.
- Expand and Promote interagency hazard mitigation cooperation.

Alabama local governments, including Jefferson County communities, are the fundamental building blocks of the “comprehensive statewide hazard mitigation system.” The underlying principles and purposes of the 2014 Jefferson County goals, listed in Subsection 6.3.3, complement the remaining five State goals, as follows: (a) to reduce or eliminate risks from natural and man-made hazards; (b) to reduce the vulnerability of existing, new, and future development of buildings and infrastructure; (c) to minimize exposure and vulnerability of people, buildings, critical facilities, and infrastructure to identified hazards; (d) to increase public awareness and support of hazard mitigation; and (e) to establish interagency cooperation for conducting hazard mitigation activities.

Participation and Compliance with the National Flood Insurance Program (NFIP)

Jefferson County and its municipal jurisdictions, with the exception of the Town of County Line, have been mapped and the floodplains identified. Since the 2004 plan, all jurisdictions have had their flood maps digitized and updated through the FEMA Map Modernization program. Nearly all NFIP communities in Jefferson County have continued to effectively enforce and keep their floodplain ordinances current since their original entry into the program. Local flood plain ordinance administrators provide technical assistance to applicants and keep abreast of changes in flood plain management requirements through the State NFIP Coordinator. All communities, except for the Town of County Line (which has no areas of special flood hazards mapped by FEMA), have

developed five-year action programs to improve local flood plain management programs. Demonstrations of community commitment to effective implementation of the NFIP include the following actions:

- Longstanding records of continuous and effective enforcement of flood plain management ordinance requirements;
- Continuing education of local flood plain administrators;
- Community outreach to inform builders and property owners of flood plain management ordinance permitting requirements;
- Continuing updates of local flood plain ordinances for compliance with the most current NFIP standards;
- Maintaining the latest FIRM data in the County's GIS database for all communities;
- Ongoing relations by each community with the State NFIP Coordinator;
- Monitoring flooding events and damages in conjunction with the Jefferson County EMA;
- Encouragement to participate in the Community Rating System (CRS) program, through this hazard mitigation planning process and the HMPC; and
- Maintaining NFIP publications on hand by the Jefferson County EMA as technical support resources to local flood plain administrators and as public education information for the general public.

The following table provides information on the NFIP participation status of Jefferson County jurisdictions:

Table 6.2 – 2015 NFIP Community Status, Jefferson County Jurisdictions

Community ID	Jurisdiction	Date of Entry into Program	Status
010217	Jefferson County	02/17/1982	Participating
010267	Adamsville	10/10/1990	Participating
010115	Bessemer	06/01/1981	Participating
010116	Birmingham	03/16/1981	Participating
010117	Brighton	01/02/1981	Participating
010118	Brookside	02/18/1981	Participating
010119	Cardiff	05/23/2003	Participating
010445	Center Point	06/05/2003	Participating
010446	Clay	08/18/2003	Participating
***	County Line	****	Not Mapped
010120	Fairfield	09/11/1981	Participating
010121	Fultondale	05/05/1981	Participating
010269	Gardendale	11/21/1980	Participating
010266	Graysville	11/21/1980	Participating
015006	Homewood	03/30/1973	Participating
010123	Hoover	02/04/1981	Participating
010337	Hueytown	01/02/1981	Participating
010124	Irondale	02/04/1981	Participating
010265	Kimberly	06/18/1981	Participating
010125	Leeds	01/02/1981	Participating
010126	Lipscomb	01/02/1981	Participating
010421	Maytown	01/20/1999	Sanctioned
010127	Midfield	01/16/1981	Participating

010264	Morris	06/03/1986	Participating
010128	Mountain Brook	01/02/1981	Participating
010129	Mulga	09/19/1980	Participating
010396	North Johns	01/20/1999	Sanctioned
010268	Pleasant Grove	12/19/1980	Participating
010420	Sylvan Springs	09/29/2006	Sanctioned
010131	Tarrant	01/02/1981	Participating
010262	Trafford	01/20/1999	Sanctioned
010133	Trussville	11/18/1981	Participating
010132	Vestavia Hills	01/02/1981	Participating
010263	Warrior	01/02/1981	Participating
010402	West Jefferson	02/20/1980	Sanctioned

Source: NFIP Community Status Book

Since the 2004 plan, all mapped jurisdictions have updated and digitized their flood maps, as part of the Jefferson County update. The digital FIRM was made effective September 29, 2006.

Identification and Analysis of Mitigation Actions and Projects

The strategic planning approach for identifying and analyzing mitigation actions and projects follows five categories of a comprehensive hazard mitigation program, which also form the basis for the goals of this plan. These program categories have been developed by FEMA for managing a successful mitigation program and were used here as guidelines for identifying and sorting the alternative mitigation measures:

Prevention.

Adopting and administering ordinances, regulations, and programs that manage the development of land and buildings to minimize risks of loss due to natural hazards.

Property Protection.

Protecting structures and their occupants and contents from the damaging effects of natural hazard occurrences, including retrofitting existing structures to increase their resistance to damage and exposure of occupants to harm; relocating vulnerable structures and occupants from hazard locations; and conversion of developed land to permanent open space through acquisition and demolition of existing structures.

Public Education and Awareness.

Educating and informing the public about the risks of hazards and the techniques available to reduce threats to life and property.

Natural Resources Protection.

Preserving and restoring the beneficial functions of the natural environment to promote sustainable community development that balances the constraints of nature with the social and economic

demands of the community.

Structural Projects.

Engineering structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of a hazard on a community.

The process by which the jurisdictions finally selected among the available mitigation measures within each of the above categories applied the STAPLEE method. Each jurisdiction's capabilities to implement the selected mitigation measures were assessed. Related to this assessment is the review of local plans, studies, regulatory tools and other local planning and regulatory tools.

In addition to STAPLEE and jurisdictional capabilities, jurisdictions examined other evaluation criteria, including consistency with the vision, goals, and objectives; weight of benefit to cost; FEMA and State funding priorities for Hazard Mitigation Assistance grants; and the fiscal and staffing capacities of the jurisdictions for carrying out the measures.

Mitigation measures that resulted in loss reduction to existing and new buildings and infrastructure were chosen for the final list of considered measures.

Implementation of Mitigation Actions

Social, technical, administrative, political, legal, environmental, and economic considerations – often referred to as the STAPLEE method – guided the evaluation of the range of measures considered by each participating jurisdiction. The STAPLEE method addressed the following areas of concern:

Social Considerations

Environmental justice. Will the proposed measure be socially equitable to minority, disadvantaged, and special needs populations, such as the elderly and handicapped?

Neighborhood impact. Will the measure disrupt established neighborhoods or improve quality of life for affected neighborhoods?

Community support. Is the measure consistent with community values? Will the affected community support the measure?

Impact on social and cultural resources. Does the measure adversely affect valued local resources or enhance those resources?

Technical Considerations

Technical feasibility. Is the proposal technically possible? Are there technical issues that remain?

Does the measure effectively solve the problem or create new problems? Are there secondary impacts that might be considered? Have professional experts been consulted?

Administrative Considerations

Staffing. Does the jurisdiction have adequate staff resources and expertise to implement the measure? Will additional staff, training, or consultants be necessary? Can local funds support staffing demands? Will the measure overburden existing staff loads?

Maintenance. Does the jurisdiction have the capabilities to maintain the proposed project once it is completed? Are staff, funds, and facilities available for long-term project maintenance?

Timing. Can the measure be implemented in a timely manner? Are the timeframes for implementation reasonable?

Political Considerations

Political support. Does the local governing body support the proposed measure? Does the public support the measure? Do stakeholders support the measure? What advocates might facilitate implementation of the proposal?

Legal Considerations

Legal authority. Does the jurisdiction have the legal authority to implement the measure? What are the legal consequences of taking action to implement the measure as opposed to an alternative action or taking no action? Will new legislation be required?

Environmental Considerations

National Environmental Policy Act (NEPA). Will the measure be consistent with Federal NEPA criteria? How will the measure affect environmental resources, such as land, water, air, wildlife, vegetation, historic properties, archaeological sites, etc.? Can potentially adverse impacts be sufficiently mitigated through reasonable methods?

State and local environmental regulations. Will the measure be in compliance with State and local environmental laws, such as flood plain management regulations, water quality standards, and wetlands protection criteria?

Environmental conservation goals. Will the proposal advance the overall environmental goals and objectives of the community?

Economic Considerations

Availability of funds.

Will the measure require Federal or other outside funding sources? Are local funds available? Can in-

kind services reduce local obligations? What is the projected availability of required funds during the timeframe for implementation? Where funding is not apparently available, should the project still be considered but at a lower priority?

Benefits to be derived from the proposed measure. Will the measure likely reduce dollar losses from property damages in the event of a hazard? To what degree?

Costs.

Are the costs reasonable in relation to the likely benefits? Do economic benefits to the community outweigh estimated project costs? What cost reduction alternatives might be available?

Economic feasibility. Have the costs and benefits of the preferred measure been compared against other alternatives? What is the economic impact of the no-action alternative? Is this the most economically effective solution?

Impact on local economy.

Will the proposed measure improve local economic activities? What impact might the measure have on the tax base?

Economic development goals.

Will the proposal advance the overall economic goals and objectives of the community?

The STAPLEE evaluation also facilitated the prioritization of measures. If a measure under consideration was found to be financially feasible and had high ratings, it was given a higher priority for implementation than measures that fell lower in the rating. Moreover, a general economic evaluation was performed as part of the STAPLEE method, as described above.

Weighing potential economic benefits to reducing damages against costs made it possible to select among competing projects. Especially important to the selection process is the estimated cost and availability of funds through local sources and potential FEMA Hazard Mitigation Assistance (HMA) grant programs. Prior to implementation of projects proposed for HMA funding, a detailed benefit-cost analysis (BCA) will be required.

All of the above considerations and prioritization methods resulted in the final Community Mitigation Actions Programs presented in the supplemental plan document.

Table 6.3 – Jefferson County Hazards and Goals Summary

Hazard	Community Mitigation Goals			
	Land Planning and Regulations	Structure and Infrastructure Projects	Natural Systems Protection	Education and Awareness Programs
Dams/Levee Failures (See: Flooding)	X	X	X	X
Drought/Heat Waves				X
Earthquakes	X	X		X
Flooding	X	X	X	X
Hurricanes (See: Severe Wind; Flooding)				
Landslides/Erosion	X	X	X	X
Land Subsidence	X	X		X
Severe Storms		X		X
Tornadoes		X		X
Wildfires	X			X
Winter Storms/Freezes (Severe Winter Weather)		X		X
Extreme Temperatures				X
Hail				X
Landslide	X		X	X
Lightning		X		X
Severe Wind				X
Multiple Hazards	X	X	X	X

Table 6.4 – Summary by Goals and Objectives

Table 6.1 Summary by Goals and Objectives					
Goals	Objectives	Recommended Lead / Support Agencies	Affects New/Existing Building or Infrastructure	Action or Project	Funding Source
Goal 1	Local Planning and Regulations. Manage the development of land and buildings to minimize risks of loss due to natural and man-made hazards. Protect structures and their occupants and contents from the damaging effects of natural and man-made hazards.				
OBJECTIVES					
1.1	Develop comprehensive land use plans that maximize the protection of the built environment from natural and man-made hazards	County/ City Planning Agencies	Both	Action	Local, State
1.2	Create local funding mechanisms for incorporating hazard mitigation into land use plans	County/City Planning Agencies, Mayor, City Council, Legal Departments	Both	Action	Local
1.3	Monitor mitigation plan implementation and ensure compatibility with land use plans	County/City Planning Agencies, Local Building Officials	Both	Action	Local
1.4	Adopt and, if necessary, strengthen, county-wide zoning and land use regulations to prevent development in hazardous areas.	Mayor, City Council, Local Zoning Administrators, Legal Departments	Both	Action	Local, State
1.5	Develop and implement tools to assess hazards and promote wise decision-making in siting the built environment.	EMA, County/City Planners, USGS, FEMA	Both	Action	EMA, FEMA, USGS, Local
1.6	Undertake risk assessments and map county-wide hazards.	County/City GIS Departments, County/City Planners	Both	Action	USGS, EMA, FEMA, Local
Goal 2	Structure and Infrastructure Projects. Apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where found to be feasible, cost effective, and environmentally suitable.				
OBJECTIVES					
2.1	Adopt mitigation strategies into current and	County/City Planners, Local	Both	Action	Local Capital

Goals	Objectives	Recommended Lead / Support Agencies	Affects New/Existing Building or Infrastructure	Action or Project	Funding Source
	future public capital improvement infrastructure projects.	Building Departments			Improvements Budgets,
2.2	Apply mitigation principles to the engineering and design/ modification of critical infrastructure and facilities.	Local Public Works and Building Departments	Both	Project	Local, Public Works, Private
2.3	Undertake county-wide surveys of built environment to assess risk(s) to public facilities and infrastructure from multiple hazards.	EMA, County City Planning Agencies, Public Works	Both	Action	Local Agency Budes (Public Works, Planning), EMA, FEMA Grants
2.4	Apply retrofitting techniques to public buildings and infrastructure to minimize losses from natural hazards	Public Works (Engineering Departments)	Existing	Project	Local Capital Improvements Budget, Private
2.5	Develop and disseminate information to builders on incorporating mitigation strategies in the engineering and design of public and private structures and infrastructure.	County/City Planners and Building Departments	Both	Action	EMA, FEMA Local
Goal 3	Natural Systems Protection. Preserve and restore the beneficial functions of the natural environment to promote sustainable community development that balances the constraints of nature with the social and economic demands of the community				
OBJECTIVES					
3.1	Minimize development in hazard areas by incorporating resource management techniques that preserve natural areas, such as wetlands and other riparian zones.	County/City Planners, Parks Departments	New	Action	Local, EMA
3.2	Retain natural vegetation around areas subject to flooding and land movement	County/City Planners, Parks Departments	New	Action	Local
3.3	Preserve natural systems and incorporate into comprehensive parks and recreation programs	Parks Department	Both	Action	EMA, Local
3.4	Protect county-wide water systems, aquifers, and forests by limiting development in critical areas.	Public Works, Water Dept, County/City Planners, State and Local Fire Agencies	New	Action	Local
3.5	Provide incentives to developers to preserve natural systems in the built environment.	County/City Planning, Building and Zoning Departments	Both	Both	EMA, Local, Private
Goal 4	Education and Awareness Programs. Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property				
OBJECTIVES					
4.1	Develop and implement emergency preparedness education programs for schools, business, and industry.	County/City Public Works Departments, EMA, Local Health Departments, Fire Departments	Both	Action	EMA, FEMA, Local, Private
4.2	Develop and implement a multi-hazard public awareness program	EMA, Mayor, City Councils, Fire Departments	Both	Action	EMA, FEMA, Local, Private
4.3	Create Organize a speaker's bureau and hold community forums and discuss county-wide hazards, mitigation measures, and how effectively applied.	Mayor, City Councils, Building Departments	Both	Action	Local, EMA, FEMA
4.4	Establish an interactive website to educate the public on hazard mitigation and preparedness measures.	Mayor/City Council, IT Departments, Planning and Building Departments	Both	Action	Local, EMA, FEMA
4.5	Distribute mitigation outreach material, such as preparedness handbooks, brochures, severe weather guides, and home retrofit plans.	Planning and Building Departments	Both	Action	Local, EMA, FEMA
4.6	Provide public outreach through existing communication media on need to prepare for	Mayor, City Councils	Both	Action	Local, Private

Goals	Objectives	Recommended Lead / Support Agencies	Affects New/Existing Building or Infrastructure	Action or Project	Funding Source
	potential hazards.				
4.7	Establishing a "hazard awareness week" in coordination with the media to promote hazard awareness.	Mayor, City Councils, County/City Planning Departments	Both	Action	Local, EMA, FEMA

Chapter 7 – Plan Maintenance Process

Federal Requirements for the Plan Maintenance Process

Monitoring, Evaluating and Updating the Mitigation Plan

Incorporation of the Mitigation Plan into Other Planning Mechanisms

Continuing Public Participation in the Plan Maintenance Process

Federal Requirements for the Plan Maintenance Process

This chapter of the Plan addresses the Plan Maintenance Process requirements of 44 CFR Sec. 201.6 (c) (4), as follows:

“Sec. 201.6 (c) Plan content. The plan shall include the following:

A plan maintenance process that includes:

A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Discussion on how the community will continue public participation in the plan maintenance process.”

Monitoring, Evaluating, and Updating the Mitigation Plan

Ongoing Monitoring of the Plan

The HMPC will meet semi-annually to provide training and education in Hazard Mitigation planning. The HMPC will perform ongoing monitoring of the status of the Mitigation Actions scheduled for implementation by the jurisdictions. Annual status reports of each jurisdiction’s progress will be sent to and reviewed by the JCEMA Director and the HMPC Chairperson. While JCEMA admits to having done a very poor job in the past of monitoring and evaluating the HMP Updates, JCEMA and the revitalized HMPC now understand the importance of plan maintenance, and are committed to ensuring that the activities associated with it are conducted on a regularly-scheduled basis beginning with this 2014 Plan Update. It is acknowledged that follow-through on this commitment will result in a much smoother planning process and faster plan development at the end of this five-year period.

Monitoring of Plan Updates will focus on the following information:

- Actions that have been undertaken to implement the scheduled mitigation measure, such as, obtaining funding, permits, approvals or other resources to begin implementation.
- Mitigation measures that have been completed, including public involvement activities.
- Revisions to the priority, timeline, responsibility, or funding source of a measure and cause for

such revisions or additional information or analysis that has been developed that would modify the mitigation measure assignment as initially adopted in the plan.

- Measures that a jurisdiction no longer intends to implement and justification for cancellation.

The ongoing implementation process may require adjustments to the selection of mitigation actions, priorities, timelines, lead responsibilities, and funding sources scheduled in the Community Mitigation Action Programs presented in this plan. In the event modifications to the plan are warranted as a result of the annual review or other conditions, the HMPC will oversee and approve all amendments to the plan. An amendment requires approval of a resolution by majority vote of the members present at a called meeting. Conditions that might warrant amendments to this plan would include, but are not limited to: special opportunities for funding and response to a natural disaster. A copy of the plan amendments will be submitted by JCEMA to affected jurisdictions in a timely manner and filed with the AEMA.

Each jurisdiction will track and provide a report to the mitigation planning committee about their mitigation strategies and risk assessments on an annual basis. The chairperson of the hazard committee and designated members will evaluate each jurisdictions report. Each jurisdiction will update their mitigation strategies as projects are completed. Reported project completions will be recorded and included in the 5 year update by the hazard mitigation planning committee.

Table 7.2 –Jurisdictional Points of Contacts for the 2014 HMP

Jurisdiction	Mayor
Adamsville	Mayor Palmer
Bessemer	Mayor Gulley
Birmingham	Mayor Bell
Brighton	Mayor Watkins
Brookside	Mayor McCondichie
Center Point	Mayor Henderson
Clay	Mayor Webster
County Line	Mayor Self
Fairfield	Mayor Coachman
Fultondale	Mayor Lowery
Gardendale	Mayor Hogeland
Graysville	Mayor Morgan
Homewood	Mayor McBrayer
Hoover	Mayor Ivey
Hueytown	Mayor Baumann
Irondale	Mayor Alexander
Kimberly	Mayor Ellerbrock
Leeds	Mayor Miller
Lipscomb	Mayor McDade
Midfield	Mayor Richardson
Morris	Mayor Pylant
Mountain Brook	Mayor Oden
Mulga	Mayor Jones
Pinson	Mayor Sanders
Pleasant Grove	Mayor Brasseale
Sylvan Springs	Mayor Parsons
Tarrant	Mayor Tuck

Jurisdiction	Mayor
Trafford	Mayor Motes
Trussville	Mayor Melton
Vestavia Hills	Mayor Zaragoza
Warrior	Mayor Ragland
West Jefferson	Mayor Nix

Evaluating the Plan

Within sixty days following a significant disaster or an emergency event having a substantial impact on a portion of or the entire Jefferson County area or any of its jurisdictions, the HMPC will conduct or oversee an analysis of the event to evaluate the responsiveness of the Mitigation Strategy to the event and the effects on the contents of Chapter 5 “Risk Assessment.” The Risk Assessment should evaluate the direct and indirect damages, response and recovery costs (economic impacts) and the location, type, and extents of the damages. The findings of the assessment should determine any new mitigation initiatives that should be incorporated into this plan to avoid similar losses from future hazard events. The results of the assessment will be provided to those affected jurisdictions for review. These results also provide useful information when considering new mitigation initiatives as an amendment to the existing plan or during the next five-year plan update period.

Plan Update Process

Any of the following situations may require a review and update of the plan:

- Requirement for a five-year update.
- Change in federal requirements for review and update of the plan.
- Significant natural hazard event(s) before the expiration of the five-year plan update.

As stated above, the HMPC will convene within 60 days of a significant disaster to discuss the potential need for any amendments to the plan. If there are no significant disasters which trigger an update, the current Federal guidelines require a five-year update.

JCEMA will release or publish a notice to the public that an update is being initiated and provide information on meeting schedules, how and where to get information on the plan, how to provide comments on the plan, and opportunities for other public involvement activities. JCEMA will then convene the HMPC to carry out the steps necessary to update the plan.

The initial steps for the five-year update to this plan should begin at least twelve months before the current FEMA approval expiration, which takes into consideration the 90 day review process by AEMA and FEMA. Additional time for planning grants may require up to an additional year added to the start date. Once the HMPC has been organized to oversee the update, the following steps will take place in order to facilitate the process:

- Step 1. Review the most recent FEMA local mitigation planning requirements and guidance.
- Step 2. Evaluate the existing planning process and make necessary improvements.
- Step 3. Examine and revise the risk assessment, including hazard identification, profiles,

vulnerabilities, and impacts on development trends, to ensure accuracy and up-to-date information.

- Step 4. Update of mitigation strategies, goals and action items, in large part based on the annual plan implementation evaluation input.
- Step 5. Evaluate the existing plan maintenance procedures and make necessary improvements.
- Step 6. Comply with all applicable Federal regulations and directives.

Ninety days prior to the anniversary date, a final draft of the revised plan will be submitted to AEMA for review and comments and then to FEMA for conditional approval. Once FEMA Region IV has issued a conditional approval, the updated plan will be adopted by all participating jurisdictions.

Incorporation of the Mitigation Plan into Other Planning Mechanisms

This plan supplements the most recent edition of the Jefferson County Comprehensive Emergency Management Plan, which is administered through the Jefferson County Emergency Management Agency. Further, each governmental entity will be responsible for implementation of their individual Community Mitigation Action.

The HMPC recognizes the importance of fully integrating hazard mitigation planning and implementation into existing local plans, regulatory tools, and related programs. This plan is intended to influence each jurisdiction's planning decisions concerning land use, development, public facilities, and infrastructure. Any updates, revisions, or amendments to the Jefferson County Comprehensive Emergency Management Plan, local comprehensive plans, capital improvement budgets or plans, zoning ordinances and maps, subdivision regulations, building and technical codes, and related development controls should be consistent with the goals, objectives, and mitigation measures adopted in this plan. Each jurisdiction's commitment to this consistency is reflected in its respective mitigation action program. As part of the subsequent five-year update process, all local planning mechanisms should again be reviewed for effectiveness, and recommendations for new integration opportunities should be carefully considered.

Multi-hazard mitigation planning should not only be integrated with local planning tools but into existing public information activities, as well as household emergency preparedness. Ongoing public education programs should stress the importance of managing and mitigating hazard risks. Public information handouts and brochures for emergency preparedness should emphasize hazard mitigation options, where appropriate.

Of particular importance to incorporating hazard mitigation planning into other planning programs, is the Jefferson County EMA's commitment to full integration of multi-hazards mitigation planning into its comprehensive emergency operations planning program and associated public emergency management activities, to the furthest possible extent.

Continuing Public Participation in the Plan Maintenance Process

A critical part of maintaining an effective and relevant multi-hazard mitigation plan is ongoing public review and comment. Consequently, the HMPC is dedicated to direct involvement of its citizens in

providing feedback and comments on the plan throughout the five-year implementation cycle and interim reviews.

To this end, public hearings will be held to present the final plan to the public before adoption. A hard copy of this 2014 Jefferson County Multi-Hazard Mitigation Plan will be maintained in the offices of the Jefferson County EMA for public review and comments, with the formal adoption resolutions added to the Plan Update as they are issued. A link to download an online copy of the plan will be listed on the JCEMA Web site at www.jeffcoema.org. Public comments on the plan can be mailed, e-mailed, or phoned to JCEMA, and/or posted to the social media sites.

As part of the ongoing monitoring, evaluation, and updating of the plan, each jurisdiction will schedule annual public meetings to review the mitigation goals, strategies, risk assessment, and funding sources. The public will be invited to these annual meetings and will be able to express their concerns, ideas, and opinions. Public opinion surveys are conducted during the community meeting and public involvement activities required for the five-year update and may be periodically administered by the Jefferson County EMA.

Public involvement activities will continue throughout the five-year implementation cycle and be evaluated for effectiveness at least annually by the HMPC. Moreover, the public outreach goal of this plan and the associated objectives and mitigation measures commit each jurisdiction to implement a range of public education and awareness opportunities. The constant monitoring of these programmed mitigation actions assures ongoing public participation throughout the plan maintenance process.

PART 2

Community Action Programs

Priorities

Each jurisdiction chose to create new mitigation actions that more appropriately reflected what they were capable of accomplishing rather than using the mitigation actions from the 2009 Hazard Mitigation Plan. The new priorities were created using the same scale of High, Medium, and Low to rank the mitigation strategies. Additionally, timelines were changed to reflect the need for sufficient time to secure funding and complete mitigation actions - always with the understanding that appropriate speed would be used to complete projects undertaken.

Key

- Action Programs are in alphabetical order by jurisdiction.
- The Action Programs assign lead responsibility for implementation to a specific department or agency or position within the organization.
- The Local Floodplain Administrator is an administrator designated through the National Flood Insurance Program (NFIP) as the person responsible for enforcing the local ordinance, and may be the Local Engineer or Local Building Official.
- Priorities are *High, Medium, and Low*.
- Timelines are *Annually* (occurring at least once per year), *Short Range* (less than 5 years), *Mid-Range* (5-10 years), *Long-Range* (over 10 years), *Ongoing*, or an expected year of completion is given.
- General cost estimates and potential funding sources are identified. FEMA Hazard Mitigation Assistance funds, where noted as a possible source, are subject to final eligibility determination, including availability of funds.
- *TBD* is "To Be Determined."

Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Everbridge Emergency Alert Notifications	Jefferson County EMA	H	Quarterly Drill with Mayor, Police Chiefs, and County Commissioners	Local	No additional cost
	Hazard awareness weeks.	Jefferson County EMA, AEMA, NWS	H	Annually	Local, State	No additional cost
	Preparedness handbooks, brochures. Distribution of severe weather guides, etc.	Jefferson County EMA, AEMA, NWS, FEMA	H	Seasonal	Local, State, FEMA	No additional cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Jefferson County EMA	M	2020	Local, State	TBD
	D-2 Monitor Drought Conditions	Jefferson County EMA	M	Seasonally	Local, State	No



Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
						additional cost
	D-3 Monitor Water Supply	Jefferson County EMA, Birmingham Water Works	H	Continuously	Local	No additional cost
	D-4 Plan for Drought	Jefferson County EMA	M	2020	Local	No additional cost
	D-5 Require Water Conservation During Drought Conditions	Jefferson County Commission, Birmingham Water Works	M	Annually	Local	TBD
	D-6 Educate Residents on Water Saving Techniques	Birmingham Water Works, Jefferson County EMA	H	Semi- annual	Local	No additional cost
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Inspection Services	H	2020	Local	No additional cost
	EQ-2 Conduct Inspections of Building Safety	Inspection Services	H	2020	Local	TBD
	F-1 Incorporate Flood Mitigation in Local Planning	Land Planning & Development Services	H	Annually	Local	TBD
Flooding	F-2 Form Partnerships to Support Floodplain Management	Land Planning & Development Services	M	Annually	Local	No additional cost
	F-3 Limit or Restrict Development in Floodplain Areas	Land Planning & Development Services	H	2025	Local	TBD

Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	F-4 Adopt and Enforce Building Codes and Development Standards	Inspection Services	H	2020	Local	TBD
	F-5 Improve Stormwater Management Planning	Stormwater Management	H	Annually	Local	No additional cost
	F-6 Adopt Policies to Reduce Stormwater Runoff	Stormwater Management	M	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Land Planning & Development Services	M	2020	Local / FEMA	TBD
	F-8 Join or Improve Compliance with NFIP	Land Planning & Development Services	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Land Planning & Development Services	H	2020	Local	TBD
	F-10 Participate in the CRS	Land Planning & Development Services	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Land Planning & Development Services	L	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Land Planning & Development Service	L	2025	Local/State/ FEMA	TBD
	F-13 Improve Stormwater Drainage System Capacity	Roads & Transportation	M	2025	Local/State/ FEMA	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Roads & Transportation	M	2020	Local	TBD
	F-15 Protect Infrastructure	Roads & Transportation, Environmental Services	H	Annually	Local/State/ FEMA	TBD

Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	F-16 Protect Critical Facilities	Roads & Transportation, Environmental Services	H	Annually	Local/State/FEMA	TBD
	F-17 Construct Flood Control Measures	Land Planning & Development Services	M	2025	Local/State/FEMA	TBD
	F-18 Protect and Restore Natural Flood Mitigation Features	Land Planning & Development Services	M	2025	Local/State/FEMA	TBD
	F-19 Preserve Floodplains as Open Space	Land Planning & Development Services	H	2025	Local/State/FEMA	TBD
	F-20 Increase Awareness of Flood Risk and Safety	Land Planning & Development Services, Jefferson County EMA	H	Annually	Local	No additional cost
Hurricanes (See: Severe Wind; Flooding)	F-21 Educate Property Owners about Flood Mitigation Techniques	Land Planning & Development Services	H	Annually	Local	TBD
Landslides/Erosion/Debris Flow	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA, FEMA	H	Annually	Local/FEMA	No additional cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA, FEMA	H	Annually	Local/FEMA	No additional cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Community Development, Jefferson County EMA,	H	Ongoing, most of the citizens will	Local/State/FEMA	TBD



Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
		AEMA, FEMA		rely on grant funds to construct safe rooms, some citizens have been placed on waiting list		
	T-2 Require Wind-Resistant Building Techniques	Inspection Services	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Jefferson County EMA, AEMA, FEMA	H	Annually	Local/State/FEMA	TBD
	WF-1 Require or Encourage Fire-Resistant Construction Techniques	Inspection Services	M	Annually	Local	TBD
Wildfires	WF-2 Increase Wildfire Risk Awareness	Jefferson County EMA, Alabama Forestry Commission	H	Annually	Local/State	No additional cost
	WF-3 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local/State	No additional cost
	WW-1 Adopt and Enforce Building Codes	Inspection Services	H	Annually	Local	TBD
	WW-2 Reduce Impacts to Roadways	Roads & Transportation	M	Working w/Alabama Dept. of Transportation on an	Local	TBD
Winter Storms/Freezes (Severe Winter Weather)						



Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
				annual basis		
	WW-3 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	M	Annually	Local	No additional cost
	WW-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA, BWWB	M	Seasonal	Local	No additional cost
	Others:					
Hail	HA-1 Increase Hail Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
Lightning	L-1 Conduct Lightning Awareness Programs	Jefferson County EMA, Alabama Power	H	Annually	Local	No additional cost
Severe Wind	SW-1 Adopt and Enforce Building Codes	Inspection Services	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Inspection Services	H	2020	Local	TBD
	SW-3 Increase Severe Wind Risk Awareness	Jefferson County EMA	H	2017	Local	No additional cost
Multiple Hazards	MU-1 Prevent Development in Hazard Areas	Land Planning & Development Services	H	2025	Local/State/FEMA	TBD
	MU-2 Adopt Development Regulations in Hazard Areas	Land Planning & Development Services	H	2025	Local	TBD
	MU-3 Limit Density in Hazard Areas	Land Planning &	H	2025	Local	TBD



Jefferson County (UNINCORPORATED) Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	MU-4 Integrate Mitigation into Local Planning	Development Services Land Planning & Development Services	H	2016	Local	TBD
	MU-5 Strengthen Land Use Regulations	Land Planning & Development Services	H	2020	Local	TBD
	MU-6 Adopt and Enforce Building Codes	Inspection Services	H	2020	Local	TBD
	MU-7 Increase Hazard Education and Risk Awareness	Jefferson County EMA	H	2017	Local	No additional cost
	MU-8 Improve Household Disaster Preparedness	Jefferson County EMA	H	2017	Local	No additional cost

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Adamsville Community Action Program 2014-2019						
Hazard	Mitigation Measures	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA, Fire Department and Police Department		H	Ongoing Annually	Local, State, FEMA
	Drills, exercises in homes, workplaces, classrooms, etc	School District, Fire Department		H	Quarterly	NA
	Public service announcements	Jefferson County EMA, Mayor, City Council		H	Quarterly	Local, State
	Hazard "safety fairs"	Jefferson County EMA, Mayor, City Council, School District, Fire Department and Police Department		H	Annually	Local
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council, Fire Department and Police Department		H	Annually	Local
	Hazard awareness weeks	Jefferson County EMA, Mayor, City Council, School District, Fire District		H	Annually	Local, State
	Preparedness handbooks, brochures, Distribution of severe weather guides, homeowner's retrofit guide, etc	FEMA, Jefferson County EMA		H	Semi-Annually	Local, State, FEMA
	Regular newspaper articles	Jefferson County EMA		M	Quarterly	Local
	Direct mailings	All City Departments and Jefferson County EMA		M	Annually	Local
	Everbridge Notifications	Jefferson County EMA, Dispatch		H	Per incident	Local
	Annual correspondence with residents reminding them of the need to be hazard prepared	FEMA, Jefferson County EMA and all City Departments		H	Annually	Local



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Dam/Levee Failures (See: Flooding)						
	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEMA, Utilities	M	Seasonal	Local, Private	TBD
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	M	Seasonal	Local, State	TBD
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	H	Continuously	Local, State, FEMA	TBD
	D-4 Plan for Drought	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water Utilities	M	Seasonal	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	AEMA, Jefferson County EMA, Water Utilities, City Council	H	Annually in April	Local, State	TBD
	D-6 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA	H	Ongoing Annually	Local, State, FEMA	No extra cost
	D-7 Assist Vulnerable Populations	Jefferson County Community Development, All City Departments, West Jefferson Civitan Club	H	Continuously	Local, State	TBD
	D-8 Enhance Landscaping and Design Measures	Mayor, City Council and Public Works	L	Long Range	Local	TBD
Earthquakes	D-9 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council	M	Annually in April	Local, State, FEMA	No extra cost
	EQ-1 Adopt and Enforce Building Codes	Building and Planning Agencies, Mayor, City Council, Fire Department and Police Department	H	2020	Local	TBD
	EQ-2 Incorporate Earthquake	FEMA, AEMA, Jefferson County	M	Long	Local	No extra



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source
Hazard	Action Items					Estimated Cost
	Mitigation into Local Planning	EMA, Mayor, City Council, Building and Planning Agencies			Range	cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA	H		Long Range	No extra cost
	EQ-4 Conduct Inspections of Building Safety	Building Inspector, Fire Department, State Fire Marshal	M		Annually	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department, Public Works	H		2020	Local
	EQ-6 Implement Structural Mitigation Techniques	Public Works and Engineering Department	M		2020	Local
	EQ-7 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, A EMA, Mayor, City Council	M		Quarterly	Local, State, FEMA
	EQ-8 Provide Information on Structural and Non-Structural Retrofitting	Jefferson County EMA, Engineering & Building Inspector	M		Annually	Local, State, FEMA
	Flooding					
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council, Planning and Zoning Department	H		Annually	Local
	F-2 Form Partnerships to Support Floodplain Management	Mayor, City Council, Planning and Zoning Department	H		Ongoing	Local
	F-3 Limit or Restrict Development in Floodplain Areas	Mayor, City Council, Planning and Zoning Department	H		2020	Local
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor, City Council, Planning, Building & Zoning Departments	H		2020	Local, State
	F-5 Improve Storm water Management Planning	Public Works Department and Storm Water Management Agency	H		Long Range	Local
	F-6 Adopt Policies to Reduce Storm water Runoff	Mayor, City Council and Storm Water Management Agency	H		2020	Local
	F-7 Improve Flood Risk Assessment	Mayor, City Council, GIS, Public Works Department, USGS and Storm Water Management Agency	H		Long Range	Local
	F-8 Join or Improve Compliance	Mayor, City Council, Homeowners,	H		Short	Local



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	with NFIP	Business Organizations, Jefferson County EMA, Storm Water Management Agency		Range	State	
F-9	Manage the Floodplain Beyond Minimum Requirements	Mayor, City Council, Public Works, Storm Water Management Agency	H	2020	Local	TBD
F-10	Participate in the CRS	Mayor, City Council	H	2020	Local	\$500.00
F-11	Establish Local Funding Mechanisms for Flood Mitigation	Mayor, City Council	H	Long Range	Local	TBD
F-12	Remove Existing Structures from Flood Hazard Areas	Mayor, City Council and FEMA	H	2025	Local	TBD
F-13	Improve Storm water Drainage System Capacity	Mayor, City Council, Public Works, Storm Water Management Agency	H	Long Range	Local	TBD
F-14	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures		H	2020	Local	TBD
F-15	Flood proof Residential and Non-Residential Structures	Homeowners, Business Organizations, FEMA	H	Mid-Range	Local	No extra cost
F-16	Protect Infrastructure	All City Departments	H	2025	Local	TBD
F-17	Protect Critical Facilities	All City Departments	H	Ongoing	Local	TBD
F-18	Construct Flood Control Measures	Mayor, City Council, Public Works and Storm Water Management Agency	H	Long Range	Local	TBD
F-19	Protect and Restore Natural Flood Mitigation Features	Mayor, City Council, Public Works Department	M	Long Range	Local	TBD
F-20	Preserve Floodplains as Open Space	Mayor, City Council	M	2025	Local	TBD
F-21	Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA	H	2025	Local, State, FEMA	TBD
F-22	Educate Property Owners about Flood Mitigation	FEMA, AEMA, Jefferson County EMA, Mayor, City Council	H	Annually	Local, State	TBD



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Plans					
Hurricanes (See: Severe Wind; Flooding)	Techniques				FEMA	
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	GIS Department, USGS, FEMA, Storm Water Management Agency	H	Mid-Range	Local	No extra cost
	ER-2 Manage Development in Erosion Hazard Areas	Storm Water Management Agency	H	2020	Local	No extra cost
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Mayor, City Council, Planning & Zoning Department	H	2025	Local	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Mayor, City Council, and FEMA	M	2025	Local	TBD
	ER-5 Stabilize Erosion Hazard Areas	Department of Agriculture	H	2025	Local, State	No extra cost
	ER-6 Increase Awareness of Erosion Hazards	Mayor, City Council, AEMA, Jefferson County EMA, Storm Water Management Agency	H	2020	Local, State, FEMA	TBD
Land Subsidence (Sink Hole, etc.)	SU-1 Map and Assess Vulnerability to Subsidence	FEMA, AEMA	H	Long Range	Local, State	No extra cost
	SU-2 Manage Development in High-Risk Areas	Mayor, City Council	H	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Building Inspector	H	2020	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	USGS, GIS Department,	L	Long Range	Local	No extra cost
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Mayor, City Council, FEMA	L	2025	Local	TBD
	SU-6 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA	No extra cost



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority	Timeline	Estimated Cost
Hazard	Action Items					
Severe Storms	T-1 Encourage Construction of Storm Shelters	Mayor, City Council, Jefferson County EMA, FEMA, Planning and Zoning Department	H	Ongoing, most citizens will need grant funds.	Local	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, City Council, Building Inspector	H	Long Range	Local	TBD
	T-3 Conduct Tornado Awareness Activities	EMA, AEMA, FEMA, Police Department and Fire Department	H	Annually	Local	TBD
	T-4 Everbridge Notification	Jefferson County EMA, Dispatch	H	Short Range	Local	No extra cost
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Fire Department, GIS Department, Forestry Department	M	Long Range	Local, State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, City Council	H	Short Range	Local	TBD
	WF-3 Develop a Wildfire Land-Use Interface Code	USDA	M	Long Range	Local, State	No extra cost
	WF-4 Require or Encourage Fire-Resistant Construction Techniques	Mayor, City Council, Fire Department, Building Inspector	L	2025	Local	TBD
	WF-5 Retrofit At-Risk Structures with Ignition-Resistant Materials	Mayor, City Council, Building Inspector and Fire Department	L	Long Range	Local	TBD
	WF-6 Create Defensible Space Around Structures and Infrastructure	Planning and Zoning Department	H	Mid Range	Local	TBD
	WF-7 Conduct Maintenance to Reduce Risk	Mayor, City Council, Police Department and Fire Department	M	Annually	Local	TBD
	WF-8 Implement a Fuels Management Program	State Forestry, Residents, Business Owners	M	Mid Range	Local	No extra cost
	WF-9 Participate in Fire Wise Program	Mayor, City Council, Fire Department, State Fire Marshal, and State Forestry	H	Annually	Local	TBD
	WF-10 Increase Wildfire Risk	State Forestry, State Fire Marshal	H	Short Range	Local	No extra



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source
Hazard	Action Items					Estimated Cost
Winter Storms/Freezes (Severe Winter Weather)	WF-11 Awareness	Jefferson County EMA, State Forestry, State Fire Marshall	H	Annually	Local, State, FEMA	No extra cost
	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Planning and Zoning Department, Building Inspector, Fire Department and Police Department	H	Short Range	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Public Works Department	M	Annually	Local	TBD
	WW-3 Protect Power Lines	Alabama Power	H	Annually	Local, Private	No extra cost
	WW-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA, AEMA, FEMA	M	Annually	Local, State, FEMA	No extra cost
	WW-5 Reduce Impacts to Roadways	Public Works Department, ALDOT, Jefferson County Roads and Transportation	M	Annually	Local	TBD
	WW-6 Conduct Winter Weather Risk Awareness Activities	Home Owners Associations and Local Schools	H	Annually	Local, State, FEMA	No extra cost
Others:	WW-7 Assist Vulnerable Populations	Jefferson County Community Development, All City Departments and West Jefferson Civitan Club	H	2016	Local, State	TBD
	Hall					
	HA-1 Locate Safe Rooms to Minimize Damage	Home Owner Associations, Jefferson County Community Development, All City Departments	H	Short Range	Local	TBD
	HA-3 Increase Hall Risk Awareness	Jefferson County EMA, ADEM, FEMA	M	Annually	Local, State, FEMA	No extra cost



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Adamsville Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items	Out Measure				
Lightning	L-1 Protect Critical Facilities and Equipment	Alabama Power	H		Local, Private	TBD
	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No extra cost
	SW-1 Adopt and Enforce Building Codes	Mayor, City Council, Building Inspector, Fire Department and Police Department	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Inspector	H	Mid Range	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA	H	Short Range	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local, Private	TBD
	SW-5 Retrofit Residential Buildings	Home Owners Associations, FEMA	M	Short Range	Local	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Mayor, City Council, Public Works Department, Fire Department, Building Inspector, FEMA	H	Short Range	Local	TBD
Severe Wind	SW-7 Prevent Impacts to Roadways	Public Works Department, ALDOT	H	2017	Local	TBD
	SW-8 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA, Fire Department	H	Annually	Local, State, FEMA	TBD



Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	Bessemer Board of Education Bessemer Fire Department	H	Ongoing, Annually September	Local	No Additional Cost
	Drills, exercises in homes, workplaces, classrooms, etc	Bessemer Board of Education Bessemer Fire Department	H	Ongoing Semi annual	Local	No Additional Cost
	Everbridge Emergency Alert Notifications	Bessemer City Council/Mayor Bessemer Fire Department Bessemer Police Department, Jefferson County EMA	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No Additional Cost
	Hazard "safety fairs"	Jefferson County EMA Bessemer Board of Education, Bessemer City Council/Mayor Bessemer Fire Department Bessemer Police Department	H	Ongoing, Booths set up at different public events annually	Local	< \$5,000
	Hazard conferences, seminars	Bessemer City Council/Mayor		Ongoing, send out training information using local news and community flyers		
	Hazard awareness weeks	Bessemer City Council/Mayor Bessemer Fire Department	H	Annually	Local	<\$5,000
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc	FEMA Jefferson County EMA, Bessemer City Council	H	Seasonal	Local, State, FEMA	< \$5,000



Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Regular newspaper articles	Bessemer Fire Department Jefferson County EMA, Bessemer City Council Bessemer Fire Department	M	Quarterly news letters	Local	No Additional Cost
	Direct mailings	Jefferson County EMA, Bessemer City Council Bessemer Fire Department	L	Ongoing, Annually, We will mail surveys to update HM information	Local	TBD
	Utility bill inserts	Bessemer Utilities	L	2018	Local	TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared	Bessemer City Council Bessemer Fire Department	H	Annually	Local	No Additional Cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Utilities Jefferson County EMA AEMA	L	2020	Local, Private	No Additional Cost
	D-2 Monitor Drought Conditions	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Utilities Jefferson County EMA	L	Seasonally	Local, State	No Additional Cost
	D-3 Monitor Water Supply	Bessemer Utilities	H	Continuously	Local, State, FEMA	No Additional Cost
	D-4 Plan for Drought	Bessemer City Council/Mayor Bessemer City Engineer	L	2020	Local	No Additional



Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Earthquakes		Bessemer Utilities				Cost
	D-5 Require Water Conservation During Drought Conditions	Bessemer City Council/Mayor Bessemer Utilities	H	Annually	Local, State	No Additional Cost
	D-6 Retrofit Water Supply Systems	Bessemer Utilities	M	2020	Local	TBD
	D-7 Enhance Landscaping and Design Measures	Bessemer City Council/Mayor Bessemer Park and Rec.	L	2025	Local	No Additional Cost
	D-8 Educate Residents on Water Saving Techniques	Bessemer City Council/Mayor Bessemer Utilities	M	Semi-Annual	Local, State, FEMA	No Additional Cost
	EQ-1 Adopt and Enforce Building Codes	Bessemer City Council/Mayor Bessemer Building Depart.	H	2020	Local	No Additional Cost
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department Bessemer Utilities	M	Annually	Local	No Additional Cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA, Bessemer City Engineer	L	2025	Local, State	TBD
	EQ-4 Conduct Inspections of Building Safety	Bessemer Building Department Bessemer Fire Department, State Fire Marshal	H	2020	Local	No Additional Cost
	EQ-5 Protect Critical Facilities and Infrastructure	Bessemer Fire Department, Public Works	H	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation Techniques	Bessemer Public Works Bessemer Building Department Bessemer Engineering Depart.	L	2020	Local	No Additional Cost
	EQ-7 Increase Earthquake Risk Awareness	FEMA Jefferson County EMA Bessemer City Council/Mayor	L	Provide FEMA's information	Local, State, FEMA	No Additional Cost

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Flooding	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Bessemer Building Department Bessemer Engineering Depart.	M	to educate local citizens on a semi-annual basis		No Additional Cost
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Bessemer Engineering Depart. Bessemer Building Depart.	M	2018	Local, State, FEMA	No Additional Cost
	F-1 Incorporate Flood Mitigation in Local Planning	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	Bessemer City Council/Mayor Bessemer City Engineer	H	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local, State	TBD
	F-5 Improve Storm water Management Planning	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	Annually	Local	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	Annually	Local, State	TBD
	F-9 Manage the Floodplain Beyond	Bessemer City Council/Mayor	H	2020	Local	TBD

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES			Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items	Lead Responsibility for Carrying out Measure				
	Minimum Requirements	Bessemer City Engineer Bessemer Building Department				
F-10	Participate in the CRS (Community Rating System)	Mayor, City Council	H	2020	Local	TBD
F-11	Establish Local Funding Mechanisms for Flood Mitigation	Bessemer City Council/Mayor Bessemer Community Development	H	2020	Local	TBD
F-12	Remove Existing Structures from Flood Hazard Areas	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local	TBD
F-13	Improve Storm water Drainage System Capacity	Bessemer City Council/Mayor Bessemer City Engineer	H	2025	Local	TBD
F-14	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Bessemer City Council/Mayor Bessemer City Engineer	H	2020	Local	TBD
F-15	Elevate or Retrofit Structures and Utilities	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department. Bessemer Utilities Alabama Power	H	2025	Local	TBD
F-16	Flood proof Residential and Non-Residential Structures	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Community Development Bessemer Building Department	H	2025	Local	TBD
F-17	Protect Infrastructure	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department Bessemer Public Works Bessemer Fire and Police Bessemer Utilities	H	Annually	Local	TBD
F-18	Protect Critical Facilities	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department Bessemer Utilities	H	Annually	Local	TBD

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	F-19 Construct Flood Control Measures	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	M	2025	Local	TBD
	F-21 Preserve Floodplains as Open Space	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	M	2025	Local	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Jefferson County EMA Bessemer City Council/Mayor Bessemer City Engineer	H	Annually	Local, State, FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)	F-23 Educate Property Owners about Flood Mitigation Techniques	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department Bessemer Community Development	H	Annually	Local, State, FEMA	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Utilities Bessemer Building Department Jefferson County EMA	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local State FEMA	\$1,000,000.



Bessemer Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
	T-2	Require Wind-Resistant Building Techniques	Bessemer City Council/Mayor Bessemer Building Department	H	2019	Local	No Additional Cost
	T-3	Conduct Tornado Awareness Activities	Bessemer City Council/Mayor Bessemer Fire Department	H	Ongoing, Annually	Local	No Additional Cost
Winter Storms/Freezes (Severe Winter Weather)	WW-1	Adopt and Enforce Building Codes	Bessemer City Council/Mayor Bessemer Building Department	H	Annually	Local	No Additional Cost
	WW-2	Protect Buildings and Infrastructure	Bessemer City Council/Mayor Bessemer Building Department Bessemer Utilities	M	Annually	Local	No Additional Cost
	WW-3	Protect Power Lines	Bessemer Utilities TVA	H	Annually and as the need arise	Local, Private	TBD
	WW-4	Reduce Impacts to Roadways	Bessemer Public Works ALDOT	M	Working w/ Alabama Dept. of Transportation on an annual basis	Local, State	No Additional Cost
	WW-5	Conduct Winter Weather Risk	Bessemer City Council/Mayor	H	Annually	Local,	TBD

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Awareness Activities	Bessemer Utilities Bessemer Fire Department			State, FEMA	
	WW-6 Assist Vulnerable Populations	Bessemer Community Development Jefferson County Community Development	H	2016	Local, State	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Bessemer Community Development Bessemer Parks & Recreation Department	M	2025	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA AEMA Bessemer Fire Department	H	Annual	Local, State, FEMA	TBD
	ET-3 Assist Vulnerable Populations	Bessemer Community Development Bessemer Fire Department Bessemer Police Department	H	2016	Local, State	TBD
	ET-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA Bessemer Utilities Bessemer Community Development	M	Ongoing, Seasonal	Local, State, FEMA	TBD
	HA-1 Locate Safe Rooms to Minimize Damage	Home Owner Associations Bessemer Community Development	H	2020	Local FEMA	TBD
Hail						
Lightning	L-1 Protect Critical Facilities and Equipment	Bessemer City Council/Mayor Bessemer Utilities Alabama Power	H	Annually	Local, Private	TBD



Bessemer Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
	L-2	Conduct Lightning Awareness Programs	Bessemer City Council/Mayor Bessemer Fire Department	H	Annually	Local, State, FEMA	TBD
Severe Wind	SW-1	Adopt and Enforce Building Codes	Bessemer City Council/Mayor Bessemer Building Depart.	H	2020	Local	TBD
	SW-2	Promote or Require Site and Building Design Standards to Minimize Wind Damage	Bessemer City Council/Mayor Bessemer Building Department Bessemer Community Development	H	2020	Local	TBD
	SW-3	Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA	H	2020	Local	TBD
	SW-4	Protect Power Lines and Infrastructure	Bessemer Utilities Alabama Power	H	2020	Local, Private	TBD
	SW-5	Retrofit Residential Buildings	Home Owners Associations, Bessemer Community Development Department	L	2020	Local	TBD
	SW-6	Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department	H	2025	Local	TBD
	SW-7	Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA	TBD
Multiple Hazards	MU-1	Assess Community Risk	Jefferson County EMA Alabama EMA Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2018	Local, State	TBD
	MU-2	Map Community Risk	Jefferson County EMA Bessemer Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local, State, FEMA	TBD
	MU-3	Prevent Development in Hazard Areas	Bessemer City Council/Mayor Bessemer City Engineer	H	2025	Local	TBD

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	MU-4 Adopt Development Regulations in Hazard Areas	Bessemer Building Department Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local	TBD
	MU-5 Limit Density in Hazard Areas	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2025	Local	TBD
	MU-6 Integrate Mitigation into Local Planning	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2016	Local	TBD
	MU-7 Strengthen Land Use Regulations	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local	TBD
	MU-10 Provide Incentives for Hazard Mitigation	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2020	Local	TBD
	MU-11 Monitor Mitigation Plan Implementation	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	Annually	Local	TBD
	MU-12 Protect Structures	Fire Department, Planning Department, City Council	H	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department Bessemer Public Works Bessemer Utilities	H	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	Bessemer City Council/Mayor Bessemer Fire Department	H	2017	Local, State,	TBD

Bessemer Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	MU-15 Improve Household Disaster Preparedness	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2017	Local, State, FEMA	TBD
	MU-16 Promote Private Mitigation Efforts	Bessemer City Council/Mayor Bessemer City Engineer Bessemer Building Department	H	2017	Local, State, FEMA	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	Jefferson County Emergency Management Agency Birmingham Board of Education	M	Ongoing, Annually September	Local	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Jefferson County Emergency Management Agency Mayor's Office Public Information Office Birmingham Board of Education	M	Ongoing, Annually September	Local	TBD
	Public service announcements	Jefferson County Emergency Management Agency	M	Quarterly	Local	TBD
	Hazard "safety fairs"	Jefferson County Emergency Management Agency	M	Annually, Booths set up at different public events	Local	TBD
	Hazard conferences, seminars	Jefferson County Emergency Management Agency	M	Annually	Local	TBD
	Hazard awareness weeks	Jefferson County Emergency Management Agency And City of Birmingham Local Floodplain Administrator	M	Annual ly	Local	No additional cost



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Preparedness handbooks, brochures, Distribution of severe weather guides, homeowner's retrofit guide, etc.	Jefferson County Emergency Mgmt Agency / City of Birmingham / Floodplain Administrator	M	Annual	Local	No additional cost
	Regular newspaper articles	Jefferson County Emergency Mgmt Agency	L	Annual	Local	TBD
	Direct mailings	Jefferson County Emergency Management Agency/ City of Birmingham	M	Annual	Local	TBD
	Citywide Disaster Recovery Action Plan	City of Birmingham	H	Annual	Local	\$95,000
	Utility bill inserts	Jefferson County Emergency Mgmt Agency/ City of Birmingham	L	Quarterly	Local	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Citywide Sustainability Plan	City of Birmingham	H	2016 - 2017	Local	\$100,000
	Annual correspondence with residents reminding them of the need to be hazard prepared	Mayor/Council/Birmingham Water Works Board	M	Annual	Local	\$2,000-5,000
	Actions communities should consider identifying and evaluating a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk		M	Long-Range	Local	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	D-2 Monitor Drought Conditions	Mayor/Council/ Birmingham Water Works Board	M	Long-Range	Local	TBD
	D-3 Monitor Water Supply	Mayor/Council/ Birmingham Water Works Board	M	Long-Range	Local	TBD
	D-4 Plan for Drought	Mayor/Council/ Birmingham Water Works Board	M	Long-Range	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	Mayor/Council/ Birmingham Water Works Board	M	Long-Range	Local	TBD
	D-6 Prevent Overgrazing	Mayor/Council	M	Long-Range	Local	TBD
	D-7 Retrofit Water Supply Systems	Local Building Official	M	Long-Range	TBD	TBD
	D-8 Enhance Landscaping and Design Measures	Mayor/Council/Local Urban Design Administrator	M	Long-Range	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	Mayor/Council/ Birmingham Water Works Board	M	Short-Range	Local	No additional cost

Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Local Building Official	L	2020	Local	No additional cost
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Jefferson County Emergency Management Agency Planning Engineering and Permitting	L	Annually	Local	No additional cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	Jefferson County IT Dept./Planning Engineering and Permitting	L	2025	Local	TBD
	EQ-4 Conduct Inspections of Building Safety	Jefferson County Emergency Management Agency/Fire Department	L	Annually	Local	No additional cost
	EQ-5 Protect Critical Facilities and Infrastructure	City of Birmingham/Fire Department/Planning Engineering and Permitting	L	Annually	Local	No additional cost
	EQ-6 Implement Structural Mitigation Techniques	Jefferson County Emergency Management Agency	L	Annually	Local	No additional cost
	EQ-7 Increase Earthquake Risk Awareness	Jefferson County Emergency Management Agency	L	Annually	Local	No additional cost



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Jefferson County Emergency Management Agency	L	2018	Local	No additional cost
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Jefferson County Emergency Management Agency	L	2020	Local	No additional cost
	F-1 Incorporate Flood Mitigation in Local Planning	Mayor/Council/Local Floodplain Administrator	H	Annual	FEMA HMA Grant Local	\$50,000-100,000
	F-2 Form Partnerships to Support Floodplain Management	Mayor/Council/Local Floodplain Administrator	M	Annual	Local	No additional cost
	F-3 Limit or Restrict Development in Floodplain Areas	Mayor and Council/Local Floodplain Administrator	M	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Local Building Official	H	Short-Range	Local	No additional cost
	F-5 Improve Stormwater Management Planning	Local Stormwater Administrator/Local Floodplain Administrator	M	Long-Range	Local	TBD
	F-6 Adopt Policies to Reduce Stormwater Runoff	Mayor and Council/Local Stormwater Administrator	M	2018	Local	No additional cost
	F-7 Improve Flood Risk Assessment	Local Floodplain Administrator	M	2020	FEMA/Local	No additional cost
	F-8 Improve Compliance with NFIP	Mayor/Council/Local	H	Annually	Local	No



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-9 Manage the Floodplain Beyond Minimum Requirements	Local Floodplain Administrator	H	2020	Local	No additional cost
	F-10 Continue to participate in the Community Rating System (CRS) Program	Local Floodplain Administrator	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Mayor/Council Planning Engineering and Permitting	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Mayor/Council Planning Engineering and Permitting	M	2020	FEMA	TBD
	F-13 Improve Stormwater Drainage System Capacity	Mayor/ Planning Engineering and Permitting Council	H	2025	Local	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Mayor/Local Engineer/ Department of public Works	H	Annually	Local	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Mayor/Council/Local Floodplain Administrator	M	2025	Local/ FEMA	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Mayor/Council/Local Floodplain Administrator	M	2025	Local/ FEMA	TBD
	F-17 Protect Infrastructure	City of Birmingham	H	Annually	Local/ FEMA	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-18 Protect Critical Facilities	City of Birmingham	H	Annually	Local/ FEMA	TBD
	F-19 Construct Minor and Major Flood Control Measures and Projects	Mayor/ Council/Local Planning Engineering and Permitting	H	Long Range	Local/ FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Mayor/Council/Local Planning Engineering and Permitting	M	Long Range	Local/ FEMA	TBD
	F-21 Preserve Floodplains as Open Space	Planning Engineering and Permitting	M	2025	Local/ FEMA	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Mayor and Council/Local Floodplain Administrator	M	Annual	Local/ FEMA	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques and Flood Insurance	Mayor/Council	M	Annual	Local	No additional cost
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	Local Engineers/GIS	M	2025	Local	No additional cost
	ER-2 Manage Development in Erosion Hazard Areas	Mayor/Council Local Engineer	M	2025	Local	No additional cost
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Local Building Official/ Local Engineer	M	2018	Local	No additional cost



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Mayor and Council	L	Long-Range	Local	TBD
	ER-5 Stabilize Erosion Hazard Areas	Mayor/Local Engineer	L	Long-Range	Local	TBD
	ER-6 Increase Awareness of Erosion Hazards	Mayor/Local Engineer	L	Long-Range	Local	No additional cost
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	Planning Engineering and Permitting	H	2025	Local	TBD
	SU-2 Manage Development in High-Risk Areas	Planning Engineering and Permitting	M	2025	Local	No additional cost
	SU-3 Consider Subsidence in Building Design	Planning Engineering and Permitting	M	2018	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	Planning Engineering and Permitting	M	Long -Range	Local	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Planning Engineering and Permitting	M	Long-Range	Local	TBD
	SU-6 Educate Residents about Subsidence	Mayor/Council/ Planning Engineering and Permitting	M	Annually	Local	No additional cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Individual Safe Rooms and Community Safe Rooms	Mayor/Council/ Local Floodplain Administrator	H	Long- Range	FEMA HMA Grant	TBD
	T-2 Require Wind-Resistant Building	Mayor/ Local Building	H	Long- Range	Local	No



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items	Official				
	Techniques and Hardening Retrofits					additional cost
	T-3 Conduct Tornado Awareness Activities	Jefferson Co. Emergency Mgmt Agency/ Mayor's Office	M	Annual	Local	No additional cost
	T-4 Citywide Community Safe Room Plan	City of Birmingham	M	2016 - 2017	Local	\$100,000
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Local GIS	L	Long-Range	Local	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor and Council/Fire Department	L	Long-Range	Local	TBD
	WF-3 Reduce Risk through Land Use Planning	Mayor/ Chief Planner/Fire Department	L	Long-Range	Local	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor/ Building Official/ Fire Department	M	Short-Range	Local	No additional cost
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Planning Engineering and Permitting/ Fire Department	L	Long-Range	Local	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Mayor/Fire Department	L	Long-Range	TBD	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Mayor and Fire Department	M	Long-Range	Local	TBD
	WF-9 Implement a Fuels Management Program	Mayor/ Equipment Management	M	Long-Range	Local	TBD
	WF-10 Participate in Firewise Program	Jefferson County Emergency Management Agency/ Mayor's Office/Fire Department	M	Annual	Local	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)	WF-11 Increase Wildfire Risk Awareness	Fire Department/Forest Service	L	Annual	Local	No additional cost
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Fire Department/Forest Service	L	Annual	Local	No additional cost
	WW-1 Protect Buildings and Infrastructure	Mayor and Council	M	Mid-Range	Local	TBD
	WW-2 Protect Power Lines	Mayor and Council	M	Mid-Range	Local	TBD
	WW-3 Reduce Impacts to Roadways	Mayor and Traffic Engineering	M	Mid-Range	Local	TBD
	WW-4 Conduct Winter Weather Risk Awareness Activities	Emergency Management Agency/City of Birmingham	M	Annual	Local	TBD
	WW-5 Assist Vulnerable Populations	Emergency Management Agency/City of Birmingham	M	Mid-Range	Local	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Planning Engineering and Permitting	M	Long-Range	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	City of Birmingham/Jefferson County Department of Health	M	Mid-Range	Local	TBD
	ET-3 Assist Vulnerable Populations	Mayor and Council	M	Mid-Range	Local	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	ET-4 Educate Property Owners About Freezing Pipes	Jefferson County Department of Health Birmingham Water Works Board	M	Annual	Local	TBD
	HA-1 Protect Buildings from Hail Damage	Mayor and Council	M	Annual	Local	TBD
Hail	HA-2 Increase Hail Risk Awareness & Mitigation	Emergency Management Agency/City of Birmingham	M	Annual	Local	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	Planning Engineering and Permitting	M	2025	Local	TBD
	LS-2 Manage Development in Landslide Hazard Areas	Building Official/Local Engineers/ Mayor/Council	M	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	Mayor and Council	M	2025	Local	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Mayor and Council	M	Mid-Range	Local	TBD
Lightning	L-1 Protect Critical Facilities and Equipment	City of Birmingham/Emergency Management Agency	M	Mid-Range	Local	TBD
	L-2 Conduct Lightning Awareness Programs	City of Birmingham/Emergency Management Agency	M	Annual	Local	No additional cost
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor and Council/ Local Building Official	H	2020	Local	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor and Council/ Local Planning Engineering and Permitting	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	Planning Engineering and Permitting	H	2020	Local and FEMA	TBD
	SW-4 Protect Power Lines and Infrastructure	Planning Engineering and Permitting/Alabama Power	H	Long Range	Local	TBD
	SW-5 Retrofitting of Residential Buildings	City of Birmingham	H	2020	Local	TBD
	SW-6 Retrofitting of Public Buildings and Critical Facilities	City of Birmingham	H	2025	FEMA	TBD
	SW-7 Increase Severe Wind Risk Awareness	Mayor and Council/ Local Floodplain Administrator	M	Annual	Local	TBD
Multiple Hazards	MU-1 Assess Community Risk	City of Birmingham	M	Long Range	Local	TBD
	MU-2 Map Community Risk	City of Birmingham	M	Long Range	Local	TBD
	MU-3 Prevent Development in Hazard Areas	City of Birmingham	M	Mid-Range	Local	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	City of Birmingham	M	Mid-Range	Local	TBD
	MU-5 Limit Density in Hazard Areas	City of Birmingham	M	Mid-Range	Local	TBD
	MU-6 Integrate Mitigation into Local Planning	City of Birmingham	M	2016	Local	TBD
	MU-7 Strengthen Land Use Regulations	City of Birmingham	M	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	City of Birmingham	M	2020	Local	TBD



Birmingham Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	City of Birmingham	M	2020	Local	TBD
	MU-10 Incentivize Hazard Mitigation	City of Birmingham	M	Mid-Range	Local	TBD
	MU-11 Monitor Mitigation Plan Implementation	City of Birmingham	M	Annually	Local	TBD
	MU-12 Protect Structures	City of Birmingham	M	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	City of Birmingham	M	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	City of Birmingham	M	Annual	Local	No additional cost
	MU-15 Improve Household Disaster Preparedness	City of Birmingham	M	Annual	Local	No additional cost
	MU-16 Encourage Private Mitigation Efforts	City of Birmingham	M	Mid-Range	Local	TBD



Brighton Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.						
	Emergency preparedness education programs for schools	Jefferson County EMA	H	Ongoing, Annually September	Local	No additional cost	
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, City Council	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost	
	Hazard "safety fairs"	Jefferson County EMA	H	Ongoing, Booths set up at different public events annually	Local	No additional cost	
	Hazard awareness weeks	Jefferson County EMA, National Weather Service	H	Annually- every September	Local	No additional cost	
	Preparedness handbooks, brochures, distribution of severe weather guides	Jefferson County EMA, AEMA, NWS, Fire District,	H	Seasonal	Local, State, FEMA	No additional cost	
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.						
Dam/Levee Failures (See: Flooding)							
Droughts/Heat Waves	D-1 Monitor Drought Conditions	Jefferson County EMA, Water Utilities	M	Seasonally	Local, Private	No additional cost	
	D-2 Monitor Water Supply	Water Utilities	H	Continuously	Private	TBD	



Brighton Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	D-3 Plan for Drought	Jefferson County EMA, Local Water Utilities	H	2020	Local	TBD
	D-4 Require Water Conservation During Drought Conditions	Water Utilities	H	Annually, starting in April	Private	TBD
	D-5 Educate Residents on Water Saving Techniques	Water Utilities, Jefferson County EMA	M	Semi-annually	Local	No additional cost
	EQ-1 Increase Earthquake Risk Awareness	Jefferson County EMA	H	Provide FEMA's information to educate citizens on a semi- annual basis	Local	No additional cost
	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council	H	As we receive new flooding events, we will incorporate and share them with JCEMA on an annual basis	Local	TBD
Earthquakes	F-2 Improve Storm water Management Planning	Mayor, City Council, SWMA	H	Annual	Local	TBD
	F-3 Adopt Policies to Reduce Storm water Runoff	Mayor, City Council, SWMA	H	2018	Local	TBD
	F-4 Improve Storm water Drainage System Capacity	SWMA, Public Works	H	2025	Local, State, FEMA	TBD
	F-5 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, SWMA	H	2020	Local	TBD
	F-6 Construct Flood Control Measures	Public Works	L	2025	Local, State, FEMA	TBD
	F-7 Increase Awareness of Flood Risk and Safety	Jefferson County EMA	H	Ongoing, we will conduct many meetings increasing flood risk and safety on an annual basis	Local	No additional cost

MITIGATION MEASURES		Brighton Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hurricanes (See: Severe Wind; Flooding)	F-8 Educate Property Owners about Flood Mitigation Techniques	Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local, State, FEMA	TBD
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local	No additional cost
	SU-1 Educate Residents about Subsidence	Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local	No additional cost
Severe Storms						
	T-1 Encourage Construction of Safe Rooms	Mayor, City Council, Jefferson County EMA, AEMA, FEMA	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local, State FEMA	TBD
Wildfires	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA	H	Ongoing, Annually	Local	TBD
	WF-1 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, City Council, Fire District	M	2020	Local	TBD
	WF-2 Increase Wildfire Risk Awareness	State Forestry, Jefferson County EMA	H	2020	Local, State	No additional cost
Winter Storms/Freezes (Severe Winter	WF-3 Educate Property Owners about Wildfire Mitigation Techniques	State Forestry, Jefferson County EMA	M	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local, State	No additional cost
	WW-1 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	M	Seasonal	Local	No additional cost



Brighton Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Weather)	WW-2 Educate Property Owners About Freezing Pipes		Jefferson County EMA, Water Utilities	M	Seasonal	No additional cost
Others:						
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety		Jefferson County EMA	M	Annual	No additional cost
	HA-1 Increase Hail Risk Awareness		Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	No additional cost
Hail	L-1 Conduct Lightning Awareness Programs		Jefferson County EMA, Alabama Power	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	No additional cost
	SW-1 Increase Severe Wind Risk Awareness		Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	No additional cost
Severe Wind	MU-1 Adopt and Enforce Building Codes		Mayor, City Council	M	2020	Local TBD
	MU-2 Integrate Mitigation into Local Planning		Mayor, City Council	M	2020	Local TBD
Multiple Hazards	MU-3 Protect Infrastructure and Critical Facilities		Fire Department, Public Works Department	H	2025	Local TBD
	MU-4 Increase Hazard Education and Risk Awareness		Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	No additional cost
	MU-5 Improve Household Disaster Preparedness		Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local TBD
	MU-6 Promote Private Mitigation Efforts		Jefferson County EMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local TBD



Brookside Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.						
	Drills	Fire Department	H	Annually, September	Local	No add'l cost	
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, Town Council	H	Quarterly	Local	No add'l cost	
	Hazard "safety fairs"	Jefferson County EMA	H	Ongoing, Annually at different events involving the public	Local	No add'l cost	
	Hazard conferences, seminars	Jefferson County EMA, Brookside PD	H	Ongoing, send out training information using local news and community flyers	Local	No add'l cost	
	Hazard awareness weeks	Jefferson County EMA	H	Annually, September	Local	No add'l cost	
	Preparedness handbooks, brochures. Distribution of severe weather guides	Jefferson County EMA, AEMA, FEMA	H	Seasonal	Local, State, FEMA	No add'l cost	
	Utility bill inserts	Brookside Gas & Water	M	2018	Local	No add'l cost	
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.						
Hazard Specific (Reference: JCHMP, Mitigation Ideas)							
Dam/Levee Failures (See: Flooding)							
Droughts/Heat	D-1 Assess Vulnerability to Drought Risk	Jefferson County EMA	M	2020	Local	TBD	



Brookside Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Waves	D-2 Monitor Drought Conditions	Jefferson County EMA	M	Seasonally	Local	TBD
	D-3 Monitor Water Supply	Birmingham Water Works	H	continuously	Local	No add'l cost
	D-4 Plan for Drought	Local Water Utilities	M	2020	Local	No add'l cost
	D-5 Require Water Conservation During Drought Conditions	Birmingham Water Works	H	Annually	Local	TBD
	D-6 Educate Residents on Water Saving Techniques	Birmingham Water Works	M	Semi-annually	Local	TBD
	EQ-1 Adopt and Enforce Building Codes	Building Inspectors	M	2020	Local	No add'l cost
Earthquakes	EQ-2 Conduct Inspections of Building Safety	Building Inspectors, Fire Department	M	2020	Local	No add'l cost
	EQ-3 Protect Critical Facilities and Infrastructure	Fire Department, Public Works	H	Annually	Local	TBD
	EQ-4 Increase Earthquake Risk Awareness	Jefferson County EMA, AEMA, FEMA	M	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local, State, FEMA	No add'l cost
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, Town Council, Planning Department	H	Annually	Local	TBD
	F-2 Limit or Restrict Development in Floodplain Areas	Mayor, Town Council, Building Inspector	H	2025	Local	TBD
	F-3 Adopt and Enforce Building Codes and Development Standards	Mayor, Town Council, Building Department	H	2020	Local	TBD
	F-4 Improve Storm water Management Planning	Public Works Department, Water Utility, SWMA	H	Annually	Local	TBD



Brookside Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
	F-5 Adopt Policies to Reduce Storm water Runoff	SWMA	H	2018	Local	TBD
	F-6 Improve Flood Risk Assessment	Mayor	H	2020	Local	TBD
	F-7 Join or Improve Compliance with NFIP	Mayor	H	Annually	Local	TBD
	F-8 Remove Existing Structures from Flood Hazard Areas	Mayor, Town Council, AEMA, FEMA	H	2025	Local, State, FEMA	TBD
	F-9 Improve Storm water Drainage System Capacity	Mayor, Town Council, SWMA, FEMA	H	2025	Local, State, FEMA	TBD
	F-10 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Gas & Water Maintenance Department	H	2020	Local	No add'l cost
	F-11 Protect Infrastructure and Critical Facilities	Brookside Fire Department	H	Annually	Local	TBD
	F-12 Preserve Floodplains as Open Space	Mayor, Town Council, Land Trust, Parks & Recreation Department, FEMA	M	2025	Local, FEMA	TBD
	F-13 Increase Awareness of Flood Risk and Safety	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
	F-14 Educate Property Owners about Flood Mitigation Techniques	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	H	Ongoing, this will be done at public meetings on an	Local	No add'l cost



Brookside Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	H	Ongoing, this will be done at public meetings on an annual or semi-annual basis	Local, State, FEMA	No add'l cost
Severe Storms	T-1 Encourage Construction of Safe Rooms	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Ongoing, when grant funds are available, we will encourage construction of safe rooms	Local	TBD
	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA, Brookside Boys & Girls Club, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
Wildfires	WF-1 Educate Property Owners about Wildfire Mitigation Techniques	Brookside Fire Department, Jefferson County EMA, State Forestry, Fire Marshall	H	Annually	Local, State	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Assist Vulnerable Populations	Brookside Fire Department, Brookside Churches	H	2016	Local	TBD
	Others:					
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
	ET-2 Assist Vulnerable Populations	Brookside Fire Department, Brookside Churches	H	2016	Local	TBD
	ET-3 Educate Property Owners About Freezing Pipes	Jefferson County EMA, AEMA, FEMA	M	Ongoing, Seasonal	Local, State, FEMA	No add'l cost



Brookside Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Severe Wind	SW-1 Increase Severe Wind Risk Awareness		Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA No add'l cost
Multiple Hazards	MU-1 Increase Hazard Education and Risk Awareness		Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA TBD
	MU-2 Promote Private Mitigation Efforts		Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA TBD

Cardiff Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Everbridge Emergency Alert Notifications	Jefferson County EMA	H	Ongoing	Local	No additional cost
	Hazard awareness weeks	Jefferson County EMA, NWS	H	Ongoing	Local	No additional cost
	Preparedness handbooks, brochures, distribution of severe weather guides	Jefferson County EMA	H	Ongoing	Local	No additional cost
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Hazard Specific (Reference: JCHMP, Mitigation Ideas)						
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Educate Residents on Water Saving Techniques	Water Utilities, Jefferson County EMA	M	Seasonal	Local, Private	TBD
	D-2 Monitor Drought Conditions	Jefferson County EMA, Water Utilities	M	Seasonal	Local, Private	TBD
	D-3 Monitor Water Supply	Water Utilities, Jefferson County EMA	M	Mid-Range	Local, Private	TBD
	EQ-1 Increase Earthquake Risk Awareness	Jefferson County EMA	M	Mid-Range	Local	No additional cost
Earthquakes						
Flooding	F-1 Increase Awareness of Flood Risk and Safety	Jefferson County EMA	H	Ongoing	Local	No additional cost
	F-2 Educate Property Owners about Flood Mitigation Techniques	Jefferson County EMA	H	Ongoing	Local, State,	TBD



Cardiff Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-3 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works	H	Ongoing	Local	TBD
	F-4 Construct Flood Control Measures	Mayor, Public Works	M	Long Range	Local, State, FEMA	TBD
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	M	Mid-Range	Local	No additional cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA	M	Mid-Range	Local	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Jefferson County EMA, AEMA, FEMA, Mayor	H	Ongoing	Local	TBD
	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA	H	Ongoing	Local	No additional cost
Wildfires	WF-1 Increase Wildfire Risk Awareness	Jefferson County EMA, Alabama Forestry Commission	M	Ongoing	Local, State	No additional cost
Winter Storms/Freezes (Severe Winter Weather)	WF-2 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission	L	Long Range	Local	TBD
	WW-1 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	M	Seasonal	Local	No additional cost
	WW-2 Educate Property Owners About Freezing Pipes	Jefferson County EMA, Water Utilities	M	Seasonal	Local	No additional cost
Others:						



Cardiff Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA	H	Ongoing	Local	No additional cost
	HA-1 Increase Hail Risk Awareness	Jefferson County EMA	H	Ongoing	Local	No additional cost
Lightning	L-1 Protect Critical Facilities and Equipment	Alabama Power	H	Ongoing	Local, Private	TBD
	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA	H	Ongoing	Local	No additional cost
Severe Wind	SW-1 Increase Severe Wind Risk Awareness	Jefferson County EMA	H	Ongoing	Local	No additional cost
	MU-1 Increase Hazard Education and Risk Awareness	Jefferson County EMA	H	Ongoing	Local	No additional cost
Multiple Hazards	MU-2 Improve Household Disaster Preparedness	Jefferson County EMA	H	Ongoing	Local	TBD
	MU-3 Integrate Mitigation into Local Planning	Mayor	M	Mid-Range	Local	TBD

Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.				
	Emergency preparedness education programs for schools.	JCBOE Fire Dept.	H	Ongoing, Annually in September	JCBOE Fire District	35,000
	Drills, workplaces, classrooms, etc.	City Neighborhood Watch National Night Out JCBOE Fire Dept.	H	Ongoing, Semi-Annually	City Fire District JCBOE	10,000
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Fire Dept.	H	Quarterly	Local	No add'l cost
	Hazard "safety fairs."	National night out JCBOE Fire Dept	H	Ongoing, Annually, will set up booths at public events	Fire District	5000
	Hazard conferences, seminars.	Fire District	M	Ongoing, send out training information using local news and flyers	Fire District	6000-8000
	Promotions	City	M	Ongoing	Fire District	2000



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc. Regular newspaper articles.	Fire District, Jefferson County EMA, AEMA, FEMA City	M	Seasonal Quarterly	Local, State, FEMA City	Free Free
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	BIRMINGHAM WATER WORKS	M	2020	Local	No add'l cost
	D-2 Monitor Water Supply	BIRMINGHAM WATER WORKS	M	continuously	Local	No add'l cost
	D-3 Plan for Drought	BIRMINGHAM WATER WORKS	M	2020	Local	No add'l cost
	D-4 Require Water Conservation During Drought Conditions	BIRMINGHAM WATER WORKS	M	Annually	Local	No add'l cost
	D-5 Educate Residents on Water Saving Techniques	BIRMINGHAM WATER WORKS, JEFFERSON COUNTY EMA	M	Semi-Annual	Local	Free
Earthquakes	EQ-1 Adopt and Enforce Building Codes	CITY INSPECTIONS	H	2020	Local	No add'l



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	EQ-2 Conduct Inspections of Building Safety	CITY BUILDING CODE	H	2020	Local	10,000
	EQ-3 Protect Critical Facilities and Infrastructure	CITY INSPECTIONS	H	Ongoing, Annually	Local	10,000
	EQ-4 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	INSPECTORS	M	2018	Local	No add'l cost
	EQ-5 Provide Information on Structural and Non-Structural Retrofitting	INSPECTORS	M	2020	Local	No add'l cost
	F-1 Incorporate Flood Mitigation in Local Planning	MAYOR CITY COUNCIL	H	Annually	Local	TBD
Flooding	F-2 Form Partnerships to Support Floodplain Management	FIRE DISTRICT SHERIFFS DEPT CITY EMA	H	Annually	Local	No add'l cost
	F-3 Limit or Restrict Development in Floodplain Areas	CITY/COUNTY	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	CITY FIRE DISTRICT	H	2020	Local	No add'l cost
	F-5 Improve Storm water Management Planning	CITY SWMA WWB	H	Annually	Local	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	CITY SWMA HEALTH DEPT.	H	2018	Local	Free



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	F-7 Improve Flood Risk Assessment	JEFF CO GIS	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	CITY	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	CITY	M	2020	Local	TBD
	F-10 Participate in the CRS	CITY	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	CITY	M	2-5 years	Local	100,000
	F-12 Remove Existing Structures from Flood Hazard Areas	CITY, FEMA	M	2025	Local, State, FEMA	50,000
	F-13 Improve Storm water Drainage System Capacity	JEFF CO SWMA	M	2025	Local, State, FEMA	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	JEFF CO ALDOT	H	2020	Local, State	50,000
	F-15 Protect and Restore Natural Flood Mitigation Features	CITY	M	2025	Local, State, FEMA	TBD
	F-16 Preserve Floodplains as Open Space	CITY LAND TRUST	M	2-5 Years	Local	TBD
	F-17 Increase Awareness of Flood Risk and Safety	CITY/FIRE/COUNTY/STATE	H	Annually	All	UNKNOWN
	F-18 Educate Property Owners about Flood Mitigation Techniques	CITY	H	Annually	Local, State, FEMA	8000
Hurricanes						



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
(See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	GIS	M	2020	Local	TBD
	ER-2 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	CITY	M	2-5 Years	Local	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	CITY ZONING GIS	M	2020	Local	TBD
	SU-2 Manage Development in High-Risk Areas	CITY ZONING GIS	M	2020	Local, State, FEMA	TBD
	SU-3 Consider Subsidence in Building Design	CITY ZONING GIS	H	2020	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	CITY ZONING GIS	M	2020	Local	No add'l cost
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	CITY ZONING GIS	L	2025	Local, State, FEMA	TBD
	SU-6 Educate Residents about Subsidence	CITY ZONING, GIS, JEFFERSON COUNTY EMA	M	Annually	Local	No add'l cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	CITY/FIRE/STATE JEFF CO	H	2-5 years	Local, State, FEMA	30,000
	T-2 Require Wind-Resistant Building Techniques	CITY JEFF CO	M	2-5 years	Local	No add'l cost



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
Wildfires	T-3 Conduct Tornado Awareness Activities	CITY/FIRE JEFF CO ED	H	Ongoing, Annually	Local, State, FEMA	No add'l cost
	WF-1 Map and Assess Vulnerability to Wildfire	FIRE	M	Ongoing	Local	Free
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	FIRE	M	Annually	State	No add'l cost
	WF-3 Reduce Risk through Land Use Planning	FIRE	M	2018	Local	TBD
	WF-4 Develop a Wildland- Urban Interface Code	FIRE	L	2025	Local	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	CITY/FIRE INSPECTIONS	H	Annually	Local	No add'l cost
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	CITY FIRE	M	2025	Local, State, FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	FIRE DISTRICT	H	Annually	Local	TBD
	WF-8 Participate in Firewise Program	FIRE	H	Annually	Forestry, State	Free
	WF-11 Increase Wildfire Risk Awareness	FIRE	H	Annually	State	Free
Winter Storms/Freezes (Severe Winter Weather)s	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	FIRE	H	Annually	State	Free
	WW-1 Adopt and Enforce Building Codes	CITY/FIRE	H	Annually	Local	No add'l cost
	WW-2 Protect Buildings and	FIRE DISTRICT	M	Annually	Local, State,	5000-

Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	Infrastructure City buildings on fire				FEMA	10,000
	WW-3 Protect Power Lines	AL POWER	M	Annually, and as needed	Private	TBD
	WW-4 Reduce Impacts to Roadways			Working w/ Alabama Dept. of Transportation on an annual basis	Local, State	10,000
	WW-5 Conduct Winter Weather Risk Awareness Activities	FIRE DISTRICT	M	Annually	Local, State, FEMA	5000
	WW-6 Assist Vulnerable Populations	CITY/FIRE/SHERIFF	H	2016	Local	3000
Others:						
Landslide	LS-1 Map and Assess Vulnerability to Landslides	CITY GIS	L	2025	Local	TBD
	LS-2 Manage Development in Landslide Hazard Areas	CITY GIS	L	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	CITY JEFF CO ALDOT	M	2018	Local, State	TBD
Lightning	L-1 Protect Critical Facilities and Equipment	AL POWER TRUSS GAS ALAGASCO	H	2-5 years	Local	TBD
	L-2 Conduct Lightning Awareness	FIRE	M	Annually	Local	Free



Center Point Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Yearly Cost
Hazard	Action Items					
	Programs					
Severe Wind	SW-1 Adopt and Enforce Building Codes	CITY	H	Annually	Local	No add'l cost
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	CITY	H	2020	Local	No add'l cost
	SW-3 Assess Vulnerability to Severe Wind	CITY/FIRE	H	2020	Local	No add'l cost
	SW-4 Protect Power Lines and Infrastructure	ALABAMA POWER	H	Annually	Private	TBD
	SW-5 Retrofit Public Buildings and Critical Facilities	CITY/FIRE	H	2025	Local, State, FEMA	100,000
	SW-7 Increase Severe Wind Risk Awareness	CITY/FIRE	H	Annually	Local	No add'l cost

Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA, Jeffco BOE	H	Ongoing, Annually	JEFFCO BOE	\$25,000.00
	Drills, exercises in homes, workplaces, classrooms, etc.	JEFFCO BOE, CPFD	H	Ongoing, Semi-Annual	JEFFCO BOE, CPFD	\$10,000.00
	Public service announcements	Jefferson County EMA, CPFD	L	Ongoing, Semi-Annual	Local,	\$5,000.00
	Hazard "safety fairs"	CPFD		Ongoing, Booths will be set up at public events on annual basis	Local	\$5,000.00
	Hazard conferences, seminars	Mayor, City Manager		Ongoing, send out training information using local media and community flyers	Local	\$8,000.00
	Disaster Awareness Promotion	CPFD	M	Annually	Local,	\$2,000.00
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	FEMA, Jefferson County EMA	M	Seasonal	Local, State, FEMA	\$3000.00
	Regular Media articles	Mayor, City Manager	M	Quarterly	Local	\$6000.00



Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Direct mailings	Mayor, City Manager, City Council	M	Annually, We will update HIM information with survey results	Local	\$6000.00
	Everbridge Emergency Alert Notifications	Jefferson County EMA	H	Quarterly	Local	No additional cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Birmingham Water Works Board	H	2020	BWWB	NA
	D-2 Monitor Drought Conditions	BWWB	H	seasonal	BWWB	NA
	D-3 Monitor Water Supply	BBWB	H	continuously	BWWB	NA
	D-4 Plan for Drought	BWWB	H	2020	BWWB	NA
	D-5 Require Water Conservation During Drought Conditions	BWWB	H	Annually	BWWB	NA
	D-6 Prevent Overgrazing	BWWB	H	2020	BWWB	NA
	D-7 Retrofit Water Supply Systems	BWWB	H	2020	BWWB	NA
	D-8 Enhance Landscaping and Design Measures	Mayor, City Manager, City Council	H	2025	Local	\$10,000.00
	D-9 Educate Residents on Water Saving Techniques	BWWB	H	Semi-Annual	BWWB	NA
	D-10 Educate Farmers on Soil and	State Department of	H	Annually	State,	TBD



2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Water Conservation Practices	Conservation, State Department of Agriculture				
	D-11 Purchase Crop Insurance	State Department of Agriculture	H	2020	Private	TBD
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Building and Planning Agencies, Mayor, City Council	H	Annually	Local	0.00
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council, Building and Planning Agencies	M	Annually	Local	0.00
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA	H	2025	Local, State	0.00
	EQ-4 Conduct Inspections of Building Safety	Building Department, Fire Department, State Fire Marshal	H	2020	Local State	\$20,000.00
	EQ-5 Protect Critical Facilities and Infrastructure	Public Works	H	Ongoing, Annually	Local	\$5,000.00
	EQ-6 Implement Structural Mitigation Techniques	Inspection Dept.	M	2020	Local	0.00
	EQ-7 Increase Earthquake Risk Awareness	FEMA, AEMA	M	Provide FEMA's information to educate citizens on a semi-annual basis	State, FEMA	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Inspection Dept.	M	2018	Local	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Inspection Dept.	M	2020	Local	TBD
Flooding	F-1 Incorporate Flood Mitigation	Mayor, City Council, City	H	Annually	Local	0.00



Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	in Local Planning	Manager				
F-2	Form Partnerships to Support Floodplain Management	Mayor, City Council, City Manager	H	Annually	Local	0.00
F-3	Limit or Restrict Development in Floodplain Areas	Mayor, City Council, City Manager	H	2025	Local	0.00
F-4	Adopt and Enforce Building Codes and Development Standards	Mayor, City Council, City Manager	H	2020	Local	0.00
F-5	Improve Storm water Management Planning	SWMA	H	Annually	Local	\$5,000.00
F-6	Adopt Policies to Reduce Storm water Runoff	SWMA	H	2018	Local	0.00
F-7	Improve Flood Risk Assessment	SWMA	H	2020	Local	\$5,000.00
F-8	Join or Improve Compliance with NFIP	Mayor, City Council, Homeowners, Business Organizations, Jefferson County EMA, Flood Control District	H	2018	Local, State	0.00
F-9	Manage the Floodplain Beyond Minimum Requirements	SWMA	H	2020	Local	0.00
F-10	Participate in the CRS	Mayor, City Manager	H	2020	Local	0.00
F-11	Establish Local Funding Mechanisms for Flood Mitigation	Mayor, City Council, City Manager	H	2020	Local	TBD
F-12	Remove Existing Structures from Flood Hazard Areas	Public Works	H	2025	Local	\$5,000.00
F-13	Improve Storm water Drainage System Capacity	Public Works, Jefferson County Roads and Transportation Dept.	H	2025	Local	TBD
F-14	Conduct Regular Maintenance for Drainage Systems and Flood Control	Public Works, SWMA	H	2020	Local	\$10,000.00

Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Structures					
	F-15 Elevate or Retrofit Structures	Public Works	H	2025	Local	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Homeowners	H	2025	Private	TBD
	F-17 Protect Infrastructure	Public Works	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	Public Works	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	SWMA, BWWB	H	2025	SWMA, BWWB	NA
	F-20 Protect and Restore Natural Flood Mitigation Features	Mayor, City Council, City Manager, Public Works	M	2025	Local	TBD
	F-21 Preserve Floodplains as Open Space	Mayor, City Council, Land Trust,	M	2025	Local	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA	H	Annually	Local, State, FEMA	0.00
	F-23 Educate Property Owners about Flood Mitigation Techniques	FEMA, AEMA, Jefferson County EMA	H	Annually	Local, State, FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	USGS, FEMA	H	2020	Local	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Building Department	H	2025	Local	0.00
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	SWMA	H	2025	Local	0.00
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Mayor, City Council, City Manager	M	2025	Local	TBD
	ER-5 Stabilize Erosion Hazard Areas	Department of Agriculture,, ADEM	H	2025	State	TBD
	ER-6 Increase Awareness of	AEMA, Jefferson County	H	Annually	Local, State	TBD



Clay Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Land Subsidence	SU-1 Erosion Hazards Map and Assess Vulnerability to Subsidence	EMA, FEMA, AEMA	H	2025	FEMA, State	TBD
	SU-2 Manage Development in High-Risk Areas	Planning Department, Building Department, Homeowner	H	2025	Local	0.00
	SU-3 Consider Subsidence in Building Design	USGS,	H	2018	Private	TBD
	SU-4 Monitor Subsidence Risk Factors	USGS,	L	Annually	FEMA	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Mayor, City Council City Manager	L	2025	Local	TBD
	SU-6 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Jefferson County EMA, FEMA, Engineering Department	H	Ongoing, Annually, most citizens will rely on grant funds to construct safe rooms	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, City Council, City Manager	H	2019	Local	0.00
	T-3 Conduct Tornado Awareness Activities	EMA, AEMA, FEMA, JEFFCO BOE	H	Ongoing, Annually	Local	TBD
	WF-1 Map and Assess Vulnerability to Wildfire	USDA, CPFD	M	2020	Local, State	TBD
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, City Council City Manager	H	Annually	Local	0.00
	WF-3 Reduce Wildfire Risk through Land Use Planning	Planning Department	H	Long Range	Local	0.00

Clay Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)	WF-4 Develop a Wildfire land-Urban Interface Code	USDA, Mayor, City Council, CPFD	M	Long Range	Local, State	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor, City Council, CPFD	L	Ongoing	Local	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Public Works, Fire Department	L	Long-Range	Local	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Public Works	H	Mid-Range	Local	\$5,000.00
	WF-8 Conduct Maintenance to Reduce Risk	Public Works, HOA	M	Ongoing	Local	\$5,000.00
	WF-9 Implement a Fuels Management Program	State Forestry, Fire Marshall	M	Mid-Range	State, Local	TBD
	WF-10 Participate in Fire wise Program	Fire Marshall	H	Ongoing	Local	TBD
	WF-11 Increase Wildfire Risk Awareness	State Forestry, Fire Marshall	H	Ongoing	Local	TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, State Forestry, Fire Marshall	H	Ongoing	Local, State,	TBD
	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Inspection Department	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Homeowners, CPFD	M	Annually	Local	\$25,000.00
	WW-3 Protect Power Lines	Alabama Power	H	Annually, and as the need arise	Local, Private	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-4 Reduce Impacts to Roadways	Public Works Department, ALDOT	M	Annually, work with ALDOT and PW	Local	\$10,000.00
	WW-5 Conduct Winter Weather Risk	Home Owners Associations	H	Annually	Local, Private	\$5,000.00



Clay Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
	Awareness Activities		Webpage				
	WW-6	Assist Vulnerable Populations	Jefferson County OSCS, JEFFCO Sheriff's Office, CPFD, City Manager	H	2016	Local, State	\$5,000.00
Others:							
Extreme Temperatures							
Hail	HA-1	Locate Safe Rooms to Minimize Damage	Home Owner Associations, Jefferson County Community Development	H	2020	Local	TBD
	HA-2	Protect Buildings from Hail Damage	Public Works	L	2020	Local	TBD
	HA-3	Increase Hail Risk Awareness	Jefferson County EMA, ADEM, FEMA	M	Annually	Local, State, FEMA	TBD
Landslide	LS-1	Map and Assess Vulnerability to Landslides	USGS, JEFFCO GIS Department,	H	2025	Local, Federal	TBD
	LS-2	Manage Development in Landslide Hazard Areas	Mayor & Council, Inspections Dept.	H	2025	Local	TBD
	LS-3	Prevent Impacts to Roadways	Public Works Department, ALDOT	H	2025	Local	TBD
	LS-4	Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Mayor, City Council, Public Works Department	L	2025	Local	TBD
Lightning	L-1	Protect Critical Facilities and Equipment	Alabama Power	H	Annually	Local, Private	TBD
	L-2	Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA, Parks and Rec	H	Annually	Local, State, FEMA	\$5,000.00
Severe Wind	SW-1	Adopt and Enforce Building Codes	Mayor, City Council, Inspections Department	H	Annually	Local	TBD
	SW-2	Promote or Require Site and Building Design Standards to Minimize Wind Damage	Inspections Dept.	H	2020	Local	TBD



Clay Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	SW-3 Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA	H	2018	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power	H	Annually, and as the need arise	Private	TBD
	SW-5 Retrofit Residential Buildings	Home Owners	M	2020	Private	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department	H	2020	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD

County Line Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
GENERAL: ALL HAZARDS Education and Awareness Actions	Hazard	Action Items				
		These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.				
		Everbridge Emergency Alert Notifications	H	Quarterly	Local	No additional cost
		Hazard awareness weeks.	M	Annually	Local	No additional cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)		Preparedness handbooks, brochures, distribution of severe weather guides	H	Seasonal	Local	No additional cost
		Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.				
	Dam/Levee Failures (See: Flooding)					
	Droughts/Heat Waves					
	D-1	Plan for Drought	M	2020	Local	TBD
	D-2	Monitor Drought Conditions	M	Seasonal	Local	No additional cost
	D-3	Monitor Water Supply	H	continuously	Private, Local	TBD
	D-4	Educate Residents on Water	M	Annually	Private,	TBD



County Line Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	Saving Techniques	Jefferson County EMA			Local	
Earthquakes	EQ-1 Increase Earthquake Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
Flooding	F-1 Increase Awareness of Flood Risk and Safety	Jefferson County EMA	H	Annually	Local	No additional cost
	F-2 Educate Property Owners about Flood Mitigation Techniques	Jefferson County EMA	H	Annually	Local, State, FEMA	TBD
	F-3 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works	H	2020	Local	TBD
	F-4 Construct Flood Control Measures	Mayor, Public Works	M	2025	Local, State, FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	M	Annually	Local	No additional cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA	M	Annually	Local	No additional cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor, Jefferson County EMA	H	Annually and will inform our citizens when grant	Local, State, FEMA	TBD



County Line Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA	H	Annually	Local	No additional cost
Wildfires	WF-1 Increase Wildfire Risk Awareness	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local, State	No additional cost
	WF-2 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local, State	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	M	Seasonal	Local	No additional cost
	WW-2 Educate Property Owners About Freezing Pipes	Jefferson County EMA, Water Utilities	M	Seasonal	Local	No additional cost
Others:						
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA	H	Annually	Local	No additional cost
Hail	HA-1 Increase Hail Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
Lightning	L-1 Conduct Lightning Awareness Programs	Jefferson County EMA	H	Annually	Local	No additional cost



County Line Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
Severe Wind	SW-1 Increase Severe Wind Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
	MU-1 Increase Hazard Education and Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
	MU-2 Adopt and Enforce Building Codes	Mayor and Council	H	Annually	Local	TBD
	MU-3 Improve Household Disaster Preparedness	Jefferson County EMA	H	Annually	Local	TBD
	MU-4 Integrate Mitigation into Local Planning	Mayor and Council	M	Annually	Local	TBD
Multiple Hazards	MU-5 Promote Private Mitigation Efforts	Jefferson County EMA	M	Annually	Local, Private	TBD



Fairfield Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA	H	Ongoing, annually	Local, State, FEMA	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	School District, Fire Department	H	Semi-annual	NA	TBD
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Fire Department, Police Department	H	Quarterly	Local	No additional cost
	Hazard "safety fairs"	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Ongoing, booths will be set up at different public events annually	Local	TBD
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council	H	Ongoing, local news and community flyers will be used to send out training information	Local	TBD
	Hazard awareness weeks	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Annually	Local, State	TBD
	Preparedness handbooks, brochures, distribution of severe weather guides	FEMA, Jefferson County EMA	H	Seasonal	Local FEMA	No additional cost
	Regular newspaper articles	Jefferson County EMA, Mayor, City Council	M	Quarterly	Local	TBD
	Direct mailings	Fire and Police Departments, Jefferson County EMA	M	Send surveys to citizens on an annual basis to update HM information	Local	TBD



Fairfield Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.						
Dam/Levee Failures (See: Flooding)							
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEMA, Utilities	M	2020	Local, Private	TBD	
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	M	Seasonal	Local, State	TBD	
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	H	Continuously	Local, State, FEMA	TBD	
	D-4 Plan for Drought	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water Utilities	M	2020	Local	TBD	
	D-5 Require Water Conservation During Drought Conditions	AEMA, Jefferson County EMA, Water Utilities, City Council	H	Annually	Local, State	TBD	
	D-6 Enhance Landscaping and Design Measures	Mayor, City Council	L	2025	Local	TBD	
	D-7 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council	M	Semi-annual	Local, State, FEMA	TBD	

2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Fairfield Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
Earthquakes	EQ-1	Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council	M	Annually	Local, State, FEMA	TBD
	EQ-2	Protect Critical Facilities and Infrastructure	Fire Department, Public Works, Jefferson County EMA	H	Annually	Local	TBD
	EQ-3	Increase Earthquake Risk Awareness	FEMA, AEMA, Jefferson County EMA, Mayor, City Council	M	Annually	Local, State, FEMA	TBD
Flooding	F-1	Incorporate Flood Mitigation in Local Planning	Mayor, City Council	H	Annually	Local	TBD
	F-2	Improve Storm water Management Planning	Public Works Department, Storm Water Management	H	Annually	Local	TBD
	F-3	Remove Existing Structures from Flood Hazard Areas	Public Works	H	2025	Local	TBD
	F-4	Improve Storm water Drainage System Capacity	Public Works	H	2025	Local	TBD
	F-5	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, Storm Water Utility	H	2020	Local	TBD
	F-6	Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)							
Landslides/Erosion	ER-1	Increase Awareness of Erosion Hazards	Jefferson County EMA, AEMA	H	Annually	Local, State	No additional cost
Land Subsidence	SU-1	Educate Residents about	Jefferson County EMA,	L	Annually	Local,	No



Fairfield Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
		Subsidence	AEMA,			State	additional cost
Severe Storms							
	T-1	Encourage Construction of Safe Rooms	Jefferson County EMA, AEMA, FEMA,	H	Ongoing, Annually	Local, State, FEWA	TBD
Wildfires	T-2	Conduct Tornado Awareness Activities	FD, EMA, AEMA, FEWA	H	Annually	Local, State, FEWA	TBD
	WF-1	Increase Wildfire Risk Awareness	Jefferson County EMA, State Forestry, Fire Marshall	H	Annually	Local, State	No additional cost
Winter Storms/Freezes	WF-2	Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, State Forestry, Fire Marshall	H	Annually	Local, State	TBD
	WW-1	Protect Buildings and Infrastructure	Fire Department	M	Annually	Local	TBD
Others:	WW-2	Conduct Winter Weather Risk Awareness Activities	Home Owners Associations	H	Annually	Local, State, FEWA	TBD
Extreme Temperatures	ET-1	Increase Awareness of Extreme Temperature Risk and Safety	FD, Jefferson County EMA, AEMA, FEWA	H	Annually	Local, State, FEWA	No additional cost
	ET-2	Educate Property Owners About Freezing Pipes	FD, Jefferson County EMA, AEMA, FEWA	M	Seasonal	Local, State, FEWA	No additional cost
Hail	HA-1	Increase Hail Risk Awareness	Jefferson County EMA, AEMA, FEWA	H	2020	Local, State, FEWA	No additional cost
Lightning	L-1	Conduct Lightning Awareness Programs	Alabama Power, Jefferson County EMA, AEMA,	H	Annually	Local, State,	TBD



Fairfield Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
Severe Wind			FEMA			FEMA Private	
	SW-1	Adopt and Enforce Building Codes	Mayor, City Council, Building Department	H	Annually	Local	TBD
	SW-2	Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Department, Engineering Department	H	2020	Local	TBD
	SW-3	Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No additional cost
Multiple Hazards	MU-1	Integrate Mitigation into Local Planning	Mayor, City Council, Planning Department	H	Annually	Local	TBD
	MU-2	Adopt and Enforce Building Codes	Mayor, City Council, Planning Department, Zoning Department	H	Annually	Local	TBD
	MU-3	Protect Structures	Fire Department	H	Annually	Local	TBD
	MU-4	Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council	H	Annually	Local, State, FEMA	TBD
	MU-5	Improve Household Disaster Preparedness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council	H	Annually	Local, State, FEMA	TBD
	MU-6	Promote Private Mitigation Efforts	Jefferson County EMA, AEMA, FEMA, Mayor, City Council	H	Annually	Local, State, FEMA	TBD

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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA		H	Annually, September	Local, State, FEMA TBD
	Drills, exercises in homes, workplaces, classrooms, etc	School District, Fire Department, City Fire Marshal's Office		H	Semi annual	Local TBD
	Public service announcements	Jefferson County EMA, Mayor, City Council, Fire Department PIO's.		H	Quarterly	Local, State TBD
	Hazard "safety fairs"	Jefferson County EMA, Mayor, City Council, School District, Fire Department, Police Departments (National Night Out)		H	Annually at different events	Local TBD
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council, Fire Chief, Fire Marshal, Fire Department Training officer(s)		H	Annually	Local TBD
	Hazard awareness weeks	Jefferson County EMA, Mayor, City Council, School District, Fire District		H	Annually	Local, State TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc	FEMA, Jefferson County EMA		H	Seasonal	Local, State, FEMA TBD

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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	Regular newspaper articles	Jefferson County EMA, Mayor, City Council, Public Information Officer.		M	Quarterly	Local TBD
	Direct mailings	Fire and Police Departments, Jefferson County EMA		M	Annually	Local TBD
	Utility bill inserts	Utilities, Fultondale Gas Department		M	2018	Local TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared	FEEMA, Jefferson County EMA, Fire and Police Departments		H	Annually	Local TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.	Tornado Shelters (Community Safe Room) 1 completed, 2 more in planning stages, as of this update, contract being awarded for 2 nd Safe Room. Flood prone areas have been bought out by the City of Fultondale, with green space built (Black Creek Park, Children's Park, Bark Park).		H	Annually.	Local TBD
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEEMA, Storm Water Services.		M	2020	Local, Private TBD
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEEMA		M	Seasonally	Local, State TBD
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEEMA		H	Continuously	Local, State, TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	D-4 Plan for Drought	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water Utilities		M	Long Range	FEMA Local TBD
	D-5 Require Water Conservation During Drought Conditions	AEMA, Jefferson County EMA, Water Utilities, City Council		H	Short Range	Local, State TBD
	D-6 Prevent Overgrazing	Department of Agriculture, Local Agriculture Extension Services		L	Short Range	State TBD
	D-7 Retrofit Water Supply Systems	Public Works and Engineering Department		M	Short range	Local TBD
	D-8 Enhance Landscaping and Design Measures	Mayor, City Council		L	Long Range	Local TBD
	D-9 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council		M	Semi Annual	Local, State, FEMA TBD
	D-10 Educate Farmers on Soil and Water Conservation Practices	State Department of Conservation, State Department of Agriculture		L	Annually	Local, State, FEMA TBD
	D-11 Purchase	FEMA, State Department of Agriculture		L	Annually	Private TBD



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MITIGATION MEASURES					
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Earthquakes	Crop Insurance				
	EQ-1 Adopt and Enforce Building Codes	Building and Planning Agencies, Mayor, City Council	H	2020	Local TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council, Building and Planning Agencies	M	Long Range	Local TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA	H	Long Range	Local, State TBD
	EQ-4 Conduct Inspections of Building Safety	Building Department, Fire Department, State Fire Marshal, City Fire Marshal	M	2020	Local TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department, Public Works	H	Annually	Local TBD
	EQ-6 Implement Structural Mitigation	Public Works and Engineering Department	M	2020	Local TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	Techniques					
	EQ-7 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, A EMA, Mayor, City Council		M	Semi Annual	Local, State, FEMA TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Engineering Department, NFPA, Jefferson County EMA		M	2016	Local TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Jefferson County EMA, Engineering & Building Departments, Fire Marshal's Office.		M	2020	Local, State, FEMA TBD
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council, Planning Department		H	Mid Range	Local TBD
	F-2 Form Partnerships to Support Floodplain Management	Mayor, City Council, Flood Plain Administrator		H	Annually	Local TBD
	F-3 Limit or	Flood Control District, Mayor, City Council		H	2025	Local TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	
	Restrict Development in Floodplain Areas					
F-4	Adopt and Enforce Building Codes and Development Standards	Mayor, City Council, Planning, Building & Zoning Departments, Fire Marshal's Office.	H	2020	Local, State	TBD
F-5	Improve Storm water Management Planning	Public Works Department, Water Utility, Storm Water Authority	H	Long Range	Local	TBD
F-6	Adopt Policies to Reduce Storm water Runoff	Flood Control District, Mayor, City Council	H	2018	Local	TBD
F-7	Improve Flood Risk Assessment	Mayor, City Council, GIS Department, USGS	H	Long Range	Local	TBD
F-8	Join or Improve Compliance with NFIP	Mayor, City Council, Homeowners, Business Organizations, Jefferson County EMA, Flood Control District	H	Short Range	Local, State	TBD
F-9	Manage the Floodplain Beyond	Mayor, City Council, Flood Control District	H	2020	Local	TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
	Minimum Requirements				
F-10	Participate in the CRS	Mayor, City Council	H	2020	Local TBD
F-11	Establish Local Funding Mechanisms for Flood Mitigation	Planning Department, Mayor, City Council	H	2020	Local TBD
F-12	Remove Existing Structures from Flood Hazard Areas	Public Works. Structures in flood prone areas have been bought out, and the areas converted into green space for recreation (Black Creek Park, Childrens Park, Bark Park).	H	Complete	Local TBD
F-13	Improve Storm water Drainage System Capacity	Public Works	H	Long Range	Local TBD
F-14	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, Storm Water Utility	H	2020	Local TBD
F-15	Elevate or	Building & Engineering Department	H	Mid- Range	Local TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	Retrofit Structures and Utilities					
F-16	Flood proof Residential and Non-Residential Structures	Building Department, Homeowners, Business Organizations, FEMA		H	Mid-Range	Local TBD
F-17	Protect Infrastructure	Building & Engineering Department		H	Annually	Local TBD
F-18	Protect Critical Facilities	Building & Engineering Department		H	Annually	Local TBD
F-19	Construct Flood Control Measures	Flood Control District, Public Works and Engineering Department		H	2025	Local TBD
F-20	Protect and Restore Natural Flood Mitigation Features	Mayor, City Council, Parks & Recreation Department, Planning Department		M	2025	Local TBD
F-21	Preserve Floodplains as Open Space	Mayor, City Council, Land Trust, Parks & Recreation Department		M	2025	Local TBD
F-22	Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA		H	Annually	Local, State, FEMA TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	F-23 Educate Property Owners about Flood Mitigation Techniques	FEMA, AEMA, Jefferson County EMA, Mayor, City Council		H	Annually	Local, State, FEMA TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	GIS Department, USGS, FEMA, Planning Department		H	2025	Local TBD
	ER-2 Manage Development in Erosion Hazard Areas	Engineering Department, Building Department		H	2025	Local TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Mayor, City Council, Planning & Zoning Department		H	2018	Local TBD
	ER-4 Remove Existing Buildings and Infrastructure	Mayor, City Council, Engineering Department, Building Department		M	2025	Local TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	from Erosion Hazard Areas					
	ER-5 Stabilize Erosion Hazard Areas	Department of Agriculture, Agriculture Extension Agent		H	2025	Local, State, TBD
	ER-6 Increase Awareness of Erosion Hazards	AEMA, Jefferson County EMA, Planning Department		H	Annually	Local, State, FEMA, TBD
	SU-1 Map and Assess Vulnerability to Subsidence	FEMA, AEMA		H	2025	Local, State, TBD
Land Subsidence	SU-2 Manage Development in High-Risk Areas	Planning Department, Building Department, Mayor, City Council		H	2025	Local, TBD
	SU-3 Consider Subsidence in Building Design	Engineering Department,		H	2018	Local, TBD
	SU-4 Monitor Subsidence Risk Factors	USGS, GIS Department,		L	Annually	Local, TBD
	SU-5 Remove Existing Structures from	Mayor, City Council, Public Works Department		L	2025	Local, TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure			Priority	Timeline	Funding Source:
	Subsidence Hazard Areas						
	SU-6 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA			L	Annually	Local, State, FEMA TBD
Severe Storms							
Tornadoes	T-1 Encourage Construction of Safe Rooms	Jefferson County EMA, FEMA, Engineering Department. 1 completed, 2 are in the planning stages.			H	Ongoing, most citizens will rely on grant funds to construct safe rooms	Local TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, City Council, Building Department,			H	2019	Local TBD
	T-3 Conduct Tornado Awareness Activities	EMA, AEMA, FEMA			H	Annually	Local TBD
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	USDA, Fire Districts, GIS Department, Alabama Forestry			M	2020	Local, State TBD
	WF-2 Incorporate Wildfire Mitigation in the	Mayor, City Council, Planning Department, Fire Department, Alabama Forestry.			H	Annually	Local TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	Comprehensive Plan					
	WF-3 Reduce Wildfire Risk through Land Use Planning	Planning Department, Parks & Recreation Department		H	Annually	Local TBD
	WF-4 Develop a Wildfire land-Urban Interface Code	USDA, Mayor, City Council, Fire Districts Planning Department, Zoning Department		M	2018	Local, State TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor, City Council, Fire Department, Building Inspectors, City Engineering, Fire Marshal.		L	Annually	Local TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Building Department, Fire Marshal's Office.		L	2025	Local TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Planning Department, Zoning Department		H	Annually	Local TBD
	WF-8 Conduct	Planning Department, Zoning Department Home Owners		M	Annually	Local TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Winter Storms/Freezes (Severe Winter Weather)	Maintenance to Reduce Risk	Associations.				
	WF-9 Implement a Fuels Management Program	State Forestry, Fire Marshal.		M	2018	Local TBD
	WF-10 Participate in Fire wise Program	Mayor, City Council, Fire Department Fire Marshal.		H	Annually	Local TBD
	WF-11 Increase Wildfire Risk Awareness	State Forestry, Fire Marshal.		H	Annually	Local TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, State Forestry, Fire Marshal.		H	Annually	Local, State, FEMA TBD
	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Zoning Department, Building Inspections Department, Fire Marshal's Office.		H	Annually	Local TBD
	WW-2 Protect Buildings and Infrastructure	Fire Department		M	Annually	Local TBD
	WW-3 Protect Power Lines	Alabama Power		H	Annually and as the need arises	Local, Private TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	WW-4 Reduce Impacts to Roadways	Public Works Department, ALDOT		M	Work w/ Ala Dept of Transportation annually	Local TBD
	WW-5 Conduct Winter Weather Risk Awareness Activities	Home Owners Associations		H	Annually	Local, State, FEMA TBD
	WW-6 Assist Vulnerable Populations	Jefferson County Community Development		H	2016	Local, State TBD
	Others:					
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Planning Department, Parks & Recreation Department		M	2025	Local TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA		H	Annually	Local, State, FEMA TBD
	ET-3 Assist Vulnerable Populations	Jefferson County Community Development		H	2016	Local, State TBD
	ET-4 Educate Property Owners About Freezing	Jefferson County EMA, AEMA, FEMA		M	Ongoing, Seasonal	Local, State, FEMA TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Home Owner Associations, Jefferson County Community Development		H	2020	Local TBD
	HA-2 Protect Buildings from Hail Damage	Building Depts.		L	2020	Local TBD
	HA-3 Increase Hail Risk Awareness	Jefferson County EMA, ADEM, FEMA		M	Annually	Local, State, FEMA TBD
	LS-1 Map and Assess Vulnerability to Landslides	USGS, GIS Department, Planning & Building Depts.		H	2025	Local, State TBD
Landslide	LS-2 Manage Development in Landslide Hazard Areas	Mayor & Council, Planning Department, Zoning Department		H	2025	Local, State TBD
	LS-3 Prevent Impacts to Roadways	Public Works Department, ALDOT		H	2025	Local TBD
	LS-4 Remove Existing Buildings and Infrastructure from	Mayor, City Council, Public Works Department, Building Department		L	2025	Local TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Lightning	Landslide Hazard Areas					
	L-1 Protect Critical Facilities and Equipment	Alabama Power		H	Annually	Local, Private TBD
	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA		H	Annually	Local, State, FEMA TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor, City Council, Building Department		H	2020	Local TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Department, Engineering Department		H	2020	Local TBD
	SW-3 Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA		H	2020	Local TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power		H	2020	Local, Private TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Multiple Hazards	SW-5 Retrofit Residential Buildings	Home Owners Associations, FEMA, Engineering Department, Building Department		M	2020	Local TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department		H	2025	Local TBD
	SW-7 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA		H	2017	Local, State, FEMA TBD
	MU-1 Assess Community Risk	Jefferson County EMA, GIS Department, FEMA		H	2018	Local, State TBD
	MU-2 Map Community Risk	Jefferson County EMA, GIS Department, FEMA		H	2025	Local, State, FEMA TBD
	MU-3 Prevent Development in Hazard Areas	Mayor, City Council, Building Department, GIS Department		H	2025	Local TBD
	MU-4 Adopt Development Regulations in Hazard Areas	Mayor, City Council, Planning Department, Zoning Department		H	2025	Local TBD
	MU-5 Limit Density in Hazard	Mayor, City Council, Planning Department, Zoning Department		H	2025	Local TBD



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Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline
	Areas				Funding Source:
	MU-6 Integrate Mitigation into Local Planning	Jefferson County EMA, Mayor, City Council, Planning Department		H	2016
	MU-7 Strengthen Land Use Regulations	Mayor, City Council, Planning Department, Zoning Department		H	2020
	MU-8 Adopt and Enforce Building Codes	Mayor, City Council, Planning Department, Zoning Department, Inspections Office, Fire Marshal's Office.		H	2020
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	Mayor, City Council, Planning Department, Zoning Department		H	2020
	MU-10 Provide Incentives for Hazard Mitigation	Jefferson County EMA, AEMA, FEMA		H	2020
	MU-11 Monitor Mitigation Plan Implementation	Jefferson County EMA, Mayor, City council		H	Annually
	MU-12 Protect Structures	Fire Department, Planning Department, City Council		H	2025
					Local
					TBD



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MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
	MU-13 Protect Infrastructure and Critical Facilities	Public Works Department, Fire Department		H	2025	Local TBD
	MU-14 Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council		H	2017	Local, State, FEMA TBD
	MU-15 Improve Household Disaster Preparedness	Jefferson County EMA, ADEM, FEMA, Mayor, City Council		H	2017	Local, State, FEMA TBD
	MU-16 Promote Private Mitigation Efforts	Jefferson County EMA, ADEM, FEMA, Mayor, City Council		H	2017	Local, State, FEMA TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Fire Department, Fire Marshal	H	Ongoing, Annually September	Local	No additional cost
	Drills, exercises in homes, workplaces, classrooms, etc.	Fire Department, Fire Marshal	H	Ongoing, Semi annual	Local	No additional cost
	Public service announcements.	City Web Site, Social Media, Police & Fire	H	Ongoing	Local	No additional cost
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Police & Fire	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost
	Hazard "safety fairs."	Fire Department (October – Fire Prevention Month), Inspections Department (May – Building Safety Month)	H	Ongoing, Booths set up at different public events annually	Local	No additional cost
	Hazard conferences, seminars.	Fire Department, Police Department	H	Ongoing, send out training information using local news and community flyers	Local	No additional cost

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	Hazard awareness weeks.	Fire Department, Inspections Department	H	Annually	Local	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	Fire Department, Fox6 (Weather Radio Day)	H	Seasonal	Local	TBD
	Regular newspaper articles.	City	L	Quarterly news letters	Local	TBD
	Direct mailings.	City Hall	L	Ongoing, Annually, We will mail surveys to update HM information	Local	TBD
	Utility bill inserts.	City Hall	L	2018	Local	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Annual correspondence with residents reminding them of the need to be hazard prepared.	Fire Department, Police Department, Social Media (City)	H	Annually	Local	TBD
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Public Works	L	2020	Local	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	D-2 Monitor Drought Conditions	Public Works	M	Seasonally	Local	TBD
	D-3 Plan for Drought	Public Works	M	2020	Local	TBD
	D-4 Require Water Conservation During Drought Conditions	Public Works	M	Annually	Local	TBD
	D-5 Enhance Landscaping and Design Measures	Public Works, Street Department	L	2025	Local	TBD
	D-6 Educate Residents on Water Saving Techniques	City (Social Media)	L	Semi-annually	Local	TBD
	EQ-1 Adopt and Enforce Building Codes	Building Inspections, Fire Marshall	H	2020	Local, State FEMA	TBD
Earthquakes	EQ-2 Incorporate Earthquake Mitigation into Local Planning	City Counsel, City Services	L	Annually	Local, State, FEMA, Other	TBD
	EQ-3 Conduct Inspections of Building Safety	Building Inspections, Fire Marshall, Fire Department	H	2020	Local	TBD
	EQ-4 Protect Critical Facilities and Infrastructure	Building Department, Fire Department, Police Department	M	Ongoing, Annually	Local, State, FEMA	TBD
	EQ-5 Implement Structural Mitigation Techniques	Building Inspections, Fire Marshall	H	2020	Local	TBD
	EQ-6 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Building Inspections, Fire Marshall, Public Works	M	2018	Local	TBD
	EQ-7 Provide Information on Structural	Building Department	M	2020	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
Flooding	and Non-Structural Retrofitting					
	F-1 Incorporate Flood Mitigation in Local Planning	City Counsel, City Services	L	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	City Services	L	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Building Inspections	L	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Building Inspections, Public Works, Street Department	H	2020	Local	TBD
	F-5 Improve Stormwater Management Planning	Public Works, Building Department	H	Annually	State, Local FEMA	TBD
	F-6 Adopt Policies to Reduce Stormwater Runoff	Public Works, Building Department	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Public Works, Building Department	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	City Services	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Street Department, Public Works	M	2020	Local	TBD
	F-10 Participate in the CRS	Building Inspections, Public Works	M	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	City Services	M	2020	Local	TBD
	F-12 Remove Existing Structures from	Building Department,	M	2025	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	Flood Hazard Areas	Public Works				
	F-13 Improve Stormwater Drainage System Capacity	Building Department, Public Works	H	2025	Local	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public works	H	2020	Local	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Public works	M	2025	Local	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Building Department	M	2025	Local	TBD
	F-17 Protect Infrastructure	Fire Department Public Works Building Department	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	Police Department	H	Annually	Local, State	TBD
	F-19 Construct Flood Control Measures	Public works Building Department	L	2025	Local	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Public works	L	2025	State, Local	TBD
	F-21 Preserve Floodplains as Open Space	Public Works, Park and Rec	L	2025	Local	TBD
Hurricanes	F-22 Increase Awareness of Flood Risk and Safety	Public Works	L	Annually	Local	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	Building Department	M	Annually	Local	TBD

Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
(See: Severe Wind; Flooding)						
Landslides/Erosion (Continual Maintenance by City Services)	ER-1 Map and Assess Vulnerability to Erosion	Building Inspections, Public Works, Street Department	H	2025	Local, State	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Building Inspections, Public Works, Street Department	M	2025	Local	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Building Inspections, Public Works, Street Department	H	2018	Local	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Building Inspections	L	2025	Local	TBD
	ER-5 Stabilize Erosion, Hazard Areas	Public Works, Street Department	L	2025	Local	TBD
	ER-6 Increase Awareness of Erosion Hazards	Public Works, Street Department	L	Annually	Local	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	Building Inspections, Public Works, Street Department	H	2025	Local	TBD
	SU-2 Manage Development in High- Risk Areas	Building Inspections, Public Works	M	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Building Inspections	M	2018	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	Building Inspections	M	Annually	Local	TBD



Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Building Inspections	L	2025	Local	TBD
	SU-6 Educate Residents about Subsidence	Building Inspections, Public Works, Street Department	L	Annually	Local	TBD
	Severe Storms					
Tornadoes (Storm Shelter in the beginning stages of being built. Adding 2 more by existing Fire Station and future Fire Station)	T-1 Encourage Construction of Safe Rooms	Fire Department	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of citizens have been listed on the waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Building Inspections	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Fire Department, School Systems	H	Ongoing, Annually	Local, FEMA	TBD
Wildfires (Not prone in these areas)	WF-1 Map and Assess Vulnerability to Wildfire	Fire Department	H	2020	Local	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	City Services	H	Annually	Local	TBD
	WF-3 Reduce Risk through Land Use Planning	Public Works Building Inspections, Fire Department	L	Annually	Local	TBD



Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	WF-4 Develop a Wildland-Urban Interface Code	City Services	L	2018	Local, State, FEMA	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Building Inspections, Fire Department	L	Annually	Local, State, FEMA	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Building Inspections	L	2025	Local	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Fire Department, Building Inspections	L	Annually	Local, State, FEMA	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Public Works, Street Department	L	Annually	Local	TBD
	WF-9 Implement a Fuels Management Program	City Services	L	2018	Local	TBD
	WF-10 Increase Wildfire Risk Awareness	Fire Department	L	Annually	Local, State, FEMA, Other	TBD
	WF-11 Educate Property Owners about Wildfire Mitigation Techniques	Fire Department	H	Annually	Local, State, FEMA, Other	TBD
	WW-1 Adopt and Enforce Building Codes	Fire Department Building Inspections	H	Annually	Local, State, FEMA, Other	TBD
	Winter Storms/Freezes (Severe Winter Weather)					



Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
(All City Services are involved during severe weather events)	WW-2 Protect Buildings and Infrastructure	Fire Department Building Department	M	Annually	Local, State, FEMA, Other	TBD
	WW-3 Protect Power Lines	Alabama Power, Fire Department	M	Annually and as the need arise	Local, State, FEMA, Other	TBD
	WW-4 Reduce Impacts to Roadways	Street Department, Public Works	M	Working w/ Alabama Dept. of Transportation on an annual basis	Local, State	TBD
	WW-5 Conduct Winter Weather Risk Awareness Activities	City Services	H	Annually	Local	TBD
	WW-6 Assist Vulnerable Populations	Public Works, Building Department, Fire Department, Police Department	H	2016	Local	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Public Works	L	2025	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Fire Department	M	Annually	Local	TBD
	ET-3 Assist Vulnerable Populations	City Services	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	City Services	H	Ongoing, Seasonal	Local	TBD



Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Fire Department, Civic Center, Police Department	M	2020	Local, State FEMA	TBD
	HA-2 Increase Hail Risk Awareness	News (Weather)	L	Annually	Local	No additional cost
Landslide	LS-1 Map and Assess Vulnerability to Landslides	City Services	H	2025	Local, State	TBD
	LS-2 Manage Development in Landslide Hazard Areas	Building Inspections, Public Works, Street Department	L	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	Street Department, Public Works	L	2025	Local	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Building Department, Public Works	L	2025	Local	TBD
Lightning	L-1 Protect Critical Facilities and Equipment	City Services	M	2020	Local, State, FEMA, Other	TBD
	L-2 Conduct Lightning Awareness Programs	News (Weather)	M	2020	Local	300
Severe Wind (Required to meet Building Codes)	SW-1 Adopt and Enforce Building Codes	Building Inspections	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Inspections, Fire Marshall	M	2020	Local	TBD



Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	SW-3 Assess Vulnerability to Severe Wind	Building Inspections	M	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power, Fire Department, Public Works	M	2020	Local	TBD
	SW-5 Retrofit Residential Buildings	Building Inspections	L	2020	Local	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Building Inspections	L	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	News (Weather)	L	2017	Local	200
	MU-1 Assess Community Risk	City Counsel, City Services	M	2018	Local	TBD
	MU-2 Map Community Risk	City Counsel, City Services	M	2025	Local, State, FEMA, Other	TBD
Multiple Hazards	MU-3 Prevent Development in Hazard Areas	Building Inspections	M	2025	Local, State, FEMA, Other	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	City Services	M	2025	Local, State, FEMA, Other	TBD
	MU-5 Limit Density in Hazard Areas	Building Inspections	M	2025	Local	TBD
	MU-6 Integrate Mitigation into Local	City Counsel, City	H	2016	Local	TBD

Gardendale Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost:
Hazard	Action Items					
	Planning	Services				
	MU-7 Strengthen Land Use Regulations	Building Inspections, Public Works	M	2020	Local, State, FEMA, Other	TBD
	MU-8 Adopt and Enforce Building Codes	Building Inspections, Fire Marshall	H	2020	Local, State, FEMA, Other	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	City Services	M	2020	Local, State	TBD
	MU-10 Monitor Mitigation Plan Implementation	City Services	H	Annually	Local, State, FEMA	TBD
	MU-11 Protect Structures	Fire Department	H	2025	Local	TBD
	MU-12 Protect Infrastructure and Critical Facilities	Fire Department, Building Department, Public Works	M	2025	Local	TBD
	MU-13 Increase Hazard Education and Risk Awareness	Fire Department, Local News	M	2017	Local	200
	MU-14 Improve Household Disaster Preparedness	Fire Department, Local News	M	2017	Local	200
	MU-16 Promote Private Mitigation Efforts	City (City Website) Education Seminars	M	2017	Local	TBD

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Develop emergency preparedness education programs for schools.	Graysville Fire and Rescue Jefferson County Board of Education	Medium	Annually	Local	Less Than \$10,000 Annually
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Graysville Fire and Rescue	High	Quarterly	Local	No add'l cost
	Promote drills, exercises in homes, workplaces, classrooms, etc.	Graysville Fire and Rescue Jefferson County Board of Education	Medium	Semi-annual	Local	Less Than \$10,000 Annually
	Incorporate hazard preparation materials into local hazard "safety fairs."	Graysville Fire and Rescue	Medium	Booths set up at different public events annually	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Agency/Department for Lead: Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	Attend hazard conferences and seminars. Meet regularly with local/state Emergency Management Agencies.	Graysville Fire and Rescue, Graysville Mayor/Council, Jefferson County Sheriff's Department	Medium	Ongoing, surveys sent out to citizens to update HM info	Local	Less Than \$10,000 Annually
	Promote hazard awareness weeks.	Graysville Fire and Rescue, Graysville Mayor/Council	Medium	Annually	Local	Less Than \$10,000 Annually
	Make information available through preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc. Provide links to weather information on web sites.	Graysville Fire and Rescue Graysville Mayor/Council	Medium	Seasonally	Local	Less Than \$10,000 Annually
	Include hazard information in utility bill inserts.	Graysville Water and Gas Department	Medium	2018	Local	Less Than \$10,000 Annually
	Conduct annual correspondence with residents reminding them of the need to be hazard prepared. Include link to State of Alabama Emergency Management	Graysville Fire and Rescue Graysville Mayor/Council Jefferson County Sheriff's Department	Medium	Annually	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	Preparedness web page on City web site.					
Hazard Specific (Reference: JCHMP, <u>Mitigation Ideas</u>)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess vulnerability to drought risk by regularly monitoring NOAA drought portal at www.drought.gov .	Graysville Mayor/Council	High	2020	Local	Less Than \$10,000 Annually
	D-2 Monitor drought conditions on weekly basis through www.drought.gov and other NOAA sites.	Graysville Mayor/Council Graysville Water Works Birmingham Water Works	High	Seasonally	Local	Less Than \$10,000 Annually
	D-3 Monitor water supply on a weekly basis through contact with Birmingham Water Works Board.	Graysville Mayor/Council Graysville Water Works Birmingham Water Works	High	Continuously	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	D-4 Develop a written plan for emergency responses for drought and heat waves.	Graysville Mayor/Council Graysville Water Works Birmingham Water Works	High	2025	Local	Less Than \$10,000 Annually
	D-5 Require water conservation during drought conditions by adopting drought condition policies of Birmingham Water Works.	Graysville Mayor/Council Graysville Water Works Birmingham Water Works	Medium	2025	Local	Less Than \$10,000 Annually
	D-6 Implement district metering plan to identify and mitigate water loss through faulty pipes.	Graysville Mayor/Council Graysville Water Works	High	2016	Local and State Funding through DWSRF	\$1,250,000
	D-7 Establish and equip Graysville Community Center as a relief station during prolonged periods of excessive heat.	Graysville Mayor/Council Graysville Water Works	High	2016	Local	Less Than \$10,000 Annually
	D-8 Develop list of elderly citizens susceptible to risks of prolonged, excessive heat.	Graysville Mayor/Council Graysville Senior Center Director Graysville Water Works	High	2020	Local	Less Than \$10,000 Annually
	EQ-1 Enforce building codes.	Graysville Mayor/Council Building Inspector	High	2020	Local	Less Than \$10,000

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
						Annually
	EQ-2 Incorporate earthquake mitigation into local planning.	Graysville Mayor/Council	Low	2025	Local	Less Than \$10,000 Annually
	EQ-3 Map and assess community vulnerability to seismic hazards. Seismic activity capable of causing structural damage in Alabama is rare.	Graysville Mayor/Council	Low	2025	Local	Less Than \$10,000 Annually
	EQ-4 Conduct inspections of building safety.	Graysville Mayor/Council Building Inspector	Low	Annually	Local	Less Than \$10,000 Annually
	EQ-5 Protect critical facilities and infrastructure by identification and inclusion in insurance coverage.	Graysville Mayor/Council	Low	2020	Local	Less Than \$10,000 Annually
	EQ-6 Implement structural mitigation techniques and regularly inspect City owned facilities.	Graysville Mayor/Council Building Inspector	Low	Annually	Local	Less Than \$10,000 Annually
	EQ-7 Increase earthquake risk awareness by including a link to State of Alabama Emergency Management Preparedness web page on City web site.	Graysville Mayor/Council	Low	Annually	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	EQ-8 Conduct outreach to builders, architects, engineers, and inspectors.	Graysville Mayor/Council Building Inspector	Low	2020	Local	Less Than \$10,000 Annually
	EQ-9 Provide information on structural and non-structural retrofitting.	Graysville Mayor/Council Building Inspector	Low	2025	Local	Less Than \$10,000 Annually
Flooding	F-1 Incorporate flood mitigation in local planning by identifying historical floodplains.	Graysville Mayor/Council Building Inspector	High	Annually	Local	Less Than \$10,000 Annually
	F-2 Limit or restrict development in floodplain areas through the enforcement of existing building codes.	Graysville Mayor/Council Building Inspector	High	2018	Local	Less Than \$10,000 Annually
	F-3 Adopt and enforce building codes and development standards as technology changes.	Graysville Mayor/Council Building Inspector	High	2018	Local	Less Than \$10,000 Annually
	F-4 Improve stormwater management planning through identification and documentation of stormwater management assets.	Graysville Mayor/Council Storm Water Management Assoc. (SWMA)	High	2020	Local	Less Than \$10,000 Annually
	F-5 Adopt policies to reduce stormwater runoff and incorporate the policies into the NPDES permitting process.	Graysville Mayor/Council SWMA	High	2025	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	F-6 Improve flood risk assessment by educating operating personnel to identify flood risk zones.	Graysville Mayor/Council SWMA	High	2020	Local	Less Than \$10,000 Annually
	F-7 Improve compliance with NFIP and educate citizens regarding the need for flood insurance.	Graysville Mayor/Council SWMA	Low	Annually	Local	Less Than \$10,000 Annually
	F-8 Establish local funding mechanisms for flood mitigation through National Conservation Service.	Graysville Mayor/Council USDA	Medium	2020	Local	Less Than \$10,000 Annually
	F-9 Remove existing structures from flood hazard areas.	Graysville Mayor/Council	Medium	2025	Local	\$500,000+
	F-10 Improve stormwater drainage system capacity by identifying and mitigating potential bottlenecks in existing system.	Graysville Mayor/Council Jefferson County Environmental Services	Medium	2020	Local	\$1,000,000+
	F-11 Conduct regular maintenance for drainage systems and flood control structures. Maintenance activities to include cleaning debris from pipes and ditches.	Graysville Mayor/Council Jefferson County Environmental Services SWMA	Medium	Annually	Local	Less Than \$10,000 Annually
	F-12 Elevate or retrofit structures and utilities.	Graysville Mayor/Council Jefferson County	Medium	2025	Local	\$500,000+

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	F-13 Floodproof residential and non-residential structures	Environmental Services Graysville Mayor/Council	Low	2025	Local	\$500,000+
	F-14 Protect infrastructure. Remove trees and debris from Fields Branch. Monitor Prudes Creek for debris accumulation along Cherry Avenue and roadbed erosion along Linn Road. Monitor South Main Street for flooding.	Graysville Mayor/Council Street Department	High	Annually	Local	Less Than \$10,000 Annually
	F-15 Protect critical facilities and inspect regularly. Include all critical facilities in insurance coverage.	Graysville Mayor/Council	High	2020	Local	Less Than \$10,000 Annually
	F-16 Construct flood control measures along South Main Street.	Graysville Mayor/Council	Medium	2020	Local	\$1,000,000+
	F-17 Protect and restore natural flood mitigation features along Prudes Creek and Fields Branch.	Graysville Mayor/Council SWMA	Medium	Annually	Local	\$1,000,000+
	F-18 Preserve floodplains as open space.	Graysville Mayor/Council SWMA	High	2025	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	F-19 Increase awareness of flood risk and safety by including a link to State of Alabama Emergency Management Preparedness web page on City web site.	Graysville Mayor/Council Graysville Fire and Rescue SWMA	Medium	Annually	Local	Less Than \$10,000 Annually
	F-20 Educate property owners about flood mitigation techniques.	Graysville Fire and Rescue	Medium	Annually	Local	Less Than \$10,000 Annually
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and assess vulnerability to erosion along public roads. High risk areas include Brookville School Road, Linn Road, 5 th Street NE and Cherry Avenue.	Jefferson County Land Development Street Department Graysville Mayor/Council	Medium	2020	Local	Less Than \$10,000 Annually
	ER-2 Manage development in erosion hazard areas through enforcement of existing building codes.	Building Inspector Jefferson County Land Development Street Department Graysville Mayor/Council	Medium	2020	Local	Less Than \$10,000 Annually
	ER-3 Require site and building design standards to minimize erosion risk.	Graysville Mayor/Council Building Inspector	High	2020	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	ER-4 Remove existing buildings and infrastructure from erosion hazard areas where practical.	Graysville Mayor/Council Building Inspector	Medium	2025	Local	Less Than \$10,000 Annually
	ER-5 Stabilize erosion hazard area along Brookville School Road.	Graysville Mayor/Council Jefferson County Board of Education	Low	2025	Local	Less Than \$10,000 Annually
	ER-6 Increase public awareness of erosion hazards by including a link to State of Alabama Emergency Management Preparedness web page on City web site.	Graysville Mayor/Council Jefferson County Land Development	Low	Annually	Local	Less Than \$10,000 Annually
	SU-1 Map and assess vulnerability to subsidence. Coal mine subsidence is a risk in Graysville.	Graysville Mayor/Council Alabama Mine Reclamation Division	Medium	2025	Local	Less Than \$10,000 Annually
Land Subsidence	SU-2 Manage development in high-risk areas through enforcement of existing building codes.	Graysville Mayor/Council Building Inspector Jefferson County Land Development	Medium	2025	Local	Less Than \$10,000 Annually
	SU-3 Consider subsidence in building design.	Graysville Mayor/Council Building Inspector Jefferson County Land	Medium	2025	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
		Development				
	SU-4 Monitor subsidence risk factors.	City of Graysville Jefferson County Emergency Management Agency Alabama Mine Reclamation Division	Medium	2020	Local	Less Than \$10,000 Annually
	SU-5 Remove existing structures from subsidence hazard areas. All known structures in subsidence areas have been removed.	Graysville Mayor/Council Jefferson County Land Development Alabama Mine Reclamation Division	Low	20205	Local	Less Than \$10,000 Annually
	SU-6 Educate residents about subsidence.	Graysville Mayor/Council Jefferson County Land Development	Low	2025	Local	Less Than \$10,000 Annually
Severe Storms						
Tornadoes	T-1 Complete construction of safe rooms in Central Graysville and in Graysville East	Graysville Mayor/Council Building Inspector Jefferson County EMA	High	2020	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	Community.					
	T-2 Enforce building codes and require wind-resistant building techniques.	City of Graysville Building Inspector	High	Annually	Local	Less Than \$10,000 Annually
	T-3 Educate citizens by conducting tornado awareness activities. Include a link to State of Alabama Emergency Management Preparedness web page on City web site.	Graysville Mayor/Council Graysville Fire and Rescue	High	Annually	Local	Less Than \$10,000 Annually
	WF-1 Map and assess vulnerability to wildfire.	Graysville Mayor/Council Graysville Fire and Rescue	High	2025	Local	Less Than \$10,000 Annually
Wildfires	WF-2 Incorporate wildfire mitigation in the comprehensive plan.	Graysville Fire and Rescue	High	2020	Local	Less Than \$10,000 Annually
	WF-3 Establish contacts with Land Departments of large local corporate land owners and discuss wildfire risks and mitigation actions.	Graysville Mayor/Council Graysville Fire and Rescue	Medium	2025	Local	Less Than \$10,000 Annually
	WF-4 Encourage fire-resistant construction techniques through enforcement of existing building codes.	Graysville Mayor/Council Building Inspector Graysville Fire and	Medium	2025	Local Private	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
		Rescue				
	WF-5 Retrofit at-risk structures with ignition-resistant materials.	Graysville Mayor/Council Building Inspector Graysville Fire and Rescue	Medium	2025	Local Private	Less Than \$10,000 Annually
	WF-6 Create defensible space around structures and infrastructure. Evaluate areas surrounding key infrastructure assets such as water tanks and pump stations.	Graysville Mayor/Council Building Inspector Graysville Fire and Rescue	Medium	2025	Local Private	Less Than \$10,000 Annually
	WF-7 Conduct maintenance on critical infrastructure to reduce risk.	Graysville Mayor/Council Building Inspector Graysville Fire and Rescue	Medium	2025	Local Private	Less Than \$10,000 Annually
	WF-8 Implement a fuels management program.	Graysville Mayor/Council Graysville Fire and Rescue	Medium	2025	Local Private	Less Than \$10,000 Annually
	WF-9 Increase citizen wildfire risk awareness.	Graysville Mayor/Council Graysville Fire and Rescue	High	Annually	Local Private	Less Than \$10,000 Annually
	WF-10 Educate property owners about wildfire mitigation techniques.	Graysville Mayor/Council Graysville Fire and Rescue	High	Annually	Local Private	Less Than \$10,000 Annually

Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019

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Winter Storms/Freezes (Severe Winter Weather)s	WW-1 Adopt and enforce building codes.	Graysville Mayor/Council Building Inspector	High	Annually	Local	Less Than \$10,000 Annually
	WW-2 Protect buildings and infrastructure by including all critical components in insurance coverage.	Graysville Mayor/Council	High	2020	Local Other	Less Than \$10,000 Annually
	WW-3 Identify vulnerable power lines and provide locations to Alabama Power Company representatives.	Graysville Mayor/Council Street Department	High	2020	Local Other	Less Than \$10,000 Annually
	WW-4 Reduce impacts to roadways by plowing and sanding during winter weather events.	Graysville Mayor/Council Street Department	Medium	2020	Local Other	Less Than \$10,000 Annually
	WW-5 Conduct winter weather risk awareness activities.	Graysville Mayor/Council Graysville Fire and Rescue	High	2020	Local	Less Than \$10,000 Annually
	WW-6 Develop list of elderly or citizens at risk during winter weather and develop methodology of contacting those citizens.	Graysville Mayor/Council	High	2016	Local Private	Less Than \$10,000 Annually
Other Hazards:						
Extreme Temperatures						
	ET-1 Increase awareness of extreme	Graysville Fire and	High	Annually	Local	Less Than

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

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	temperature risk and safety.	Rescue				\$10,000 Annually
	ET-2 Develop list of elderly or citizens at risk during winter weather events and develop methodology of contacting those citizens.	Graysville Mayor/Council Graysville Fire and Rescue	High	Annually	Local Private	Less Than \$10,000 Annually
	ET-3 Educate property owners about freezing pipes by reminders included on monthly bills and inclusion of information on City's web site.	Graysville Mayor/Council Graysville Water and Gas Departments	High	2020	Local	Less Than \$10,000 Annually
	Hail HA-1 Complete construction of safe rooms in Central Graysville and in Graysville East Community.	Graysville Mayor/Council Jefferson County EMA	High	2020	Local	Less Than \$10,000 Annually
	HA-2 Protect buildings from hail damage.	Graysville Mayor/Council Building Inspector	Low	2020	Local	Less Than \$10,000 Annually
	HA-3 Increase hail risk awareness.	Graysville Mayor/Council Building Inspector Graysville Fire and Rescue	High	2020	Local Private	Less Than \$10,000 Annually
Landslide	LS-1 Map and assess vulnerability to landslides. Instances of landslides has	Graysville Mayor/Council Building Inspector	Low	2025	Local	Less Than \$10,000

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • L (Low)	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	historically been low.	Jefferson County Land Development				Annually
	LS-2 Manage development in landslide hazard areas.	Graysville Mayor/Council Building Inspector Jefferson County Land Development	Low	2025	Local	Less Than \$10,000 Annually
	LS-3 Prevent impacts to roadways.	Graysville Mayor/Council Street Department Jefferson County Land Development	Low	2025	Local	Less Than \$10,000 Annually
	LS-4 Remove existing buildings and infrastructure from landslide hazard areas.	Graysville Mayor/Council Jefferson County Land Development	Low	2025	Private Other	Less Than \$10,000 Annually
Lightning	L-1 Identify and protect critical facilities and equipment and include all critical facilities in insurance coverage.	Graysville Mayor/Council	High	2020	Local	Less Than \$10,000 Annually
	L-2 Conduct lightning awareness programs and include information on City's web page.	Graysville Mayor/Council Graysville Fire and Rescue	High	2020	Local	Less Than \$10,000 Annually
Severe Wind	SW-1 Enforce IRC and IRB building codes adopted by City Council.	Graysville Mayor/Council Building Inspector	High	2016	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	SW-2 Require site and building design standards to minimize wind damage.	Graysville Mayor/Council Building Inspector	Medium	2025	Local Other	Less Than \$10,000 Annually
	SW-3 Assess vulnerability to severe wind by regular drive by inspections.	Graysville Mayor/Council Building Inspector, Graysville Street Department	High	2016	Local	Less Than \$10,000 Annually
	SW-4 Protect power lines and infrastructure by conducting regular drive by inspections and communication with Alabama Power Company representatives.	Graysville Mayor/Council Graysville Street Department	High	2020	Local Other	Less Than \$10,000 Annually
	SW-5 Retrofit residential buildings.	Graysville Mayor/Council Building Inspector	Low	2025	Local Private	\$500,000+
	SW-6 Retrofit public buildings and critical facilities.	Graysville Mayor/Council	Low	2025	Local Private	\$100,000+
	SW-7 Increase severe wind risk awareness by adding information on City's web site.	Graysville Mayor/Council Graysville Fire and Rescue	High	2020	Local Other	Less Than \$10,000 Annually
Multiple Hazards	MU-1 Assess community risk through regular contact with Jefferson County EMA.	Graysville Mayor/Council Graysville Fire and Rescue Jefferson County EMA	High	2020	Local Other	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	MU-2 Map community risk with assistance from Jefferson County EMA.	Graysville Mayor/Council Graysville Fire and Rescue Jefferson County EMA	High	2016	Local Other	Less Than \$10,000 Annually
	MU-3 Prevent development in hazard areas through enforcement of existing building codes.	Graysville Mayor/Council Building Inspector	High	2020	Local Other	Less Than \$10,000 Annually
	MU-4 Adopt development regulations in hazard areas.	Graysville Mayor/Council	High	Annually	Local Other	Less Than \$10,000 Annually
	MU-5 Limit density in hazard areas.	Graysville Mayor/Council	Medium	2025	Local Other	Less Than \$10,000 Annually
	MU-6 Integrate mitigation into local planning.	Graysville Mayor/Council	High	Annually	Local Other	Less Than \$10,000 Annually
	MU-7 Strengthen land use regulations.	Graysville Mayor/Council	High	2018	Local Other	Less Than \$10,000 Annually
	MU-8 Enforce building codes.	Graysville Mayor/Council Building Inspector	High	Annually	Local	Less Than \$10,000 Annually

**Graysville, Alabama Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	MU-9 Protect infrastructure and critical facilities by inclusion in insurance coverage.	Graysville Mayor/Council	High	2018	Local Other	Less Than \$10,000 Annually
	MU-10 Increase hazard education, risk awareness and improve household disaster preparedness. Include link to State of Alabama Emergency Management Preparedness web page on City web site.	Graysville Mayor/Council Graysville Fire and Rescue Jefferson County EMA	High	2018	Local	Less Than \$10,000 Annually

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.	Public Safety – Fire and Police – Building, Engineering, Zoning - Jeffco EMA	M	Ongoing, Annually September	Local – FEMA - Other	TBD
	Emergency preparedness education programs for schools.	Public Safety – Fire and Police– Jeffco EMA	M	Ongoing, Semi Annual	Local – FEMA - Other	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Public Safety – Fire and Police	M	Ongoing, Semi Annual	Local – FEMA - Other	TBD
	Public service announcements.	Public Safety – Fire and Police– Jeffco EMA	M	Quarterly	Local – FEMA - Other	TBD
	Hazard "safety fairs."	Public Safety – Fire and Police– Jeffco EMA	M	Annually	Local – FEMA - Other	TBD
	Hazard conferences, seminars.	Public Safety – Fire and Police– Jeffco EMA	M	Ongoing, booths set up at different public events annually	Local – FEMA - Other	TBD
	Hazard awareness weeks.	Public Safety – Fire and Police– Jeffco EMA	M	Annually	Local – FEMA - Other	TBD
	Preparedness handbooks, brochures, Distribution of severe weather guides, homeowner's retrofit guide, etc.	Public Safety – Fire and Police– Jeffco EMA	M	Sesasonal	Local – FEMA - Other	TBD
	Regular newspaper articles.	Public Safety – Fire and Police– Jeffco	M	Quarterly, newsletters	Local – FEMA -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
		EMA			Other	
	Direct mailings.	Public Safety – Fire and Police– Jeffco EMA	M	Annually, We will mail surveys to update HM information	Local – FEMA - Other	TBD
	Utility bill inserts.	Public Safety – Fire and Police– Jeffco EMA	M	2018	Local – FEMA - Other	TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared.	Public Safety – Fire and Police– Building, Engineering, Zoning - Jeffco EMA	M	Annually	Local – FEMA - Other	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
		All				
Dams/Levee Failures (See: Flooding)						
	D-1 Assess Vulnerability to Drought Risk	Mayor – Council - Planning	L	2020	Local – FEMA - Other	TBD
	D-2 Monitor Drought Conditions	Mayor – Council - Fire	L	Seasonally	Local – FEMA - Other	TBD
	D-3 Monitor Water Supply	Fire – Birmingham Water - Jeffco EMA	L	Continuously	Local – FEMA - Other	TBD
Droughts/Heat Waves	D-4 Plan for Drought	Birmingham Water - Jeffco EMA	L	2020	Local – FEMA -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	D-5 Require Water Conservation During Drought Conditions	Mayor – Council – Planning - Birmingham Water - Jeffco EMA	L	Annually	Local	TBD
					Other	
	D-7 Retrofit Water Supply Systems	Birmingham Water - Jeffco EMA	L	2020	Local	TBD
	D-8 Enhance Landscaping and Design Measures	Mayor – Council – Planning - Engineering	L	2025	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	Birmingham Water - Jeffco EMA	L	Semi Annual	Local	TBD
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Mayor – Council – Building, Engineering, Zoning	L	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Building, Engineering, Zoning	L	Annually	Local	TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS	L	2025	Local	TBD
	EQ-4 Conduct Inspections of Building Safety	Fire - Building Inspection's	L	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Fire	L	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation	Building, Engineering,	L	2020	Local	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Techniques	Zoning - Fire				
	EQ-7 Increase Earthquake Risk Awareness	Fire - Jeffco EMA	L	Provide FEMA's Information	Local	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Jeffco EMA	L	2018	Local	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Building, Engineering, Zoning	L	2020	Local	TBD
	Flooding					
	F-1 Incorporate Flood Mitigation in Local Planning	Building, Engineering, Zoning - Fire	M	Annually	Local - State - FEMA - Other	TBD
	F-2 Form Partnerships to Support Floodplain Management	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Building, Engineering, Zoning	M	2025	Local - State - FEMA - Other	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Building, Engineering, Zoning	M	2020	Local - State - FEMA - Other	TBD
	F-5 Improve Stormwater Management Planning	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-6 Adopt Policies to Reduce Stormwater Runoff	Building, Engineering, Zoning - Jefferson County	M	2018	Local - State - FEMA - Other	TBD
	F-7 Improve Flood Risk Assessment	Building, Engineering, Zoning - Jefferson County	M	2020	Local - State - FEMA - Other	TBD
	F-8 Join or Improve Compliance with NFIP	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Building, Engineering, Zoning - Jefferson County	M	2020	Local - State - FEMA - Other	TBD
	F-10 Participate in the CRS	Building, Engineering, Zoning - Jefferson County	M	2020	Local - State - FEMA - Other	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Building, Engineering, Zoning - Jefferson County	M	2020	Local - State - FEMA - Other	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Building, Engineering, Zoning - Jefferson County	M	2025	Local - State - FEMA - Other	TBD
	F-13 Improve Stormwater Drainage	Building, Engineering,	M	2025	Local -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	System Capacity	Zoning - Jefferson County			State - FEMA - Other	
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Building, Engineering, Zoning - Jefferson County	M	2020	Local - State - FEMA - Other	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Building, Engineering, Zoning - Jefferson County - Southern Company	M	2025	Local - State - FEMA - Other	TBD
	F-16 Floodproof Residential and Non-Residential Structures	Building, Engineering, Zoning - Jefferson County-Southern Company	H	2025	Local - State - FEMA - Other	TBD
	F-17 Protect Infrastructure	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
	F-18 Protect Critical Facilities	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
	F-19 Construct Flood Control Measures	Building, Engineering, Zoning - Jefferson County	M	2025	Local - State - FEMA - Other	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Building, Engineering, Zoning - Jefferson County	M	2025	Local - State - FEMA - Other	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-21 Preserve Floodplains as Open Space	Building, Engineering, Zoning - Jefferson County	M	2025	Local - State - FEMA - Other	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	Building, Engineering, Zoning - Jefferson County	M	Annually	Local - State - FEMA - Other	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	GIS	L	2025	Local - State - FEMA - Other	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Building, Engineering, Zoning - Jefferson County	L	2025	Local - State - FEMA - Other	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Building, Engineering, Zoning - Jefferson County	L	2018	Local - State - FEMA - Other	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard	Building, Engineering, Zoning - Jefferson County	L	2025	Local - State -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Areas	County			FEMA - Other	
	ER-5 Stabilize Erosion Hazard Areas	Building, Engineering, Zoning - Jefferson County	L	2025	Local - State - FEMA - Other	TBD
	ER-6 Increase Awareness of Erosion Hazards	Building, Engineering, Zoning - Jefferson County	L	Annually	Local - State - FEMA - Other	TBD
	SU-1 Map and Assess Vulnerability to Subsidence	GIS	L	2025	Local - State - FEMA - Other	TBD
Land Subsidence	SU-2 Manage Development in High-Risk Areas	Building, Engineering, Zoning - Jefferson County	L	2025	Local - State - FEMA - Other	TBD
	SU-3 Consider Subsidence in Building Design	Building, Engineering, Zoning - Jefferson County	L	2018	Local - State - FEMA - Other	TBD
	SU-4 Monitor Subsidence Risk Factors	Building, Engineering, Zoning - Jefferson County	L	Annually	Local - State - FEMA - Other	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Building, Engineering, Zoning - Jefferson County	L	2025	Local - State - FEMA -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-6 Educate Residents about Subsidence	Building, Engineering, Zoning - Jefferson County	L	Annually	Local - State - FEMA - Other	TBD
	Severe Storms	Fire			Local	TBD
	T-1 Encourage Construction of Safe Rooms	Jeffco EMA - Fire	M	Ongoing, most citizens will rely on grant funds	Local - State - FEMA - Other	TBD
	T-2 Require Wind-Resistant Building Techniques	Building, Engineering, Zoning	M	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Jeffco EMA - Fire	M	Ongoing, Annually	Local - State - FEMA - Other	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Adopt and Enforce Building Codes	Mayor/Council - Building, Engineering, Zoning	L	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Fire	M	Annually	Local - State - FEMA	TBD
	WW-3 Protect Power Lines	Alabama Power	L	Annually, as needed		TBD
	WW-4 Reduce Impacts to Roadways	Streets	M	Working w/ Ala Dept of Transportation annually	Local - State - FEMA	TBD
	WW-5 Conduct Winter Weather Risk Awareness Activities	Fire	M	Annually	Local - State - FEMA	TBD
	WW-6 Assist Vulnerable Populations	Fire - Police	H	2016	Local -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Others:					State - FEMA - Other	
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Building, Engineering, Zoning	L	2025	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Fire - Jeffco EMA	M	Annually	Local	TBD
	ET-3 Assist Vulnerable Populations	Fire	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	Fire	M	Annually	Local	TBD
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Building, Engineering, Zoning	L	Ongoing, Seasonal	Local - State - FEMA - Other	TBD
	HA-2 Protect Buildings from Hail Damage	Building, Engineering, Zoning	L	2020		TBD
	HA-3 Increase Hail Risk Awareness	Fire - Jeffco EMA	L	Annually	Local	TBD
	LS-1 Map and Assess Vulnerability to Landslides	GIS	L	2025	Local	TBD
Landslide	LS-2 Manage Development in Landslide Hazard Areas	Building, Engineering, Zoning	L	2025	Local - State - FEMA - Other	TBD
	LS-3 Prevent Impacts to Roadways	Streets	L	2025	Local - State - FEMA -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Building, Engineering, Zoning	L	2025	Local - State - FEMA - Other	TBD
	L-1 Protect Critical Facilities and Equipment	Building, Engineering, Zoning	L	Annually	Local	TBD
	L-2 Conduct Lightning Awareness Programs	Fire - Jeffco EMA	L	Annually	Local	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor/Council - Building, Engineering, Zoning	L	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor/Council - Building, Engineering, Zoning	L	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	Building, Engineering, Zoning	L	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Building, Engineering, Zoning	M	2020	Local - State - FEMA - Other	TBD
	SW-5 Retrofit Residential Buildings	Building, Engineering, Zoning	L	2020	Local	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Building, Engineering, Zoning	L	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	Fire - Jeffco EMA	L	2017	Local	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Multiple Hazards	MU-1 Assess Community Risk	Police - Fire - Building, Engineering, Zoning - Jeffco EMA	L	2018	Local - State - FEMA - Other	TBD
	MU-2 Map Community Risk	GIS	L	2025	Local - State - FEMA - Other	TBD
	MU-3 Prevent Development in Hazard Areas	Building, Engineering, Zoning	L	2025	Local	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	Building, Engineering, Zoning	L	2025	Local	TBD
	MU-5 Limit Density in Hazard Areas	Building, Engineering, Zoning	L	2025	Local	TBD
	MU-6 Integrate Mitigation into Local Planning	Building, Engineering, Zoning	L	2026	Local	TBD
	MU-7 Strengthen Land Use Regulations	Building, Engineering, Zoning	L	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	Mayor/Council - Building, Engineering, Zoning	L	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	Mayor/Council	L	2020	Local - State - FEMA - Other	TBD
	MU-10 Incentivize Hazard Mitigation	Building, Engineering, Zoning	L	2020	Local - State - FEMA -	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-11 Monitor Mitigation Plan Implementation	Building, Engineering, Zoning	L	Annually	Other	TBD
	MU-12 Protect Structures	Fire – Police - Building, Engineering, Zoning	L	2025	Local – State – FEMA - Other	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Fire and Police	L	2025	Local – State – FEMA - Other	TBD
	MU-14 Increase Hazard Education and Risk Awareness	Fire and Police – Jeffco EMA	L	2017	Local – State – FEMA - Other	TBD
	MU-15 Improve Household Disaster Preparedness	Fire and Police – Jeffco EMA	L	2017	Local – State – FEMA - Other	TBD
	MU-16 Promote Private Mitigation Efforts	Jeffco EMA	L	2017	Local – State – FEMA - Other	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	FIRE DEPT/LOCAL SCHOOL BOARD	M	Annually	FEMA/LOCAL	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	FIRE DEPT/LOCAL SCHOOL BOARD	M	Semi-Annually	LOCAL/PRIVATE	NO ADDITIONAL COST
	Everbridge Emergency Alert Notifications	JEFFERSON COUNTY EMA, FIRE DEPT	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	LOCAL	NO ADDITIONAL COST
	Public service announcements.	FIRE DEPT	M	Semi-Annually	FEMA/STATE	TBD
	Hazard "safety fairs."	FIRE DEPT	M	Booths set up at different public events annually	LOCAL	NO ADDITIONAL COST
	Hazard conferences, seminars.	FIRE DEPT	M	Ongoing, send out training information using local	FEMA/STATE	TBD

Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
				news and community flyers		
	Hazard awareness weeks.	FIRE DEPT	M	Annually	FEMA/STA TE/PRIVAT E	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	MAYOR'S OFFICE	M	Seasonal	FEMA/STA TE/PRIVAT E	TBD
	Regular newspaper articles.	FIRE/POLICE DEPT	M	Quarterly News Letters	LOCAL	NO ADDITION AL COST
	Direct mailings.	MAYOR'S OFFICE	L	Annually, mail surveys out to update HM information	FEMA/STA TE	TBD
	Utility bill inserts.	N/A	L	2018	FEMA/STA TE	TBD
Hazard Specific (Reference: JCHMP, <u>Mitigation Ideas</u>)	Annual correspondence with residents reminding them of the need to be hazard prepared.	MAYOR'S OFFICE	M	Annually	LOCAL/ PRIVATE	NO ADDITION AL COST
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures						



Hoover Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
(See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	MAYOR'S OFFICE	M	2020	FEMA/STATE	TBD
	D-2 Monitor Drought Conditions	MAYOR'S OFFICE	M	Seasonally	FEMA/STATE	TBD
	D-3 Monitor Water Supply	FIRE DEPT	M	Continuously	LOCAL	NO ADDITIONAL COST
	D-4 Plan for Drought	MAYOR'S OFFICE	M	2020	FEMA/STATE	TBD
	D-5 Require Water Conservation During Drought Conditions	MAYOR'S OFFICE	H	Annually	LOCAL	NO ADDITIONAL COST
	D-6 Retrofit Water Supply Systems	FIRE DEPT	L	2020	FEMA/STATE	TBD
	D-7 Enhance Landscaping and Design Measures	LANDSCAPE ARCHITECT	L	2025	LOCAL	NO ADDITIONAL COSTS
	D-8 Educate Residents on Water Saving Techniques	MAYOR'S OFFICE	L	Semi-annually	LOCAL/PRIVATE	NO ADDITIONAL COST
Earthquakes	EQ-1 Adopt and Enforce Building Codes	BUILDING INSPECTION	H	2020	LOCAL	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	MAYOR'S OFFICE/ENGINEERING DEPT	M	Annually	LOCAL	TBD
	EQ-3 Map and Assess Community	MAYOR'S	L	2025	FEMA	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Vulnerability to Seismic Hazards	OFFICE/ENGINEERING DEPT				
	EQ-4 Conduct Inspections of Building Safety	BUILDING INSPECTIONS	H	2020	LOCAL	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	MAYOR'S OFFICE	H	Annually	STATE/FEMAL/LOCAL	TBD
	EQ-6 Implement Structural Mitigation Techniques	BUILDING INSPECTION	L	2020	FEMAL/LOCAL	TBD
	EQ-7 Increase Earthquake Risk Awareness			Provide FEMA's information to educate local citizens on a semi-annual basis	FEMAL/LOCAL/PRIVATE	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	BUILDING INSPECTION/ENGINEERING DEPT	M	2018	LOCAL	NO ADDITIONAL COST
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	BUILDING INSPECTION	L	2020	FEMA	TBD
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	MAYOR'S OFFICE/FIRE DEPT/ENGINEERING	M	Annually	FEMA	TBD
	F-2 Form Partnerships to Support Floodplain Management	MAYOR'S OFFICE	M	Annually	FEMA	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	MAYOR'S OFFICE	H	2025	LOCAL	NO ADDITION



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-4 Adopt and Enforce Building Codes and Development Standards	BUILDING INSPECTIONS	H	2020	LOCAL	NO ADDITIONAL COST
	F-5 Improve Stormwater Management Planning	MAYOR'S OFFICE/ENGINEERING DEPT	H	Annually	LOCAL	NO ADDITIONAL COST
	F-6 Adopt Policies to Reduce Stormwater Runoff	BUILDING INSPECTIONS/MAYOR'S OFFICE/ENGINEERING	H	2018	LOCAL	NO ADDITIONAL COST
	F-7 Improve Flood Risk Assessment	MAYOR'S OFFICE/ENGINEERING	L	2020	FEMA	TBD
	F-8 Join or Improve Compliance with NFIP	MAYOR'S OFFICE	L	Annually	LOCAL	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	MAYOR'S OFFICE/ENGINEERING	L	2020	FEMA	TBD
	F-10 Participate in the CRS	MAYOR'S OFFICE	L	2020	LOCAL	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	MAYOR'S OFFICE	L	2020	LOCAL	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	BUILDING INSPECTIONS	L	2025	FEMA/PRIVATE	TBD
	F-13 Improve Stormwater Drainage System Capacity	PUBLIC WORKS/ENGINEERING DEPT	M	2025	STATE/LOCAL	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	PUBLIC WORKS	M	2020	LOCAL	TBD
	F-15 Elevate or Retrofit Structures and Utilities	MAYOR'S OFFICE	L	2025	FEMA	TBD
	F-16 Floodproof Residential and Non-Residential Structures	BUILDING INSPECTIONS	L	2025	FEMA	TBD
	F-17 Protect Infrastructure	MAYOR'S OFFICE	M	Annually	FEMA	TBD
	F-18 Protect Critical Facilities	MAYOR'S OFFICE	M	Annually	FEMA	TBD
	F-19 Construct Flood Control Measures	MAYOR'S OFFICE	M	2025	FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	MAYOR'S OFFICE	M	2025	FEMA	TBD
	F-21 Preserve Floodplains as Open Space	MAYOR'S OFFICE	M	2025	LOCAL	TBD
	F-22 Increase Awareness of Flood Risk and	MAYOR'S OFFICE	L	Annually	LOCAL	NO COST
	F-23 Educate Property Owners about Flood Mitigation Techniques	MAYOR'S OFFICE	L	Annually	FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	BUILDING INSPECTION/ ENGINEERING DEPT	M	2025	FEMA/LOCAL	TBD
	ER-2 Manage Development in Erosion Hazard Areas	BUILDING INSPECTION	M	2025	LOCAL	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	/ENGINEERING DEPT BUILDING INSPECTION/ ENGINEERING DEPT	M	2018	LOCAL	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	BUILDING INSPECTION/ MAYOR'S OFFICE	L	2025	FEMA/LOCAL	TBD
	ER-5 Stabilize Erosion Hazard Areas	BUILDING INSPECTION	L	2025	PRIVATE	TBD
	ER-6 Increase Awareness of Erosion Hazards	BUILDING INSPECTION	L	Annually	FEMA/LOCAL/PRIVATE	TBD
	SU-1 Map and Assess Vulnerability to Subsidence	BUILDING INSPECTION	L	2025	LOCAL	TBD
	SU-2 Manage Development in High-Risk Areas	BUILDING INSPECTION/ MAYOR'S OFFICE	M	2025	LOCAL/PRIVATE	TBD
Land Subsidence	SU-3 Consider Subsidence in Building Design	BUILDING INSPECTION	M	2018	PRIVATE	TBD
	SU-4 Monitor Subsidence Risk Factors	BUILDING INSPECTION	L	Annually	LOCAL	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	BUILDING INSPECTION/ MAYOR'S OFFICE	L	2025	FEMA	TBD
	SU-6 Educate Residents about Subsidence	BUILDING INSPECTION	L	Annually	LOCAL	TBD
Severe Storms						



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Tornadoes	T-1 Encourage Construction of Safe Rooms	BUILDING INSPECTION/MAYOR'S OFFICE	H	Ongoing, most of the citizens rely on the grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	STATE/ LOCAL/ PRIVATE	TBD
	T-2 Require Wind-Resistant Building Techniques	BUILDING INSPECTION/ MAYOR'S OFFICE	M	2019	STATE/ LOCAL	TBD
	T-3 Conduct Tornado Awareness Activities	MAYOR'S OFFICE	H	ONGOING, Annually	LOCAL	TBD
	WF-1 Map and Assess Vulnerability to Wildfire	FIRE DEPARTMENT	L	2020	FEMAL/LOCAL	TBD
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	FIRE DEPARTMENT	L	2020	LOCAL	TBD
	WF-3 Reduce Risk through Land Use Planning	BUILDING INSPECTION	L	Annually	LOCAL	TBD
	WF-4 Develop a Wildland- Urban Interface Code	BUILDING INSPECTION/FIRE DEPT	L	2020	LOCAL	TBD
	WF-5 Require or Encourage Fire-Resistant Construction	BUILDING INSPECTION/FIRE	L	Annually	LOCAL	TBD



2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Techniques	DEPT				
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	BUILDING INSPECTION	L	2025	FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	BUILDING INSPECTION	L	2020	FEMA	TBD
	WF-8 Conduct Maintenance to Reduce Risk	BUILDING INSPECTION	L	Annually	LOCAL	TBD
	WF-9 Implement a Fuels Management Program	BUILDING INSPECTION	L	2018	LOCAL	TBD
	WF-10 Participate in Firewise Program	FIRE DEPARTMENT	L	Annually	LOCAL	TBD
	WF-11 Increase Wildfire Risk Awareness	FIRE DEPARTMENT	L	Annually	LOCAL	NO ADDITIONAL COST
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	FIRE DEPARTMENT	L	Annually	LOCAL	NO ADDITIONAL COST
Winter Storms/Freezes (Severe Winter Weather)s	WW-1 Adopt and Enforce Building Codes	BUILDING INSPECTION	H	Annually	LOCAL	TBD
	WW-2 Protect Buildings and Infrastructure	FIRE DEPARTMENT	H	Annually	LOCAL	TBD
	WW-3 Protect Power Lines	FIRE DEPARTMENT	H	Annually and as the need arise	PRIVATE	TBD
	WW-4 Reduce Impacts to Roadways	FIRE DEPARTMENT	H	Working with Alabama Dept. of	LOCAL/ STATE	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	WW-5 Conduct Winter Weather Risk Awareness Activities	FIRE DEPARTMENT/MAYOR'S OFFICE	M	Annually	LOCAL	NO ADDITIONAL COST
	WW-6 Assist Vulnerable Populations	MAYOR'S OFFICE/FIRE DEPT/POLICE DEPT	M	2016	LOCAL/STATE	TBD
	Others:					
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	MAYOR'S OFFICE	L	2025	FEMA/PRIVATE	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	FIRE DEPARTMENT	L	Annually	LOCAL/PRIVATE	NO ADDITIONAL
	ET-3 Assist Vulnerable Populations	MAYOR'S OFFICE	L	2016	LOCAL/FEMA/STATE	TBD
	ET-4 Educate Property Owners About Freezing Pipes	MAYOR'S OFFICE	L	ONGOING, Seasonal	LOCAL	NO ADDITIONAL COST
Hail	HA-1 Locate Safe Rooms to Minimize Damage	MAYOR'S OFFICE	L	2020	FEMA	TBD
	HA-2 Protect Buildings from Hail Damage	BUILDING INSPECTION	L	2020	FEMA	TBD
	HA-3 Increase Hail Risk Awareness	MAYOR'S OFFICE	L	Annually	FEMA	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	BUILDING INSPECTION/ENGINEERING DEPT	L	2025	FEMA/LOCAL	TBD
	LS-2 Manage Development in Landslide	BUILDING	L	2025	LOCAL	TBD



Hoover Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Hazard Areas	INSPECTION/MAYOR'S OFFICE/ENGINEERING				
	LS-3 Prevent Impacts to Roadways	MAYOR'S OFFICE/ENGINEERING	L	2025	LOCAL/ STATE	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	MAYOR/S OFFICE	L	2025	FEMA	TBD
	L-1 Protect Critical Facilities and Equipment	BUILDING INSPECTION	M	2020	PRIVATE/ LOCAL	TBD
Lightning	L-2 Conduct Lightning Awareness Programs	MAYOR'S OFFICE	L	2020	FEMA/STATE	TBD
	SW-1 Adopt and Enforce Building Codes	BUILDING INSPECTION	H	2020	LOCAL	TBD
Severe Wind	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	BUILDING INSPECTION	M	2020	LOCAL	TBD
	SW-3 Assess Vulnerability to Severe Wind	BUILDING INSPECTION	L	2020	LOCAL	TBD
	SW-4 Protect Power Lines and Infrastructure	BUILDING INSPECTION	L	2020	PRIVATE/ LOCAL	TBD
	SW-5 Retrofit Residential Buildings	BUILDING INSPECTION	L	2020	PRIVATE	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	BUILDING INSPECTION	L	2025	LOCAL/ PRIVATE	TBD



Hoover Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Multiple Hazards	SW-7 Increase Severe Wind Risk Awareness	MAYOR'S OFFICE	L	2017	FEMA	TBD
	MU-1 Assess Community Risk	FIRE DEPARTMENT	H	2018	LOCAL	TBD
	MU-2 Map Community Risk	MAYOR'S OFFICE	M	2025	FEMA/STATE/LOCAL	TBD
	MU-3 Prevent Development in Hazard Areas	BUILDING INSPECTION/MAYOR'S OFFICE	M	2025	LOCAL	NO ADDITION AL COST
	MU-4 Adopt Development Regulations in Hazard Areas	BUILDING INSPECTION/MAYOR'S OFFICE	M	2025	LOCAL	NO ADDITION AL COST
	MU-5 Limit Density in Hazard Areas	BUILDING INSPECTION/MAYOR'S OFFICE	M	2025	LOCAL	NO ADDITION AL COST
	MU-6 Integrate Mitigation into Local Planning	BUILDING INSPECTION/MAYOR'S OFFICE	M	2016	LOCAL	TBD
	MU-7 Strengthen Land Use Regulations	BUILDING INSPECTION/MAYOR'S OFFICE	M	2020	LOCAL	NO ADDITION AL COST
	MU-8 Adopt and Enforce Building Codes	BUILDING INSPECTIONS	H	2020	LOCAL	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	MAYOR'S OFFICE	L	2020	FEMA/STATE	TBD
	MU-10 Incentivize Hazard Mitigation	MAYOR'S OFFICE	L	2020	PRIVATE	TBD
	MU-11 Monitor Mitigation Plan Implementation	MAYOR'S OFFICE	L	Annually	FEMA/LOCAL	TBD



Hoover Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-12 Protect Structures	BUILDING INSPECTION/FIRE DEPT	H	2025	LOCAL	TBD
	MU-13 Protect Infrastructure and Critical Facilities	BUILDING INSPECTION/FIRE DEPT	H	2025	LOCAL	TBD
	MU-14 Increase Hazard Education and Risk Awareness	MAYOR'S OFFICE	M	2017	FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	MAYOR'S OFFICE	M	2017	FEMA	TBD
	MU-16 Promote Private Mitigation Efforts	MAYOR'S OFFICE	M	2017	FEMA	TBD

Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Jefferson County Board of Education/ Emergency Services	H	Ongoing, Annually September	Local/State	TBD
	Drills, exercises in workplaces, classrooms, etc.	Fire Department	H	Ongoing, Semi-Annually	FEMA	TBD
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Fire Department	H	Quarterly Drills with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost
	Hazard "safety fairs."	Fire Department, Jefferson County EMA	M	Ongoing, Booths set up at different public events annually	Local	TBD
	Hazard conferences, seminars.	Mayor, Fire Department	M	Ongoing, send out training information using local news and community flyers	Local	TBD
	Hazard awareness weeks.	Jefferson County EMA, Fire Department	M	Annually	Local	TBD



Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Preparedness handbooks, brochures. Distribution of severe weather guides, etc.	Fire Department, Jefferson County EMA, AEMA, FEMA	H	Seasonal	Local, State, FEMA	TBD
	Regular newspaper articles.	Mayor	M	Quarterly news articles	Local	TBD
	Direct mailings.	Fire Department	L	Annually, mail out surveys to update HIM information	Local	TBD
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Hazard Specific (Reference: JCHMP, Mitigation Ideas)						
Dam/Levee Failures (See: Flooding)						
Droughts/Heatwaves	D-1 Require Water Conservation During Drought Conditions	Mayor and Council	L	Annually	Local	TBD
	D-2 Educate Residents on Water Saving Techniques	Mayor and Council	L	Semi-Annually	Local	TBD
	EQ-1 Adopt and Enforce Building Codes	Local Building Official and Fire Marshal	M	2020	Local	TBD
Earthquakes	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Mayor and Council	L	Annually	Local	TBD
	EQ-3 Conduct Inspections of Building Safety	Fire Marshal/Building Official	H	2020	Local	TBD
	EQ-4 Increase Earthquake Risk Awareness	Jefferson County EMA, AEMA, FEMA	M	Provide FEMA's	Local, State,	TBD



Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Building Department, Local Engineer, Fire Department	H	Annually	Local	TBD
	F-2 Improve Storm water Management Planning	Jefferson County Storm water Management	M	Annually	Local	TBD
	F-3 Adopt Policies to Reduce Storm water Runoff	Jefferson County Storm water Management	M	2018	Local	TBD
	F-4 Remove Existing Structures from Flood Hazard Area	Mayor, City Council, Jefferson County EMA, AEEMA, FEMA	M	2025	Local, State, FEMA	TBD
	F-5 Improve Storm water Drainage System Capacity	Building and Street Departments, Jefferson County Storm water Management, AEEMA, FEMA	M	2025	Local, State, FEMA	TBD
	F-6 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Street Department	H	2020	Local	TBD
	F-7 Preserve Floodplains as Open Space	Building and Zoning Departments	M	2025	Local, State, FEMA	TBD



Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-8 Increase Awareness of Flood Risk and Safety	Mayor, City Council, Building and Zoning Departments	H	Annually	Local	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Mayor and Council	H	Annually	Local	TBD
Land Subsidence	SU-1 Educate Residents about Subsidence	Mayor and Council	H	Annually	Local	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor, City Council, Building Department, Jefferson County EMA, AEMA, FEMA	H	Ongoing, most citizens rely on grant funds to construct safe rooms, some citizens have been listed on the waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Building Department, AEMA, FEMA	H	2019	Local, State, FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	Fire Department, Jefferson County EMA	H	Ongoing, Annually	Local	TBD
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Alabama Forestry Commission	M	2020	State	TBD
	WF-2 Create Defensible Space Around	Planning/Zoning	M	Annually	Local	TBD



Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Structures and Infrastructure	Departments, Fire Department				
	WF-3 Increase Wildfire Risk Awareness	Fire Department, Jefferson County EMA, Alabama Forestry Commission	H	Annually	Local, State	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Protect Power Lines	Alabama Power	H	Annually and as the need arise	Private	TBD
	WW-2 Reduce Impacts to Roadways	Street Department, ALDOT	H	Working w/ Alabama Dept. of Transportation on an annual basis	Local, State	TBD
	WW-3 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	M	Annually	Local	No additional cost
Others:						
Hail	HA-1 Increase Hail Risk Awareness	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA	TBD
Lightning	L-1 Protect Critical Facilities and Equipment	Fire Department	H	2020	Local	TBD
	L-2 Conduct Lightning Awareness Programs	Fire Department, Jefferson County EMA	H	2020	Local	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Building Official, Mayor, Council	H	2020	Local	TBD



Hueytown Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Multiple Hazards	SW-2 Protect Power Lines and Infrastructure	Alabama Power Company	H	2020	Private	TBD
	SW-3 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
	MU-1 Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	2018	Local, State, FEMA	TBD
	MU-2 Improve Household Disaster Preparedness	Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA	TBD

MITIGATION MEASURES		Irondale Community Action Program 2014-2019					
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost	
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.						
	Emergency preparedness education programs for schools. Emergency school call box to dispatch.	State Board of Education, School District, Jefferson County EMA	H	Annually, September	Local	1000	
	Drills, exercises in homes, workplaces, classrooms/911 training	School District, Fire Department	H	Semi-annual	NA	NONE	
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, City Council and Dept heads	H	Quarterly	NA	No add'l cost	
	Hazard "safety fairs"	Jefferson County EMA, School District, Fire District	H	Booths set up at different public	Local	TBD	
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council	H	Ongoing	Local	TBD	
	Hazard awareness weeks	Jefferson County EMA, Mayor, School District, Fire District	H	Annually	Local, State	TBD	
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc	FEMA, Jefferson County EMA	H	Annually	Local, State, FEMA	TBD	
	Regular newspaper articles	Jefferson County EMA, Mayor, City Council	M	Quarterly	Local	TBD	
	Utility bill inserts	Utilities, Water Dept, Mayor	M	2018	Local	1000	
Periodic correspondence with residents reminding them of the need to be hazard prepared	Website/Newsletter	M	Annually	Local	TBD		

Irondale Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Hazard	Action Items					Estimated Cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEMA, Utilities		M	2020	Local, Private
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA		M	Seasonally	Local, State
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA		H	Continuously	Local, State, FEMA
	D-4 Plan for Drought	Mayor, City Council		M	2020	Local
	D-5 Require Water Conservation During Drought Conditions	AEMA, Jefferson County EMA, Water Utilities, City Council		H	Annually	Local, State
	D-6 Retrofit Water Supply Systems	Public Works and Engineering Department		M	2020	Local
	D-7 Enhance Landscaping and Design Measures	Mayor, City Council		L	2025	Local
	D-8 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council		M	Annually	Local, State, FEMA
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Mayor, City Council, Building Dept., Planning Dept., Fire Dept		H	2020	Local
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council, Building and Planning Agencies		M	Annually	Local
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA		H	2025	Local, State
	EQ-4 Conduct Inspections of Building Safety	Building Department, Fire Department, State Fire Marshal		M	Annual	Local
	EQ-5 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department, Public Works		H	Annually	Local
	EQ-6 Implement Structural Mitigation Techniques	Public Works and Engineering Department		M	2020	Local
	EQ-7 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, AEMA, Mayor, City Council		M	Annually	Local, State, FEMA
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Engineering Department, NFPA, Jefferson County EMA		M	2018	Local
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Jefferson County EMA, Engineering & Building Departments		M	2020	Local, State, FEMA

MITIGATION MEASURES		Irondale Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council, Planning Dept/Fire Dept/Public wks	M	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	Mayor, City Council, Plain Administrator	H	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Flood Control District, Mayor, City Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor, City Council, Planning, Building & Zoning Departments	H	2018	Local, State	TBD
	F-5 Improve Storm Water Management Planning	Public Works Department, Water Utility	H	2020	Local	TBD
	F-6 Adopt Policies to Reduce Stormwater Runoff	Flood Control District, Mayor, City Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Mayor, City Council, GIS Department, USGS	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Mayor, City Council, Homeowners, Business Organizations, Jefferson County EMA, Flood Control District	H	Annually	Local, State	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Mayor, City Council, Flood Control District	H	2020	Local	TBD
	F-10 Participate in the CRS	Mayor, City Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Planning Department, Mayor, City Council	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Public Works	H	2025	Local	TBD
	F-13 Improve Storm Water Drainage System Capacity	Public Works	H	2025	Local	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, Storm Water Utility	H	2020	Local	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Building& Engineering Department	H	2025	Local	TBD
	F-16 Flood Proof Residential and Non-Residential Structures	Building Department, Homeowners, Business Organizations, FEMA	H	2025	Local	TBD
	F-17 Protect Infrastructure	Building& Engineering Department	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	Building& Engineering Department	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	Flood Control District, Public Works and Engineering Department	H	2025	Local	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Mayor, City Council, Parks & Recreation Department, Planning Department	M	2025	Local	TBD
	F-21 Preserve Floodplains as Open Space	Mayor, City Council, Land Trust, Parks & Recreation Department	M	2025	Local	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA	H	Annually	Local, State, FEMA	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	FEMA, AEMA, Jefferson County EMA, Mayor, City Council	H	Annually	Local, State, FEMA	TBD

MITIGATION MEASURES		Irondale Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hurricanes (See: Severe Wind; Flooding)						
	ER-1 Increase Awareness of Erosion Hazards	AEMA, Jefferson County EMA, Water Utilities, City Council, Building Dept.	H	Annually	Local, State, FEMA	TBD
Erosion/Landslides						
	SU-1 Map and Assess Vulnerability to Subsidence	FEMA, AEMA	L	2025	Local, State, FEMA	TBD
Land Subsidence	SU-2 Manage Development in High-Risk Areas	Planning Department, Building Department, Mayor, City Council	H	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Engineering Department,	H	2018	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	USGS, GIS Department,	L	Annually	Local	TBD
	SU-5 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms - Seek Funding for Storm Shelters	Jefferson County EMA, FEMA, Engineering Department	H	most citizens rely on grant funds to build safe rooms. Some are on a waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, City Council, Building Department,	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
	WF-1 Educate Property Owners about Wildfire Mitigation Techniques	Alabama Forestry Commission, Jefferson County EMA	M	Annually	Local, State	No add'l cost
Wildfires	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Zoning Department	H	Annually	Local	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-2 Protect Buildings and Infrastructure	Fire Department	M	Annually	Local	TBD
	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arises	Local, Private	TBD
	WW-4 Reduce Impacts to Roadways	Public Works Department, ALDOT	M	working w/ Alabama Dept. of Transportation on an annual basis	Local	TBD
	WW-5 Conduct Winter Weather Risk Awareness Activities	Home Owners Associations, Health Dept, Fire Dept	H	Annually	Local, State, FEMA	TBD
	WW-6 Assist Vulnerable Populations	Jefferson County Community Development	H	2016	Local, State	TBD

Irondale Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:
Hazard	Action Items					Estimated Cost
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Planning Department, Parks & Recreation Department		M	2025	Local
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA		H	Annually	Local, State, FEMA
	ET-3 Assist Vulnerable Populations	Jefferson County Community Development, Health Dept.		H	2016	Local, State
	ET-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA, AEMA, FEMA, Water Dept.		M	Annually	Local, State, FEMA
Hail	HA-1 Protect Buildings from Hail Damage	Building Depts.		L	2020	Local
	HA2 Increase Hail Risk Awareness	Jefferson County EMA, ADEM, FEMA		M	Annually	Local, State, FEMA
Lightning	L-1 Protect Critical Facilities and Equipment	Alabama Power		H	2020	Local, Private
	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA		H	Annually	Local, State, FEMA
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor, City Council, Building Department		H	2020	Local
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Department, Engineering Department		H	2020	Local
	SW-3 Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA		H	2020	Local
	SW-4 Protect Power Lines and Infrastructure	Alabama Power		H	2020	Local, Private
	SW-5 Retrofit Residential Buildings	Home Owners Associations, FEMA, Engineering Department, Building Department		M	2020	Local
	SW-6 Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department		H	2025	Local, State, FEMA
	SW-7 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA		H	2017	Local, State, FEMA
Multiple Hazards	MU-1 Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council		M	2017	Local, State, FEMA
	MU-2 Improve Household Disaster Preparedness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council		M	217	Local, State, FEMA
	MU-3 Promote Private Mitigation Efforts	Jefferson County EMA, AEMA, FEMA, Mayor, City Council		M	2017	Local, State, FEMA

Kimberly Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Jefferson EMA	M	Annually, September	State	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Jefferson EMA	M	Semi- annually	State	No additional cost
	Public service announcements.	Jefferson EMA	M	Annually	State	No additional cost
	Hazard "safety fairs."	Jefferson EMA	M	Booths set up at different public events annually	State	TBD
	Hazard conferences, seminars.	Jefferson EMA		Ongoing, send out training information using local news and community flyers	State	TBD
			M			
	Hazard awareness weeks.	Jefferson EMA	M	Annually	State	TBD
	Preparedness handbooks, brochures.	Jefferson EMA	H	Seasonal	State	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Distribution of severe weather guides, homeowner's retrofit guide, etc.					
	Regular newspaper articles.	Jefferson EMA	M	Quarterly	State	TBD
	Direct mailings.	Jefferson EMA	M	Annually send out surveys to update HM information	State	TBD
	Utility bill inserts.	Jefferson EMA	M	2018	State	TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared.	Mayor & Council	M	Annually	Local	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Building Inspections	M	2020	Local	TBD
	D-2 Monitor Drought Conditions	State EMA	M	Seasonally	Local	TBD
	D-3 Monitor Water Supply	B'ham Water Works	M	Continuously	Other	TBD
	D-4 Plan for Drought	Mayor & Council	M	2020	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	B'ham Water Works	M	Annually	Other	TBD
	D-6 Prevent Overgrazing	State	M	Annually	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	D-7 Retrofit Water Supply Systems	B'ham Water Works	M	2020	Other	TBD
	D-8 Enhance Landscaping and Design Measures	Mayor & Council	M	2020	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	Mayor & Council	L	Annually	FEMA	TBD
	D-10 Educate Farmers on Soil and Water Conservation Practices	FEMA	L	Annually	FEMA	TBD
	D-11 Purchase Crop Insurance	FEMA	L	Annually	Private	TBD
	EQ-1 Adopt and Enforce Building Codes	Mayor & Council	H	2020	Local	No additional cost
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Mayor & Council	L	Annually	Local	No additional cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	State EMA	M	2025	State	TBD
	EQ-4 Conduct Inspections of Building Safety	Building Inspections	H	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Mayor & Council	M	Annually	State	TBD
Earthquakes	EQ-6 Implement Structural Mitigation Techniques	Local Engineer	M	2020	Local	TBD
	EQ-7 Increase Earthquake Risk Awareness	Mayor & Council	L	Provide FEMA's information to educate citizens on	State	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Mayor & Council	H	2018	Local	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Building Inspections	M	2020	Local	TBD
	F-1 Incorporate Flood Mitigation in Local Planning	Mayor & Council Flood Plain Admin.	L	Annually	State	TBD
	F-2 Form Partnerships to Support Floodplain Management	Mayor & Council Flood Plain Admin.	L	Annually	State	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Mayor & Council Flood Plain Admin.	L	2025	State	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor & Council Building Inspections	H	2020	Local	TBD
	F-5 Improve Stormwater Management Planning	Flood Plain Admin	M	Annually	Local	TBD
	F-6 Adopt Policies to Reduce Stormwater Runoff	Mayor & Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Flood Plain Admin	L	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Mayor & Council	M	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Flood Plain Admin	L	2020	State	TBD
	F-10 Participate in the CRS	Mayor & Council	L	2020	Local	TBD
	F-11 Establish Local Funding	Mayor & Council	L	2020	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Mechanisms for Flood Mitigation					
	F-12 Remove Existing Structures from Flood Hazard Areas	Mayor & Council	L	2025	Private	TBD
	F-13 Improve Stormwater Drainage System Capacity	Mayor & Council	M	2025	State	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Street Department	H	2020	Local	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Mayor & Council Local Utilities	M	2025	State	TBD
	F-16 Floodproof Residential and Non-Residential Structures	Mayor & Council	H	2025	Local & Private	TBD
	F-17 Protect Infrastructure	Mayor & Council	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	Mayor & Council	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	Local Floodplain Admin	M	2025	Local	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Flood Plain Admin Mayor & Council	H	2025	Local	TBD
	F-21 Preserve Floodplains as Open Space	Mayor & Council Planning Commission	H	2025	Local	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Mayor & Council	M	Annually	State	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	Mayor & Council	M	Annually	State	TBD
Hurricanes (See: Severe Wind; Flooding)						



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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	Building Inspection	L	2025	Local	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Mayor & Council Planning Commission	M	2025	State	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Building Inspections	H	2018	Local	No additional cost
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Mayor & Council	L	2025	Local	TBD
	ER-5 Stabilize Erosion Hazard Areas	Flood Admin.	H	2018	Local	TBD
	ER-6 Increase Awareness of Erosion Hazards	Mayor & Council Building Inspections	Med	Annually	Local	No additional cost
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	Engineer	M	2025	State	TBD
	SU-2 Manage Development in High-Risk Areas	Mayor & Council Planning & Zoning Commission	H	2020	Local	No additional cost
	SU-3 Consider Subsidence in Building Design	Planning & Zoning Commission Building Inspections	H	2018	Local	No additional cost
	SU-4 Monitor Subsidence Risk Factors	Planning & Zoning Commission Building Inspections	H	Annually	Local	No additional cost

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Mayor & Council	M	2025	FEMA	TBD
	SU-6 Educate Residents about Subsidence	Mayor & Council	M	Annually	FEMA	TBD
Severe Storms						TBD
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor & Council		Ongoing, most citizens rely on grant funding to construct safe rooms, some citizens have been placed on a waiting list	FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor & Council	H	2019	FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	Mayor & Council	M	Annually	FEMA	TBD
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Fire Chief	M	2020	State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Fire Chief	M	Annually	Local	TBD
	WF-3 Reduce Risk through Land Use Planning	Planning & Zoning	M	Annually	FEMA	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)S	WF-4 Develop a Wildland- Urban Interface Code	Mayor & Council	L	2018	Local	TBD
	WF-5 Require or Encourage Fire- Resistant Construction Techniques	Mayor & Council	M	Annually	Private	No additional cost
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Mayor & Council	L	2025	FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Planning & Zoning	H	Annually	Local	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Street Maintenance	H	Annually	Local	TBD
	WF-9 Implement a Fuels Management Program	Mayor & Council	L	2020	FEMA	TBD
	WF-10 Participate in Firewise Program	State EMA Local Fire Department	M	Annually	State	TBD
	WF-11 Increase Wildfire Risk Awareness	Fire Chief	H	Annually	Local	TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Fire Chief	H	Annually	Local	TBD
	WW-1 Adopt and Enforce Building Codes	Mayor & Council Building Inspections	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Mayor & Council Building Inspections	H	Annually	Local	TBD
	WW-3 Protect Power Lines	Mayor & Council Building Inspections	H	Annually and as the need arises	Local	TBD
	WW-4 Reduce Impacts to Roadways	Mayor & Council	H	Working w/	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
		Building Inspections		Alabama Dept. of Transportation on an annual basis		
	WW-5 Conduct Winter Weather Risk Awareness Activities	Mayor & Council	H	Annually	Local	TBD
	WW-6 Assist Vulnerable Populations	Mayor & Council EMA	H	2016	State	TBD
	Others:					TBD
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Mayor & Council	L	2025	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Mayor & Council	M	Annually	Local	TBD
	ET-3 Assist Vulnerable Populations	Mayor & Council	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	Mayor & Council	L	Seasonally	Local	No additional cost
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Mayor & Council	H	2020	Local	No additional cost
	HA-2 Protect Buildings from Hail Damage	Mayor & Council	M	Annually	Local	TBD
	HA-3 Increase Hail Risk Awareness	Mayor & Council	M	Annually	Local	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	Building Inspections	M	2025	Local	TBD
	LS-2 Manage Development in Landslide	Mayor & Council	H	2025	Local	TBD

Kimberly Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Hazard Areas					
	LS-3 Prevent Impacts to Roadways	Mayor & Council	M	2025	Local	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Mayor & Council	M	2025	FEMA	TBD
	L-1 Protect Critical Facilities and Equipment	Mayor & Council	H	2020	Local	TBD
Lightning	L-2 Conduct Lightning Awareness Programs	Mayor & Council	L	2020	Local	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor & Council	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Inspection	M	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	Building Inspection	H	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Building Inspection	H	2020	Local	TBD
	SW-5 Retrofit Residential Buildings	Building Inspections	M	2020	FEMA	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Building Inspections	M	2025	FEMA	TBD
	SW-7 Increase Severe Wind Risk Awareness	Mayor & Council	M	Annually	FEMA	TBD
Multiple Hazards	MU-1 Assess Community Risk	Planning & Zoning Building Inspections	M	2018	FEMA	TBD
	MU-2 Map Community Risk	Planning & Zoning Building Inspections	M	2025	FEMA	TBD

Kimberly Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-3 Prevent Development in Hazard Areas	Planning & Zoning	H	2025	Local	No additional cost
	MU-4 Adopt Development Regulations in Hazard Areas	Mayor & Council Planning & Zoning Commission	H	2025	Local	No additional cost
	MU-5 Limit Density in Hazard Areas	Mayor & Council Planning & Zoning Commission	H	2025	Local	No additional cost
	MU-6 Integrate Mitigation into Local Planning	Mayor & Council Planning & Zoning Commission	H	2016	Local	No additional cost
	MU-7 Strengthen Land Use Regulations	Mayor & Council Planning & Zoning Commission	H	2020	Local	No additional cost
	MU-8 Adopt and Enforce Building Codes	Mayor & Council	H	2020	Local	No additional cost
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	Mayor & Council	H	2020	Local	No additional cost
	MU-10 Incentivize Hazard Mitigation	Mayor & Council	H	2020	Local	No additional cost
	MU-11 Monitor Mitigation Plan Implementation	Mayor & Council	H	Annually	Local	No additional cost
	MU-12 Protect Structures	Building Inspections	H	2020	Local	No

Kimberly Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying Out Measures	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
						additional cost
	MU-13 Protect Infrastructure and Critical Facilities	Building Inspections	H	2025	Local	No additional cost
	MU-14 Increase Hazard Education and Risk Awareness	Mayor & Council	M	2017	FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Mayor & Council	M	2017	FEMA	TBD
	MU-16 Promote Private Mitigation Efforts	Mayor & Council	M	2017	FEMA	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Everbridge All-Hazard Emergency Alerts	EMA, City Departments	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost
	Emergency preparedness education programs for schools.	EMA/School Board	M	Ongoing, Annually September	Local/State	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	EMA	M	Ongoing, Semi Annually	Local/State	TBD
	Hazard "safety fairs."	EMA	M	Ongoing, booths set up at different public events annually	Local/State	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	EMA/Public Library	M	Seasonal	Local/State/ FEMA	TBD
	Regular newspaper articles.	EMA	M	Quarterly news letters	Local/State/ FEMA	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Direct mailings.	EMA/State/FEMA	M	Ongoing, Annually, We will mail surveys to update HM information.	EMA/State/ FEMA	TBD
	Utility bill inserts.	Local	M	2018	Local	TBD
Hazard Specific (Reference: JCHMP, <u>Mitigation Ideas</u>)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	LWWB	H	2020	Local	TBD
	D-2 Monitor Drought Conditions	LWWB	H	Seasonally	Local	TBD
	D-3 Monitor Water Supply	LWWB	H	Continuously	Local	TBD
	D-4 Plan for Drought	LWWB	H	2020	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	City Council/LWWB	H	Annually	Local	
	D-6 Retrofit Water Supply Systems	LWWB	L	2020	State/FEMA	TBD
	D-7 Enhance Landscaping and Design Measures	Planning Commission	M	2025	Local	TBD
	D-8 Educate Residents on Water Saving Techniques	LWWB	M	Semi- annually	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Building Official	H	2020	Local	<1,000
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	City Council/Planning Commission	H	Annually	Local	TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS/FEMA	H	2025	Local/FEMA	TBD
	EQ-4 Conduct Inspections of Building Safety	Local	H	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Local/State/LWWB/APCO/ALAGASCO/TELECOMS	H	Ongoing, Annually	Local/State/FEMA/Private	TBD
	EQ-6 Implement Structural Mitigation Techniques	State/FEMA	M	2020	State/FEMA	TBD
	EQ-7 Increase Earthquake Risk Awareness	State/FEMA	M	Provide FEMA's information to educate local citizens on a semi-annual basis	State/FEMA	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Local	M	2018	Local	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Local/State/FEMA	M	2020	Local/State/FEMA	TBD
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	City Council/Planning Commission	H	Annually	Local	TBD



Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-2 Form Partnerships to Support Floodplain Management	City Council/ Planning Commission	H	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Planning Commission	H	2025	Local	No Additional Cost
	F-4 Adopt and Enforce Building Codes and Development Standards	Building Official	H	2020	Local	No Additional Cost
	F-5 Improve Storm water Management Planning	City Council/Storm Water Manager	M	Annually	Local	No Additional Cost
	F-6 Adopt Policies to Reduce Storm water Runoff	City Council	M	2018	Local	No Additional Cost
	F-7 Improve Flood Risk Assessment	Storm Water Manager	H	2020	Local/FEMA	No Additional Cost
	F-8 Join or Improve Compliance with NFIP	Floodplain Administrator	H	Annually	Local/State/FEMA	No Additional Cost
	F-9 Manage the Floodplain Beyond Minimum Requirements	City Council/PLANNING COMMISSION	L	2020	Local	
	F-10 Participate in the CRS	City Council	H	2020	Local	No Additional Cost
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	City Council	H	2020	Local	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-12 Remove Existing Structures from Flood Hazard Areas	Local/State/FEMA	M	2025	Local/State/FEMA	TBD
	F-13 Improve Storm water Drainage System Capacity	Local/State/FEMA	M	2025	Local/State/FEMA	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Local	H	2020	Local	No Additional Cost
	F-15 Elevate or Retrofit Structures and Utilities	Local/State/FEMA	H	2025	Local/State/FEMA	TBD
	F-16 Flood proof Residential and Non-Residential Structures	PRIVATE	H	2025	PRIVATE	TBD
	F-17 Protect Infrastructure	Local/State/FEMA	H	Annually	Local/State/FEMA/PRIV ATE	TBD
	F-18 Protect Critical Facilities	Local/State/FEMA	H	Annually	Local/State/	TBD
	F-19 Construct Flood Control Measures	Local/State/FEMA	H	2025	Local/State/FEMA/PRIV ATE	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Local/State/FEMA	M	2025	Local/State/FEMA/PRIV ATE	TND
	F-21 Preserve Floodplains as Open Space	Planning Commission	M	2025	Local	No Additional Cost
	F-22 Increase Awareness of Flood Risk and Safety	Floodplain Administrator/ State/FEMA	L	Annually	Local/STATE/FEMA	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-23 Educate Property Owners about Flood Mitigation Techniques	Floodplain Administrator/ State/FEMA	H	Annually	Local/State/ FEMA	No Additional Cost
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	FEMA	M	2025	FEMA	No Additional Cost
	ER-2 Manage Development in Erosion Hazard Areas	Building Official/Planning Commission/ Storm Water Manager	H	2025	Local	No Additional Cost
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Building Official/Storm Water Manager	H	2018	Local	No Additional Cost
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	City Council/Building Official	M	2025	Local	No Additional Funding
	ER-5 Stabilize Erosion Hazard Areas	Private	H	2025	PRIVATE	TBD
	ER-6 Increase Awareness of Erosion Hazards	Local/State/FEMA	M	Annually	Local/State/ FEMA	No Additional Cost
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	Local/State/FEMA	M	2025	LOCA/State/ /FEMA	TBD
	SU-2 Manage Development in High-Risk Areas	Building Official/Planning Commission	M	2025	Local	No Additional Cost

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-3 Consider Subsidence in Building Design	Building Official/ Planning Commission	H	2018	Local	No Additional Cost
	SU-4 Monitor Subsidence Risk Factors	Building Official	H	Annually	Local	No Additional Cost
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	City Council/Building Official/Private	M	2025	Local/PRIV ATE	TBD
	SU-6 Educate Residents about Subsidence	Local/State/FEMA	M	Annually	Local/State/ FEMA	No Additional Cost
	Severe Storms					
	T-1 Encourage Construction of Safe Rooms	Local/State/FEMA	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local/State/ FEMA	No Additional Cost
	T-2 Require Wind-Resistant Building Techniques	City Council	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Public Safety/State/FEMA	H	Ongoing, Annually	Local/State/ FEMA	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Fire Department/ State/FEMA	M	2020	Local/State/ FEMA	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Fire Department/Planning Commission	M	Annually	Local	No Additional Cost
	WF-3 Reduce Risk through Land Use Planning	Fire Department/ Planning Commission	H	Annually	Local	No Additional Cost
	WF-4 Develop a Wildland- Urban Interface Code	City Council/Fire Department/Building Official	H	2018	Local	No Additional Cost
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Fire Department/ Building Official	M	Annually	Local	No Additional Cost
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Fire Department/ Building Official	L	2020	State/FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Fire Department/ State/FEMA	L	2020	Local/State/ FEMA	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Fire Department/ Building Official	M	Annually	Local	No Additional Cost
	WF-9 Implement a Fuels Management Program	Fire Department/ Building Official	L	2018	Local	No Additional Cost
	WF-10 Participate in Firewise Program	Fire Department	M	2020	Local/State/ FEMA	TBD
	WF-11 Increase Wildfire Risk Awareness	Fire Department/	H	Annually	Local/State/	TBD

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)S	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Fire Department/ State/FEMA	H	Annually	Local/State/ FEMA	TBD
	WW-1 Adopt and Enforce Building Codes	Building Official	H	Annually	Local	No Additional Cost
	WW-2 Protect Buildings and Infrastructure	Police Dept/Fire Department	H	Annually	Local	TBD
	WW-3 Protect Power Lines	Private/Police/Fire	H	Annually and as the need arise	Local/PRIV ATE	TBD
	WW-4 Reduce Impacts to Roadways	Public Works	H	Working w/ Alabama Dept. of Transportation	Local/State/ FEMA	TBD
	WW-5 Conduct Winter Weather Risk Awareness Activities	Police/Fire/Public Work	H	Annually	Local	TBD
Others:	WW-6 Assist Vulnerable Populations	Police/Fire/Public Works	H	2016	Local/State/ FEMA	TBD
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	City Council/Planning Commission/Private	L	2025	Local/State/ FEMA	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	State/FEMA	H	Annual	State/FEMA	No Additional Cost
	ET-3 Assist Vulnerable Populations	Police/Fire/Public Works	H	2016	Local/State/ FEMA	TBD



Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hail	ET-4 Educate Property Owners About Freezing Pipes	State/FEMA	M	2020	State/FEMA	TBD
	HA-1 Locate Safe Rooms to Minimize Damage	City Council/Building Official/State/FEMA	H	2020	Local/State/FEMA	TBD
	HA-2 Protect Buildings from Hail Damage	City Council/State/FEMA	M	2020	Local/State/FEMA	TBD
	HA-3 Increase Hail Risk Awareness	State/FEMA	M	2020	Local/State/FEMA	
	LS-1 Map and Assess Vulnerability to Landslides	Local/State/FEMA	H	On-Going	Local/State/FEMA	TBD
	LS-2 Manage Development in Landslide Hazard Areas	Planning Commission	H	On-Going	Local	No Additional Cost
Lightning	LS-3 Prevent Impacts to Roadways	Public Work	H	On-Going	Local	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	City Council/Planning Commission/Building Official	M	>5	Local/State/FEMA	TBD
	L-1 Protect Critical Facilities and Equipment	Private/LVWB	H	2020	PRIVATE	TBD
Severe Wind	L-2 Conduct Lightning Awareness Programs	State/FEMA	M	2020	State/FEMA	TBD
	SW-1 Adopt and Enforce Building Codes	City Council/Building Official	M	2020	Local	No Additional Cost
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	City Council/Building Official	M	2020	Local	No Additional Cost

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SW-3 Assess Vulnerability to Severe Wind	Local/State/FEMA	M	2020	Local/State/FEMA	TBD
	SW-4 Protect Power Lines and Infrastructure	Private/LWWB	H	2020	PRIVATE	TBD
	SW-5 Retrofit Residential Buildings	State/FEMA	L	2020	State/FEMA	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Local/State/FEMA	H	2025	Local/State/FEMA	TBD
	SW-7 Increase Severe Wind Risk Awareness	Local/State/FEMA	M	2017	Local/State/FEMA	TBD
	MU-1 Assess Community Risk	City Council/ Planning Commission/Police/Fire /Public Works	H	2018	Local/State/FEMA	TBD
	MU-2 Map Community Risk	Planning Commission	H	2025	Local/State/FEMA	TBD
Multiple Hazards	MU-3 Prevent Development in Hazard Areas	Planning Commission	H	2025	Local/State/FEMA	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	City Council/Planning Commission	M	2025	Local/State/FEMA	TBD
	MU-5 Limit Density in Hazard Areas	Planning Commission	M	2025	Local	No Additional Cost
	MU-6 Integrate Mitigation into Local Planning	Planning Commission	M	2016	Local	No Additional Cost
	MU-7 Strengthen Land Use Regulations	City Council/Planning Commission	M	2020	Local	No Additional Cost

Leeds Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-8 Adopt and Enforce Building Codes	City Council/Building Official	M	2020	Local	No Additional Cost
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	City Council/State/FEMA	H	2020	Local/State/FEMA	TBD
	MU-10 Incentivize Hazard Mitigation	City Council/State/FEMA	M	2020	Local/State/FEMA	TBD
	MU-11 Monitor Mitigation Plan Implementation	Planning Commission	H	Annually	Local	TBD
	MU-12 Protect Structures	Police/Fire/Public Works/State/FEMA	H	2025	Local/State/FEMA/PRIV ATE	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Police/Fire/Public Works	H	2025	Local/State/FEMA/PRIV ATE	TBD
	MU-14 Increase Hazard Education and Risk Awareness	Local/State/FEMA	H	2017	Local/State/FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Local/State/FEMA	H	2017	Local/State/FEMA	TBD
	MU-16 Promote Private Mitigation Efforts	State/FEMA	M	2017	State/FEMA	TBD

Lipscomb Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	Jefferson County EMA	H	Ongoing, Annually September	Local	No additional cost
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Fire Department	H	Quarterly Drill with Mayors, Police chief	Local	No additional cost
	Hazard "safety fairs"	Jefferson County EMA	H	Ongoing, Booths set up at public events annually	Local	No additional cost
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council	H	Ongoing, send out training information using local media and community flyers	Local	No additional cost
	Hazard awareness weeks	Jefferson County EMA, NWS	H	Annually	Local	No additional cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Preparedness handbooks, brochures, distribution of severe weather guides	Jefferson County EMA	H	Seasonal	Local	No additional cost
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
D-1	Monitor Drought Conditions	Jefferson County	M	Seasonally	Local,	TBD



Lipscomb Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Droughts/Heat Waves		EMA, Local Water Utilities				Private
	D-2 Plan for Drought	Jefferson County EMA, Water Utilities	M	2020	Local, Private	TBD
	D-3 Monitor Water Supply	Water Utilities	H	Continuously	Local, Private	TBD
	D-4 Require Water Conservation During Drought Conditions	Water Utilities	H	Annually	Local, Private	TBD
	D-5 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities	H	Semi-Annual	Local, Private	No additional cost
Earthquakes	EQ-1 Increase Earthquake Risk Awareness	Jefferson County EMA, AEEMA	M	Provide FEMA's information to educate local citizens on a semi-annual basis	Local, State	No additional cost
	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council,	H	Annually	Local	TBD
Flooding	F-2 Improve Storm water Management Planning	Mayor, City Council, SWMA	H	Annually	Local	TBD
	F-3 Adopt Policies to Reduce Storm water Runoff	Mayor, City Council, SWMA	H	2018	Local	TBD
	F-4 Improve Storm water Drainage System Capacity	Mayor, City Council, SWMA	L	2025	Local, State, FEMA	TBD
	F-5 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works Department,	H	2020	Local	TBD
	F-6 Construct Flood Control Measures	Mayor, City Council, Public Works	L	2025	Local, State, FEMA	TBD
	F-7 Increase Awareness of Flood	Jefferson County	H	Annually	Local	No

Lipscomb Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	Risk and Safety	EMA				additional cost
	F-8 Educate Property Owners about Flood Mitigation Techniques	Jefferson County EMA	H	Annually	Local, State, FEMA	TBD
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	H	Annually	Local	No additional cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA	H	Annually	Local, State, FEMA	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor, City Council, Jefferson County EMA, AEMA, FEMA,	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local, State, FEMA	TBD
Wildfires	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA, AEMA, FEMA	H	Ongoing, Annually	Local	TBD
	WF-1 Increase Wildfire Risk Awareness	Jefferson County EMA, Alabama Forestry Commission	H	Annually	Local, State	No additional cost
	WF-2 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local, State	TBD
	WW-1 Conduct Winter Weather Risk	Jefferson County	M	Annually	Local	No



Lipscomb Community Action Program 2014-2019						
MITIGATION MEASURES						
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Winter Storms/Freezes (Severe Winter Weather) Others:	Awareness Activities	EMA				additional cost
	WW-2 Educate Property Owners About Freezing Pipes	Jefferson County EMA, Water Utilities	M	Annually	Local	TBD
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA	H	Annually	Local	No additional cost
	HA-1 Increase Hail Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
Hail						
	L-1 Conduct Lightning Awareness Programs	Jefferson County EMA, Alabama Power	H	Annually	Local, Private	TBD
Lightning						
	SW-1 Increase Severe Wind Risk Awareness	Jefferson County EMA	H	2017	Local	No additional cost
Severe Wind	MU-1 Assess Community Risk	Jefferson County EMA	H	2018	Local	TBD
	MU-2 Increase Hazard Education and Risk Awareness	Jefferson County EMA	H	2017	Local	No additional cost
	MU-3 Improve Household Disaster Preparedness	Mayor, City Council, Jefferson County EMA	H	2017	Local	TBD
	MU-4 Protect Infrastructure and Critical Facilities	Public Works Department, Fire Department	H	2025	Local	TBD
	MU-5 Promote Private Mitigation Efforts	Jefferson County EMA, AEEMA, FEMA, Mayor, City Council	M	2017	Local, State, FEMA	TBD
Multiple Hazards						



Midfield Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA	H	Ongoing, Annually September	Local, State, FEMA	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	School District, Fire Department	H	Ongoing, Semi Annual	NA	TBD
	Public service announcements	Jefferson County EMA, Mayor, City Council	H	Semi Annual	Local, State	250.
	Hazard "safety fairs"	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Ongoing, Booths set up at public events annually	Local	200.
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council	H	Ongoing, send out training information using local media and community flyers	Local	500.
	Hazard awareness weeks	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Annually	Local, State	250.
	Regular newspaper articles	Jefferson County EMA, Mayor, City Council	M	Quarterly news letter	Local	150.
	Direct mailings	Fire and Police Departments, Jefferson County EMA	M	Ongoing, Annually, Surveys mailed out to update HM information	Local	250.
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, City Council, Fire District	H	Quarterly Drill with Mayors, Police chief	Local	No add'l cost

MITIGATION MEASURES		Midfield Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Annual correspondence with residents reminding them of the need to be hazard prepared	FEMA, Jefferson County EMA, Fire and Police Departments	H	Annually	Local	250.
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEMA, Utilities	M	2020	Local, Private	TBD
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	M	Seasonally	Local, State	TBD
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	H	Continuously	Local, State, FEMA	TBD
	D-4 Plan for Drought	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water Utilities	M	2020	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	AEMA, Jefferson County EMA, Water Utilities, City Council	H	Annually	Local, State	TBD
	D-6 Retrofit Water Supply Systems	Public Works and Engineering Department	M	2020	Local	20,000.



Midfield Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Earthquakes	D-7 Enhance Landscaping and Design Measures	Mayor, City Council	L	2025	Local	TBD
	D-8 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council	M	Semi-Annual	Local, State, FEMA	250.
	EQ-1 Adopt and Enforce Building Codes	Building and Planning Agencies, Mayor, City Council	H	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council, Building and Planning Agencies	M	Annually	Local	TBD
	EQ-3 Conduct Inspections of Building Safety	Building Department, Fire Department, State Fire Marshal	M	2020	Local	1,000.
	EQ-4 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department, Public Works	H	Annually	Local	TBD
Flooding	EQ-5 Implement Structural Mitigation Techniques	Public Works and Engineering Department	M	2020	Local	TBD
	EQ-6 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, A EMA, Mayor, City Council	M	Semi-Annual, Provide FEMA's information to educate citizens	Local, State, FEMA	100.
	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council, Planning Department	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	Mayor, City Council, Flood Plain Administrator	H	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Flood Control District, Mayor, City Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development	Mayor, City Council, Planning, Building &	H	2020	Local, State	TBD

2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Midfield Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Standards	Zoning Departments				
	F-5 Improve Storm water Management Planning	Public Works Department, Water Utility	H	Annually	Local	10,000.
	F-6 Adopt Policies to Reduce Storm water Runoff	Flood Control District, Mayor, City Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Mayor, City Council, GIS Department, USGS	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Mayor, City Council, Homeowners, Business Organizations, Jefferson County EMA, Flood Control District	H	Annually	Local, State	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Mayor, City Council, Flood Control District	H	2020	Local	TBD
	F-10 Participate in the CRS	Mayor, City Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Planning Department, Mayor, City Council	H	2020	Local	TBD
	F-12 Improve Storm water Drainage System Capacity	Public Works	H	2025	Local	25,000.
	F-13 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, Storm Water Utility	H	2020	Local	20,000.
	F-14 Protect Infrastructure	Building& Engineering Department	H	Annually	Local	5,000.
	F-15 Protect Critical Facilities	Building& Engineering Department	H	Annually	Local	5,000.
	F-16 Construct Flood Control Measures	Flood Control District, Public Works and Engineering Department	H	2025	Local	TBD



MITIGATION MEASURES		Midfield Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
	F-17 Protect and Restore Natural Flood Mitigation Features	Mayor, City Council, Parks & Recreation Department, Planning Department	M	2025	Local	TBD
	F-18 Preserve Floodplains as Open Space	Mayor, City Council, Land Trust, Parks & Recreation Department	M	2025	Local	TBD
	F-19 Increase Awareness of Flood Risk and Safety	Mayor, City Council, Jefferson County EMA, AEMA	H	Annually	Local, State, FEMA	TBD
	F-20 Educate Property Owners about Flood Mitigation Techniques	FEMA, AEMA, Jefferson County EMA, Mayor, City Council	H	Annually	Local, State, FEMA	250.
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Mayor, City Council, Planning & Zoning Department	H	2018	Local	1,000.
	SU-1 Manage Development in High-Risk Areas	Planning Department, Building Department, Mayor, City Council	H	2025	Local	TBD
	SU-2 Remove Existing Structures from Subsidence Hazard Areas	Mayor, City Council, Public Works Department	L	2025	Local	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Jefferson County EMA, FEMA, Engineering Department	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local	5,000
	T-2 Require Wind-Resistant	Mayor, City Council,	H	2019	Local	TBD



2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Midfield Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Wildfires	T-3 Building Techniques Conduct Tornado Awareness Activities	Building Department, EMA, AEMA, FEMA	H	Ongoing, Annually	Local	250.
	WF-1 Map and Assess Vulnerability to Wildfire	USDA, Fire Districts, GIS Department	M	2020	Local, State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, City Council, Planning Department, Fire District	H	Annually	Local	TBD
	WF-3 Reduce Wildfire Risk through Land Use Planning	Planning Department, Parks & Recreation Department	H	Annually	Local	TBD
	WF-4 Develop a Wildfire land-Urban Interface Code	USDA, Mayor, City Council, Fire Districts Planning Department, Zoning Department	M	2018	Local, State	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor, City Council, Fire Department	L	Annually	Local	TBD
	WF-6 Create Defensible Space Around Structures and Infrastructure	Planning Department, Zoning Department	H	Annually	Local	TBD
	WF-7 Conduct Maintenance to Reduce Risk	Planning Department, Zoning Department Home Owners Associations.	M	Annually	Local	TBD
	WF-8 Participate in Fire wise Program	Mayor, City Council, Fire Department Fire Marshall	H	Annually	Local	TBD
	WF-9 Increase Wildfire Risk Awareness	State Forestry, Fire Marshall	H	Annually	Local	TBD
	WF-10 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, State Forestry, Fire Marshall	H	Annually	Local, State, FEMA	250.



Midfield Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Zoning Department	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Fire Department	M	Annually	Local	10,000.
	WW-3 Reduce Impacts to Roadways	Public Works Department, ALDOT	M	Working with ALDOT Annually	Local	5,000.
	WW-4 Conduct Winter Weather Risk Awareness Activities	Home Owners Associations	H	Annually	Local, State, FEMA	500.
	WW-5 Assist Vulnerable Populations	Jefferson County Community Development	H	2016	Local, State	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	Planning Department, Parks & Recreation Department	M	2025	Local	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
	ET-3 Assist Vulnerable Populations	Jefferson County Community Development	H	2016	Local, State	1,000.
	ET-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA, AEMA, FEMA	M	Ongoing, Seasonal	Local, State, FEMA	250.
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Home Owner Associations, Jefferson County Community Development	H	2020	Local	TBD
	HA-2 Increase Hail Risk Awareness	Jefferson County EMA, ADEM, FEMA	M	Annually	Local, State, FEMA	TBD
Landslide	LS-1 Map and Assess	USGS, GIS	H	2025	Local,	TBD



Midfield Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Lightning	Vulnerability to Landslides	Department, Planning & Building Depts.				State
	LS-2 Prevent Impacts to Roadways	Public Works Department, ALDOT	H	2025	Local	TBD
	L-1 Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	500.
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor, City Council, Building Department	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Department, Engineering Department	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA	H	2020	Local	TBD
	SW-4 Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department	H	2025	Local	TBD
	SW-5 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEMA, FEMA	H	2017	Local, State, FEMA	TBD
Multiple Hazards	MU-1 Assess Community Risk	Jefferson County EMA, GIS Department, FEMA	H	2018	Local, State	TBD
	MU-2 Map Community Risk	Jefferson County EMA, GIS Department, FEMA	H	2025	Local, State, FEMA	TBD
	MU-3 Prevent Development in Hazard Areas	Mayor, City Council, Building Department, GIS Department	H	2025	Local	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	Mayor, City Council, Planning Department, Zoning Department	H	2025	Local	TBD
	MU-5 Limit Density in Hazard	Mayor, City Council,	H	2025	Local	TBD



Midfield Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Areas	Planning Department, Zoning Department				
	MU-6 Integrate Mitigation into Local Planning	Jefferson County EMA, Mayor, City Council, Planning Department	H	2016	Local	TBD
	MU-7 Strengthen Land Use Regulations	Mayor, City Council, Planning Department, Zoning Department	H	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	Mayor, City Council, Planning Department, Zoning Department	H	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	Mayor, City Council, Planning Department, Zoning Department	H	2020	Local	TBD
	MU-10 Monitor Mitigation Plan Implementation	Jefferson County EMA, Mayor, City Council	H	Annually	Local	TBD
	MU-11 Protect Structures	Fire Department, Planning Department, City Council	H	2025	Local	25,000.
	MU-12 Protect Infrastructure and Critical Facilities	Public Works Department, Fire Department	H	2025	Local	20,000.
	MU-13 Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD
	MU-14 Improve Household Disaster Preparedness	Jefferson County EMA, ADEM, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD
	MU-15 Promote Private Mitigation Efforts	Jefferson County EMA, ADEM, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD

Morris Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
GENERAL: ALL	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Annual correspondence with residents reminding them of the need to be prepared	Fire and Police, Jefferson County EMA, FEMA	H	Annually	Local, FEMA	TBD
	Everbridge Emergency Alert Notifications	Fire and Police, Jefferson County EMA	H	Quarterly Drill with Mayors, Police chief	Local	No additional cost
Flooding	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Street Department (Ditches Cleaned)	H	2020	Local	TBD
	Encourage Construction of Safe Rooms	Mayor and Council	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local	TBD
Wildfires	Reduce Wildfire Risk through Land Use Planning	Planning Department and Street Department	H	Annually	Local	TBD
	Assess Vulnerability	Street Department	H	Annually	Local	TBD
	Protect Power Lines and Infrastructure	Police Department	H	2020	Local	TBD
Severe Wind						
Multiple Hazards	Protect Structures	Street Department and Police Department	H	2025	Local	TBD

Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	MB BD OF EDUCATION MTN BROOK FD	H	Ongoing, Annually September	Local	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	MB BD OF EDUCATION MTN BROOK FD	H	Ongoing, Semi Annual	Local	TBD
	Public service announcements.	MB BD OF EDUCATION MTN BROOK FD	M	Semi Annual	Local	TBD
	Everbridge Emergency Alert Notifications	JEFFERSON COUNTY EMA, MTN BROOK FD	H	Quarterly Drill with Mayors, Police chief	Local	No additional cost
	Hazard awareness weeks.	JEFFERSON COUNTY EMA	M	Annually	Local	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	FEMA	M	Seasonal	FEMA	No additional cost
	Annual correspondence with residents reminding them of the need to be hazard prepared.	CITY OF MB	H	Annually	Local	TBD



Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					TBD
Dam/Levee Failures (See: Flooding)						TBD
Drought	Assess Vulnerability to Drought Risk	CITY/COUNTY	L	2020	Local	TBD
	Monitor Drought Conditions	CITY/COUNTY/NWS	M	Seasonally	Local	No additional cost
	Monitor Water Supply	CITY, COUNTY, NWS, BIRMINGHAM WATER WORKS	M	Continuousl y	Local, Private	TBD
	Plan for Drought	CITY/COUNTY	M	2020	Local	TBD
	Require Water Conservation During Drought Conditions	CITY/COUNTY	H	As Needed, Annually	Local	TBD
	Educate Residents on Water Saving Techniques	CITY OF MB	L	Semi-Annual	Local	TBD
Earthquakes	Adopt and Enforce Building Codes	CITY/INSPECTIONS	H	2020	Local	TBD
	Incorporate Earthquake Mitigation into Local Planning	CITY/INSPECTIONS	L	Annually	Local	TBD
Flooding	Incorporate Flood Mitigation in Local Planning	CITY/PLANNING	M	Annually	Local	TBD
	Limit or Restrict Development in Floodplain Areas	CITY/PLANNING	M	2025	Local	TBD



Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Adopt and Enforce Building Codes and Development Standards	CITY/PLANNING	M	2020	Local	TBD
	Improve Stormwater Management Planning	CITY/PLANNING, JEFFERSON COUNTY STORM WATER MANAGEMENT	M	Annually	Local	TBD
	Adopt Policies to Reduce Stormwater Runoff	CITY/PLANNING, JC STORM WATER MGMT.	M	2018	Local	TBD
	Improve Flood Risk Assessment	CITY/PLANNING	M	2020	Local	TBD
	Improve Stormwater Drainage System Capacity	CITY/PLANNING, JC STORM WATER MGMT.	H	2025	Local, State, FEMA	TBD
	Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	CITY/COUNTY	H	2020	Local	TBD
	Protect Infrastructure	CITY/COUNTY/STATE	H	Annually	Local, State	TBD
	Protect Critical Facilities	CITY/COUNTY/STATE	H	Annually	Local, State	TBD
	Increase Awareness of Flood Risk and Safety	CITY/COUNTY/STATE	H	Annually	Local, State	TBD
	Educate Property Owners about Flood Mitigation Techniques	CITY/COUNTY/STATE	H	Annually	Local, State	TBD
Hurricanes (See: Severe Wind; Flooding)						TBD



Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Erosion	Map and Assess Vulnerability to Erosion	CITY/COUNTY	M	2025	Local	TBD
	Manage Development in Erosion Hazard Areas	CITY/COUNTY	M	2025	Local	TBD
	Promote or Require Site and Building Design Standards to Minimize Erosion Risk	CITY/COUNTY	M	2018	Local	TBD
	Increase Awareness of Erosion Hazards	CITY/COUNTY	M	Annually	Local	No additional cost
Tornadoes	Encourage Construction of Safe Rooms	CITY/COUNTY/STATE /FEMA	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local, State, FEMA	TBD
	Conduct Tornado Awareness Activities	CITY COUNTY	H	Ongoing, Annually	Local	TBD
	Activate Tornado Warning Sirens	COUNTY	H	Monthly Test, As Needed	Local	TBD
	Map and Assess Vulnerability to	FORESTRY	M	2020	State	TBD



Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Wildfires	Wildfire					
	Adopt and Enforce Building Codes	CITY/PLANNING	H	2018	Local	TBD
	Protect Buildings and Infrastructure	CITY/FD/PD	H	Annually	Local	TBD
	Create Defensible Space Around Structures and Infrastructure	FD, FORESTRY, OWNERS	M	Annually	Local, Private	TBD
Winter Storms/Freezes	Increase Wildfire Risk Awareness	FD, FORESTRY	M	Annually	Local, State	TBD
	Increase Awareness of Winter Weather Risks	JEFFERSON COUNTY EMA	H	Annually	Local	No additional cost
Hail	Increase Hail Risk Awareness	JEFFERSON COUNTY EMA	H	Annually	Local	No additional cost
Lightning	Conduct Lightning Awareness Programs	JEFFERSON COUNTY EMA	H	Annually	Local	No additional cost
Severe Wind	Adopt and Enforce Building Codes	CITY/COUNTY/STATE	H	2020	Local	TBD
	Promote or Require Site and Building Design Standards to Minimize Wind Damage	CITY/COUNTY/STATE	H	2020	Local	TBD
	Assess Vulnerability to Severe Wind	JEFFERSON COUNTY EMA/AEMA/FEMA	H	2020	Local, State, FEMA	TBD
	Increase Severe Wind Risk Awareness	CITY/COUNTY	H	2017	Local	No additional



Mountain Brook Fire Department Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Multiple Hazards						cost
	Assess Community Risk	CITY	H	2018	Local	TBD
	Prevent Development in Hazard Areas	CITY/INSPECTIONS	H	2025	Local	TBD
	Adopt Development Regulations in Hazard Areas	CITY/INSPECTIONS	H	2025	Local	TBD
	Limit Density in Hazard Areas	CITY/INSPECTIONS	H	2025	Local	TBD
	Integrate Mitigation into Local Planning	CITY/INSP/PLANNING	H	2016	Local	TBD
	Adopt and Enforce Building Codes	CITY	H	2020	Local	TBD
	Increase Hazard Education and Risk Awareness	CITY/JEFFERSON COUNTY EMA	H	Annually	Local	No additional cost
	Improve Household Disaster Preparedness	CITY/JEFFERSON COUNTY EMA	H	2017	Local	TBD
	Promote Private Mitigation Efforts	INDIVIDUALS	M	Annually	Private	TBD



Mulga Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Everbridge Emergency Alert Notifications	Jefferson County EMA	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost
	Hazard "safety fairs"	Jefferson County EMA	H	Ongoing, Booths set up at different public events annually	Local	No additional cost
	Hazard awareness weeks	Jefferson County EMA	H	Annually	Local	No additional cost
	Preparedness handbooks, brochures, distribution of severe weather guides	Jefferson County EMA, NWS, FEMA	H	Seasonal	Local, State, FEMA	No additional cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Monitor Drought Conditions	Jefferson County EMA, Water Utilities	M	Seasonally	Local, Private	TBD
	D-2 Monitor Water Supply	Water Utilities	M	Continuously	Private	TBD
	D-3 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities	H	Semi-Annually	Local	No additional cost
	D-4 Plan for Drought	Jefferson County	M	2020	Local	TBD

Mulga Community Action Program 2014-2019					
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items				
Earthquakes	EQ-1 Increase Earthquake Risk Awareness	EMA Jefferson County EMA	H	Provide FEMA's information to educate local citizens on a semi-annual basis	No additional cost
	F-1 Improve Storm water Management Planning	Mayor, SWMA	H	Annually	TBD
	F-2 Improve Storm water Drainage System Capacity	Mayor, SWMA	L	2025	TBD
	F-3 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, SWMA	H	2020	TBD
Flooding	F-4 Construct Flood Control Measures	Mayor, FEMA	L	2025	TBD
	F-5 Increase Awareness of Flood Risk and Safety	Jefferson County EMA	H	Annually	No additional cost
	F-6 Educate Property Owners about Flood Mitigation Techniques	Jefferson County EMA,	H	Annually	TBD
Hurricanes (See: Severe Wind; Flooding)					
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	H	Annually	No additional cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Jefferson County EMA	H	Annually	No additional cost
Severe Storms					
Tornadoes	T-1 Encourage Construction	Mayor, Jefferson	H	Ongoing, most of the citizens	TBD



MITIGATION MEASURES		Mulga Community Action Program 2014-2019				
Hazard	Action Items	Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Wildfires	of Safe Rooms	County EMA, AEMA, FEMA		will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	State, FEMA	
	T-2 Conduct Tornado Awareness Activities	Jefferson County EMA	H	Annually	Local	TBD
	WF-1 Increase Wildfire Risk Awareness	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local, State	No additional cost
Winter Storms/Freezes (Severe Winter Weather)	WF-2 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission	M	Annually	Local, State	TBD
	WW-1 Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	H	Annually	Local	No additional cost
	WW-2 Educate Property Owners About Freezing Pipes	Jefferson County EMA, Water Utilities	M	Seasonal	Local	No additional cost
Others:						
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA	H	Annually	Local	No additional cost
	HA-1 Increase Hail Risk Awareness	Jefferson County EMA	H	Annually	Local	No additional cost
Lightning	L-1 Conduct Lightning Awareness Programs	Jefferson County EMA, Alabama Power	H	2020	Local, Private	No additional cost
Severe Wind	SW-1 Increase Severe Wind Risk Awareness	Jefferson County EMA	H	2017	Local	No additional cost
Multiple Hazards	MU-1 Adopt and Enforce Building Codes	Jefferson County Inspection Services	H	2020	Local	TBD



Mulga Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
	MU-2 Integrate Mitigation into Local Planning		Jefferson County EMA, Jefferson County Inspection Services	M	2016	Local TBD
	MU-3 Protect Infrastructure and Critical Facilities		Public Works, Fire Department	H	2025	Local TBD
	MU-4 Increase Hazard Education and Risk Awareness		Jefferson County EMA	H	2017	Local No additional cost
	MU-5 Improve Household Disaster Preparedness		Jefferson County EMA	H	2017	Local TBD
	MU-6 Promote Private Mitigation Efforts		Jefferson County EMA, Mayor, Council	M	2017	Local, State, FEMA TBD

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	JeffCo.Ed	H	Ongoing, Annually September	JeffCo.ed/ Fire Districts	\$155,000
	Drills, exercises in homes, workplaces, classrooms, etc.	City/Fire Districts	M	Ongoing, Semi- annual	Fire Districts	\$10,000
	Public service announcements.	Mayor/Council	L	Annually	Fire Districts	\$5,000
	Hazard "safety fairs."	Fire Districts	L	Ongoing, Booths set up at different public events annually	Fire Districts	\$5,000
	Hazard conferences, seminars.	Fire Districts		Ongoing, send out training information using local news and community flyers	FEMA	\$5,000
	Hazard awareness promotions.	Mayor/Fire Districts	L	Annually	FEMA	\$2,000
	Distribution of severe weather guides,	Districts/EMA	M	Annually	Local	TBD

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	homeowner's retrofit guide, etc.					
	Regular media articles.	Mayor/Council	M	Quarterly news letters	Other	\$1,000
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor/Council, Fire Districts	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	Local	No add'l cost
	Direct mailings.	Mayor/Staff	H	Ongoing, Annually, We will mail surveys to update HM information	Local	\$10,000
Earthquakes	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
	EQ-1 Adopt and Enforce Building Codes	JeffCo	H	2020	Local	No Additional Cost
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	JeffCo	M	Annually	Local	No Additional Cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	City/JeffCo	L	2025	Local, State	TBD



Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	EQ-4 Conduct Inspections of Building Safety	JeffCo/Fire Marshals	H	2020	Local	No Additional Cost
	EQ-5 Protect Critical Facilities and Infrastructure	JeffCo/ Fire Marshals	H	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation Techniques	TBD	L	2020	Local, State, FEMA	TBD
	EQ-7 Increase Earthquake Risk Awareness	Mayor/Staff	L	Provide FEMA's information to educate local citizens on a semi-annual basis	Local	0
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor/City Planning Commission	H	Annually	CITY	\$5,000
	F-2 Form Partnerships to Support Floodplain Management	Mayor/Council/JeffCo	H	Annually	CITY	0
	F-3 Limit or Restrict Development in Floodplain Areas	Mayor/Council/JeffCo	H	2025	CITY	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	JeffCo	H	2020	JeffCo	TBD
	F-5 Improve Stormwater Management Planning	Mayor/SWMA/JCDH	H	Annually	Local	TBD
	F-6 Adopt Policies to Reduce Stormwater Runoff	Council/SWMA/JCDH	H	2018	SWMA	TBD

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-7 Improve Flood Risk Assessment	Zoning Officer/JeffCo	M	2020	Local, State, FEMA	TBD
	F-8 Join or Improve Compliance with NFIP	Planning Commission/ Jeffco	M	Annually	Local, State, FEMA	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Mayor/JeffCo	H	2020	FEMA	TBD
	F-10 Participate in the CRS	Jeffco	M	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Council	M	2020	City	\$50,000
	F-12 Remove Existing Structures from Flood Hazard Areas	Mayor/Council	H	2025	City	\$150,000
	F-13 Improve Stormwater Drainage System Capacity	JeffCo/Corps of Engineers/SWMA	M	2025	Local, State, FEMA	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Mayor/Public Works/ALDOT	H	2020	ALDOT	\$50,000
	F-15 Elevate or Retrofit Structures and Utilities	Public Works	H	2025	Local	TBD
	F-16 Floodproof Residential and Non-Residential Structures	City Council, Mayor, Engineer, Building Dept.	H	2025	Local, State, FEMA	TBD
	F-17 Protect and Restore Natural Flood Mitigation Features	Council/JeffCo	M	Annually	Local, State, FEMA	TBD
	F-18 Preserve Floodplains as Open Space	Council/Forever Wild Land Trust	H	2025	Local/FEMA	\$100,000 min

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-19 Increase Awareness of Flood Risk and Safety	Mayor/Council/Fire District/Sheriff/State	M	Annually	Local	\$20,000
	F-20 Educate Property Owners about Flood Mitigation Techniques	JeffCo	H	Annually	Local, State, FEMA	TBD
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	Zoning Dept	H	2025	Local, State	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Zoning Dept	H	2025	Local	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Zoning Official	H	2018	Local/FEMA	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Council/Mayor	M	2025	FEMA	TBD
	ER-5 Stabilize Erosion Hazard Areas	Public Works/JeffCo	M	2025	FEMA	TBD
	ER-6 Increase Awareness of Erosion Hazards	Planning Commission	H	Annually	FEMA/Local	No Additional Cost
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	Zoning Dept	H	2025	Local	TBD
	SU-2 Manage Development in High-Risk Areas	Zoning Dept	H	2025	Local	TBD



Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-3 Consider Subsidence in Building Design	JeffCo	M	2018	Local	TBD
	SU-4 Monitor Subsidence Risk Factors	JeffCo	M	Annually	Local	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Council/Mayor	M	2025	City	TBD
	SU-6 Educate Residents about Subsidence	Council/Mayor	M	Annually	City	No Additional Cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Fire Districts/Mayor	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	JeffCo	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Fire Districts/Mayor/ JeffCo.ed	M	Ongoing, Annually	Local	No Additional Cost
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Zoning Dept/ Fire Districts	M	2020	Local, State	TBD

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Fire Districts	M	Annually	Local	TBD
	WF-3 Reduce Risk through Land Use Planning	Planning Commission	M	Annually	LOCAL	TBD
	WF-4 Develop a Wildland- Urban Interface Code	Planning Commission	M	2018	LOCAL	TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	JeffCo/Fire District	M	Annually	Local	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Home Owners	M	2025	Local, State, FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Fire Districts	M	Annually	Local, State	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Home Owners	M	Annually	Local, State	TBD
	WF-9 Implement a Fuels Management Program	Fire Districts	M	2018	Local, State	TBD
	WF-10 Participate in Fire wise Program	Fire Districts/State	M	Annually	State	TBD
	WF-11 Increase Wildfire Risk Awareness	Fire Districts/State	M	Annually	State	No Additional Cost
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Fire Districts/State	M	Annually	State Forestry	No Additional Cost
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Adopt and Enforce Building Codes	JeffCo	M	Annually	Local	TBD
	WW-2 Protect Buildings and	Owners/City/Fire	M	Annually	Local, State,	\$10,000

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Infrastructure	District			FEMA	
	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arise	Local, State	TBD
	WW-4 Reduce Impacts to Roadways	JeffCo Roads Dept/ALDOT/City	H	Working w/ Alabama Dept. of Transportation	Local, State	\$5,000
	WW-5 Conduct Winter Weather Risk Awareness Activities	Fire Districts/City	M	Annually	Local, State	\$5,000
	WW-6 Assist Vulnerable Populations	Fire Districts/City	M	2016	Local	\$5,000
Others:						
Hail	HA-1 Locate Safe Rooms to Minimize Damage	City Council	M	2020	Local	TBD
	HA-2 Protect Buildings from Hail Damage	City Council	L	2020	Local	TBD
	HA-3 Increase Hail Risk Awareness	Mayor/Staff	L	Annually	Local	No Additional Cost
Landslide	LS-1 Map and Assess Vulnerability to Landslides	Zoning Dept	L	2025	Local/FEMA	TBD
	LS-2 Manage Development in Landslide Hazard Areas	Planning Commission	L	2025	Local/FEMA	TBD
	LS-3 Prevent Impacts to Roadways	JeffCo Roads Dept/ALDOT/City	H	2025	Local, State, FEMA	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide	None known	L	2025	Local, State, FEMA	TBD

Pinson Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Lightning	Hazard Areas					
	L-1 Protect Critical Facilities and Equipment	APCO/Mayor/BWWB/Trussville Gas/Alagaco	H	2020	Local, Private	TBD
	L-2 Conduct Lightning Awareness Programs	Mayor/Fire Districts/EMA	L	2020	Local	\$4,000
Severe Wind	SW-1 Adopt and Enforce Building Codes	JeffCo Inspection	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	JeffCo Inspection	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	JeffCo Inspection	H	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	APCO	H	2020	Local, Private	TBD
	SW-5 Retrofit Residential Buildings	Owners	M	2020	Private	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	NA	H	2025	Local, State, FEMA	TBD
	SW-7 Increase Severe Wind Risk Awareness	Mayor/Fire Districts	L	2017	FEMA	No Additional Cost

Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Board of Education	H	Ongoing, Annually September	FEMA	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Individuals/Employers/Schools/Public Safety	H	Ongoing Semi-annual	FEMA	TBD
	Public service announcements.	Jefferson County EMA	H	Ongoing Semi-annual	EMA	TBD
	Hazard "safety fairs."	Jefferson County EMA	H	Ongoing, Booths set up at different public events annually	EMA	TBD
	Hazard conferences, seminars.			Ongoing, send out training information using local news and community flyers		
		Jefferson County EMA	H		EMA	TBD
	Hazard awareness weeks.	Jefferson County EMA/ Media	H	Annually	EMA	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides,	FEMA/Jefferson County EMA	H	Seasonal	FEMA	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	homeowner's retrofit guide, etc.					
	Regular newspaper articles.	Local reporter /B'ham News	M	Quarterly news letters	EMA	TBD
	Direct mailings.			Ongoing, Annually, We will mail surveys to update HM information	EMA	TBD
		Jefferson County EMA	M			
	Utility bill inserts.	Tarrant Electric/B'ham Waterworks/Alagasco	M	2018	Local	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Annual correspondence with residents reminding them of the need to be hazard prepared.	FEMA/Jefferson Coounty EMA	H	Annually	FEMA	TBD
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Jeffco EMA/National Weather Service	H	2020	EMA	TBD
	D-2 Monitor Drought Conditions	National Weather Service, Jeffco/ EMA	H	Seasonally	State	TBD
	D-3 Monitor Water Supply	USGS/B'ham Water wks	H	Continuously	Local	TBD
	D-4 Plan for Drought	EMA/Water wks	H	2020	State	TBD
	D-5 Require Water Conservation	Gov/EMA/Water wks	H	Annually	LOCAL	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	During Drought Conditions					
	D-6 Prevent Overgrazing	Farmers/ Dept of Conservation	H	Short Range	Private	TBD
	D-7 Retrofit Water Supply Systems	Water Wks/ Owners	L	2020	Private	TBD
	D-8 Enhance Landscaping and Design Measures	City Council/ AIDOT	M	2025	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	EMA/Media	H	Semi-Annual	Local	TBD
	D-10 Educate Farmers on Soil and Water Conservation Practices	Dept. of Conservation/ Dept. of Agriculture	H	Annually	State	TBD
	D-11 Purchase Crop Insurance	Farmers	L	Annually	Dept. of Ag	TBD
	EQ-1 Adopt and Enforce Building Codes	State/City Council	H	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA/EMA/City Council	H	Annually	EMA	TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	USGS/EMA	H	2025	FEMA	TBD
Earthquakes	EQ-4 Conduct Inspections of Building Safety	Building Official	H	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Public Safety	H	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation Techniques	Building Official	H	2020	Local	TBD
	EQ-7 Increase Earthquake Risk Awareness	FEMA/EMA	M	Provide FEMA's information to	State	TBD

Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	ICC/NFPA Code Officials	H	2018	Other	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	ICC/NFPA	M	2020	Local	TBD
	F-1 Incorporate Flood Mitigation in Local Planning	City Council/Flood Plain Mgr	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	RPCGB/EMA/SWMMA	H	Annually	Other	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Local Flood plain Mgr/City Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	City Council	H	2020	Local	TBD
	F-5 Improve Storm water Management Planning	Health Dept./County/EPA/ADEM/SWMMA	H	Annually	Fema/ SWMMA	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	County Comm./City Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	City Council	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	City Council/Homeowner/ Bussiness owner	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	City Council	H	2020	Local	TBD

Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-10 Participate in the CRS	City Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	SWMMA	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	City Council	H	2025	Local	TBD
	F-13 Improve Storm water Drainage System Capacity	Jeffco Environmental Services	H	2025	State	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Jeffco Environmental Services/ Jeffco Health Dept	H	2020	County	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Business owners/ homeowners/ Utility owners	H	2025	Private	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Owners	H	2025	Private	TBD
	F-17 Protect Infrastructure	All public Services	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	All Public Services	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	FEMA	H	2025	FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	FEMA/ADEM/EPA/City Council	H	2025	FEMA	TBD
	F-21 Preserve Floodplains as Open Space	City Council/The Freshwater Land Trust/Jeffco/The Nature Conservancy	H	2025	Other	TBD
	F-22 Increase Awareness of Flood Risk and Safety	EMA/EPA/ADEM	H	Annually	FEMA	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-23 Educate Property Owners about Flood Mitigation Techniques	EPA/EMA/FEMA	H	Annually	FEMA	TBD
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	USGS/FEMA	H	2025	FEMA	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Building official	H	2025	Local	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	City Council/Building Official	H	2018	Local	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	City Council	H	2025	Private	TBD
	ER-5 Stabilize Erosion Hazard Areas	Property owner	H	2025	Private	TBD
	ER-6 Increase Awareness of Erosion Hazards	EPA/ADEM/EMA	H	Annually	EMA	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	FEMA	H	2025	FEMA	TBD
	SU-2 Manage Development in High-Risk Areas	Building Official/City Council	H	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Engineer/Architect	H	2018	Private	TBD
	SU-4 Monitor Subsidence Risk Factors	USGS	H	Annually	USGS	TBD
	SU-5 Remove Existing Structures from	Owner/City	H	2025	Private	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Subsidence Hazard Areas	Council/Building Official				
	SU-6 Educate Residents about Subsidence	EMA	H	Annually	State	TBD
Severe Storms						
Tornadoes		EMA/FEMA		Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	State	TBD
	T-1 Encourage Construction of Safe Rooms		H			
	T-2 Require Wind-Resistant Building Techniques	Building Official/City Council	H	2019	FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	EMA	H	Ongoing, Annually	EMA	TBD
Wildfires						
	WF-1 Map and Assess Vulnerability to Wildfire	Forestry	H	2020	State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	EMA/City Council	H	Annually	EMA	TBD
	WF-3 Reduce Risk through Land Use Planning	City Council	H	Annually	Local	TBD
	WF-4 Develop a Wildland- Urban Interface Code	USFA/IC/NFPA	H	2018	Other	TBD

Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	City Council/ Building Official	H	Annually	Local	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Owner/Building Official	H	2020	Private	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Owner	H	Annually	Private	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Owner	H	Annually	Private	TBD
	WF-9 Implement a Fuels Management Program	Owner	M	2018	Private	TBD
	WF-10 Participate in Fire wise Program	City Council/Public Safety	H	Annually	Local	TBD
	WF-11 Increase Wildfire Risk Awareness	Forestry	H	Annually	State	TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Forestry	H	Annually	State	TBD
	WW-1 Adopt and Enforce Building Codes	City Council	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Public Safety	H	Annually	Local	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arise	Local	TBD
	WW-4 Reduce Impacts to Roadways	Public Works/ AIDot	H	Working w/ Alabama Dept. of Transportation on an annual basis	Local	TBD
	WW-5 Conduct Winter Weather Risk	Business Owner/ Home	H	Annually	Local	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Awareness Activities	owner				
	WW-6 Assist Vulnerable Populations	Jeffco Office of Community Development	H	2016	Local	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	EMA/EPA/ADEM	H	2025	FEMA	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	EMA/EPA/ADEM	H	Annual	EMA	TBD
	ET-3 Assist Vulnerable Populations	EMA/EPA/FEMA	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	EMA/EPA/FEMA	H	Ongoing, Seasonal	FEMA	TBD
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Owner	H	2020	Private	TBD
	HA-2 Protect Buildings from Hail Damage	Owner	H	2025	Private	TBD
	HA-3 Increase Hail Risk Awareness	FEMA/National Weather Service	H	Annually	FEMA	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	USGS/FEMA	H	2025	FEMA	TBD
	LS-2 Manage Development in Landslide Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	Public Works	H	2025	State	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	City Council/Building Official /Public Works	H	2025	Private	TBD
Lightning	L-1 Protect Critical Facilities and	Alabama Power/Owner	H	2020	State	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Equipment					
	L-2 Conduct Lightning Awareness Programs	FEMA/EMA	H	2020	FEMA	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	City Council	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Official/City Council	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	National Weather/EMA/FEMA	H	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local	TBD
	SW-5 Retrofit Residential Buildings	Owner	H	2020	Private	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	City Council	H	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	EMA/FEMA/National Weather Service	H	2017	FEMA	TBD
Multiple Hazards	MU-1 Assess Community Risk	EMA	H	2018	EMA	TBD
	MU-2 Map Community Risk	FEMA	H	2025	FEMA	TBD
	MU-3 Prevent Development in Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	City Council	H	2025	Local	TBD
	MU-5 Limit Density in Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	MU-6 Integrate Mitigation into Local	EMA/City Council	H	2016	Local	TBD



Pleasant Grove Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Planning					
	MU-7 Strengthen Land Use Regulations	City Council	H	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	City Council	H	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	EMA/FEMA/City Council	H	2020	FEMA	TBD
	MU-10 Incentivize Hazard Mitigation	FEMA	H	2020	FEMA	TBD
	MU-11 Monitor Mitigation Plan Implementation	Building Official	H	Annually	Local	TBD
	MU-12 Protect Structures	Public Safety	H	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Public Works/Public Safety	H	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	EMA/ FEMA	H	2017	FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Owner	H	2017	Private	TBD
	MU-16 Promote Private Mitigation Efforts	EMA/FEMA/CITY COUNCIL	H	2017	FEMA	TBD

Sylvan Springs Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Jeff Co Board of Education	M	Ongoing, Annually September	Other	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Fire Department	M	Ongoing Semi annual	Local	TBD
	Quarterly Newsletters which includes articles concerning Building Codes, Fire Safety, Weather.	Town Council	H	Quarterly	Local	350.00
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Town Council, Fire Department	H	Quarterly Drill with Mayors, Police Chiefs and County Commissioner	Local	No add'l cost
	Direct mailings.	City Council	M	Ongoing, Annually	Local	350.00
Hazard Specific (Reference: JCHMP, <u>Mitigation Ideas</u>)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought	Birmingham/Mulga	H	2020	Birmingham	TBD



Sylvan Springs Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Risk	Water			Water	
	D-2 Monitor Drought Conditions	Mulga Water	H	Seasonally	Mulga Water	TBD
	D-3 Monitor Water Supply	Birmingham/Mulga Water	H	Continuously	Birmingham /Mulga Water	TBD
	D-4 Plan for Drought	Mulga Water	H	2020	Mulga Water	TBD
	D-5 Require Water Conservation During Drought Conditions	Mulga Water	H	Annually	Mulga Water	TBD
	D-6 Educate Residents on Water Saving Techniques	Town Council	M	Semi-Annually	Local	TBD
Earthquakes	EQ-1 Adopt and Enforce Building Codes	Town Council	L	2020	Local	TBD
	EQ-2 Conduct Inspections of Building Safety	City Bldg Inspections	M	2020	Local	TBD
	EQ-3 Protect Critical Facilities and Infrastructure	Fire Department	H	Ongoing, Annually	Local	TBD
Flooding	F-1 Adopt and Enforce Building Codes and Development Standards	Building Inspections	M	2020	Local	TBD
	F-2 Improve Stormwater Management Planning	Building Inspections	M	Annually	Local	TBD
	F-3 Join or Improve Compliance with NFIP	Town Council	M	Annually	Local	TBD
Hurricanes (See: Severe Wind, Flooding)						

Sylvan Springs Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Landslides/Erosion/ Debris Flow	ER-1 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Building Inspections	H	2018	Local	TBD
	T-1 Encourage Construction of Safe Rooms	City Council	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local	TBD
Tornadoes	T-2 Require Wind-Resistant Building Techniques	Building Inspections	H	2019	Local	TBD
	T-3 Conduct Tornado Awareness Activities	Jefferson County EMA, AEMA, FEMA	H	Ongoing/ Annually	Local, State, FEMA	No add'l cost
	WF-1 Map and Assess Vulnerability to Wildfire	Fire Department	H	2020	Local	TBD
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Town Planning Commission	M	Annually	Local	TBD
	WF-3 Reduce Risk through Land Use Planning	Town Planning	M	Annually	Local	TBD
	WF-4 Require or Encourage Fire-Resistant Construction Techniques	Fire/Building Inspections	M	2018	Local	TBD
	WF-5 Increase Wildfire Risk Awareness	Town Council	M	Annually	Local	TBD
	WF-6 Educate Property Owners about	Fire Dept/Town Council	M	2025	Local	TBD



Sylvan Springs Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Wildfire Mitigation Techniques					
Winter Storms/Freezes (Severe Winter Weather)s	WW-1 Adopt and Enforce Building Codes	Town Council	M	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Town Council	M	Annually	Local	TBD
Others:						
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	EMA	H	Annual	Local	No add'l cost
	ET-2 Assist Vulnerable Populations	EMA	H	2016	Local	TBD
	ET-3 Educate Property Owners About Freezing Pipes	Town Council	M	Ongoing/ Seasonal	Local	TBD
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Town Council	M	2020	Local;	TBD
	HA-2 Increase Hail Risk Awareness	Town Council	M	Annually	Local	TBD
Lightning	L-1 Protect Critical Facilities and Equipment	Fire Department	H	Annually	Local	TBD
	L-2 Conduct Lightning Awareness Programs	Fire Department	M	Annually	Local	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Town Council	H	2020	Local	No add'l cost
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Inspections	H	2020	Local	TBD
	SW-3 Increase Severe Wind Risk Awareness	Town Council	H	2017	Local	TBD
Multiple Hazards	MU-1 Assess Community Risk	Fire Department	H	2018	Local	TBD



Sylvan Springs Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	MU-2 Integrate Mitigation into Local Planning	Town Council	H	2016	Local	No add'l cost
	MU-3 Strengthen Land Use Regulations	Town Planning Commission	M	2020	Local	TBD
	MU-4 Adopt and Enforce Building Codes	Town Council	M	2020	Local	TBD
	MU-5 Protect Infrastructure and Critical Facilities	Fire Department	H	2025	Local	TBD
	MU-6 Increase Hazard Education and Risk Awareness	Town Council	M	2017	Local	TBD
	MU-7 Improve Household Disaster Preparedness	Fire Department	M	2017	Local	TBD

Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education Virtual Alabama plan for schools.	Board of Education	H	Annually	FEMA	TBD
	Building level drills, exercises in homes, workplaces, classrooms, etc.	Individuals/Employers/ School Principals/Public Safety	H	Ongoing/ Semi-Annual	FEMA	TBD
	Everbridge Emergency Alert Notifications.	Jefferson County EMA	H	Quarterly Drill with Mayors' Police Chiefs, and County Commissioners	EMA	YBD
	Hazard "safety fairs."	Jefferson County EMA	H	Ongoing, Booths set up at different public events annually	EMA	TBD
	Hazard conferences, seminars.	Jefferson County EMA		Ongoing, send out training information using local news and community flyers	EMA	TBD
	Hazard awareness weeks.	Jefferson County EMA/ Media	H	Annually	EMA	TBD

Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	FEMA/Jefferson County EMA	H	Seasonal	FEMA	TBD
	Regular newspaper articles.	Local reporter /B'ham News	M	Quarterly Newsletters	EMA	TBD
	Direct mailings.	Jefferson County EMA		Ongoing, Annually, we will mail surveys to update HM information	EMA	TBD
	Utility bill inserts.	Tarrant Electric/B'ham Waterworks/Alagasco	M	2018	Local	TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared.	FEMA/Jefferson County EMA	H	Annually	FEMA	TBD
Hazard Specific (Reference: JCHMP, <u>Mitigation Ideas</u>)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Jeffco EMA/National Weather Service	H	2020	EMA	TBD
	D-2 Monitor Drought Conditions	National Weather Service Jeffco/ EMA	H	Seasonally	State	TBD
	D-3 Monitor Water Supply	USGS/B'ham Water Works	H	Continuously	Local	TBD



Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	D-4 Plan for Drought	EMA/Water Works	H	2020	State	TBD
	D-5 Require Water Conservation During Drought Conditions	Gov./EMA/Water Works	H	Annually	LOCAL	TBD
	D-6 Prevent Overgrazing	Farmers/ Dept. of Conservation	H	Short Range	Private	TBD
	D-7 Retrofit Water Supply Systems	Water Works/ Owners	L	2020	Private	TBD
	D-8 Enhance Landscaping and Design Measures	City Council/ ALDOT	M	2025	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	EMA/Media	H	Semi-annual	Local	TBD
	D-10 Educate Farmers on Soil and Water Conservation Practices	Dept. of Conservation/ Dept. of Agriculture	H	Annually	State	TBD
	D-11 Purchase Crop Insurance	Farmers	L	Annually	Dept. of Ag	TBD
Earthquakes	EQ-1 Adopt and Enforce Building Codes	State/City Council	H	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA/EMA/City Council	H	Annually	EMA	TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	USGS/EMA	H	2025	FEMA	TBD
	EQ-4 Conduct Inspections of Building Safety	Building Official	H	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Public Safety	H	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation Techniques	Building Official	H	2020	Local	TBD

Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	EQ-7 Increase Earthquake Risk Awareness	FEMA/EMA	M	Provide FEMA's information	State	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	ICC/NFPA Code Officials	H	2018	Other	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	ICC/NFPA	M	2020	Local	TBD
	F-1 Incorporate Flood Mitigation in Local Planning	City Council/Floodplain Mgr.	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	RPCGB/EMA/SWMMA	H	Annually	Other	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Local Floodplain Mgr./City Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	City Council	H	2020	Local	TBD
	F-5 Improve Storm water Management Planning	Health Dept./County/EPA/ADEM/SWMMA	H	Annually	FEMA/SWMMA	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	County Comm./City Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	City Council	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	City Council/Homeowner/Business owner	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond	City Council	H	2020	Local	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Minimum Requirements					
	F-10 Participate in the CRS	City Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	SWMMMA	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	City Council	H	2025	Local	TBD
	F-13 Improve Stormwater Drainage System Capacity	Jeffco Environmental Services	H	2025	State	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Jeffco Environmental Services/ Jeffco Health Dept.	H	2020	County	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Business owners/ homeowners/ Utility owners	H	2025	Private	TBD
	F-16 Floodproof Residential and Non-Residential Structures	Owners	H	2025	Private	TBD
	F-17 Protect Infrastructure	All public Services	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	All Public Services	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	FEMA	H	2025	FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	FEMA/ADEM/EPA/City Council	H	2025	FEMA	TBD
	F-21 Preserve Floodplains as Open Space	City Council/The Freshwater Land Trust/Jeffco/The Nature Conservancy	H	2025	Other	TBD



Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-22 Increase Awareness of Flood Risk and Safety	EMA/ EPA/ADEM	H	Annually	FEMA	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	EPA/EMA/FEMA	H	Annually	FEMA	TBD
Landslides/Erosion/Debris Flow	ER-1 Map and Assess Vulnerability to Erosion	USGS/FEMA	H	2025	FEMA	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Building official	H	2025	Local	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	City Council/Building Official	H	2018	Local	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	City Council	H	2025	Private	TBD
	ER-5 Stabilize Erosion Hazard Areas	Property owner	H	2025	Private	TBD
	ER-6 Increase Awareness of Erosion Hazards	EPA/ADEM/EMA	H	Annually	EMA	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	FEMA	H	2025	FEMA	TBD
	SU-2 Manage Development in High-Risk Areas	Building Official/City Council	H	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Engineer/Architect	H	2018	Private	TBD
	SU-4 Monitor Subsidence Risk	USGS	H	Annually	USGS	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Factors					
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Owner/City Council/Building Official	H	2025	Private	TBD
	SU-6 Educate Residents about Subsidence	EMA	H	Annually	State	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	EMA/FEMA		Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	State	TBD
	T-2 Require Wind-Resistant Building Techniques	Building Official/City Council	H	2019	FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	EMA	H	Annually	EMA	TBD
	Wildfires					
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Forestry	H	2020	State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	EMA/City Council	H	Annually	EMA	TBD
	WF-3 Reduce Risk through Land Use Planning	City Council	H	Annually	Local	TBD
	WF-4 Develop a Wildland- Urban Interface Code	USFA/ICC/NFPA	H	2018	Other	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	City Council/ Building Official	H	Annually	Local	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Owner/Building Official	H	2025	Private	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Owner	H	Annually	Private	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Owner	H	Annually	Private	TBD
	WF-9 Implement a Fuels Management Program	Owner	M	2018	Private	TBD
	WF-10 Participate in Firewise Program	City Council/Public Safety	H	Annually	Local	TBD
	WF-11 Increase Wildfire Risk Awareness	Forestry	H	Annually	State	TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Forestry	H	Annually	State	TBD
Winter Storms/Freezes (Severe Winter Weather)S	WW-1 Adopt and Enforce Building Codes	City Council	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Public Safety	H	Annually	Local	TBD
	WW-3 Protect Power Lines	Tarrant Electric Dept.	H	Annually and as the need arises	Local	TBD
	WW-4 Reduce Impacts to Roadways	Public Works/ ALDOT	H	Working w/Alabama Department of	Local	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
				Transportation on an annual basis		
	WW-5 Conduct Winter Weather Risk Awareness Activities	Business Owner/ Home owner	H	Annually	Local	TBD
	WW-6 Assist Vulnerable Populations	Jeffco Office of Community Development	H	2016	Local	TBD
Others:						
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	EMA/EPA/ADEM	H	2025	FEMA	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	EMA/EPA/ADEM	H	Annually	EMA	TBD
	ET-3 Assist Vulnerable Populations	EMA/EPA/FEMA	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	EMA/EPA/FEMA	H	Annually, Seasonal	FEMA	TBD
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Owner	H	2020	Private	TBD
	HA-2 Protect Buildings from Hail Damage	Owner	H	2025	Private	TBD
	HA-3 Increase Hail Risk Awareness	FEMA/National Weather Service	H	Annually	FEMA	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	USGS/FEMA	H	2025	FEMA	TBD
	LS-2 Manage Development in Landslide Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	Public Works	H	Annually	State	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	City Council/Building Official /Public Works	H	Annually	Private	TBD
	L-1 Protect Critical Facilities and Equipment	Tarrant Electric/Owner	H	Annually	State	TBD
Lightning	L-2 Conduct Lightning Awareness Programs	FEMA/EMA	H	Annually	FEMA	TBD
	SW-1 Adopt and Enforce Building Codes	City Council	H	2020	Local	TBD
Severe Wind	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Official/City Council	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	National Weather/EMA/ FEMA	H	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Tarrant Elec. Dept.	H	2020	Local	TBD
	SW-5 Retrofit Residential Buildings	Owner	H	2020	Private	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	City Council	H	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	EMA/FEMA/National Weather Service	H	2017	FEMA	TBD
	MU-1 Assess Community Risk	EMA	H	2018	EMA	TBD
Multiple Hazards	MU-2 Map Community Risk	FEMA	H	2025	FEMA	TBD
	MU-3 Prevent Development in Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	MU-4 Adopt Development Regulations	City Council	H	2025	Local	TBD

Tarrant Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	in Hazard Areas					
	MU-5 Limit Density in Hazard Areas	City Council/Building Official	H	2025	Local	TBD
	MU-6 Integrate Mitigation into Local Planning	EMA/City Council	H	2016	Local	TBD
	MU-7 Strengthen Land Use Regulations	City Council	H	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	City Council	H	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	EMA/FEMA/City Council	H	2020	FEMA	TBD
	MU-10 Incentivize Hazard Mitigation	FEMA	H	2020	FEMA	TBD
	MU-11 Monitor Mitigation Plan Implementation	Building Official	H	Annually	Local	TBD
	MU-12 Protect Structures	Public Safety	H	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Public Works/Public Safety	H	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	EMA/ FEMA	H	2017	FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Owner	H	2017	Private	TBD
	MU-16 Promote Private Mitigation Efforts	EMA/FEMA/CITY COUNCIL	H	2017	FEMA	TBD

Traford Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Drills, exercises in homes, workplaces, classrooms, etc	Traford Volunteer Fire Department	H	Annually, September	Local	No add'l cost
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, Town Council	H	Quarterly Drills with Mayors, Police Chiefs, and County Commissioners	Local, State	No add'l cost
	Hazard "safety fairs"	Jefferson County EMA, Fire Department	H	Booths set up at different public events annually	Local, EMA	No add'l cost
	Hazard conferences, seminars	Jefferson County EMA,	H	Ongoing, send out training information using local news and community flyers	Local	No add'l cost
	Hazard awareness weeks	Jefferson County EMA, Fire Department	H	Annually	Local, EMA	No add'l cost
	Preparedness handbooks, brochures. Distribution of severe weather guides, etc	FEMA, Jefferson County EMA, Fire Department, Traford Police Department	H	Seasonal	Local, State, FEMA	No add'l cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
	D-1 Monitor Drought Conditions	Mayor, Town Council, Jefferson County EMA, Water Utilities, AEEMA	M	Seasonally	Local, State	No add'l cost



Traford Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Earthquakes	D-2 Monitor Water Supply	Water Utilities	M	Continuously	Local	No add'l cost
	D-3 Plan for Drought	Jefferson County EMA, Local Water Utilities	M	2020	Local	No add'l cost
	D-4 Require Water Conservation During Drought Conditions	Water Utilities, Mayor, Town Council	M	Annually	Local, State	No add'l cost
	D-5 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, Town Council, FEMA	M	Semi-annually	Local, FEMA	No add'l cost
	EQ-1 Adopt and Enforce Building Codes	Mayor, Town Council, Town Clerk	L	2020	Local	No add'l cost
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA	M	2020	Local	No add'l cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	Jefferson County GIS, USGS, Jefferson County EMA	M	2025	Local, State, Federal	No add'l cost
Flooding	EQ-4 Conduct Inspections of Building Safety	Electrical Inspector, Fire Department, State Fire Marshal	M	2020	Local, State	No add'l cost
	EQ-5 Protect Critical Facilities and Infrastructure	Fire Department	M	Annually	Local	TBD
	EQ-6 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, AEMA, Mayor, Town Council	M	Provide FEMA's information to educate local citizens on a semi-annual basis	Local, State, FEMA	No add'l cost
	EQ-7 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Electrical Inspector	M	2018	Local	TBD
	F-1 Incorporate Flood Mitigation in Local	Mayor, Town Council	M	Annually	Local	No add'l cost



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Planning					
	F-2 Form Partnerships to Support Floodplain Management	Mayor, Town Council	M	Annually	Local	No add'l cost
	F-3 Limit or Restrict Development in Floodplain Areas	Mayor, Town Council	M	2025	Local	No add'l cost
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor, Town Council, Town Clerk	M	2020	Local	TBD
	F-5 Adopt Policies to Reduce Storm water Runoff	Flood Control District, Mayor, Town Council, Town Clerk	M	2018	Local	No add'l cost
	F-6 Improve Flood Risk Assessment	Mayor, Town Council, Jefferson County GIS, USGS	M	2020	Local	TBD
	F-7 Join or Improve Compliance with NFIP	Mayor, Town Council, Homeowners, Business Organizations	M	Annually	Local, State, FEMA	TBD
	F-8 Remove Existing Structures from Flood Hazard Areas	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	M	2025	Local, State, FEMA	TBD
	F-9 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Mayor, Town Council, Public Works	M	2020	Local	TBD
	F-10 Protect Infrastructure	Mayor, Town Council, Fire Department	H	Annually	Local	TBD
	F-11 Protect Critical Facilities	Mayor, Town Council, Fire Department	H	Annually	Local	TBD
	F-12 Protect and Restore Natural Flood Mitigation	Mayor, Town Council, Public Works Department	M	2025	Local	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Features					
	F-13 Increase Awareness of Flood Risk and Safety	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
	F-23 Educate Property Owners about Flood Mitigation Techniques	FEMA, AEMA, Jefferson County EMA, Mayor, Town Council	H	Annually	Local, State, FEMA	No add'l cost
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Increase Awareness of Erosion Hazards	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	M	Annually	Local, State, FEMA	No add'l cost
Land Subsidence	SU-1 Educate Residents about Subsidence	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	M	Annually	Local, State, FEMA	No add'l cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Ongoing, most of the citizens will rely on the grant funds to construct safe rooms, some citizens have been listed on a waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, Town Council	M	2019	Local	No add'l cost
	T-3 Conduct Tornado Awareness Activities	Mayor, Town Council, Fire Department, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Alabama Forestry Commission	M	2020	Local, State	No add'l cost
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, Town Council, Fire Department	H	Annually	Local	TBD
	WF-3 Reduce Wildfire Risk	Mayor, Town Council,	H	Annually	Local,	TBD



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Trafford Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	through Land Use Planning	Fire Department, Alabama Forestry Commission			State	
	WF-4 Require or Encourage Fire-Resistant Construction Techniques	Mayor, Town Council, Fire Department	L	Annually	Local	No add'l cost
	WF-5 Create Defensible Space Around Structures and Infrastructure	Fire Department, Alabama Forestry Commission	H	Annually	Local, State	TBD
	WF-6 Implement a Fuels Management Program	Alabama Forestry Commission, Fire Marshall	M	2018	Local	TBD
	WF-7 Increase Wildfire Risk Awareness	Alabama Forestry Commission, Fire Marshall, Fire Department	H	Annually	Local, State	TBD
	WF-8 Educate Property Owners about Wildfire Mitigation Techniques	Alabama Forestry Commission, Fire Marshall, Fire Department, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-1 Adopt and Enforce Building Codes	Mayor, Town Council, Town Clerk	M	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Fire Department	M	Annually	Local	TBD
	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arises	Local, Private	TBD
	WW-4 Reduce Impacts to Roadways	Public Works Department, ALDOT, Mayor, Town Council	M	Working w/ Alabama Dept. of Transportation on an annual basis	Local, State	TBD
	WW-5 Conduct Winter	Jefferson County EMA,	H	Annually	Local,	TBD



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Traford Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	Weather Risk Awareness Activities	Mayor, Town Council, AEMA, FEMA, Home Owners Associations			State, FEMA	
	WW-6 Educate Property Owners About Freezing Pipes	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	M	Annually	Local, State, FEMA	TBD
	WW-7 Assist Vulnerable Populations	Fire Department, Local Citizens	H	2016	Local	TBD
	Others:					
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Fire Department Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
	ET-2 Assist Vulnerable Populations	Fire Department, Local Citizens	H	2016	Local	TBD
	HA-1 Increase Hail Risk Awareness	Jefferson County EMA, AEMA, FEMA	M	Annually	Local, State, FEMA	No add'l cost
Lightning	L-1 Protect Critical Facilities and Equipment	Mayor, Town Council, Alabama Power	H	2020	Local, Private	TBD
	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA	H	2020	Local, State, FEMA	No add'l cost
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor, Town Council, Town Clerk	H	2020	Local	TBD
	SW-2 Assess Vulnerability to Severe Wind	Jefferson County EMA, AEMA, FEMA	H	2020	Local, State, FEMA	TBD
	SW-3 Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local, Private	TBD
	SW-4 Retrofit Public Buildings and Critical Facilities	Mayor, Town Council, FEMA,	H	2020	Local, FEMA	TBD
	SW-5 Increase Severe Wind Risk Awareness	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	2020	Local, State, FEMA	No add'l cost



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Trafford Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Multiple Hazards	MU-1 Assess Community Risk	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	2018	Local, State, FEMA	TBD
	MU-2 Adopt Development Regulations in Hazard Areas	Mayor, Town Council, Town Clerk	H	2018	Local	No add'l cost
	MU-3 Integrate Mitigation into Local Planning	Mayor, Town Council, Jefferson County EMA	H	2016	Local	No add'l cost
	MU-4 Monitor Mitigation Plan Implementation	Mayor, Town Council, Jefferson County EMA	H	Annually	Local	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Board of Education	H	Ongoing, Annually September	FEMA	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	Individuals/Employers/Schools/Fire Department	H	Ongoing, Semi-Annually	FEMA	TBD
	Everbridge Emergency Alert Notifications.	Jefferson County EMA	H	Quarterly Drill with Mayors, Police Chiefs, and County Commissioners	EMA	TBD
	Hazard "safety fairs."	Jefferson County EMA	H	Ongoing, Booths set up at different public events annually	EMA	TBD
	Hazard conferences, seminars.	Jefferson County EMA	H	Ongoing, send out training information using local news and community flyers	EMA	TBD
	Hazard awareness weeks.	Jefferson County EMA/ Media	H	Annually	EMA	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	FEMA/Jefferson County EMA	H	Seasonal	FEMA	TBD
	Regular newspaper articles.	Local reporter/B'ham News, Trussville Tribune	M	Quarterly news letters	EMA	TBD
	Direct mailings.	Jefferson County EMA	M	Ongoing, Annually, we will mail surveys to update HM information	EMA	TBD
	Utility bill inserts.	Alabama Power/B'ham Trussville Water/Alagasco	M	2018	Local	TBD
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Annual correspondence with residents reminding them of the need to be hazard prepared.	FEMA/Jefferson County EMA	H	Annually	FEMA	TBD
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	National Weather Service/Jefferson County EMA	H	2020	EMA	TBD
	D-2 Monitor Drought Conditions	National Weather Service/Jefferson County EMA	H	Seasonally	State	TBD



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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	D-3 Monitor Water Supply	USGS/Trussville Water	H	Continuously	Local	TBD
	D-4 Plan for Drought	EMA/Trussville Water	H	2020	State	TBD
	D-5 Require Water Conservation During Drought Conditions	Gov/EMA/Trussville Water	H	Annually	LOCAL	TBD
	D-6 Retrofit Water Supply Systems	Trussville Water/Owners	L	2020	Private	TBD
	D-7 Enhance Landscaping and Design Measures	Mayor & Council/ ALDOT	M	2025	Local	TBD
	D-8 Educate Residents on Water Saving Techniques	EMA/Media/Trussville Water	H	Semi-Annually	Local	TBD
	EQ-1 Adopt and Enforce Building Codes	State/Mayor & Council	H	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA/EMA/Mayor & Council	H	Annually	EMA	TBD
Earthquakes	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	USGS/EMA	H	2025	FEMA	TBD
	EQ-4 Conduct Inspections of Building Safety	Local Building Official	H	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Fire Department	H	Ongoing, Annually	Local	TBD
	EQ-6 Implement Structural Mitigation Techniques	Local Building Official	H	2020	Local	TBD
	EQ-7 Increase Earthquake Risk Awareness	FEMA/EMA	M	Provide FEMA's information to educate local citizens on a semi-annual	State	TBD

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MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	ICC/NFPA Code Officials	H	2018	Other	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	ICC/NFPA	M	2020	Local	TBD
	F-1 Incorporate Flood Mitigation in Local Planning	City Council/Flood Plain Mgr	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	RPCGB/EMA/Local Flood plain Administrator	H	Annually	Other	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Local Flood plain/Mayor & Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor & Council	H	2020	Local	TBD
	F-5 Improve Storm water Management Planning	Health Dept/County/EPA/ADEM/SWMMA	H	Annually	Fema/ SWMMA	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	Local Flood plain Administrator/Mayor & Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Mayor & Council	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Mayor & Council/Homeowner/ Business owner	H	Annually	Local	TBD
	F-9 Manage the Floodplain Beyond Minimum Requirements	Mayor & Council/ Local Flood plain Administrator	H	2020	Local	TBD

Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-10 Participate in the CRS	Mayor & Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Local Flood plain Administrator	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Mayor & Council/ Local Engineer	H	2025	Local	TBD
	F-13 Improve Storm water Drainage System Capacity	Jefferson County Environmental Services/ Trussville Public Works	H	2025	State	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Jefferson County Environmental Services/ Jefferson County Health Dept/Trussville Public Works	H	2020	County	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Business owners/ homeowners/ Utility owners	H	2025	Private	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Owners	H	2025	Private	TBD
	F-17 Protect Infrastructure	All public Services	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	All Public Services	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	Mayor & Council	H	2025	FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	FEMA/ADEM/EPA/City Council	H	2025	FEMA	TBD
	F-21 Preserve Floodplains as Open Space	Mayor & Council/The Freshwater Land Trust/Jeffco/The Nature	H	2025	Other	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	F-22 Increase Awareness of Flood Risk and Safety	Conservancy EMA/ADEM	H	Annually	FEMA	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	ADEM/EMA/FEMA	H	Annually	FEMA	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	USGS/FEMA	H	2025	FEMA	TBD
	ER-2 Manage Development in Erosion Hazard Areas	Local Building official/ Local Engineer	H	2025	Local	TBD
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Mayor & Council/Local Building Official	H	2018	Local	TBD
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Mayor & Council	H	2025	Private	TBD
	ER-5 Stabilize Erosion Hazard Areas	Property owner	H	2025	Private	TBD
	ER-6 Increase Awareness of Erosion Hazards	ADEM/EMA	H	Annually	EMA	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	FEMA	H	2025	FEMA	TBD
	SU-2 Manage Development in High-Risk Areas	Local Building Official/Mayor & Council	H	2025	Local	TBD
	SU-3 Consider Subsidence in Building Design	Engineer/Architect	H	2018	Private	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-4 Monitor Subsidence Risk Factors	USGS	H	Annually	USGS	TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Owner/Mayor & Council/Local Building Official	H	2025	Private	TBD
	SU-6 Educate Residents about Subsidence	EMA	H	Annually	State	TBD
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	EMA/FEMA/City of Trussville	H	Ongoing, most of the citizens will rely on grants funds to construct safe rooms, some of the citizens have been listed on the waiting list	State	TBD
	T-2 Require Wind-Resistant Building Techniques	Local Building Official/Mayor & Council	H	2019	FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	EMA	H	Ongoing, Annually	EMA	TBD
Wildfires	WF-1 Map and Assess Vulnerability to Wildfire	Forestry	H	2020	State	TBD
	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	EMA/Mayor & Council	H	Annually	EMA	TBD
	WF-3 Reduce Risk through Land Use Planning	Mayor & Council	H	Annually	Local	TBD
	WF-4 Develop a Wildland - Urban	USFA/ICC/NFPA	H	2018	Other	TBD

Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Interface Code					
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor & Council/ Local Building Official	H	Annually	Local	TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Owner/Local Building Official	H	2025	Private	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Owner	H	Annually	Private	TBD
	WF-8 Conduct Maintenance to Reduce Risk	Owner	H	Annually	Private	TBD
	WF-9 Implement a Fuels Management Program	Owner	M	2018	Private	TBD
	WF-10 Participate in Fire wise Program	Mayor & Council/Fire Department	H	Annually	Local	TBD
	WF-11 Increase Wildfire Risk Awareness	Forestry	H	Annually	State	TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Forestry	H	Annually	State	TBD
	WW-1 Adopt and Enforce Building Codes	Mayor & Council	H	Annually	Local	TBD
	WW-2 Protect Buildings and Infrastructure	Fire Department	H	Annually	Local	TBD
	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arise	Local	TBD
Winter Storms/Freezes (Severe Winter Weather)	WW-4 Reduce Impacts to Roadways	Public Works/ ALDOT	H	Working with Alabama Dept. of	Local	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	WW-5 Conduct Winter Weather Risk Awareness Activities	Business Owner/ Home owner	H	Annually	Local	TBD
	WW-6 Assist Vulnerable Populations	Jefferson County Office of Community Development	H	2016	Local	TBD
	Others:					
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect	EMA/EPA/ADEM	H	2025	FEMA	TBD
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	EMA/EPA/ADEM	H	Annual	EMA	TBD
	ET-3 Assist Vulnerable Populations	EMA/EPA/FEMA	H	2016	Local	TBD
	ET-4 Educate Property Owners About Freezing Pipes	EMA/EPA/FEMA	H	Ongoing, Seasonal	FEMA	TBD
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Owner	H	2020	Private	TBD
	HA-2 Protect Buildings from Hail Damage	Owner	H	2025	Private	TBD
	HA-3 Increase Hail Risk Awareness	FEMA/NWS/FEMA	H	Ongoing, Annually	FEMA	TBD
Landslide	LS-1 Map and Assess Vulnerability to Landslides	USGS/FEMA	H	2025	FEMA	TBD
	LS-2 Manage Development in Landslide Hazard Areas	Mayor & Council/ Local Building Official	H	2025	Local	TBD
	LS-3 Prevent Impacts to Roadways	Public Works/ALDOT	H	2025	State	TBD
	LS-4 Remove Existing Buildings and Infrastructure from Landslide	Mayor & Council/ Local Building Official /Public	H	2025	Private	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Hazard Areas	Works				
Lightning	L-1 Protect Critical Facilities and Equipment	Alabama Power/Owner	H	2020	State	TBD
	L-2 Conduct Lightning Awareness Programs	FEMA/EMA	H	2020	FEMA	TBD
Severe Wind	SW-1 Adopt and Enforce Building Codes	Mayor & Council/ Local Building Official	H	2020	Local	TBD
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Local Building Official/Mayor & Council	H	2020	Local	TBD
	SW-3 Assess Vulnerability to Severe Wind	National Weather/EMA/ FEMA	H	2020	Local	TBD
	SW-4 Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local	TBD
	SW-5 Retrofit Residential Buildings	Owner	H	2020	Private	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Mayor & Council	H	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	EMA/FEMA/National Weather Service	H	2017	FEMA	TBD
Multiple Hazards	MU-1 Assess Community Risk	EMA	H	2018	EMA	TBD
	MU-2 Map Community Risk	FEMA	H	2025	FEMA	TBD
	MU-3 Prevent Development in Hazard Areas	Mayor & Council/Local Building Official	H	2025	Local	TBD
	MU-4 Adopt Development Regulations in Hazard Areas	Mayor & Council	H	2025	Local	TBD
	MU-5 Limit Density in Hazard Areas	Mayor & Council/Local	H	2025	Local	TBD



Trussville Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
		Building Official				
	MU-6 Integrate Mitigation into Local Planning	EMA/Mayor & Council	H	2016	Local	TBD
	MU-7 Strengthen Land Use Regulations	Mayor & Council	H	2020	Local	TBD
	MU-8 Adopt and Enforce Building Codes	Mayor & Council	H	2020	Local	TBD
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	EMA/FEMA/Mayor & Council	H	2020	FEMA	TBD
	MU-10 Incentivize Hazard Mitigation	FEMA	H	2020	FEMA	TBD
	MU-11 Monitor Mitigation Plan Implementation	Local Building Official	H	Annually	Local	TBD
	MU-12 Protect Structures	Fire Department	H	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Public Works/Fire Department	H	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	EMA/ FEMA	H	2017	FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Owner	H	2017	Private	TBD
	MU-16 Promote Private Mitigation Efforts	EMA/FEMA/Mayor & COUNCIL	H	2017	FEMA	TBD

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools.	Fire Department Police Department	M	Ongoing, Annually September	Local	No Additional Cost
	Drills, exercises in homes, workplaces, classrooms, etc.	Fire Department Police Department	M	Ongoing, Semi Annual	Local	No Additional Cost
	Everbridge Emergency Alert Notifications.	Fire Department Police Department	M	Quarterly Drill with Mayors, Police chief	Local	No Additional Cost
	Hazard "safety fairs."	Fire Department Police Department	M	Ongoing, Booths set up at public events annually	Local	No Additional Cost
	Hazard conferences, seminars.	Fire Department Police Department	M	Ongoing, send out training information using local media and community flyers	Local	No Additional Cost
	Hazard awareness weeks.	Fire Department Police Department	M	Annually	Local	No Additional Cost

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	Fire Department Police Department Building Safety	M	Seasonally	Local	No Additional Cost
	Regular newspaper articles.	Fire Department Police Department	M	Quarterly news letter	Local	No Additional Cost
	Direct mailings.	Mayor's Office	M	Ongoing, Annually, Surveys mailed out to update HM information	Local	No Additional Cost
	Use of Social Media	Fire Department Police Department	H	Quarterly, as needed	Local	No Additional Cost
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Engineering	M	2020	Local	No Additional Cost
	D-2 Monitor Drought Conditions	Engineering	M	Seasonally	Local	No Additional Cost

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
						Cost
	D-3 Monitor Water Supply	BWWB	H	Continuously	Private	TBD
	D-4 Plan for Drought	Engineering	M	2020	Local	No Additional Cost
	D-5 Require Water Conservation During Drought Conditions	City Council	H	Annually	Local	TBD
	D-6 Retrofit Water Supply Systems	BWWB		2020	Private	TBD
	EQ-1 Adopt and Enforce Building Codes	City Council Building Safety	H	2020	Local	No Additional Cost
Earthquakes	EQ-2 Incorporate Earthquake Mitigation into Local Planning	Building Safety	L	Annually	Local	No Additional Cost
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS	L	2025	Local	No Additional Cost
	EQ-4 Conduct Inspections of Building Safety	Building Safety	H	2020	Local	No Additional Cost
	EQ-5 Protect Critical Facilities and Infrastructure	Building Safety	H	Ongoing Annually	Local	No Additional Cost
	EQ-6 Implement Structural Mitigation Techniques	Building Safety	H	2020	Local	No Additional Cost
	EQ-7 Increase Earthquake Risk Awareness	Building Safety	L	Semi- Annual,	Local	\$300

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Flooding				Provide FEMA's information to educate citizens		
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Building Safety	M	2018	Local	\$300
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Building Safety	L	2020	Local	\$300
	F-1 Incorporate Flood Mitigation in Local Planning	Engineering	H	Annually	Local	No Additional Cost
	F-2 Form Partnerships to Support Floodplain Management	Engineering	M	Annually	Local	No Additional Cost
	F-3 Limit or Restrict Development in Floodplain Areas	Engineering	H	2025	Local	No Additional Cost
	F-4 Adopt and Enforce Building Codes and Development Standards	City Council Building Safety	H	2020	Local	No Additional Cost
	F-5 Improve Storm water	Engineering	H	Annually	Local	No

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimate d Cost
Hazard	Action Items					
	Management Planning					Additional Cost
	F-6 Adopt Polices to Reduce Storm water Runoff	Engineering	H	2018	Local	No Additional Cost
	F-7 Improve Flood Risk Assessment	Engineering	M	2020	Local	No Additional Cost
	F-8 Join or Improve Compliance with NFIP	Engineering	M	Annually	Local	No Additional Cost
	F-9 Manage the Floodplain Beyond Minimum Requirements	Engineering	M	2020	Local	No Additional Cost
	F-10 Participate in the CRS	Engineering	M	2020	Local	No Additional Cost
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Engineering City Council	M	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Engineering	L	2025	Local	TBD
	F-13 Improve Storm water Drainage System Capacity	Engineering	M	2025	Local	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Engineering Public Works	L	2020	Local	TBD
	F-15 Elevate or Retrofit Structures	Engineering	L	2025	Local	TBD

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	and Utilities					
	F-16 Floodproof Residential and Non-Residential Structures	Engineering	L	2025	FEMA	TBD
	F-17 Protect Infrastructure	Engineering	M	Annually	FEMA	TBD
	F-18 Protect Critical Facilities	Engineering	H	Annually	FEMA	TBD
	F-19 Construct Flood Control Measures	Engineering	M	2025	FEMA	TBD
	F-20 Protect and Restore Natural Flood Mitigation Features	Engineering	M	2025	FEMA	TBD
	F-21 Preserve Floodplains as Open Space	Engineering	H	2025	FEMA	TBD
	F-22 Increase Awareness of Flood Risk and Safety	Engineering	M	Annually	Local	TBD
	F-23 Educate Property Owners about Flood Mitigation Techniques	Engineering	M	Annually	Local	TBD
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion	GIS	M	2025	Local	No Additional Cost
	ER-2 Manage Development in Erosion Hazard Areas	Engineering	M	2025	Local	No Additional Cost

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk	Engineering	M	2018	Local	No Additional Cost
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas	Engineering	M	2025	FEMA	TBD
	ER-5 Stabilize Erosion Hazard Areas	Engineering	M	2025	Local	TBD
	ER-6 Increase Awareness of Erosion Hazards	Engineering	M	Annually	Local	TBD
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	GIS	L	2025	Local	No Additional Cost
	SU-2 Manage Development in High-Risk Areas	Engineering	L	2025	Local	No Additional Cost
	SU-3 Consider Subsidence in Building Design	Engineering	L	2018	Local	No Additional Cost
	SU-4 Monitor Subsidence Risk Factors	Engineering	L	Annually	Local	No Additional Cost
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Engineering	L	2025	FEMA	TBD

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	SU-6 Educate Residents about Subsidence	Engineering	L	Annually	Local	No Additional Cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Building Safety	M	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local	\$300
	T-2 Require Wind-Resistant Building Techniques	Building Safety	M	2019	Local	\$200
	T-3 Conduct Tornado Awareness Activities	Fire Department	M	Annually	Local	No Additional Cost
	WF-1 Map and Assess Vulnerability to Wildfire	GIS	M	2020	Local	No Additional Cost
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Building Safety	M	Annually	Local	No Additional Cost
	WF-3 Reduce Risk through Land	City Planner	M	Annually	Local	No

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
	Use Planning					Additional Cost
	WF-4 Develop a Wildland- Urban Interface Code	Building Safety	M	2018	Local	No Additional Cost
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Building Safety	M	Annually	Local	No Additional Cost
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Building Safety	M	2025	FEMA	TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Building Safety	M	Annually	Local	\$300
	WF-8 Conduct Maintenance to Reduce Risk	Building Safety	M	Annually	Local	No Additional Cost
	WF-9 Implement a Fuels Management Program	Fire Department AL Forestry	M	2018	Local	TBD
	WF-10 Participate in Firewise Program	Fire Department	M	Annually	Local	TBD
	WF-11 Increase Wildfire Risk Awareness	Fire Department	M	Annually	Local	No Additional Cost
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Fire Department	M	Annually	Local	No Additional Cost
	WW-1 Adopt and Enforce Building Codes	Building Safety City Council	H	Annually	Local	No Additional Cost
Winter Storms/Freezes						

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
(Severe Winter Weather)	WW-2 Protect Buildings and Infrastructure	Building Safety	M	Annually	Local	No Additional Cost
	WW-3 Protect Power Lines	APCO	M	Annually and as needed	Private	TBD
	WW-4 Reduce Impacts to Roadways	Engineering	M	Working with ALDOT Annually	Local	No Additional Cost
	WW-5 Conduct Winter Weather Risk Awareness Activities	Fire Department Police Department	M	Annually	Local	No Additional Cost
	WW-6 Assist Vulnerable Populations	Fire Department Police Department	M	2016	Local	No Additional Cost
	Others:					
Extreme Temperatures	ET-1 Increase Awareness of Extreme Temperature Risk and Safety	Fire Department Police Department	M	Annually	Local	No Additional Cost
	ET-2 Assist Vulnerable Populations	Fire Department Police Department	M	2016	Local	No Additional Cost
	ET-3 Educate Property Owners About Freezing Pipes	Building Safety	M	Seasonally	Local	\$300
Hail	HA-1 Locate Safe Rooms to Minimize Damage	Building Safety	M	2020	Local	No Additional

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimated Cost
Hazard	Action Items					
Landslide	HA-2 Protect Buildings from Hail Damage	Building Safety	M	2020	Local	TBD
	HA-3 Increase Hail Risk Awareness	Building Safety	M	Annually	Local	\$300
	LS-1 Map and Assess Vulnerability to Landslides	GIS	L	2025	Local	No Additional Cost
	LS-2 Manage Development in Landslide Hazard Areas	Engineering	M	2025	Local	No Additional Cost
Lightning	LS-3 Prevent Impacts to Roadways	Engineering	M	2025	Local	No Additional Cost
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Engineering Building Safety	L	2025	FEMA	TBD
	L-1 Protect Critical Facilities and Equipment	Building Safety	M	Annually	Local	TBD
	L-2 Conduct Lightning Awareness Programs	Fire Department	M	Annually	Local	No Additional Cost
Severe Wind	SW-1 Adopt and Enforce Building Codes	City Council Building Safety	H	2020	Local	No Additional Cost
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage	Building Safety	M	2020	Local	No Additional Cost

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimate d Cost
Hazard	Action Items					
	SW-3 Assess Vulnerability to Severe Wind	Building Safety	M	2020	Local	No Additional Cost
	SW-4 Protect Power Lines and Infrastructure	APCO	M	2020	Private	TBD
	SW-5 Retrofit Residential Buildings	Building Safety	M	2020	Local	TBD
	SW-6 Retrofit Public Buildings and Critical Facilities	Building Safety	M	2025	Local	TBD
	SW-7 Increase Severe Wind Risk Awareness	Building Safety	M	2017	Local	\$300
	MU-1 Assess Community Risk	Fire Department Engineering Building Safety	H	2018	Local	No Additional Cost
	MU-2 Map Community Risk	GIS	M	2025	Local	No Additional Cost
Multiple Hazards	MU-3 Prevent Development in Hazard Areas	Engineering	M	2025	Local	No Additional Cost
	MU-4 Adopt Development Regulations in Hazard Areas	City Council	M	2025	Local	No Additional Cost
	MU-5 Limit Density in Hazard Areas	City Council	M	2025	Local	No Additional Cost

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimate d Cost
Hazard	Action Items					
	MU-6 Integrate Mitigation into Local Planning	City Council	H	2016	Local	No Additional Cost
	MU-7 Strengthen Land Use Regulations	City Council	H	2020	Local	No Additional Cost
	MU-8 Adopt and Enforce Building Codes	City Council Building Safety	H	2020	Local	No Additional Cost
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation	City Council	M	2020	Local	No Additional Cost
	MU-10 Incentivize Hazard Mitigation	City Council	M	Annually, All communities are encouraged to participate	Local	TBD
	MU-11 Monitor Mitigation Plan Implementation	Engineering	M	Annually	Local	No Additional Cost
	MU-12 Protect Structures	Building Safety	M	2025	Local	TBD
	MU-13 Protect Infrastructure and Critical Facilities	Building Safety	M	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	Building Safety Engineering	M	2017	Local	\$300
	MU-15 Improve Household Disaster Preparedness	Fire Department Police Department	M	2017	Local	No Additional

Vestavia Hills Community Action Program 2014-2019

MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source	Estimate d Cost
Hazard	Action Items					
						Cost
	MU-16 Promote Private Mitigation Efforts	City Council	H	2017	Local	No Additional Cost

Warrior Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA	H	Ongoing, Annually September	Local, State, FEMA	TBD
	Drills, exercises in homes, workplaces, classrooms, etc.	School District, Fire Department	H	Ongoing, Semi-Annually	NA	TBD
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, City Council	H	Quarterly Drills with Mayors, Police Chiefs, and County Commissioners	Local	No additional cost
	Hazard "safety fairs"	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Ongoing, Booths set up at different public events annually	Local	TBD
	Hazard conferences, seminars	Jefferson County EMA, Mayor, City Council	H	Ongoing, send out training information using local news and community flyers	Local	TBD
	Hazard awareness weeks	Jefferson County EMA, Mayor, City Council, School District, Fire District	H	Annually	Local, State	TBD
	Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.	FEMA, Jefferson County EMA	H	Seasonal	Local, State, FEMA	TBD
	Regular newspaper articles	Jefferson County EMA, Mayor, City Council	M	Quarterly news letters	Local	TBD
	Direct mailings	Fire and Police Departments, Jefferson	M	Ongoing, Annually, We will send out surveys to update	Local	TBD



Warrior Community Action Program 2014-2019					
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items				
	Utility bill inserts	County EMA Utilities	M	HM information 2018	Local TBD
	Annual correspondence with residents reminding them of the need to be hazard prepared	FEMA, Jefferson County EMA, Fire and Police Departments	H	Annually	Local TBD
	Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.			
Dam/Levee Failures (See: Flooding)					
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water District, AEMA, Utilities	M	2020	Local, Private TBD
	D-2 Monitor Drought Conditions	Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	M	Seasonally	Local, State TBD
	D-3 Monitor Water Supply	USGS, Mayor, City Council, Planning Department, Jefferson County EMA, Water Utilities, AEMA	H	Continuously	Local, State, FEMA TBD
	D-4 Plan for Drought	Mayor, City Council, Planning Department, Jefferson County EMA, Local Water Utilities	M	2020	Local TBD
	D-5 Require Water Conservation During	AEMA, Jefferson County EMA, Water Utilities, City	H	Annually	Local, State TBD



Warrior Community Action Program 2014-2019		Warrior Community Action Program 2014-2019		Warrior Community Action Program 2014-2019		Warrior Community Action Program 2014-2019	
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure		Priority		Timeline	
Hazard	Action Items	Lead Responsibility for Carrying out Measure		Priority	Timeline	Funding Source:	Estimated Cost
Earthquakes	D-6 Prevent Overgrazing	Department of Agriculture, Local Agriculture Extension Services		L	Annually	State	TBD
	D-7 Retrofit Water Supply Systems	Public Works and Engineering Department		M	2020	Local	TBD
	D-8 Enhance Landscaping and Design Measures	Mayor, City Council		L	2025	Local	TBD
	D-9 Educate Residents on Water Saving Techniques	Jefferson County EMA, Water Utilities, Mayor, City Council		M	2025	Local, State, FEMA	TBD
	D-10 Educate Farmers on Soil and Water Conservation Practices	State Department of Conservation, State Department of Agriculture		L	Annually	Local, State, FEMA	TBD
	D-11 Purchase Crop Insurance	FEMA, State Department of Agriculture		L	Annually	Private	TBD
	EQ-1 Adopt and Enforce Building Codes	Building and Planning Agencies, Mayor, City Council		H	2020	Local	TBD
	EQ-2 Incorporate Earthquake Mitigation into Local Planning	FEMA, AEMA, Jefferson County EMA, Mayor, City Council, Building and Planning Agencies		M	Annually	Local	TBD
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards	GIS Agency, USGS, Jefferson County EMA		H	2025	Local, State	TBD
	EQ-4 Conduct Inspections of Building Safety	Building Department, Fire Department, State Fire Marshal		M	2020	Local	TBD
	EQ-5 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department. Public Works		H	Annually	Local	TBD



Warrior Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
	EQ-6 Implement Structural Mitigation Techniques	Public Works and Engineering Department	M	2020	Local	TBD
	EQ-7 Increase Earthquake Risk Awareness	FEMA, Jefferson County EMA, A EMA, Mayor, City Council	M	Provide FEMA's information to educate local citizens on a semi-annual basis	Local, State, FEMA	TBD
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors	Engineering Department, NFPA, Jefferson County EMA	M	2018	Local	TBD
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting	Jefferson County EMA, Engineering & Building Departments	M	2020	Local, State, FEMA	TBD
Flooding	F-1 Incorporate Flood Mitigation in Local Planning	Mayor, City Council, Planning Department	H	Annually	Local	TBD
	F-2 Form Partnerships to Support Floodplain Management	Mayor, City Council, Flood Plain Administrator	H	Annually	Local	TBD
	F-3 Limit or Restrict Development in Floodplain Areas	Flood Control District, Mayor, City Council	H	2025	Local	TBD
	F-4 Adopt and Enforce Building Codes and Development Standards	Mayor, City Council, Planning, Building & Zoning Departments	H	2020	Local, State	TBD
	F-5 Improve Storm water Management Planning	Public Works Department, Water Utility	H	Annually	Local	TBD
	F-6 Adopt Policies to Reduce Storm water Runoff	Flood Control District, Mayor, City Council	H	2018	Local	TBD
	F-7 Improve Flood Risk Assessment	Mayor, City Council, GIS Department, USGS	H	2020	Local	TBD
	F-8 Join or Improve Compliance with NFIP	Mayor, City Council, Homeowners, Business	H	Annually	Local, State	TBD

Warrior Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	F-9 Manage the Floodplain Beyond Minimum Requirements	Mayor, City Council, Flood Control District	H	2020	Local	TBD
	F-10 Participate in the CRS	Mayor, City Council	H	2020	Local	TBD
	F-11 Establish Local Funding Mechanisms for Flood Mitigation	Planning Department, Mayor, City Council	H	2020	Local	TBD
	F-12 Remove Existing Structures from Flood Hazard Areas	Public Works	H	2025	Local	TBD
	F-13 Improve Storm water Drainage System Capacity	Public Works	H	2025	Local	TBD
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Public Works, Storm Water Utility	H	2020	Local	TBD
	F-15 Elevate or Retrofit Structures and Utilities	Building& Engineering Department	H	2025	Local	TBD
	F-16 Flood proof Residential and Non-Residential Structures	Building Department, Homeowners, Business Organizations, FEMA	H	2025	Local	TBD
	F-17 Protect Infrastructure	Building& Engineering Department	H	Annually	Local	TBD
	F-18 Protect Critical Facilities	Building& Engineering Department	H	Annually	Local	TBD
	F-19 Construct Flood Control Measures	Flood Control District, Public Works and Engineering Department	H	2025	Local	TBD
	F-20 Protect and Restore	Mayor, City Council,	M	2025	Local	TBD

Warrior Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
	Natural Flood Mitigation Features		Parks & Recreation Department, Planning Department			
	F-21 Preserve Floodplains as Open Space		Mayor, City Council, Land Trust, Parks & Recreation Department	M	2025	Local
	F-22 Increase Awareness of Flood Risk and Safety		Mayor, City Council, Jefferson County EMA, AEMA	H	Annually	Local, State, FEMA
	F-23 Educate Property Owners about Flood Mitigation Techniques		FEMA, AEMA, Jefferson County EMA, Mayor, City Council	H	Annually	Local, State, FEMA
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion		GIS Department, USGS, FEMA, Planning Department	H	2025	Local
	ER-2 Manage Development in Erosion Hazard Areas		Engineering Department, Building Department	H	2025	Local
	ER-3 Promote or Require Site and Building Design Standards to Minimize Erosion Risk		Mayor, City Council, Planning & Zoning Department	H	2018	Local
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas		Mayor, City Council, Engineering Department, Building Department	M	2025	Local
	ER-5 Stabilize Erosion Hazard Areas		Department of Agriculture, Agriculture Extension Agent	H	2025	Local, State
	ER-6 Increase Awareness of Erosion Hazards		AEMA, Jefferson County EMA, Planning	H	Annually	Local, State

Warrior Community Action Program 2014-2019					
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline
Hazard	Action Items				
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence	FEMA, AEMA Department	H	2025	Local, State TBD
	SU-2 Manage Development in High-Risk Areas	Planning Department, Building Department, Mayor, City Council	H	2025	Local TBD
	SU-3 Consider Subsidence in Building Design	Engineering Department,	H	2018	Local TBD
	SU-4 Monitor Subsidence Risk Factors	USGS, GIS Department,	L	Annually	Local TBD
	SU-5 Remove Existing Structures from Subsidence Hazard Areas	Mayor, City Council, Public Works Department	L	2025	Local TBD
	SU-6 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA TBD
Severe Storms					
Tornadoes	T-1 Encourage Construction of Safe Rooms	Jefferson County EMA, FEMA, Engineering Department	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some of the citizens have been listed on the waiting list	Local TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, City Council, Building Department,	H	2019	Local TBD
	T-3 Conduct Tornado Awareness Activities	EMA, AEMA, FEMA	H	Ongoing, Annually	Local TBD
	WF-1 Map and Assess Vulnerability to Wildfire	USDA, Fire Districts, GIS Department	M	Long Range	Local, State TBD
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan	Mayor, City Council, Planning Department, Fire District	H	Short Range	Local TBD
	WF-3 Reduce Wildfire Risk	Planning Department,	H	Long Range	Local TBD

Warrior Community Action Program 2014-2019					
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items				
Winter Storms/Freezes (Severe Winter Weather)	through Land Use Planning	Parks & Recreation Department			
	WF-4 Develop a Wildfire land-Urban Interface Code	USDA, Mayor, City Council, Fire Districts Planning Department, Zoning Department	M	Long Range	Local, State TBD
	WF-5 Require or Encourage Fire-Resistant Construction Techniques	Mayor, City Council, Fire Department	L	Ongoing	Local TBD
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials	Building Department, Fire Department	L	Long Range	Local TBD
	WF-7 Create Defensible Space Around Structures and Infrastructure	Planning Department, Zoning Department	H	Mid-Range	Local TBD
	WF-8 Conduct Maintenance to Reduce Risk	Planning Department, Zoning Department Home Owners Associations.	M	Ongoing	Local TBD
	WF-9 Implement a Fuels Management Program	State Forestry, Fire Marshal	M	Mid-Range	Local TBD
	WF-10 Participate in Fire wise Program	Mayor, City Council, Fire Department Fire Marshal	H	Ongoing	Local TBD
	WF-11 Increase Wildfire Risk Awareness	State Forestry, Fire Marshal	H	Ongoing	Local TBD
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, State Forestry, Fire Marshal	H	Ongoing	Local, State, FEMA TBD
	WW-1 Adopt and Enforce Building Codes	Mayor, City Council, Zoning Department	H	Annually	Local TBD
	WW-2 Protect Buildings and Infrastructure	Fire Department	M	Annually	Local TBD

2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Warrior Community Action Program 2014-2019					
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items				
	WW-3 Protect Power Lines	Alabama Power	H	Annually and as the need arise	Local, Private
	WW-4 Reduce Impacts to Roadways	Public Works Department, ALDOT	M	Working w/ Alabama Dept. of Transportation	Local
	WW-5 Conduct Winter Weather Risk Awareness Activities	Home Owners Associations	H	Annually	Local, State, FEMA
	WW-6 Assist Vulnerable Populations	Jefferson County Community Development	H	2016	Local, State
	Others:				
	ET-1 Reduce Urban Heat Island Effect	Planning Department, Parks & Recreation Department	M	2025	Local
Extreme Temperatures	ET-2 Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA	H	Annual	Local, State, FEMA
	ET-3 Assist Vulnerable Populations	Jefferson County Community Development	H	2016	Local, State
	ET-4 Educate Property Owners About Freezing Pipes	Jefferson County EMA, AEMA, FEMA	M	Ongoing, Seasonal	Local, State, FEMA
	HA-1 Locate Safe Rooms to Minimize Damage	Home Owner Associations, Jefferson County Community Development	H	2020	Local
Hail	HA-2 Protect Buildings from Hail Damage	Building Depts.	L	2025	Local
	HA-3 Increase Hail Risk Awareness	Jefferson County EMA, ADEM, FEMA	M	Annually	Local, State, FEMA
	LS-1 Map and Assess Vulnerability to Landslides	USGS, GIS Department, Planning & Building Depts.	H	2025	Local, State
Landslide	LS-2 Manage Development	Mayor & Council,	H	2025	Local



Warrior Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
		in Landslide Hazard Areas	Planning Department, Zoning Department			State	
	LS-3	Prevent Impacts to Roadways	Public Works Department, ALDOT	H	2025	Local	TBD
	LS-4	Remove Existing Buildings and Infrastructure from Landslide Hazard Areas	Mayor, City Council, Public Works Department, Building Department	L	2025	Local	TBD
Lightning	L-1	Protect Critical Facilities and Equipment	Alabama Power	H	2020	Local, Private	TBD
	L-2	Conduct Lightning Awareness Programs	Jefferson County EMA, AEMA, FEMA	H	2020	Local, State, FEMA	TBD
Severe Wind	SW-1	Adopt and Enforce Building Codes	Mayor, City Council, Building Department	H	2020	Local	TBD
	SW-2	Promote or Require Site and Building Design Standards to Minimize Wind Damage	Mayor, City Council, Building Department, Engineering Department	H	2020	Local	TBD
	SW-3	Assess Vulnerability to Severe Wind	Jefferson County EMA, GIS Department, AEMA, FEMA	H	2020	Local	TBD
	SW-4	Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local, Private	TBD
	SW-5	Retrofit Residential Buildings	Home Owners Associations, FEMA, Engineering Department, Building Department	M	2020	Local	TBD
	SW-6	Retrofit Public Buildings and Critical Facilities	FEMA, Engineering Department, Building Department	H	2025	Local	TBD
	SW-7	Increase Severe Wind	Jefferson County EMA,	H	2017	Local,	TBD



Warrior Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
	Risk Awareness		AEMA, FEMA			State, FEMA
Multiple Hazards	MU-1 Assess Community Risk		Jefferson County EMA, GIS Department, FEMA	H	2018	Local, State
	MU-2 Map Community Risk		Jefferson County EMA, GIS Department, FEMA	H	2025	Local, State, FEMA
	MU-3 Prevent Development in Hazard Areas		Mayor, City Council, Building Department, GIS Department	H	2025	Local
	MU-4 Adopt Development Regulations in Hazard Areas		Mayor, City Council, Planning Department, Zoning Department	H	2025	Local
	MU-5 Limit Density in Hazard Areas		Mayor, City Council, Planning Department, Zoning Department	H	2025	Local
	MU-6 Integrate Mitigation into Local Planning		Jefferson County EMA, Mayor, City Council, Planning Department	H	2016	Local
	MU-7 Strengthen Land Use Regulations		Mayor, City Council, Planning Department, Zoning Department	H	2020	Local
	MU-8 Adopt and Enforce Building Codes		Mayor, City Council, Planning Department, Zoning Department	H	2020	Local
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation		Mayor, City Council, Planning Department, Zoning Department	H	2020	Local
	MU-10 Provide Incentives for Hazard Mitigation		Jefferson County EMA, AEMA, FEMA	H	2020	Local
	MU-11 Monitor Mitigation Plan Implementation		Jefferson County EMA, Mayor, City council	H	Annually	Local
	MU-12 Protect Structures		Fire Department, Planning Department,	H	2025	Local

2014 Jefferson County Multi-Hazard Mitigation Plan
COMMUNITY ACTION PROGRAMS

COMMUNITY PROGRAMS

Warrior Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
	MU-13 Protect Infrastructure and Critical Facilities	City Council Public Works Department, Fire Department	H	2025	Local	TBD
	MU-14 Increase Hazard Education and Risk Awareness	Jefferson County EMA, AEMA, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD
	MU-15 Improve Household Disaster Preparedness	Jefferson County EMA, ADEM, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD
	MU-16 Promote Private Mitigation Efforts	Jefferson County EMA, ADEM, FEMA, Mayor, City Council	H	2017	Local, State, FEMA	TBD



West Jefferson Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
	Emergency preparedness education programs for schools	State Board of Education, School District, Jefferson County EMA, West Jefferson Volunteer Fire Department	H	Ongoing, Annually September	Local, State	No add'l cost
	Drills, exercises in homes, workplaces, classrooms, etc	School District, Fire Department	H	Ongoing, Semi Annual	Local	No add'l cost
	Everbridge Emergency Alert Notifications	Jefferson County EMA, Mayor, Town Council	H	Quarterly Drill with Mayors, Police chief	Local, State	No add'l cost
	Hazard "safety fairs" (Back-To-School Program)	Jefferson County EMA, Fire Department	H	Ongoing, Booths set up at public events annually	Local	No add'l cost
	Hazard conferences, seminars	Jefferson County EMA	H	Ongoing, send out training information using local media and community flyers	Local, State	No add'l cost
	Hazard awareness weeks	Jefferson County EMA, Fire Department, National Weather Service, AEMA	H	Annually	Local, State	No add'l cost
Hazard Specific (Reference: JCHMP,	Preparedness handbooks, brochures.	Jefferson County EMA, AEMA, NWS, FEMA	H	Seasonally	Local, State, FEMA	No add'l cost
	Distribution of severe weather guides, homeowner's retrofit guide, etc					
Actions communities should consider to identify and evaluate a range of potential mitigation actions						



West Jefferson Community Action Program 2014-2019						
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:
Hazard	Action Items					
Mitigation Ideas)	for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk	Birmingham Water Works	M	2020	Local, Private	No add'l cost
	D-2 Monitor Drought Conditions	BWW, Jefferson County EMA, AEMA	M	Seasonally	Local, State	No add'l cost
	D-3 Monitor Water Supply	BWW, Jefferson County EMA, AEMA	H	Continuously	Local, State, FEMA	No add'l cost
	D-4 Plan for Drought	BWW, Jefferson County EMA,	M	2020	Local	TBD
	D-5 Require Water Conservation During Drought Conditions	Town Council, BWW	H	Annually	Local	No add'l cost
	D-6 Retrofit Water Supply Systems	West Jefferson Gas & Water Department	M	2020	Local	TBD
	D-7 Educate Residents on Water Saving Techniques	Jefferson County EMA, BWW, Mayor, Town Council	M	Semi-Annual	Local	No add'l cost
Earthquakes	EQ-1 Protect Critical Facilities and Infrastructure	Jefferson County EMA, Fire Department, Gas & Water Department	H	Ongoing, Annually	Local	TBD
	EQ-2 Increase Earthquake Risk Awareness	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	M	Semi-Annual, Provide FEMA's information to educate citizens	Local, State, FEMA	No add'l cost
	EQ-3 Provide Information on Structural and Non- Structural Retrofitting	Building Inspector, Jefferson County EMA, FEMA	M	2020	Local, FEMA	No add'l cost
Flooding	F-1 Adopt Policies to Reduce Storm water Runoff	Mayor, Town Council	H	2018	Local	No add'l cost
	F-2 Improve Storm water	Gas & Water	H	2025	Local	TBD



West Jefferson Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Hurricanes (See: Severe Wind; Flooding)	F-3 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures	Gas & Water Department	H	2020	Local	No add'l cost
	F-4 Protect Critical Facilities and Infrastructure	Mayor, Town Council, Gas & Water Department	H	Annually	Local	TBD
	ER-1 Increase Awareness of Erosion Hazards	Jefferson County EMA	H	Annually	Local	No add'l cost
Land Slides/Erosion	SU-1 Educate Residents about Subsidence	Jefferson County EMA, AEMA, FEMA	L	Annually	Local, State, FEMA	No add'l cost
Severe Storms						
Tornadoes	T-1 Encourage Construction of Safe Rooms	Mayor, Town Council, Jefferson County EMA, AEMA, FEMA	H	Ongoing, most of the citizens will rely on grant funds to construct safe rooms, some citizens have been placed on waiting list	Local, State, FEMA	TBD
	T-2 Require Wind-Resistant Building Techniques	Mayor, Town Council, Current Building Codes, Jefferson County EMA, AEMA, FEMA	H	2019	Local, State, FEMA	TBD
	T-3 Conduct Tornado Awareness Activities	Mayor, Town Council, Fire Department, Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
Wildfires	WF-1 Create Defensible Space Around Structures and	Fire Department	H	Annually	Local	TBD

West Jefferson Community Action Program 2014-2019							
MITIGATION MEASURES			Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items						
Winter Storms/Freezes (Severe Winter Weather)		Infrastructure					
	WF-2	Conduct Maintenance to Reduce Risk	Home Owners, Fire Department	M	Annually	Local	TBD
	WF-3	Increase Wildfire Risk Awareness	Fire Department, Alabama Forestry Commission	H	Annually	Local, State	No add'l cost
	WF-4	Educate Property Owners about Wildfire Mitigation Techniques	Jefferson County EMA, Alabama Forestry Commission, Fire Department	H	Annually	Local, State	No add'l cost
	WW-1	Adopt and Enforce Building Codes	Mayor, Town Council	H	Annually	Local	No add'l cost
	WW-2	Protect Buildings and Infrastructure	Fire Department	M	Annually	Local	TBD
	WW-3	Protect Power Lines	Alabama Power	H	Annually and as needed	Local, Private	TBD
	WW-4	Reduce Impacts to Roadways	Jefferson County Roads & Transportation Department, Gas & Water Department	M	Working with ALDOT Annually	Local	TBD
	WW-5	Conduct Winter Weather Risk Awareness Activities	Jefferson County EMA	H	Annually	Local	No add'l cost
	WW-6	Assist Vulnerable Populations	Fire Department	H	2016	Local	TBD
Others:							
Extreme Temperatures	ET-1	Increase Awareness of Extreme Temperature Risk and Safety	Jefferson County EMA, AEMA, FEMA	H	Annually	Local, State, FEMA	No add'l cost
	ET-2	Assist Vulnerable Populations	Fire Department	H	2016	Local	TBD
	ET-4	Educate Property Owners About Freezing Pipes	Gas & Water Department	M	Ongoing, Seasonal	Local	TBD



West Jefferson Community Action Program 2014-2019						
MITIGATION MEASURES		Lead Responsibility for Carrying out Measure	Priority	Timeline	Funding Source:	Estimated Cost
Hazard	Action Items					
Hail	HA-1 Increase Hail Risk Awareness	Jefferson County EMA, AEEMA, FEMA	M	Annually	Local, State, FEMA	No add'l cost
	L-1 Protect Critical Facilities and Equipment	Alabama Power	H	Annually	Local, Private	TBD
Lightning	L-2 Conduct Lightning Awareness Programs	Jefferson County EMA, AEEMA, FEMA	H	Annually	Local, State, FEMA	TBD
	SW-1 Adopt and Enforce Building Codes	Mayor, Town Council, Building Inspector	H	2020	Local	TBD
Severe Wind	SW-2 Protect Power Lines and Infrastructure	Alabama Power	H	2020	Local, Private	TBD
	SW-3 Increase Severe Wind Risk Awareness	Jefferson County EMA, AEEMA, FEMA	H	2017	Local, State, FEMA	No add'l cost
Multiple Hazards	MU-1 Promote Private Mitigation Efforts	Jefferson County EMA, AEEMA, FEMA, Mayor, Town Council	H	2017	Local, State, FEMA	TBD

PART 3

APPENDIX A

Acronyms

ADECA	Alabama Department of Community and Economic Affairs
AEMA	Alabama Emergency Management Agency
ARC	American Red Cross
BFE	Base Flood Elevation
CFR	Code and Federal Regulations
CRS	Community Rating System
CSR	Community Safe Rooms
DFIRM	Digital Flood Insurance Rate Map
DR	Disaster number
EMA	Emergency Management Agency
EOC	Emergency Operations Center
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance program
HM	Hazard Mitigation
HMA	Hazard Mitigation Assistance grant program
HMGP	Hazard Mitigation Grant Program
HMP	Hazard Mitigation Plan
HMPC	Hazard Mitigation Planning Committee
IA	Individual Assistance
ISR	Individual Safe Rooms
JC	Jefferson County
JCDH	Jefferson County Department of Health
JCEMA	Jefferson County Emergency Management Agency
NFIP	National Flood Insurance Program
NOAA	National Oceanic and Atmospheric Administration
PA	Public Assistance
PDM	Pre-Disaster Mitigation program
PL	Public Law
RFC	Repetitive Flood Claims program
SFHA	Special Flood Hazard Areas
SRL	Severe Repetitive Loss program
U.S.C.	United States Code

APPENDIX B

Appendix B – Community Mitigation Capabilities

The information contained within for each jurisdiction identifies natural hazards affecting jurisdictions individually and Jefferson County as a whole. The information provides an overview of local capabilities to implement mitigation strategies, and points towards existing gaps or weaknesses that could hinder mitigation activities under consideration in this plan. Consideration of this information along with the jurisdictional Mitigation Actions can help determine the types of mitigation activities these local governments can most readily undertake over their five-year action program framework.

Information in this section includes responses by jurisdictions on their local capability, hazards which have recently affected them, vulnerabilities, critical facilities, and population changes since the last Plan Update.

Adamsville

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 18, 2015

Name of Jurisdiction: City of Adamsville

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Yes
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	Yes
4.	Enforce Building & Technical Codes?	Yes
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Yes
6.	5-6 Year Capital Improvements Plan Updated Annually?	Yes
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Yes
8.	Professional Urban Planner on Staff?	No
9.	Professional Engineer on Staff?	No
10.	Certified Floodplain Manager on Staff?	No
11.	Full-Time Building Inspector on Staff?	No
12.	Regular Member of the NFIP?	Yes

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Here are the results of your search. Click "search again" to see another municipality.

 Search Again

Place	Adamsville
County	Jefferson County
City or town	city
2010 census	4,522
2011	4,497
2012	4,474
2013	4,451
2014	4,435
Change since 2010 census	-1.9%

Source: U.S. Cehsus Bureau – al.com 5/21/15

STATE OF ALABAMA
JEFFERSON COUNTY
CITY OF ADAMSVILLE
RESOLUTION 2015-13

RESOLUTION 2015-13

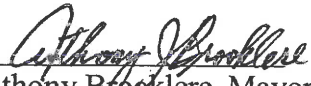
**A RESOLUTION ADOPTING THE CITY OF ADAMSVILLE HAZARD MITIGATION
PLAN**

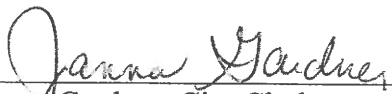
WHEREAS, the City Council of the City of Adamsville acknowledges the significant damage that can result from various acts of nature, and furthermore recognizes the importance of planning for the prevention or lessening of damage from said acts, and

WHEREAS, the City Council of the City of Adamsville, Alabama is desirous of a City plan to aid in mitigating said damage;

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL, to formally adopt the Hazard Mitigation Plan, known hereafter as the "Adamsville Community Action Program 2014-2019."

ADOPTED AND APPROVED this 21st day of May, 2015.


Anthony Brooklere, Mayor Pro Tem

ATTEST: 
Janna Gardner, City Clerk

I, the undersigned qualified City Clerk of the City of Adamsville, Alabama do hereby certify that the above and foregoing is a true copy of a resolution lawfully passed and adopted by the City Council named therein, at a regular council meeting, and that such resolution is on file in the City Clerk's office.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City on this 21st Day of May, 2015


Janna Gardner, City Clerk

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																							
Wildfires																								
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><thead><tr><th>Name</th><th>Landfall</th><th>Max Status</th><th>Max Wind (Knots)</th></tr></thead><tbody><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></tbody></table>								Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																							
Landslides																								
Sinkholes																								
Earthquakes	<p>Adamsville, AL has a low earthquake risk, with a total of 38 earthquakes since 1931. The USGS database shows that there is a 2.80% chance of a major earthquake within 50km of Adamsville, AL within the next 50 years. The largest earthquake within 30 miles of Adamsville, AL was a 4.8 Magnitude in 1999.</p> <p>Risk Level: Low</p>																							
Dam/Levee Failure																								



Search Twitter



EMAJeffersonCoAL

@EMAJeffCoAL



Following

Adamsville Severe Weather preparedness event; thanks for your input on hazard mitigation. 110 attended.



8:12 PM - 7 Apr 2015



Reply to @EMAJeffCoAL

Bessemer

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Tuesday, December 01, 2015**

Name of Jurisdiction: **City of Bessemer**

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	Y
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N
--	---

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
 - **August 2011 100+ Residential Units (Unknown Value)**
 - **April 2014 62 Residential Units (Unknown Value)**
- Tornadoes
 - **2014 EF2 Damage Value \$4,019,816.36**
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

Bessemer Utilities Water System

Bessemer Utilities Electrical System

6 Fire Stations

Emergency Operations Center (Public Safety

Bessemer Police Department and Jail

UAB West Medical Center – 300 Bed Hospital

Bessemer City Municipal Building

Jefferson County Court House

Oak Trace Nursing Home

Meadow Wood Nursing Home

Oaks on Parkwood Senior Living

Jess Lanier Manor

Bessemer has a substantial population of the economically disadvantaged who lack transportation and or disaster preparedness capabilities.

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

3 Residential Properties

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Bessemer City Hall
1800 3rd Ave N
Bessemer Alabama

Bessemer Fire Department Administration
1111 2nd Ave N
Bessemer Alabama

Bessemer Fire Station 1
800 18th St N
Bessemer Alabama

Bessemer Fire Station 2
1124 Hall Ave
Bessemer Alabama

Bessemer Fire Station 3
2316 Morgan Road
Bessemer Alabama

Bessemer Fire Station 4
495 Flint Hill Rd. S.W.
Bessemer Alabama

Bessemer Fire Station 5
1715 Long 12th Street
Bessemer Alabama

Bessemer Police Department
23 15th St. N
Bessemer Alabama

Bessemer Emergency Operations Center

651 9th Ave S.W.

Bessemer Alabama

Bessemer Street Department

1205 15th Ave N

Bessemer Alabama

Bessemer City Shop

1125 15th Ave N

Bessemer Alabama

Bessemer Utilities (Electric & Water)

1600 1st Ave N

Bessemer Alabama

UAB Medical West Hospital

995 9th Ave SW

Bessemer Alabama

Rural Metro Ambulance

5600 Shirley Park Dr

Bessemer Alabama

Shoals Ambulance

1110 Greenwood Crossings Ct

Bessemer Alabama

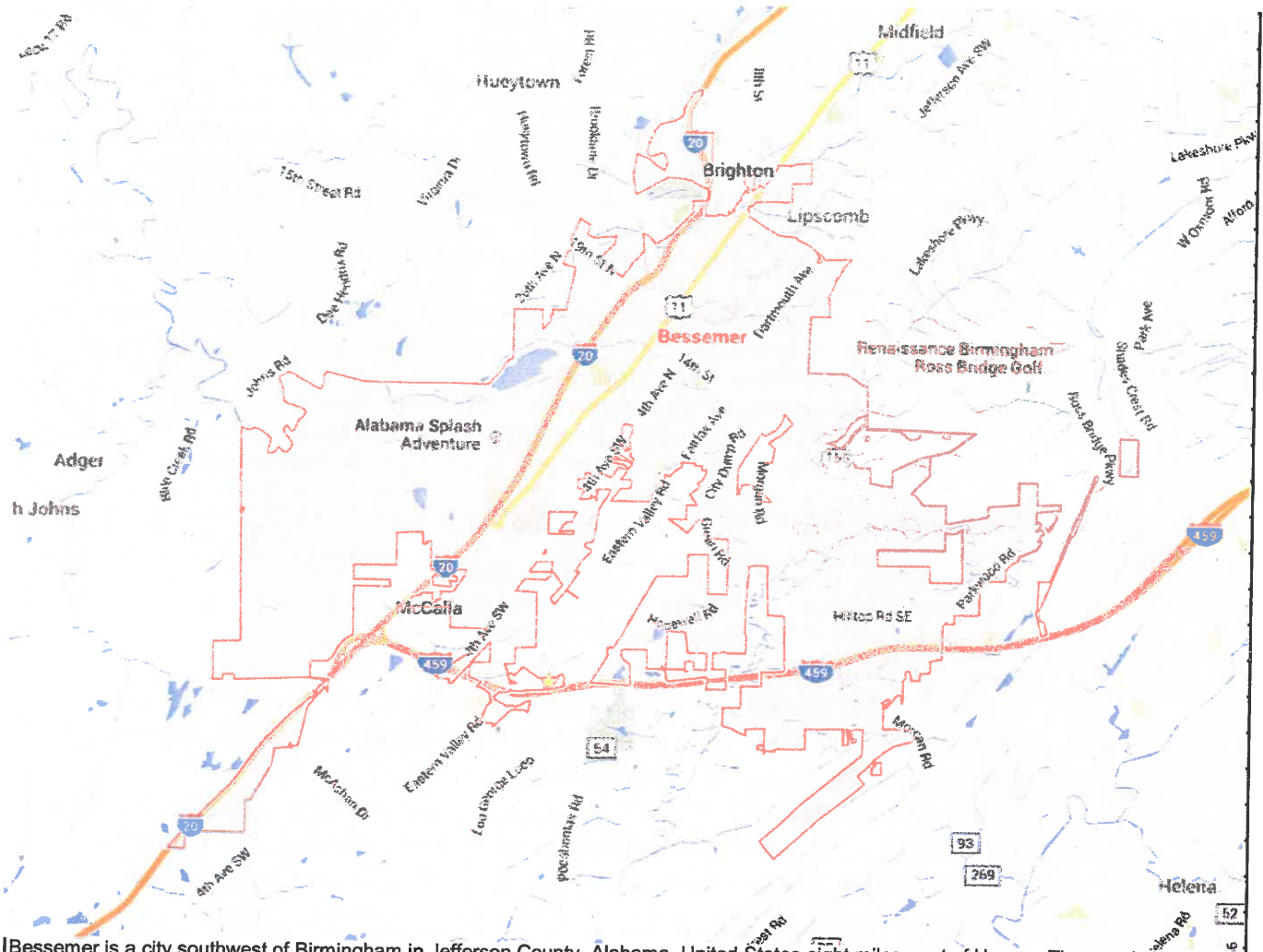
NorthStar Ambulance

2212 19th St N

Bessemer Alabama

Place	Bessemer
County	Jefferson County
City or town	city
2010 census	27,456
2011	27,360
2012	27,215
2013	27,042
2014	26,949
Change since 2010 census	-1.8%

Source: U.S. Census Bureau – al.com 5/21/15



Bessemer is a city southwest of Birmingham in Jefferson County, Alabama, United States eight miles west of Hoover. The population was 27,456 at the 2010 Census.

Flooding

- Sept. 5, 2011; Tropical Storm Lee; 21st Avenue in the Pipe Shop community of Bessemer, Ala., is flooded as the remnants of tropical storm Lee made its way through the area bringing strong winds and heavy rains.
 - Bessemer Fire Department personnel check on a partially submerged car at 1st Street at 4th Avenue in Bessemer, Ala., Monday, Sept. 5, 2011 as the remnants of tropical storm Lee made its way through the area bringing strong winds and heavy rains.
- Sep 6, 2011 ... Bessemer, Alabama - Heavy rains from tropical storm Lee flooded the Sunset Homes apartments in Bessemer. The Bessemer Housing Authority has decided to demolish a 124-unit housing community that was damaged by severe flooding. About 35 families that had called the complex home already have moved. About 30 units in the Sunset Homes community suffered serious damage when floodwaters rose from nearby Valley Creek following Tropical Storm Lee, and another 80 units received less serious water damage. Only about 10 units were not damaged during the flood.
- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

Tornadoes	<ul style="list-style-type: none">• April 28, 2014; Bessemer EF-2 tornado; National Weather Service meteorologists surveyed damage in Bessemer and have determined that the damage is consistent with an EF-2 tornado. Maximum winds were estimated to be 120 mph. The tornado touched down near Academy Drive. It then traveled to the northeast, snapping and uprooting dozens of trees along its path. In addition, dozens of homes had trees down on them just to the northeast of Academy Drive. The tornado intensified as it neared the Frank House Municipal Golf Course where the clubhouse was destroyed. The tornado continued on its northeast path, snapping and uprooting hundreds of trees. Several homes and an apartment complex experienced minor roof damage near Memorial Drive. The tornado continued to the northeast as it paralleled 4th Avenue North. Hundreds of trees were uprooted before it lifted near the intersection of Dartmouth Avenue and 32nd Street South. More details may be added later.• October 14, 2012; Bessemer EF 0 Tornado; An EF-0 tornado touched down just west of the Bessemer Airport and just east of Paradise Lane and County Road 6. The tornado moved to the east-northeast, just south of County Road 6, where a few trees were snapped. The tornado lifted just to east of Lindsey Drive. A debris signature on radar helped to determine the location of the path. Maximum sustained winds were estimated to be 65 mph. An upper level trough over the Ohio Valley and associated weak cold front caused thunderstorms to develop over Mississippi during the late afternoon. These storms moved into central Alabama during the evening and overnight hours. There was just enough wind shear for an isolated tornado to form just after midnight.							
Severe Storms	<ul style="list-style-type: none">• 0811 PM HAIL BESSEMER 33.38N 86.96W 10/24/2010 E0.50 INCH JEFFERSON AL BROADCAST MEDIA• 1056 PM HAIL OAK GROVE 33.46N 87.15W 10/24/2010 E1.00 INCH JEFFERSON AL BROADCAST MEDIA• Sept. 5, 2011; Tropical Storm Lee; 21st Avenue in the Pipe Shop community of Bessemer, Ala., is flooded as the remnants of tropical storm Lee made its way through the area bringing strong winds and heavy rains.• Bessemer Fire Department personnel check on a partially submerged car at 1st Street at 4th Avenue in Bessemer, Ala., Monday, Sept. 5, 2011 as the remnants of tropical storm Lee made its way through the area bringing strong winds and heavy rains.							
Winter Storms	<p>Jan. 28, 2014, as snow fell, melted on roads and then refroze, paralyzing most major thoroughfares and stranding thousands in central Alabama didn't bring a whole lot of snow with it. In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. The National Weather Service says some places saw a quarter inch of ice accumulation.</p> <p>Feb. 12-13, 2014: The biggest snowstorm of the year in terms of accumulated powder. This storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north.</p> <p>25, 2015 Historic winter storm, preliminary Snowfall reports... S BESSEMER 0.7 IN February</p>							
Wildfires								
Hurricanes	Bessemer, AL is in a high risk hurricane zone. 29 hurricanes have been recorded in the Bessemer, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Bessemer, AL hurricane was Lee in 2011.							
Droughts/Heat Waves	July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.							
Landslides								
Sinkholes								

Davis, Annette

From: Coker, James
Sent: Monday, May 18, 2015 1:32 PM
To: Davis, Annette
Subject: Bessemer

On the Bessemer City website:

PUBLIC HEARING SET TO DISCUSS CITY'S MULTI-HAZARD MITIGATION PLAN

The city of Bessemer will be having a public hearing on May 21 to discuss its Hazard Mitigation Plan.

The public hearing will take place at 6 p.m. in the City Hall Auditorium, 1801 Third Avenue North.

The city of Bessemer, in conjunction with the Jefferson County Emergency Management Agency, is updating its five-year Multi-Hazard Mitigation Plan.

In order to complete the plan, citizen input is needed.

Please make plans to attend this event.

** Jim Coker to attend.*

Birmingham

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date:

12-4-15

Name of Jurisdiction:

City of Birmingham

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	Y
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?

6

Strategy Development

The City of Birmingham (COB) used an open, public process to prepare its mitigation actions. City of Birmingham formed its own Stakeholders Committee consisting of fire personnel, police personnel, local businesses, environmental groups, school representative, neighborhood leaders and residents, regional organization representative and others. The City conducted meetings with residents, municipal officials, including Jefferson County Emergency Management Agency (EMA) Coordinators, City Planners and other key Stakeholders to understand natural hazards and the damaging effects asked that Stakeholders complete the Jefferson County Citizen Input Form and provided information related to existing codes and ordinances, the risks and impacts of known hazards, and recommendations for related mitigation opportunities.

Furthermore, the City participated in EMA work sessions and in progress-review meetings which required two representatives from each municipality to attend. At each of the public meetings, municipal officials were strongly encouraged to submit Citizens Input for Hazard Mitigation Forms, complete their respective portions of the assessment, and review and adopt the Multi-Jurisdictional Hazard Mitigation Plan.

The pinnacle to the municipal involvement process will be the adoption of the final Jefferson County Multi-Jurisdictional Hazard Mitigation Plan. Once the Multi-Jurisdictional Hazard Mitigation Plan is completed, the Steering Committee will prepare draft resolutions and coordinate the adoption process with the County's municipalities.

Below are the various meetings conducted by EMA and COB:

HMP	Meeting Topic	Meeting Date	Host
1	Introduction to DMA/Kick Off meeting	2/20/2015	County EMA
2	Hazard Identification Introduction	3/2/2015	County EMA
3	Risk and Capability Assessment overview/ Developing Mitigation Goals and Objectives	3/20/2015	County EMA
4	Local Multi-Hazard Jurisdictional Community Meeting	4/24/2015	COB
5	Public Meeting (Village Creek Human Society Fundraiser)	5/7/2015	COB
6	Reviewed Possible Mitigation Activities/Actions	5/22/2015	COB
7	Reviewed Developing Mitigation Recommendations	5/27/2015	COB

Strategies

The below strategies focus on existing and potential mitigation actions that will mitigate the effects of natural hazard events on Birmingham's City's population, infrastructure, economy, and property.

Mitigation Strategy Approach

1. Establish mitigation goals and objectives that aim to reduce or eliminate Birmingham's long-term vulnerability to natural-hazard events.
2. Identify and analyze a comprehensive range of hazard-specific mitigation actions that aim to achieve the goals and objectives of the Mitigation Strategy.
3. Describe how Birmingham will prioritize, implement, and administer mitigation actions.

FEMA Requirements Addressed in this Section

The City of Birmingham's Technical Advisory Committee (sub-committee of the Stakeholders Committee) developed suggested mitigation strategies consistent with the process and steps presented in the Federal Emergency Management Agency's (FEMA) How-To-Guide: Developing the Mitigation Plan (FEMA 386-3) and set forth goals and strategies.

The goals and objectives below will provide the necessary framework to assist the Stakeholders in developing a mitigation strategies and actions. Birmingham will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent Birmingham's hazard mitigation priorities.

Goal 1: Protect Public Health and Safety

Objectives

- Improve systems that provide warning and emergency communications.
- Reduce the impacts of hazards on vulnerable populations.
- Strengthen state and local building code enforcement.
- Train emergency responders.

Goal 2: Protect Property

Objective

- Implement mitigation programs that protect critical facilities and services and promote reliability of lifeline systems to minimize impacts from hazards, maintain operations, and expedite recovery in an emergency.
- Consider known hazards when identifying a site for new facilities and systems.
- Create redundancies for critical networks such as water, sewer, digital data, power, and communications.
- Adopt and enforce public policies to minimize hazard impacts on buildings, infrastructure, and neighborhoods and enhance safe construction in high hazard areas.

- Integrate new hazard and risk information into building codes and land use planning mechanisms.
- Educate public officials, developers, realtors, contractors, building owners, and the public about hazard risks and building requirements.
- Promote appropriate mitigation actions for all public and privately owned property within the City's jurisdiction including, but not limited to, residential units, commercial structures, educational institutions, healthcare facilities, cultural facilities, and infrastructure systems.
- Incorporate effective mitigation strategies into Birmingham's capital improvement projects.
- Promote post-disaster mitigation as part of restoration and recovery.
- Promote the zoning and flood ordinance.
- Develop, promote, and integrate mitigation action plans.
- Promote relocation of at risk structures.
- Take advantage of acquisition projects.
- Require the elevation of structures or retrofitting.
- Promote private insurance policies and participation.

Goal 3: Promote a Sustainable Economy

- Form partnerships to leverage and share resources.
- Continue critical business operations.
- Partner with private sector, including small businesses, to promote structural and non-structural hazard mitigation as part of standard business practice.
- Educate businesses about citywide contingency planning, targeting small businesses and those businesses located in high-risk areas.
- Partner with private sector to promote employee/employer education about disaster preparedness while at work and at home.
- Promote the awareness of flood insurance.
- Facilitate accurate insurance ratings.
- Reduce flood losses.

Goal 4: Protect the Environment

- Develop hazard mitigation policies that protect the environment.
- Promote climate change adaptation strategies that mitigate the long-term effects of natural hazards on the environment.

Goal 5: Increase Public Preparedness for Disasters

- Enhance understanding of natural hazards and the risks they pose.
- Improve hazard information, including databases and maps.
- Improve public knowledge of hazards and protective measures allowing individuals to appropriately prepare for and respond to hazard events.
- Involve stakeholders to enhance the local capacity to mitigate, prepare for, and respond to the impacts of natural hazards.
- Promote public understanding of and support for hazard mitigation.

Technical Advisory Committee Members:

City of Birmingham Floodplain Management and Disaster Mitigation Team (5 representatives)

Stakeholders Committee:

Representative City of Birmingham Fire
Representative City of Birmingham Police
Representative City of Birmingham Economic Development Department
All Members of Technical Advisory Committee
Representative from Regional Planning Commission of Greater Birmingham
Representatives from Local Consultant Firm
Representative from United States Army Corps of Engineers
Representative from City of Birmingham School
Representative from Local Business/Commercial Group
Representative from Jefferson County
Representative from Birmingham Planning Commission
Representative from Village Creek Society
Representative from Cahaba River Society
Representatives from Birmingham's 23 Communities (which consist of 99 neighborhoods)
Representatives from City of Birmingham Department of Planning, Engineering & Permits
Representative from City of Birmingham Public Works Department
Representative from Human Health
Representatives from Neighborhood Community
Representatives from Birmingham Airport
Representatives from Birmingham Business Alliance

Title: Stakeholder Committee Email Address

Revell, Edwin <Edwin.Revell@birminghamal.gov>; Gray, Amber L <Amber.Gray@birminghamal.gov>; Thomas, Katrina R. <Katrina.Thomas@birminghamal.gov>; 'Davis, Annette' <davisa@jccal.org>; Lupo, Don T. <Don.Lupo@birminghamal.gov>; Bittas, Andre V. <Andre.Bittas@birminghamal.gov>; Hawkins, Fred T. <Fred.Hawkins@birminghamal.gov>; Hatcher, Christopher <Christopher.Hatcher@birminghamal.gov>; Magee, Tom <Tom.Magee@birminghamal.gov>; Miller, Thomas H. <Thomas.Miller@birminghamal.gov>; Menifield, Alfred <Alfred.Menifield@birminghamal.gov>; Cooper, Lisa D. <Lisa.Cooper@birminghamal.gov>; 'martinezgrouppinc@hotmail.com'; 'francesca.gross@tnc.org'; Colon, John G <John.Colon@birminghamal.gov>; 'malert@rpcgb.org'; 'jray@flybirmingham.com'; 'wrobertson@monumentals.com'; 'yohancevilcreek@yahoo.com'; 'William Thomas' <wthomas@schoel.com>; Brian Ruggs (brian.ruggs@arcadis-us.com); 'ELOVE@bhm.k12.al.us'; 'RMORGAN@bhm.k12.al.us'; 'Corey.Garyotis@adeca.alabama.gov'; 'Don.Gaylor@bessemeral.org'; Brooks, Christopher A. <ChristopherA.Brooks@birminghamal.gov>; 'LaDart, Meredith H' <Meredith.H.LaDart@usace.army.mil>; 'idah1201@aol.com'; 'cre' <crestlineneighborhoodassociation@aol.com>; 'francesca.gross@tnc.org'; 'Tricia Sheets' <TriciaS@CahabaRiverSociety.org>; 'Ryan.Parker@freshwaterlandtrust.org'; 'wjackson@birminghambusinessalliance.com'; 'art_grayson@yahoo.com'; 'blackmoniori@bellsouth.net'; 'sammu@att.net'; 'butler0950@att.net'; 'sedwards004@bham.rr.com'; 'reazin2005@yahoo.com'; 'bgodbolt89@gmail.com'; 'kdkaren227@yahoo.com'; 'cain3abel@aol.com'; 'lewi6090@bellsouth.net'; 'eburks1504@bellsouth.net'; 'sigersharris@bellsouth.net'; 'tzgidden@bellsouth.net'; 'brummitthgths@aol.com'; 'wpbstreet@aol.com'; 'simsdora@att.net'; 'myratarver@aol.com'; 'rgb@burtonandassociatesllc.com'; 'susanpalmer42@gmail.com'; 'williesheats2@yahoo.com'; 'moonvioleteg@aol.com'; 'LeroyBandy47@bellsouth.net'; 'ehwhite@bham.rr.com'; 'lastbailbond@yahoo.com'; 'madelyn_welch@yahoo.com'; 'chesterwallace@bellsouth.net'; 'dperrymanroyal@yahoo.com'; 'joey.kiker@gmail.com'; 'ahunt@bham.rr.com'; 'crestlineneighborhoodassociation@aol.com'; 'doquinn@uab.edu'; 'winterdr@hotmail.com'; 'emilypschultz@gmail.com'; 'liz-jimmurray@mindspring.com'; 'sparksvolker@aol.com'; 'emily@pollock-home.com'; 'Athomas1@bham.rr.com'; 'wleumas@aol.com'; 'armeliaharville001@gmail.com'; 'amieevans32@gmail.com'; 'ed1eaton@hotmail.com'; 'doris.jones75@att.net'; 'debraderamus54@yahoo.com'; 'gwencook1bibb@yahoo.com'; 'mack.thresa53@yahoo.com'; 'aaishamuhammad@bellsouth.net'; 'coachdrake2001@yahoo.com'; 'stella2hill@att.net'; 'walt7@yahoo.com'; 'afrika_iff_intl@yahoo.com'; 'wrig39@bellsouth.net'; 'kensj@uab.edu'; 'tdiltz@aol.com'; 'adrienne.reynolds@bhsala.com'; 'Jvpasya@gmail.com'; 'Enonridgena@aol.com'; 'Lynette_peters@yahoo.com'; 'jqaka49@aol.com'; 'juliette.dowdell@yahoo.com'; 'dannymitchell11051@gmail.com'; 'jaise28@gmail.com'; 'sperdue@uabmc.edu'; 'info@fivepointsbham.com'; 'Info@fivepointsbham.com'; 'shf@spain-gillon.com'; 'jeffmcgeeFPSA@aol.com'; 'jay.smith@campbellguin.com'; 'tiffanyridge#1@gmail.com'; 'owen512000@yahoo.com'; 'rlmcarl@bellsouth.net'; 'teemommy@aol.com'; 'evannebatain@hotmail.com'; 'barbaraandros@gmail.com'; 'scapps5374@aol.com'; 'cawlms@aol.com'; 'rlongwilson@yahoo.com'; 'bjmarthella@yahoo.com'; 'willinebody@gmail.com'; 'X2RLITT@southernco.com'; 'angelcross1261aj@gmail.com'; 'rayjaylon@ymail.com'; 'mondaycatherine@att.net'; 'stormigirl.bb@gmail.com'; 'mzgwncalhoun@gmail.com'; 'helewis99@gmail.com'; 'mcconicoc@aol.com'; 'jbrown34@bham.rr.com'; 'djhadden@aol.com'; 'johnsonstt@bellsouth.net'; 'kpjmmettaupimg@yahoo.com'; 'carolyncauthen@bellsouth.net'; 'matthewperryjrs@yahoo.com'; 'san723@bellsouth.net'; 'blitzu@bellsouth.net'; 'plawhorne@att.net'; 'jbrown96@bham.rr.com'; 'lfckingstonneighborhood@yahoo.com'; 'sosoclanton@bellsouth.net'; 'jeanettethreatt@msn.com'; 'masoncityna@gmail.com'; 'Johnwford1@hotmail.com'; 'brandi.life@yahoo.com'; 'behorne@bellsouth.net'; 'jimmie.coleman008@gmail.com';

BIRMINGHAM COMMUNITY CRITICAL FACILITIES

Contact Information and Procedures

A critical facility is defined as a local (non-State or Federal) facility or infrastructure in either the public or private sector that provides essential products and services to the general public, such as preserving the quality of life in Jefferson County and the City of Birmingham and fulfilling important public safety, emergency response, and disaster recovery functions. Loss of some of the critical facilities would result in a severe economic or catastrophic impact and would affect the County's ability to provide essential services during all natural hazards which includes threats of flooding, drought, earthquakes, severe winter weather, tornados, wildfires, heat waves, infectious diseases, influenza, and foreign animal diseases. Jefferson County's Emergency Management Staff is in constant communication with these critical facilities during the initial notice and eminent threat of natural disasters. The critical facilities of concern during natural hazards/threats include but are not limited to the following:

- Government facilities (i.e. departments, agencies, and administrative offices)
- Emergency response facilities (i.e. police, fire, and the Emergency Operations Center)
- Educational facilities
- Medical and Care facilities, such as hospitals, nursing homes, continuing care retirement facilities and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a hazard event
- Community gathering places, such as parks, museums, libraries, and senior centers
- Public and private utilities and infrastructure vital to maintaining or restoring normal services to areas damaged by hazard events
- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic, and/or water-reactive materials

Jefferson County /Birmingham List of General Critical Facilities

Critical Facility	Operators	Number	Address
Government Facilities			
Adult Vocational Rehab Services	Commissioner's Staff	(205) 930-3200	1717 6 th Ave S Birmingham , AL 35233
Air National Guard	Operations Officer	(205) 714-2000	5401 East Lake Blvd Birmingham, AL 35217
AL State Trooper	Post Captain	(205) 322-4691	908 Bankhead Hwy W Birmingham, AL 35204
Alabama AIDS Outreach	Director	(205) 322-4197	115 4 th Ave S Birmingham, AL 35205
Army National Guard	Operations Officer	(205) 808-3300	5700 East Lake Blvd Birmingham, AL 35217
Department of Human Resources – Birmingham Office	Director	(205) 945-3700	11 West Oxmoor Rd #100 Birmingham, AL 35209
Birmingham Board of Education – City Schools Administration	Superintendent	(205) 431-4600	2015 Park Place Birmingham, AL 35203
Birmingham Eastern Landfill	Director of Public Works	(205) 655-3391	2787 Alton Road Birmingham, AL 35210
Birmingham Equipment Management	Director	(205) 254-6348	515 6 th Ave S Birmingham, AL 35205
Birmingham Housing Authority	Executive Director	(205) 324-0641	1826 3 rd Ave S Birmingham, AL 35233
Birmingham Forestry Department		(205) 322-4533	820 18 th St N Birmingham, AL 35203
Birmingham Parking Authority	Administrative Office	(205) 254-8057	1732 5th Ave N, Birmingham, AL 35203
Federal Bureau of Investigation	Operator	(205) 326-6166	1000 18 th St N Birmingham, AL 35203
Electricity			
Alabama Power Company	Administrative Office	(205) 226-0353	600 18 th St N
Oil and Natural Gas			
Alabama Gas Company	Administrative Office	(205) 326-8190	605 Richard Arrington Jr Blvd N
Dams			
Birmingham Water Works and Sewer	General Manager	(205) 244-4000	3600 1st Ave N, Birmingham, AL 35222
East Lake Park	Director of PEP	(205) 254-2391	8329 3RD AVE N Birmingham, AL 35206
Jefferson County Emergency Service Providers			
Emergency Operations Center	EOC Staff	(205)254-2039	709 19 th St N

Critical Facility	Operators	Number	Address
Roadways, Bridges, etc.			
Alabama Department of Transportation	Operations Chief	(205) 328-5820	1020 Bankhead Hwy W
Local Public Works Departments	Director of Public Works	(205) 254-6316	501 6th Ave S
Mass Transit			
Birmingham/Jefferson County Transit Authority	Director	(205) 521-0161	1735 Morris Ave
ClasTran Para-transit Transportation	Director	(205) 325-8787	2121 Reverend Abraham Woods Jr Blvd Ste 1100
Aviation			
Birmingham International Airport	Planning Director	(205) 595-0533	5900 Messer Airport Hwy
Railway Systems			
Amtrak	Operator	(205) 324-3033	1819 Morris Ave
Norfolk Southern Group	Operator	(205) 326-8051	2901 1st Ave S
Birmingham Southern Railroad Company	Operator	(205) 783-2730	1000 Lexington St

Critical Facility	Operators	Number	Address
Hospitals			
Birmingham VA Medical Center	BVAMC Director	(866) 487-4243	700 South 19th Street Birmingham, AL 35233
Baptist Medical Center Princeton	Director	(205) 783-3000	701 Princeton Ave SW, Birmingham, AL 35211
University of Alabama at Birmingham Hospital	Director	(205) 934-3411	1802 6th Ave S Birmingham, AL
Brookwood Medical Center	Director	(205) 877-1000	2010 Brookwood Medical Center Dr, Birmingham, AL 35209
Callahan Eye Foundation Hospital	Director	(205) 325-8100	1720 University Blvd, Birmingham, AL 35233
Children's Hospital	Director	(205) 638-9100	1600 7th Avenue South Birmingham, Alabama 35233
Cooper Green Mercy Hospital	Director	(205) 930-3200	1515 6th Ave S, Birmingham, AL 35233
Healthsouth Lakeshore Rehabilitation Hospital	Director	(205) 868-2000	3800 Ridgeway Dr, Birmingham, AL 35209
Hill Crest Behavioral Health Services	Director	(205) 833-9000	6869 5th Ave S, Birmingham, AL 35212
St. Vincent's East	Director	(205) 838-3000	50 Medical Park Dr E, Birmingham, AL 35235
Medical West; Affiliate of UAB Health Systems	Director	(205) 481-7000	995 9th Ave SW Bessemer, AL 35022
St. Vincent's Hospital	Director	(205) 939-7000	810 St Vincents Dr, Birmingham, AL 35205
Trinity Medical Center	Director	(205) 592-1000	800 Montclair Rd, Birmingham, AL 35213
UAB Highlands	Director	(205) 934-4011	1201 11th Ave S Birmingham, AL
Jefferson County Department of Health (JCDH)	Director	(205) 933-9110	1400 6th Ave S Birmingham, AL
Veterinarian Services			
Greater Birmingham Humane Society	Director	(205) 942-1211	300 Snow Drive

Critical Facility	Operators	Number	Address
Emergency Medical Services			
Birmingham Regional Emergency Medical Services System (BREMSS)	BREMSS Staff	(205) 934-2595	1114 16th St S, Birmingham, AL 35205
Local Fire/EMS Departments			
The Birmingham Fire and Rescue Service	Chief Charles E. Gordon, Jr	205-254-2995	1808 Seventh Avenue North
Local Nursing Homes			
Fair Haven	Director	(205) 956-4150	1424 Montclair Rd, Birmingham, AL 35210
Arlington Rehabilitation	Director	(205) 788-6330	1020 Tuscaloosa Ave Birmingham, AL 3
Birmingham Nursing and Rehab Center	Director	(205) 798-0621	1000 Dugan Avenue Birmingham, AL 35214
Estes Oaknoll Nursing Home	Director	(205) 782-6147	824 6th Ave W Birmingham, AL 35204
Hanover Place	Administrator	(205) 933-1828	39 Hanover St S Birmingham, AL 35205
North Way Health and Rehabilitation	Director	(205) 328-5870	1424 25th Street North Birmingham, AL 35234
St. Martin's in the Pine	Facility Manager	(205) 956-9440	4941 Montevallo Road Birmingham, AL 35210
Coroner's Office			
Jefferson County Coroner's Office	Coroner's Staff	(205) 930-3603	Cooper Green Hospital 1515 Sixth Avenue South Room 205 Birmingham, AL 35233
American Red Cross (ARC)			
American Red Cross – Mid Alabama Chapter	ARC Staff	(205) 795-8700	114 22nd St S Birmingham, AL 35233
Communications			
AT&T	Operator	(205) 321-2524	600 19th Street North Birmingham, AL 35202

This list is updated annually

Total of 97 RLP reported by the ISO
33 are considered repetitive loss since 2009

2015 Repetitive Loss Properties

9 Properties in ORANGE are Buy-Out Properties

Address	Claimant	Number of Losses	City Limits	Insured	Rep Loss Since 2009	Notes	Structure on Property	Buy-Out
728 N 31st St, Birmingham AL 35203	Kurt's Truck and Part Co	3	Yes	No	N/A		Yes	
1001 33rd St, Birmingham AL 35221	Melinda A & WI Crowder	4	Yes	No	N/A		Yes	
3216 Lee Court, Birmingham AL 35203	Carl Ellis	3	Yes	No	N/A		Yes	
1800 3rd St W, Birmingham AL 35204	Consolidated Pipe & Supply Co	4	Yes	No	N/A		Yes	
3641 10th Ave N, Birmingham AL 99999	Motive MFG DIV	2	Yes	No	N/A	No GIS	No GIS	
3205 Lee Ave SW, Birmingham AL 35221	Eric Woods	6	Yes	Yes	YES		Yes	
4028 Morris Ave, Birmingham AL 35222	Eaners Incsanitary Rug CL	3	Yes	No	N/A		Yes	
1470 Marlin Springs RD, Birmingham AL 35215	Scott & Cynthia Oby	6	Yes	No	N/A		Yes	
1308 9th St, Birmingham AL 35214	Jerry Burton	3	Yes	No	N/A		Yes	
4381 Moundaindale RD, Birmingham AL 35213	Robert Waudby	2	Yes	Yes	NO		Yes	
4148 Stone River RD, Birmingham AL 35213	Richard J Hydinger Hydinger Rich	2	No	No	N/A		N/A	
4321 Warren RD, Birmingham AL 35213	Miriam Jackson McClung	3	Yes	Yes	YES		Yes	
4409 Mountain Dale Rd, Birmingham AL 35213	Thomas M Morrison	4	Yes	Yes	YES		Yes	
4324 Mountaindale RD, Birmingham AL 35213	John Hennessy	3	Yes	Yes	YES		Yes	
4363 Mountaindale RD, Birmingham AL 35213	Wayne & Beth Hutcheson	4	Yes	Yes	YES		Yes	
209 Cheyenne Blvd, Birmingham AL 35215	Omer Timothy W Montg	3	Yes	No	N/A		Yes	
3112 28th Ave N, Birmingham AL 35207	Edward L Torrence	2	Yes	No	N/A		Yes	Yes
2120 Green Springs Hwy S, Birmingham AL 35205	Lee & Kitchens	5	Yes	No	N/A	No GIS	Yes	
5637 Crestwood Blvd, Birmingham AL 35212	Sfrances B Wood	2	Yes	No	N/A		Yes	
213 Cheyenne Blvd, Birmingham AL 35215	Diane Marbury	3	Yes	No	N/A		Yes	
7524 3D Ave N, Birmingham, AL 35206	Eddie J Walker	7	Yes	Yes	YES	3D = 3rd	Yes	
8707 Parkway E, Birmingham AL 35206	Walls Inca & K Floors & Walls In	3	Yes	No	N/A		Yes	
3624-4210 10th Ave N, Birmingham AL 35202	PlyBirmingham Fastener & Sup	3	Yes	No	N/A	No GIS	No GIS	
304 83rd St N, Birmingham AL 35206	Theron E Waldrop	4	Yes	No	N/A		Yes	
3217 Lee Ct SW, Birmingham AL 35222	Ronnie T Burrell	4	Yes	Yes	YES		Yes	
3225 Beulah Ave. SW, Birmingham AL 35222	Sher Kannar	3	Yes	Yes	YES		Yes	
50 Main St, Mountain Brook AL 35213	Alice Brown	3	No	No	N/A		N/A	
241 13th Ave NE, Birmingham AL 35215	Roderick & Alf Madison	2	Yes	No	N/A		Yes	
237 13th Ave NE, Birmingham AL 35215	Edward Charles Cherry	2	Yes	No	N/A		Yes	
257 13th Ave NE, Birmingham AL 35215	Karmen Carey	2	Yes	Yes	NO		Yes	
50 McDonald St, Birmingham AL 35217	OSouthern Welding Supply C	2	Yes	Yes	NO	No GIS	No GIS	
4100 68th St N, Birmingham AL 35206	Sidney James Smothers	2	Yes	No	N/A		Yes	Yes
1520 Lake Site Dr, Birmingham AL 35235	Bess Y Dees, Bess Y	2	Yes	Yes	NO		Yes	
509 8th St, Birmingham AL 35217	Linda Duke Visser	2	No	No	N/A	No GIS	N/A	
7527 5th Ave N, Birmingham AL 35206	Bobbie J Bland	2	Yes	Yes	NO		Yes	
6 16th Ave W, Birmingham AL 35204	Sharon Combs Pugh	3	Yes	No	N/A		No	Yes
445 Camellia Rd, Birmingham AL 35215	Kenneth Strickland	3	Yes	No	N/A		Yes	Yes
1012 Shelton St, Birmingham AL 35215	Elizabeth D Buchholz, Elizabeth	2	Yes	No	N/A		Yes	
1101 Cheyenne Blvd, Birmingham AL 35215	Barbara J Grant	2	Yes	No	N/A		Yes	

8 in yellow are out of city limits
40 with out flood insurance

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9 Properties in ORANGE are Buy-Out Properties

2015 Repetitive Loss Properties

7713 4th Ave N, Birmingham AL 35206	Frank and Terri Coggins Jr	2	Yes	No	N/A	No	Yes
6442 Old Bradford RD, Pinson AL 35216	Jeffrey & Lynda Walden	2	No	No	N/A	N/A	N/A
8420 1st Ave N, Birmingham AL 35206	Assumed Condominium Building	4	Yes	Yes	YES	Yes	Yes
1036 Park Pl, Birmingham AL 35215	Kim H Willingham	2	Yes	No	N/A	No	Yes
1525 Springville RD, Birmingham AL 35215	John L Stathers	2	Yes	No	N/A	Yes	
2 S 41st St, Birmingham AL 35222	Assumed Condominium Building	4	Yes	No	N/A	2 41st St S	Yes
9952 Parkway E, Birmingham	Michael Moo	3	Yes	Yes	YES	Yes	
Main Plant 1800 3rd St W, Birmingham AL 35204	Y Inconsolidated Pipe & Suppl	3	Yes	No	N/A	Yes	
4281 Main St, Pinson AL 35216	Gary Buchanan	4	No	Yes	N/A	N/A	N/A
1622 41st W Ensley, Birmingham AL 35208	Belinda Jackson	2	Yes	No	N/A	Yes	
5784 County Club Dr, Birmingham AL 35222	Donald & Ninie Jones	3	Yes	No	N/A	No	No
Pipe Fusion Bond 1800 3rd St W, Birmingham AL 35204	Y Inconsolidated Pipe & Suppl	2	Yes	No	N/A	Yes	
1065 Avenue V, Birmingham AL	Y Inconsolidated Pipe & Suppl	2	Yes	No	N/A	Yes	
216 N Oporto Madrid Blvd, Birmingham AL 35206	RSNATL Post Mail Handle	4	Yes	Yes	YES	Yes	
3121 28th Ave N, Birmingham AL 35207	Rose M Pope	2	Yes	No	N/A	Yes	Yes
4252 Mountain Dale RD, Birmingham AL 35213	Linda Lou Broach	2	Yes	Yes	NO	Yes	
8009 3rd Ave N, Birmingham AL 35206	Jacqueline Donald	2	Yes	No	N/A	Yes	
4369 Mountain Dale Rd, Birmingham AL	William T Cambardella	2	Yes	Yes	NO	Yes	
4317 Warren RD, Birmingham AL 35213	Eugenia & Scott Smallwood	3	Yes	Yes	YES	Yes	
4316 74th Pl N, Birmingham AL 35206	Johnathan Jones	2	Yes	No	N/A	Yes	
802 Seven Springs Cir, Birmingham AL 35215	George Ronald Vass	2	Yes	No	N/A	Yes	
502 75th St N, Birmingham AL 35206	Latonya T Burch	2	Yes	No	N/A	Yes	
2124 22nd Ave N, Birmingham AL 35243	Nathaniel Fowler	3	Yes	Yes	NO	Yes	
3164 30th Ct N, Birmingham AL 35207	Lewis, Ronald	2	Yes	No	N/A	Yes	
4248 Mountain Dale Rd, Birmingham AL 35213	Jane C Tipton, Ellen A	2	Yes	Yes	NO	Yes	
533 Camelia RD, Birmingham AL 35215	Kim Thomas	4	Yes	No	N/A	Yes	
5601 Valley Creek DR, Birmingham AL 35228	Donnie Edmond	2	Yes	No	N/A	No GIS	No GIS
2319 24th Ave N, Birmingham AL 35234	Doctor Prince	3	Yes	Yes	YES	Yes	
4109 68th St N, Birmingham AL 35206	Ferguson, Augustus	2	Yes	No	N/A	Yes	Yes
4260 Mountandale RD, Birmingham AL 35213	Laura Jones	3	Yes	Yes	YES	Yes	
4349 Warren RD, Birmingham AL 35213	Harry Moore	3	Yes	Yes	YES	Yes	
1005 Park Pl, Birmingham AL 35215	Charlene T Thomas	2	Yes	No	N/A	Yes	
529 Camelia RD, Birmingham AL 335215	Theresa Brown	2	Yes	Yes	NO	Yes	
616 7th Ave, Birmingham AL 35217	Buchanan, Gerald	2	Yes	No	N/A	No GIS	No GIS
7125 4th Ct N, Birmingham AL 35206	Demetrius Walker	2	Yes	Yes	NO	Yes	
32 Hillview Ln, Birmingham AL 35215	Pamela J Cosby	3	Yes	No	N/A	No GIS	No GIS
4216 Groover Dr, Birmingham AL 35213	Terrence W McCarthy	2	Yes	Yes	NO	Yes	
5733 Valley Creek Dr, Birmingham AL 35228	Melvin Newton Jr	2	Yes	Yes	YES	Yes	
1337 Avenue V, Birmingham AL 35218	Joeann Kennedy	2	Yes	Yes	YES	Yes	
1917 10th Pl, Birmingham AL 35214	Ann Gamble	2	Yes	Yes	YES	Yes	
5720 Country Club Dr, Birmingham AL 35228	Ira Jackson	2	Yes	Yes	YES	Yes	
537 Lovelin St, Birmingham AL 35228	Marlon M Dickey	2	Yes	No	N/A	No GIS	Yes

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2015 Repetitive Loss Properties

9 Properties in ORANGE are Buy-Out Properties

5605 Gaston Way, Birmingham AI 35228	Maggie Catlin	2	Yes	Yes	Yes	YES	Yes	Yes
5748 Country Club Dr, Bessemer AI 35020	Carla D Duncan	2	No	No	N/A	N/A	Yes	Yes
5764 Country Club Dr, Birmingham AI 35228	Cordia Ruth Clark	2	Yes	Yes	YES	Yes		
3520 8th Ave N, Birmingham AI 35222	Southland Tube Inc	3	Yes	Yes	YES	No GIS	No GIS	
ADDED: 2015 (12 properties)								
3525 Richard Arrington Blvd N, Birmingham AI 35234	Inc. Southland Tube	3	Yes	Yes	YES	No GIS	No GIS	
7124 4th Ct N, Birmingham AI 35206	Tommie L Hale	2	Yes	Yes	YES	Yes	No GIS	
1112 26th St S, Birmingham AI 35205	Espiscopal Housing	2	Yes	Yes	YES	Yes	Yes	
100 41st St S, Birmingham AI 35222	Payscape Properties	2	Yes	No	N/A	Yes	Yes	
2501-07 Lane Park Rd, Birmingham AI 35223	CanterburyGardens	3	No	Yes	YES	No GIS	N/A	
8408 1st Ave N, Birmingham AI 35206	Narsinh Patel	2	Yes	Yes	YES	Yes	Yes	
4301 Mountindale RD, Birmingham AI 35213	Mahlon Felkins	2	Yes	Yes	YES	Yes	Yes	
4341 Mountindale RD, Birmingham AI 35213	Thomas O Tucker & Joan T Tucker	2	Yes	Yes	YES	Yes	Yes	
1644 Kestwick DR, Birmingham AI 35226	William R Littleton	2	No	Yes	YES	No GIS	N/A	
4236 Mountindale RD, Birmingham AI 35213	Ray Cannada	2	Yes	Yes	YES	Yes	Yes	
5761 King Dr, Birmingham AI 35228	Alberta C Bourm	2	Yes	Yes	YES	Yes	Yes	
1045 20th St S, Birmingham AI 35205	Highlands United Methodis	2	Yes	No	N/A	Yes	Yes	



CITY OF BIRMINGHAM FLOOD RESPONSE PLAN EMERGENCY INSTRUCTIONS DURING A FLOOD EVENT

8/26/2015

Updated: 12/2/2015

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PURPOSE

1. Purpose of this plan is to specify methods for accurate, timely, and reliable early recognition for 25, 50, and 100-year impending floods and warning dissemination.
2. To prevent injury and loss of life due to flooding and flood related causes.
3. To reduce public and private property damages from flooding and flood related causes.
4. To initiate post recovery flood actions.
5. To develop community awareness of flood hazard and to prepare for the accurate and timely provision of information during flood emergencies.

PLANNING FACTORS AND ASSUMPTIONS

1. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps have been used to identify flood prone areas along the Village Creek, Valley, Shades, Five Mile Creeks as well as the Little Cahaba River and its tributaries. These maps delineate 100-year and 500-year flood boundaries. However, Birmingham is susceptible to other flood events such as the 25-year, 50-year, and 100-year floods.
2. Serious flooding can occur as a result of rainfall flash flooding.
3. The resources of industry, city, county, state or federal government, separately or in combination, may be required to cope with the flooding.
4. Response to a major flooding event may require a high degree of interagency cooperation and communication.
5. Mutual aid between agencies may be encouraged.
6. There are a number of stream flow gauges installed in the area to provide real time data.
7. Minor flooding may occur in the City at any time of the year. In the event of minor flooding, the residents may choose evacuation, sheltering in place or sandbagging as protection strategies.

HOW THE PLAN WORKS

This section provides information about how flood response should work.

Residents will receive notification through Birmingham/Jefferson County Everbridge Mass Notification System before, during, and after a flood event.

The City of Birmingham 911 dispatch center and Jefferson County EMA will serve as the 24-hour contact point for all flooding events with the assistance of Floodplain Management and Disaster Mitigation Services.

The National Weather Service issues flood warnings, flash flood watches, and flash flood warnings.

When the 911 dispatch center receives reports of flooding, they will notify JEFFCO EMA, who will then respond and assess the situation and begin required actions.

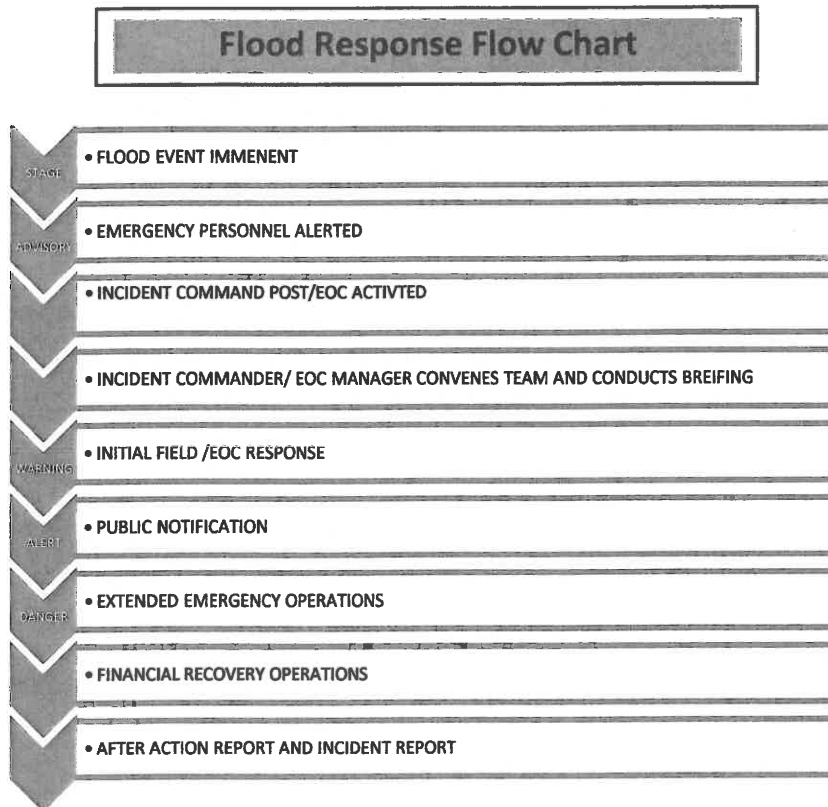
ROLES AND RESPONSIBILITIES

1. Within the City of Birmingham, each department will have responsibilities as follows:

- Floodplain Management and Disaster Mitigation Services- Gauge analysis monitoring, and response
- Public Works – Debris removal, clearance of roadways
- Fire – Private property and evacuations
- Police – Private property and evacuations

2. The first emergency responder at the scene is responsible for evaluating and reporting the situation to 911 dispatch. First actions, at the scene, should be to protect others from being exposed to flood waters.

Diagram 1: The following diagram shows in general how resources are mobilized and various actions initiated as a function of river stage or other criteria. This section defines the specific level of commitment by Birmingham/Jefferson County EMA for specific triggers.



Created by: Amber L. Gray

Alerting and Activation

As coordinated operations continue, The City of Birmingham will brief their administrators. These positions often serve as the Advance Planning Unit at the Emergency Operations Center (EOC). Depending on the flooding situation, the EOC will be activated and staff will respond to the EOC to coordinate operational area response to the disaster with the Jefferson County EMA and other agencies.

Scripted Messages

An immediate evacuation of (list areas that need to be evacuated) is required due to (list reasons for evacuation). Remain calm. Follow the instructions of emergency personnel. View local sources for more information. Please limit phone use so phone lines are available for emergency messaging. Standby for additional messages. Personnel in those areas not listed for evacuation should remain in place, be alert to changing conditions.

A warning was issued by the National Weather Service for your area (date) at (time a.m./p.m.) Jefferson County EMA personnel are mandating everyone to seek shelter and stay indoors until further notice. Monitor the WEB ADDRESS homepage for more information and updates on the incident.

WEB TEXT/EMAIL/VOICE: The National Weather Service has reported (list type of severe weather, I.E. High Winds, Severe Thunderstorm, etc.) is approaching the area. It is not known at this time the extent of this severe weather. Seek shelter immediately. Follow instructions from emergency & university personnel. Please limit phone use so phone lines are available for emergency messaging. Standby for additional messages and go to WEB ADDRESS for more information.

SMS TEXT: Severe weather approaching the Birmingham area. Seek shelter now. Go to WEB ADDRESS or call Hotline at xxx-xxx-xxxx for more info

Initial Notifications

A flash flood warning may be issued by the National Weather Service (NWS) for a general area or location where there is a threat to the public. Some emergency actions might be needed, but not enough to warrant EOC activation. A follow-up call from the EOC to the notifying party or agency will be made to obtain further detail.

- A flash flood watch means it is possible that rain may cause flash flooding in specified areas.
- A flash flood warning means flash flooding is highly likely, imminent, or is occurring.
- A flood watch means long-term flooding is possible in specified areas.
- A flood warning means long-term flooding is either imminent or is occurring.

In the case of a potential flood, the public must be kept informed of:

- Water levels and their implications for a flood event
- Short- and long-term weather forecasts
- Any other flood related threat that might exist

3. Public Warning may be accomplished thru a variety of means.

- Media – Television (EAS), Radio, Birmingham/Jefferson County Everbridge Mass Notification System, Gauge Flood Warning System, School Warning System
- National Weather Service Alerts

- NOAA Radio
- Cell phone emergency alert
- Email
- Emergency Vehicles with Public Address System
- Door to Door
- I-PAWS
- Fire and Police Vehicle Loudspeakers
- Neighborhood Watch and other community support programs
- The Birmingham Operator and “311” system for the public to call for more information.

4. A command post shall be established and properly marked with either an Orange Traffic Control Flag or a flashing light. 911 dispatch and Floodplain Management and Disaster Mitigation Services Team or Floodplain Administrator should be notified of the Command Post location.

5. All evacuations will be managed by Law Enforcement and assisted by Fire and Emergency Medical Services.

6. A Public Information Officer will be designated at the command post to provide updates to the general public, media and other agencies.

COMMUNICATIONS AMONGST RESPONDERS

The Incident Commander shall be the first responder on the incident. The Incident Commander shall set up all communications networks with all departments and agencies participating in the event. Special flood emergency communications frequencies will be established during the event.

PUBLIC PROTECTION STRATEGIES

Sandbagging, Flood Proofing, Evacuation and Sheltering in Place are the principle methods used for public protection.

1. Sandbagging – Is a simple, but effective, way to reduce or prevent exposure to flood damage.
2. Flood Proofing – Is building or remodeling using materials and methods that will prevent or minimize flood damage.
3. Evacuation – Is relocating threatened populations to a safer area.
4. Sheltering in Place – Is where there is not time to evacuate, or flooding is expected to be minimal.

Phased Flood Threat Operations

Some floods will be preceded by a buildup period, providing advance warning to those who might be affected. Others occur without advance warning, requiring mobilization and commitment of the emergency organization after the onset of the emergency situation. The City of Birmingham and Jefferson County EMA must be prepared to respond promptly and efficiently. In all flood situations, this

plan will be implemented in several phases. In the case of slow rise flood threats, the phases are initiated based on various river elevations.

Birmingham uses a Phased Flood Threat Operations Plan, which specifies emergency responses based upon certain river levels, or phases, of flood threat. The following sections define each inundation phase and tasks for each phase.

Stage Definitions for Floods

The following information describes the preparedness activities and flood watch operations used by The City of Birmingham and Jefferson County EMA.

In riverine flooding, river stages generally dictate the phase.

PHASE I: Normal Preparedness (Routine Activities) -- at or below river advisory stage

PHASE II: Increased Readiness (Monitor/Preliminary action) -- river warning stage

PHASE III: Emergency Preparedness -- river flood stage

PHASE IV: Emergency Phase -- river danger stage

PHASE V: Recovery

PHASE I 25Yr

Phase I is an "increased readiness" stage.

- Open the Jefferson County (JEFFCO) Emergency Operations Center (EOC) with limited staff to monitor up-river gages and NWS bulletins.
- Survey and evaluate the emergency situation
- Set up computers and communications equipment, send out observers to up-river areas and monitor the Everbridge notification system for hourly updates from NWS or gauges.
- JEFFCO EOC becomes activated and local municipality staff report to EOC
- County sector personnel becomes activated, and all appointed Birmingham staff responders will conduct round-the-clock creek patrols.
- Receive periodic situation reports and Incident Action Plans (IAP) from JEFFCO EMA, including current river levels, warnings, forecasts, road closures and other pertinent information.

During a Phase I flood response, the Floodplain Management and Disaster Mitigation Service along with JEFFCO EMA staff tasks include:

- Checks/updates resource and material inventories;
- Checks contact numbers and coordination links;
- Tests equipment;
- Reviews evacuation routes.

Most Phase I floods will not require additional action for Birmingham personnel.

Phase II 50Yr

A Phase II flood would be considered a 50-year flood, which means the probability of a flood of this magnitude would have approximately a 2% chance of occurring in any given year.

- JEFFCO EOC becomes activated and local municipality staff report to EOC
- Survey and evaluate the emergency situation
- County sector personnel becomes activated, and all appointed Birmingham staff responders will conduct round-the-clock neighborhood patrols.
- Receive periodic situation reports and Incident Action Plans (IAP) from JEFFCO EMA, including current river levels, warnings, forecasts, road closures and other pertinent information.
- The JEFFCO Emergency Services Coordinator contacts the JEFFCO EMA to provide them with round-the-clock contact information for Birmingham. The Coordinator also monitors situation reports, Incident Action Plan (IAP) and updates the Directors, Deputy's, Administrators, Mayor, and City Council as appropriate.

During a Phase II flood response, the Floodplain Management and Disaster Mitigation Service along with JEFFCO EMA staff tasks include:

- Checks/updates resource and material inventories;
- Checks contact numbers and coordination links;
- Tests equipment;
- Reviews evacuation routes.

Phase III 100Yr

A Phase III flood would be considered a 100-year flood, which means the probability of a flood of this magnitude would have approximately a 1% chance of occurring in any given year.

- Survey and evaluate the emergency situation
- The JEFFCO Coordinator activates the EOC, local municipality staff reports to EOC, and county sector personnel activates.
- Residents are asked to evacuate their homes and work place.
- The Corps of Engineers, if called, arrives to assist flood response efforts, and all appointed Birmingham staff responders will conduct creek patrols every 20 minute.
- Receive periodic situation reports and Incident Action Plans (IAP) from JEFFCO EMA, including current river levels, warnings, forecasts, road closures and other pertinent information.
- The JEFFCO Emergency Services Coordinator contacts the JEFFCO EMA to provide them with round-the-clock contact information for Birmingham. The Coordinator also monitors situation reports, Incident Action Plan (IAP) and updates the Directors, Deputy's, Administrators, Mayor, and City Council as appropriate.
- Activate rescue boats and conduct water rescues for stranded persons
- Mobilize, allocate, and position personnel and materials for patrolling and flood fight
- Establish staging areas for personnel, supplies, and equipment Establish Evacuation Centers to aid in managing the movement of people from the area
- Produce and disseminate emergency information and advice to other EOCs when a Joint Information Center is not operational
- Protect, control, and allocate vital resources
- Restore or activate essential facilities and systems

All the preceding actions are based on extensive local coordination of plans and response. In addition, there are daily briefings involving all parties. When local resources are committed to the maximum and additional materials/personnel are required to control or alleviate the emergency, requests for mutual aid will be initiated through the county EOC.

During a Phase III flood response, the Floodplain Management and Disaster Mitigation Service along with JEFFCO EMA staff tasks include:

- Checks/updates resource and material inventories;
- Checks contact numbers and coordination links;
- Tests equipment;
- Reviews evacuation routes.

Phase IV: Recovery

JEFFCO EMA will address identified recovery needs. Governmental assistance could be required for an extended period. Recovery activities would include:

- Removal of debris
- Clearance of roadways
- Demolition of unsafe structures
- Re-establishment of public services and utilities
- Provision of care and welfare for the affected population including temporary housing for displaced persons
- Care of animals and disposal of carcasses

This stage has three major objectives:

- Reinstatement of family autonomy and the provision of essential public services
- Permanent restoration of public property along with reinstatement of public services
- Performance of research to uncover residual hazards, to advance knowledge of disaster phenomena, and to provide information to improve future flood operations

OPERATIONS

Law Branch:

- Field Ops/Evacuations
- Detention
- Dispatch

Fire Branch:

- Fire
- HazMat Response
- Rescue

Health Branch:

- Environmental Health
- Mental Health
- Public Health

Public Works Branch:

- Reconnaissance
- Engineering Support
- Heavy Equipment Support

PLANNING & INTELLIGENCE

Situation/Status Branch:

- Planning & Forecasting
- Field Observation
- Information Collection/ Display

Documentation Branch:

- Written
- Visual/Graphic

Resource and Demobilization Branch:

- Personnel
- Equipment
- Material

Ag Branch:

- Biologists
- Animal Control

Care & Shelter Branch:

- Care & Shelter
- Red Cross
- Medical Transport

LOGISTICS

Procurement Branch:

- Supplies
- Equipment

Personnel Branch:

- Employees
- Volunteers

Facilities Branch:

- EOC
- Off-Site Work Areas
- R&R Areas

Information Systems Branch:

- Network Technicians & Admin
- Help Desk
- Communications

FINANCE & ADMINISTRATION

Finance Branch:

- Invoice Processing
- Payroll Tracking

This table provides a summary of critical responsibilities, indicating the structure having primary responsibility for leadership in those functions and the part providing support.

TESTING AND UPDATING THE PLAN

1. Tabletop exercises or field simulation exercises should be conducted to train personnel on the use of this plan. Each exercise should be followed by a critique of the plan. The plan may be revised based on the critique of the exercise or a real event.

- ICS training
- VTTX-Flood Exercise
- Natural Disaster Awareness for Community Leaders

2. Updating the plan – All revised pages will be provided to departments and other agencies, whom are listed on the plan. It is the responsibility of the plan holder to keep all copies of the plan current.

CITIZENS INSTRUCTIONS FOR FLASH FLOODING

FLASH FLOODS: Flash flood waves moving at incredible speeds, can roll boulders, tear out trees, destroy buildings and bridges and scour out new channels. Killing walls of water can reach heights of 10 to 20 feet. You won't always have warning that these deadly, sudden floods are coming.

When a FLASH FLOOD WATCH is issued for your area:

1. Listen to area radio and television stations for possible flash flood warnings and reports of flooding in progress, from the National Weather Service and public safety agencies.
2. Be prepared to move out of danger's way at a moment's notice. Know where high ground is and how to get there quickly.
3. If you are on a road, watch for flooding at highway dips, bridges and low areas.
4. Watch for signs (thunder, lightning) of distant heavy rainfall.

When a FLASH FLOOD WARNING is issued for your area, or the moment you first realize that a flash flood is imminent, act quickly to save yourself and your family. You may have only seconds.

1. If you are caught outside or inside the house by suddenly rising waters, move to the second floor and, if necessary, to the roof. Take warm clothing, a flashlight and a portable radio with you. Then wait for help; don't try to swim to safety. Rescue teams will be looking for you.
2. Get out of areas subject to flooding. This includes streambeds, dips, low spots, canyons, washes, etc. Move to high ground as fast as you can.
3. Avoid already flooded and high velocity flow areas. Don't try to outrace a flood. If you can see or hear it coming, move to higher ground as fast as you can. Do not attempt to cross a flowing stream on foot where water is above your knees.
4. If driving, do not drive where water is over the roads. The roadbed may not be intact under the water. Don't try to drive through flooded areas.
5. If the vehicle stalls, abandon it immediately and seek higher ground — rapidly rising water may engulf the vehicle and its occupants and sweep them away.

6. Be cautious at night when it is harder to recognize flood dangers.
7. Do not camp or park your vehicle along streams and washes, particularly during threatening conditions.
8. During any flood emergency, stay tuned to your NOAA weather radio, or commercial radio or television station. Information from these sources may save your life.

CITIZENS INSTRUCTIONS FOR FLOODING

1. Before the Flood:

- a. Find out how many feet your property is above or below possible flood levels, so when predicted flood levels are broadcast, you can determine if you may be flooded. Ask for the location of the nearest safe area.
- b. Keep a stock of food that requires little or no cooking and refrigeration; electric power may be interrupted.
- c. Keep a portable radio, emergency cooking equipment, lights and flashlights in working order.
- d. Keep first aid and critical medical supplies (prescriptions, insulin, etc.) at hand.
- e. Keep your automobile fueled; if electric power is cut off, filling stations may not be able to operate pumps for several days.
- f. Keep materials like sandbags, sand, plywood, plastic sheeting and lumber handy for emergency waterproofing.
- g. Do not stack sandbags around the outside wall of your home to keep water out of your basement. Water can seep down anyway and the pressure it puts on the walls and under the floors can cause structural damage.
- h. Bring outdoor possessions inside the house or tie them down securely.

2. When you receive a Flood Warning:

- a. Store drinking water in closed, clean containers, bathtubs, sinks, etc. Water service may be interrupted.
- b. If flooding is likely and time permits, move essential items, valuable papers, jewelry and furniture to upper floors of your house or higher elevations.
- c. If forced or advised to leave your home, move to a safe area before access is cut off by floodwater.
- d. Shut off all electric circuits at the fuse panel or disconnect all electrical appliances. Shut off the water service and gas valves in your home.

3. During the Flood:

- a. Avoid areas subject to a sudden flooding.
- b. If you are caught in the house by rising floodwaters, move to the second floor, and if necessary, to the roof. Take warm clothes, a flashlight and portable radio with you. Wait for help. Don't try to swim to safety.
- c. When outside the house, try to avoid flooded areas and do not attempt to cross a flowing stream where water is above your knees.
- d. Do not attempt to drive over a flooded road. You can be stranded and trapped.
- e. If your vehicle stalls, abandon it immediately and seek higher ground. Many people drown while trying to rescue their car.

Chapter 4

Natural Resources and Environmental Constraints



*"I want to live in a city that
cares about air quality and the
environment."*

*"Keep Birmingham beautiful,
especially the water ways."*

GOALS	POLICIES FOR DECISION MAKERS
<p>natural areas and conservation</p> <p>A comprehensive green infrastructure system provides access to and preserves natural areas and environmentally sensitive areas.</p> <p>Reinvestment in existing communities conserves resources and sensitive environments.</p>	<ul style="list-style-type: none"> • Support the creation of an interconnected green infrastructure network that includes natural areas for passive recreation, stormwater management, and wildlife habitat. • Consider incentives for the conservation and enhancement of natural and urban forests. • Consider incentives for reinvestment in existing communities rather than “greenfields,” for new commercial, residential and institutional development. • Consider incentives for development patterns and site design methods that help protect water quality, sensitive environmental features, and wildlife habitat.
<p>air and water quality</p> <p>The City makes every effort to consistently meet clean air standards.</p>	<ul style="list-style-type: none"> • Support the development of cost-effective multimodal transportation systems that reduce vehicle emissions. • Encourage use of clean fuels and emissions testing. • Emphasize recruitment of clean industry. • Consider incentives for industries to reduce emissions over time. • Promote the use of cost-effective energy efficient design, materials and equipment in existing and private development.
<p>The City makes every effort to consistently meet clean water standards.</p>	<ul style="list-style-type: none"> • Encourage the Birmingham Water Works Board to protect water-supply sources located outside of the city to the extent possible. • Consider incentives for development that protects the city’s water resources. • Consider incentives for the protection of natural drainage in stormwater management systems where feasible. • Consider incentives for the use of conservation and low-impact development techniques. • Support state water quality standards and enforcement. • Monitor drilling uses of water resources to avoid contamination or excessive use and use best management practices.

findings

Red Mountain Park and Ruffner Mountain Nature Preserve are significant natural areas that provide access to nature and environmental services (such as reduction in urban heat island effects, air pollution, and nonpoint source pollution of water) in an otherwise urban environment.

The city has had success in flood mitigation through flood buyouts along Village, Valley and Shades Creeks in conjunction with FEMA, Corps of Engineers and state agencies and continued flood mitigation planning.

With the exception of engineering design standards for streets, the only regulations for steep slopes are those that require geotechnical engineers' affidavits for construction on parts of the north face of Red Mountain.

Segments of the Cahaba River, Valley Creek, Village Creek, Shades Creek and Camp Branch Creek exceed Total Maximum Daily Load allowances for various pollutants.

Water quality monitoring is performed by the City's Stormwater Management Division.

Birmingham does not consistently meet EPA ozone standards, which reflects impacts on public health due to air pollution, and constrains industrial expansion and recruitment and federal transportation funding.

There are numerous local and regional private organizations involved in parks development, open space preservation and environmental stewardship.

Almost all of the land in the city limits that is adjacent to or near the Cahaba River, Little Cahaba River, and Lake Purdy is owned by the Birmingham Water Works Board to protect water supply resources.

Quality of life, which includes environmental quality, is an increasingly important criterion in private sector economic investment decisions.

challenges

Reducing vehicle emissions through increased transit use will require regional partnerships/cooperation.

Increased walking and bicycling can help reduce vehicle emissions, but extensive improvements are needed in bicycle and pedestrian infrastructure to support these alternative travel modes.

Many sources of air pollution are not located in the city or subject to City control.

Threats to Birmingham's water quality are not all located in the city or subject to City influence.

The potential development of land in the Cahaba area poses risks to the Cahaba River, a drinking-water source. Most of this land is outside the city limits.

A. What the Community Said

From the outset of this plan's community involvement process, participants have held up the city's natural environment and green infrastructure as vital parts of the city.

Attendees at the various forums ranked Birmingham's parks, landscape and topography as its best asset, receiving twice as many votes as any other category. Participants also indicated that pollution, clean air and other environmental issues were among the city's top challenges. Among the "Top Five Priorities" from table discussions, walking/biking routes and parks, beautification and addressing pollution were all noted.

During the Communities of Interest workshop on Green Systems and Sustainability, attendees identified issues that brought them to the meeting and table discussions provided a set of priorities. Several of those dealt with the environmental concerns addressed in this chapter.

Issues

- Water quality and stormwater management
- Air quality
- Interconnected green infrastructure network
- Green the city, more trees
- Sprawl
- Using the city's green amenities to attract investment

Priorities

- Improve air quality
- Improve water quality
- Protect biodiversity and wildlife habitat
- Increase public awareness on green systems and sustainability
- Promote alternative, clean energy sources
- Protect and increase citywide tree canopy
- Clean up and re-use brownfields
- Build greenways with destinations



TCI Ensleyworks is the one of the largest brownfields in the Birmingham area.

B. Topography, Geology and Landscape Character

Since its early history Birmingham capitalized easily on its natural assets but struggled with their long-term stewardship. Birmingham's geology offered tremendous economic opportunity during the industrial boom of the late 1800s. The three main components of iron and steel production—coal, iron ore and limestone—were readily available from Jones Valley, which also provided a convenient landscape for settlement. Railroad, mining and iron production facilities exploded across the landscape and Birmingham grew rapidly and densely.

Of its major topographic features, the city is most closely associated with Red Mountain, which rises to just over 1,000 feet above sea level—about 400 feet above downtown Birmingham directly to the north. Shades Mountain, further to the south, is the tallest formation in Birmingham, peaking at about 1,150 feet above sea level.

The city developed along the relatively flat Jones Valley between Red and Sand mountains. This provided a logical path for the railroads that were laid through the middle of the valley. As communities took shape along the railroad, the mountains limited development to the north and south. Birmingham grew as a dense urban grid that diminished as it extended toward the neighboring ridges, particularly the steeper and more challenging Red Mountain. Urban villages developed further east and west along the valley including areas like Woodlawn and East Lake, Bessemer and Ensley.

Today, mining and manufacturing remain but represent a much smaller part of Birmingham's economy. Its readily harvestable geologic resources have been greatly depleted. Vacant mines and foundries dot the landscape. But these remnants of the area's industrial heritage are seeing a second life as regional parks (Ruffner Mountain Nature Center, Red Mountain Park and Vulcan Park), greenways, and historic landmarks (Sloss Furnaces). However, there is continued mining northwest and west of the city along the Mulberry Fork of the Black Warrior River.

HYDROLOGY

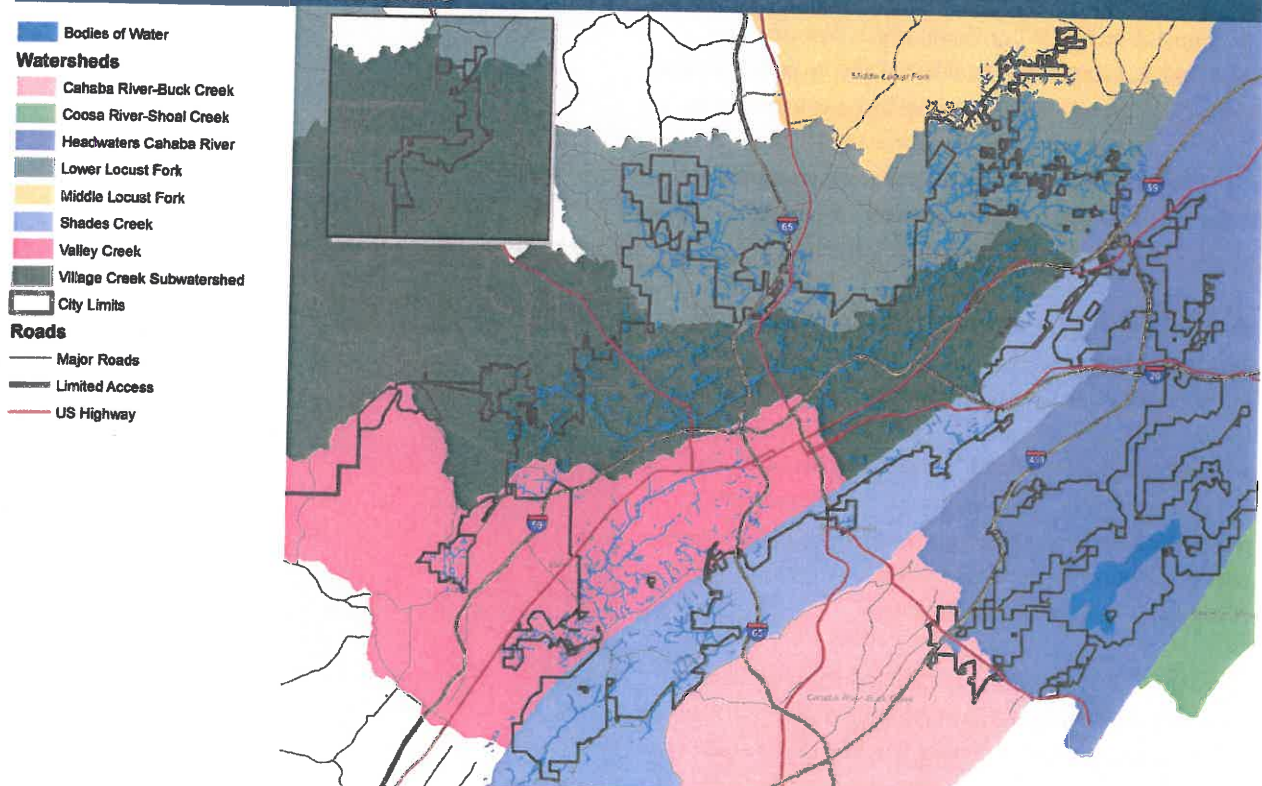
The northern and western portions of the city lie within the Black Warrior-Tombigbee River Basin while the areas south and east of Red Mountain are in the Alabama River Basin. Through each basin numerous tributaries flow and form watersheds including: Village Creek, Valley Creek, Shades Creek, Five Mile Creek, and the Cahaba River.

Streams

The early communities of Birmingham were relatively far from the Black Warrior and Cahaba Rivers, to the northwest and southeast respectively. But Jones Valley is traversed by the smaller Village Creek and Valley Creek. Like Red Mountain to the south, Village Creek limited northern expansion early on. It served as the city's early water supply until it was too contaminated to provide clean water.

After decades of development and industrial and other forms of pollution, efforts by the City, UAB, the grassroots Village Creek Society, area residents and others, including

FIGURE 4.1: WATER AND WATERSHEDS



the construction of a Jefferson County peak-flow treatment facility that began operation in 2003, have greatly improved its water quality. The state designates the creek a Limited Warmwater Fishery, the second-lowest of seven water-use designations. The creek is listed as impaired for pathogens and pesticides.

Village Creek has also been the site of destructive floods. Due in part to urbanized development with concentrations of impervious surfaces, repetitive property losses led the City, in cooperation with the US Army Corps of Engineers (USACE) and FEMA to carry out multiple mitigation programs between 1983 and 2000. The USACE and FEMA tout the Village Creek program as a successful case study in flood-mitigation practices, citing a significant return on the investment of \$36 million by avoiding continued property losses estimated at \$60 million.¹ With the acquisition of land through flood-mitigation efforts and ongoing clean-up activities, the Freshwater Land Trust's Champions for Village Creek Greenway are working with the City, the Southern Environmental Center and the Jefferson County Department of Health to construct a major greenway trail and park system along the creek.

A 0.9 mile stretch of Valley Creek, which flows through southwest Birmingham to Bankhead Lake, an impoundment of the Black Warrior River, has been listed as impaired by the Alabama Department of Environmental Management (ADEM) due to atmospheric deposition, which contributes to the presence of mercury in the water. Its tributary to the south, Opossum Creek is similarly impaired.

Shades Creek flows southwesterly through the city into the Cahaba River. Because water-quality measurements did not support its use designation for Fish & Wildlife, Shades Creek has been placed on the state's list of impaired waterways. Repetitive-flood-loss property along Shades Creek was acquired through a FEMA-funded mitigation project in 2000. A greenway and multi-use trail have been developed along the creek near Lakeshore Parkway in the Homewood and Mountain Brook area.

Five Mile Creek, a tributary of the Black Warrior River, flows westward along the northern edge of the city. It is not listed as impaired. Following flooding in the early

2000s, the Five Mile Creek Partnership was formed with support from Cawaco RC&D and area municipalities. The Partnership has prepared plans for and is using flood-acquired land to construct parks and trails along the creek corridor.

Cahaba River

The longest free-flowing river in the state, the Cahaba River is nationally recognized for its biodiversity, including being home to several endangered animal species, numerous plant species and eighteen species of fish found nowhere else in the world.

The Black Warrior Cahaba River Land Trust was funded by the County as part of the consent agreement with the EPA over pollution mitigation. Today it is known as the Freshwater Land Trust. Since its creation, the land trust has acquired a total of 4,500 acres along multiple waterways and in other strategic locations, 4,300 acres in fee and 200 acres in conservation easements. Creation of the land trust produced benefits to the region that were unforeseen at the time—establishment of Red Mountain Park and preparation of the countywide Red Rock Ridge and Valley Trails Master Plan.

In 2003 a consortium of local governments oversaw the development of the Upper Cahaba Watershed Study. The plan has raised public awareness of potential water quality and other environmental issues.



Cahaba River near Grants Mill Road (Photo: Encyclopedia of Alabama, Hunter Nichols)

¹ <http://mitigation.eeri.org/files/resources-for-success/00008.pdf>

Lakes

The Birmingham Water Works Board built the Lake Purdy Dam on the Little Cahaba River in 1929 soon after Village Creek became too polluted to serve as a water supply. The reservoir, near the headwaters of the Cahaba River, is owned by the Birmingham Water Works Board (BWVB) and encompasses 990 acres. In 2008 the BWVB adopted a policy requiring Board approval for development in the Cahaba River watershed to manage possible pollution in order to protect the water supply. That policy includes prohibitions on certain contaminating uses and activities; performance requirements for nonpoint source pollutants; and enforcement measures. As a temporary measure the City created the Holding Zone District to limit development in the Lake Purdy/Cahaba River area. This zoning classification was applied to properties in the immediate vicinity of Lake Purdy, most of which is owned by the BWVB.

Bayview Lake was built on Village Creek in 1910 as a water supply reservoir for coal mining activities and for the Ensley Iron Works. Receiving flow from Village Creek, it too became polluted from untreated industrial and sanitary wastewater. After the closing of the Thomas and Ensley Works and installation of secondary treatment facilities required by the Clean Water Act of 1972, water quality in the lake improved to the extent that it is now used for recreational purposes.



Lake Purdy (Photo: 280 Living, Chris Mason)

Floodplains

Floodplains occur in several areas throughout the city and are associated with Birmingham's major streams—Village, Valley, Shades and Five Mile creeks—and the Cahaba River. Localized flooding in other low lying areas also occurs. Urban development along Birmingham area streams resulted in increased flood elevations during heavy rainfalls. As previously described, the City, with state and federal support, has acquired a significant number of properties impacted by past flooding, particularly along Village Creek. And, following the County-EPA consent decree, the Freshwater Land Trust has also acquired property and conservation easements within area floodplains.

Floods are of relatively short duration, usually less than ten hours. Maximum flood stage is typically reached within two to four hours of an intense rainfall event. Past events have seen flood waters rise at three feet per hour with significant velocities experienced in some parts of the city. The most destructive flooding has occurred along Village Creek, which led to the mitigation and buyout programs along that corridor. Area floodplains have historically flooded but due to the intensive flood events that occurred between 1995 and 2003, the City increased efforts to mitigate flood damage and improve stormwater-management programs.

There are three flooding segments typically regulated to protect against flood damage: The floodway, the flood fringe, and the floodplain. The **floodplain** is the area deemed to have a 1% chance of flooding every year (the "100-year" flood). This creates a 26% chance of flooding during a typical 30-year home mortgage. The **floodway** is the area that must be kept clear immediately adjacent to the stream because it functions as the natural conduit for flood



Flooding on Tallapoosa Street during Tropical Storm Lee in September 2011 (Photo: Birmingham News, Hal Yeager)

waters. The **flood fringe** is an area between the floodway and the floodplain boundary, where development is allowed as long as it meets certain criteria. The floodplain includes both the floodway and the flood fringe.

The City joined the National Flood Insurance Program (NFIP) in 1981 and the Community Rating System, a voluntary program to establish floodplain management programs to exceed NFIP requirements, in 1993. Development within Birmingham's 100-year floodplains is controlled through a Flood Plain Ordinance and is reviewed and permitted by floodplain management staff housed within the Planning, Engineering and Permits (PEP) Department. The ordinance requires residential buildings be located above the 100-year base flood elevation and non-residential buildings must be elevated or flood-proofed. Through its floodplain management efforts, the city is rated Class 6, which provides a 20% reduction in flood insurance premiums for property owners.

Stormwater Management and Water Quality

As described above, the city has historically experienced challenges to maintaining water quality in area waterways. However, in the past 20 years, the City intensified its efforts to better manage stormwater and water quality.

The City developed its first Phase 1 NPDES (National Pollutant Discharge Elimination System) MS4 Program application in 1992 and then joined a multi-jurisdictional stormwater program. The City of Birmingham withdrew from the most recent version of the multi-jurisdictional program in 2008 to improve program accountability and organizational coordination, and to lower program costs. Following its withdrawal, the City contracted with a private firm to assist city staff in its stormwater-management program.

The Birmingham stormwater-management program involves preparation and maintenance of a comprehensive stormwater management plan, compliance activities, stormwater monitoring and related functions. Currently, the City manages stormwater and water quality through several program strategies:

- preventive measures
- property protection

- emergency services
- structural projects
- natural resource protection
- public education programs

Because Birmingham's waterways flow through multiple jurisdictions, the City cannot fully protect its water resources. In addition to the stormwater management activities the City performs, it must work in partnership with other local governments to meet its water quality objectives.

DEVELOPMENT CONDITIONS IN BIRMINGHAM'S 100-YEAR FLOODPLAIN

There are approximately 5,700 parcels, altogether about 5,000 acres, located within the city's 100-year floodplains.

- *Today, about 2,100 acres of that land is owned by the City, county, state and federal governments; the Freshwater Land Trust; Airport Authority; and utility companies.*
- *An estimated 4,800 parcels—just over 2,900 acres—are privately owned.*
- *There are over 3,900 residentially-zoned, privately-owned properties in the city's 100-year floodplains. Over 800 of those properties are vacant and undeveloped.*
- *230 properties, totaling 186 acres, are zoned for business or institutional uses and over 60% of those properties are developed.*
- *More than half of the privately owned land in the 100-year floodplain—about 1,500 acres—is zoned for industrial or manufacturing use.*

SOURCE: CITY OF BIRMINGHAM, GIS DATA.

AIR QUALITY

Similar to its historical water quality issues, Birmingham is not entirely in control of its air quality. Air quality in the city is affected by point and nonpoint sources both inside and outside the City's jurisdiction. A major focus to improve air quality in the region has been and continues to be to decrease vehicle emissions through congestion-mitigation activities, including consideration of high-occupancy vehicle lanes on major arteries and regional transit system improvements. Chapter 12, pp. 12.34–12.42, contains a discussion of transit and active transportation opportunities.

In addition to vehicle emissions and industrial activities, buildings contribute to air quality issues. Burning of fossil fuels, such as coal, oil and gas, and the use of various building materials and cleaning products affect both



CommuteSmart is a ridematching, carpool and vanpool service operated through the Birmingham Metropolitan Planning Organization (MPO) to reduce vehicle emissions.

indoor and outdoor air quality. The production of energy necessary to operate buildings (lighting, heating, cooling, etc.) is a significant contributor to air quality problems but can be managed through better building systems designs to increase energy efficiency. Likewise, aircraft engines produce emissions that affect air quality. Therefore air quality around airports may be impacted by aircraft engines. Aircraft engine emissions produce nitrogen oxides (NO_x), carbon monoxide (CO), oxides of sulfur (SO_x), unburned or partially combusted hydrocarbons (also known as volatile organic compounds (VOCs), particulates, and other trace compounds.

EPA is adopting emission standards for aircraft gas turbine engines that should improve air quality. The final rule contains standards and related provisions that were previously adopted by International Civil Aviation Organization (ICAO). Specifically, EPA is adopting two new tiers of more stringent emission standards for oxides of nitrogen (NO_x). Also, FAA is phasing out leaded gas by 2018 which will help improve air quality and protect airport neighbors from airborne lead.

Pollutants in the air also can contribute to poor water quality, adding to the importance of addressing the city's air quality. The source of contamination to Valley and Opossum Creeks in Birmingham, both on ADEM's list of 303(d) impaired streams, were classified as being due to air quality.

HABITATS AND BIODIVERSITY

Birmingham is located within the Ridge and Valley ecoregion and is a geographic transition point that supports significant, unique biodiversity, notably on the Cahaba River and Turkey Creek.

The Ridge and Valley ecoregion, also referred to as "the foothills of the Appalachians," is characterized by rugged terrain with sandstone ridges and limestone valleys. Trees typical to the region include white, northern red, black, and chestnut oak, and loblolly, shortleaf, and Virginia pine. The region supports several amphibian and reptiles "of Coastal Plain affinity that are not known to occur elsewhere above the Fall Line" according to Alabama's Comprehensive Wildlife Conservation Strategy (CWCS). Significant wildlife in the region includes the Southern Hognose Snake, Coldwater Darter, Goldline Darter, and Coosa Creekshell.² The Cahaba Lily is found only in Alabama, Georgia, and South Carolina.

Alabama's CWCS was prepared by the state Department of Conservation and Natural Resources under a federally-funded State Wildlife Grant. According to the CWCS, the top concern for wildlife in the Cahaba River in the Birmingham area is water quality degradation from sedimentation and nutrient enrichment. Water quality problems stem from development in the upper watershed and agricultural and silvicultural practices. These same problems, plus the presence of abandoned surface mines threaten species along the Black Warrior River. Along the Black Warrior, the areas in most critical need for conservation action include the Locust Fork drainage area—encompassing most of the City of Birmingham—where there is a high number of imperiled species. The CWCS recommends implementation of the River Basin Management Plans and restoration of habitat and streams by ADEM, US Forest Service (USFS), Alabama Forestry Commission (AFC), Natural Resources Conservation Service (NRCS), Clean Water Partnership, local governments and other partners.³

² Alabama Department of Conservation and Natural Resources, "Alabama Comprehensive Wildlife Conservation Strategy", <http://www.outdooralabama.com/research-mgmt/cwcs/outline.cfm>, p. 28.

³ *Ibid*, pp. 151-161.

HIGHLAND RIM

- TV Tennessee Valley
- LIM Little Mountain
- MOV Moulton Valley

CUMBERLAND PLATEAU

- WB Warrior Basin
- JCM Jackson County Mountains
- SM Sand Mountain
- SCV Sequatchie Valley
- BM Blount Mountain
- MV Murphrees Valley
- WV Wills Valley
- LOM Lookout Mountain

ALABAMA VALLEY AND RIDGE

- COV Coosa Valley
- COR Coosa Ridges
- WR Wetsner Ridges
- CAV Cahaba Valley
- CAR Cahaba Ridges
- BBC Birmingham-Big Canoe Valley
- AR Annuchee Ridges

PIEDMONT UPLAND

- NP Northern Piedmont Upland
- SP Southern Piedmont Upland

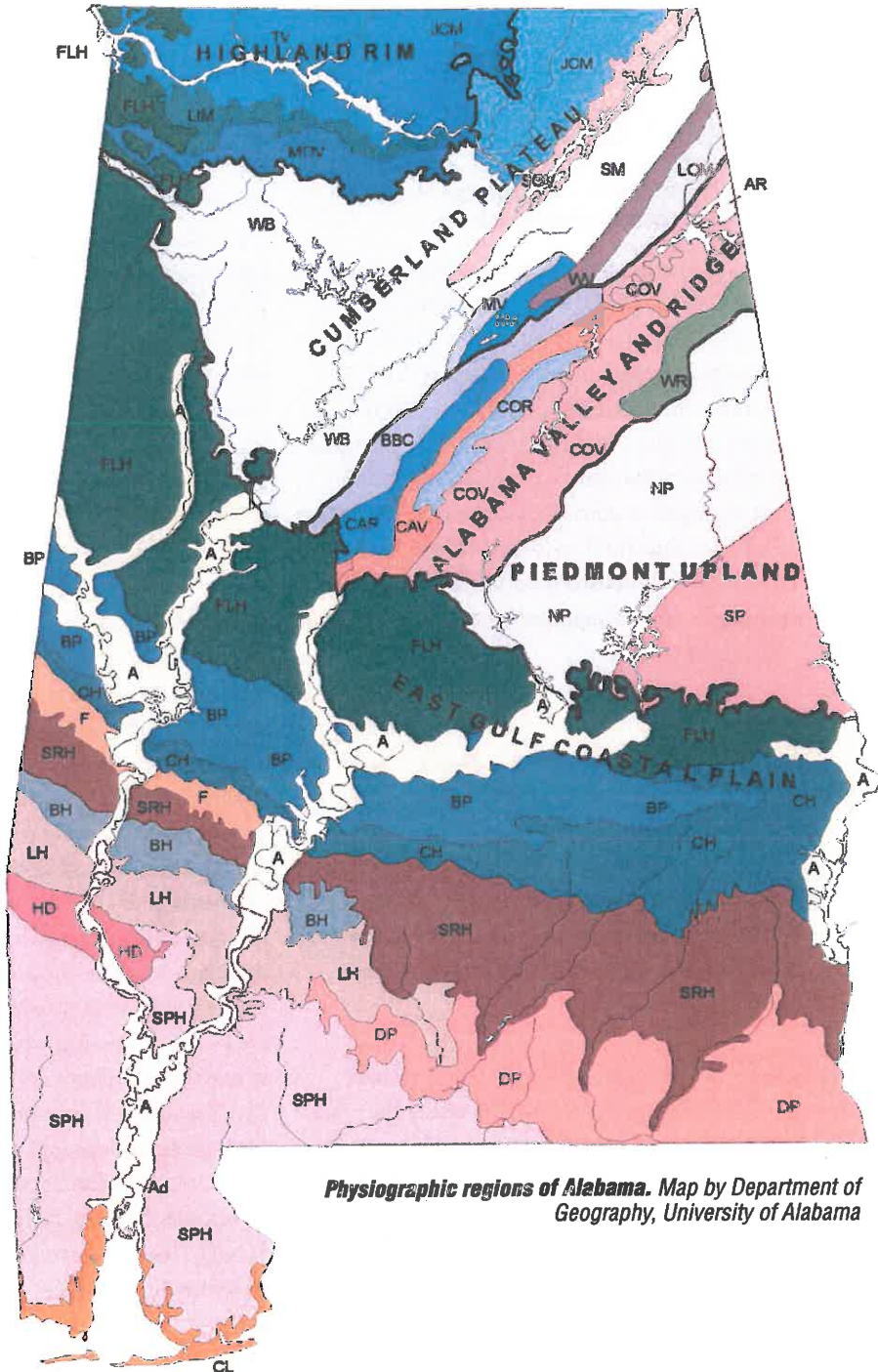
EAST GULF COASTAL PLAIN

- FLH Fall Line Hills
- BP Black Prairie
- CH Chunnuggee Hills
- SRH Southern Red Hills
- F Flatwoods Subdistrict
- BH Buhrstone Hills Subdistrict
- LH Lime Hills
- HD Hatchetigbee Dome Subdistrict
- SPH Southern Pine Hills
- DP Dougherty Plain
- CL Coastal Lowlands

- A, Ad Alluvial-deltaic Plain

— District boundary

— Region boundary



Physiographic regions of Alabama. Map by Department of Geography, University of Alabama

Threatened and Endangered Species

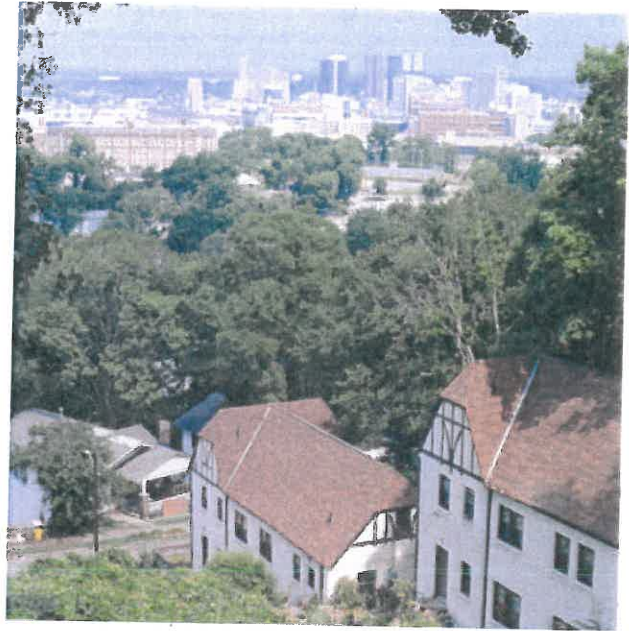
In Jefferson County there are several endangered and threatened species and plants and animals, some of which, for example, the watercress darter, are known to occur within the city. In fact, the watercress darter is believed to occur naturally only in the Jefferson County area. A few of these rare species are believed to occur naturally in Jefferson, Blount and Bibb Counties only.

URBAN FOREST

The “urban forest” includes all the trees in and around urban areas—street trees and trees on public and private property. The large trees characteristic of Birmingham’s early neighborhoods are an important part of their sense of place. However, other parts of the community, particularly in more recently developed neighborhoods and business areas, have little tree cover. Planting and maintaining trees in the urban environment has a variety of benefits:

- improving the public realm and community aesthetics
- increasing property values
- providing shade and reduced energy costs
- enhancing walkability
- enhanced flood mitigation
- preserving wildlife habitat
- reduction in greenhouse gas pollution (CO₂)
- oxygen production

According to the 2004 study “State of the Forest in the Cities of Jefferson County” carried out by the Jefferson County SWMA, the urban forests of the Birmingham metro area, including portions of the Cahaba River watershed in Shelby and St. Clair Counties, provided \$248 million annually in air pollution and stormwater reduction. The report suggested that the presence of trees, and therefore the ground in which they are planted, allow stormwater to be absorbed into the ground while impervious parking areas, rooftops, and roadways funnel stormwater more rapidly to area streams. The stormwater monetary savings were based on the cost that would be required for detention ponds and other stormwater controls that would otherwise be required in the absence of such forested areas.⁴



Birmingham’s Five Points South neighborhood has a healthy urban tree canopy (Photo: Robert Francis)

The City has an adopted tree ordinance (Ordinance No. 90-88), but the City has drafted an ordinance that would replace or amend existing policies and standards for the preservation of the city’s tree canopy, particularly trees within public rights-of-way and easements. The ordinance establishes a Tree Commission to guide the development and administration of future policies and recommendations; specifies standards for tree planting and maintenance; establishes management authority for tree planting, removal and maintenance under the City’s Urban Forester and those concerned with public safety; and promotes public education on the importance and value of urban forests. The draft amended ordinance is under internal review as of summer 2013.

Invasive Plants

Invasive plant species are typically non-native and proliferate in hospitable environments. In these circumstances they can out-compete native plants and disrupt ecosystems. Among those that are of particular concern in the Birmingham area are privet and kudzu. Other invasive plants in the area include heavenly bamboo, English ivy, Oregon grape/Beale’s barberry, Japanese honeysuckle, mimosa, Amur honeysuckle, Bradford pear, and leatherleaf mahonia.

⁴ Birmingham Environmental News #212, “Tree Study: Trees Worth \$248 Million a Year in Birmingham Metro,” <http://www.bamanews.com/BEN-1-3-04.html>.

TABLE 4.1: ENDANGERED AND THREATENED SPECIES OF JEFFERSON COUNTY, ALABAMA

SPECIES	NAME	STATUS
AMPHIBIANS	Black warrior waterdog	Candidate
CLAMS	Orangenacre mucket	Threatened
	Southern acornshell	Endangered
	Upland combshell	Endangered
	Finelined pocketbook	Threatened
	Ovate clubshell	Endangered
	Triangular kidneyshell	Endangered
	Alabama moccasinshell	Threatened
	Dark pigtoe	Endangered
	Southern pigtoe	Endangered
FISHES	Watercress darter*	Endangered
	Cahaba shiner	Endangered
	Goldline darter	Threatened
	Vermilion darter**	Endangered
	Rush darter	Endangered
FLOWERING PLANTS	Georgia rockcress	Candidate
	Mohr's Barbara button	Threatened
	Gentian pinkroot	Endangered
	Tennessee yellow-eyed grass	Endangered
	Georgia aster	Candidate
MAMMALS	Indiana bat	Endangered
	Gray bat	Endangered
REPTILES	Flattened musk turtle	Threatened
SNAILS	Cylindrical lioplax***	Endangered
	Plicate rocksnail**	Endangered
	Round rocksnail***	Threatened

* Known to or believed to occur only in Jefferson County.

** Known to or believed to occur only in Jefferson and Blount counties.

*** Known to or believed to occur only in Jefferson, Blount and Bibb counties.

SOURCE: US FISH & WILDLIFE SERVICE ENVIRONMENTAL CONSERVATION ONLINE SYSTEM



Above: Coldwater Darter, *Etheostoma ditrema* (Photo: Outdoor Alabama). The Cahaba Lily (left) is found only in Alabama, Georgia and South Carolina. One of the two largest remaining stands of the plant is in the Cahaba River National Wildlife Refuge in West Blocton.

CONSERVATION AND ENVIRONMENTAL ORGANIZATIONS

Numerous nonprofit organizations and initiatives are working to improve conservation of sensitive environmental areas and restore environmental health both locally and throughout the region.

Alabama Clean Fuels Coalition is an affiliation of businesses, governmental and utilities representatives whose mission is to advance the use of alternative fuels in Alabama, particularly in the Birmingham metropolitan area, in order to improve air quality.

Alabama Environmental Council (AEC) is a statewide nonprofit organization located in Birmingham that focuses on environmental stewardship through community education and advocacy. The AEC also operates a recycling center in Downtown Birmingham, which accepts recyclable materials not served by the City recycling program.

Alabama Partners for Clean Air (APCA) is an affiliation of public, private and nonprofit organizations promoting voluntary programs to improve air quality in the Birmingham metropolitan area to improve public health, achieve and maintain compliance with national clean air standards, and to support economic growth consistent with air quality goals.

Black Warrior Riverkeeper is a citizen-based nonprofit organization that focuses on the improvement and protection of water quality, habitat, recreation and public health associated with the Black Warrior River and its

watershed. The Riverkeeper monitors the river, reports contamination problems, and provides public education programs on water quality.

Cahaba River Society (CRS) is also a citizen-based nonprofit organization that focuses on protection of water quality of the Cahaba River. CRS works with developers, local governments and ADEM to encourage development policies, low impact and best management practices, and other public and private actions to safeguard the Cahaba River as a drinking water supply for the region and as a uniquely important plant and animal habitat.

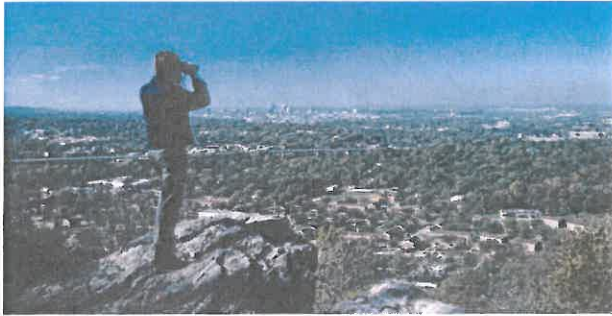
Cawaco Resource Conservation and Development (RC&D) Council, named after the three rivers—the Cahaba, Warrior and Coosa Rivers—that flow through the five counties it serves, is part of a nationwide program under the US Department of Agriculture. The RC&D works with local governments and community groups to protect and take advantage of their natural resources, directing federal, state and local resources to accomplish locally determined resource goals.

Conservation Alabama is a non-partisan, statewide environmental lobby centered in Birmingham. The organization works with local governments and state officials to develop policies and programs that protect the environment in ways that benefit the state economy and the quality of life of its citizens. Conservation Alabama, as a member of the Jefferson County Health Action Partnership, recently worked with AARP and other agencies to promote Complete Streets legislation in the state as well as similar policies at the local level.

Freshwater Land Trust (FWLT) is a private, nonprofit land trust originally created as the Black Warrior Cahaba River Land Trust under the consent decree established between Jefferson County and the EPA. Initially, the land trust was funded wholly by Jefferson County, but once the County had fulfilled its obligation under the consent decree, the Freshwater Land Trust sought funding through public and private sources. FWLT is part of the JCHD Health Action Partnership and with funding from a Communities Putting Prevention to Work (CPPW) grant obtained from the Centers for Disease Control, facilitated the development of the countywide Red Rock Ridge and Valley Trail System



Coal mining along the Black Warrior River in Walker County
(Photo: Black Warrior Riverkeeper)



View of the city from atop Ruffner Mountain (Photo: The Trust for Public Land)

Plan. The FWLT continues land and conservation easement acquisitions to protect water quality while also pursuing strategies to implement the greenway plan. FWLT, since its inception, has acquired approximately 4,500 acres of land in the City of Birmingham and throughout Jefferson County.

Ruffner Mountain Nature Center, founded in 1977, is a public nonprofit nature preserve in the midst of Birmingham's otherwise urban environment. Today it encompasses over 1,000 acres of undeveloped land, including formerly mined sites, along a Red Mountain ridge ten minutes east of downtown. Ruffner is not only a nature preserve, but a recreational amenity of tremendous size, recently joined by Red Mountain Park in southwest Birmingham.

The Southern Environmental Center (SEC) is an environmental education facility on the campus of Birmingham Southern College. The SEC, in addition to its on-campus activities, provides community education programs and works with community organizations through its EcoScape program.

Other conservation and environmental organizations active in the Birmingham area include:

- Alabama Rivers Alliance
- Auntie Litter, Inc.
- Birmingham Audubon Society
- Cahaba Group of the Sierra Club
- Cahaba Riverkeeper
- Five Mile Creek Greenway Partnership
- Greater Birmingham Alliance to Stop Pollution (GASP)
- Interfaith Environmental Initiative of Alabama
- Keep Birmingham Beautiful Commission
- The Nature Conservancy of Alabama
- Save Our Unique Rivers, Community and Environment (SOURCE)

- Southern Environmental Law Center
- Village Creek Society

Conservation and Environmental Programs

ECOSCAPE PROGRAM

This program was created by the Southern Environmental Center at Birmingham Southern College in 1996 combines organic gardening, environmental education, local art, and neighborhood revitalization to convert vacant sites into outdoor learning sites.

RED ROCK RIDGE AND VALLEY TRAIL SYSTEM

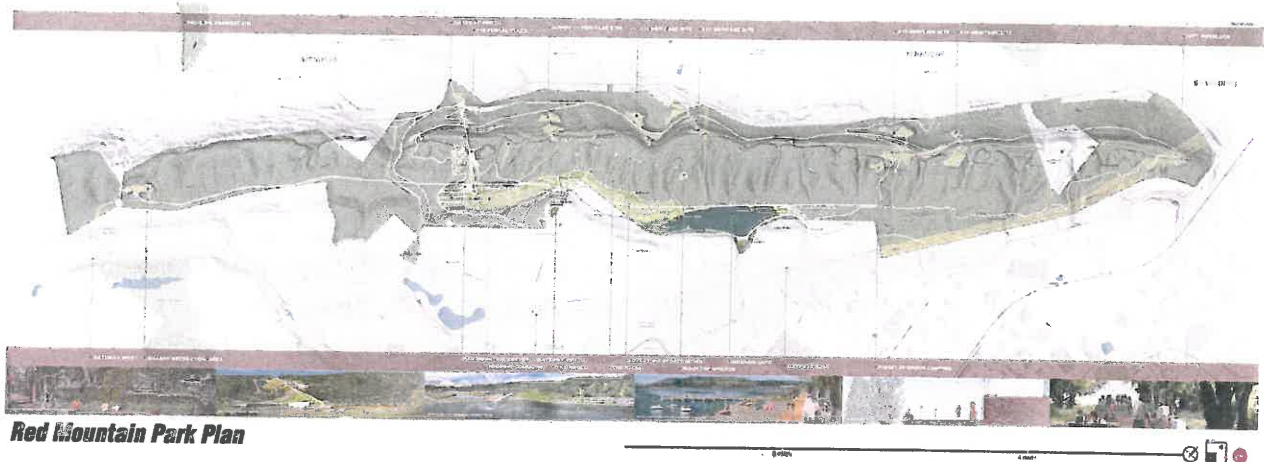
This proposed countywide trail system emerged from the Our One Mile planning process and is now being prepared for implementation by the Freshwater Land Trust, affiliated nonprofits and local governments. In 2012 the City and FWLT, with support from the Cities of Homewood, Fairfield and Midfield and other government and nonprofit agencies, received a TIGER grant to construct 33.6 miles of the plan's on- and off-road bicycle and pedestrian facilities.

RED MOUNTAIN PARK

This 1,100 acre park was established through the creation of the Red Mountain Greenway and Recreational Area Commission by the state legislature in 2007. While portions of the park had been opened for special events, the park more recently opened to the general public. Located in southwest Birmingham on former mining territory that stretches from Homewood to Bessemer, this major park includes a complex of over 10 miles of trails and is an industrial archaeological site. Park operations, since its inception, have been ambitious and diverse, running the gamut from documenting oral histories of mining camp residents to incorporating zip line routes through the park. The park and related initiatives are discussed further in Chapter 5, pp. 5.5 and 5.20.

GREEN INFRASTRUCTURE

Altogether, the city's parks, urban forests, greenways, floodplains and streams and other natural and open space areas form its "green infrastructure" while its utilities, roads and public facilities are considered the city's "grey infrastructure." In the same way that water and sanitary sewer lines provide essential functions to the community,



green infrastructure elements support stormwater management, air quality and other services essential to the community. To perform effectively, both types of infrastructure must be planned, maintained and enhanced as interconnected systems, rather than collections of isolated facilities.

Green infrastructure systems are living, breathing networks of land, water, plants and animals that give cities character, make them healthier, and improve quality of life—all of which are critical not only to the well-being of residents and ecosystems, but also to the city's economy and its ability to retain and attract residents and investment. The essential functions served by green infrastructure elements go largely unnoticed by the community-at-large though they may be appreciated for their aesthetic values. For example, residents may enjoy the water features at Avondale or East Lake Parks but few recognize that these quality-of-life amenities also are part of the city's stormwater management system. Ironically, such well-designed facilities disguise their functional value while a detention basin within a contemporary development portrays itself clearly as serving a necessary function, though often lacking in aesthetic value.

According to recent research, including a 2007 EPA study, green infrastructure approaches to stormwater management in development projects are cost-effective and can be less expensive than conventional grey infrastructure systems. Cost savings typically occur in equipment and

installation, long-term operations and maintenance, and replacement.⁵

Compared to built systems, green infrastructure increases cost-effectiveness by improving:⁶

- water quality of municipal drinking water supplies that can lower water treatment costs
- water quality predictability that can reduce long-term capital costs
- longevity of water quality investments
- development benefits through increased demand and pricing for “green” properties
- flood control and groundwater recharge

⁵ American Rivers, Water Environment Federation, ASLA and ECONorthwest, *Banking on Green: A Look at How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-wide*, (2012), <http://www.americanrivers.org/assets/pdfs/reports-and-publications/banking-on-green-report.pdf>, p. 9.

⁶ *Ibid*, p. 10.



Kickoff meeting for the countywide greenway planning process
(Photo: Freshwater Land Trust)

C. Recommendations

goal 1

A comprehensive green infrastructure system provides access to and preserves natural areas and environmentally sensitive areas.

POLICIES

- Support creation of an interconnected green infrastructure network that includes natural areas for passive recreation, stormwater management, and wildlife habitat.
- Consider incentives for conservation and enhancement of natural and urban forests.

STRATEGIES

A. Enhance Birmingham's urban forest.

Birmingham's urban forest includes trees located within public rights-of-way and on City and private property. As a part of the city's green infrastructure, trees serve both qualitative and quantitative functions: reducing urban heat islands, supporting stormwater management and air quality, reducing energy use, and improving community appearance and property values.

ACTIONS

1. Amend Tree Ordinance.

Multiple City departments, land owners and utility companies affect the amount and condition of trees within public rights-of-way and easements and on City property. Internal actions by City departments should be consistent with the city's overall urban forestry policy and improvements in coordination, where needed, will help assure that all such actions further these goals. Coordinating departmental policies to assure proper treatment of the urban forest can be facilitated by adoption and implementation of the amended tree ordinance that is consistent with the needs for public safety as it relates to utility lines and is under review, as of September 2013.

2. Plant more trees.

The City should set an annual target for planting/replanting of trees on City property and public rights-of-way. Prior to developing an Urban Forestry Plan as recommended below, the City should seek to plant 800-1,000 trees each year, including street trees and trees in parks and on other City properties. Over the last several years, the City has planted between 500-600 trees annually. Due to special funding allocations, tree-planting programs in the early 2000s resulted in the City's planting almost 2,000 trees in each of the two years those programs were implemented.

ECONOMIC BENEFITS OF THE URBAN FOREST



According to the University of Washington's Center for Urban Horticulture, trees in cities provide multiple economic benefits. In residential areas, a 25-foot tree can reduce cooling costs by 8 to 12%. City centers are subject to the urban heat island effect due to the amount of buildings and paving, but increased tree canopy can reduce temperatures by as much as 10° F, which results in lower temperatures in area buildings. These temperature reductions also can reduce air pollution, representing additional economic savings. Urban designer and walkability guru Dan Burden estimates that a single street tree generates over \$90,000 in direct benefits—fewer vehicular and pedestrian accidents, cleaner air, improved business, less crime, and stormwater management among others—over its lifespan, not including aesthetic or other subjective benefits.***

* Center for Urban Horticulture, University of Washington, "Urban Forest Values, Economic Benefits of Trees in Cities," <http://www.treobenefits.torresum-mil.com/Documents/Business/EconBans-FS3.pdf>.

** Glatting Jackson Kercher and Anglin, "22 Benefits of Urban Street Trees," <http://www.walkable.org/assets/downloads/22%20Benefits%20of%20Urban%20Street%20Trees.pdf>.

CITYgreen

*CITYgreen is a computer program used by landscape architects, planners, engineers and others to analyze green infrastructure elements, such as the urban tree canopy. An extension to mapping software ArcGIS, which the City already uses, CITYgreen helps cities understand the monetary value that green infrastructure components contribute to stormwater management, air quality, and water quality, all based on local conditions.**

* American Society of Landscape Architects "American Forest CITYgreen," <http://www.asla.org/ContentDetail.aspx?id=14874>

This incremental tree planting should be focused on strategic locations, such as major corridors and gateways, and Strategic Opportunity Areas defined in this plan, particularly any of these locations where there is a high level of pedestrian activity or where such activity is meant to be increased. Residential neighborhoods should also be included. Once a citywide urban forestry plan has been prepared, tree-planting goals and priority locations should be adapted to the strategies in that plan.

Whenever streetscape work is planned, planting of street trees should be considered standard operating procedure unless there is inadequate right-of-way width or other constraints. Such an operating policy should also include green infrastructure improvements.

With the planting of trees in public rights-of-way, on public lands and in easements, the City must also commit to their long-term maintenance.

3. Prepare an Urban Forestry Plan.

Preparation of a citywide urban forestry plan should include the following components to help the City's Urban Forestry Division best maintain the city tree population and do so in a cost-effective manner:

- Tree inventory, analysis and mapping
- Tree risk reduction/emergency storm response plan
- Recommendations for the tree commission
- Public relations and education strategies
- Cost/benefit analysis of urban forest management

The plan should be based upon a thorough inventory and analysis. It is important to know species as well as numbers of trees because different species have varying life expectancies and maintenance needs. Using GIS-based mapping and software allows city staff to create work reports, schedule tree maintenance and planting tasks, and track costs.

In addition to species, number and location, the inventory should also collect information on tree health conditions; proximity to utility lines, traffic signs and signals; sidewalk and other hardscape damage; and insect and disease problems. These inventories are generally conducted by Certified Arborists or similarly trained professionals.

The plan should establish percentage-based targets for growth of the city's tree canopy, including specific goals for the city overall and for residential areas, business districts, parks and natural areas. For example, the plan might set a target to increase the tree canopy in business districts by 10% within five years or to increase the canopy citywide by 5% in a similar timeframe.

In setting these targets the plan must account for maintenance of the growing urban tree canopy. More ambitious tree planting goals will require a greater financial commitment by the City over the long term to maintain the health of trees.

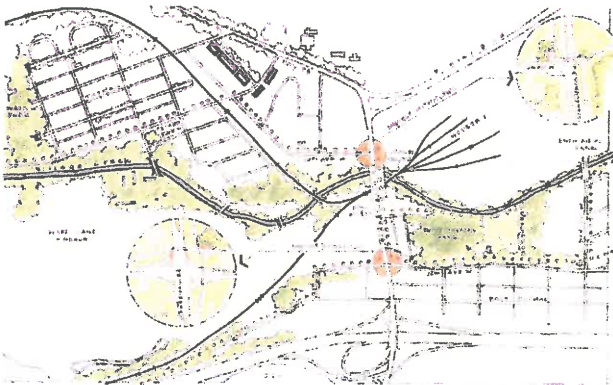
4. Engage the public around the importance of the urban forest for quality of life.

Trees in the urban environment serve multiple purposes of which residents may be unaware. Community workshops should be organized through the Birmingham Tree Commission and potential partners such as the Botanical Gardens or Southern Environmental Center to convey information to residents on the safety benefits of healthy urban forests and green infrastructure services they provide. Other public education programs include press releases, brochures and mailers to residents regarding tree planting and maintenance activities in their area.

B. Implement priority portions of the Red Rock Ridge and Valley Trail System (RRRVS).

Implementation of those segments of the Red Rock Plan within the city limits will help provide physical connections between other elements of Birmingham's green infrastructure network, such as existing and planned parks. Among the trails and greenway projects identified in the countywide plan, several proposed major greenway routes traverse the city, of which most follow Birmingham's primary stream corridors—Village Creek, Five Mile Creek, Valley Creek and Shades Creek. Each then provides an opportunity to preserve or restore the associated floodplains to a more natural condition, enhancing the city's green infrastructure while simultaneously providing attractive, safe routes for pedestrians and bicyclists to move about the city. Interconnected greenways and natural corridors, particularly along streams, also provide important habitats and travel routes for area wildlife.

Because the proposed trail system is countywide, restoration of streams and their associated floodplains—as part of the process to develop greenways along them—offers the chance to improve portions of Birmingham-area streams inside and outside the city limits. As has been the case with the Health Action Partnership, a regional partnership of adjoining governments and public and nonprofit organizations will lend a competitive advantage to the overall effort in attracting funding.



Conceptual plan for a segment of the Village Creek trail corridor at Arkadelphia Road by the Auburn University Center for Architecture and Urban Studies

ACTIONS

1. Initiate priority projects for green infrastructure improvements.

Developing the trail system both at the countywide level and within the city is a substantial undertaking that will take many years. Priorities may be based on green infrastructure benefits, recreation and mobility or a combination of these factors.

The Village and Valley Creek greenways should be considered high priorities due to their value to the city's green infrastructure, particularly stormwater management, as well as other benefits that trails along the corridors would provide. These streams flow through the most urbanized portions of the city. While earlier buyout programs helped acquire land, some developed properties remain in the floodplains along these streams that are susceptible to damage caused by flooding in the future. Greenway development would further the flood mitigation efforts already begun with past buyout programs. Special consideration should be given to segments of those greenway routes that would allow pedestrians and bicyclists to access employment centers from surrounding neighborhoods.

Stream restoration should be included as part of these efforts, particularly along Village and Valley Creeks, where contamination and the stigma associated with it are both a detriment to the quality of life in surrounding neighborhoods.



In 2011 the Saw Mill River in Downtown Yonkers was "daylighted" after being buried for 90 years. The restoration project not only had environmental benefits but also has spurred revitalization in the surrounding downtown area. Source: www.scenic Hudson.org

2. Develop partnerships and funding.

The City should continue and expand on partnerships with the Freshwater Land Trust, the Community Foundation of Greater Birmingham and other Health Action Partnership members; corporations that own facilities and land along the routes; and others to develop these projects.

The 2012 application for federal funding for greenway segments along Village and Shades Creeks is a great example of the City's partnering with adjacent municipalities and private and nonprofit organizations, to further city and regional objectives. In addition to federal transportation funding, greenway projects along Village and Valley Creeks may also be eligible for FEMA, U.S. Army Corps of Engineers and similar flood-mitigation funding sources.

C. Audit and amend development regulations, as needed, to promote environmental goals.

Many of Birmingham's conservation and environmental goals are or can be addressed through its development regulations. These primarily include the zoning ordinance, subdivision regulations, and engineering design guidelines. The subdivision regulations were amended in 2011 but several aspects of these requirements could be improved to better support the development goals of this plan. Over the past two decades, the zoning ordinance, which has significant impact on land development and conservation, has been amended only incrementally and is due for a comprehensive update.

ACTIONS

1. Audit development regulations.

A thorough review of the City's development regulations, particularly the zoning ordinance, should be performed to identify regulatory obstacles to environmentally friendly development. Regulations should allow best practices that advance environmental goals.

This audit should include a review of parking, subdivision design and engineering standards. Low-impact design (LID) strategies and similar site design



Chicago's Green Alley Program retrofits alleys with pervious pavers to allow stormwater infiltration. (Photo: EPA, David Leopold)

methods could be allowed particularly on sites whose development will affect environmental features and natural systems.

Environmental impacts of development on steep slopes are addressed currently through engineering standards. Existing requirements can be supplemented to consider incentives for the use of low impact design and green infrastructure systems. Density limitations may also be appropriate on hillsides and ridge tops above a certain threshold, which may vary based on soil conditions.

Low-impact and green-infrastructure design techniques that could be encouraged include:

- Use of green roofs and rain harvesting
- Pervious surfaces for parking and vehicular use areas
- Shared parking and reduced minimum parking requirements
- "Skinny" streets (narrow streets where wider rights of way are not needed to accommodate traffic) and other alternative street designs to reduce impervious surfaces
- Retention, planting and/or replanting of trees
- Use of low-maintenance, native species of plants in required landscaping
- Use of bioswales (vegetated depressions for drainage) as an alternative to curb and gutter systems
- Use of parking lot landscaping for stormwater management
- Regional Retention Systems where appropriate
- Riparian buffers along streams

These design features can be valuable in new developments as well as retrofits in existing neighborhoods and business areas by improving stormwater drainage and reducing flooding. Increased tree and other vegetative cover and decreased impervious cover can reduce urban heat islands and ultimately improve cooling costs. Likewise, rain harvesting and water-efficient landscaping lowers water consumption and associated utility costs.

Birmingham's subdivision regulations require a minimum pavement width for new streets based on their classification. (Because there is no officially adopted master street plan, classification decisions are based on regional planning commission classifications.) However, this does not account for the actual lane assembly and can unnecessarily raise impervious surface cover and travel speeds. For example, collector streets are required to have a minimum pavement width of 37 feet from back-of-curb to back-of-curb. While this is appropriate for three-lane segments, in two-lane segments the resulting lane width would be over 17 feet, about five feet wider than desirable. Basing pavement width on lane assembly and design speed, rather than tying it solely to street classification, would be more precise and allow decreases in impervious surfaces



Seattle's Street Edge Alternatives (SEA) program encourages the use of low-impact design techniques, including bioswales, narrower street widths, structural grass, flush curbs and other features. After two years of monitoring, the 2001 pilot street project had reduced the total volume of stormwater leaving the street by 99%. The redesign also reduced pavement costs by 49%. (More information: Seattle Public Utilities, Street Edge Alternatives http://www.seattle.gov/util/About_SPU/Drainage_&_Sewer_System/GreenStormwaterInfrastructure/NaturalDrainageProjects/StreetEdgeAlternatives/)



FLOODING CONTROL USING GREEN INFRASTRUCTURE

Episcopal High School in Baton Rouge, Louisiana, was troubled by ongoing flooding on the campus due to an obsolete drainage system. The gym flooded during severe rains and the quad was typically muddy. The cost to replace and upgrade the drainage system was estimated at \$500,000. Instead of re-piping the drainage system, the school opted for a more natural, green infrastructure design that included bioswales and a rain garden. The project cost \$110,000 for design and construction representing, a considerable savings compared to the conventional design. (Further information: American Society of Landscape Architects, Stormwater Case Studies, http://www.asla.org/uploadedFiles/CMS/Advocacy/Federal_Government_Affairs/Stormwater_Case_Studies/Stormwater%20Case%20459%20Episcopal%20High%20School%20Stormwater%20Rain%20Garden,%20Baton%20Rouge,%20LA.pdf.)

Photo: Brown+Danos landdesign

where fewer lanes are required. This can lessen costs of street construction and eventually the costs to the City for maintenance and repaving. Keeping lane widths to the minimum necessary also calms travel speeds making streets safer for pedestrians and motorists alike. This issue is pertinent to other street classifications as well.

The subdivision regulations require standard curb and gutter in all but estate, agricultural and manufacturing districts. This prohibits the use of bioswales in all but the least dense residential developments. While use of bioswales—a low impact device for managing stormwater—is not appropriate in all land use contexts, the City should not only allow but encourage them, subject to appropriate design standards, in more types of residential development. In residential contexts, allowances should be made for “green streets,” which

combine the use of natural drainage elements, such as bioswales and rain gardens, at the roadside with narrow street widths to reduce overall impervious surface cover. Flush curbs and structural grass can be used to accommodate access for emergency vehicles. Similarly, bioswales and other green infrastructure and low-impact development techniques should be more strongly recommended for use in flood prone areas.

Changing the City's parking regulations can also aid in stormwater management. Parking is a major contributor in the amount of impervious surfaces associated with development. While most cities maintain minimum parking requirements for uses, more recently several cities have transitioned to maximum parking standards to mitigate the negative impacts that excessive parking ratios engender. Others have reduced their minimum parking requirements and/or require that overflow parking be provided with pervious paving. Parking requirements can also be improved by allowing reductions for shared parking among multiple uses with parking demands at different times of the day and throughout the week. Different types of pervious paving are available today and should be permitted to meet City parking standards where suitable to the use and context.

2. Consider incentives for the use of conservation developments.

Conservation developments or conservation subdivisions are an advantageous tool in achieving the city's green infrastructure goals through private development. Conservation development provisions allow developers to forego area and dimensional requirements of the zoning ordinance, such as minimum lot size or lot width, when environmental features are preserved within a permanent open space.

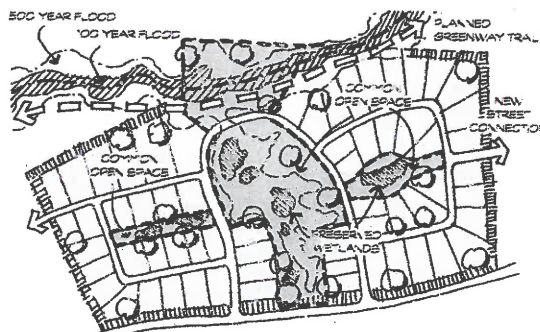
These types of development (and redevelopment) are of particular benefit where steep slopes, tree canopy, wetlands, floodplains, historic features or other elements are to be conserved. These protected spaces can serve stormwater or other environmental functions while also providing amenity space for the development—whether in the form of a community garden, playground or a combination of open space uses. These protected spaces can provide connections to adjacent elements in the city's green infrastructure network.

Conservation design is facilitated by zoning regulations through “density-averaging” or density bonuses. The design process begins with identification of the open space(s) to be protected. Preferably, the open space will contain both environmentally sensitive land and otherwise developable land. This assures its usefulness as an amenity and prevents it from being merely remnant land that goes unused and unmaintained.

In density-averaging, a maximum amount of development available to the site is determined based on zoning limitations. The developed portion of the site is clustered more densely together than would be allowed under normal zoning requirements in order to create the open-space amenity and achieve the available density. Incentives such as density bonuses can be awarded to further encourage this approach. Density bonuses can be offered in return for higher percentages of usable open space, land dedication, or other desired development features.

The design and uses of the open space must be constrained to ensure the space functions properly as a green infrastructure element and provides some usable open space for residents or workers. Provisions are also required to ensure proper ownership and maintenance of the open space.

Many times developers can achieve greater efficiency in the way that streets, water, sewer and other utilities are laid out due to clustering, conservation developments can be a “win-win” for the community and the developer. Consider incentives for the use of conservation developments would provide an



Through density averaging, conservation subdivisions preserve green infrastructure elements and create usable open space, without reducing development capacity.

economically and environmentally attractive alternative to the conventional method of mass grading and clear cutting difficult sites.

3. Establish zoning provisions to allow for compact housing.

There may be opportunities for cluster housing and cottage subdivisions in redevelopment and infill projects in existing communities. Similar to conservation developments, cluster housing and cottage subdivisions represent more compact housing development when usable, common open space is provided for residents, taking the place of individual front- or rear-yard setbacks. Cottage subdivision regulations were adopted early by cities in Washington state but also in Southern cities like Nashville and Auburn. In addition to modifying normal zoning requirements for yard setbacks, these provisions waive street frontage requirements, which are normally mandated for all single-family dwellings.

Just as in conservation subdivisions, the common open space around which cluster housing is developed can serve green infrastructure purposes. The compact nature of these developments also contributes to walkability while retaining the scale and character of conventional single-family detached housing. Because land area and costs per dwelling are lower, they can be built affordably.

COTTAGE SUBDIVISIONS

The Cottage Company in the State of Washington has worked with municipalities to incorporate provisions in their zoning regulations to allow for these types of cluster housing.



Photo: Union Studio Architects, www.unionstudioarch.com



The cottages of Cliff Road are a local, historic example of compact design that would not normally be allowed under City regulations today.

goal 2

Reinvestment in existing communities conserves resources and sensitive environments.

POLICIES

- Consider incentives for reinvestment in existing communities, rather than "greenfields," for new commercial, residential and institutional development.
- Consider incentives for development patterns and site-design methods that help protect water quality, sensitive environmental features or wildlife habitat.

STRATEGIES

A. Convert selected brownfields to usable open space.

Birmingham contains many "brownfields," former industrial and commercial sites that are contaminated or believed to be contaminated. But the city's brownfields can be returned to productive use in a variety of ways. Remediation not only allows the property to be put back into a productive use, but it also can remove a stigma that depresses property values in the surrounding area.

Appropriate reuse of brownfields can include new industrial, commercial or residential reuses as well as usable open spaces. In remediating any contamination and

transforming these sites to open space use, they can also be (re)integrated into the overall green infrastructure system. For recommendations on the types of income-producing uses appropriate for brownfield redevelopment, refer to Chapters 9 (pp. 9.9, 9.13) and 10 (pp. 10.24–10.25).

ACTIONS

1. *Identify brownfield sites for open space use.*

Depending on their location, context, size and other factors, brownfield sites or portions of them may be adaptively reused as parks or other types of publicly accessible, usable open spaces. A Phase 1 assessment should be conducted to determine the scope of any contamination, cleanup costs and strategies for remediation and reuse.

Brownfields can also be allowed to return to a more natural state. These are referred to as “urban wilds” and, even with little or no remediation, they can serve as part of the green infrastructure system. Urban wilds are not open to the public and may not be a desirable end use for most brownfields. But they can serve as an interim option until funding, demand or other factors align to remediate and adaptively reuse a site.

2. *Acquire and remediate selected sites.*

Upon determining desirable sites for conversion to open space uses, acquisition may be required. Because of the potential exposure to the landowner for remediation costs and liability, the City may be able to acquire the land more easily and pursue EPA funds for assessment and cleanup activities.

Remediation, which can involve excavation of contaminated soil, replacing it with clean soil, and capping of the site, can be costly, despite the possibility of assistance through government programs and grants. Because of these costs, brownfields may lie dormant for some time.

Phytoremediation is a slow but lower-cost process—using plants to clean toxic soils, groundwater, surface water and sediment—that can be used during this dormant period. This remedial process has been employed locally, including at Sloss Furnaces, and across the country on sites both large and small. In Chicago, former gas station sites were cleaned through phytoremediation for reuse as pocket parks.

Phytoremediation is most effective on sites with moderate amounts of pollution but has been used successfully to address a range of contaminants, including those in landfills, wood-treating facilities, military bases, fuel-storage sites, sewage treatment plants and mining sites. According to the US EPA:

Phytoremediation can occur even if the chemicals are not taken into the plant by the roots. For example, chemicals can stick or sorb to plant roots. Or they can be changed into less harmful chemicals by bugs or microbes that live near plant roots...Plants grown for phytoremediation also can help keep harmful chemicals from moving from a polluted site to other areas. The plants limit the

PHYTOREMEDIATION

*In phytoremediation, plants remove a variety of contaminants from brownfield sites, including heavy metals, radionuclides, chlorinated solvents, petroleum hydrocarbons, PCBs, pesticides and others. Plant types must be selected for local conditions and for the types of contaminants to be removed. Plants typically used to remove arsenic, for example are Chinese brake fern, sunflower and highland bent grass. Lead removal uses blue sheep fescue, Indian mustard, wheat and ragweed.**

Plants should be harvested, the soil retested and the planting cycle continued until the soil contaminants decline to an appropriate level. Some plants are “hyperaccumulators” and must be disposed of as hazardous waste when harvested. A small bioremediation project was implemented north of the railroad tracks to Morris Avenue between 15th and 16th streets.

* Kaja Kühl, *From Brownfields to Greenfields: A Field Guide to Phytoremediation*, 2010, <http://urbanremedius.net/>



(Photo: ideonexus.com)



Phytoremediation is not new to Birmingham. Above is a phytoremediation demonstration project at Sloss Furnaces. Recently a bioremediation project was performed along the railroad near Morris Avenue. (Photo: www.choosepeace.info)

amount of chemicals that can be carried away by the wind or by rain that soaks into the soil or flows off the site.⁷

⁷ United States Environmental Protection Agency, *A Citizen's Guide to Phytoremediation*, 2001.

goal 3

The City makes every effort to consistently meet clean air standards.

POLICIES

- Support the development of cost-effective multi-modal transportation systems that reduce vehicle emissions.
- Encourage use of clean fuels and emissions testing.
- Emphasize recruitment of clean industry.
- Consider incentives for industries to reduce emissions over time.
- Promote the use of cost-effective energy efficient design, materials and equipment in existing and private development.

STRATEGIES

The City must pursue multiple strategies to improve regional air quality, which inherently will require collaboration with federal, state and local governments, the business community and other interested stakeholders. Transportation-related initiatives include: reduced vehicle emissions by managing annual vehicle miles traveled (VMT), encouraging transit and active transportation, and advancing use of clean fuels and emissions testing for personal vehicles. Other important initiatives to improve air quality involve promoting energy efficiency in the built environment and consideration of incentives that encourage reducing emissions related to industries.

A. Implement priority portions of the Red Rock Ridge and Valley Trail System.

Increasing pedestrian and bicycle options through development of the countywide trails system will support transit use and reduce dependency on personal vehicles, which will lead to reductions in vehicular emissions that pollute the air. Federal grants are available for these types of projects, for instance through MAP-21, which requires local matching funds. The City received a TIGER grant in 2012 that will help initiate several portions of the trail system.

ACTION

1. Develop a priority list for unfunded segments of the Trail System and seek funding according to the list.

Priority ranking should take into account criteria such as connections between neighborhoods and destinations such as parks and commercial districts; stormwater management and flood mitigation opportunities; and enhancement of urban villages and associated strategic opportunity areas discussed in Chapter 7 (p. 7.8).

B. Use clean fuels and encourage voluntary vehicle emissions testing.

ACTIONS

1. Expand use of clean fuels

In 2007, the City of Birmingham began the transition to a “green” fleet, installing biodiesel refueling stations to run its diesel vehicles on B20 blend fuels. Since then E-85 ethanol fueled vehicles were introduced. These efforts led to reduced vehicle emissions that promise better air quality in the region.

Birmingham and other area cities, in collaboration with Alagasco and Energen, have also been converting parts of their fleets to run on compressed natural gas (CNG), and are supporting the development of CNG fuel stations in the region. By continuing these initiatives, Birmingham and other cities and corporations can help to create the demand necessary to attract private investment in alternative fueling stations, which will ultimately make it easier for consumers to move to alternative fuels and reduce their air-quality impacts.

2. Encourage periodic voluntary vehicle emissions testing

Personal vehicle use contributes significantly to Birmingham’s air quality conditions, but multiple strategies can be used to reduce the negative impacts of vehicle emissions. As described in Chapter 12, increased use of alternative modes of travel (transit, ridesharing, walking and biking) can reduce the vehicle miles traveled in the region and therefore the overall amount of VOCs, NOx and other pollutants in the air. Secondly, vehicle emissions testing lets car owners know the degree to which their vehicles are contributing to

air quality problems. Tests can identify maintenance issues or repairs needed for the vehicle to produce fewer pollutants.

Over 30 states currently require or have required periodic vehicle emissions tests, generally in counties or metro areas with air quality concerns. Testing is required either annually or biennially. More recently, states are loosening requirements for or are exempting hybrid vehicles and newer-model cars with increased fuel efficiency. Washington state, for example, recently exempted 2009 and later model vehicles. Average test costs are \$10 to \$20. Centralized testing programs, where motorists travel to a single facility operated by a public or non-profit agency, are generally more cost-effective, while decentralized programs tend to be more convenient for motorists.⁸ Decentralized programs allow motorists to have their vehicles inspected by private automotive repair businesses.

Voluntary emissions testing has been conducted by the Birmingham Metropolitan Planning Organization (MPO) and APCA in the past. Resuming these activities could be supplemented by public awareness and education programs. The City can also support the passage of state legislation to require periodic testing for applicable metro areas. This could include a sunset provision tied to air-quality improvements and/or to the percentage of newer, cleaner-burning cars in use.

⁸ US EPA, *Clean Cars—Clean Air: A Consumer Guide to Auto Emission Inspection and Maintenance Programs*, <http://www.epa.gov/oms/cfa-air.htm>.



Vehicle emissions testing helps reduce air pollution caused by personal vehicles. Photo: <http://ecologywa.blogspot.com>

goal 4

The City makes every effort to consistently meet clean water standards.

POLICIES

- Encourage the Birmingham Water Works Board to protect water-supply sources located outside the city.
- Consider incentives for development that protects the city's water resources.
- Consider incentives for the protection of natural drainage in stormwater management systems where feasible.
- Consider incentives for the use of conservation and low-impact development techniques.
- Support state water quality standards and enforcement.
- Monitor drilling uses of water resources to avoid contamination or excessive use and encourage best management practices.

STRATEGIES

There are several approaches to be undertaken to continue to improve Birmingham's water quality and, in the process, remove those segments of the Cahaba River, the Locust Fork of the Black Warrior River, Village Creek, Valley Creek and Opossum Creek from ADEM's 303(d) list. Efforts include improved stormwater management and design practices, continued flood mitigation efforts, ongoing water-quality monitoring, stream restoration and green infrastructure retrofits, and changes to development regulations.

In addition to these strategies, the City must also continue to work with the BWWB, as well as other stakeholders, to protect Birmingham's water supply. Because Birmingham's water supply involves sources outside of the city limits, it is essential for the City to support regional and state efforts to assure protection of area waterways.

Due to a constrained state budget, concerns have arisen regarding the ADEM's ability to sustain water quality monitoring and enforcement operations. Properly funding and providing policy support for this state function is essential to protecting and improving water quality within and outside the city limits.

A. Maintain updated citywide flood-mitigation and stormwater plans.

Following multiple storms and severe flooding in the early 2000s, the City prepared and adopted a citywide flood-mitigation and stormwater-management plan in 2004. The City also participated in multi-jurisdictional natural-hazard and flood-hazard mitigation planning efforts organized by Jefferson County in this same period. These efforts resulted in multiple mitigation programs, including buyout initiatives along Village Creek, Valley Creek, Five Mile Creek, Upper Shades Creek and other floodplain corridors.

ACTIONS

1. Update the 2004 Flood Mitigation/Stormwater Management Plan.

Given the substantial amount of flood mitigation activities that occurred in the early 2000s, this effort should reveal a much improved picture of flood hazards in the city. A renewed flood conditions assessment will allow greater focus on remaining priorities. This plan update should be coordinated with ongoing stormwater planning and water quality monitoring, analysis and reporting conducted by the City, since the two issues are so closely related. The City should also continue to update its flood-hazard mapping.

2. Evaluate recommendations and update flood regulations.

The 2004 plan included a recommendation to adopt the proposed Jefferson County floodplain regulations or to strengthen existing regulations on floodplain development within the City zoning ordinance. Notably, the recommendations in this plan echo several of the strategies described in the 2004 plan: continued land acquisition along floodplains and regulatory improvements such as encouraging low-impact development practices and conservation and cluster developments.

The following recommended changes to the floodplain regulations in the Zoning Ordinance were also included in the 2004 plan:

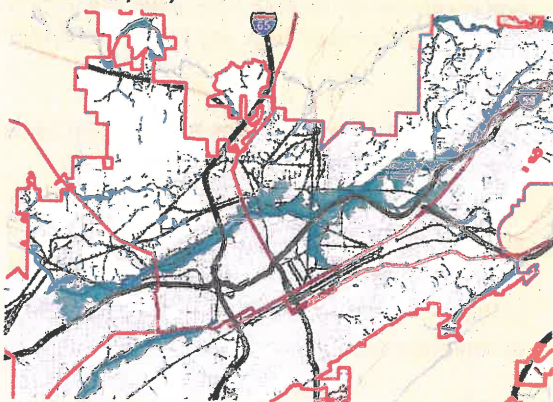
- Increase the flood-protection elevation for new construction from 1'-0" to 1'-6" or 2'-0" above the base flood elevation.

FLOODPLAIN TERMINOLOGY

Flood fringe—That portion of the flood plain outside the regulatory floodway.

Floodway—That portion of the floodplain which is effective in carrying flow, within which this carrying capacity must be preserved and where the flood hazard is generally highest, i.e., where water depths and velocities are the greatest. It is that area which provides for the discharge of the base flood so the cumulative increase in water surface elevation is no more than one foot.

Floodplains—Lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in any given year. The base floodplain is used to designate the 100-year floodplain (one percent chance floodplain). The critical floodplain is defined as the 500-year floodplain (0.2 percent chance floodplain).



Birmingham's largest floodplain complex lies along Village Creek.

- Prohibit the placement of fill in the floodway and limit its development to conservation, open space, passive recreation, flood-control and utility uses.
- Require no net loss of flood-storage capacity for developments in the Special Flood Hazard Area.
- Establish maximum percentages of impervious cover in Special Flood Hazard Areas.

B. Continue water-quality monitoring and begin enforcement based on new city-wide Stormwater Ordinance.

As part of the City's state water-quality permit requirements under the federal Clean Water Act, the City prepares an annual report on water quality issues and an annual stormwater management plan. These activities should continue and be coordinated with a regularly updated flood mitigation plan.

Hydraulic fracturing is a drilling technique used to release petroleum, natural gas and other substances for energy production. Advancements in the fracturing process—"fracking," as it has become known popularly—over the last two decades have made it economically effective but also have made its possible environmental impacts less well understood. Critics maintain that the chemicals used in fracturing fluid can contaminate ground water and threaten drinking water supplies.

Birmingham lies along a shale gas formation eyed for fracking that stretches across north central Alabama roughly along the I-59 corridor. A concentration of natural gas wells are believed to occur in the vicinity of the Black Warrior River, one of Birmingham's drinking water supplies. However, Coalbed Methane producers in Jefferson and Tuscaloosa Counties have had limited success producing promising well in the area, and current wells in the region are being sealed due to declining production and the outlook for future wells is limited. Even though, the City and BWB should monitor the practice in the region (as well as in other locations) and, if necessary, support state efforts to protect drinking water sources from chemical.

ACTIONS

1. Work to remove local streams from the 303(d) list of impaired waters.

Section 303(d) of the federal Clean Water Act requires that each state identify those waters that do not currently support designated uses and to develop a TMDL (total maximum daily load) plan for impaired streams. Village Creek and Valley Creek are the most important city streams on the list. Different segments

of Village Creek are listed for Draft TDML plans in 2014 and 2019, and Valley Creek is listed for 2019. Urban runoff and storm sewers are among the sources of pollutants and they can be mitigated by implementation of stormwater-management programs that reduce runoff and stormwater entering the streams.

2. *Work to reduce pollutant loading on City Water resources.*

In conformance with the City's NPDES permit, focus water quality monitoring on the elimination of pollutants and deduction of pollutant loadings on City water resources.

C. *Use green infrastructure best practices, as feasible, in City capital improvement projects, as well as consider incentives for private development.*

To demonstrate the effectiveness of green infrastructure design techniques and to integrate them into the local engineering and design practices, the City should incorporate best practices in sidewalk and street improvements and create a pilot program to convert selected "gray" stormwater facilities to green systems. The pilot program can initially focus on public infrastructure, such as concrete swales and drainage facilities along streets and in City parking lots. The program can also include retrofitting drainage facilities on private property through partnerships and grants. Because green infrastructure can reduce pollutants entering local streams, the BWVB would be a logical partner for carrying out a pilot program.

The program should execute multiple demonstration projects each year that may range in size and complexity from bioretention in city parks to green roof conversions on City buildings. The floodplain manager with assistance of planning, engineering and public works personnel should identify retrofit projects in locations where there are known flooding or drainage problems.

The Cawaco Resource Conservation and Development Council provides funds annually through its challenge grant program to municipalities and nonprofit organizations for community improvement projects that incorporate LID and green infrastructure programs.

ACTIONS

1. *Create a green infrastructure program as part of the City's street and sidewalk improvement plans.*

The infrastructure bond approved by voters in 2012 will include street improvement plans. Street and sidewalk improvements should be designed to include best practices in stormwater management, such as bumpouts with rain gardens and bioswales, where appropriate, to promote natural drainage. (See Chapter 13 for more information.)

2. *Incorporate green infrastructure best practices in implementation of the 2012 TIGER grant and implementation of the Red Rock Ridge and Valley Trail System.*

3. *Create incentives to promote green infrastructure (low-impact) development for Private Development.*

Economic Development Department and Stormwater Management Division work in partnership with the development community to establish offset credits by ordinance to promote economic development that helps to improve water quality in Birmingham.

D. Getting Started

ACTIONS	RESPONSIBLE PARTY
Audit and amend zoning and subdivision regulations to enable conservation developments, incentivize reinvestment in existing communities and encourage low-impact design (LID) techniques in site plans and subdivision designs.	PEP; Planning Commission, City Council.
Identify locations for and implement a pilot phytoremediation program to clean and adaptively reuse contaminated sites for interim and/or permanent open space uses.	PEP; Public Works (Horticulture and Urban Forestry Division); ADEM; Cawaco RC&D.
Identify sites for green-infrastructure demonstration projects and a pilot green-infrastructure retrofit program, including sites with repetitive, localized flooding.	PEP (Floodplain Division); Public Works, BWWB; Cawaco RC&D.

Chapter 13

Supporting Public Facilities, Services and Infrastructure



*"Each neighborhood [with]
great educational opportunities,
accessible to health care facilities,
dedicated green space, increased
presence of police."*

*"...a concept with integrated schools,
police, utilities and public services."*

GOALS	POLICIES FOR DECISION MAKERS
The City has state-of-the-art data and information resources and programs to support decision-making, facilities, services, and performance management across city departments.	<ul style="list-style-type: none"> • Invest in creating and maintaining data and information resources to maximize benefits and efficient use of taxpayer dollars.
Public safety departments meet best practices performance standards.	<ul style="list-style-type: none"> • Support a strategic plan for the police department, including technology, facilities, and vehicles, to make the police department state of the art. • Support fire department needs for upgraded equipment and training. • Continue to support community-based public safety programs.
Water and sewer service meets the long-term needs of the city.	<ul style="list-style-type: none"> • Support policies that ensure long-term security for drinking water supplies. • Support sewer service policies that resolve current problems, taking into account burdens on ratepayers.
Stormwater management and floodplain management systems incorporate best management practices.	<ul style="list-style-type: none"> • Continue the Flood Mitigation Program through property buyouts in repetitive flood areas. • Pursue development of a comprehensive watershed-management plan and encourage the use of best management practices for stormwater runoff treatment, including use of non-structural solutions where feasible. • Continue to support initiatives that aim to incorporate stormwater infrastructure design into a public amenity, such as a greenway.
City resilience is supported by effective measures to mitigate hazards presented by tornadoes, floods and other environmental hazards.	<ul style="list-style-type: none"> • Continue efforts to provide effective warning of floods and tornadoes, as well as neighborhood-based “safe rooms” in public facilities. • Continue to work with FEMA and others to both eliminate repetitive flood hazards and manage floodplain development.
City facilities are models of energy and resource efficiency and maintained for long-term use.	<ul style="list-style-type: none"> • Support investment in an asset management system for all city-owned facilities. • Where possible, meet new needs and demands by enhancement/expansion of existing facilities. • Use best practices for long-term, life-cycle energy and resource efficiency in improvements, renovations, or new facilities. • Continue to support a priority system and plan to fund all outstanding ADA deficiencies in public facilities.
Minimized city funding for operational and capital costs for city-owned cultural and entertainment facilities.	<ul style="list-style-type: none"> • Support continued emphasis on public-private operational agreements and fund-raising for cultural facilities owned by the city.
Solid waste is reduced at least 20 percent over 2011 levels by 2030.	<ul style="list-style-type: none"> • Support measures to reduce the amount of solid waste that goes to the landfill.
An effective and well-regarded public school system.	<ul style="list-style-type: none"> • Support public school improvement programs. • Support collaborative planning for excess school facility capacity and property disposition.

findings

DATA AND INFORMATION

The City lacks up-to-date inventories of its assets and data systems.

PUBLIC SAFETY

The Birmingham Police Department is close to full strength (840 officers) in terms of staff, but needs upgrades to technology and records management, facilities, and vehicles, as well as creation of a strategic plan.

There are four precincts for a large city.

Crime is down, particularly certain violent crimes like murder and robbery.

The police department includes a Community Services Division focused on community policing, including the schools.

The Birmingham Fire Department has 32 fire stations (one under construction as of early 2012).

Blight and vacancy, plus the prevalence of older and deteriorated housing, results in many fires.

Fire Department priorities include updated equipment, improved facilities, additional staff, and enhanced training.

HAZARD MITIGATION

The City of Birmingham participates in the hazard mitigation planning process led by the Jefferson County Emergency Management Agency.

Major hazards in the city are repetitive floods in the city's Village Creek and Valley Creek floodplains.

WATER AND SEWER SERVICE

The City depends on regional providers for drinking water and sewer service, the Birmingham Water Works Board (BWVB) and the Jefferson County Environmental Services Department (JCESD) respectively.

Drinking water supplies are expected to be plentiful for the next 75 years, but droughts are also expected to become more common.

Sewer improvements are underway, and Birmingham ratepayers will see sewer rates go up.

DRAINAGE AND STORMWATER MANAGEMENT

A plan for compliance with NPDES Phase II stormwater regulation has been developed.

Flood mitigation property buyouts have been undertaken as funds are available from the Corps of Engineers and FEMA (Federal Emergency Management Agency).

Guidelines for the design of stormwater facilities are available and enforced by the Planning, Engineering and Permitting Department.

CULTURAL FACILITIES

Birmingham has an excellent public library system with 19 branches and a central library, which includes an important rare books and manuscript collection. The system is also part of the Jefferson County Library Cooperative and is linked with the other library systems within the county.

The City owns a number of cultural institutions and venues, such as Sloss Furnace, the Botanical Garden, the Zoo, the Museum of Art, Arlington House, Boutwell Auditorium, and the Southern Museum of Flight.

RECYCLING AND SOLID WASTE

The City owns and operates two landfills and provides residential refuse collection twice a week, as well as curbside recycling for single-family houses.

The projected capacity of both landfills is more than 20 years.

PUBLIC WORKS

The Department of Public Works (DPW) is responsible for the maintenance of all city buildings and other facilities, grounds and landscapes, including the park system; cleaning of streets and drainage ditches; enforcement of quality of life ordinances; construction administration; demolition; construction of sidewalks, curbs and gutters; and solid waste operations, including collection and landfill.

DPW mows grass at over 3000 vacant lots.

The Equipment Management Department maintains all city vehicles as well as all the public works machinery.

findings (continued)

PUBLIC SCHOOLS

Public school enrollment has declined 50% in 30 years to a 2011/12 school year enrollment of 25,100 students, 10,000 fewer than in 2005.

Almost all schools are currently operating at less than capacity and eleven have occupancy ratios of 50% or less. Twelve school buildings are vacant.

A capital improvement program, based on a study that assumed 3% annual population growth, will result in capacity for 37,364 students, more than 10,000 above current enrollments.

School improvement programs are being implemented to improve academic outcomes, support professional development of teachers, and support parent involvement in the school system.

The Birmingham Education Foundation has been created to support public school improvement programs.

Because of the capital improvement program, the physical plant of the school system is improved, with many new facilities. Additional improvements are needed at some schools.

The school system owns facilities, dating predominantly from the 1950s-1990s, that it wishes to dispose of.

challenges

Obtaining resources for public safety facility, technology, equipment and training improvements.

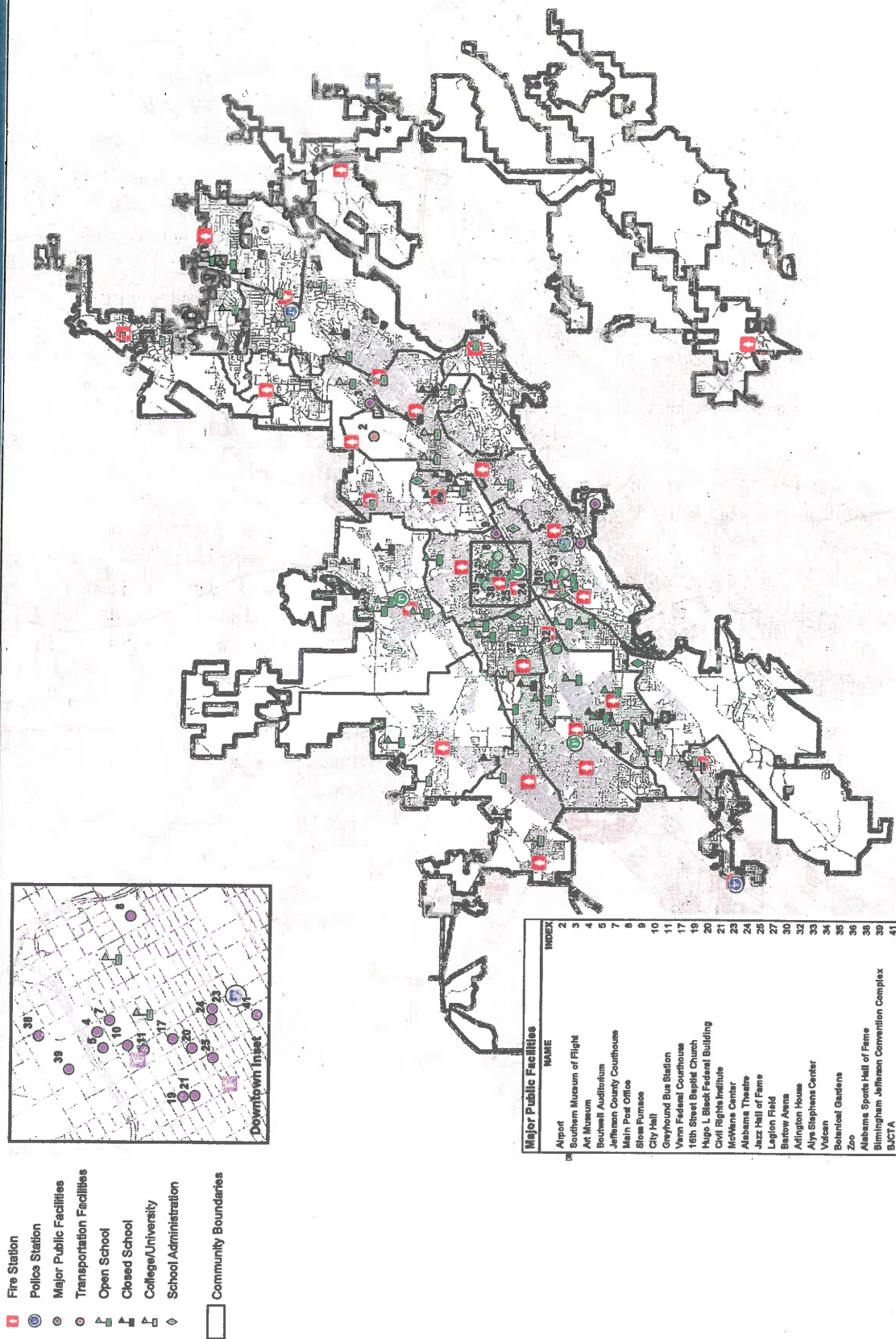
Improving the perceptions of public safety.

Ensuring long-term water and sewer service.

Establishing an asset management system that includes all city facilities.

Improving both the reality and perception of public school system performance.

FIGURE 13-1: PUBLICLY-OWNED FACILITIES



SOURCE: BIRMINGHAM GIS

A. What the Community Said

- Improvements to the public school system are needed,
- Crime and perception of crime are significant issues in many neighborhoods
- Street and sidewalk maintenance and repair is needed throughout the city.
- Localized flooding and poor drainage continue to be problematic in certain areas of the city.
- The prospect of increasing sewer rates is a concern to many citizens.
- The disposition and future use of vacant city-owned and school department-owned properties should be part of a planning process.

B. Recommendations

goal 1

The City has state-of-the-art data and information resources and programs to support decision-making, facilities, services, and performance management across city departments.

POLICIES

- Invest in creating and maintaining data and information resources to maximize benefits and efficient use of taxpayer dollars.

STRATEGIES

A. Enhance the City of Birmingham's information system for the public through website improvements, data inventory, an open data warehouse, and smartphone apps, and to support City performance management systems.

Actions

1. Improve the City's website to offer more information and e-government services.

The City's website should be redesigned and maintained to provide a greater variety of information on programs, resources, departments, documents and forms. The current website, as of 2012, is inconsistent in the type and timeliness of information made available by various departments. The full Code of Ordinances should be available online—either on the city's website or through an online resource such as Municode (www.municode.com) as well as proposed ordinances. Although some forms are posted on the website, there are few opportunities to submit forms through the website for various city services. Studies and reports are not consistently posted. There is no comprehensive listing of departments, offices and contact information. Examples of effective municipal websites include Huntsville (www.hsvcity.org), Augusta, GA (www.augustaga.gov), Winston-Salem, NC (www.cityofws.org), and New Orleans (www.nola.gov).

2. Inventory city data and work toward creation of a publicly-accessible online data warehouse.

Cities are increasingly providing open access to data to their citizens. For example, Washington, DC has created an award-winning public information system and data warehouse, called City DW, open to the public. The data warehouse includes raw data from multiple city government agencies supplied over 425 data feeds to online sites, citizens, and government agencies. The DC Data Catalog allows users to subscribe to real time data feeds of information ranging from public space permits and completed construction projects to juvenile crime data and government employee credit card transactions.

The Digital Public Square is a virtual town hall with public access to current government information along with avenues for involvement and collaboration through social networks. Citizens have created apps using the public data on topics such as parking meter locations and historic buildings. Residents have also created their own informational websites populated by City DW data feeds, such as www.JDland.com, a site dedicated to news and information in Southeast Washington.

3. **Establish a performance management system for city departments and agencies.**

Evidence-based decision-making is the foundation of the performance management systems used by mayors and city officials around the country to track performance against established goals. First developed by Baltimore as the CitiStat program, the key features of performance management are:

- Collection and analysis of data to spotlight problem areas and potential solutions.
- Development of quantifiable measures to assess policy performance and draw comparisons across similar circumstances or peer groups so that “best practices” can be identified and expanded.
- Public dissemination of data and metrics on policy results, so those outside government can hold public officials accountable for their performance.¹

These systems can create a culture of measurement and accountability that can improve performance and lower costs. As an example, Augusta (GA) has created a “performance dashboard” with performance management results available on the city website.

(www.augustaga.gov/index.aspx?nid=165)

4. **Create a comprehensive property management system.**

See Chapter 8, pp. 8.9–8.10.

¹ http://www.americanprogress.org/issues/2007/04/data_driven_policy.html

goal 2

Public safety departments meet best practices performance standards.

POLICIES

- Support a strategic plan for the police department, including technology, facilities, and vehicles, to make the police department state-of-the-art.
- Support fire department needs for upgraded equipment and training.
- Continue to support community-based public safety programs.

STRATEGIES

A. **Support the Birmingham Police Department planning, facility and equipment priority needs and enhanced collaboration with other agencies**

Actions

1. **Create and implement a long-term strategic plan for the Police Department and establish a five-year strategic planning cycle thereafter.**

A long-term strategic planning process will provide the opportunity to integrate needs for staff, training, facilities and equipment into the City’s overall 21st century plan for a thriving downtown and neighborhoods of choice. Like other City departments and partners, the Police Department needs data and analysis (a beat study and a manpower study) to understand how population changes have affected its responsibilities. However, it is very important that this understanding of changing conditions be an ongoing practice. Implementation of the strategic approach recommended in this comprehensive plan means that population projections based on past data (the typical approach to population forecasting) may not reflect changing trends. The Police Department strategic plan and other City plans and initiatives should be aligned. A five-year planning cycle after completion of a broader strategic plan will help the Police Department effectively communicate its needs to the community.

2. Create a separate Downtown precinct, make improvements or replace precinct buildings and the downtown headquarters, locating any new facilities to anchor and contribute to revitalization goals.

The East and South precincts have unfinished buildings, and the North precinct building needs rehabilitation. The new West Precinct Police Station, under construction in 2012, is located in the Five Points West commercial center, close to a library branch and CrossPlex. This model of locating new police facilities in the proposed Urban Village Districts will support the strategic neighborhood revitalization model and should be followed, if possible, in locating other precinct buildings. New precinct buildings should be designed to include community meeting space.

Similarly, the current police headquarters building has an unusable floor, inadequate technological systems to support a full laboratory, and insecure parking. A central downtown location and the design for a new police headquarters should be chosen strategically to provide additional synergy to downtown. Location of the headquarters' parking should be carefully studied so that it does not detract from the pedestrian-friendly character essential to downtown streets.

3. Seek a solution for a new municipal jail and locate it appropriately.

In poor condition, the municipal jail needs replacement, and solutions ranging from a regional facility to privatization have been suggested. Regionalization is unlikely until after the County resolves its financial problems. Privatization, usually promoted for fiscal and efficiency reasons, can have impacts that need to be weighed carefully.

4. Implement a technology strategy so that police data can be collected and reported easily and quickly.

Police departments need up to date technology to operate efficiently and analyze crime patterns, a proven strategy in New York City (CrimeStat) and other cities. Police officers in Birmingham have laptops, but, as of late 2011, they could not make direct reports to the department from their laptops. Some data was still being collected and organized by hand. Federal grants have been obtained for some upgrades to records management and computer aided dispatch is being installed in 2012.

5. Continue and enhance community-based and collaborative programs and explore establishing a Cease Fire Program in Birmingham.

In addition to civilian Crime Prevention Officers and Community Service Officers in the department that work with businesses and residents, the Birmingham Police Department has a Citizens Police Academy for citizen volunteers, works with a Weed and Seed Program in North Birmingham that started with federal funding, and sponsors mentoring, and other community based programs. "Neighborhood Watch" and "Neighborhood Night Out" programs, often in conjunction with neighborhood associations, have been valuable in many cities in building relationships and trust between the police department and neighborhoods.

The "Cease-Fire" model, which began in Boston and has spread to many cities, such as New Orleans and Chicago, has demonstrated success in radically reducing gun violence among young people.² The programs target with intense police pressure the relatively small group of people who are typically the source of the majority of violence, while at the same time offering assistance for those who want to stop using violence and guns to solve disputes.

6. Organize relevant governmental systems/ services to garner support from other agencies to promote and support community policing efforts, such as more effective code enforcement, including ticketing/ citations for "quality of life" offenses.

Crime data is one of the information sources of most interest to citizens who have access to data warehouses and it is essential for targeting policing. In addition, the comprehensive property information system recommended in in this plan should include information on crime and policing activity at specific addresses. The police and fire departments should also be included in planning projects—identifying locations, developing plans, and implementing the plans for Urban Village Districts, and Strategic Opportunity Neighborhoods.

² <http://www.commonwealthmagazine.org/Voices/Conversation/2012/Summer/001-Hold-your-fire.aspx>; <http://ceasefirechicago.org/data-research>

7. Continue aggressive efforts to secure grants for needed improvements to the police and fire systems.

The Fire Department has been very successful in obtaining grants for improvements. The Police Department recently hired a grant writer in order to make sure that the department takes full advantage of grant opportunities.

B. Support needed improvements in Fire Department facilities, equipment and programs.

The Fire Department has 648 firefighters and 32 fire stations and provides hazardous-materials response and emergency medical services in the City of Birmingham. Emergency medical calls on average account for 75 percent to 80 percent of all calls, and firefighters are trained as emergency medical technicians. In 2006, 42 percent of fire incidents were determined to be intentionally set.

The department commissioned a study of station locations and coverage in 2002. The study concluded that although several stations could be combined because of overlapping service areas, the number of operating units should remain, because of the workload. The national standard for arrival of a fire or emergency medical team is four minutes. The study showed that units met that standard 85 percent of the time. Several areas were not served within four minutes. Because Birmingham has a number of locations within the city limits that extend in narrow “arms,” effective fire protection requires many fire stations. Some communities, use inter-jurisdictional agreements to get needed services and coverage from nearby jurisdictions without investment in fixed public assets.

The study’s recommendations included combining stations with overlapping service areas and building several new stations in areas at the city’s edge, such as Oxmoor, where a new station was built in 2013.

Actions

- 1. Prepare and update Fire Department strategic plans on a five-year cycle to continue to ensure that the Fire Department has the stations, equipment, training and resources to respond to fire, hazards, and medical emergencies.**

2. Update and expand the fire station study to identify facility needs in light of changing demographics, sources of fire danger, and the planning and land use strategy of the Comprehensive Plan.

The Fire Department should update its plans every five years to take account of changing conditions and needs. It is important to evaluate needs in terms of new planning approaches. For example, a more effective code enforcement and blight prevention program could reduce the number of fires in abandoned properties. At the same time, if Strategic Opportunity Areas and urban villages attract more population, their needs for fire and emergency services must be met.

3. Provide newer vehicles and apparatus to keep equipment up to date.

Combined ladder truck and pumper truck vehicles purchased since the 1990s have not held up over time as well as expected. A program to purchase new vehicles and approaches should be put in the Capital Improvement Plan.

4. Continue and expand training opportunities for Fire Department personnel.

goal 3

Water and sewer service that meets the long-term needs of the city.

POLICIES

- Support policies that ensure long-term security for drinking water supplies.
- Support sewer service policies that resolve current problems, taking into account burdens on ratepayers.

STRATEGIES

- A. Work closely with water and sewer service providers to ensure adequate service to the city.**

Actions

1. Support efforts to add additional drinking water sources to the supply.

Assist the BWWB in obtaining right of way for the expansion of their transmission system within the city.

2. Support continuation of the Replacement and Renewal Program to maintain the system.

The City should ask the BWWB to evaluate the fire water system and to improve the system in order to minimize the Fire Insurance rates.

3. Support the efforts of Jefferson County Environmental Services in stabilizing the costs of operation and maintenance of the wastewater collection and treatment facilities as they work to meet the requirements of the Federal Consent Decree.

B. Establish water-conservation programs.

Actions

1. Identify potential water-conservation programs.

While Birmingham today appears to be relatively water-rich, establishing a culture of resource conservation and resource efficiency will be beneficial to the Birmingham area. Common water-conservation measures include plumbing retrofit programs, water use audits, and public information and education programs.

C. Prepare an annual report for public distribution on the water and sewer service as it affects the city.

Despite the existing websites and other materials prepared by the BWWB and the Jefferson County Department of Environmental Management, a brief annual infrastructure report from the City that also includes information on water and sewer service issues as they affect city residents would be valuable in raising public awareness of how these regional activities are affecting the city. This report could be integrated into an annual report on the progress of the City's capital improvement programs.

goal 4

Stormwater-management and floodplain-management systems incorporate best management practices.

POLICIES

- Continue the Flood Mitigation Program through property buyouts in repetitive-flood areas.
- Pursue development of a comprehensive watershed-management plan and encourage the use of best management practices for stormwater runoff treatment, including use of non-structural solutions where feasible.
- Continue to support initiatives that aim to incorporate stormwater infrastructure design into an amenity, such as a greenway.

The purpose of a drainage system is to manage the quantity and quality of stormwater in areas that have been modified by development and construction. Where land is undeveloped, most precipitation is absorbed into the ground or is returned to the atmosphere through evapotranspiration by trees and other plants. Urban development can disrupt natural hydrological systems through clearing of vegetation; grading; soil compaction; the addition of impervious surfaces in the form of buildings, roads, and parking lots; and the use of drainage infrastructure such as gutters, storm sewers and hard-lined water channels. Water flows away from these surfaces, either directly, to natural waterways, or into engineered storm sewers or drainage ways that eventually convey the water to natural streams or lakes. These alterations of the land can increase the volume and velocity of stormwater runoff and increase erosion, causing flash floods, flooding and pollution in downstream bodies of water that receive the runoff, unless they are properly managed.

Stormwater management is designed to reduce both the volume and pollution impacts of stormwater. Increased impervious surfaces produce more storm water—heightening the potential for flooding—which then carries contaminants into natural waterways. Pollution from stormwater is called “nonpoint source pollution” because it does not come from a specific piped source, like a factory, but from stormwater flows that, for example,

pick up oil, gasoline and other pollutants on roadways as they move toward water bodies. Best management practices increasingly focus on re-introducing natural drainage systems and low-impact development into urban conditions when possible.

The US EPA is responsible for regulating the water quality, of the navigable waters of the United States and has issued a General Permit under the National Pollution Discharge Elimination System (NPDES) to the Alabama Department of Environmental Management (ADEM) to regulate, permit and monitor discharges to the navigable water of the state. This is implemented in two programs. One is the point source discharges program which includes wastewater facilities. The second is the non-point source program which covers storm water systems, farm lands and industrial sites.

The City of Birmingham owns, operates and regulates the municipal storm sewer system (MS4) within the City. The City regulates the discharge of storm water into their MS4 and soil erosion under Ordinance 99-131. Jefferson County collects a stormwater fee with the property tax—\$5 per residential property and \$15 for each commercial property, and these fees are then sent to the city to help fund this program.

The City cannot have a regulation that is less or more restrictive than any provision of the Clean Water Act or the State of Alabama rules and regulations. As part of their responsibility, the City requires that for all developments the post-development storm water runoff rate be no more than pre-development runoff rate. The City also requires that all projects with land disturbing activities, regardless of size, submit erosion control best management plans as a part of the permitting process. The plans must be prepared in accordance to the Alabama Handbook for Erosion Control, Sediment Control and Storm water management of Construction Sites and Urban Areas.

As a supplement to ADEM's construction stormwater program, the city monitors construction sites, regardless of size, to help ensure these meet land-disturbance requirements. The city also monitors industrial sites for pollutants in the storm water runoff. For construction sites one acre or larger, ADEM requires the filing of a Notice of

Intent. The City requires a Construction Best Management Practices Plan (CBMPP) be prepared and that erosion prevention and sediment control provisions are included in all construction plans which include ground disturbance. The city also monitors industrial sites for pollutants in storm water runoff.

In the spring of 2013 EPA is scheduled to release new regulations governing Municipal Storm Sewer Systems (MS4). These new regulations will likely include new development performance standards, redevelopment performance standards, transportation requirements, and special provisions for the critical waters. As the standards become available the City of Birmingham can embrace these new regulations, and keep their system up to date with national standards.

STRATEGIES

A. Adopt strategies to reduce the amount and improve the quality of stormwater runoff entering the city drainage system.

Impervious surfaces on developed land—mainly rooftops and paving—shed stormwater at high rates, sending it into the stormwater system and, eventually, streams and rivers, where it increases pollution, erosion and turbidity if not managed properly.

Cities across the US have considered and adopted regulations, programs, and incentives to keep significant volumes of stormwater out of the stormwater system, thereby reducing the public cost of maintaining and addressing stormwater system problems. The construction and operation of municipal separate storm sewer systems is a costly federal and state requirement. However, when cities allow and encourage stormwater best management practices that retain water on site so that it either evaporates into the air (because it is taken up by trees and plants), slowly infiltrates back into the ground, or is used to irrigate landscapes, the communities benefit. There are many examples of the benefits of these practices, for example:

- Adding roadside bioswales, making roads narrower and designing smaller or porous parking lots with on-site runoff detention saves money by reducing the amount of pavement, curbs and gutters needed.
- Installing green roofs, disconnecting roof downspouts from impervious surfaces (driveways and streets), and incorporating bioretention areas to capture on-site runoff saves money by eliminating the need for costly runoff detention basins and pipe delivery systems.
- Designing more compact residential lots saves money by reducing site grading and building preparation costs, and can increase the number of lots available for sale.
- Preserving natural features in neighborhoods can increase the value and sale price of residential lots.
- Using existing trees and vegetation saves money by reducing landscaping costs and decreasing stormwater volumes.
- Low impact development improves community aesthetics, expands recreational opportunities, increases property values due to the desirability of lots and their proximity to open space. These properties also have increased marketing potential and faster sales for residential and commercial properties.
- Stream channel damage and pollutant loadings in downstream waters is lessened and the need for flood buy-out is reduced, again saving public costs and individual frustration and impact from recurrent flooding.
- Drinking water treatment costs are reduced, thereby costing water customers less for drinking water.
- Costs due to combined sewer overflows can also be reduced.

Actions

1. *Revise regulations to consider incentives to promote best management practices and include default language that reflects a preference for natural drainage and natural channel design.*

Stormwater best management practices should be incorporated into development regulations with applications in all general land use classification types. Short term improvements could include:

- Updating ordinances to promote post-development runoff hydrography that mimics pre-development hydrography and consider incentives to accomplish this goal for large projects. Current subdivision regulations stipulate that post-development runoff should be no more than pre-development runoff (Article 5.5.A).
- Consider incentives for stormwater detention/retention facilities to be designed to function as site amenities in addition to mitigation elements.
- For erosion and sediment control, increase staff monitoring and sampling to ensure that Best Management Practices are used in construction and industrial operations or require property owners to make reports when necessary and monitor through spot checks.

Incentives could include permit streamlining, abatement or reduction of the stormwater fee, or property tax abatements for a specified time period.

2. *Require by ordinance that development and significant redevelopment comply with the City's NPDES Permit for run-off.*

3. *Develop mechanisms, such as maintenance bonds, to ensure maintenance of detention ponds by developers and property owners.*

The City already requires that developers/property owners maintain these ponds. Better enforcement mechanisms are needed. Examples can be found at water.epa.gov/polwaste/nps/stormwater.cfm.

4. *Consider incentives to promote use of natural drainage systems, where feasible, to manage stormwater.*

Cities across the nation have been searching for alternatives to traditional "hardscape" solutions to storm drainage problems. Communities are increasingly implementing best management practices for stormwater management that encourage preservation of natural drainage systems and, where preservation is not feasible, that encourage use of natural drainage and channel design to the extent possible. Current best management practices emphasize the many benefits of preserving natural drainage:

- Floodplains store water during big storms, reducing the velocity of the water and reducing downstream flooding.
- The natural floodplain buffer between developed areas and the stream mitigates nonpoint source pollution from the developed areas.
- Tree conservation, parks, greenways and recreational areas in the floodplain enhance the community.

Consider incentives to use methods that incorporate water-quality enhancement and public amenity with drainage improvements. Common approaches applied on a smaller scale include vegetated swales and the protection and enhancement of stream buffers. Others, as in Birmingham, include floodplain enhancement on a larger scale. Such approaches gain greater effectiveness when implemented alongside strategies that keep stormwater runoff out of storm sewers altogether. Use of pervious pavement and redirection of rooftop runoff to vegetated areas helps to reduce the amount of stormwater runoff entering the system.

5. Consider, through incentives or regulations, best management practices in limiting impervious surfaces.

Create incentives and provide public education to promote best practices in reducing impervious surfaces and enhancing on-site management and infiltration of stormwater, such as rain gardens, porous pavement, bioswales, and similar on-site actions.

6. Consider incentives to incorporate floodplain and natural drainage systems into greenways and similar open space amenities.

A well-designed urban amenity floodplain offers multiple benefits:

- Improvement of the drainage way's ability to treat stormwater runoff in addition to maintaining its capacity to hold and discharge water according to its design parameters.
- Reduction of channel erosion.
- Lower maintenance costs through good professional design and proper application of landscaping, trees, and plants throughout the floodplain.

- Development of linkages to other areas of the city along the floodplain with walking and/or bike paths.
- Development of conveniently situated passive recreational areas.
- Increase in natural habitat areas for birds and other wildlife.

7. Promote best management practices, in accordance with the City's NPDES permit, through development of a Stormwater Pollution Prevention Plan (SP3) for the operation and maintenance activities of all City Departments.

8. Consider creating a Stormwater Advisory Board to work with City departments to ensure best practices in all City activities relating to stormwater management.

B. Supplement existing stormwater-management regulations with incentives that promote best management practices which may include on-site management and infiltration of stormwater.

Stormwater-management ordinances and manuals, subdivision regulations and zoning should provide criteria, regulations and incentives for use of bio-retention areas (rain gardens, bio-swales, filtration strips, etc.) and similar practices in all types of development. All of these strategies call for creation of areas planted with native vegetation that allow for the collection and infiltration of stormwater, especially from rooftops and parking areas.

Actions

1. Use "Green Streets" approaches to stormwater management.

"Green Streets" include vegetated elements that intercept stormwater contaminated with gasoline and other chemicals for infiltration and mitigation. Such early interception of runoff reduces demands on stormwater sewers and helps the system return relatively clean water to the receiving streams. Green Streets can include planted bio-retention "bump outs" at corners and mid-block or wide vegetated areas between sidewalks and streets. Depending on the context, Green Street designs can be formal in business or commercial districts, and more informal in neighborhood settings.



“Green Streets” can include vegetated areas in the public realm, and, together with other tools, make up “green infrastructure” for stormwater mitigation in urban conditions. (Source: www.phillywatersheds.org/what_were_doing/green_infrastructure/tools)

Green Streets programs are consistent with the Complete Streets policy endorsed by the Birmingham Planning Commission. City of Birmingham street and sidewalk capital improvement programs could incorporate the most up-to-date stormwater management design.

2. Seek collaboration with UAB’s sustainable engineering program in developing greener city standards.

Faculty and students are engaged in studies that can contribute to enhancing city standards.

3. Add City staff and equipment to handle the stormwater infrastructure maintenance and runoff monitoring in both construction and industrial operations.

STORMWATER UTILITIES SUPPORT MANAGEMENT WITH DEDICATED FUNDING

Stormwater utilities have been established in cities and counties all over the country, including in Georgia, Florida, Oklahoma, Michigan, Kentucky, Ohio, Minnesota, Washington, Oregon, Colorado and Utah, to refine their stormwater-management programs. The purpose of a stormwater utility is to create a dedicated source of funding for maintenance and improvement of stormwater management. In Birmingham, Jefferson County currently collects flat fees (\$5 per residential lot and \$15 for commercial properties) with property tax. In a utility, however, the fee for stormwater impact is based on the amount of runoff that enters the public stormwater-management system—the use of the system by the property owner. This idea reflects the principle used for water and sewer service that customers should pay for service based on usage measured by their water meters. Stormwater utility fees are typically calculated based on the amount of impervious surface on a site, though some communities use gross parcel size for residential properties. Stormwater utilities provide an incentive for best management practices by offering credits against the stormwater fee to private property owners who reduce or eliminate runoff or improve the water quality of runoff.

In addition, stormwater utilities often offer exemptions for certain kinds of properties based on level of development, ownership, community use, and similar considerations. In the case of Birmingham, where some residential areas have very little public drainage infrastructure—typically lower-income neighborhoods—property owners should not be subject to a full fee if little service is available.

By establishing a stormwater utility, a community is creating a type of enterprise fund similar to the water and sewer funds, where the cost of maintenance and capital expenditures should be paid by the utility's revenues. This then frees up General Fund resources for government services and facilities that do not have the potential to generate revenue. Stormwater-utility revenues are used for a variety of purposes, including flood control, maintenance, water-quality treatment and management improvements, system planning, open space preservation, and regulation and enforcement. Most communities with stormwater utilities bill the fee with other utility bills or on the property tax bill. State courts have found that stormwater utility charges are true user fees for services and not taxes.

Establishment of a stormwater utility generally requires some years of planning, preparation and public education. Many manuals are now available to assist communities in crafting a utility appropriate to their conditions. Low initial rates can help property owners get used to the idea of paying a stormwater charge. It is essential to have a stormwater-management master plan as part of the establishment of a stormwater utility because the plan puts forward the program of specific programs and projects that need to be funded and then the rate structure will have to be adjusted so that, over time, these programs and projects are put into effect and supported by sufficient funding. The plan should demonstrate how it would promote those goals, comply with state and federal regulations, and be integrated with other plans and documents, including the Birmingham Comprehensive Plan, and provide for mitigation in the case of variances or exemptions from local stormwater regulations that are designed to promote the goals.

goal 5

City resilience is supported by effective measures to mitigate hazards presented by tornadoes, floods and other environmental hazards.

POLICIES

- Continue efforts to provide effective warning of flood and tornadoes, as well as neighborhood-based "safe rooms" in public facilities.
- Continue to work with FEMA and others to both eliminate repetitive flood hazards and manage floodplain development.

STRATEGIES

A. Create a plan for locating and funding public safe rooms around the city.

Actions

1. *Study and evaluate the availability and suitability of existing public safe rooms.*
2. *Develop a needs list based on the travel time from all areas to safe rooms.*

B. Continue to submit applications to the Federal Emergency Management Agency (FEMA) to participate in buyout programs as funds become available.

The City has purchased about 1,200 properties with repetitive flooding through FEMA and USACE programs. The City should be ready when funds become available in the future.

Actions

1. *Continue to maintain a list of properties that would benefit from the buyout program.*
2. *Prepare and submit applications to FEMA as funds are available.*

3. *Integrate these properties into open-space programs such as greenways, community land trusts, side-lot sales, community gardens and similar programs.*

C. Continue localized drainage projects.

There are repetitive flood areas that would benefit from localized drainage projects. These may include the upgrade of existing drainage structures, the addition of drainage facilities or providing detention facilities.

Actions

1. *Develop a list of areas that would benefit from minor drainage projects.*
2. *Develop a shovel ready project list of drainage improvement projects for construction should federal funds become available.*

goal 6

City facilities are models of energy and resource efficiency and maintained for long-term use.

POLICIES

- Support investment in an asset-management system for all city-owned facilities.
- Where possible, meet new needs and demands by enhancement/expansion of existing facilities.
- Use best practices for long-term, life-cycle energy and resource efficiency in improvements, renovations, or new facilities.
- Continue to support a priority system and plan to fund all outstanding ADA deficiencies in public facilities.

The physical systems and structures owned by the City represent a huge community investment. These are long-term assets purchased with public funds and should be designed, built, maintained and managed with life-cycle costs in mind. Birmingham has not updated the inventory and conditions of city property for some time. There is a significant maintenance and repair backlog, but no systematic way to prioritize many needs. When cities experience financial constraints, maintenance and repairs

tend to build up, creating a “culture of emergency,” which ultimately results in higher costs. This problem is not unique to Birmingham, as news of bridges collapsing, water pipes bursting, and parks closing can be found in cities around the country.

In grappling with the consequences of postponed maintenance and capital improvements, many communities have instituted an asset-management system. Asset management involves taking care of City-owned physical systems and structures so that they deliver the desired level of service at the most reasonable cost. Asset-management systems are proven cost savers. For example, Pinellas County (FL) established an asset-management system and began implementing it incrementally. The initial cost, which included training for staff, was \$700,000. After one year, the county recorded \$6 million in documented/audited savings—nearly ten times what it paid for the system.

STRATEGIES

A. Acquire and implement a municipal asset management system.

A number of software systems are available to help governments keep track of the condition of their assets and support decision making about maintenance and replacement. These systems are connected to GIS (geographic information systems), so assets are mapped and their locations linked to a database containing information on when they were put in service, expected service life, condition, and how much annual maintenance is needed. Managers need this information in order to make the most cost-effective decisions while maximizing service and to drive decisions on whether and when to maintain, repair, or replace assets. While it requires an initial investment, training, and improved data systems, asset management ultimately saves money. An asset-management system can be built up incrementally, as assets are improved, built, or acquired and put into the system. The City of Birmingham Department of Public Works had an asset-inventory system in the past, but the software system failed. No municipal department at this time (2012) appears to keep such an inventory. New inventory software

has been acquired, but it has not been released for use and it is unclear if it is a full asset-management system connected to GIS.

Actions

1. Make it a high priority to establish and begin implementing an asset-management system within the next three years.

The steps in establishing an asset-management system should include:

- Identification of best practice examples of municipal asset management.
- A report and presentation documenting the long-term costs and benefits of implementing asset-management system and funding.
- A plan for training personnel after acquisition of the system, but before department-wide installation and implementation.

Implementation of this kind of system over time will strengthen the foundation of quality of life. Comprehensive asset management systems not only assist in planning for capital improvements but very often result in savings of taxpayers' money.³ The information from asset management systems can show how to save life-cycle costs and indicate when preventive maintenance can be more cost-effective than new capital investments.

2. Determine specific and detailed asset management needs of each municipal department incrementally.

A complete asset-management system addresses the needs of all municipal departments including documented roadway, utility, vehicle, building and other conditions. Should funding be limited, however, most asset-management software allows municipalities to put a system in place incrementally. For example, Pinellas County, Florida, started with a basic system that included a maintenance-management system and asset tracking to generate city work orders. Later it added pavement and then will add bridges and utility tracking to its system.

³ U.S. General Accounting Office (GAO), *Water Infrastructure: Comprehensive Asset Management Has Potential to Help Utilities Better Identify Needs and Plan Future Investments*, March 2004. (<http://www.gao.gov/new.items/d04461.pdf>)

The Government Finance Officers Association recommends the following steps in creating a system for capital maintenance and replacement:⁴

- Develop and maintain a complete inventory of all capital assets in a database (including GIS), including information such as location, dimensions, condition, maintenance history, replacement cost, operating cost, and so on.
- Develop a policy for periodic evaluation of physical condition.
- Establish condition and functional performance standards.
- Develop financing policies for maintenance and replacement and consider earmarking fees or other revenue sources.
- Allocate sufficient funds in the capital program and the operating budget for routine maintenance, repair and replacement.
- Prepare an annual report on capital infrastructure including:
 - > Condition ratings for the city
 - > Condition ratings by asset class and other relevant factors
 - > Indirect condition costs (for example, events like water main breaks that indicate condition)
 - > Replacement life cycle by infrastructure type
 - > Year-to-year changes in net infrastructure asset value
 - > Actual expenditures and performance compared to budgeted expenditures and performance
 - > Report trends in spending and accomplishments in the CIP.

⁴ GFOA, *Capital Maintenance and Replacement* (2007) (CEDCP), Recommended Practice Brief, www.gfoa.org.

B. Develop and showcase City facilities, buildings, and operations as models of resource efficiency by establishing a set of policies for facility operations, maintenance, renovation and new construction.

Actions

1. Re-use existing buildings before building new, if possible, and use recycled and locally-sourced content in municipal construction where practical.

Existing buildings contain “embodied energy” that has already been invested. Retrofitting existing buildings can be more energy-efficient than building new. However, some buildings will need to be replaced, and use of recycled materials and locally-sourced materials that do not require high transportation costs should be pursued in those cases.

An example of this approach can be found in the 2011 study of alternatives for the Birmingham Central Library by Robert A.M. Stern Architects. The Report concluded that the best solution to create a 21st century library was to keep the two existing buildings, reorganize the use of space, and upgrade systems for energy efficiency.

2. Design municipal buildings to maximize energy efficiency by attention to ventilation, windows, site orientation, use of trees on the south and west sides of buildings for shading, “green” roof construction where feasible, painting flat roofs white, and similar energy-efficient construction methods.

City projects should be subjected to a life cycle cost-benefit analysis that takes into account the long term operational and maintenance costs of new construction or rehabilitation. Although some design elements may cost more initially to construct, they save municipalities more money over time through lower heating and cooling costs. City buildings should strive to meet the highest resource-efficiency standards possible through application of benchmark systems such as LEED (Leadership in Energy and Environmental Design) or similar standards.

3. Identify and implement water conservation measures for all public buildings and services, including re-use of non-potable water.

Water conservation is a prudent practice that saves resources. It can be implemented through renovations and new building projects by the use of water-conserving fixtures and systems. Use of non-potable water where drinking water is not needed can save money over time as unnecessary water treatment is avoided.

4. When repaving municipal parking areas, explore permeable surface construction.

Where the underlying soils are suitable, permeable parking areas will reduce stormwater runoff. Strategies such as the use of permeable surfaces in parking spaces while retaining impervious circulation areas can be one way of balancing conditions to promote more natural drainage. Low-traffic areas, such as small parking areas in parks, could use gravel or other low-cost permeable surfaces.

5. Implement a municipal procurement policy that minimizes use of toxic materials.

Many communities have instituted procurement policies that require non-toxic materials, when available, for cleaning agents, construction materials and similar uses.

C. Continue funding to remedy existing ADA deficiencies in public buildings and ADA needs in new public construction, as well as PROWAG for public rights-of-way.

ADA compliance is a legal necessity as well as a moral imperative so that all citizens can participate in public life.

Actions

1. Keep the City's ADA Transition Plan updated to document ADA compliance and deficiencies and request funding.

Evidence of compliance is valuable in requesting federal and other funding for public projects.

2. Establish a policy for using "universal design" criteria in the design of any new government buildings.

Universal design is the next step beyond handicap-accessible or barrier-free design. It is predicated on the idea of designing spaces to be usable and attractive to everyone, without specialized elements specifically for disabled people. Principles of universal design include:⁵

- Equitable use
- Flexibility of use
- Simplicity and intuitive nature of design;
- Making information perceptible
- Building in tolerance for error
- Designing to reduce physical effort required
- Provision of sufficient space and size for approach and use.

3. Complete outstanding ADA deficiencies identified in public buildings.

Some funds should be allocated every year toward eliminating deficiencies.

4. Continue to update ADA information available to the public and to private sector developers.

Keep ADA accessibility updated on the City website and provide informational brochures or web-based information to guide the private sector (public and developers) about ADA standards, compliance, and permitting issues.

5. Dedicate a small portion of ticket sales, rental fees, etc., received at public facilities to underwriting ADA needs at public buildings.

Adding a small fee to facility use fees at City facilities such as CrossPlex to build up an ADA fund is a simple way to create a dedicated funding source for some improvements. If fees are raised, a public statement that the increment is dedicated to making all public facilities accessible to everyone can help mitigate the impact.

⁵ www.design.ncsu.edu/cud/about_ud/udprinciploext.htm (The Center for Universal Design, North Carolina State University)

D. Develop a capital improvements program (CIP) with public criteria to prioritize needed capital improvements.

There is no central location of capital improvement needs except for the most recent capital improvement plan. When a new capital improvement plan is under development, the various lists of proposed projects are coordinated by PEP. Capital improvement needs identified by City departments and agencies gathered during the course of this planning project include:

- Roof and mechanical equipment replacement in many buildings across the city
- Police station improvements
- New police headquarters
- Rehabilitation or demolition and rebuilding of Boutwell Auditorium
- Local matching funds for the Intermodal Center Project
- Local matching funds for the initial Red Rock Trails System greenway projects
- Matching money for vehicle and pedestrian bridges in North Birmingham
- Matching money to build linear park along Village Creek
- Funds for sidewalks
- Matching money for \$200,000 federal grant to relocate utilities on 16th Street
- New municipal jail or, at a minimum, new HVAC system
- Energy systems for Bill Harris Arena at Fair Park
- Sloss Furnaces visitor center new construction
- Upgrades at municipal court
- Citywide street resurfacing
- Landfill improvements and expansion
- Warming and teaching pool at Crossplex sports facility
- Commercial district redevelopment
- Fire station equipment including two pumper trucks
- Legion Field improvements including painting, roof repair, concession stands and parking lots
- Citywide street lighting improvements
- New road in Pratt City from Dugan Avenue to Sheridan Road for new residential development
- Street improvements on First Avenue South near Railroad Park
- Traffic signals
- Red Mountain Park entrance road
- Ensley Avenue infrastructure improvements along 20th Street to Warrior Road
- Infrastructure improvements on 12th Street from Lomb Avenue to Third Avenue West
- Improvements along 19th Street, Ensley from Bush Boulevard to Tuxedo Junction
- ADA pool lifts at all 17 city pools
- Industrial park infrastructure
- Renovation of Carver Theater/Alabama Jazz Hall of Fame
- Restoration of Lyric Theater, matching money for private fundraising
- Improvements to neighborhood streets, library, park and community center enhancements

Actions

1. Develop a capital planning process that meets best practices.

Capital Improvement Plans (CIP) play an essential role in implementation of a master plan. The Comprehensive Plan sets forth a vision for the City of Birmingham's future and a set of goals, strategies, and action steps to implement the strategies and achieve the goals. The plan focuses on policy and organizational initiatives to more effectively achieve the goals, and it identifies criteria for decision making and the kinds of projects that are preferred, given the goals of the plan. As the Comprehensive Plan is reviewed and revised over the years, and as Community Framework Plans are adopted as part of the plan, the Comprehensive Plan may come to include more specific project information. This will also depend on implementation of recommendations to make the city's financial policies, plans and operations more transparent. With the completion of the Birmingham Comprehensive Plan, reference to the Plan and the extent to which proposed capital improvements are consistent with the Plan and contribute to implementation should become part of the capital planning process.

In Birmingham, capital improvement information is presented in the form of an annual capital budget in which there are a number of general capital categories that continue for many years. Each year, the deputy directors in each department identify capital projects and equipment needs. The department director submits each department list to PEP, which then works with the Mayor's Office to determine priorities based on funding.

Best practices in capital improvement planning according to the Government Finance Officers Association include:⁶

- Identification of needs through a process that includes using projections, plans, and citizen input with attention to assets that require repair, maintenance or replacement; improvements needed to support redevelopment or growth; improvements that have revenue-generating potential or support economic development; and changes in community policies.
- Determination of the full extent of project costs including consideration of scope, timing, and appropriate methods of estimating costs and potential revenues; possible inflation impacts for multi-year projects; operating costs associated with a project and the sources of operating funding; estimate of all major cost components, including land acquisition, design, construction, contingency and post-construction; and evaluation and mitigation for non-financial impacts (such as environmental impacts).
- Priority-setting for capital requests by using criteria and a rating system based on policies, plans and studies; input from major stakeholders and the public; legal requirements and mandates; operating budget impacts; and analytical techniques, such as cost-benefit analysis.
- Development of financing strategies taking into account anticipated revenue and expenditure trends; cash flow projections; legal constraints; estimated funding amounts from all funding al-

ternatives; and the impact of financing strategy on debt ratios, taxpayers, ratepayers, and so on.

The complex process of setting priorities can be made more transparent by developing a set of criteria and a rating system. Criteria can include categories such as public health and safety; legal requirements; implementation of adopted plans; percentage of people served; benefit to economic development; resource efficiency; impact on operating budget; project life expectancy; availability of financing; public support; and so on.

The capital improvement budget should include the following information:⁷

- A definition of capital expenditure for that entity. For example, equipment, buildings, land or other goods expected to last at least 10 years or costing more than a defined amount.
- Summary information of capital projects by fund, category, etc.
- A schedule for completion of the project, including specific phases of a project, estimated funding requirements for the upcoming year(s), and planned timing for acquisition, design, and construction activities.
- Descriptions of the general scope of the project, including expected service and financial benefits to the jurisdiction.
- A description of any impact the project will have on the current or future operating budget.
- Estimated costs of the project, based on recent and accurate sources of information.
- Identified funding sources for all aspects of the project, specifically referencing any financing requirements for the upcoming fiscal year.
- Funding authority based either on total estimated project cost, or estimated project costs for the upcoming fiscal year. Consideration should be given

⁶ GFOA, "Best Practice: Preparing and Adopting Multi-Year Capital Planning (2006)," www.gfoa.org

⁷ GFOA, "Best Practice: Incorporating a Capital Project Budget in the Budget Process (2007)," www.gfoa.org.

to carry-forward funding for projects previously authorized.

- Any analytical information deemed helpful for setting capital priorities (this can include any cost/benefit comparisons, and related capital projects).

GFOA also recommends making periodic reports on all ongoing capital projects available to decision makers and the public. The reports should include a comparison of actual expenditures to the original budget, level of project completion; and identification of any changes in scope, schedule, or anticipated completion time.

goal 7

Minimized City funding for operational and capital costs for City-owned cultural and entertainment facilities.

POLICIES

- Support continued emphasis on public-private operational agreements and fund-raising for cultural facilities owned by the City.

STRATEGIES

A. Evaluate the City's role and costs in ownership and operation of cultural, entertainment and similar facilities.

The City of Birmingham owns and contributes to the operating and capital costs of a number of cultural, entertainment and similar facilities that, in other cities would tend to be more independent of City funding. For example, at a minimum, museums today typically ask for a donation, if not a required fee, while still providing free access to groups like students or seniors. Birmingham's institutions and facilities are very important to the city's role as the cultural center of the region and, to a great extent of the State of Alabama. Some Birmingham institutions have public-private partnerships responsible for some or all of operating costs, and for raising money

for capital costs. These kinds of approaches may be possible for more of the city's institutions. Because there are many pressing needs for city resources, an evaluation of the City's financial role in supporting these institutions would be worthwhile.

Actions

1. Commission a study to identify and evaluate City support for operating and capital costs, review models from other cities, propose criteria for City support, and make recommendations on the city role.

A study will help clarify the options and the best approaches in light of City needs, and the important role played by these institutions.

2. Contract with the Cultural Alliance of Greater Birmingham to act as the City's Cultural Commission.

The Alliance can provide services to the City on a per task basis to support and attract arts and culture producers to live and work in the city.

goal 8

Solid waste is reduced at least 20 percent below 2011 levels by 2030.

POLICY

- Support measures to reduce the amount of solid waste that goes to the landfill.

STRATEGIES

A. Establish programs that consider providing incentives to reduce the solid waste stream.

Actions

1. Expand the City's capacity to move toward the expansion of recycling.

Incentivizing residential recycling would be the most effective initiative to meet the goal. Birmingham's DPW already uses single-stream recycling, so that there is no need to separate the recyclables. This makes recycling easier and increases compliance.

2. Provide appropriate equipment to the Department of Public Works for recycling.

The DPW needs specialized trucks and equipment in order to provide the kind of recycling service needed to expand recycling.

3. Allow composting on residential properties and create a municipal compost program.

Composting ordinances have been adopted in many U.S. cities to allow and regulate small-scale compost operations to reduce solid waste in a way that is cost-effective, and encourages gardening by creating good soil.

Municipal compost programs require property owners to put garden waste (leaves, clippings, branches) into paper bags, which are then collected separately and taken to a municipal compost area where they are shredded and composted. This compost is typically made available to residents for free and is also used by the municipality for public landscaping needs.

4. Establish practices in collaboration with multifamily and commercial property owners and businesses to reduce solid waste, including restaurant waste.

The City government participates in the recycling program and can provide technical assistance to businesses in setting up their own internal systems for recycling.

5. Continue capital programs to get maximum long-term use from the city's two landfills.

The combined estimated life the landfills is 50 years at current levels of use. DPW is thinking ahead to acquire an additional 16-acre site. The current Solid Waste Master Plan will remain in effect until 2020.

B. Evaluate opportunities to cover the operational and capital needs of the solid-waste operation, while promoting recycling.

Many cities charge fees for trash and garbage collection and use the fee structure to promote recycling. For example, the first bag or barrel collected could be free. Fees could be raised gradually over a few years until most or all of the actual operating and capital costs of garbage collection are covered. In most cities, garbage and trash collection

is a weekly operation and twice-weekly collection is being phased out. Any changes in these services would have to be accompanied by strong public education and enforcement programs.

Actions

1. Explore the possibility of weekly rather than twice-weekly trash and garbage collection.

A cost-benefit analysis should be prepared.

2. Explore an equitable system of charges for residential trash and garbage collection.

The system should be evaluated to see how revenues compare with actual costs. In addition, the fee system could establish thresholds at which fees would increase (e.g., anything over one container would incur a higher fee). Fee systems should be carefully weighted against the potential for increased dumping if fees are assessed.

3. Evaluate the educational and enforcement programs that would be needed to implement actions 1 and 2.

4. As current vehicles wear out and current employees retire, phase in more automated collection vehicles requiring less manpower.

goal 9

An effective and well-regarded public school system.

POLICIES

- Support public school improvement programs.
- Support collaborative planning for excess school capacity and disposition of school property.

The City of Birmingham government does not control the public school system. However, it can exercise influence and actively seek collaboration with the system.

STRATEGIES

A. Support the academic improvement programs of the public school system and the Birmingham Education Foundation.

B. Explore opportunities to create “community schools” by using excess school building capacity for social service agencies and programs, adult education, fitness and other services for neighborhood children, youth and adults.

See the discussion of community schools in Chapter 7, p. 7.11.

C. Incorporate school system disposition of excess properties into community/neighborhood planning initiatives, if feasible.

The school system has excess property which it is trying to sell. The City’s planning department and the school system should work together to identify if any of these properties has potential to become a neighborhood anchor with new uses.

D. Work with the school system to make existing and future school facilities accessible by pedestrians and bicyclists as well as motorized vehicles.

The school facilities capital plan is nearing completion, and decisions about where to locate school facilities were not made in the context of holistic and integrated planning for neighborhood development in the city. Some new schools are difficult or nearly impossible to access by pedestrians and bicyclists. As the city develops and implements its road and sidewalk improvement program, including a system of mode priority streets, connections to schools should be included.

C. Getting Started

ACTIONS	RESPONSIBLE PARTY
Fund preparation of a strategic plan for the Police Department and Fire Department.	Mayor’s office; City Council; Police Department, Fire Department
Develop an incentive system and revise regulations as needed to enhance best management practices in stormwater management.	PEP
Fund and implement an asset-management system.	Mayor’s office; Council; DPW; Finance Department; Information Management Services Department
Develop a more structured and transparent capital-planning program.	Mayor’s office; PEP; Finance Department; Information Management Services Department

Actions

1. Support efforts to add additional drinking water sources to the supply.

Assist the BWWB in obtaining right of way for the expansion of their transmission system within the city.

2. Support continuation of the Replacement and Renewal Program to maintain the system.

The City should ask the BWWB to evaluate the fire water system and to improve the system in order to minimize the Fire Insurance rates.

3. Support the efforts of Jefferson County Environmental Services in stabilizing the costs of operation and maintenance of the wastewater collection and treatment facilities as they work to meet the requirements of the Federal Consent Decree.

B. Establish water-conservation programs.

Actions

1. Identify potential water-conservation programs.

While Birmingham today appears to be relatively water-rich, establishing a culture of resource conservation and resource efficiency will be beneficial to the Birmingham area. Common water-conservation measures include plumbing retrofit programs, water use audits, and public information and education programs.

C. Prepare an annual report for public distribution on the water and sewer service as it affects the city.

Despite the existing websites and other materials prepared by the BWWB and the Jefferson County Department of Environmental Management, a brief annual infrastructure report from the City that also includes information on water and sewer service issues as they affect city residents would be valuable in raising public awareness of how these regional activities are affecting the city. This report could be integrated into an annual report on the progress of the City's capital improvement programs.

goal 4

Stormwater-management and floodplain-management systems incorporate best management practices.

POLICIES

- Continue the Flood Mitigation Program through property buyouts in repetitive-flood areas.
- Pursue development of a comprehensive watershed-management plan and encourage the use of best management practices for stormwater runoff treatment, including use of non-structural solutions where feasible.
- Continue to support initiatives that aim to incorporate stormwater infrastructure design into an amenity, such as a greenway.

The purpose of a drainage system is to manage the quantity and quality of stormwater in areas that have been modified by development and construction. Where land is undeveloped, most precipitation is absorbed into the ground or is returned to the atmosphere through evapotranspiration by trees and other plants. Urban development can disrupt natural hydrological systems through clearing of vegetation; grading; soil compaction; the addition of impervious surfaces in the form of buildings, roads, and parking lots; and the use of drainage infrastructure such as gutters, storm sewers and hard-lined water channels. Water flows away from these surfaces, either directly, to natural waterways, or into engineered storm sewers or drainage ways that eventually convey the water to natural streams or lakes. These alterations of the land can increase the volume and velocity of stormwater runoff and increase erosion, causing flash floods, flooding and pollution in downstream bodies of water that receive the runoff, unless they are properly managed.

Stormwater management is designed to reduce both the volume and pollution impacts of stormwater. Increased impervious surfaces produce more storm water—heightening the potential for flooding—which then carries contaminants into natural waterways. Pollution from stormwater is called “nonpoint source pollution” because it does not come from a specific piped source, like a factory, but from stormwater flows that, for example,

pick up oil, gasoline and other pollutants on roadways as they move toward water bodies. Best management practices increasingly focus on re-introducing natural drainage systems and low-impact development into urban conditions when possible.

The US EPA is responsible for regulating the water quality of the navigable waters of the United States and has issued a General Permit under the National Pollution Discharge Elimination System (NPDES) to the Alabama Department of Environmental Management (ADEM) to regulate, permit and monitor discharges to the navigable water of the state. This is implemented in two programs. One is the point source discharges program which includes wastewater facilities. The second is the non-point source program which covers storm water systems, farm lands and industrial sites.

The City of Birmingham owns, operates and regulates the municipal storm sewer system (MS4) within the City. The City regulates the discharge of storm water into their MS4 and soil erosion under Ordinance 99-131. Jefferson County collects a stormwater fee with the property tax—\$5 per residential property and \$15 for each commercial property, and these fees are then sent to the city to help fund this program.

The City cannot have a regulation that is less or more restrictive than any provision of the Clean Water Act or the State of Alabama rules and regulations. As part of their responsibility, the City requires that for all developments the post-development storm water runoff rate be no more than pre-development runoff rate. The City also requires that all projects with land disturbing activities, regardless of size, submit erosion control best management plans as a part of the permitting process. The plans must be prepared in accordance to the Alabama Handbook for Erosion Control, Sediment Control and Storm water management of Construction Sites and Urban Areas.

As a supplement to ADEM's construction stormwater program, the city monitors construction sites, regardless of size, to help ensure these meet land-disturbance requirements. The city also monitors industrial sites for pollutants in the storm water runoff. For construction sites one acre or larger, ADEM requires the filing of a Notice of

Intent. The City requires a Construction Best Management Practices Plan (CBMPP) be prepared and that erosion prevention and sediment control provisions are included in all construction plans which include ground disturbance. The city also monitors industrial sites for pollutants in storm water runoff.

In the spring of 2013 EPA is scheduled to release new regulations governing Municipal Storm Sewer Systems (MS4). These new regulations will likely include new development performance standards, redevelopment performance standards, transportation requirements, and special provisions for the critical waters. As the standards become available the City of Birmingham can embrace these new regulations, and keep their system up to date with national standards.

STRATEGIES

A. Adopt strategies to reduce the amount and improve the quality of stormwater runoff entering the city drainage system.

Impervious surfaces on developed land—mainly rooftops and paving—shed stormwater at high rates, sending it into the stormwater system and, eventually, streams and rivers, where it increases pollution, erosion and turbidity if not managed properly.

Cities across the US have considered and adopted regulations, programs, and incentives to keep significant volumes of stormwater out of the stormwater system, thereby reducing the public cost of maintaining and addressing stormwater system problems. The construction and operation of municipal separate storm sewer systems is a costly federal and state requirement. However, when cities allow and encourage stormwater best management practices that retain water on site so that it either evaporates into the air (because it is taken up by trees and plants), slowly infiltrates back into the ground, or is used to irrigate landscapes, the communities benefit. There are many examples of the benefits of these practices, for example:

- Adding roadside bioswales, making roads narrower and designing smaller or porous parking lots with on-site runoff detention saves money by reducing the amount of pavement, curbs and gutters needed.
 - Installing green roofs, disconnecting roof downspouts from impervious surfaces (driveways and streets), and incorporating bioretention areas to capture on-site runoff saves money by eliminating the need for costly runoff detention basins and pipe delivery systems.
 - Designing more compact residential lots saves money by reducing site grading and building preparation costs, and can increase the number of lots available for sale.
 - Preserving natural features in neighborhoods can increase the value and sale price of residential lots.
 - Using existing trees and vegetation saves money by reducing landscaping costs and decreasing stormwater volumes.
 - Low impact development improves community aesthetics, expands recreational opportunities, increases property values due to the desirability of lots and their proximity to open space. These properties also have increased marketing potential and faster sales for residential and commercial properties.
 - Stream channel damage and pollutant loadings in downstream waters is lessened and the need for flood buy-out is reduced, again saving public costs and individual frustration and impact from recurrent flooding.
 - Drinking water treatment costs are reduced, thereby costing water customers less for drinking water.
 - Costs due to combined sewer overflows can also be reduced.
 - Updating ordinances to promote post-development runoff hydrography that mimics pre-development hydrography and consider incentives to accomplish this goal for large projects. Current subdivision regulations stipulate that post-development runoff should be no more than pre-development runoff (Article 5.5.A).
 - Consider incentives for stormwater detention/retention facilities to be designed to function as site amenities in addition to mitigation elements.
 - For erosion and sediment control, increase staff monitoring and sampling to ensure that Best Management Practices are used in construction and industrial operations or require property owners to make reports when necessary and monitor through spot checks.
- Incentives could include permit streamlining, abatement or reduction of the stormwater fee, or property tax abatements for a specified time period.

2. *Require by ordinance that development and significant redevelopment comply with the City's NPDES Permit for run-off.*

3. *Develop mechanisms, such as maintenance bonds, to ensure maintenance of detention ponds by developers and property owners.*

The City already requires that developers/property owners maintain these ponds. Better enforcement mechanisms are needed. Examples can be found at water.epa.gov/polwaste/nps/stormwater.cfm.

4. *Consider incentives to promote use of natural drainage systems, where feasible, to manage stormwater.*

Cities across the nation have been searching for alternatives to traditional "hardscape" solutions to storm drainage problems. Communities are increasingly implementing best management practices for stormwater management that encourage preservation of natural drainage systems and, where preservation is not feasible, that encourage use of natural drainage and channel design to the extent possible. Current best management practices emphasize the many benefits of preserving natural drainage:

Actions

1. *Revise regulations to consider incentives to promote best management practices and include default language that reflects a preference for natural drainage and natural channel design.*

Stormwater best management practices should be incorporated into development regulations with applications in all general land use classification types. Short term improvements could include:

- Floodplains store water during big storms, reducing the velocity of the water and reducing downstream flooding.
- The natural floodplain buffer between developed areas and the stream mitigates nonpoint source pollution from the developed areas.
- Tree conservation, parks, greenways and recreational areas in the floodplain enhance the community.

Consider incentives to use methods that incorporate water-quality enhancement and public amenity with drainage improvements. Common approaches applied on a smaller scale include vegetated swales and the protection and enhancement of stream buffers. Others, as in Birmingham, include floodplain enhancement on a larger scale. Such approaches gain greater effectiveness when implemented alongside strategies that keep stormwater runoff out of storm sewers altogether. Use of pervious pavement and redirection of rooftop runoff to vegetated areas helps to reduce the amount of stormwater runoff entering the system.

5. Consider, through incentives or regulations, best management practices in limiting impervious surfaces.

Create incentives and provide public education to promote best practices in reducing impervious surfaces and enhancing on-site management and infiltration of stormwater, such as rain gardens, porous pavement, bioswales, and similar on-site actions.

6. Consider incentives to incorporate floodplain and natural drainage systems into greenways and similar open space amenities.

A well-designed urban amenity floodplain offers multiple benefits:

- Improvement of the drainage way's ability to treat stormwater runoff in addition to maintaining its capacity to hold and discharge water according to its design parameters.
- Reduction of channel erosion.
- Lower maintenance costs through good professional design and proper application of landscaping, trees, and plants throughout the floodplain.

- Development of linkages to other areas of the city along the floodplain with walking and/or bike paths.
- Development of conveniently situated passive recreational areas.
- Increase in natural habitat areas for birds and other wildlife.

7. Promote best management practices, in accordance with the City's NPDES permit, through development of a Stormwater Pollution Prevention Plan (SP3) for the operation and maintenance activities of all City Departments.

8. Consider creating a Stormwater Advisory Board to work with City departments to ensure best practices in all City activities relating to stormwater management.

B. Supplement existing stormwater-management regulations with incentives that promote best management practices which may include on-site management and infiltration of stormwater.

Stormwater-management ordinances and manuals, subdivision regulations and zoning should provide criteria, regulations and incentives for use of bio-retention areas (rain gardens, bio-swales, filtration strips, etc.) and similar practices in all types of development. All of these strategies call for creation of areas planted with native vegetation that allow for the collection and infiltration of stormwater, especially from rooftops and parking areas.

Actions

1. Use "Green Streets" approaches to stormwater management.

"Green Streets" include vegetated elements that intercept stormwater contaminated with gasoline and other chemicals for infiltration and mitigation. Such early interception of runoff reduces demands on stormwater sewers and helps the system return relatively clean water to the receiving streams. Green Streets can include planted bio-retention "bump outs" at corners and mid-block or wide vegetated areas between sidewalks and streets. Depending on the context, Green Street designs can be formal in business or commercial districts, and more informal in neighborhood settings.



“Green Streets” can include vegetated areas in the public realm, and, together with other tools, make up “green infrastructure” for stormwater mitigation in urban conditions. (Source: www.phillywatersheds.org/what_were_doing/green_infrastructure/tools)

Green Streets programs are consistent with the Complete Streets policy endorsed by the Birmingham Planning Commission. City of Birmingham street and sidewalk capital improvement programs could incorporate the most up-to-date stormwater management design.

2. Seek collaboration with UAB's sustainable engineering program in developing greener city standards.

Faculty and students are engaged in studies that can contribute to enhancing city standards.

3. Add City staff and equipment to handle the stormwater infrastructure maintenance and runoff monitoring in both construction and industrial operations.

goal 5

City resilience is supported by effective measures to mitigate hazards presented by tornadoes, floods and other environmental hazards.

POLICIES

- Continue efforts to provide effective warning of flood and tornadoes, as well as neighborhood-based "safe rooms" in public facilities.
- Continue to work with FEMA and others to both eliminate repetitive flood hazards and manage floodplain development.

STRATEGIES

A. Create a plan for locating and funding public safe rooms around the city.

Actions

1. *Study and evaluate the availability and suitability of existing public safe rooms.*
2. *Develop a needs list based on the travel time from all areas to safe rooms.*

B. Continue to submit applications to the Federal Emergency Management Agency (FEMA) to participate in buyout programs as funds become available.

The City has purchased about 1,200 properties with repetitive flooding through FEMA and USACE programs. The City should be ready when funds become available in the future.

Actions

1. *Continue to maintain a list of properties that would benefit from the buyout program.*
2. *Prepare and submit applications to FEMA as funds are available.*

3. *Integrate these properties into open-space programs such as greenways, community land trusts, side-lot sales, community gardens and similar programs.*

C. Continue localized drainage projects.

There are repetitive flood areas that would benefit from localized drainage projects. These may include the upgrade of existing drainage structures, the addition of drainage facilities or providing detention facilities.

Actions

1. *Develop a list of areas that would benefit from minor drainage projects.*
2. *Develop a shovel ready project list of drainage improvement projects for construction should federal funds become available.*

goal 6

City facilities are models of energy and resource efficiency and maintained for long-term use.

POLICIES

- Support investment in an asset-management system for all city-owned facilities.
- Where possible, meet new needs and demands by enhancement/expansion of existing facilities.
- Use best practices for long-term, life-cycle energy and resource efficiency in improvements, renovations, or new facilities.
- Continue to support a priority system and plan to fund all outstanding ADA deficiencies in public facilities.

The physical systems and structures owned by the City represent a huge community investment. These are long-term assets purchased with public funds and should be designed, built, maintained and managed with life-cycle costs in mind. Birmingham has not updated the inventory and conditions of city property for some time. There is a significant maintenance and repair backlog, but no systematic way to prioritize many needs. When cities experience financial constraints, maintenance and repairs

City of Birmingham Inundation

Legend

- Major Hydrology
- Street Centerlines
- Unimproved Access
- Ramp
- Highway
- Arterial
- Local

Inundation Profiles

- 25 Year Flood
- 50 Year Flood
- 100 Year Flood

Birmingham Village Creek Watershed

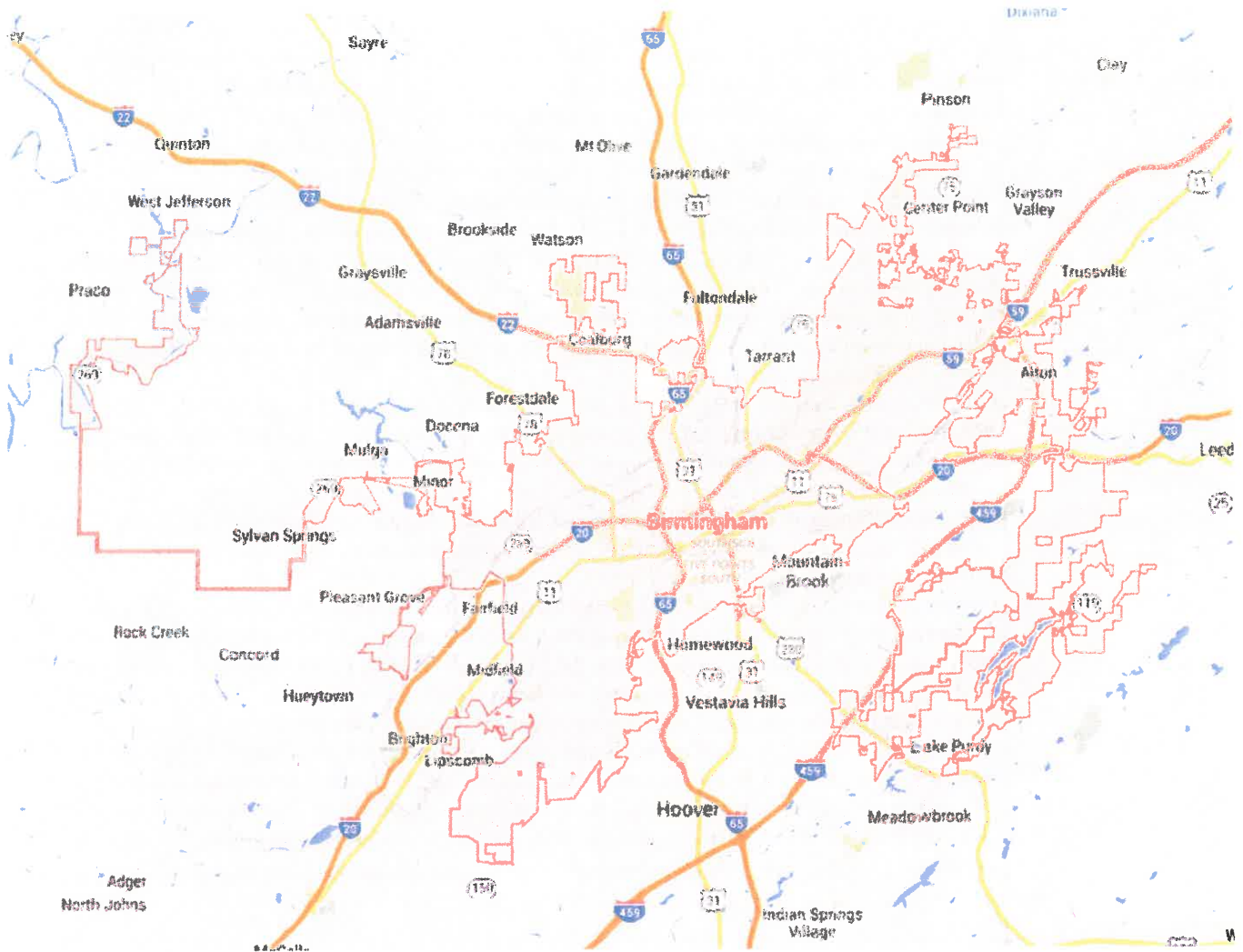


The City of Birmingham is pleased to provide this online mapping tool to the public. This tool is designed to help the public understand the City's flood risk and the impact of various flood events. The City of Birmingham is committed to providing accurate and timely information to the public. For more information, please visit the City of Birmingham's website at www.birmingham.gov.

The City of Birmingham's Floodplain Mitigation and Disaster Services team has readily available inundation map for forecasted flood discharges. This flood inundation map was generated based on hydraulic model derived information. This map is used for flood risk assessments and flood management/flood control and to provide flood alert/flood warning if flood water levels rise to a certain height indicating flood levels at the 25, 50, and 100 year storm event.

Place	Birmingham
County	Jefferson County
City or town	city
2010 census	212,237
2011	211,972
2012	211,302
2013	211,929
2014	212,247
Change since 2010 census	0.0%

Source: U.S. Census Bureau – al.com 5/21/15



Birmingham is the largest city in Alabama. The city is the county seat of Jefferson County. The city's population was 212,237 according to the 2010 United States Census.

Flooding

- June 05, 2013; Heavy rains caused flash floods along roadways in the Birmingham area Wednesday afternoon. The intersection of 41st Street and 2nd Avenue South was flooded around 3 p.m., but the water cleared up quickly
- July 10, 2013; BIRMINGHAM, Alabama -- A cell of thunderstorms brought heavy rain, lightning and hail to much of the Birmingham area Wednesday night, causing flash flooding on roadways Across the Birmingham area, roadways and low-lying areas were flooded, even though the heaviest rainfall lasted less than an hour in downtown Birmingham.
- July 21 and 22, 2013 On Sunday, 3.19 inches of rainfall was recorded at Birmingham-Shuttlesworth International Airport, another 0.72 fell before about 6 p.m. Monday. The rainfall, especially Sunday night, caused flash flooding in low-lying areas and places with drainage issues, she said. That included 41st Street South in Avondale, parts of Messer Airport Highway and the Village Creek area in Ensley. The creek overflowed near Avenue W, cresting at about 10.35 feet, she said, which was up seven feet above normal.
- April 16, 2015; Heavy rains caused some traffic headaches in the Birmingham area Thursday night, as heavy rains caused some flooding in low-lying areas and on some roads. On Sixth Avenue South near Eighth Street, another dip in the road under railroad tracks filled with water and blocked traffic. Birmingham police and fire vehicles were on scene to help stranded drivers out of their vehicles and block traffic. Traffic was heavy, especially because the flooding was just a couple of blocks past the exit ramp from Interstate 65 southbound.

Tornadoes	<ul style="list-style-type: none"> • October 26, 2010, Event type: EF-1 tornado; tornado initially touched down approximately 3.5 miles northeast of the Birmingham airport near L.M. Smith Middle School and traveled northeast crossing Huffman Road, Center Point Parkway, Old Springville Road and Brewster Road. The tornado dissipated just south of the Grayson Valley Country Club. Numerous homes received minor roof damage with 25-50 large trees uprooted or snapped. Damage to structures was spotty mainly due to trees falling down. While most damage was limited to siding and roofing, three homes received major damage. • April 27, 2011, Event type: EF-4 tornado; the tornado quickly moved out of the Pleasant Grove area and into the McDonald Chapel community. It was here in McDonald Chapel where evidence of a slight weakening of the tornado became clear. No vehicles were tossed, only pushed slightly from their original position. Many homes in this area were constructed by the method of pier and beam foundation, which led to some of the major destruction, as this construction will not withstand winds of this magnitude. A four-sided brick home in the same area only lost a roof and no exterior walls, which is indicative of EF-2 damage. At least one death occurred here. <p>After the tornado moved through the McDonald Chapel area, it moved into the area of Smithfield Estates, with significant home damage along Cherry Avenue between Daniel Payne Drive and Veterans Memorial Drive. Numerous homes sustained damage in this area, and a 2-story apartment complex had a large portion of its roof lifted and removed. The Bethel Baptist Church also sustained significant damage to its roof, though the main structure of the building was still intact. The damage sustained in this area is consistent with EF-2 wind damage. Although not a main damage indicator, there was also evidence of vehicles being moved, but only a couple of feet.</p> <ul style="list-style-type: none"> • December 10th, 2012, Event type: EF-1 tornado; National Weather Service meteorologists' surveyed damage just northwest of downtown Birmingham. It has been determined that the damage was consistent with a tornado. Maximum winds were estimated up to 90 mph. The tornado touched down just west of 3rd Place West or just to the east of the Birmingham Farmers Market. From there, it moved to the northeast across a light industrial warehouse area, striking a large metal building. Several overhead doors at the loading dock were blown in, which then blew out about 25 percent of the roof off the building. Debris from this structure was found up to a mile away. The tornado continued northeastward through a residential area, causing damage to 29 homes, 2 of which had major damage and one of which lost its roof entirely. A church and two other businesses were damaged near the intersection of Finley Blvd and 16th Street. The tornado lifted near the intersection of 24th Court North and 18th Street North, just west of Interstate 65.
Severe Storms	<ul style="list-style-type: none"> • Apr 19, 2009 ... Showers and thunderstorms are expected to continue into the early morning hours, some of them severe, according to the National Weather ... Severe storms near Birmingham area prompt warnings • 10/24/2010 TSTM WND DMG Birmingham trees and power lines reported down on 47th place south...50th street south...and 8th avenue south in Birmingham. Trees were blown down onto a home in Crestwood. Quarter size hail was reported in Crestwood. • On April 27, 2011, a massive storm, causing numerous powerful tornadoes, struck the southeastern United States. More than 250 people were killed in Alabama, including 20 people in Jefferson County communities of Pleasant Grove (10), Concord (6), Cahaba Heights (1), Pratt City (1), Forestdale (1), and McDonald Chapel (1). • Sept. 5, 2011; Tropical Storm Lee; BIRMINGHAM, Alabama -- Heavy rainfall across the

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Birmingham, AL is in a high risk hurricane zone. 30 hurricanes have been recorded in the Birmingham, AL since 1930. The largest hurricane was Unnamed in 1916. The most recent Birmingham, AL hurricane</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Lee	9/4/2011	SS	50														
Claudette	8/17/2009	TS	50														
Fay	8/23/2008	TS	60														
Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes	<ul style="list-style-type: none">• January 31, 2013; BIRMINGHAM, Alabama -- Construction at Birmingham's \$64 million baseball stadium is hampered with a recent discovery of a massive sinkhole at the entrance to the sports facility. City officials said the sinkhole, which was at least 100-feet deep, is repaired but forces the relocation of sewer lines at the site.• March 24, 2015; A stretch of Clairmont Avenue is closed to traffic after part of the road caved in Tuesday afternoon. Birmingham police and city officials arrived at the scene around 2:50 p.m., shortly after a caller reported a sinkhole in the road. The hole is about 4 feet wide. Clairmont Avenue is blocked off near Piggly Wiggly, between 34th Street South and Highland Avenue South.																
Earthquakes	<p>Birmingham, AL has a low earthquake risk, with a total of 24 earthquakes since 1931. The USGS database shows that there is a 2.80% chance of a major earthquake within 50km of Birmingham, AL within the next 50 years. The largest earthquake within 30 miles of Birmingham, AL was a 4.8 Magnitude in 1999.</p> <ul style="list-style-type: none">• September 13, 2011; Earthquake; M3.0 – Birmingham Urban Area, Alabama																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																



2015

ALL HAZARDS AWARENESS WEEK

Monday April 20, 2015

Licensed Professional Elevation Certificate (EC) Workshop
Jefferson County Emergency Management Agency Training Room
709 North 19th Street in the Basement of City Hall
10:00 A.M. - 12:00 P.M.

Tuesday April 21, 2015

Emergency Preparedness Information Table
Corner of 20th Street and 5th Avenue North
10:00 A.M. - 1:00 P.M.

Wednesday April 22, 2015

Multi-Jurisdictional Mitigation Public Meeting
Boutwell Auditorium
1930 Reverend Abraham Woods Jr Boulevard
4:00 P.M. - 7:00 P.M.

Thursday April 23, 2015

Crestline Neighborhood Association Meeting
McElwain Baptist Church 4445 Montevallo Road
6:30 P.M. to 8:00 P.M.

For more information or questions regarding these events,
please contact Floodplain Management and Disaster Mitigation Services Staff at 205-254-2479.



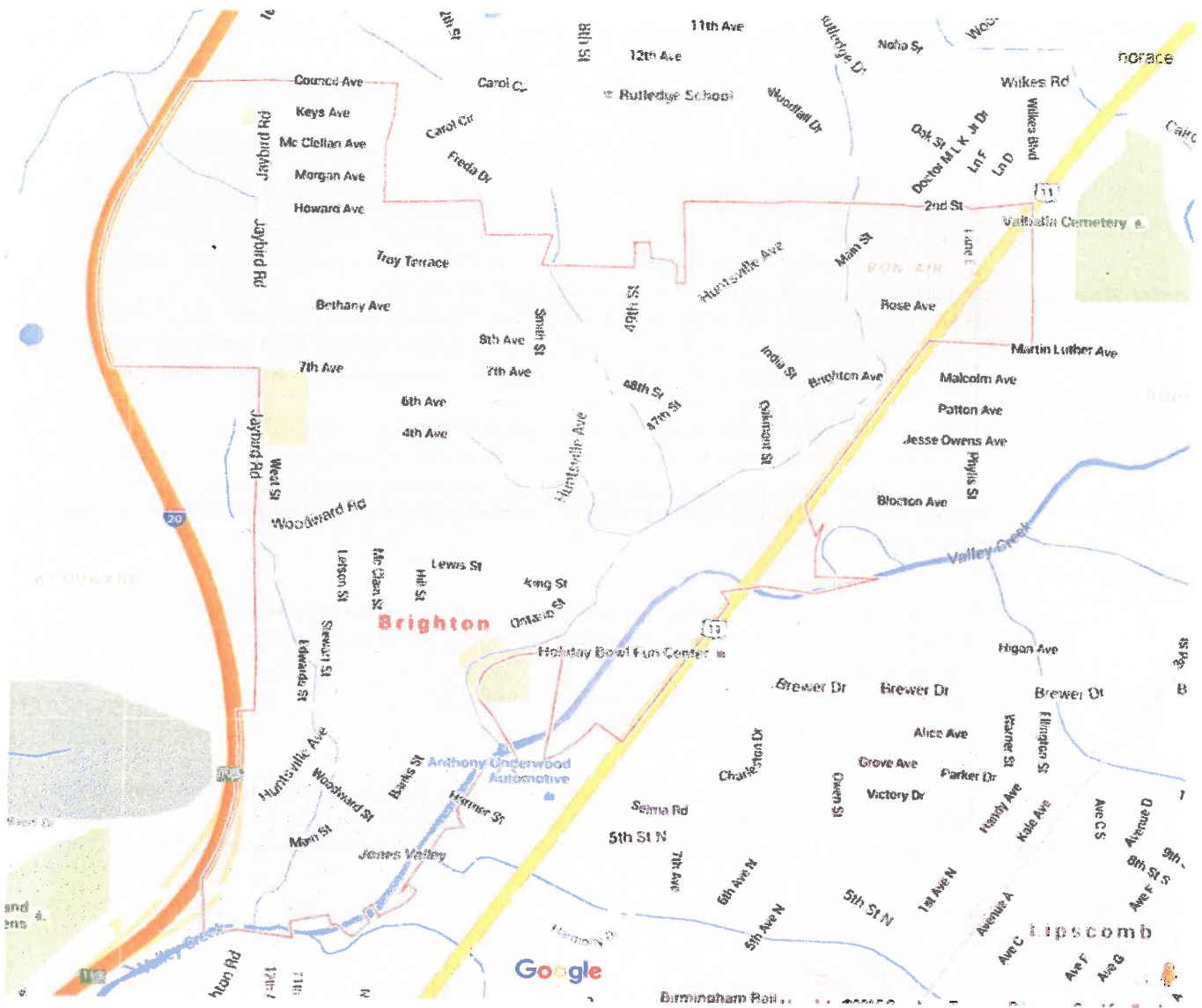
BIRMINGHAM FORWARD

— MAYOR WILLIAM A. BELL, SR. —

Brighton

Place	Brighton
County	Jefferson County
City or town	city
2010 census	2,945
2011	2,930
2012	2,913
2013	2,896
2014	2,885
Change since 2010 census	-2.0%

Source: U.S. Census Bureau – al.com 5/21/15



Brighton is a city near Birmingham, Alabama, United States and located just east of Hueytown. At the 2010 census the population was 2,945. It is one of four cities in Jefferson County named after cities in Great Britain.

Flooding	<ul style="list-style-type: none"> • April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.
Tornadoes	<p>Very High Risk area for tornadoes. According to records, the largest tornado in the Bessemer area was an F5 in 1998 that caused 259 injuries and 32 deaths. *Tornado risk is calculated from the destruction path that has occurred within 30 miles of the location.</p>
Severe Storms	<ul style="list-style-type: none"> • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><th>Name</th><th>Landfall</th><th>Max Status</th><th>Max Wind (Knots)</th></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Frank</td><td>8/22/2005</td><td>TS</td><td>50</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Frank	8/22/2005	TS	50
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Landslides																	
Sinkholes																	
Earthquakes	<p>Brighton, AL has a low earthquake risk, with a total of 31 earthquakes since 1931. The USGS database shows that there is a 2.74% chance of a major earthquake within 50km of Brighton, AL within the next 50 years. The largest earthquake within 30 miles of Brighton, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	

Brookside

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Wednesday, December 02, 2015**

Name of Jurisdiction: **Brookside**

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	N
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. N/A

Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

2. N/A

Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

3. N/A

Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

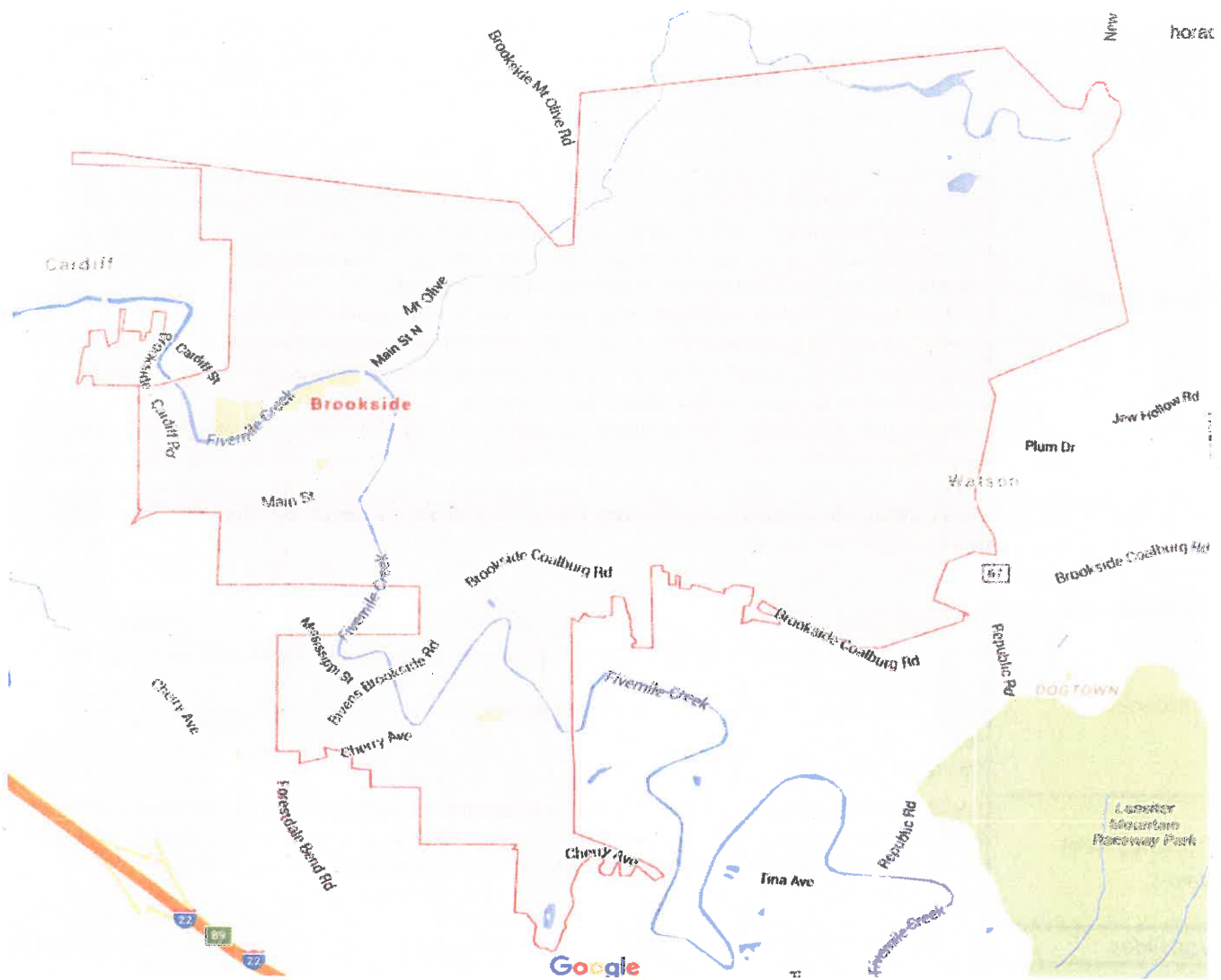
4. Fire Department / Tornado Shelter

2711 Municipal Lane, Brookside, AL 35036

Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Place	Brookside
County	Jefferson County
City or town	town
2010 census	1,363
2011	1,354
2012	1,352
2013	1,344
2014	1,340
Change since 2010 census	-1.7%

Source: U.S. Census Bureau – al.com 5/21/15



Brookside is a former mining town, predominantly settled by Eastern European immigrants, located in north-central Jefferson County, Alabama, United States. As of the 2010 census, the population of the town is 1,828. The mayor is Roger McCondiche.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Frank</td><td>8/22/2006</td><td>TS</td><td>50</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Frank	8/22/2006	TS	50
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	Brookside, AL has a low earthquake risk, with a total of 36 earthquakes since 1931. The USGS database																
Dam/Levee Failure																	

Center Point

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 04, 2015

Name of Jurisdiction: City Of Center Point, Al.

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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**Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional
Hazard Mitigation Plan Update:**

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude-such as "F-1 Tornado," "5 inches of rain resulting in flooding," "5- consecutive days of below freezing temps," etc.) and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- September 17, 2009 -2229 Center Point Parkway \$1,000.00
- January 24, 2010 -540 16th NW \$1,000.00

- Tornadoes
- January 23,2012 F-2 \$1,250,000.00
- April 27,2011 F-2

- Severe Storms (which may include thunderstorms, hail, lightning, high winds tornadoes, floods)
- April 13,2009 High Wind \$47,174.00

- September 17, 2009 Wind Storm -420 18th AVE. NW
- June 23, 2011 Severe Weather -2108 5th Way NW
- April 2, 2009 Wind Storm -1746 5th St. NW
- May 26, 2009 Wind Storm -2237 1st St. NW
- June 13, 2009 Wind Storm -216 16th Ave
- September 5, 2011 Wind Storm -200 20th AVE
- September 5, 2011 Wind Storm -233 Sun Valley Road NW
- September 5, 2011 Wind Storm -Lake Drive NE
- September 5, 2011 Wind Storm -Old Springville Road
- September 5, 2011 Wind Storm -125 24th AVE NE
- September 5, 2011 Wind Storm -705 27th AVE NE

- September 5, 2011 Wind Storm -4th ST. NW
- January 23, 2012 Tornado F-2 -Indian Trail NW
- January 23, 2012 Tornado F-2 -2344 3rd St. NE
- January 23, 2012 Tornado F-2 -23rd Terr. NW
- January 23, 2012 Tornado F-2 -28th Ave. NE
- March 18, 2013 Wind Storm -25th Ave. NE
- July 14, 2014 Wind Storm -204 25th Ave. NE
- May 28, 2010 Severe Storm (lighting strike) -220 23rd Ave.
- July 25, 2011 Severe Weather (Lighting Strike) -118 21st Ave.
- February 10, 2013 Severe Weather (lighting strike) -1220 Turf Dr. NE
- June 6, 2013 Severe Weather (lighting) -4322 Center Point Pkwy *
- June 12, 2009 Wind Storm -25th Ave. NE
- April 27, 2011 Wind/ power line down Cove Cir. NE
- April 2, 2009 Wind Storm 5th Way NW
- May 26, 2009 Wind Storm 1st St. NE
- September 17, 2009 Flood Center Point Parkway
- September 17 2009 Severe Weather Wind 18th Court NW
- January 24, 2010 Flood 16th Ave. NW 500 blk

- Winter Storms (which may include extreme cold, snow, ice)

- 02-25-15 / 02-26-15 Ice and snow 2+inches
- 03-05-15 Ice and snow 2+ inches
- 02-29-14 Ice and snow 2+inches
- 02-13-14 Ice and snow 2+inches
- 02-12-10 Ice and snow 3+inches

- Wildfires NA
- Droughts/Heatwaves NA
- Landslides NA
- Sinkholes NA
- Earthquakes NA
- Dam Failure NA
- Hurricanes NA

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that/can will be addressed by your mitigation strategy/actions.

1. Part of the City of Center Point is in the direct path of a final approach of the Birmingham Shuttlesworth international airport. (air disaster potential)
2. There is a fuel transportation hub in the center of the city. (fuel spill potential)
3. There is a propane tank fill station on Center Point Parkway. (explosion threat)
4. There is a propane storage tank in close proximity of the city limits on the west side.(explosion/fire threat)
5. There is a chemical manufacturing co (Valspar Paints) in close proximity of the city limits on the west side. (explosion/fire threat)
6. There are 2 (two) natural gas distribution lines that run through our city limits.(explosion/fire threat)

All of the above could put all the following in danger.

Government operations buildings

Fire Department building

Apartment complex

Residential housing

Schools

Churches

Business District

3.Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential), commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

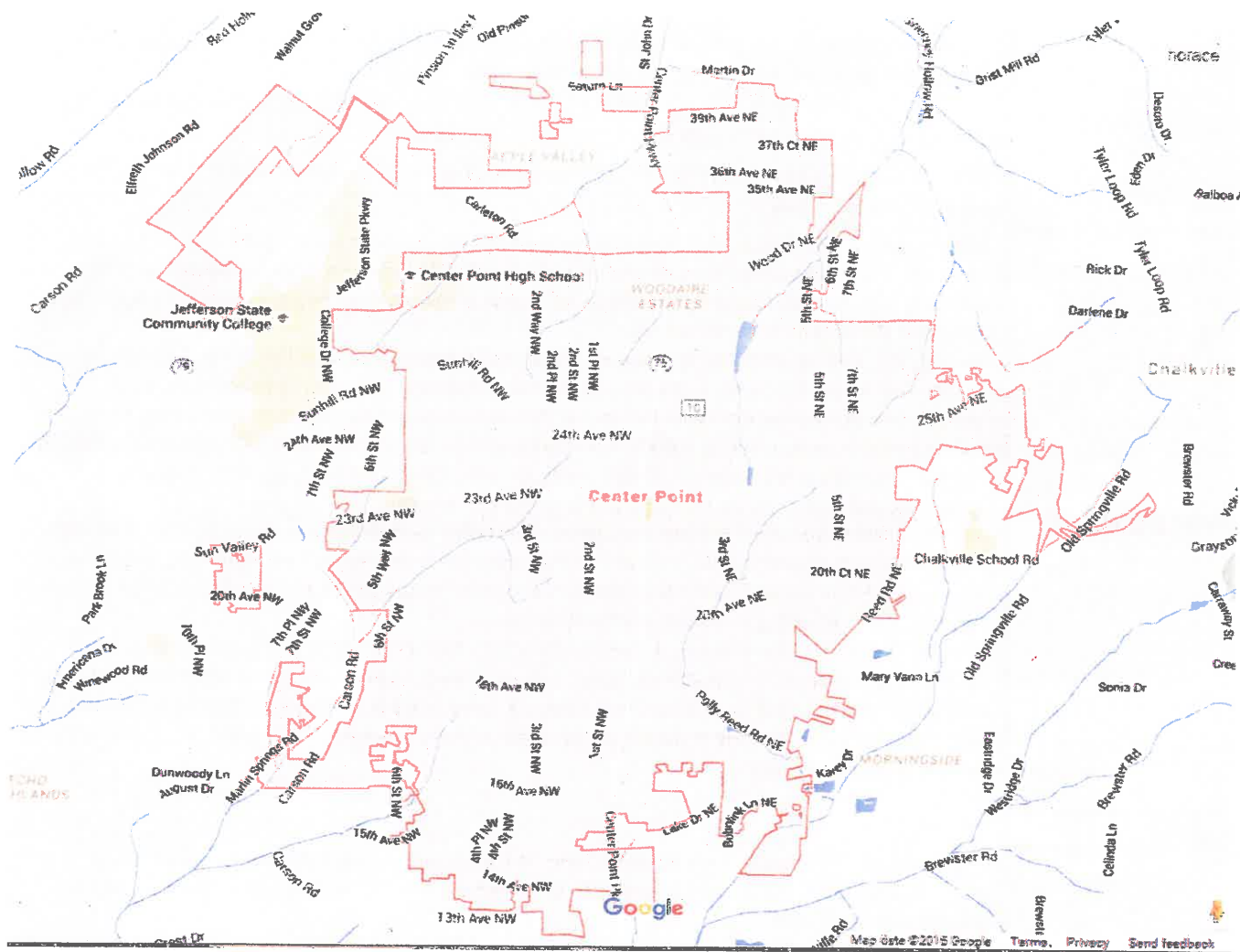
NA

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as 'structures and institutions necessary for a community's response to and recovery from emergencies.'

Center Point Fire Station 1	2229 Center Point Parkway
Jefferson County E-911 Center	2651 Center Point Parkway
Jefferson County Satellite Court House	2651 A Center Point Parkway
Center Point City Hall	2209 Center Point Parkway
Center Point Public Works Const. Building	5193 Pinson Hgts. Road
Center Point Public Works Hort. Building	30 20 th Ct. NW
Alabama Power (power sub station)	16 25th Ave NW
Alabama Power (power sub station)	1000 Ball Park Road
Alabama Power (power sub station)	1308-A Huffman Road
Cell Tower	1000 Ball Park Road
Cell Tower	11 21 st Ave NW
Cell Tower	1812 Old Springville Road
Cello Tower	1822 1st St. NE
Birmingham Water Works Tank	433 Woodland Court NE

Place	Center Point
County	Jefferson County
City or town	city
2010 census	16,921
2011	16,924
2012	16,910
2013	16,828
2014	16,777
Change since 2010 census	-0.9%

Source: U.S. Census Bureau – al.com 5/21/15



Center Point is a newly incorporated city and a former census-designated place in northeastern Jefferson County, Alabama, United States. It is part of the Birmingham metropolitan area. At the 2000 census the population was 22,784.

Flooding
<div>Tornadoes</div>

- January 23rd, 2012; Center Point EF-3 Tornado; National Weather Service meteorologists have surveyed the damage in Center Point. The damage was the result of an EF-3 tornado. In the city of Center Point, the tornado exhibited maximum wind speeds of 120 mph. The most extreme damage was sustained by the Center Point Elementary School, which had the southwestern portion of its roof completely removed. In this same area, the width of the tornado path was approximately 880 yards. Two blocks to the northeast, the tornado crossed Center Point Parkway causing damage to numerous businesses at 24th Street. From there, the tornado continued traveling to the northeast, crossing over Sweeney Valley Road, causing minor roof damage to numerous homes along the way. When the tornado crossed Old Springville Road, the intensity increased to approximately 150 mph. These wind speeds caused damage to dozens of homes in the George Brook Neighborhood.

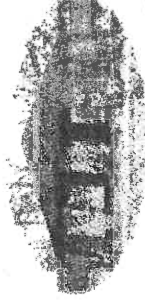
Severe Storms	<ul style="list-style-type: none">• 10/24/2010; CENTER POINT HAIL E0.75 INCH; DIME TO PENNY SIZE HAIL WAS REPORTED IN CENTERPOINT. SEVERAL TREE LIMBS WERE SNAPPED OFF IN THE SAME AREA.• 10/26/2010; CENTER POINT HAIL E1.00 INCH; QUARTER SIZE HAIL WAS REPORTED NEAR CARSON ROAD AND RED HOLLOW ROAD...BETWEEN PINSON AND CENTER POINT.• Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee																
Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Landslides																	
Sinkholes																	
Earthquakes	<p>Center Point, AL has a low earthquake risk, with a total of 14 earthquakes since 1931. The USGS database shows that there is a 2.68% chance of a major earthquake within 50km of Center Point, AL within the next 50 years. The largest earthquake within 30 miles of Center Point, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

2015 Membership

Alabama Partners for Clean Air	Howard Summerford	Walmart Neighborhood Market
Alabama Power Company	Hueytown Chamber	Wells Fargo
America's First Federal Credit Union	InSite Engineering	Wink Chapman
Ingia Gentry	Jimmie Hale Mission	SouthPoint Bank
AT&T	Junkins-Yarbrough Insurance	Protection 1
BadgesandAwards4U	Kelley Animal Hospital	John Amari
Best Insurance	Kid One Transport	AAA Solutions
Billy Hagood	Magnolia Court Apts.	Advance America
Birmingham Nursing and Rehab	Marie Harbison	American Family Care
Bryant Bank	Mary Skelton	Walgreens
Buffalos Wild Wings	Massey, Stotser & Nichols, PC	Meat Outlet
BWM Investments	McDonald's	Renasant Bank
Cathy Isbell	Michael Lee	Elmcroft Senior Living
Center Point Auto Auction	Michelle Stover	Perryn G. Carroll
Center Point Civitans	Miss Center Point Pageant	Collateral Properties
Center Point Elementary School	Octapharma Plasma, Inc.	Mable Perry
Center Point Fire District	Phlebotomy Ink	Raymond Olan
Center Point High School	Pinnacle Bank	Jefferson State Comm. College
Center Point Wholesale Transmission	Pinson Animal Hospital	GMG Construction
Chalkville Elementary School	Popeye's Restaurant	Linda Coleman
Chalkville Small Engine Repair	Rape and Brooks Orthodontics	DTS Financial Services
Chick-Fil-A	Regions Bank	
Clay-Chalkville High School	Rep. Dickie Drake	
Comfort Plus Family Dental	Richardson Psychological Services	
Danny King	Roebuck Golf Course	
David Winchester DMD	Roger Barlow, CPA	
Donnie West	Rusty's Barbeque	
Dr. Reid Marshall DMD	Sarrell Dental Clinic	
Eastern Tire Distributors	Scott's Tire Outlet	
Erwin Intermediate School	Serra Toyota	
Express Oil Change	Shirley's Florist	
Five Mile Creek Greenway	State Farm Ins. - David Pember	
Fivefold Ministries	Terry Leesburg	
Food Giant	The Mentor Group	
Goodwyn, Mills & Cawood	Tim Gann	
Gray & Gray Realty, LLC	Tobacco Express	
Greater Grace Missionary Baptist Church	Tom & Betty Henderson	
Gremmels Chiropractic Center	Trinity Medical Clinic	
Harper Insurance Agency	Trussville Chamber of Commerce	
Hilldale Baptist Church	Trussville Gas and Water	
Hilton Garden Inn	Villa Maria Apartments	
HomeTown Bank		

Center Point Area Chamber of Commerce

Center Point Area



Chamber of Commerce

Luncheon
March 10, 2015

Chamber Members of the Month

Welcome

Tim Gann

Invocation

Tim Gann

Introductions

Members/Guests

***Kelley Animal Hospital**

Speaker:

Mayor's Prayer Breakfast

Jim Coker

Director, Jefferson County EMA

Announcements:

**Mayor's Prayer Breakfast
Festival of the Springs
Spring Fling/Fashion Show
(CP Women's Preservation)
Center Point Fair**

**March 13—7:00 am
April 11—11 am-5 pm**

**April 18—11:00 am
April 21-25**

The 13th annual Mayor's Prayer Breakfast will take place on March 13 at Hilldale Baptist Church and begins at 7:00 a.m. The Chamber is very fortunate to have the **Jimmie Hale Mission** sponsor this event for the 3rd year in a row. Our speaker will be Miss Alabama 2014 **Caitlin Brunell**. Miss Center Point, Jessica Proctor and Miss Outstanding Teen Anna Thigpen will also be on hand. Tickets cost \$10 and can be purchased at the Chamber office or Center Point City Hall.

Center Point Fair

A citywide fair/carnival will take place at Center Point Plaza (Post Office parking lot) from April 21-25. The hours are 5:00 pm until 10:00 pm.

Davis, Annette

From: Coker, James [cokerj@jccal.org]
Sent: Wednesday, March 11, 2015 6:20 AM
To: Davis, Annette
Subject: Tweet from EMAJeffersonCoAL (@EMAJeffCoAL)



EMAJeffersonCoAL (@EMAJeffCoAL)

3/11/15, 06:18

Center Point Chamber of Commerce luncheon yesterday; hazard mitigation plan discussed. Thank you CP CofC.

Download the official Twitter app [here](#)

Clay

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Tuesday, December 08, 2015

Name of Jurisdiction: Clay

Answer Key:

Y = Yes / N = No

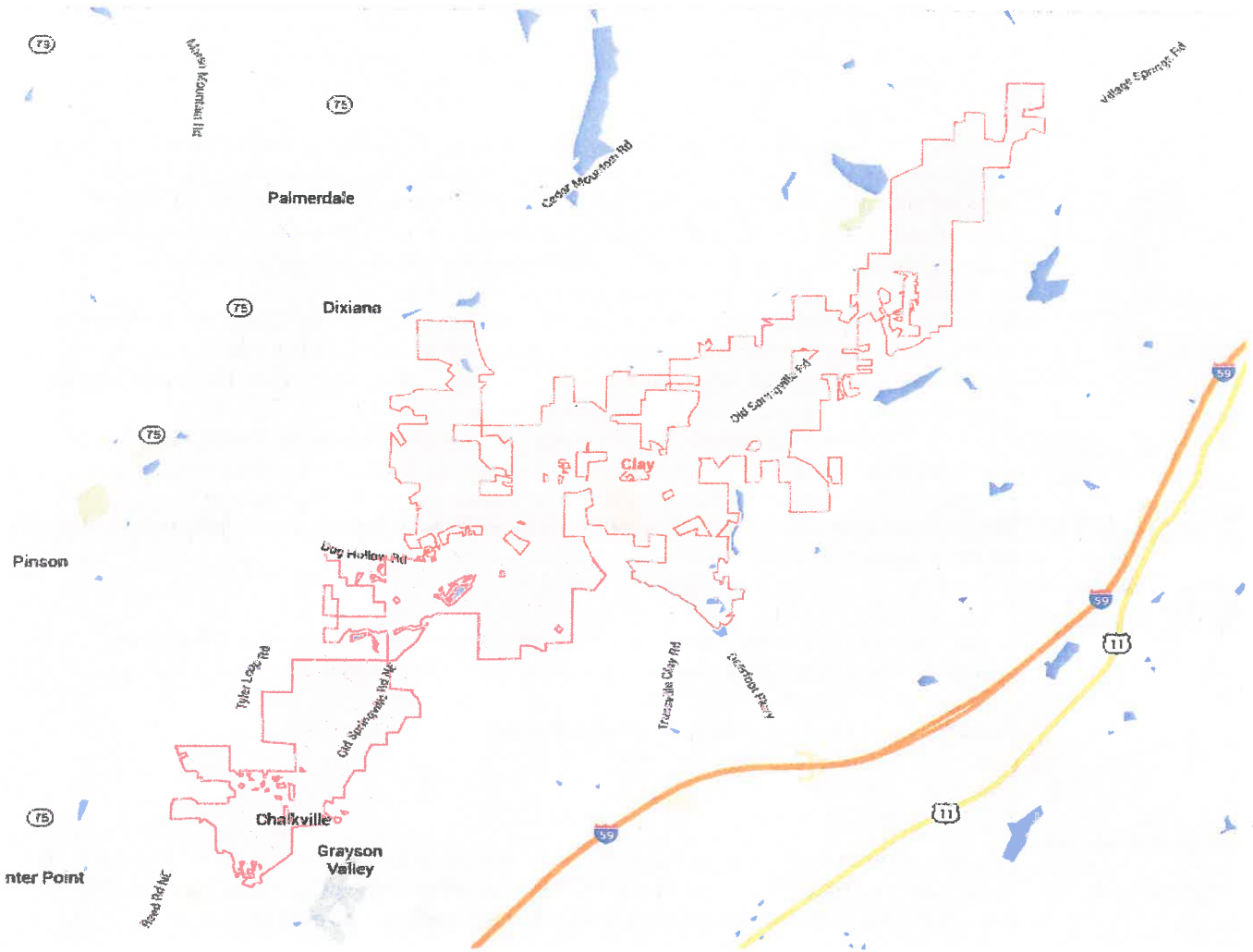
1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	y
3.	Administer Subdivision Regulations?	y
4.	Enforce Building & Technical Codes?	y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	y
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	y
12.	Regular Member of the NFIP?	y

(Class Number or N/A)

Community Rating System Program Class?	NA
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Place	Clay
County	Jefferson County
City or town	city
2010 census	9,708
2011	9,706
2012	9,676
2013	9,698
2014	9,700
Change since 2010 census	-0.1%

Source: U.S. Census Bureau – al.com 5/21/15



Clay is a city in northeastern Jefferson County, Alabama, United States. It is part of the Birmingham–Hoover–Cullman Combined Statistical Area. Local government is run by a mayor and city council. It has a population of 9,711.

Flooding

Tornadoes

Severe Storms

- January 23rd, 2012; Clay, EF-3 Tornado; National Weather Service meteorologists have surveyed the damage in Clay. As the tornado moved farther to the northeast, it clipped Harness Circle in the Northwoods neighborhood, where two homes were completely destroyed. It was in one of these two homes where a 16-year-old girl lost her life in the process of trying to take cover. Numerous other homes sustained minor to moderate roof damage. Winds in this area were consistent with an EF-3 tornado of 150 mph and a width of approximately 600 yards. From there, the tornado crossed another ridge and entered the Legacy neighborhood in the city of Clay. Numerous homes throughout the neighborhood sustained minor to moderate roof damage. Homes on Plymouth Rock Drive sustained the heaviest damage as many of the exterior walls had collapsed. Winds in this neighborhood were also consistent with an EF-3 tornado of 150 mph and a width of approximately 600 yards.
- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Landslides																	
Sinkholes																	
Earthquakes	<p>Clay, AL has a low earthquake risk, with a total of 9 earthquakes since 1931. The USGS database shows that there is a 2.59% chance of a major earthquake within 50km of Clay, AL within the next 50 years. The largest earthquake within 30 miles of Clay, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	

County Line

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Dec 12, 2015

Name of Jurisdiction: Town of County Line

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Yes
2.	Enforce Zoning Ordinances?	No
3.	Administer Subdivision Regulations?	No
4.	Enforce Building & Technical Codes?	No
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	No
6.	5-6 Year Capital Improvements Plan Updated Annually?	No
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	No
8.	Professional Urban Planner on Staff?	No
9.	Professional Engineer on Staff?	No
10.	Certified Floodplain Manager on Staff?	No
11.	Full-Time Building Inspector on Staff?	No
12.	Regular Member of the NFIP?	No

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

None.

2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

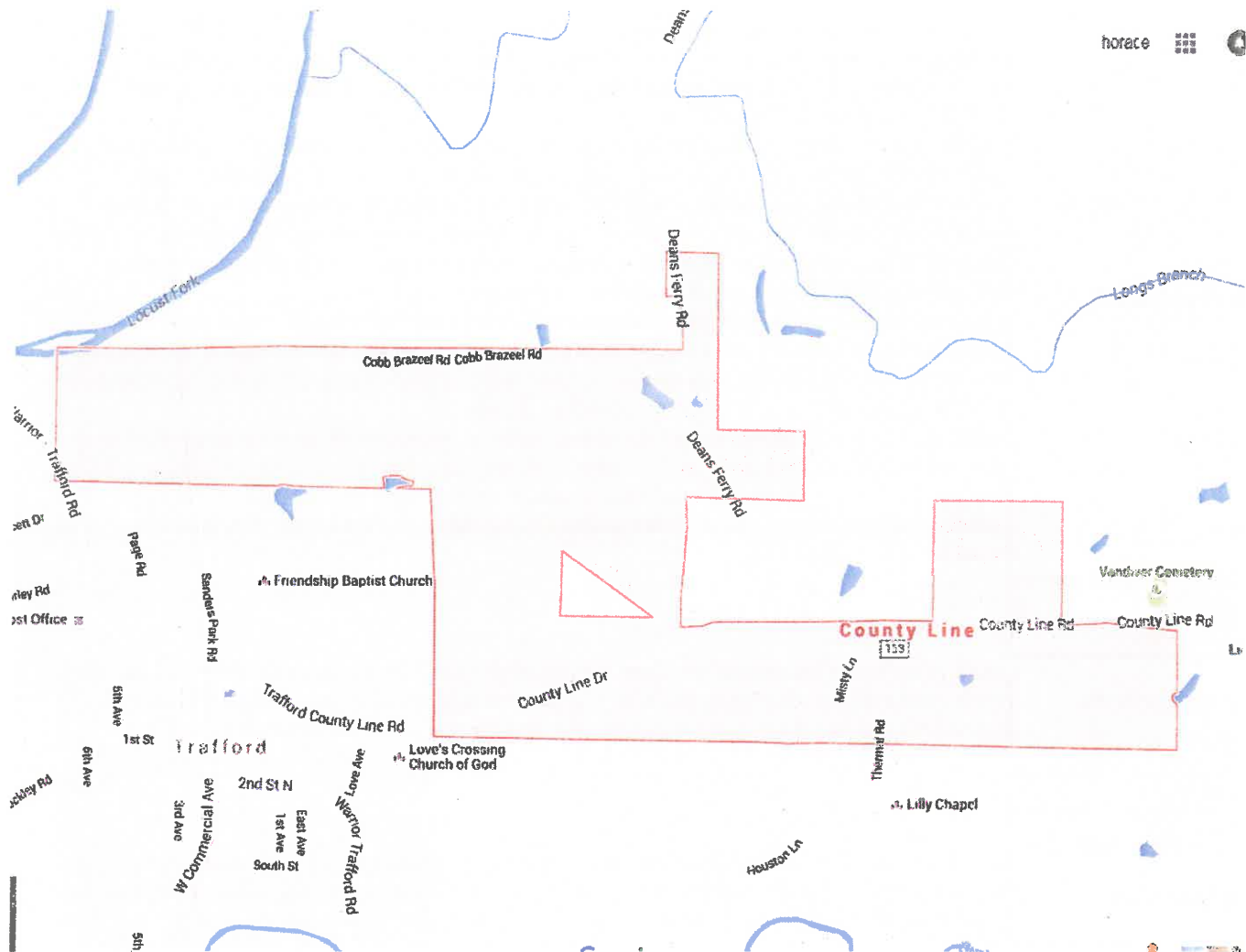
None.

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

None.

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

None.



County Line is a town in Blount and Jefferson counties in the State of Alabama. At the 2010 census the population was 258.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none"> • March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service. • Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth. • Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service. • Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.
Wildfires	
Hurricanes	
Droughts/Heat Waves	July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.
Landslides	
Sinkholes	
Earthquakes	County Line, AL has a low earthquake risk, with a total of 16 earthquakes since 1931. The USGS database shows that there is a 2.49% chance of a major earthquake within 50km of County Line, AL within the next 50 years. The largest earthquake within 30 miles of County Line, AL was a 3.5 Magnitude in 1975.
Dam/Levee Failure	

Fairfield

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Wednesday, December 09, 2015**

Name of Jurisdiction: **Fairfield**

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	y
2.	Enforce Zoning Ordinances?	y
3.	Administer Subdivision Regulations?	n
4.	Enforce Building & Technical Codes?	n
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	n
6.	5-6 Year Capital Improvements Plan Updated Annually?	y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	y
8.	Professional Urban Planner on Staff?	y
9.	Professional Engineer on Staff?	n
10.	Certified Floodplain Manager on Staff?	n
11.	Full-Time Building Inspector on Staff?	y
12.	Regular Member of the NFIP?	y

(Class Number or N/A)

Community Rating System Program Class?	n/a
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence**, **geographic location**, **extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

April 4, 2010 - Extensive flooding in the Bellwood community. There was no loss of life but flooding in private homes was severe.

April 27, 2011 – EF-5 tornadoes affected communities to our northwest. We responded and established command.

January 28-29, 2014 – Freezing temperatures with snow and ice

February 6, 2014 – Freezing temperatures with iced roadways

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.
- Having the densest population in the state with almost 12,000 residents in just over 2.5 square miles we are uniquely susceptible to natural disasters. Within the city's boundaries we have several groups at risk. Miles College, with an enrollment of approximately 1800, is a major activity center including housing for a majority of it's students and some faculty. The city also has 3 elementary

schools, a middle school and a high school with total enrollment of 1865 students. We also have 2 private academies, Mt. Pilgrim Christian Academy K-6 with an enrollment of 60 and Restoration Academy K-12 with an enrollment of 274.

- Clyde Williams Senior Citizen's Home is located here. It is not a medical facility but the citizens tend to be elderly and not all are fully ambulatory. We have 7 boarding homes in our boundaries.
- We have a retail center anchored by Western Hills Mall at the southern boundary of the city. Major thoroughfares border the north and south boundaries of the city. We are bordered on the north by Interstate 59 and on the south by Bessemer Superhighway.
- We have a hotel with 78 rooms

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

Information for the number of incidents are not provided but these structures, all residential, have been affected by flooding with the most recent incident being April 24, 2010:

- 736 Belwood Circle
- 6740 Dr. Martin Luther King Drive
- 612 Willowbrook Road
- 615 Willowbrook Road
- 616 Willowbrook Road
- 617 Willowbrook Road
- 620 Willowbrook Road

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as "structures and institutions necessary for a community's response to and recovery from emergencies."

- The City of Fairfield's Police and Fire headquarters are housed in the municipal building at 5231 Court B.
- Fire Station 2 is located at 100 Englewood Drive
- City Hall is located at 4701 Gary Avenue

- The Public Works is located at 4114 Commerce Avenue

The City of Fairfield, collected 62 surveys for the Hazard Mitigation Planning.
The following information was collected:

Events Likely to happen:

A) Floods	9
B) Tornadoes	37
C) Storms/Winds	39
D) Winter Weather	26
Hurricanes	4
Drought	9
Sinkholes	6
Landslides	1
Wildfires	4
Earthquakes	2

Events Likely to affect Jefferson County:

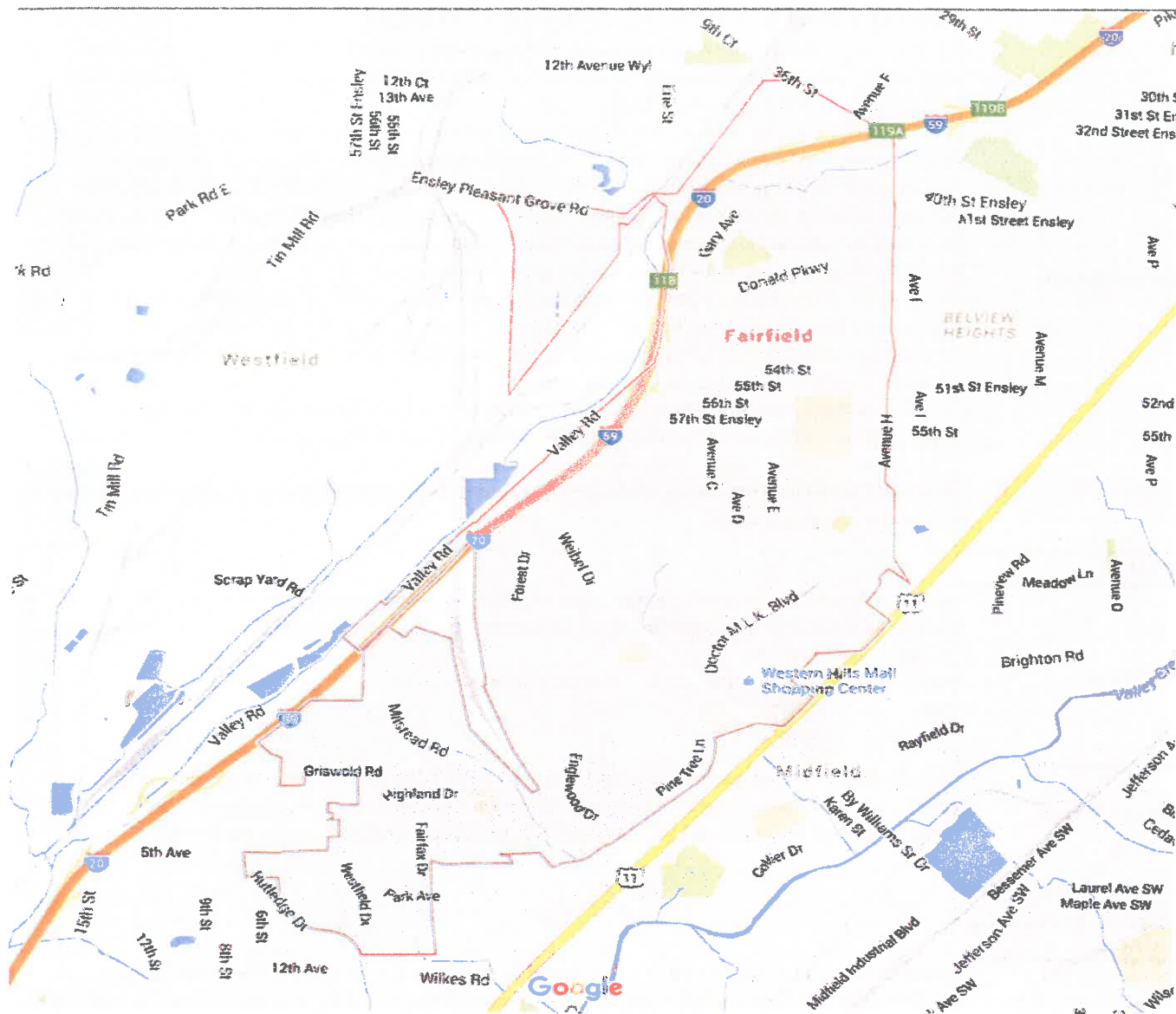
A) Floods	9
B) Tornadoes	37
C) Storms/Winds	27
D) Winter Weather	13
Hurricanes	1
Sinkholes	2
Wildfires	3

Lost time from work:

B) Tornadoes	12
C) Storms/winds	13
D) Winter Weather	18
Sinkholes	1

Place	Fairfield
County	Jefferson County
City or town	city
2010 census	11,117
2011	11,063
2012	11,000
2013	11,023
2014	10,988
Change since 2010 census	-1.2%

Source: U.S. Census Bureau – al.com 5/21/15



Fairfield is a city in western Jefferson County, Alabama, United States. It is part of the Birmingham, Alabama, metropolitan area. Its location is southeast of Pleasant Grove. The population was 11,117 at the 2010 census.

Flooding

- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

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- Montgomery
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- [Press-Register \(https://member.al.com/dssSubscribe.aspx?siteCode=RG&pid=22\)](https://member.al.com/dssSubscribe.aspx?siteCode=RG&pid=22)
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Fairfield plans meeting about hazard mitigation plan, begins new website development

Jon Reed | jreed@al.com (<http://connect.al.com/staff/jonreid/index.html>) By Jon Reed | <http://connect.al.com/staff/jonreid/posts.html>

Email the author | Follow on Twitter (<https://twitter.com/JonDReed>)

on June 02, 2015 at 10:45 AM

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http://blog.al.com/news_birmingham_impact/print.html?entry=2015/06/fairfield_plans_meeting_about.html

Email

[20development%20meeting%20about%20hazard%20mitigation%20plan%20C%20begins%20new%20website%20development&body=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F06%2Ffairfield_plans_meeting_about.html#incart_email](#)

**FAIRFIELD CITY
COUNCIL**

Fairfield city council avoids leasing restaurant space to convicted fraudster at the last minute
(<http://www.al.com/news/birmingham/>)

**Neighborhood associations in
Fairfield work to reopen Forest Hills
Park**
(<http://www.al.com/news/birmingham/>

Officials work on plan to keep MAX buses rolling in Fairfield despite \$400,000 in missed payments
(<http://www.al.com/news/birmingham/>)

Fairfield to hold public meeting about red light cameras
(<http://www.al.com/news/birmingham/>)

Fairfield council approves travel expenses to Tuscaloosa for convention, tax collection contract
(<http://www.al.com/news/birmingham/>)

All Stories
(<http://topics.al.com/tag/fairfield-city-council/posts.html>) |

(http://ads.al.com/RealMedia/ads/click lx.ads/www.al.com/news/birmingham/2015/06/fairf



(<http://media.al.com/story/news/politics/race/322cefd032f18ed8.jpg>)

Fire Chief Kevin Sutton is leading the development of the plan, which looks at different ways the city is vulnerable to natural disasters and other emergencies.

The meeting is scheduled for 5:30 p.m. Thursday at Fairfield City Hall. City officials are looking for input from residents and community leaders, and expect a representative from the Jefferson County EMA to be on hand.

At Monday night's city council meeting, the council also approved the first payment for the redevelopment of the city's website (<http://fairfieldal.us/>). The city's website has gone through a few iterations over the past couple of years, and is currently a site that was put together quickly to allow the business license ordinance to be posted.

Council members hope a new website will give residents the chance to pay bills online and better work with the city.

The council approved the first of three payments to World Wide Digital LLC, worth \$998. World Wide Digital will develop the city's web presence, including separate sites for the mayor and council.

Some council members, including Harry Lee, who brought in the website and talked with council members about new laptops, wanted just one unified site for both the city and the council. Mayor Kenneth Coachman asked if it was possible to do separate websites. William Canty, with World Wide Digital, said they could do that at no extra cost if it's what the city wanted.

Some council members agreed to separate sites, after some discussion. Lee said he still

Fultondale

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 18, 2015

Name of Jurisdiction: Fultondale

Answer Key:
Y = Yes / N = No

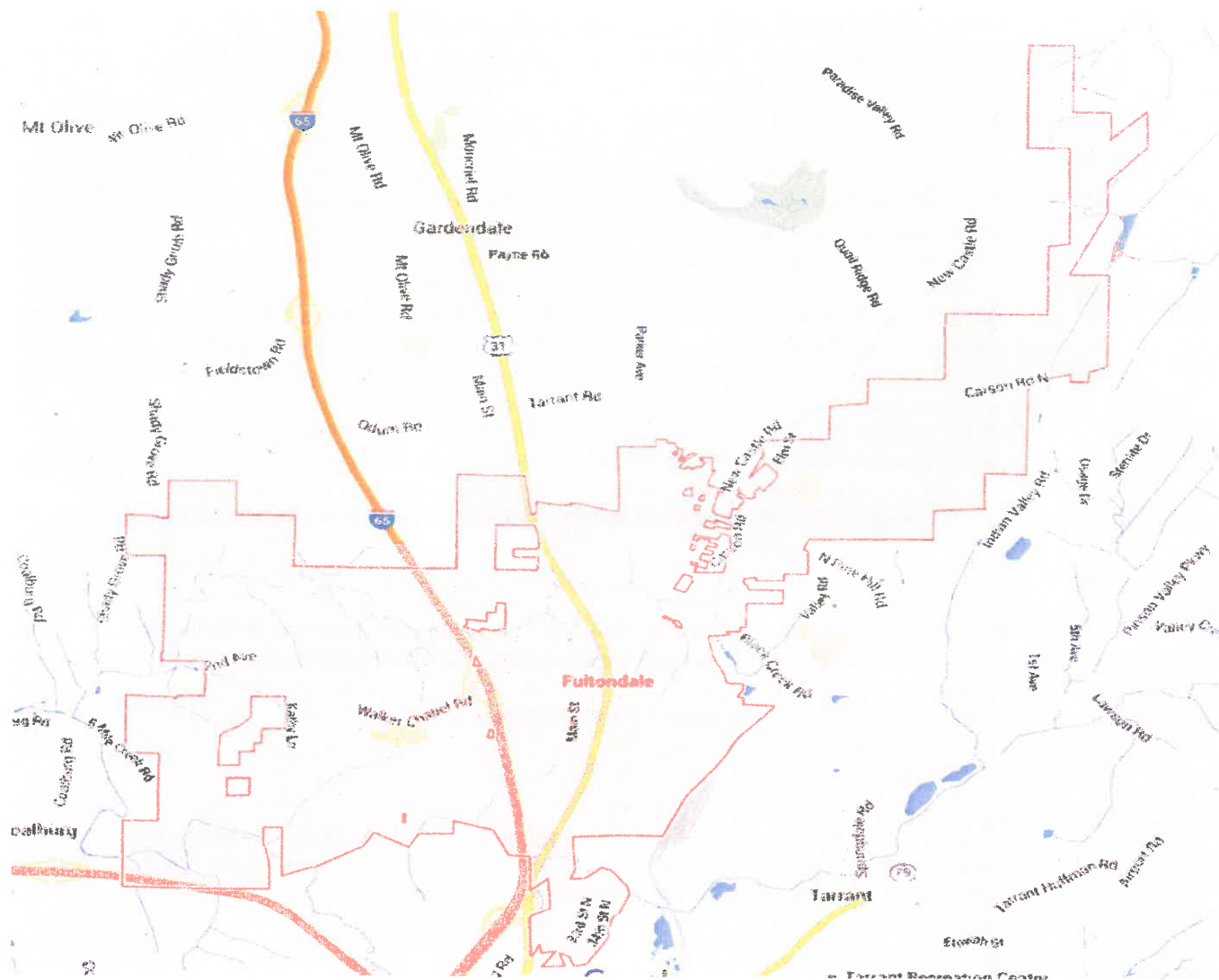
1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Place	Fultondale
County	Jefferson County
City or town	city
2010 census	8,380
2011	8,437
2012	8,544
2013	8,749
2014	8,908
Change since 2010 census	6.3%

Source: U.S. Census Bureau – al.com 5/21/15



Fultondale is a city in Jefferson County, Alabama, United States and a northern suburb of Birmingham. As of the 2010 census, the population of the city is 8,380.

Flooding
Tornadoes
Severe Storms

- April 27, 2011; EF-4 Tornado; FULTONDALE, TREES DOWN, ROOFS OFF OF HOUSES, AND POWERLINES DOWN ACROSS I65 AND US31
- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it – the snow and ice weren't expected to hit Birmingham that day – and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Fultondale, AL has a low earthquake risk, with a total of 26 earthquakes since 1931. The USGS database shows that there is a 2.72% chance of a major earthquake within 50km of Fultondale, AL within the next 50 years. The largest earthquake within 30 miles of Fultondale, AL was a 3.5 Magnitude in 1989.</p>																
Dam/Levee Failure																	

Gardendale

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: 12-1-15

Name of Jurisdiction: Gardendale

Answer Key: = Yes / N = No Y

1.	Adopted 2009 Hazard Mitigation Plan?	No
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	Yes
4.	Enforce Building & Technical Codes?	Yes
5.	Up-to-Date Comprehensive Plan in the Last 5 Years?	Adopted Yes
6.	5-6 Year Capital Improvements Plan Annually?	Updated Yes
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Yes
8.	Professional Urban Planner on Staff?	No
9.	Professional Engineer on Staff?	Yes
10.	Certified Floodplain Manager on Staff?	No

11. Full-Time Building Inspector on Staff?	Yes
12. Regular Member of the NFIP?	Yes

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

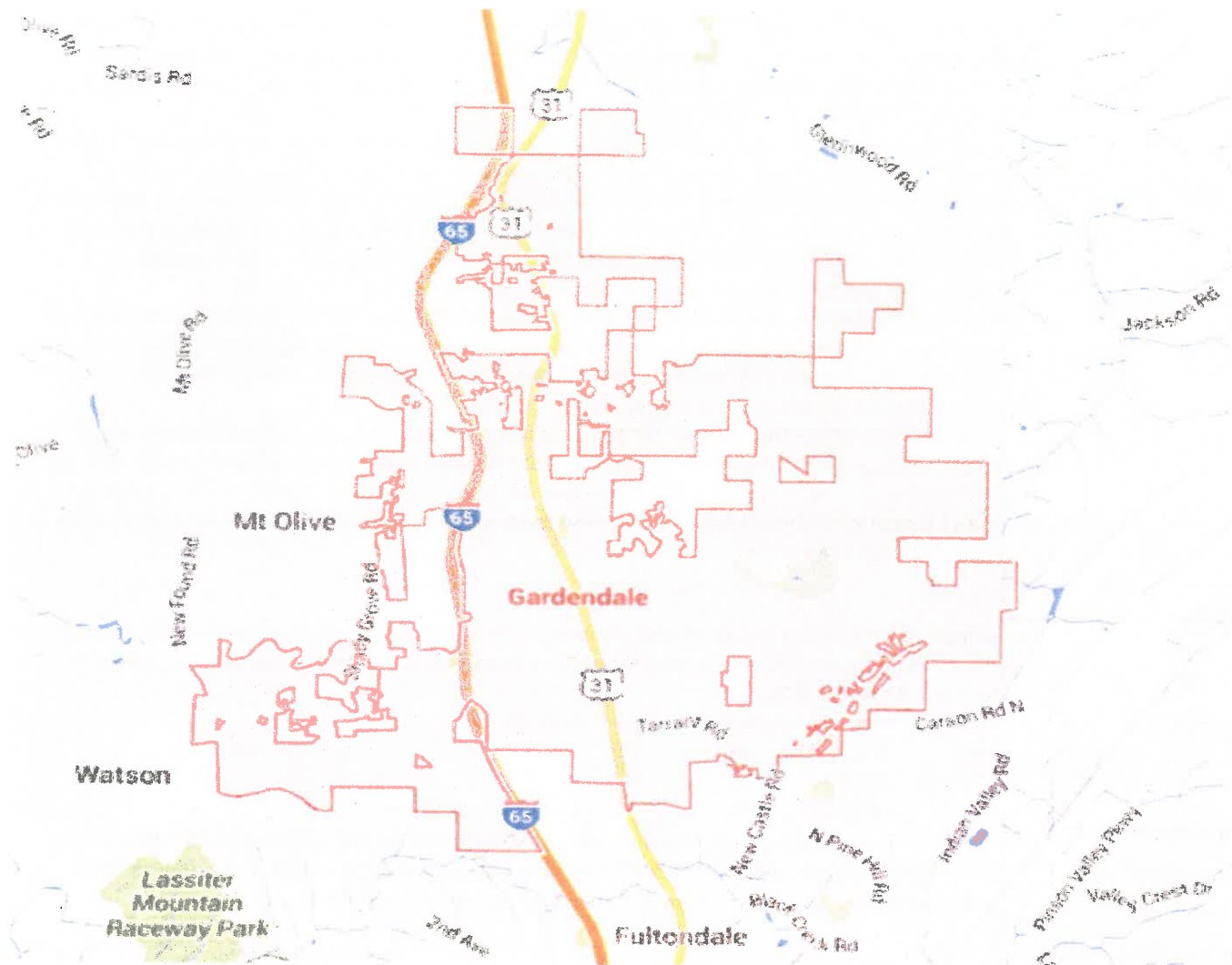
1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**
 - Flooding
 - Tornadoes
 - Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
 - Winter Storms (which may include extreme cold, snow, ice)
 - Wildfires
 - Droughts/Heatwaves
 - Landslides
 - Sinkholes
 - Earthquakes
 - Dam Failure
 - Hurricanes
2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.
3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)
4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Gardendale Fire Department

1. There have been no significant severe weather events that have impacted the City of Gardendale since 2009.
2. Gardendale population estimation 14,000
Police Station
Fire Stations
City Hall
Civic Center
Senior Citizens Building
Schools
Communications system in dispatch
3. No major loss or repetitive damage
4. City Hall 925 Main Street
Police station 1309 Decatur Highway
Fire Stations 1811 Decatur Highway, 1648 Fieldstown Road
Civic Center 857 Main Street

Place	Gardendale
County	Jefferson County
City or town	city
2010 census	13,893
2011	13,849
2012	13,788
2013	13,736
2014	13,729
Change since 2010 census	-1.2%

Source: U.S. Census Bureau – al.com 5/21/15



Gardendale is a city in Jefferson County, Alabama, and a northern suburb of Birmingham. The population is 13,735 according to the U.S. Census estimate.

Flooding

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
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Landslides																	
Sinkholes																	
Earthquakes	<p>Gardendale, AL has a low earthquake risk, with a total of 21 earthquakes since 1931. The USGS database shows that there is a 2.72% chance of a major earthquake within 50km of Gardendale, AL within the next 50 years. The largest earthquake within 30 miles of Gardendale, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	

Graysville

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Monday, November 30, 2015**

Name of Jurisdiction: **City of Graysville, Alabama**

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Yes
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	Yes
4.	Enforce Building & Technical Codes?	Yes
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Yes
6.	5-6 Year Capital Improvements Plan Updated Annually?	Yes
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Yes
8.	Professional Urban Planner on Staff?	No - Contract for service as-needed
9.	Professional Engineer on Staff?	No - Contract for service as-needed
10.	Certified Floodplain Manager on Staff?	No - Contract for service as-needed
11.	Full-Time Building Inspector on Staff?	No - Contract for service as-needed
12.	Regular Member of the NFIP?	Yes

(Class Number or N/A)

Community Rating System Program Class?	N/A
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City of Graysville
Jefferson County, Alabama

Natural Hazards Affecting Graysville Since 2009

An F-2 Tornado occurred in Graysville, Alabama on April 28, 2014. There was no loss of life and the dollar value of damage was estimated to be approximately \$3,500,000.

A lightening strike occurred in Graysville at its City Hall complex on August 22, 2015. The strike caused approximately \$25,000 in damage and disrupted emergency communications on a temporary basis.

Jurisdiction's Greatest Vulnerabilities

Graysville has a significant number of low and moderate income persons and senior citizens. Many of these citizens live in housing that would be considered not in standard condition as defined by the International Building Code. This housing would tend to be homes that are older, wooden framed residences lacking safe rooms or below-ground basements. Loss of life from a direct hit from a large tornado could potentially be high.

Brookville Elementary School is located within the city limits of Graysville. The school is a one story, brick facility that would likely suffer very heavy damage from a large tornado with the potential for significant loss of life.

The City maintains and operates a gas utility and water utility that provide significant revenue to the City. Both of these utilities could potentially suffer significant damage to their respective delivery systems in the event of a large tornado. There exists a risk of fire or explosion with respect to the gas utility in the event of a disaster that disrupted or breached the delivery system. In addition, the billing functions for these utilities are located in buildings in the City Hall complex. Destruction of these facilities could potentially interrupt the process of billing and collection and disrupt the cash flow to the City.

Graysville, Alabama is most vulnerable to a large tornado (F-3 to F-5).

The City has only 1 (one) community tornado shelter at the current time. Grants have been secured to add 2 (two) additional shelters. One shelter will be located in the City Hall complex area and will serve as a shelter for first responders. Once the additional shelters are completed, the City will have the ability to shelter approximately 325 residents.

Graysville is at risk for severe thunderstorms containing hail and straight line winds; however, historically, damage in Graysville has been isolated with minimal widespread property damage.

The area has a significant number of trees and foliage located near electric power lines; therefore, the City is vulnerable to a large scale ice or snow storm that would leave residents without power or the ability to leave their homes.

Graysville is at risk for wildfires given that much of the property within the city limits is owned by large corporate land owners and is heavily forested; however, these areas are not heavily populated. If factors such as winds and drought are present, wildfires may spread from forested areas to areas with residential structures. There exists the possibility that property damage (other than the loss of timber) and casualties could occur; however, the risk is low.

Graysville has experienced periods of drought from time to time; however, the area has minimal agricultural production. Significant economic loss potential from drought is minimal. The primary issue associated with a period of extended drought would be the risk of wildfires.

Graysville does occasionally experience periods of extreme heat in the summer with temperatures exceeding 100 degrees Fahrenheit. During persistent, extreme heat periods, residents, livestock and agricultural crops (timber) may be stressed by the high maximum temperatures. Extreme heat may increase the likelihood of wildfires. Periods of extremely cold temperatures are generally brief and do not constitute a threat to the area.

All of Graysville's residents are vulnerable to lightening events that may occur any time of the year, though instances are more numerous in spring and summer. Lightening effects are localized in nature and though lightening occurrences are plentiful, major damage from lightening does not occur as often as damage from wind events that occur in thunderstorms.

Graysville has historically not experienced any landslide activity; however, the area has occasionally been affected by land subsidence associated with coal mining activity in the area. Sinkholes resulting from mining activity have been minor.

Flooding is generally the most frequent and costly natural hazard in the United States; however, historically flooding has not been a significant issue in Graysville. The topography of Graysville allows adequate storm water drainage which minimizes the occurrence of localized flash flooding. Streams in the area are small and located in isolated areas with very few structures in the immediate vicinity of the streams. Risk of flooding is low.

Seismic activity is occasionally recorded in central Alabama; however, seismic activity in the Graysville area is very minimal. Some minor seismic activity with magnitudes of 3.5 or less has been recorded in communities northwest of Graysville. Risk of an earthquake affecting Graysville is considered low.

Graysville is not downstream from any dams; therefore, the risk to Graysville from dam failure is non-existent.

National Flood Insurance Program (NFIP) Structures

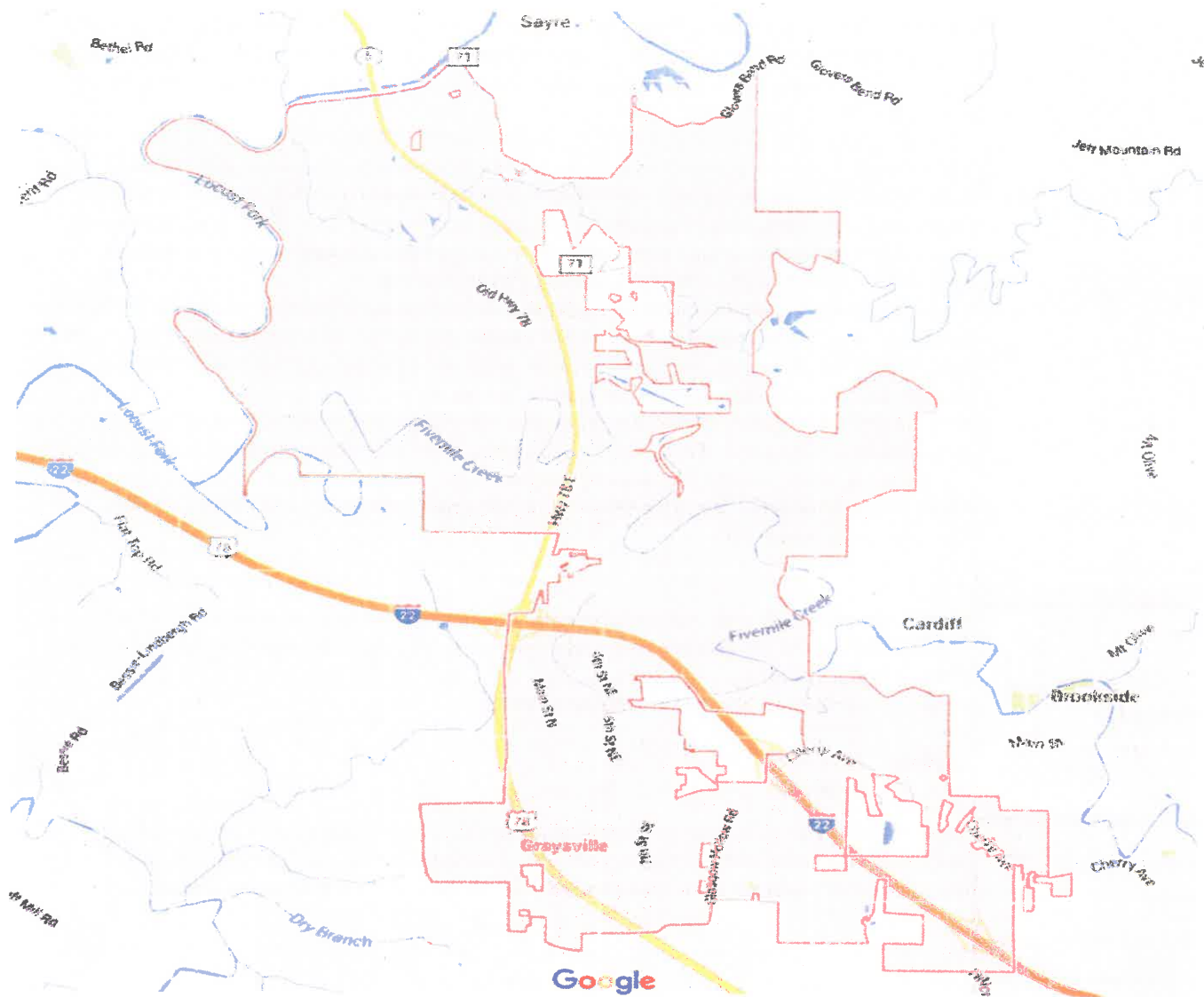
Graysville has a low risk of damage from flooding due to the topography of the area. There are very few homes or other structures located in low lying areas.

Critical Facilities and Location

- City Hall Complex – 246 South Main Street, Graysville, Alabama
- Graysville Fire Station – 1200 1st Avenue SW, Graysville, Alabama
- Graysville Community Center – 286 2nd Street SW, Graysville, Alabama

Place	Graysville
County	Jefferson County
City or town	city
2010 census	2,165
2011	2,149
2012	2,136
2013	2,122
2014	2,114
Change since 2010 census	-2.4%

Source: U.S. Census Bureau – al.com 5/21/15



Graysville is a city in northwestern Jefferson County, Alabama, United States. It is north of Adamsville. At the 2010 census the population was 2,165.

Flooding	Tornadoes
Severe Storms	

April 28, 2014; Graysville EF-2 tornado; National Weather Service Meteorologists surveyed damage in central Jefferson County and have determined that the damage is consistent with an EF-2 tornado. Maximum winds were estimated to be 125 mph. The tornado touched down near Oak Leaf Circle. It then traveled to the northeast where it snapped and uprooted dozens of trees along its path. The tornado intensified as it neared Cruce Road just south of Graysville. Here, approximately four manufactured homes sustained major damage with one being completely destroyed after it rolled several times. The tornado continued on its northeast path and snapped and uprooted hundreds of trees. As it neared Adamsville Parkway, two brick homes sustained damage from partial exterior wall collapse. Additionally, another manufactured home sustained damage. The tornado took a slight right turn as it crossed Interstate 22 near Cherry Avenue before it lifted along Brookside Cardiff Road near McCay Road.

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Landslides																	
Sinkholes																	
Earthquakes	<p>Graysville, AL has a low earthquake risk, with a total of 36 earthquakes since 1931. The USGS database shows that there is a 2.73% chance of a major earthquake within 50km of Graysville, AL within the next 50 years. The largest earthquake within 30 miles of Graysville, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	

Homewood

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date:

12-18-15

Name of Jurisdiction:

Homewood

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Yes
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	Yes
4.	Enforce Building & Technical Codes?	Yes
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Yes
6.	5-6 Year Capital Improvements Plan Updated Annually?	Yes
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Yes
8.	Professional Urban Planner on Staff?	Yes
9.	Professional Engineer on Staff?	Yes
10.	Certified Floodplain Manager on Staff?	Yes
11.	Full-Time Building Inspector on Staff?	Yes
12.	Regular Member of the NFIP?	Yes

(Class Number or N/A)

Community Rating System Program Class?

9

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the date of occurrence, geographic location, extent (i.e., strength or magnitude -- such as "F-1 Tornado," "5 inches of rain resulting in flooding," "5-consecutive days of below freezing temps," etc.), and impact (i.e., dollar value of losses or number of lives lost, etc.) for the following natural hazards which have affected your jurisdiction since 2009:

- Flooding – Significant flooding event in 2013 limited in scope to the Shades Creek area close to I65
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods) – We have hazardous conditions focused around the numerous old growth trees in most of our neighborhoods. This makes frequent road/access problems along with a significant amount of structural damage related to falling trees.
- Winter Storms (which may include extreme cold, snow, ice) – We have been hit with the same winter storms as the rest of the county. We seem to have a rougher time of it due to significant daytime populations estimated around a 100K as well as a large number of target hazards such as the medical center, etc. We now have three ATVs and approach this very aggressively trying to perform welfare checks as well as transports and other essential operations. Many of our utility vehicle are now 4 wheel drive
- Wildfires – A couple of minor woods fires and the aggravating one behind Brookwood Medical Center
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

2. Please describe your jurisdiction's greatest vulnerabilities (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

Again, this related to us being a little city of 25,000 population and a daytime population of 100,000. This translates into a significant number of multiple target hazards that make our operational concerns very intense at times. We have a full medical center at BWMC and the HealthSouth Hospital, full time

college/campus and two other colleges; we have multiple large corporate "Mega Centers" such as State Farm, Wells Fargo, etc. along with specialized distribution and manufacturing areas. This coupled with the highest hotel occupancy in the State per capita makes our preplanning and equipment deployment significantly important. We opt to maintain an aggressive force multiplication factor associated with equipment purchase and deployment. Because we are landlocked, our department staffing has unfortunately remained close to the same size as it was thirty years ago even though the city has gone vertical.

3. Are there National Flood Insurance Program (NFIP) structures in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

The area along Shades Creek and close to I65 are our only repeatedly threatened structures. These are apartments. Our flood plane is more extensive than just this area but this is the only major flooding we have had. I am not sure of their program status.

4. Please list what your jurisdiction deems critical facilities and their locations. A critical facility is defined by FEMA as "structures and institutions necessary for a community's response to and recovery from emergencies."

1) Financial

- a. Brookwood Mall
- b. Wildwood Retail including SAMS and Wal-Mart
- c. Downtown Business District

2) Medical

- a. Brookwood Medical Center
- b. HealthSouth Rehab
- c. Other multiple offices and test centers and sites

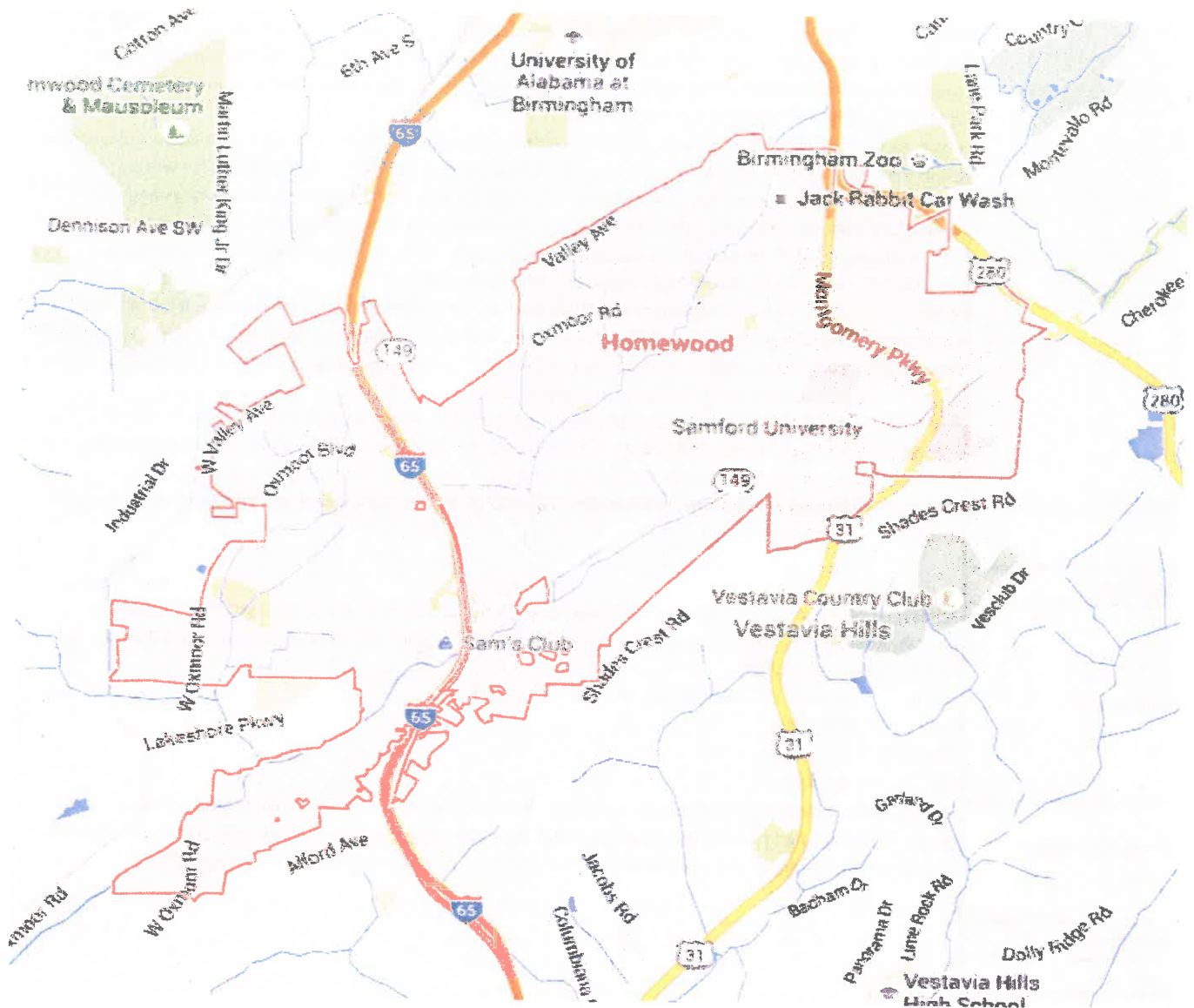
3) Manufacturing/Distribution

- a. Pepsi Cola Plant (Half of the facility)
- b. Mayfield and Barbers Milk
- c. Distribution Centers – To numerous to itemize
- d. Hotels – Highest per capita in the state – I only add this in that the total number of rooms is regionally large and would leave a hole in the local market including emergency housing use or operations needs of incoming organizations in the

region. This applies to in that we get Hurricane Evacuation
residents here when warned off of the coast.

Place	Homewood
County	Jefferson County
City or town	city
2010 census	25,167
2011	25,071
2012	25,286
2013	25,839
2014	25,802
Change since 2010 census	2.5%

Source: U.S. Census Bureau – al.com 5/21/15



Homewood is a city in southeastern Jefferson County, Alabama, United States. It is a suburb of Birmingham, located on the other side of Red Mountain due south of the city center. As of the 2010 census, the population of the city is 25,167.

Flooding
Tornadoes
Severe Storms

- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Homewood, AL has a low earthquake risk, with a total of 24 earthquakes since 1931. The USGS database shows that there is a 2.81% chance of a major earthquake within 50km of Homewood, AL within the next 50 years. The largest earthquake within 30 miles of Homewood, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Hoover

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 04, 2015

Name of Jurisdiction: City of Hoover

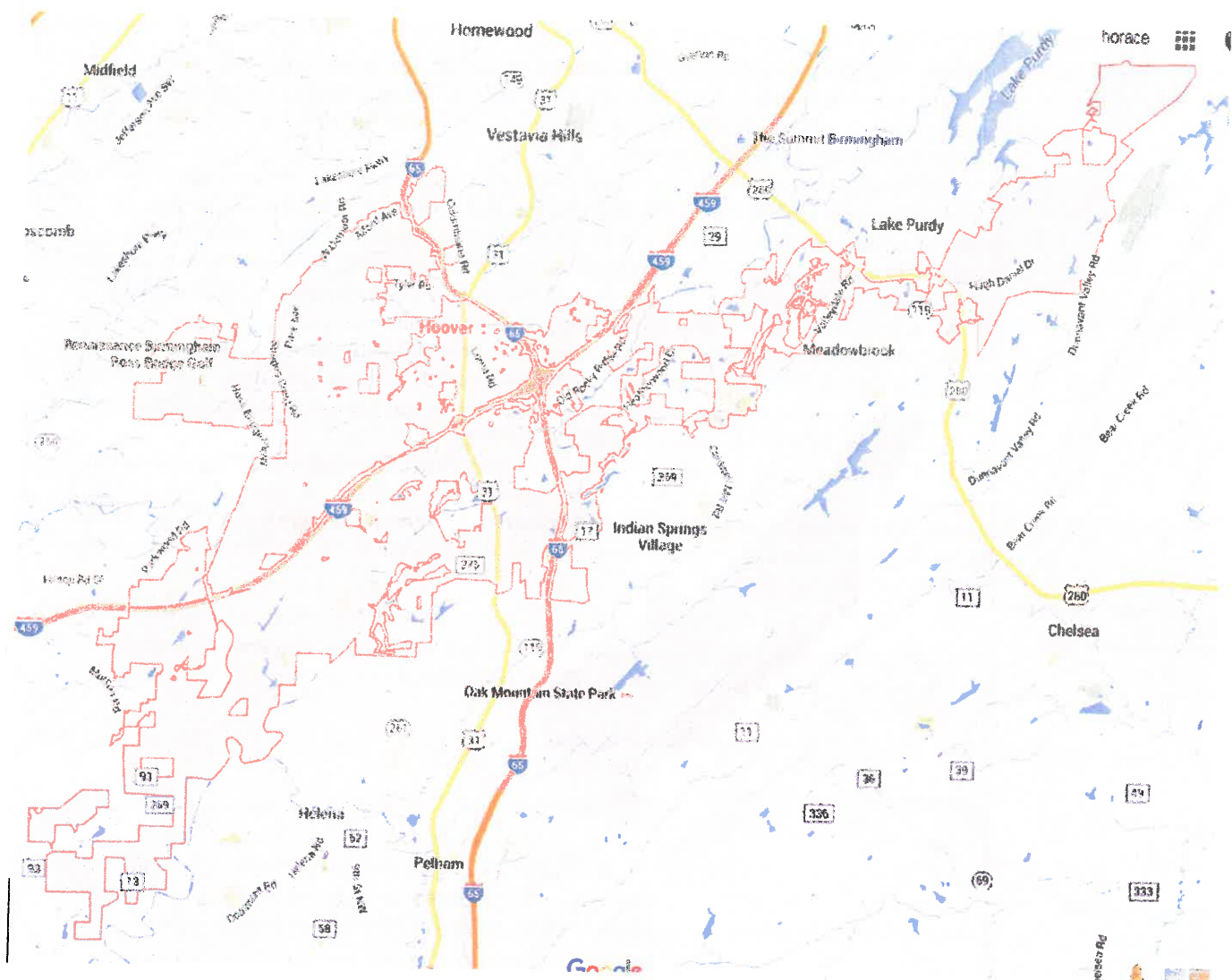
Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y-Contracted Consultant
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	Y-Contracted Consultant
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	Class 9
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Hoover is a city in Jefferson and Shelby Counties in north central Alabama, in the United States. The largest suburb of Birmingham, the population of the city was 84,126 as of the 2013 US Census estimate.

Flooding	<ul style="list-style-type: none"> • April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.
Tornadoes	
Severe Storms	<ul style="list-style-type: none"> • July 10, 2013 A cell of thunderstorms brought heavy rain, lightning and hail to much of the Birmingham area Wednesday night, causing flash flooding on roadways. Lightning struck the manager of a Hoover Staples store and at least two houses in the Hoover area, starting one fire. The man was taken to Brookwood Medical Center but medics found him in front of the store alert and conscious • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><th>Name</th><th>Landfall</th><th>Max Status</th><th>Max Wind (Knots)</th></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Hoover, AL has a low earthquake risk, with a total of 18 earthquakes since 1931. The USGS database shows that there is a 2.68% chance of a major earthquake within 50km of Hoover, AL within the next 50 years. The largest earthquake within 30 miles of Hoover, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Place	Hoover
County	Jefferson County
City or town	city
2010 census	81,619
2011	81,759
2012	83,124
2013	83,801
2014	84,353
Change since 2010 census	3.3%

Source: U.S. Census Bureau – al.com 5/21/15

Hueytown

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Thursday, December 10, 2015

Name of Jurisdiction: Hueytown

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	Y
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence**, **geographic location**, **extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
9/5/2011 – Bessemer Gardens Area – flooding above 36” over roadway
- Tornadoes
4/27/2011 – EF4 Tornado
7/15/2015 – Micro Burst
9/5/2015 – Micro Burst
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
7/5/2011 – Lightning Strike
1/23/2012 - Lightning Strike
7/21/2013 - Lightning Strike
9/5/2015 - Lightning Strike
- Winter Storms (which may include extreme cold, snow, ice)
2013 – Winter storm
- Wildfires
Summer 2011 – several Hundred acres off Johns Road
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

Flooding from Valley Creek and tornadoes are our greatest vulnerabilities.

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential,

commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

None

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as "structures and institutions necessary for a community's response to and recovery from emergencies."

City Hall (Dispatch/Police/Street Dept)

1318 Hueytown Road, Hueytown, AL 35023

3 Fire Stations

Sta 1 - 1318 Hueytown Rd

Sta 2 - 4479 15th Street Rd

Sta 3 - 2979 Creekview Dr.

2 Alabama Power Facilities

142 Patricia St

2901 Allison-Bonnett Memorial Dr

Shoals Ambulance

1392 Hueytown Rd

Robbie D Woods

1051 Old Warrior River Rd

Passmore Wrecker

1185 Love St

Camp Bessemer

3261 King St

Several Churches with Shelter agreements

Pleasant Ridge Baptist Church

1343 Hueytown Rd

First United Methodist Church

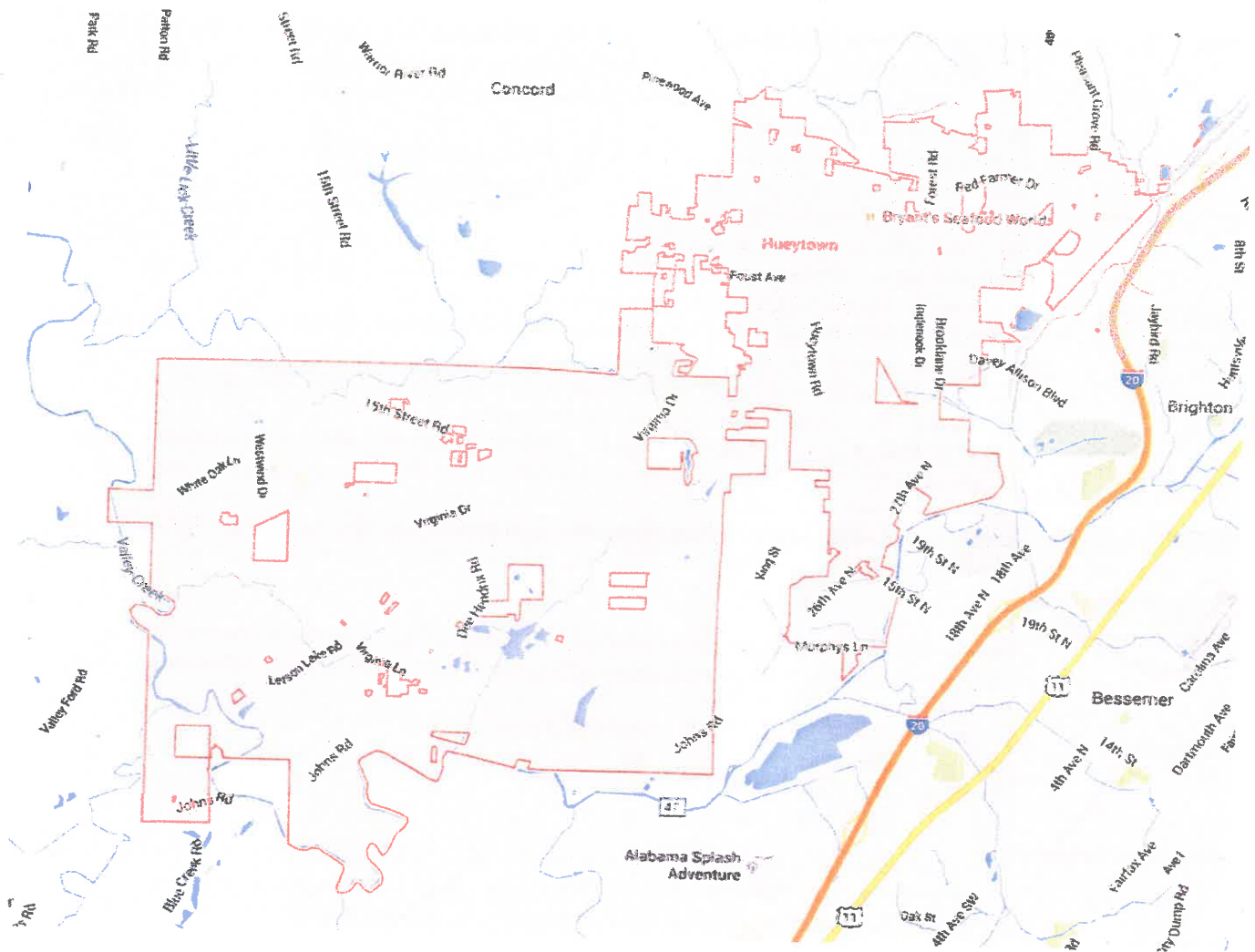
110 Sunset Dr

North highlands Baptist Church

4851 15th St Rd

Place	Hueytown
County	Jefferson County
City or town	city
2010 census	16,105
2011	16,033
2012	15,949
2013	15,866
2014	15,815
Change since 2010 census	-1.8%

Source: U.S. Census Bureau – al.com 5/21/15



Hueytown is a city in western Jefferson County, Alabama, United States. It is part of the Birmingham metropolitan area. At the 2010 census the population was 16,105. It was the home of the legendary NASCAR Alabama Gang.

Flooding	Sept. 5, 2011 as the remnants of tropical storm Lee made its way through the area bringing strong winds and heavy rains.
Tornadoes	<ul style="list-style-type: none"> • April 27, 2011; EF-4 Tornado; HUEYTOWN, MAJOR DAMAGE IN HUEYTOWN ... HOUSES LEVELED
Severe Storms	<ul style="list-style-type: none"> • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Hueytown, AL has a low earthquake risk, with a total of 33 earthquakes since 1931. The USGS database shows that there is a 2.82% chance of a major earthquake within 50km of Hueytown, AL within the next 50 years. The largest earthquake within 30 miles of Hueytown, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Irondale

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date:

12/8/15

Name of Jurisdiction:

Irondele F.D.

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Yes
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	Yes
4.	Enforce Building & Technical Codes?	Yes
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Yes
6.	5-6 Year Capital Improvements Plan Updated Annually?	Yes
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	No
8.	Professional Urban Planner on Staff?	Yes
9.	Professional Engineer on Staff?	Yes
10.	Certified Floodplain Manager on Staff?	Yes
11.	Full-Time Building Inspector on Staff?	Yes
12.	Regular Member of the NFIP?	Yes

(Class Number or N/A)

Community Rating System Program Class?

N/A

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence**, **geographic location**, **extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding *Trailer park, yes. Irondale mobile home park.*
- Tornadoes *No*
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods) *Yes.*
- Winter Storms (which may include extreme cold, snow, ice) *Y 2015 MAR 2014 JAN*
- Wildfires *N*
- Droughts/Heatwaves *N*
- Landslides *N*
- Sinkholes *N*
- Earthquakes *N*
- Dam Failure *N*
- Hurricanes *N*

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions. *Water systems.*

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.) *No.*

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Fire Stations:

Water Dept: 101 20 st.

City Hall: 101 20 st.

Police Dept: 101 20 st.

Street Dept: 101 20 st

Irondale F.D.

Q-1

Event	Date	Loc	Extent	Impact
<u>Flooding</u>	4/7/14	I'dale Trib Pk	EVAC 100 Res	Displaced to shelter
	4/2/14	Q'town	Road closed & EVAC	Displaced residents Traffic rerouted
<u>Tornado</u>	N/A			
<u>Severe Storm</u>	6/9/15	Lawrence St I'dale	Tree on House	Civilian Injuries Struct Collapse \$150,000 Loss
<u>Winter Storms</u>	3/5/15	I-459	20 car pileup	2 - paralyzed
	1/30/14	I'dale	CARS ROADS CLOSED	Vehicles damaged OPEN shelters Business Closed
	2/12/14	I'dale	Roads Closed	Loss of Business
<u>Wildfire</u>	N/A			
<u>Drought</u>	N/A			
<u>Landslide</u>	N/A			
<u>Sinkhole</u>	N/A			
<u>E'quake</u>	N/A			
<u>Dam Failure</u>	N/A			
<u>H'cane</u>	N/A			

Place	Irondale
County	Jefferson County
City or town	city
2010 census	12,349
2011	12,353
2012	12,382
2013	12,383
2014	12,444
Change since 2010 census	0.8%

Source: U.S. Census Bureau – al.com 5/21/15



- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
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Landslides																	
Sinkholes																	
Earthquakes	<p>Irondale, AL has a low earthquake risk, with a total of 16 earthquakes since 1931. The USGS database shows that there is a 2.61% chance of a major earthquake within 50km of Irondale, AL within the next 50 years. The largest earthquake within 30 miles of Irondale, AL was a 3.6 Magnitude in 2015.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Kimberly

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Wednesday, November 25, 2015**

Name of Jurisdiction: **City of Kimberly**

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	N
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	N
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the date of occurrence, geographic location, extent (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and Impact (i.e., dollar value of losses or number of lives lost, etc.) for the following natural hazards which have affected your jurisdiction since 2009:

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

ANSWER: Tornado, April 28, 2014, F-1 Strength: Estimated dollar amount of damage incurred by the City is approximately 1.2 million in property loss and \$450,000.00 for debris removal. There were approximately 50 homes and structures damaged and thousands of trees lost. We do not have an estimate for the amount of personal property damaged.

2. Please describe your jurisdiction's greatest vulnerabilities (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

ANSWER: Structures and Citizens.

3. Are there National Flood Insurance Program (NFIP) structures in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which

two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

ANSWER: No

4. Please list what your jurisdiction deems critical facilities and their locations. A critical facility is defined by FEMA as "structures and institutions necessary for a community's response to and recovery from emergencies."

ANSWER: The Kimberly Fire Department, Police Department and City Hall all located at 9256 Stouts Road Kimberly, AL 35091.

Hazard Mitigation Plan Update

**City of Kimberly, Alabama
May, 2015**

The City of Kimberly is very fortunate to have no recurring or continuous hazard threats from floods, landslides, sinkholes, but of course are always susceptible to any severe weather threat.

The city's primary focus is to protect life, property and the economy. Our goal is to focus on the greatest risks and vulnerabilities by involving the citizens, organizations, schools, and business owners by increasing education and awareness of hazards. Also by communicating our priorities to state and federal officials.

Mitigation Actions Completed in the Past 5 Years

- The city is current on building codes and performs inspections on all construction to assure the best possible protection from loss of life and property.
- Updated zoning maps and considered all development with hazard areas scrutinized.
- During the threat of severe weather, all essential employees including police, first responders and the public works department are placed on high-alert until the threat has passed.
- Offer shelter at the City Hall to stranded motorist and to anyone who feels vulnerable in their home.
- Added two paid EMT's and Firefighters to our staff.
- Adopted and enforced an ordinance regulating open-burning.
- Purchased snow chains for patrol cars.
- Purchased state-of-the-art firefighter and EMT equipment.
- Added reserve police officers to assist in emergency situations.
- The city inspects every building site prior to construction to ensure proper erosion control measures are in place and monitors throughout the construction process.
- The public works department regularly inspects ditches for proper drainage.

- Require a storm water management assessment by the contractor and erosion control in place before issuing a building permit.

Mitigation Actions Not Accomplished in the Past 5 Years

- The city has not been successful in involving the public in Hazard Mitigation Planning.
- Due to budget constraints, we have not been successful in reducing the impact of severe weather on our roadways.

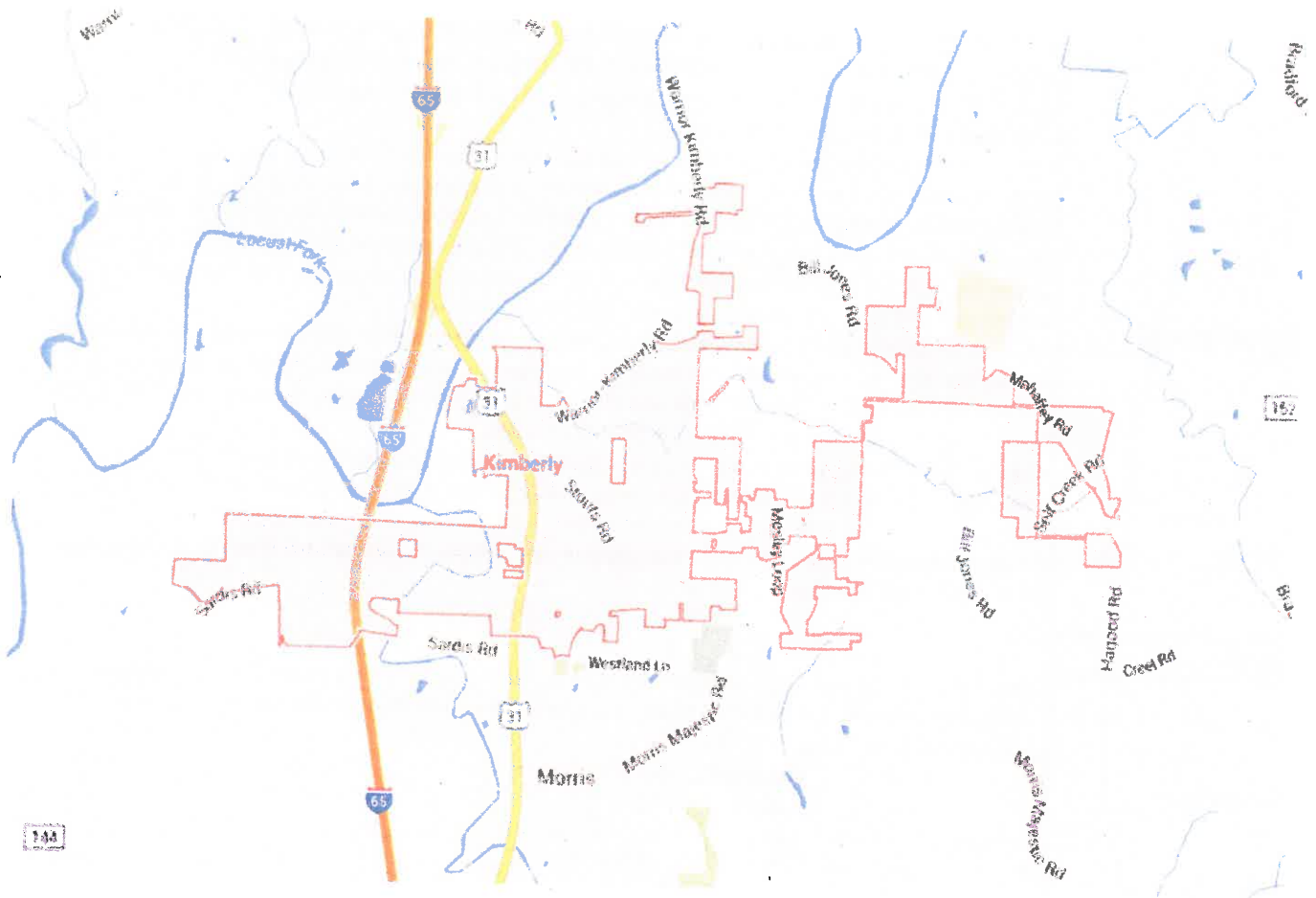
Mitigation Actions the City Plans to Accomplish in the Next 5 Years

- Effective May 26, 2015, the City will add Hazard Mitigation Planning to the agenda of every council meeting to keep the subject in the forefront of our minds.
- Focus on a more aggressive plan to educate citizens about hazards and risk awareness by having the police chief and fire chief to conduct annual awareness meetings at the schools and our senior center.
- Educate and enroll as many citizens as possible on Jefferson County's Citizen Alert Notification Everbridge System.
- Seek grants for public safe rooms and shelters.
- Invite our local meteorologist to host annual public weather education and preparedness meetings and promote private mitigation efforts through education.
- Improve communications with the Alabama Forestry Commission concerning wildfires and fire safety.
- The fire chief is committed to participate in the Alabama Forestry Commission interface program.
- Improve communications with Federal and State officials concerning priorities in our community.
- We are in the process of adding a hardened area in the Fire Station to insure the safety of our EMT's and Firefighters during severe weather.
- Beginning June 1, 2015, perform an annual review of the zoning ordinance and any other planning documents relative to sustaining a diligent hazard awareness in development.

- Invite the public to semi-monthly hazard mitigation discussions during Planning and Zoning meetings.

Place	Kimberly
County	Jefferson County
City or town	city
2010 census	2,711
2011	2,723
2012	2,759
2013	2,781
2014	2,835
Change since 2010 census	4.6%

Source: U.S. Census Bureau -- al.com 5/21/15



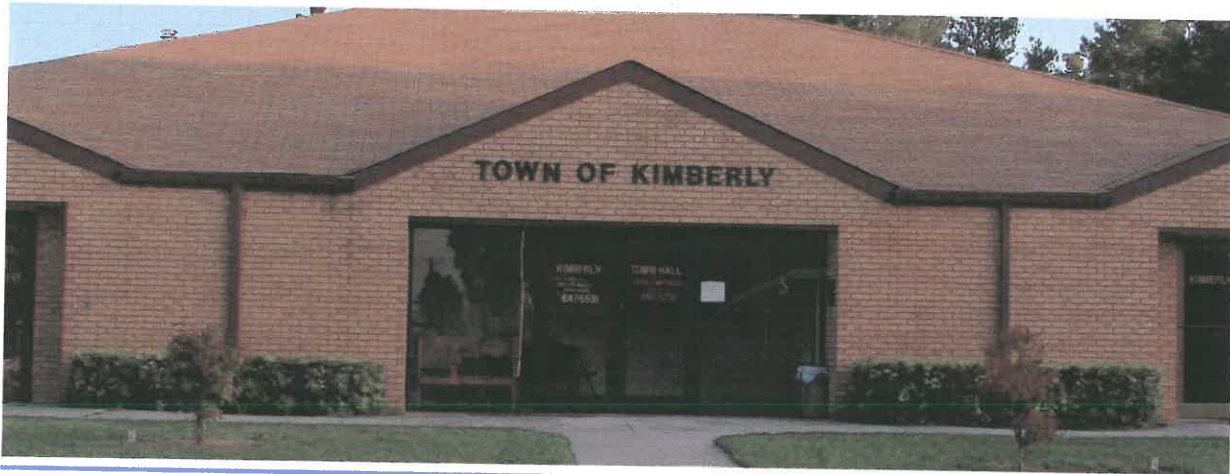
Kimberly is a city in Jefferson County, Alabama, United States. At the 2010 census the population was 2,711.

Flooding	
Tornadoes	<p>April 28, 2014; Kimberly EF-1 tornado; National Weather Service meteorologists surveyed damage in northern Jefferson County and have determined that the damage is consistent with an EF-1 tornado. Winds were estimated to be around 100 mph. The tornado touched down near Interstate 65, about one-half mile south of Sardis Road. The tornado moved to the northeast and crossed Interstate 65, where it snapped and uprooted hundreds of trees along the path. As the tornado continued to the northeast and moved into the city limits of Kimberly, several structures were damaged. In Kimberly, a vacant large retail building had its roof removed. The most extensive damage occurred to the Kimberly Church of God where uplift of most of the roof structure resulted in exterior wall collapse. The tornado crossed Stouts Road where the Kimberly Fire Department sustained major damage. The tornado continued to snap dozens of trees as it moved northeast and several homes had shingle damage. As the tornado crossed Bradford Trafford road, multiple trees were uprooted with one falling on a home causing major roof damage. It began to weaken as it crossed into Blount County, where sporadic tree damage was observed. It lifted near Sagefield Lane.</p>
Severe Storms	<ul style="list-style-type: none"> Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Kimberly, AL has a low earthquake risk, with a total of 22 earthquakes since 1931. The USGS database shows that there is a 2.51% chance of a major earthquake within 50km of Kimberly, AL within the next 50 years. The largest earthquake within 30 miles of Kimberly, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	

City of Kimberly

Home Page



The Jefferson County Emergency Management Agency (EMA) will be hosting a meeting to discuss the 2014 Hazard Mitigation Plan.

The EMA is requiring all municipalities in Jefferson County to submit an updated Hazard Mitigation Plan in order to be eligible for future Federal Funding for Natural Disasters. A part of the plan includes citizen input and participation in a public meeting.

FEMA paid \$432,640.21 for debris removal from the April 28, 2014 tornado that struck Kimberly. The city can not financially absorb these kinds of costs.

We would like to invite you to a public meeting to discuss ways of mitigating hazards on Thursday May 14, 2015 at 6:00 p.m. at the Enon Baptist Church on Morris Majestic Road in Morris.

Thank you in advance for your participation and we look forward to seeing you at the public meeting.

City Hall is located at

9256 Stouts Rd
Kimberly, AL 35091

General Contact Information

Mailing Address
PO Box 206
Kimberly, AL 35091

Phone Number (205) 647-5551

Fax Number (205) 647-5231

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Leeds

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Tuesday, December 08, 2015

Name of Jurisdiction: City of Leeds

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	Y
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
 - On-Going -The City of Leeds sits in a valley and has a significant number of parcels which have flood plain. Flood is a frequent and reoccurring event which impacts our residents resulting in damage to structure and personal property. This damage is estimated to be \$500,000.00 per event. Additionally, the City is severed by an ageing and poorly designed MS4 system which lacks capacity to handle current climalogical conditions.
- Tornadoes
 - April 27, 2011 – Damage to residential structures totaled \$1,000,000.00; damage to public property totaled \$250,000.00 with clean up cost over \$750,000.00
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
 - Winter 2014 – The City was impacted by a severe winter weather event which resulted in impassable roads and disrupted travel for an extended period of time. Cost to the City in equipment and overtime \$100,000.00
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
 - The City of Leeds sits in a valley of soft limestone bedrock, sinkholes are a frequent and consistent hazard. Annual cost associated with such events cost private and public entities \$100,000.00
- Earthquakes
- Dam Failure
- Hurricanes

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.
 - a. Public Works Facility - the City's ability to respond to natural hazards is limited due to the placement of its Public Works facility, which is located in an area containing both floodplain and floodway.
 - b. The City's Civic Center which also serves as a shelter facility during time of need is nearing the end of its useful life.
 - c. E-911/Emergency Operations Center – Alternate site

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)
 - a. Yes, Residential – Greater than 5
 - b. Yes, Institutional – Greater than 5

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as "structures and institutions necessary for a community's response to and recovery from emergencies."
 - a. City Hall/Police/E-911 Center
 - b. Civic Center
 - c. Fire Station # 1
 - d. Fire Station # 2
 - e. Public Works Facility

CITY OF LEEDS

RESOLUTION NUMBER: 2015-06-10

RESOLUTION IN CONSIDERATION OF APPROVAL OF THE LEEDS HAZARD MITIGATION PLAN

WHEREAS, the Planning and Zoning Commission of the City of Leeds, Alabama has received a request from the Jefferson County Emergency Management Agency to develop an updated Hazard Mitigation Plan for the City of Leeds; and

WHEREAS, the City staff has worked with the Jefferson County EMA to develop an acceptable Plan for such purposes; and

WHEREAS, after due consideration the Commission makes its recommendation to the City Council to adopt the attached Plan as presented.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LEEDS, ALABAMA, AS FOLLOWS:

1. The above Recitals are true and correct and included herein as if fully set forth.
2. The Hazard Mitigation Plan as attached hereto as if fully set forth is hereby approved.
3. The Mayor and City staff shall have the full authority to do those things, perform those functions, and to sign necessary documentation in order to carry out the actions so authorized herein.

APPROVED AND ADOPTED at a regular meeting of the City Council of the City of Leeds, Alabama on this the 15th day of June, 2015.

AYES: 5

NAYS: 0

ABSENT FROM VOTING: 1

ABSTAIN: 0

CITY OF LEEDS, ALABAMA

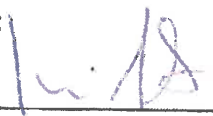


David Miller, MAYOR

June 15, 2015

DATE

ATTEST:



Kevin Fouts, City Clerk

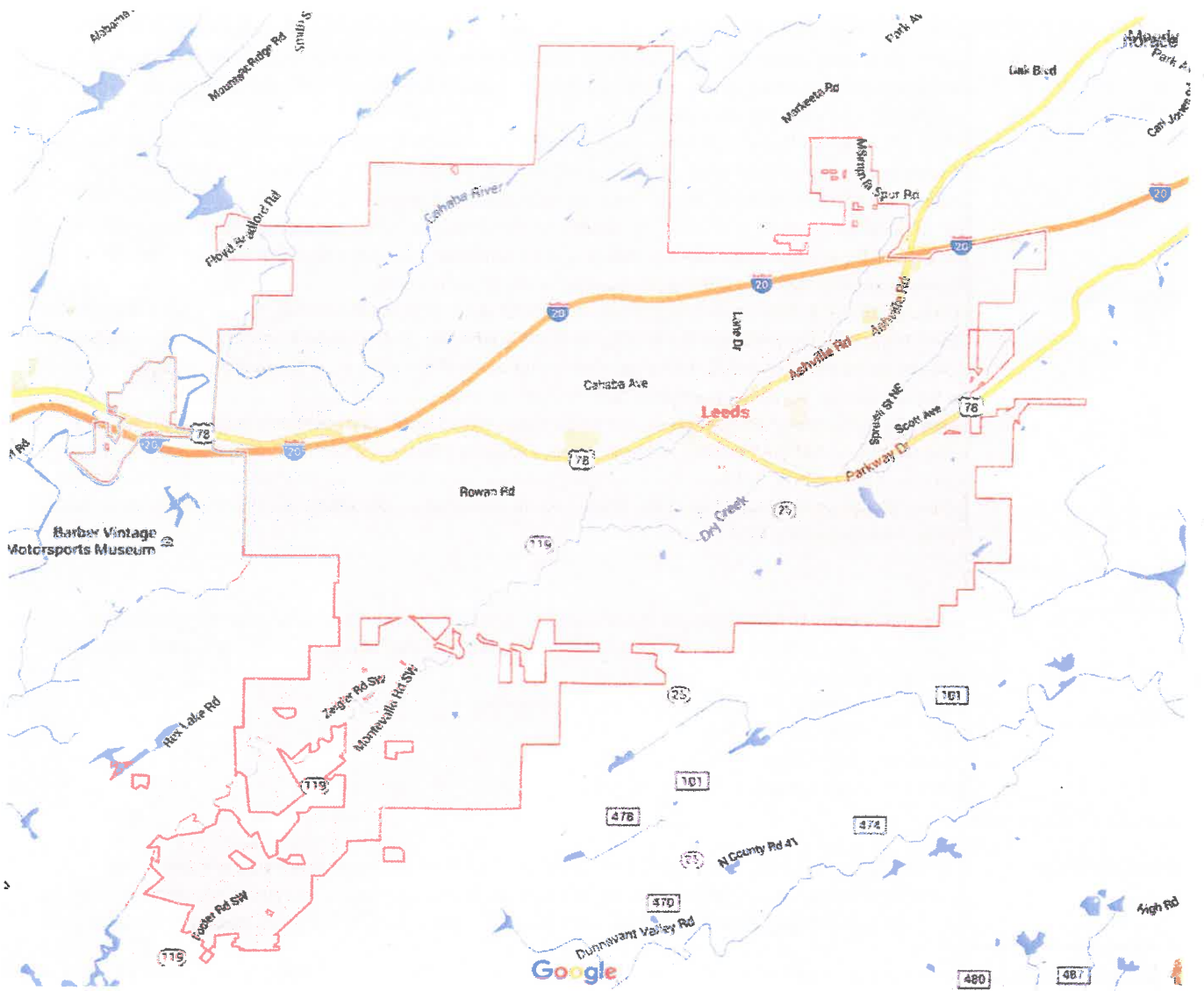
I, Kevin Fouts, City Clerk of the City of Leeds, hereby certify that the above Resolution was duly adopted by the City Council of the City of Leeds at a regular meeting held on the 15th day of June, 2015.



Kevin Fouts, City Clerk

Place	Leeds
County	Jefferson County
City or town	city
2010 census	11,773
2011	11,816
2012	11,851
2013	11,900
2014	11,939
Change since 2010 census	1.4%

Source: U.S. Census Bureau – al.com 5/21/15



Leeds is a tri-county municipality located in Jefferson, St. Clair, and Shelby Counties in the State of Alabama. It is an eastern suburb of Birmingham. As of the 2010 census, the population of the city was 11,773.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Jefferson County, AL has a low earthquake risk, with a total of 11 earthquakes since 1931. The USGS database shows that there is a 2.85% chance of a major earthquake within 50km of Jefferson County, AL within the next 50 years. The largest earthquake within 30 miles of Jefferson County, AL was a 4.8 Magnitude in 1999.</p> <ul style="list-style-type: none">• 9/13/2011 - 3.0 mag, 19.2mi depth1.3708 mi from Leeds, AL																
Dam/Levee Failure																	

City of Leeds
1040 Park Drive
Leeds, AL 35094

(205)-699-2585
(205)-699-6558 Fax



June 10, 2015

Citizens of Leeds

The City of Leeds in cooperation with the Jefferson County Emergency Management Agency is working to develop a hazard mitigation plan for the city.

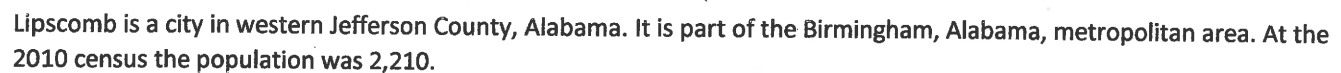
Your input is crucial for the development of this plan, please take time to complete the attached form (the form is a fillable PDF document) and return to the city at inspections@leedsalabama.gov or fax 205-699-6558.

Thank You

Lipscomb

Place	Lipscomb
County	Jefferson County
City or town	city
2010 census	2,210
2011	2,196
2012	2,186
2013	2,178
2014	2,175
Change since 2010 census	-1.6%

Source: U.S. Census Bureau – al.com 5/21/15



- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.
- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Landslides																	
Sinkholes																	
Earthquakes	<p>Lipscomb, AL has a low earthquake risk, with a total of 30 earthquakes since 1931. The USGS database shows that there is a 2.78% chance of a major earthquake within 50km of Lipscomb, AL within the next 50 years. The largest earthquake within 30 miles of Lipscomb, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	

Midfield

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Monday, December 07, 2015**

Name of Jurisdiction: **Midfield**

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**
 - Flooding
 - Tornadoes
 - Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
 - Winter Storms (which may include extreme cold, snow, ice)
 - Wildfires
 - Droughts/Heatwaves
 - Landslides
 - Sinkholes
 - Earthquakes
 - Dam Failure
 - Hurricanes
2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.
3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)
4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

See Next Page For Response

1. September 5, 2011. 6 inches of rain caused flooding in the residential areas along Valley Creek in the north eastern section of Midfield. Dollar value of losses was less than \$20,000.00 and no lives were lost.

January 27th – 30th 2014. Several inches of snow fell across the city limits of Midfield. Dollar value of losses was less than \$10,000.00 and no lives were lost.

February 12th – 13th 2014. Ice and Snow event across the city limits of Midfield. Dollar value of losses was less than \$5,000.00 and no lives were lost.

2. Midfield is most vulnerable to snow / ice events and also flooding.
3. Unknown
4. West Jefferson Health Clinic
631 Bessemer Super Hwy.

Midfield Police Dept. / Midfield City Hall
725 Bessemer Super Hwy.

Midfield Fire Dept.
704 Dr. Martin Luther King Jr. Dr.

Midfield Public Works Dept.
600 Dr. Martin Luther King Jr. Dr.

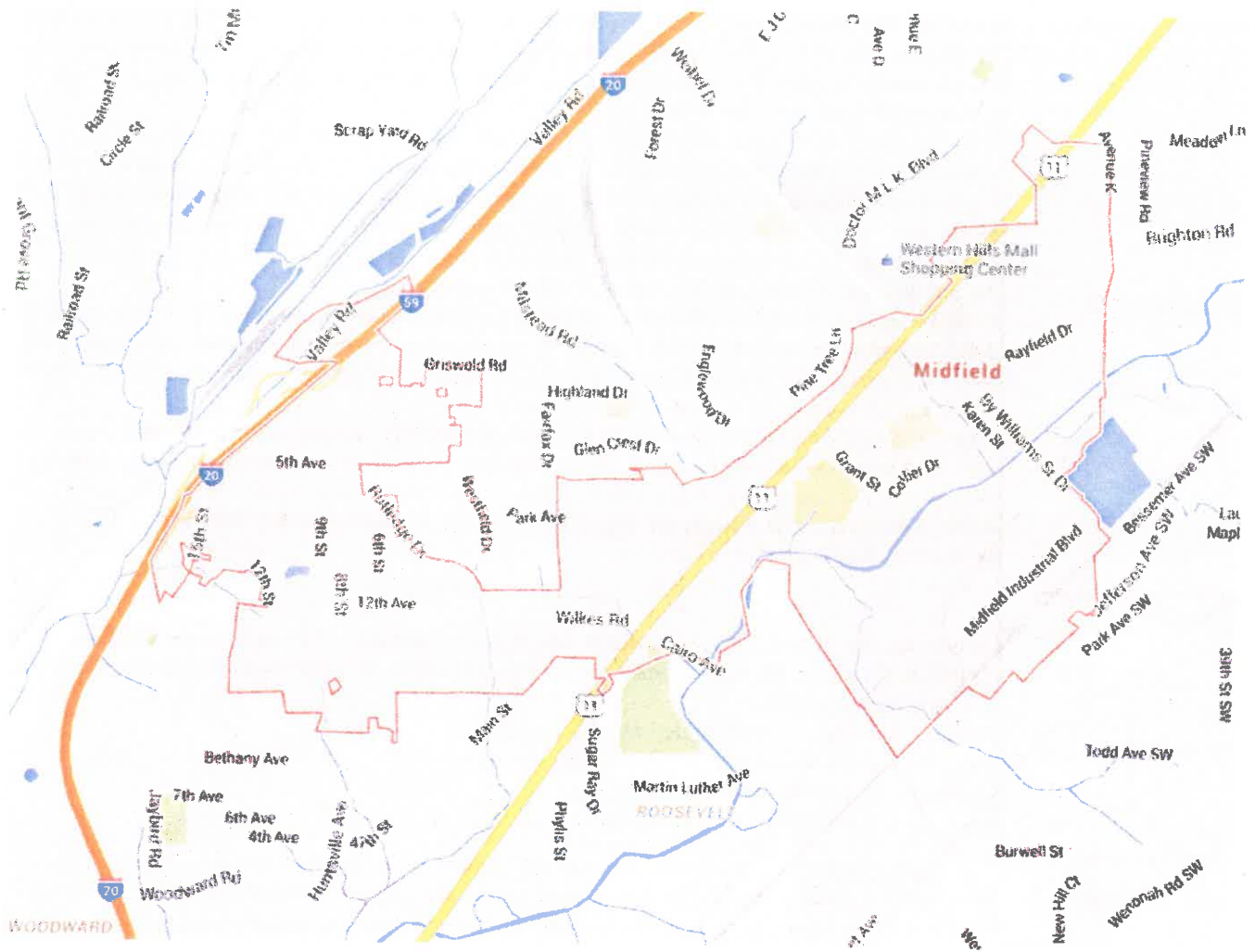
Midfield Police Dept. Substation
904 9th Ave.

Midfield Community Center
410 Grant St.

Place	Midfield
County	Jefferson County
City or town	city
2010 census	5,365
2011	5,338
2012	5,309
2013	5,281
2014	5,263
Change since 2010 census	-1.9%

Submit

Source: U.S. Census Bureau – al.com 5/21/15



Midfield is a town in Jefferson County, Alabama. It is south of the Birmingham suburb of Fairfield. As of the 2010 census, it had a population of 5,365 people.

Flooding

- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Lee	9/4/2011	SS	50														
Claudette	8/17/2009	TS	50														
Fay	8/23/2008	TS	60														
Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Midfield, AL has a low earthquake risk, with a total of 29 earthquakes since 1931. The USGS database shows that there is a 2.81% chance of a major earthquake within 50km of Midfield, AL within the next 50 years. The largest earthquake within 30 miles of Midfield, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Morris

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: 12/1/15

Name of Jurisdiction: Town of Morris

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	No
2.	Enforce Zoning Ordinances?	YES
3.	Administer Subdivision Regulations?	YES
4.	Enforce Building & Technical Codes?	YES
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	No
6.	5-6 Year Capital Improvements Plan Updated Annually?	No
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	No
8.	Professional Urban Planner on Staff?	No
9.	Professional Engineer on Staff?	No
10.	Certified Floodplain Manager on Staff?	No
11.	Full-Time Building Inspector on Staff?	No
12.	Regular Member of the NFIP?	YES

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence**, **geographic location**, **extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding - NA
- Tornadoes - NA
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods) - NA
- Winter Storms (which may include extreme cold, snow, ice) - NA
- Wildfires - NA
- Droughts/Heatwaves - NA
- Landslides - NA
- Sinkholes - NA
- Earthquakes - NA
- Dam Failure - NA
- Hurricanes - NA

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

Town Hall / Fire Dept /
Police Dept + Town Vehicles / Sr. Center

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

N/A

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Police Dept
Fire Dept

Hazard Mitigation Plan for the Town of Morris

The Town of Morris recognizes the importance of protecting the community from hazard threats of flooding, severe weather, drought, sinkholes, extreme heat, extreme cold, and other related phenomena that may increase any loss.

The Town of Morris consider these threats a very serious matter for all of our citizens and work diligently in an effort to prevent loss where possible. The town also recognizes the importance of reducing hazards and make this our primary goal.

The Town of Morris has a small tax base and depend on EMA and FEMA for assistance with equipment and resources to remove debris and help stabilize structures in the event of a hazard.

The Town of Morris requests and encourages citizens to be involved in the preparedness for the town in any situation that may occur. The town needs help in predicting and estimating losses and needing any information on resolving these issues as well.

The Town of Morris will develop with your help this mitigation plan realizing that the recognition of and the protection from hazards that may impact the Town of Morris and its residence contribute to future community and economic development.

Actions taking by City

3/20/15-Mayor Pylant & Town Clerk Jessica Robb received information from Annette Davis at Jefferson County EMA that the municipalities were going to be responsible for their own hazard mitigation plan.

4/16/15- Town Clerk- Jessica Robb texted Fire Chief- Blair Hughes, Police Chief- Mike Nazarchyk and informed them of departmental meeting. Town Clerk- Jessica Robb also called Sr. Center Director- Kristi Blankenship, Street Department associate -Brandon Holliyan, Town Inspector –Jerry Vincent and informed them of the departmental meeting. Town Clerk-Jessica Robb also spoke with her assistant clerk- Patricia McCool and Court Clerk- Alice Mahaffey about the departmental meeting.

4/21/15-the departmental meeting was held in the council chambers in the town hall. The Fire Chief could not make it and Ralph Burgin III filled in for him. Mayor Pylant was not at this meeting due to other obligations but had previously filled the Town Clerk in on what to be discussed at this meeting. Went well and received a lot of information to start to put plan together.

4/23/15- Town Clerk starting putting all handbooks together for the Hazard Mitigation Plan.

4/23/15- Mayor Pylant also contact City of Kimberly and spoke with City Clerk Sandy Waid, Mayor- Bob Ellerbrock & Councilor Donna Cude about combining both Cities for a Town Hall Meeting at Enon Baptist Church. Mayor Pylant contacted Enon Baptist Church and Payless Drugs to see if we could put an announcement of the Hazard Mitigation Town Hall meeting on May 14, 2015 their Digital Signs.

4/24/15- Mayor Pylant went to the Jefferson County EMA meeting and brought back useful info to help put all of this together. He also took a copy of the Hazard Mitigation Book that was not finished yet.

4/28/15- Town Clerk was contacted by Eddie Culpepper with EnCompass 360 wanting to look at Town of Morris Hazard Mitigation Plan to show cities that were having problems getting theirs together.

4/30-15- Town Clerk- Jessica Robb called utilities to inform them of the Town meeting at Enon Baptist church being held on May 14, 2015. Utilities that were contacted were: AL Power left VMS with Charlie Cook, Cullman Jefferson Gas spoke with Roger Lay and he said he would be more than, Left VMS with Rick Jackson with the BBW. Contacted AL Gas spoke with Greg Shirley said he would be able to be there. Left VMS with Al Forestry. Wrote a letter to Charter and AT&T and Court Clerk- Alice Mahaffey delivered them on the lunch.

5/1/15- Rick Jackson called Town Clerk- Jessica Robb and needed to know info and on this meeting and what was involved. I sent him an email. He called me back later on that day and said if he was not able to come he would send someone in his place.

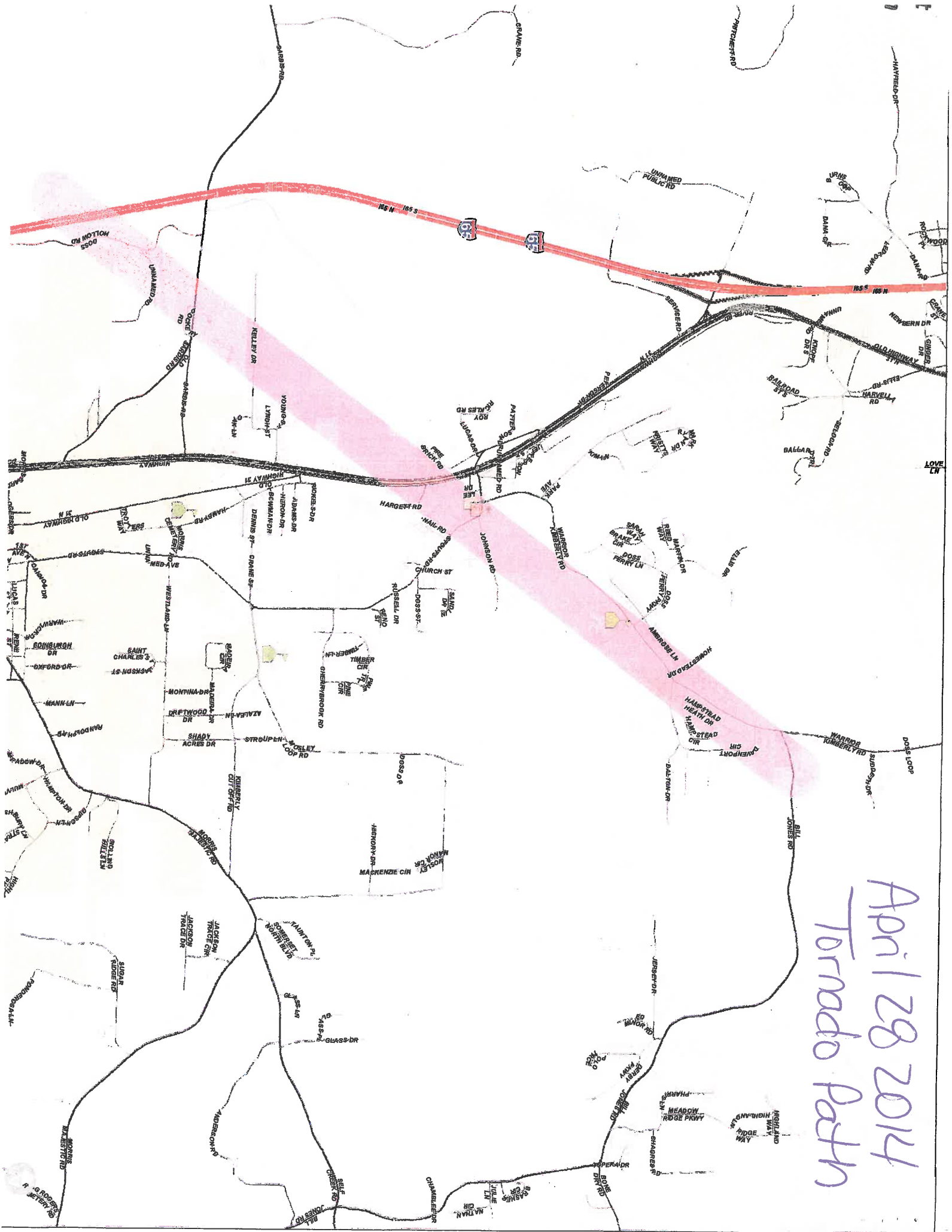
5/14/15- Town Hall meeting at Enon Baptist Church at 6pm. Mayor Pylant, Councilor Resha, Councilor Jones, Councilor Womack, Street Dept Associate – Brandon Holliyan, Police Chief –Mike Nazarchyk, Fire Chief –Blair Hughes, Building Inspector-Jerry Vincent, and Assistant Clerk- Patricia McCool all attended.

5/22/15- Mayor Pylant and Chief Nazarchyk attending Jefferson County EMA meeting at 10AM

Place	Morris
County	Jefferson County
City or town	town
2010 census	1,859
2011	1,870
2012	1,881
2013	1,893
2014	1,912
Change since 2010 census	2.9%

Source: U.S. Census Bureau – al.com 5/21/15

April 28 2014
Tornado Path





Morris is a town in Jefferson County, Alabama, United States. It is north of the Birmingham suburb of Gardendale. The U.S. Census 2013 populaiton estimate is 1,894.

Flooding	
Tornadoes	<ul style="list-style-type: none"> • April 28, 2014; Morris EF-1 tornado; National Weather Service meteorologists surveyed damage in northern Jefferson County and have determined that the damage is consistent with an EF-1 tornado. Winds were estimated to be around 100 mph. The tornado touched down near Interstate 65, about one-half mile south of Sardis Road. The tornado moved to the northeast and crossed Interstate 65, where it snapped and uprooted hundreds of trees along the path.
Severe Storms	<ul style="list-style-type: none"> • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Claudette	8/17/2009	TS	50														
Fay	8/23/2008	TS	60														
Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Morris, AL has a low earthquake risk, with a total of 22 earthquakes since 1931. The USGS database shows that there is a 2.61% chance of a major earthquake within 50km of Morris, AL within the next 50 years. The largest earthquake within 30 miles of Morris, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Mountain Brook

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: 12.9.2015

Name of Jurisdiction: City of Mountain Brook

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	N

10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)	
Community Rating System Program Class?	2

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

CITY OF MOUNTAIN BROOK

1. Please list the **date of occurrence**, **geographic location**, **extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

Since 2009, the City of Mountain Brook has not sustained loss or damages from the natural hazards listed above, requiring resources beyond our capabilities.

2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

The City’s greatest vulnerability to natural and man-made hazards is our population and city infrastructure. Therefore our priority in the emergency management process (Preparation/Planning, Response, Recovery, Mitigation) is the safety and welfare of our citizens and how to protect our infrastructure so that we maintain our ability to provide continuous emergency and non-emergency services.

Like any community, one major vulnerability we have is how natural and man-made disasters would impact students in the school system should a disaster strike during school hours.

However, the City and the Mountain Brook School system has worked together to establish emergency plans that address natural and man-made disasters and threats.

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

N/A

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Critical Facilities in the City of Mountain Brook

Fire Station Number One

102 Tibbett Street

Birmingham, Alabama 35213

Fire Station Number Two

3785 Locksley Drive

Birmingham, Al 35223

Fire Station Number Three

4277 Old Leeds Road

Birmingham, Al 35213

Mountain Brook Police Department

101 Tibbett Street

Birmingham, Al 35213

Mountain Brook Public Works

4277 East Street

Birmingham, Al 35243

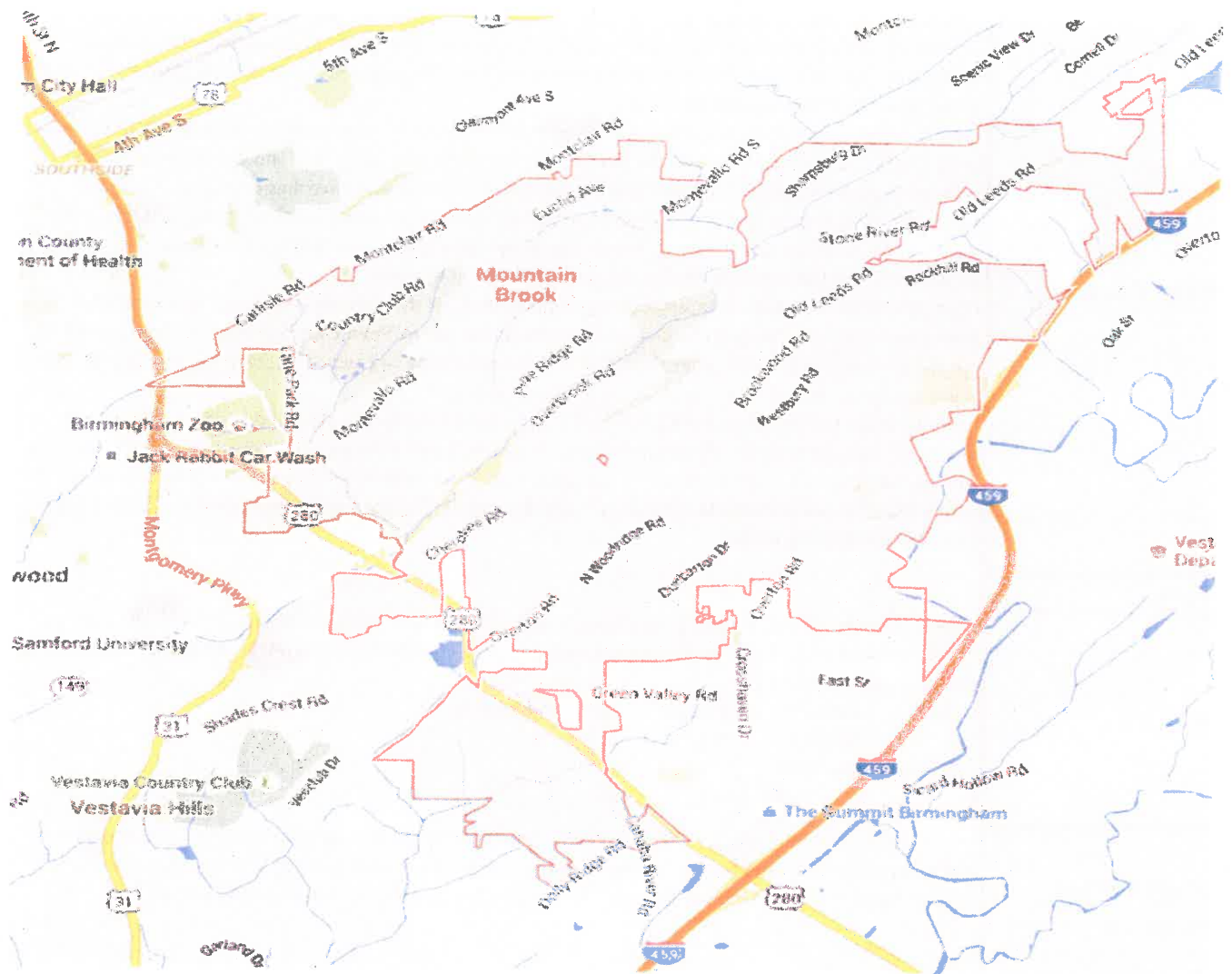
Mountain Brook City Hall

56 Church Street

Birmingham, Al 35213

Place	Mountain Brook
County	Jefferson County
City or town	town
2010 census	20,413
2011	20,432
2012	20,376
2013	20,340
2014	20,734
Change since 2010 census	1.6%

Source: U.S. Census Bureau – al.com 5/21/15



Mountain Brook is a city in southeastern Jefferson County, Alabama, and a suburb of Birmingham. According to the 2010 census, the population is 20,413. It is known to be the state's most affluent place.

Flooding

- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
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Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Mountain Brook, AL has a low earthquake risk, with a total of 16 earthquakes since 1931. The USGS database shows that there is a 2.72% chance of a major earthquake within 50km of Mountain Brook, AL within the next 50 years. The largest earthquake within 30 miles of Mountain Brook, AL was a 3.6 Magnitude in 2015.</p>																
Dam/Levee Failure																	
GravityWave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Mulga

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: 12-9-2015

Name of Jurisdiction: Mulga

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y Jefferson County
3.	Administer Subdivision Regulations?	Y Jefferson County
4.	Enforce Building & Technical Codes?	Y Jefferson County
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	N
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	No
11.	Full-Time Building Inspector on Staff?	No
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
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Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods).
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

None

2. Please describe your **jurisdiction's greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

*We have limited Resources
Volunteer Fire Dept.
No City Police Dept.*

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.) *N/A*

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.” ~~Public Safety and Emergency Services~~ *N/A*

Place	Mulga
County	Jefferson County
City or town	town
2010 census	836
2011	831
2012	826
2013	821
2014	822
Change since 2010 census	-1.7%

Source: U.S. Census Bureau – al.com 5/21/15



Mulga is a town in western Jefferson County, Alabama, United States. At its 2000 census the population was 973. This town is north from the Birmingham suburb of Pleasant Grove. It includes the community of Bayview.

Flooding
Tornadoes
Severe Storms

- April 27, 2011; EF-4 Tornado; MULGA, DAMAGE TO HOUSES ON AL 269
- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it – the snow and ice weren't expected to hit Birmingham that day – and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Landslides																	
Sinkholes																	
Earthquakes	<p>Mulga, AL has a low earthquake risk, with a total of 38 earthquakes since 1931. The USGS database shows that there is a 2.80% chance of a major earthquake within 50km of Mulga, AL within the next 50 years. The largest earthquake within 30 miles of Mulga, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	

Pinson

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Thursday, December 03, 2015

Name of Jurisdiction: City of Pinson

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	CONTRACTED WITH JEFFERSON COUNTY
11.	Full-Time Building Inspector on Staff?	CONTRACTED WITH JEFFERSON COUNTY
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

City of Pinson Hazard Mitigation Plan Update:

1. Please list the date of occurrence, geographic location, extent (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5-consecutive days of below freezing temps,” etc.), and impact (i.e., dollar value of losses or number of lives lost, etc.) for the following natural hazards which have affected your jurisdiction since 2009:

- Flooding
- Tornadoes
- Severe Storms (which may include thunderstorms, hail, lightning, high winds, tornadoes, floods)
- Winter Storms (which may include extreme cold, snow, ice)
- Wildfires
- Droughts/Heatwaves
- Landslides
- Sinkholes
- Earthquakes
- Dam Failure
- Hurricanes

No costly events since 2009

2. Please describe your jurisdiction’s greatest vulnerabilities (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

State highways that are major travel arteries that may ice during snow and sleet events

3. Are there National Flood Insurance Program (NFIP) structures in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

Due to FEMA/County/City purchases in Flood prone areas, few structures remain in flood plain. Approximately 6 commercial businesses remain, to the best of our knowledge. These are located on Main Street between Dry Creek and Clayton Street. No flooding since 2009 to our knowledge.

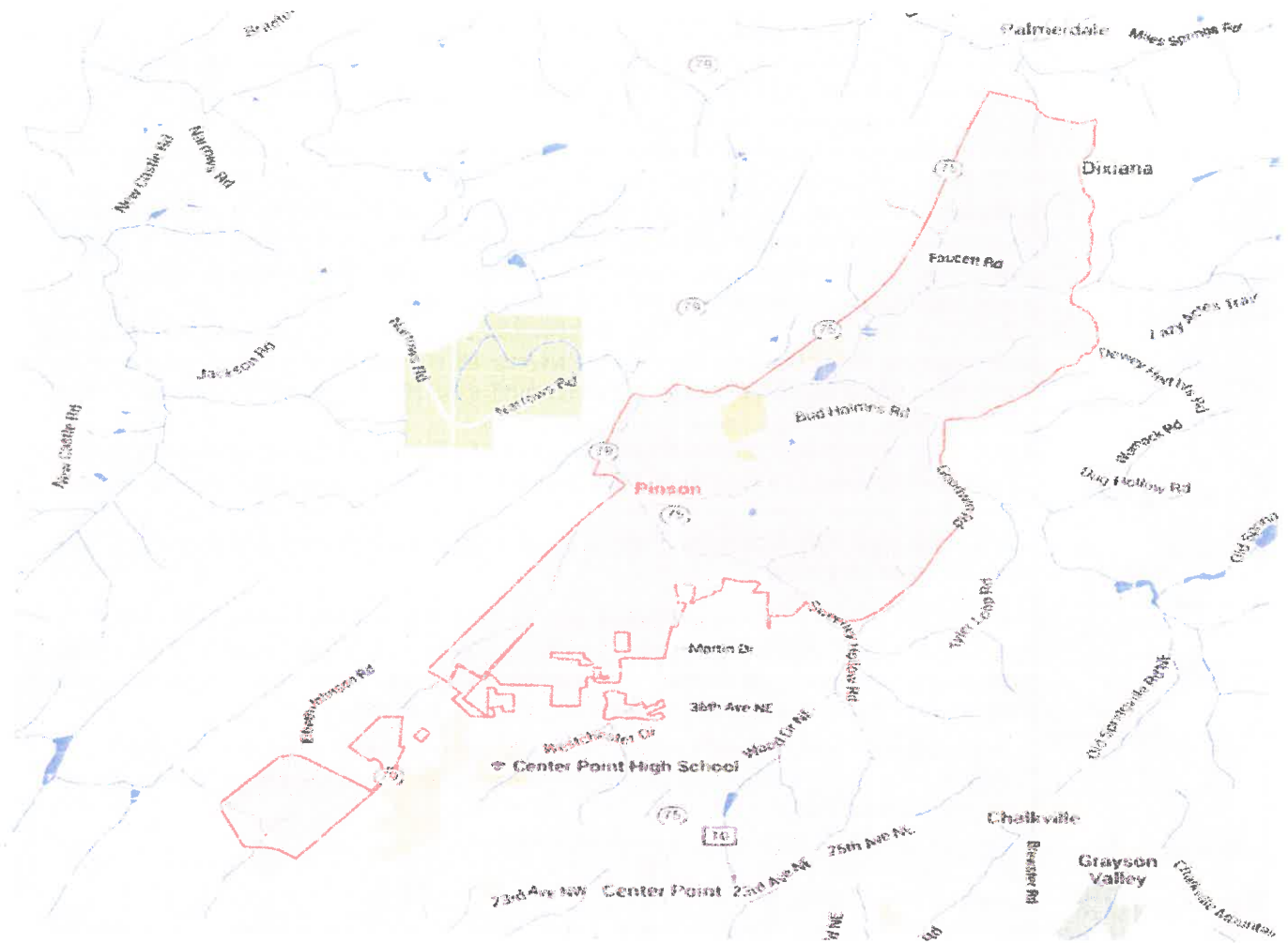
City of Pinson Hazard Mitigation Plan Update:

4. Please list what your jurisdiction deems critical facilities and their locations. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

Critical Facilities within the city include City Hall, 4410 Main Street and Rock School Center (contains public works) 4509 Pinson Boulevard. Structures within the city, but owned by other responders include Palmerdale Fire Station #1, 5340 Miles Spring Road and Center Point Fire Station #2 5175 Pinson Valley Parkway.

Place	Pinson
County	Jefferson County
City or town	city
2010 census	7,163
2011	7,142
2012	7,135
2013	7,131
2014	7,143
Change since 2010 census	-0.3%

Source: U.S. Census Bureau – al.com 5/21/15



Pinson is a city in Jefferson County near Birmingham, Alabama, United States northwest from Center Point. As of the 2010 census, the population was 7,163.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee. The auditorium of Pinson Valley High School collapsed tonight and three to five feet of rain is standing in the building, said Jefferson County schools spokeswoman Nez Calhoun. No one was injured. The 7.85 inches of rain that fell today in Pinson shattered the 24 hour rainfall total record for the city, set back on March 19, 1970, said weather service meteorologist Jessica Talley.

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it – the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires	<ul style="list-style-type: none">• Feb 01, 2015; hilltop fire in Pinson that burned for hours and threatened several homes is now under control. Palmerdale firefighters responded to a wildfire overlooking Oakhill Drive just after 8:00 on Saturday night. It wasn't until around 6:00 Sunday morning when firefighters had the fire under control. The Forestry Commission assisted in creating a fuel break, which kept the fire from spreading.																
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Landslides																	
Sinkholes																	
Earthquakes	<p>Pinson, AL has a low earthquake risk, with a total of 14 earthquakes since 1931. The USGS database shows that there is a 2.63% chance of a major earthquake within 50km of Pinson, AL within the next 50 years. The largest earthquake within 30 miles of Pinson, AL was a 3.5 Magnitude in 1975.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Pleasant Grove

JEFFERSON COUNTY – COMMUNITY CAPABILITIES ASSESSMENT

Date: December 7, 2015

Jurisdiction: City of Pleasant Grove

- | | | |
|-----|--|------------------|
| 1. | Has the city adopted the 2009 Hazard Mitigation Plan? | YES |
| 2. | Does the city enforce zoning ordinances? | YES |
| 3. | Does the city administer subdivision regulations? | YES |
| 4. | Does the city enforce building and technical codes? | YES |
| 5. | Has the city adopted the up-to-date comprehensive plan in the last 5 years? | YES |
| 6. | Has the 5-6 year capital improvements plan been updated annually? | YES |
| 7. | Does the city have experience with FEMA grant programs for hazard mitigation projects? | YES |
| 8. | Is there a professional urban planner on staff? | NO ¹ |
| 9. | Is there a professional engineer on staff? | YES ² |
| 10. | Is there a certified floodplain manager on staff? | NO |
| 11. | Is there a full time building inspector on staff? | YES ³ |
| 12. | Is there a regular member of the NFIP? | YES |
| 13. | Is there a community rating system program class? | N/A ⁴ |

¹ If necessary, the city would utilize the Birmingham Urban Planning Board

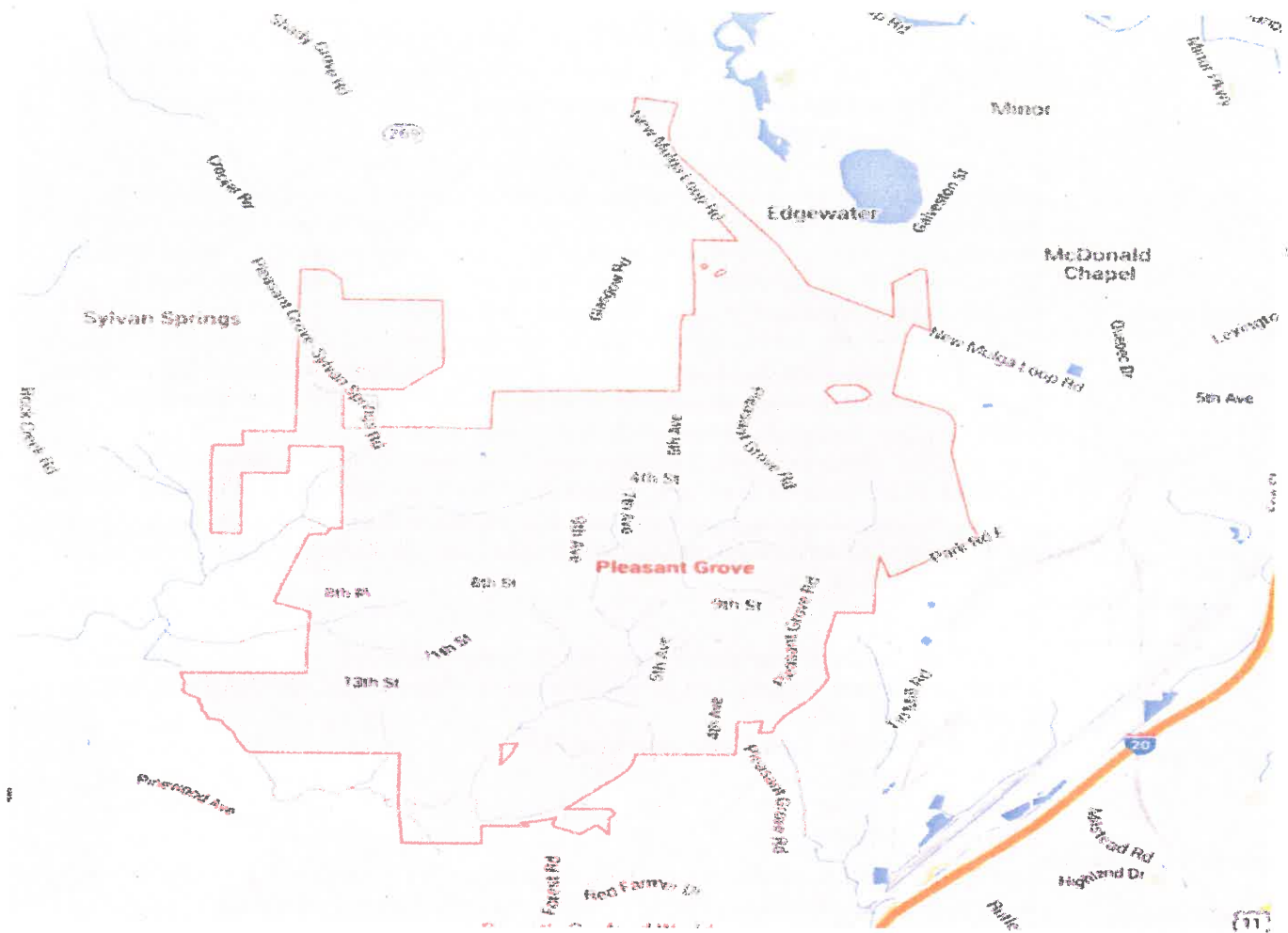
² Frank Spencer

³ Doug Hyche

⁴ City is not in a floodplain

Place	Pleasant Grove
County	Jefferson County
City or town	city
2010 census	10,110
2011	10,072
2012	10,342
2013	10,339
2014	10,325
Change since 2010 census	2.1%

[Back](#)



Pleasant Grove is a city in western Jefferson County, Alabama. It is part of the Birmingham metropolitan area. Its nickname is "The Good Neighbor City". At the 2010 census the population was 10,110.

Flooding	<ul style="list-style-type: none"> • April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.
Tornadoes	<ul style="list-style-type: none"> • April 27, 2011 ; EF-4 Tornado ; National Weather Service meteorologists have surveyed the massive damage associated with this long track violent tornado, by ground and air. The tornado continued northeastward out of the Concord area and into the Pleasant Grove community. EF-4 damage was prevalent here, with slabs wiped clean, though the debris from each home had not been removed by the winds. The majority of it remained within a couple of yards of the home. It was here in Pleasant Grove where evidence of vehicles being moved by the winds become obvious, though most were only tossed 10 to 15 yards if they were picked up at all. Additionally, wind rowing of debris was evident throughout the Pleasant Grove community which is characteristic of a storm of this magnitude. The tornado quickly moved out of the Pleasant Grove area and into the McDonald Chapel community.
Severe Storms	<ul style="list-style-type: none"> • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Landslides																	
Sinkholes																	
Earthquakes	<p>Pleasant Grove, AL has a low earthquake risk, with a total of 37 earthquakes since 1931. The USGS database shows that there is a 2.88% chance of a major earthquake within 50km of Pleasant Grove, AL within the next 50 years. The largest earthquake within 30 miles of Pleasant Grove, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Sylvan Springs

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 4, 2015

Name of Jurisdiction: Sylvan Springs

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	y
2.	Enforce Zoning Ordinances?	y
3.	Administer Subdivision Regulations?	y
4.	Enforce Building & Technical Codes?	y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	N
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	74424 N/A
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1. The following natural hazards affected our area to some extent since 2009. I don't remember any of them causing Major damage. Mostly roof damage due to winds and hail, and trees down.

March 1, 2009	Snow
April 10, 2009	Thunderstorms with Hail and High winds
April 30, 2010	Heavy Rain, Severe Thunderstorms
December 25, 2010	Snow and Ice
April 25, 2011	Tornadoes, Lightning, High winds
September 1, 2011	Wind from Tropical Storm Lee
March 3, 2012	Strong Straight Line winds with hail
August 26, 2012	Storms from Hurricane Isaac
March 18, 2013	Straight Line winds and Large Hail
January 5-8, 2014	Snow and Ice

2. The Town of Sylvan Springs lacks a community storm shelter and history has shown that we are in a vulnerable area for strong tornadoes.
3. No, the NFIP did not identify any flood areas in the town limits.
4. The Town Hall, Fire Station and Community Center are all considered critical facilities.

Peggy Shadix
Town of Sylvan Springs

Davis, Annette

From: Peggy Shadix <pshadix@sylvanspringsal.org>
Sent: Monday, December 07, 2015 10:47 AM
To: Davis, Annette
Subject: Addresses for Critical Facilities

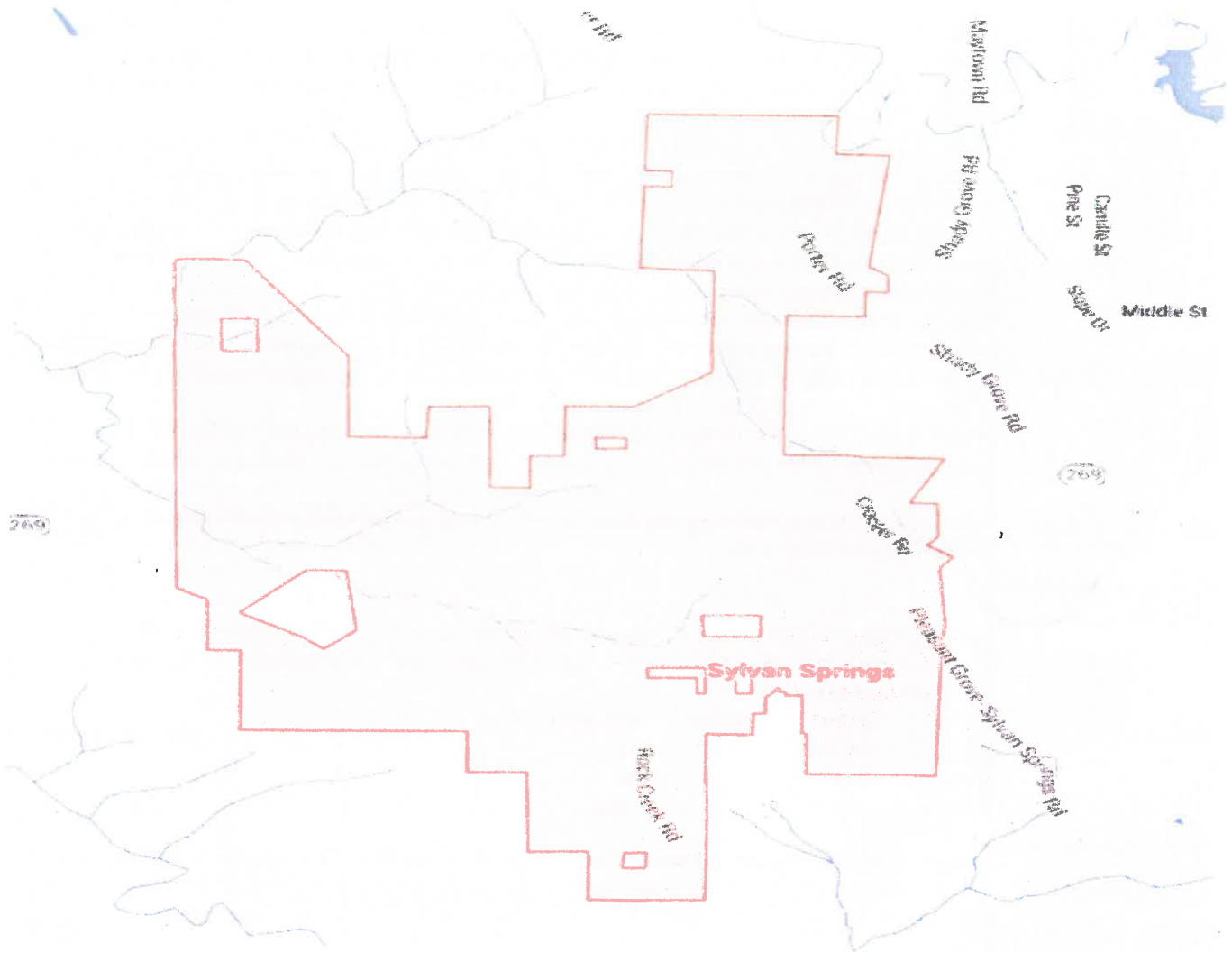
Annette,

The addresses for our critical facilities are as follows:

Sylvan Springs Town Hall	100 Rock Creek Road
Sylvan Springs Fire Dept.	120 Rock Creek Road
Sylvan Springs Community Center	130 Rock Creek Road

Let me know if you need anything else.

Thanks,
Peggy



Sylvan Springs is a town in Jefferson County, Alabama, United States. It is northwest from the Birmingham suburb of Pleasant Grove. At the 2000 census the population was 1,465. This area was damaged by an F5 tornado on April 8, 1998 including the First United Methodist Church of Sylvan Springs.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Dam/Levee Failure																	

Place	Sylvan Springs
County	Jefferson County
City or town	town
2010 census	1,837
2011	1,865
2012	1,852
2013	1,850
2014	1,853
Change since 2010 census	0.9%

[Back](#)

◀◀ Record 30 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau

Tarrant

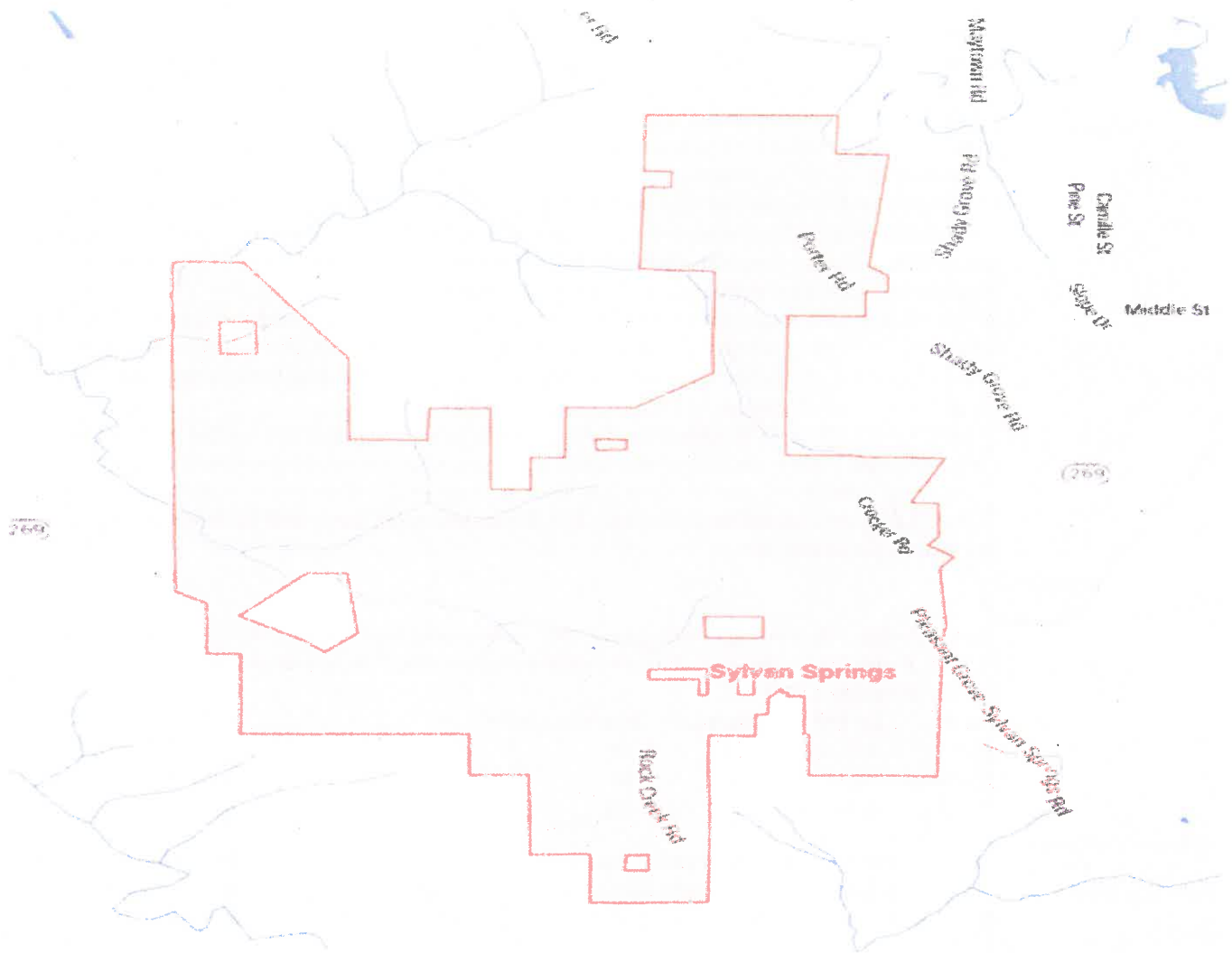
Place	Tarrant
County	Jefferson County
City or town	city
2010 census	6,397
2011	6,355
2012	6,319
2013	6,281
2014	6,257
Change since 2010 census	-2.2%

[Back](#)

◀◀ Record 31 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



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Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

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Droughts/Heat Waves	July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.																
Landslides																	

Trafford

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Monday, December 7, 2015

Name of Jurisdiction: Trafford

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	N
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	N
12.	Regular Member of the NFIP?	N

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

TOWN OF TRAFFORD
9239 East Commercial Ave.
Trafford, AL 35172

December 7, 2015

National Flood Insurance Plan: Additional information for completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan as follows:

1. The Town in the last 4 to 5 years had flooding with the loss of crops and equipment, and a storage facility floated away. The lower areas have flooded infrequently over the years but, the last several years it flooded more than usual.

Tornadoes have been very close to our community, as in the last two to four years our neighbors Warrior, Kimberly and Morris were hit pretty hard. Our jurisdiction had trees ripped up during these hard hit areas around us.

Our town has extreme cold with ice accumulations for driving hazards and electrical outages.

Heatwaves during our summers are more extreme for damages of fires and droughts.

2. Our Town Hall is located approximately 100 feet to a railroad track which runs north and south through center of town. The possibility of chemical or hazard materials being hauled or just an accident could be very devastating to our community. During the day a train will come through about every 15 to 20 minutes, and a lot of residential homes and businesses are also located very close to the tracks.
3. No repetitive damage at this time has been reported by floods or losses to the NFIP in our jurisdiction at this time.
4. Critical facilities would be our Town Hall located at 9239 East Commercial Ave. and Gurley Road which has a number of residential homes and trailers. Our community has a lot of senior citizens and making sure emergency access is at all times available.

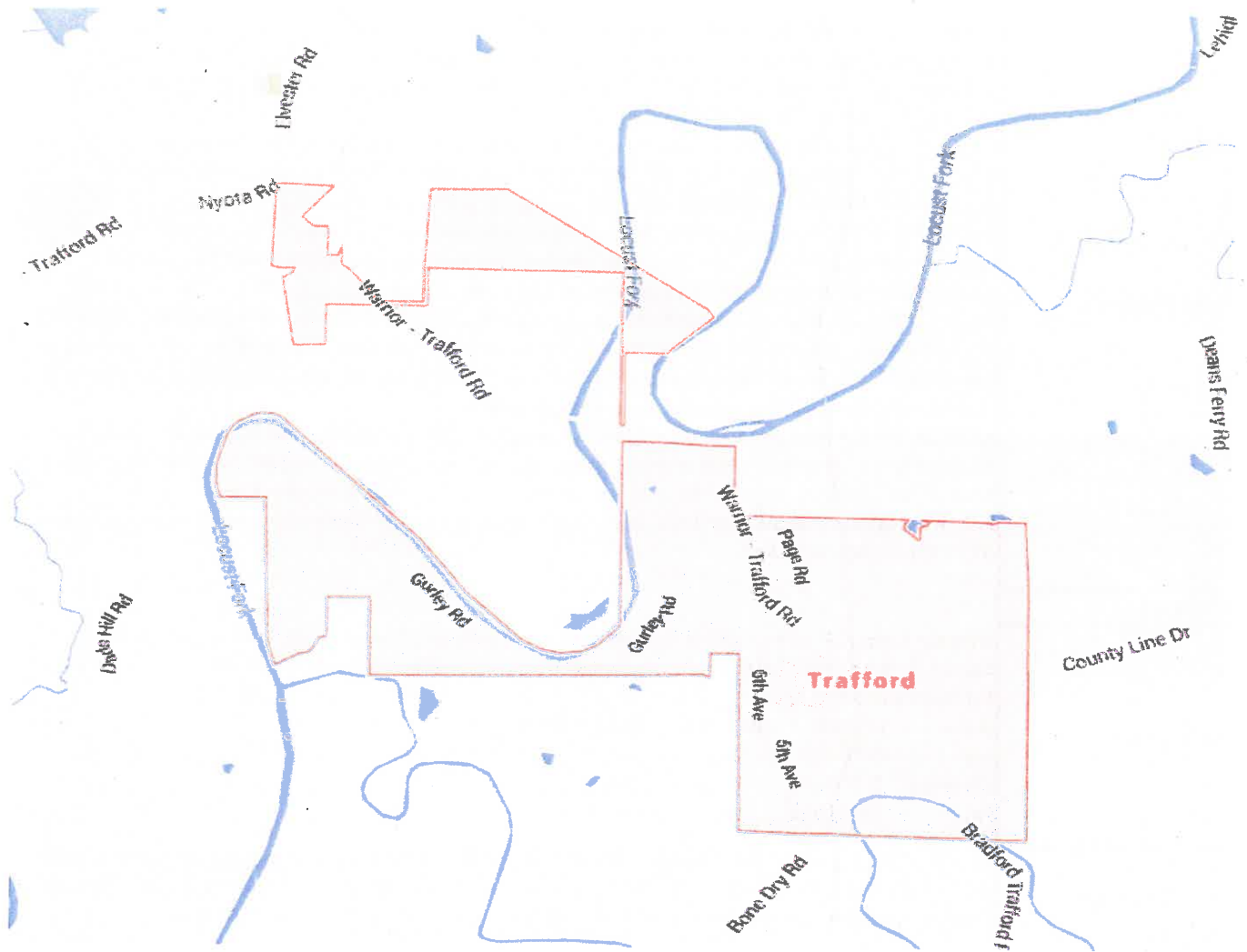
Place	Trafford
County	Jefferson County
City or town	town
2010 census	646
2011	648
2012	646
2013	644
2014	640
Change since 2010 census	-0.9%

[Back](#)

◀◀ Record 32 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



Trafford is a town in Jefferson County, Alabama, United States. A small portion extends into Blount County. At the 2010 census the population was 646.

Flooding
Tornadoes
Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires																	
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><th>Name</th><th>Landfall</th><th>Max Status</th><th>Max Wind (Knots)</th></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Droughts/Heat Waves	July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.																
Landslides																	
Sinkholes																	
Earthquakes	Trafford, AL has a low earthquake risk, with a total of 15 earthquakes since 1931. The USGS database shows that there is a 2.47% chance of a major earthquake within 50km of Trafford, AL within the next 50 years. The largest earthquake within 30 miles of Trafford, AL was a 3.5 Magnitude in 1975.																
Dam/Levee Failure																	

Trussville

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: 12/09/15

Name of Jurisdiction: City of Trussville

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	YES
2.	Enforce Zoning Ordinances?	YES
3.	Administer Subdivision Regulations?	YES
4.	Enforce Building & Technical Codes?	YES
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	YES
6.	5-6 Year Capital Improvements Plan Updated Annually?	NO
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	YES
8.	Professional Urban Planner on Staff?	NO
9.	Professional Engineer on Staff?	YES
10.	Certified Floodplain Manager on Staff?	YES
11.	Full-Time Building Inspector on Staff?	YES
12.	Regular Member of the NFIP?	YES

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the **date of occurrence, geographic location, extent** (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and **impact** (i.e., dollar value of losses or number of lives lost, etc.) **for the following natural hazards which have affected your jurisdiction since 2009:**

- **Tornadoes** - January 23, 2012, F-1, Pilgrims Rest Subdivision, Legacy Subdivision, Wynnwood Subdivision, Foxwood Subdivision. Legacy Subdivision.
Houses that were total loss 17
Houses with severe damage 9
Houses with Moderate damage 49
Houses with Minor damage 7
Vacant with damage not included in total 7
Total number of houses affected 82

2. Please describe your **jurisdiction’s greatest vulnerabilities** (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions.

Road Infrastructure, above ground electrical, several domestic water storage tanks, and railroad

3. Are there **National Flood Insurance Program (NFIP) structures** in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.)

No

4. Please list what your jurisdiction deems **critical facilities and their locations**. A critical facility is defined by FEMA as “structures and institutions necessary for a community’s response to and recovery from emergencies.”

City of Trussville

City Hall 131 Main Street

Fire Station # 1 131 Main

Fire Station #2 7317 Roper Road

Fire Station #3 8160 Gadsden Highway

Fire Station #5 7373 Gasline Road

Police Department includes Jail and dispatch for Fire & PD 131 Main Street & 127 Main Street

Trussville Senior Center 504 Cherokee Drive- Used for shelter in emergency

Trussville Civic Center 5381 Trussville Clay Road- Used for shelter in emergency

Trussville Utilities Water Treatment Plant 6620 Green Drive

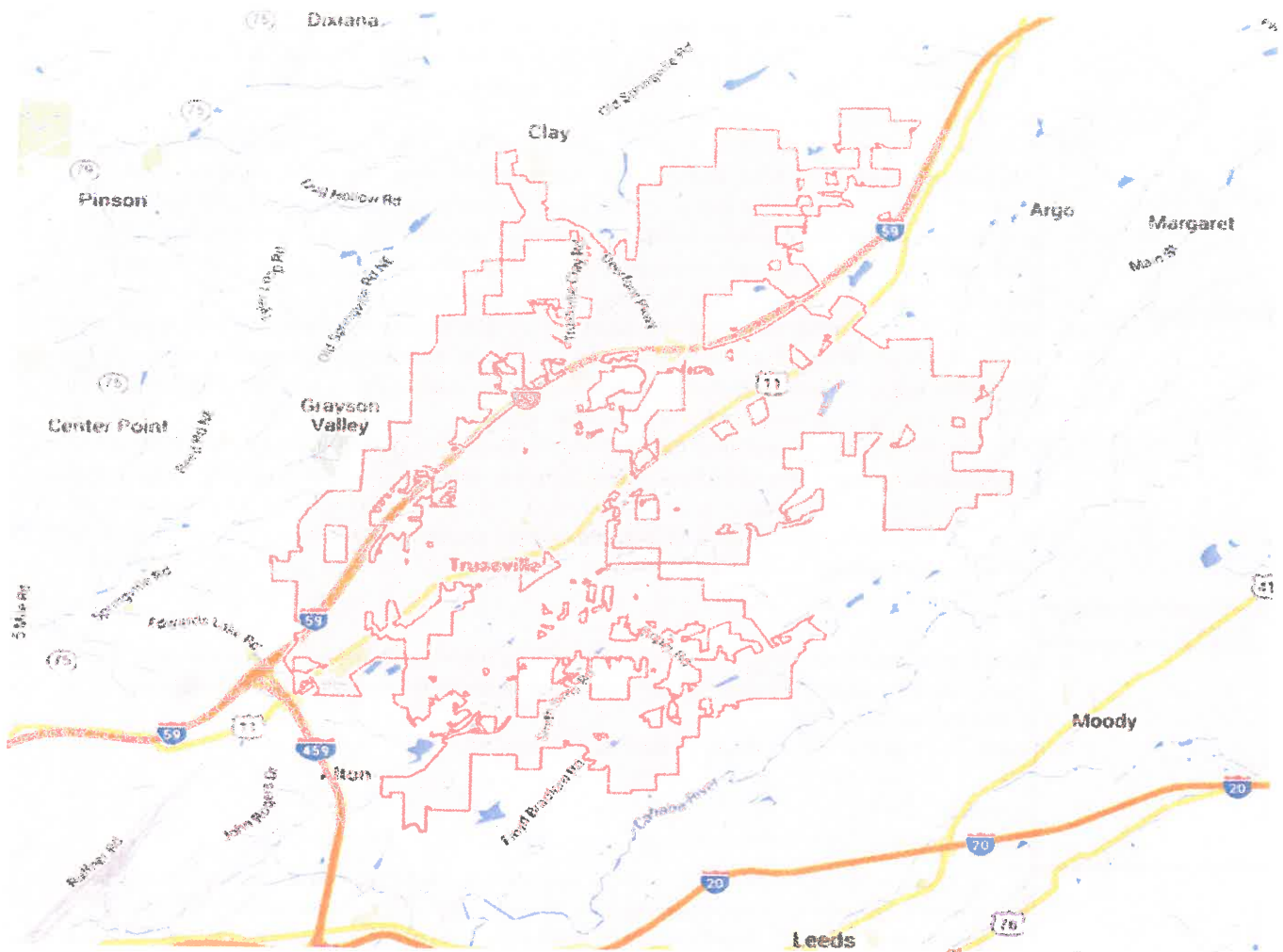
Place	Trussville
County	Jefferson County
City or town	city
2010 census	19,933
2011	20,117
2012	20,133
2013	20,353
2014	20,702
Change since 2010 census	3.9%

[Back](#)

◀◀ Record 33 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



Trussville is a city in Jefferson and St. Clair counties in the State of Alabama. A suburb of Birmingham, Trussville's estimated 2014 population was 20,702.

Flooding

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Sinkholes																	
Earthquakes	<p>database shows that there is a 2.85% chance of a major earthquake within 50km of Jefferson County, AL within the next 50 years. The largest earthquake within 30 miles of Jefferson County, AL was a 4.8 Magnitude in 1999.</p> <ul style="list-style-type: none">• 9/14/2011 - 2.6 mag, 10.6mi depth2.2819 mi from Trussville, AL																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">• April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.• January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																



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Meeting to focus on hazard mitigation in Trussville

Posted by: **Tribune Staff** Posted date: **April 03, 2015**

By Gary Lloyd

28

Like

TRUSSVILLE — The city of Trussville is conducting a hazard mitigation survey in conjunction with the Jefferson County Emergency Management Agency.

On Thursday, April 16 at 6 p.m., a public meeting will be held at the Trussville Civic Center for residents to express concerns about future weather events, manmade disasters, natural disasters and response capabilities.



A new fire station will become the city's fourth at some point in the future. It will be located at the corner of Service Road and Trussville-Clay Road.
file photo by Gary Lloyd

Trussville Mayor Gene Melton, Trussville Fire Chief Russell Ledbetter and possibly some Trussville City Council members will attend the meeting.

The hazard mitigation survey is available at the Trussville Civic Center, Trussville City Hall, the Trussville Senior Activity Center and the Trussville Public Library. It's also available at www.trussvillefire.com.

[Click here to take the survey.](#)

The survey poses questions about what disasters have affected your home or neighborhood in the last five years, what emergencies residents are concerned about, what disasters residents believe are most likely to happen, emergency plans and more.

For more information, call the Trussville Fire Department at 205-655-1152 or email survey@trussvillefire.com.

Contact Gary Lloyd at news@trussvilletribune.com and follow him on Twitter @GaryALloyd.

28

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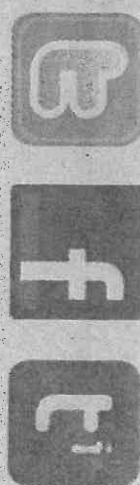
HEATING COOLING PLUMBING ELECTRICAL GENERAL CONSTRUCTION

(205) 655.5099

www.trin.com

See photos of Jack Wood Stadium demolition, page 3

UAB right school for Clay's Calvert, page 14



www.trussvilletribune.com



The Trussville Tribune

April 8 — 14, 2015

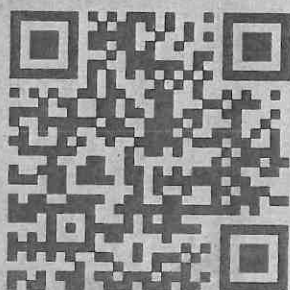
Your news source for Trussville, Clay and Pinson

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TRIBUNE AREA WEATHER

Here is The Trussville weather conditions in page by scanning the QR Tribune's area weather Trussville, Clay, and code below with your forecast for the next Pinson, see The Trussville smartphone seven days. For current Tribune weather web

TRUSSVILLE WEATHER FORECAST						
WED	THU	FRI	SAT	SUN	MON	TUE
84	81	76	78	79	78	79
65	65	66	54	55	61	63
50%	50%	80%	20%	20%	30%	40%



Meeting to focus on hazard mitigation in Trussville

by Gary Lloyd

Editor

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see SURVEY page 4

Inside The Tribune:

News — pages 2 - 7
 Lifestyle — pages 8 - 10
 Calendar — page 11
 Opinion — page 12
 Sports — pages 13 - 14



HEMPHILL SERVICES
 PLUMBING HEATING COOLING

24 HR Plumbing



A+ TIRE & AUTO REPAIR
 Erik Carmack, Owner
 SAME GREAT SERVICE 2ND LOCATION!
 84 CEDAR LANE TRUSSVILLE
NOW OPEN!



Mattie Montgomery
 from the band
 will be performing at The Rock



file photo by Gary Lloyd

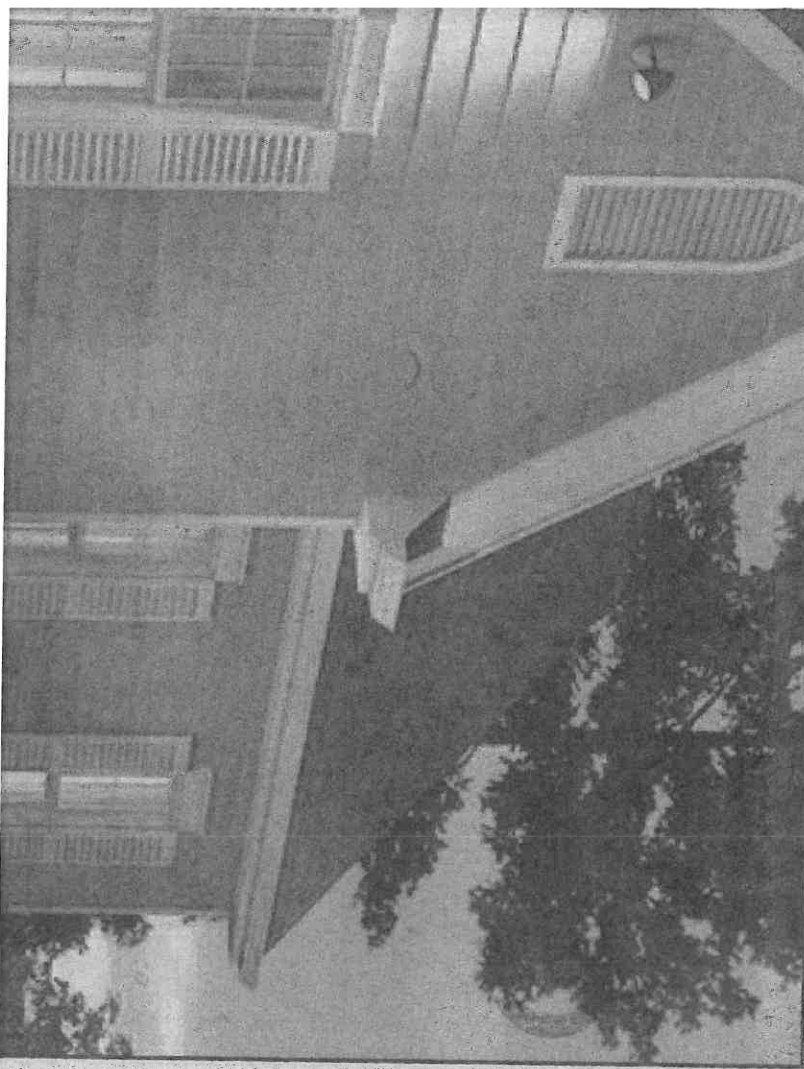
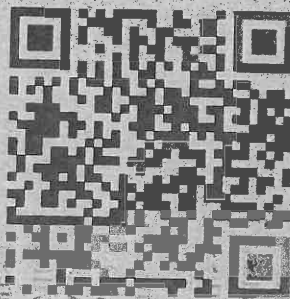
A new fire station will become the city of Trussville's fourth at some point in the future. It will be located at the corner of Service Road and Trussville-Clay Road.

The survey poses disasters residents believe questions about what are most likely to happen, disasters have affected your emergency plans and more, home or neighborhood in. For more information, the last five years, what call the Trussville Fire emergencies residents are Department at 205-655-concerned about, what 1152 or email survey@

trussvillefire.com.

Contact Gary Lloyd at
news@trussvilletribune.com
and follow him on
Twitter @GaryALloyd.

Scan this QR code with
your smartphone to take
the hazard mitigation
survey online.



Vestavia Hills

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: **Monday, December 07, 2015**

Name of Jurisdiction: **City of Vestavia Hills**

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	YES
2.	Enforce Zoning Ordinances?	Yes
3.	Administer Subdivision Regulations?	YES
4.	Enforce Building & Technical Codes?	YES
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	YES
6.	5-6 Year Capital Improvements Plan Updated Annually?	YES
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	YES
8.	Professional Urban Planner on Staff?	YES
9.	Professional Engineer on Staff?	YES
10.	Certified Floodplain Manager on Staff?	YES
11.	Full-Time Building Inspector on Staff?	YES
12.	Regular Member of the NFIP?	YES

(Class Number or N/A)

Community Rating System Program Class?	No, Currently making application
--	----------------------------------

City of Vestavia Hills Critical Facilities

Mitigation Info 12/2015

Station 1		509	Montgomery Highway
VH Elementary East		2105	Tyson Drive
VH Elementary Central		1289	Montgomery Highway
VH Elementary West		1965	Merryvale Road
VH City Hall		1032	Montgomery Highway
Publix		784	Montgomery Highway
Walmart		1300	Montgomery Highway
Sprouts		1035	Montgomery Highway
VH Civic Center		1975	Merryvale Road
VH Vehicle Maintenance Facility		1280	Montgomery Highway
APCO substation		635	Tremont Drive
U. S. Post Office		745	Montgomery Highway
Station 2			
Power Sub Station		2925	Columbiana Rd
Power Sub Station		3013	Massey Rd
A T @ T Sub Station		1436	Montgomery Hwy
Water Tower		1474	Montgomery Hwy
Water Tower		646	Gary Mac Dr
Pizitz Middle School		1656	Panorama Dr
Texaco		2020	Pizitz Drive
Chateau Assisted Living		1487	Montgomery Hwy
Cell Tower		2401	Columbiana Rd
Cell Tower		1386	Montgomery Hwy
		2645	Hackberry Rd.
Station 3			
Power Sub Station		3201	Morgan Dr.
Western		2400	Rocky Ridge Rd.
Vestavia Hills Hills School		3350	Morgan Dr.
Town Village		2235	Lime Rock Rd
Cell Tower		2382	Dolly Ridge Rd.
			Rocky Ridge Rd @ Morgan Dr

City of Vestavia Hills

Natural Hazard	Date	Location	Extent	Impact
Tornado	4/27/2011	Cahaba Heights Community	EF-3	\$1,000,000+
Flooding	8/7/2013	1400 Block Montgomery Highway	3" of interior water damage	\$100,000+
Winter Storm	1/28/2014	Entire City Effected	Roads impassable	\$250,000+
Winter Storm	2/12/2014	Entire City Effected	5" of snow, roads impassable	\$250,000+
Mudslide	4/27/2014	US 31 near Brookwood Hospital	Roads impassable	\$10,000+
Flooding	4/27/2014	Meadowlawn Subdivision	5" of interior water damage	50,000+
Flooding	4/27/2014	1400 Block Montgomery Highway	5" of interior water damage	\$250,000+
Flooding	4/27/2014	4000 Block Dolly Ridge Road	3-5" of interior water damage	\$100,000+

Vestavia Hills Greatest Vulnerabilities

Flooding

Mitigation efforts could buyout homes in this flood prone area.

Residential Areas

- Meadowlawn Drive

Commercial Areas

Mitigation efforts could lessen the severity of flooding in this area.

- Montgomery Highway & Old Towne Road

Tornadoes

Mitigation efforts could construct tornado shelters near at risk areas.

- City Parks
- Fire Stations
- Schools

National Flood Insurance Program Structures

We believe we may have some structures participating in the program but are unable to confirm due to our NFIP contact being out of the office due to sickness.

The Planning Process

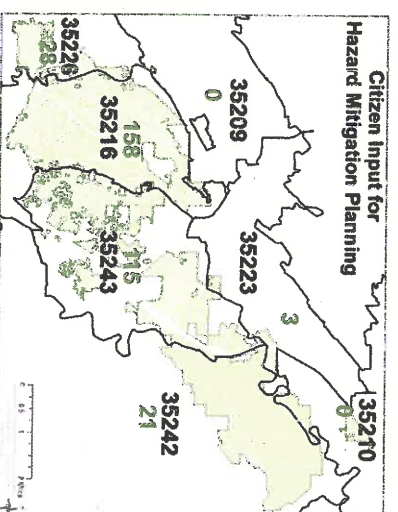
Members of the Vestavia Hills Multi-Hazard Mitigation Planning Committee (VHMHPC) attended monthly meetings at the Jefferson County Emergency Management Agency (JCEMA) to discuss information related to the development of the 2014 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan. Meetings were attended on the following dates:

February 20, 2015 March 20, 2015 April 24, 2015

Citizen Input

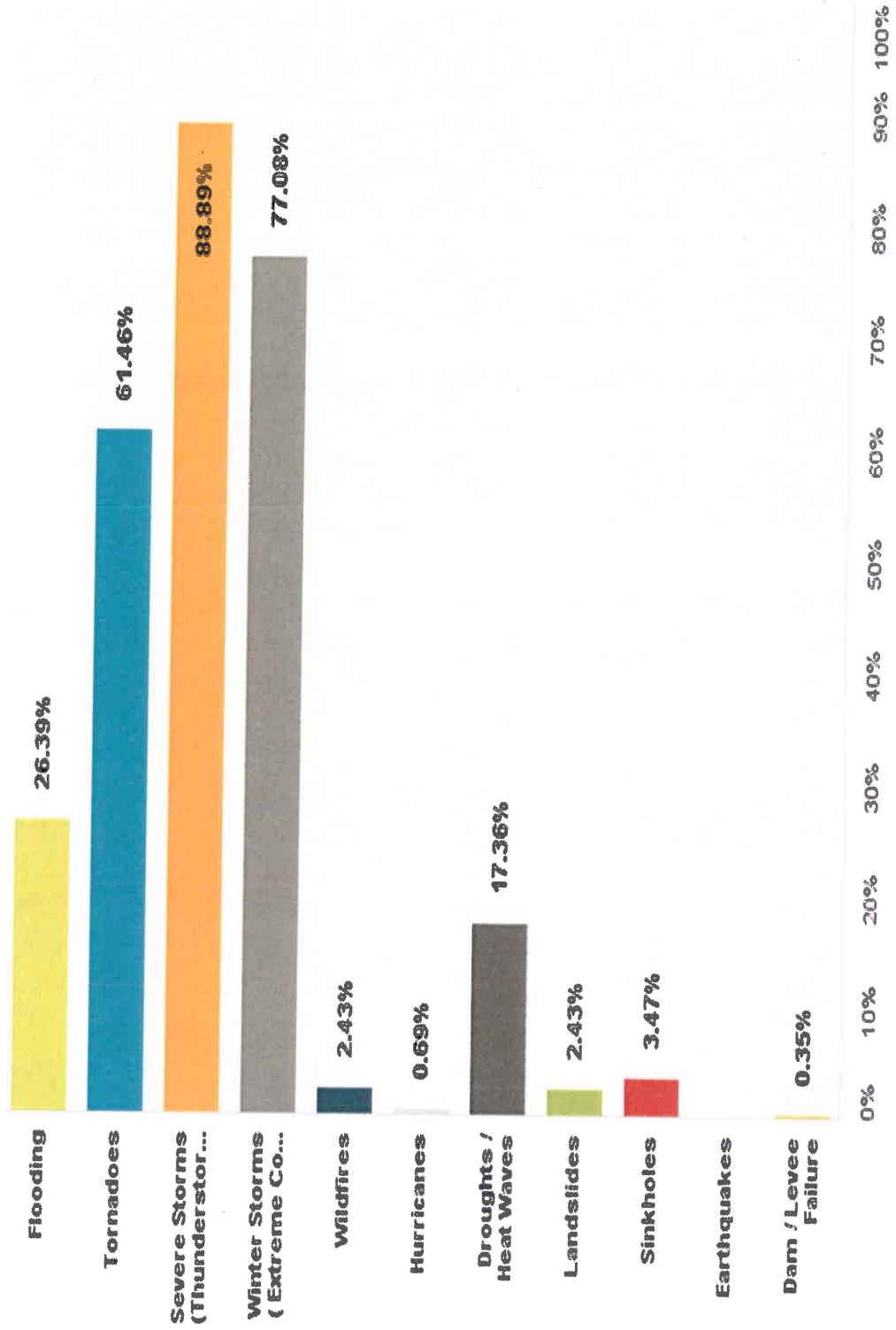
An online survey was established on March 26, 2015 to obtain citizen input and participation into the mitigation planning process. The survey was advertised through the use of the various city social media channels, emailed to all subscribers on the city notification list as well as posting the information at city hall.

The survey was available online from March 26, 2015 until May 10, 2015, a total of 325 people responded to the survey with equal distribution among the five main zip codes that cross the city.



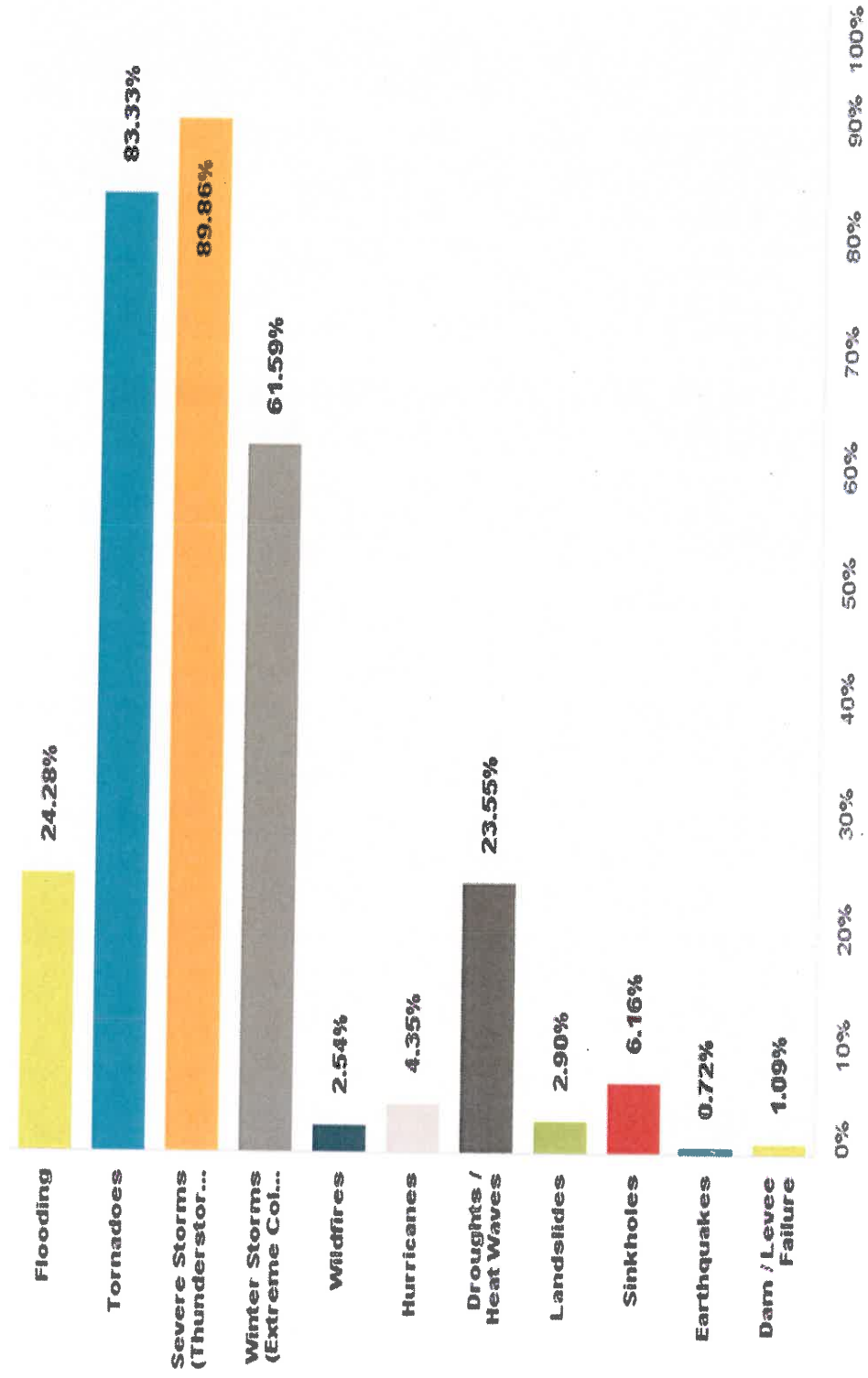
Q2 Which of these emergency events has affected your home or neighborhood during the past five years?

Answered: 288 Skipped: 37



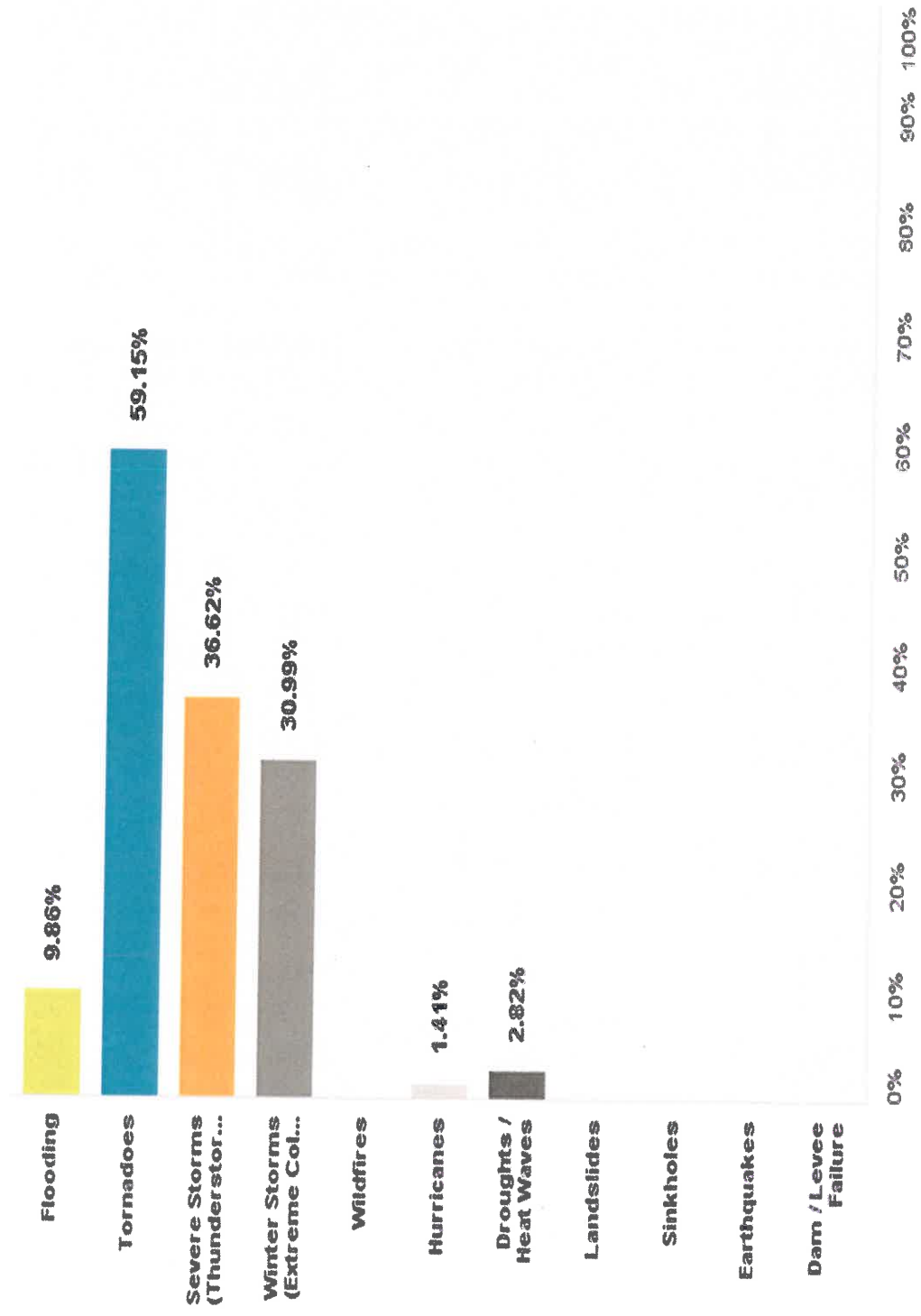
Q3 Which of these events are you concerned about reoccurring in the next year?

Answered: 276 Skipped: 49



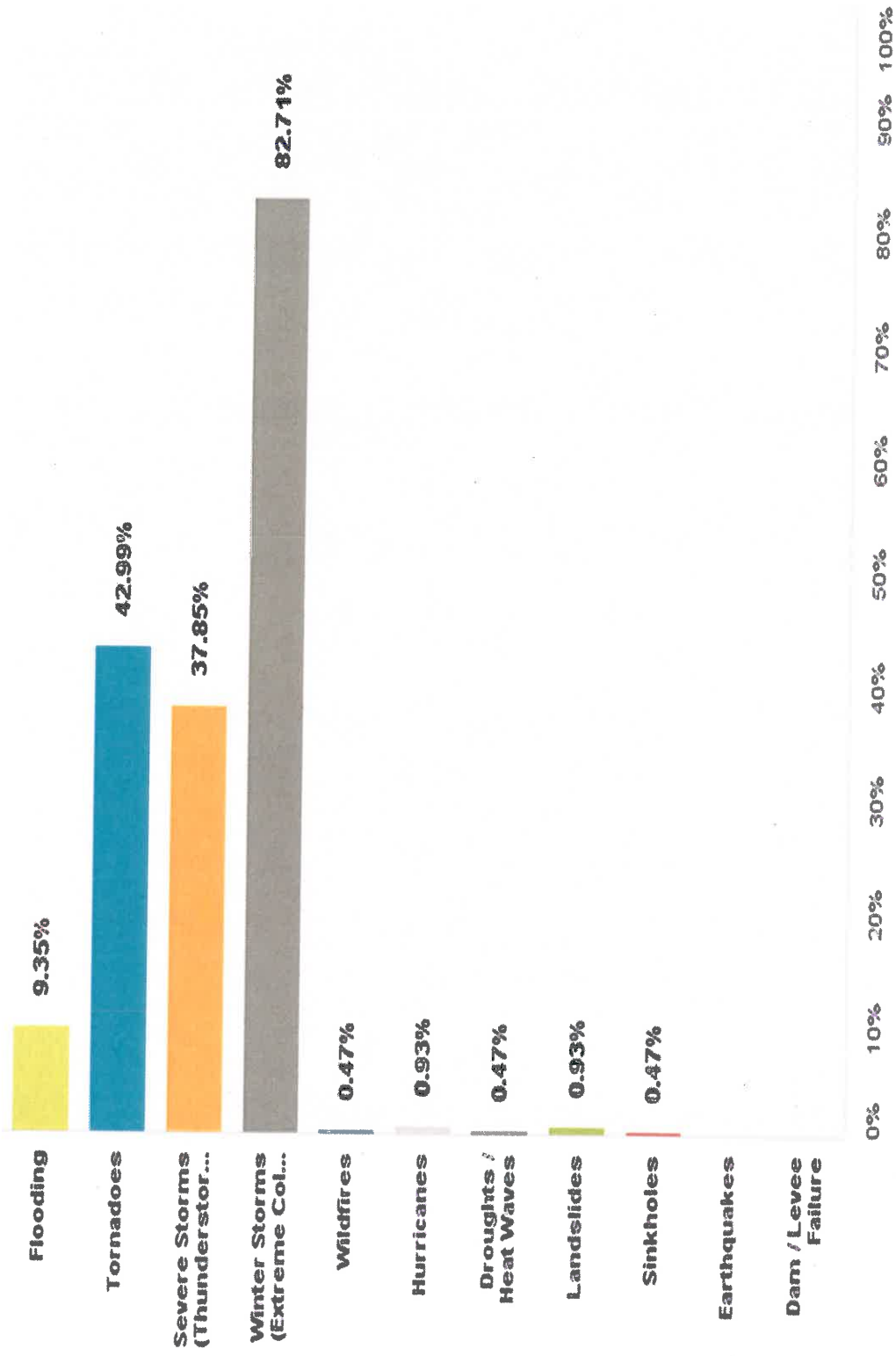
Q4 Did you have to leave your home because of any of these events?

Answered: 71 Skipped: 254



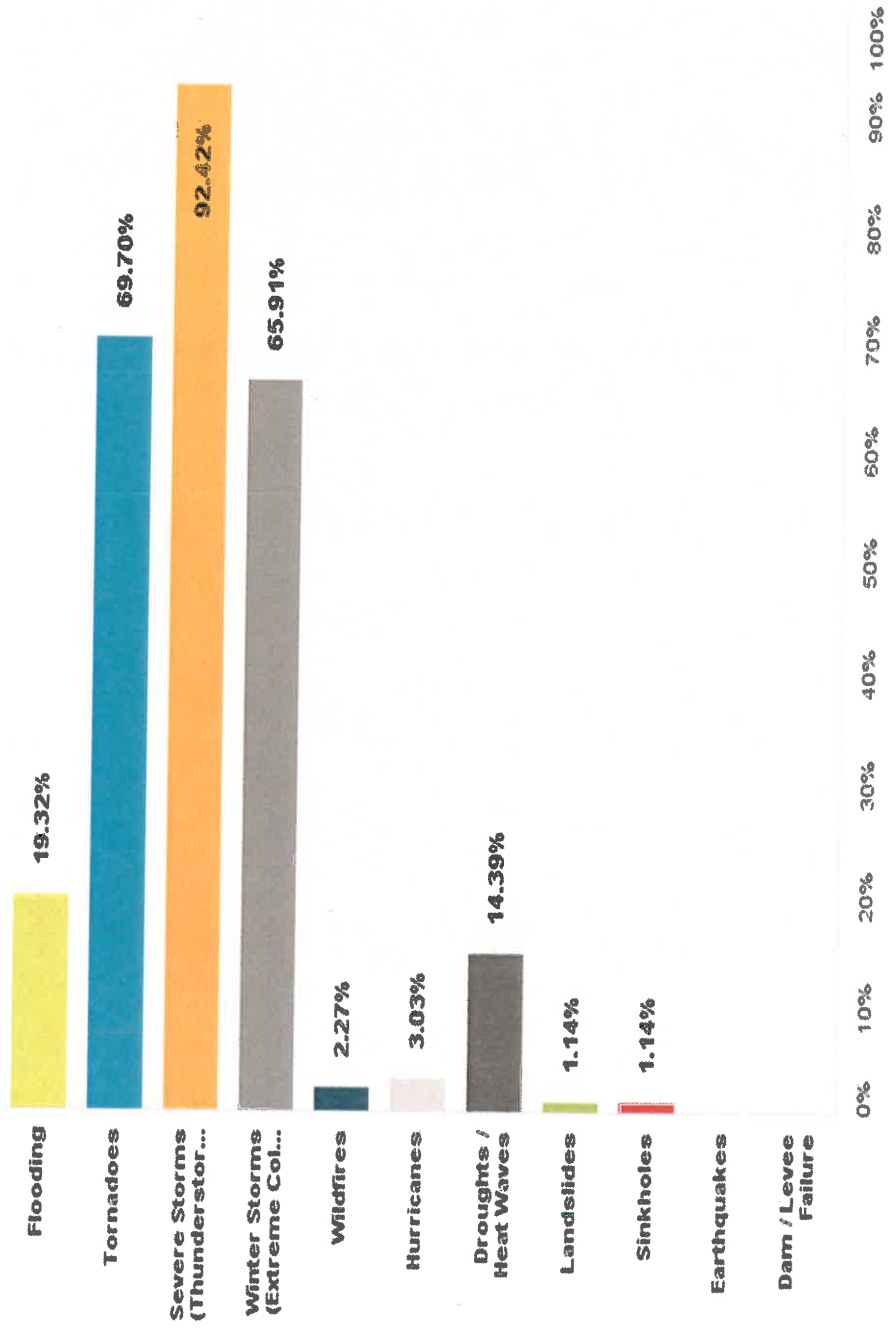
Q5 Did you lose time from work or school because of any of these events?

Answered: 214 Skipped: 111



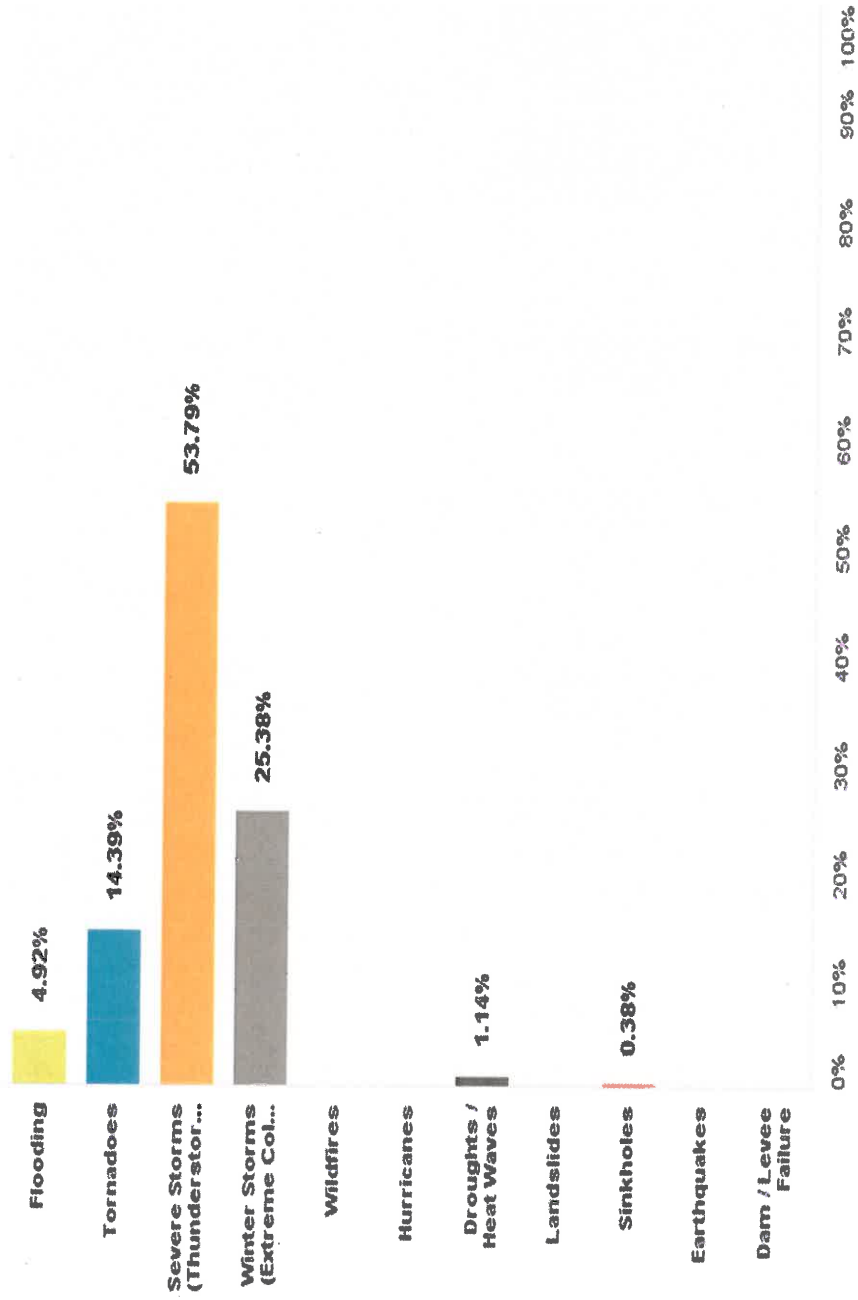
Q6 Of the events listed in question 4 and 5,
which events do you think are most likely to
happen again?

Answered: 264 Skipped: 61



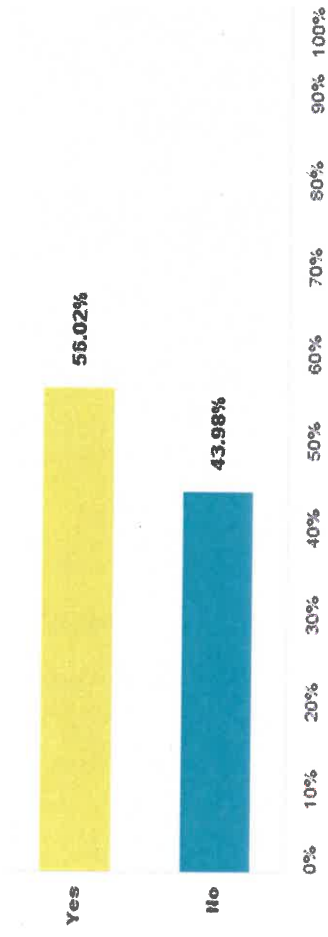
Q7 Of the events that you think are most likely to happen again, which one do you think would affect most of the population of Vestavia Hills?

Answered: 384 Skipped: 67



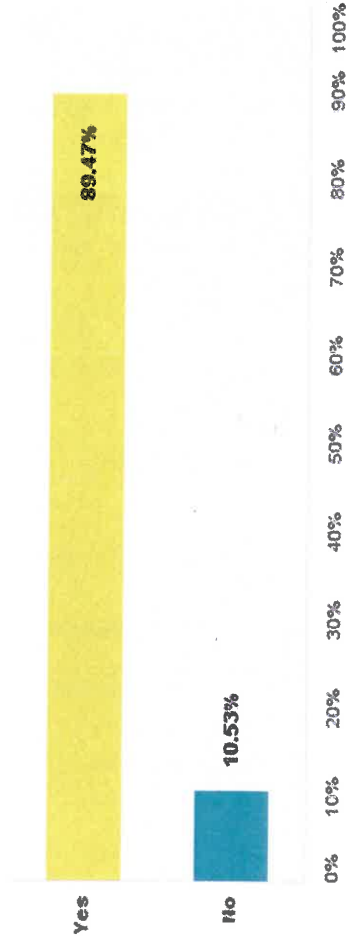
Q8 Do you own a NOAA weather radio?

Answered: 266 Skipped: 59



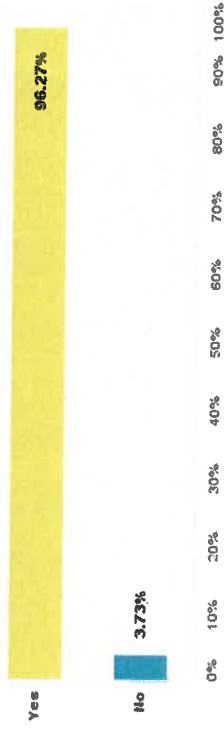
Q9 Is your weather radio programmed to receive alerts?

Answered: 152 Skipped: 173



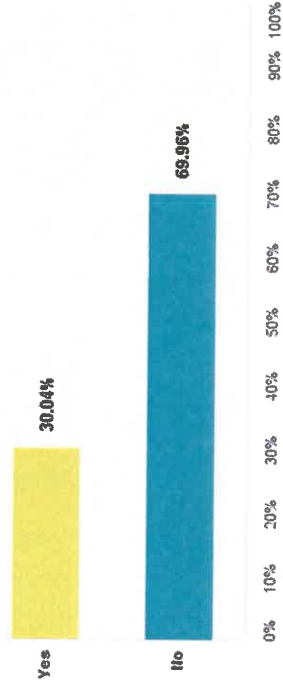
Q10 Can you receive emergency warning information on your cell phone or other wireless messaging devices?

Answered: 268 Skipped: 57



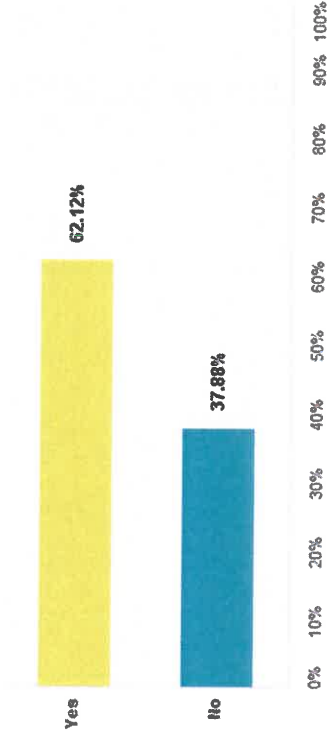
Q11 Are you currently signed up for Jefferson County Citizen Alert Notification System?

Answered: 253 Skipped: 72



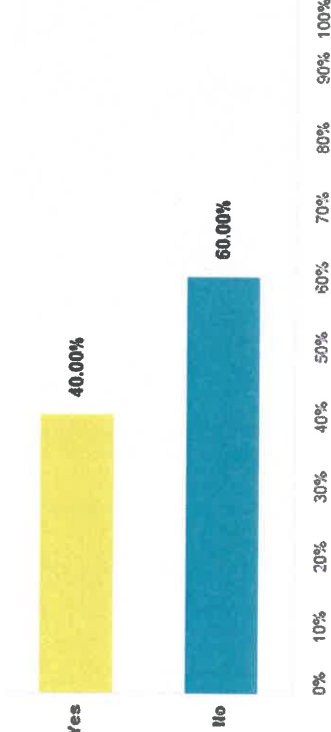
Q12 Do you have a family emergency plan in the event of a disaster?

Answered: 26 / Skipped: 61



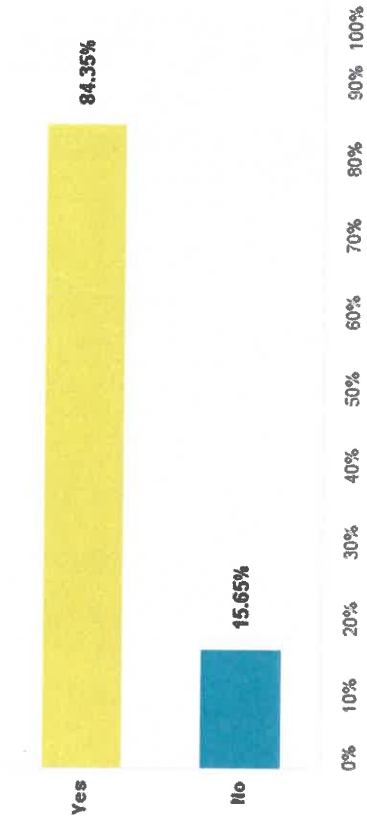
Q13 Do you have a disaster supply kit in the event of a disaster?

Answered: 26 / Skipped: 30



**Q14 Do you have a Safe Place for shelter in
or around your home?**

Answered: 262 Skipped: 63



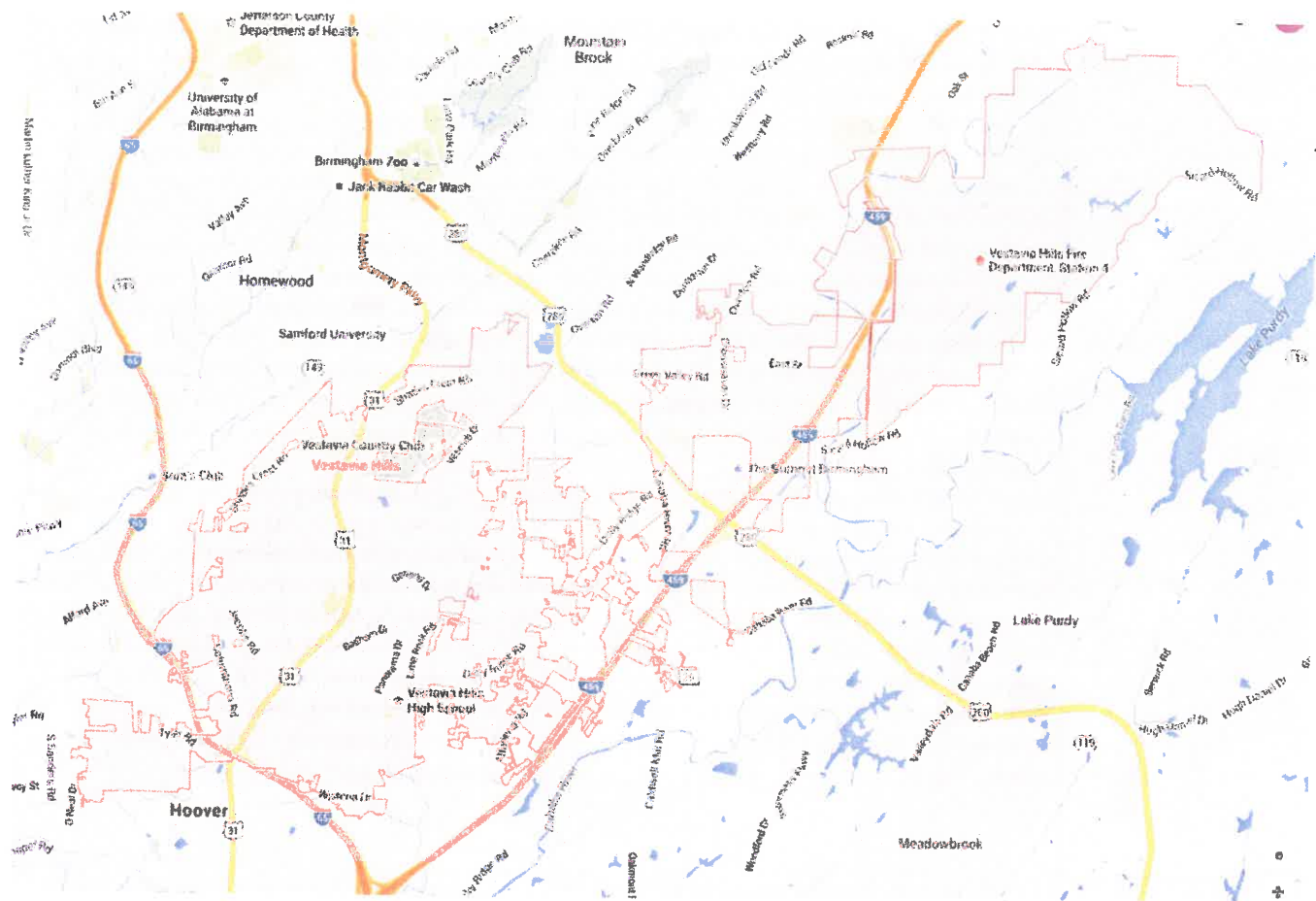
Place	Vestavia Hills
County	Jefferson County
City or town	city
2010 census	34,033
2011	34,005
2012	33,985
2013	33,958
2014	34,124
Change since 2010 census	0.3%

[Back](#)

◀◀ Record 34 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



Vestavia Hills is a city in Jefferson and Shelby Counties in the State of Alabama. It is a suburb of the city of Birmingham. As of the 2010 census, its population is 34,033.

Flooding

- April 16, 2015; An urban and small stream flood advisory is in effect Thursday afternoon for Central Jefferson County due to extensive heavy rain. Flooding could be seen in Birmingham, Hoover, Vestavia Hills, Bessemer, Homewood, Mountain Brook, Fairfield, Pleasant Grove, Midfield, Brighton, Lipscomb, Ensley, Kingston, and at the BJCC, the Birmingham Airport, Regions Field, Legion Field, Samford University, Birmingham-Southern College, and UAB, according to the National Weather Service.

Tornadoes

- April 27, 2011; Cahaba Heights EF-2 Tornado; National Weather Service meteorologists surveyed damage across southeast Jefferson County. It has been determined that the damage was consistent with a strong tornado. Winds were estimated at 120 mph. A tornado developed along a Quasi-Linear Convective System. It touched down in south central Jefferson County where it affected the Cahaba Heights and Liberty Park communities of the Birmingham Metro area. The tornado touched down near Gresham Elementary School. It knocked down several trees along Country Ridge Pl. The tornado moved northeast and crossed US Hwy 280, near Dolly Ridge Rd where it knocked down numerous trees and damaged buildings along the highway. The tornado strengthened as it moved into Cahaba Heights where it produced damage consistent with an EF2 rating and winds of 120 mph. The most significant area of damage occurred between US Hwy 280 and Cahaba Heights Rd, near Cahaba Heights Elementary School, where numerous homes sustained significant damage from fallen trees. The tornado weakened to an EF1 rating with winds of 100 mph as it continued northeast, but still knocked down trees which resulted in damage to homes and businesses. The tornado crossed Interstate 459 south of Liberty Park knocking down dozens of trees, and continued northeast which caused minor tree damage. The tornado lifted near Grants Mill Rd, 2 miles south of Interstate 459. A person was killed during clean-up efforts.
- April 27, 2011 ; Altadena (Jefferson and Shelby Counties) EF-1 Tornado; National Weather Service meteorologists surveyed damage across the Altadena area in extreme northern Shelby County and southern Jefferson County. It has been determined the damage was consistent with a tornado. Maximum winds were estimated up to 100 mph. A tornado developed along a Quasi-Linear Convective System. It touched down in far northern Shelby County, less than one mile west of the intersection of Valleydale Road and Caldwell Mill Road, and tracked northeastward into southern Jefferson County. The tornado produced damage consistent with an EF1 rating and winds of 100 mph. numerous trees were knocked down which caused damage to homes, apartment buildings, vehicles and power lines. The tornado crossed into Jefferson County just east of the intersection of Caldwell Mill Rd and Pahokee Trace. The tornado weakened to an EF0 rating and produced tree damage until it lifted near the intersection of Acton Place and Caldwell Mill Rd.

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms

- March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.
- Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.
- Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.
- Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.

Wildfires

Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><th>Name</th><th>Landfall</th><th>Max Status</th><th>Max Wind (Knots)</th></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
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Fay	8/23/2008	TS	60														
Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Vestavia Hills, AL has a low earthquake risk, with a total of 17 earthquakes since 1931. The USGS database shows that there is a 2.61% chance of a major earthquake within 50km of Vestavia Hills, AL within the next 50 years. The largest earthquake within 30 miles of Vestavia Hills, AL was a 3.6 Magnitude in 2015.</p>																
Dam/Levee Failure																	

Forgot your username and password? ([https://signup.al.com/remember/?return to=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river](https://signup.al.com/remember/?return%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river))

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 Sign in with Facebook ([https://signup.al.com/sign-in/?option=Facebook&return to=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river](https://signup.al.com/sign-in/?option=Facebook&return%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river))

 Sign in with Google

[https://signup.al.com/sign-in/?option=Google&return to=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river](https://signup.al.com/sign-in/?option=Google&return%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river)

 Sign in with AOL ([https://signup.al.com/sign-in/?option=AOL&return to=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river](https://signup.al.com/sign-in/?option=AOL&return%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river))

 Sign in with Twitter

[https://signup.al.com/sign-in/?option=Twitter&return to=http%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river](https://signup.al.com/sign-in/?option=Twitter&return%3A%2F%2Fwww.al.com%2Fnews%2Fbirmingham%2Findex.ssf%2F2015%2F04%2Fvestavia_hills_fire_department_3.html%23incart_river)

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- [Press-Register \(https://member.al.com/dssSubscribe.aspx?siteCode=RG&pid=22\)](https://member.al.com/dssSubscribe.aspx?siteCode=RG&pid=22)
- [Email newsletters \(http://www.al.com/newsletters\)](http://www.al.com/newsletters)
- [Text alerts \(http://www.al.com/alerts\)](http://www.al.com/alerts)

Birmingham
Change Region

Vestavia Hills Fire Department awarded grant to help battle wildfires

Warrior

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date: Friday, December 18, 2015

Name of Jurisdiction: WARRIOR

Answer Key:
Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	N
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	N
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

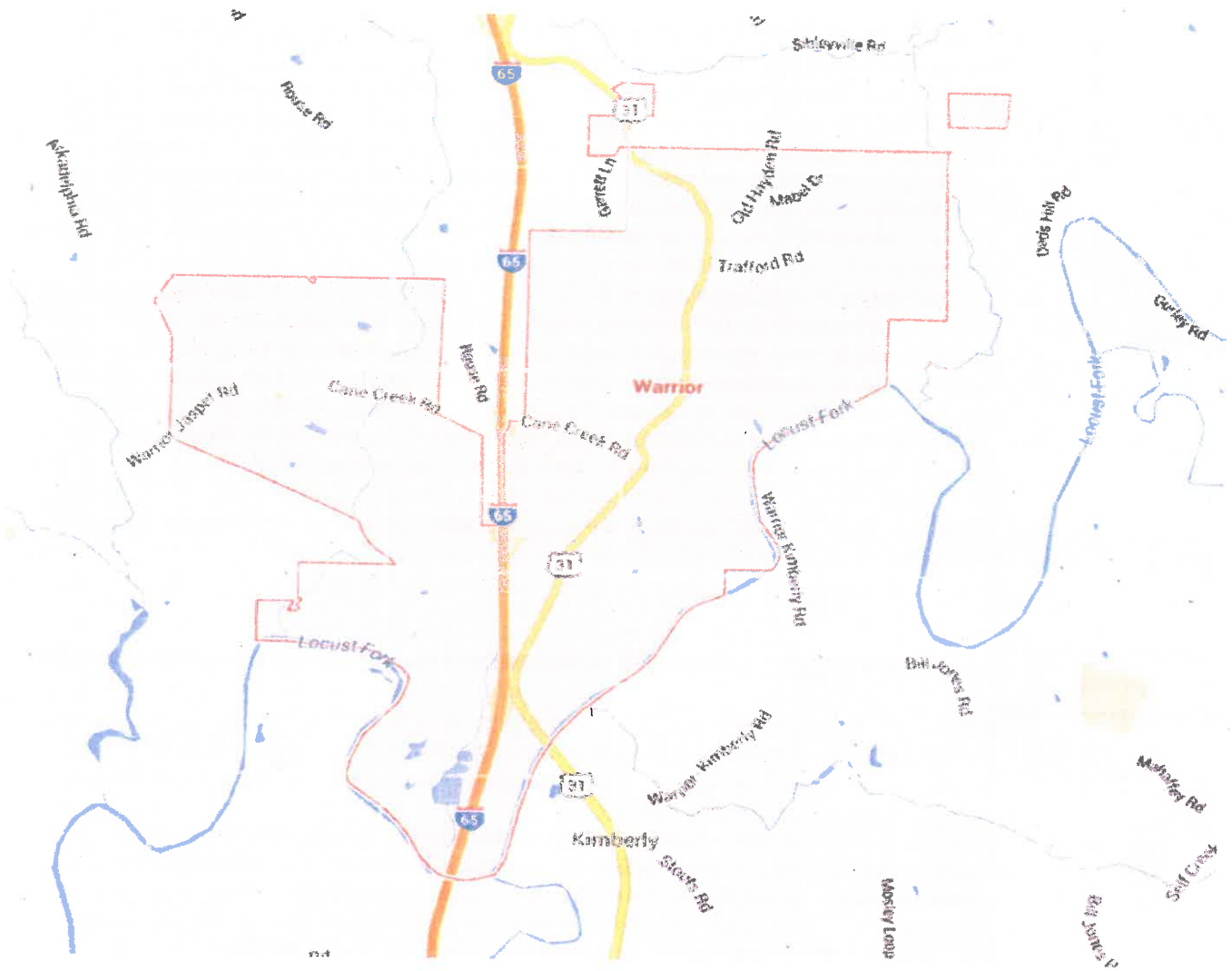
Place	Warrior
County	Jefferson County
City or town	city
2010 census	3,176
2011	3,186
2012	3,207
2013	3,200
2014	3,190
Change since 2010 census	0.4%

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◀◀ Record 35 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



Warrior is a city in Jefferson and Blount counties in the State of Alabama. At the 2010 census the population was 3,176. It is a northern suburb of Birmingham.

Flooding

Tornadoes	<ul style="list-style-type: none"> • May 6, 2009; F1 tornado, The tornado briefly touched down in the Albritton Road and Sparks Drive area near Warrior. Several large hardwood trees were uprooted, and several pines were snapped. Some of the trees fell onto and caused damage to houses. Several other homes in the area lost roof shingles. • April 27, 2011; Mountain Woods Lake (Jefferson and Blount Counties) EF-2 Tornado; National Weather Service meteorologists surveyed damage across far northeast Jefferson County and southern Blount County. It has been determined that the damage was consistent with a tornado. Winds were estimated at 135 mph. A tornado developed along a Quasi-Linear Convective System. It touched down in far northern Jefferson County, northeast of Warrior, and tracked northeastward into Blount County and across the western bank of Mountain Woods Lake before it lifted northeast of Sagefield Rd. The damage along the Jefferson County portion of the track was consistent with an EF1 rating with winds of 95 mph. The tornado touched down east of Old Hayden Rd, and tracked northeast where it downed dozens of trees along Mabel Dr. This resulted in damage to several homes. The tornado moved into Blount County near Sibleyville Rd. As the tornado moved into Blount County near Sibleyville Rd, it intensified to an EF2 rating with winds of 135 mph. An outbuilding was destroyed and many trees downed near the county line. The tornado continued northeast, before it made a slight eastward turn and moved along the western edge of Mountain Woods Lake. Along the lake, twenty to twenty-five homes were damaged with at least 3 homes destroyed. Three injuries occurred while a family was sheltered in their home, which was destroyed. In addition, multiple boat docks and garages were damaged or destroyed. Along the portion of the path in Blount County, hundreds of trees were snapped or uprooted.
Severe Storms	<ul style="list-style-type: none"> • Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee
Winter Storms	<ul style="list-style-type: none"> • March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service. • Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth. • Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service. • Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.
Wildfires	
Hurricanes	Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson
Droughts/Heat Waves	July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.
Landslides	
Sinkholes	
Earthquakes	Warrior, AL has a low earthquake risk, with a total of 23 earthquakes since 1931. The USGS database shows that there is a 2.51% chance of a major earthquake within 50km of Warrior, AL within the next 50 years. The largest earthquake within 30 miles of Warrior, AL was a 3.5 Magnitude in 1975.
Dam/Levee Failure	

City of Warrior

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Storm Shelter

Posted by City of Warrior on February 14, 2015 at 6:33pm



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282 exit Warrior Robbins Exit

Posted by City of Warrior on February 12, 2015 at 10:15am



West Jefferson

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date:

12/2/15

Name of Jurisdiction:

Town of West Jefferson

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	N
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	N
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	N (?)
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	N
8.	Professional Urban Planner on Staff?	N
9.	Professional Engineer on Staff?	N
10.	Certified Floodplain Manager on Staff?	N
11.	Full-Time Building Inspector on Staff?	N (on As Need basis)
12.	Regular Member of the NFIP?	N

(Class Number or N/A)

Community Rating System Program Class?

N/A

Additional Information Needed for Completion of the Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update:

1. Please list the date of occurrence, geographic location, extent (i.e., strength or magnitude – such as “F-1 Tornado,” “5 inches of rain resulting in flooding,” “5- consecutive days of below freezing temps,” etc.), and impact (i.e., dollar value of losses or number of lives lost, etc.) for the following natural hazards which have affected your jurisdiction since 2009:
 - Flooding NONE
 - Tornadoes
 - Severe Storms (which may include thunderstorms, hail, lightning, high winds, HAIL 2013, 2015 tornadoes, floods)
 - Winter Storms (which may include extreme cold, snow, ice) ICE/SNOW 2014?
 - Wildfires NONE IN TOWN LIMITS
 - Droughts/Heatwaves N/A
 - Landslides N/A
 - Sinkholes N/A
 - Earthquakes N/A
 - Dam Failure N/A
 - Hurricanes N/A
2. Please describe your jurisdiction's greatest vulnerabilities (i.e., structures, systems, populations, capabilities or activities that have a value to the community, etc.) that can/will be addressed by your mitigation strategy/actions. 2 WATER TANKS, WATER & GAS LINES, ELEMENTARY SCHOOL, TOWN HALL & TWO CHURCHES
3. Are there National Flood Insurance Program (NFIP) structures in your jurisdiction that have been repetitively damaged by floods? Please describe the types (residential, commercial, institutional, etc.) and estimate the numbers of repetitive loss properties located in identified flood hazard areas. (Repetitive loss properties are those for which two or more losses of at least \$1000 each have been paid under NFIP within a 10-year period since 1978.) NO
4. Please list what your jurisdiction deems critical facilities and their locations. A critical facility is defined by FEMA as “structures and institutions necessary for a community's response to and recovery from emergencies.” LOCAL VOLUNTEER FIRE DEPARTMENT, TOWN HALL
~~AND UTILITIES WORKERS~~
~~COUNTY EMA~~

Wayne Hughes

Davis, Annette

From: Town of West Jefferson <wjtownclerk@hotmail.com>
Sent: Wednesday, December 02, 2015 10:00 AM
To: Davis, Annette
Subject: RE: Good Morning

Fire Dept. 7076 West Jefferson Rd. Quinton, AL 35130
Town Hall-7000 West Jefferson Rd. Quinton, AL 35130

Ruthie Sexton
Clerk, Town of West Jefferson
wjtownclerk@hotmail.com
205.674.3219

From: davisa@jccal.org
To: wjtownclerk@hotmail.com
Subject: RE: Good Morning
Date: Wed, 2 Dec 2015 15:56:31 +0000

Received. Will you please send me the addresses of the volunteer fire dept. and the Town Hall? Thanks!

From: Town of West Jefferson [mailto:wjtownclerk@hotmail.com]
Sent: Wednesday, December 02, 2015 9:09 AM
To: Davis, Annette <davisa@jccal.org>; Town of West Jefferson <wjtownclerk@hotmail.com>
Subject: Good Morning

Please let me know that you have received. Thanks

Ruthie Sexton
Clerk, Town of West Jefferson
wjtownclerk@hotmail.com
205.674.3219

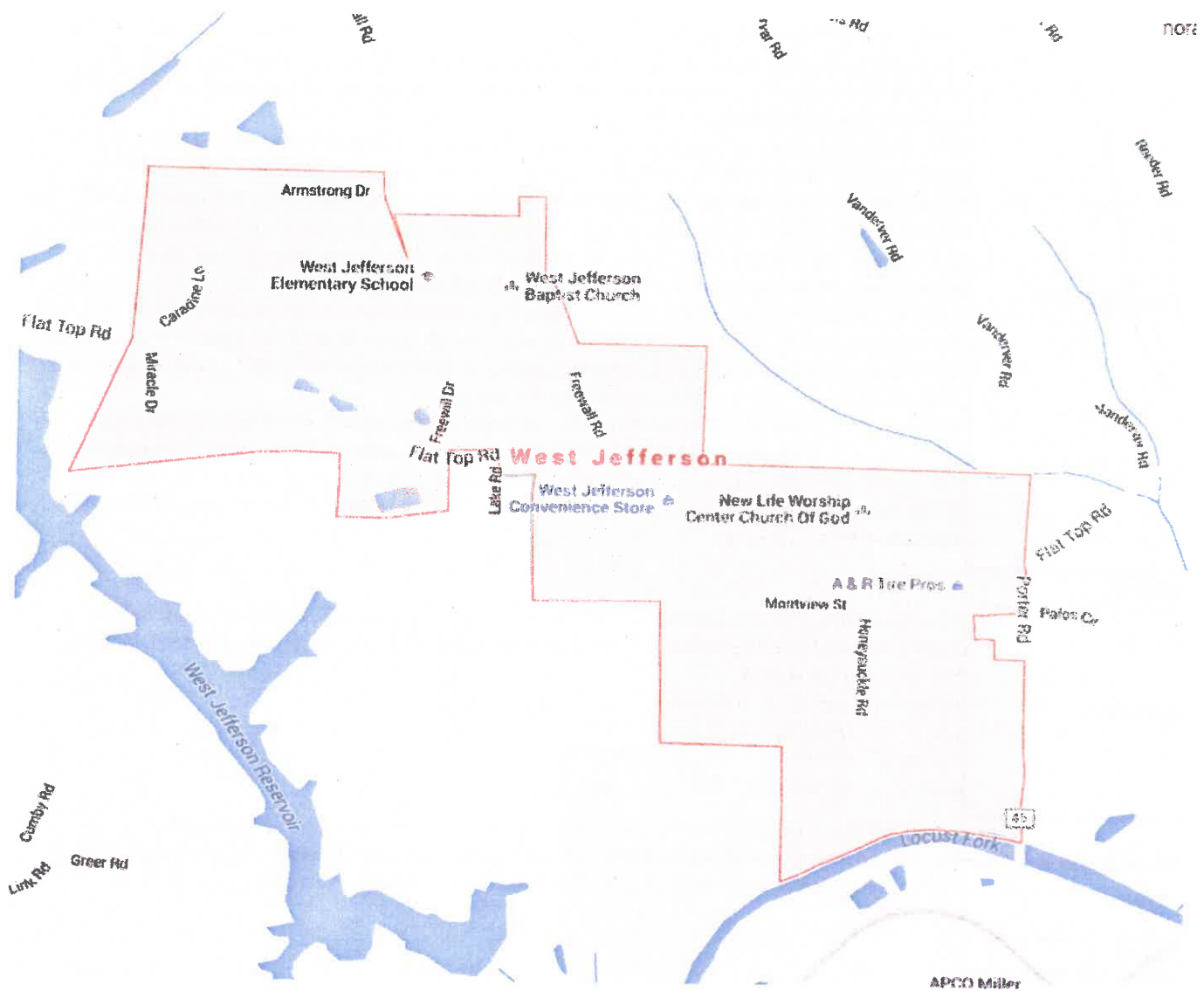
Place	West Jefferson
County	Jefferson County
City or town	town
2010 census	338
2011	339
2012	338
2013	338
2014	338
Change since 2010 census	0.0%

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◀◀ Record 36 of 37 ▶▶

Online Database by Caspio

Source: U.S. Census Bureau



West Jefferson is a town in Jefferson County, Alabama, United States. At the 2010 census the population was 338.

Flooding

Tornadoes

Severe Storms

- Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee

Winter Storms	<ul style="list-style-type: none">• March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.• Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.• Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.• Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
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Sinkholes																	
Earthquakes	<p>Jefferson County, AL has a low earthquake risk, with a total of 11 earthquakes since 1931. The USGS database shows that there is a 2.85% chance of a major earthquake within 50km of Jefferson County, AL within the next 50 years. The largest earthquake within 30 miles of Jefferson County, AL was a 4.8 Magnitude in 1999.</p> <ul style="list-style-type: none">• 6/22/2013 - 2.6 mag, 0.0mi depth6.608 mi from West Jefferson, AL• 3/23/2007 - 2.6 mag, 5.0mi depth0 mi from West Jefferson, AL• 7/11/2006 - 2.8 mag, 1.0mi depth5 mi from West Jefferson, AL																
Dam/Levee Failure																	

Jefferson County

JEFFERSON COUNTY - COMMUNITY CAPABILITIES ASSESSMENT

Date:

12/14/15

Name of Jurisdiction:

Jefferson County (Unincorporated)

Answer Key:

Y = Yes / N = No

1.	Adopted 2009 Hazard Mitigation Plan?	Y
2.	Enforce Zoning Ordinances?	Y
3.	Administer Subdivision Regulations?	Y
4.	Enforce Building & Technical Codes?	Y
5.	Up-to-Date Comprehensive Plan Adopted in the Last 5 Years?	Y
6.	5-6 Year Capital Improvements Plan Updated Annually?	Y
7.	Experience with FEMA Grant Programs for Hazard Mitigation Projects?	Y
8.	Professional Urban Planner on Staff?	Y
9.	Professional Engineer on Staff?	Y
10.	Certified Floodplain Manager on Staff?	Y
11.	Full-Time Building Inspector on Staff?	Y
12.	Regular Member of the NFIP?	Y

(Class Number or N/A)

Community Rating System Program Class?	N/A
--	-----

Place	Unincorporated Jefferson County
County	Jefferson County
City or town	N/A
2010 census	108,192
2011	108,022
2012	107,889
2013	107,778
2014	107,900
Change since 2010 census	-0.3%

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◀◀ Record 37 of 37

Online Database by Caspio

Source: U.S. Census Bureau



Jefferson County is the most populous county in the State of Alabama. As of the 2010 census, the population was 658,466, making it the most populous county in Alabama.

Flooding

Tornadoes

- April 27, 2011 ; EF-4 Tornado ; National Weather Service meteorologists have surveyed the massive damage associated with this long track violent tornado, by ground and air. The tornado crossed CR 99 and moved into western Jefferson County, 4 miles north of Abernant. In the Concord area, the tornado became violent once again with total destruction noted to a few small retail shops along County Road 46. Only piles of debris were left on the foundation. In addition, several cinder block homes were completely destroyed with debris swept away (EF-4). Numerous other homes in the area were destroyed with only a few interior walls left standing. The tornado continued northeastward out of the Concord area and into the Pleasant Grove community.

- January 23rd, 2012; Oak Grove EF-2 Tornado; National Weather Service meteorologists have surveyed the damage just east of the Black Warrior River near the Tuscaloosa and Jefferson County line. The damage was the result of an EF-2 tornado. The tornado touched down 1 mile west of Groundhog Road. The tornado then moved northeast across Lock 17 Road, Camp Oliver Road, and Toadvine Road. The tornado lifted along Toadvine Road just southwest of Short Creek. Numerous trees were snapped and uprooted along the damage path. One fatality occurred along Toadvine Road where a mobile home was totally destroyed. Several other structures received varying degrees of damage along the path.

Severe Storms	<ul style="list-style-type: none">Sept. 5, 2011; Tropical Storm Lee; Heavy rainfall across the Birmingham area caused by Tropical Storm Lee																
Winter Storms	<ul style="list-style-type: none">March 1, 2009; Parts of Alabama including Birmingham and to the south saw three to five inches of snow on March 1, 2009, and much of the state saw at least a little bit. The good news was temperatures rose quickly after the snowfall, hitting the low 40s by the middle of the day, and the snow soon started to melt, according to the National Weather Service.Jan. 28, 2014; a winter storm dumps snow in central and southern Alabama In the Birmingham area, snow totals reached maybe two inches on the ground. But the suddenness of it -- the snow and ice weren't expected to hit Birmingham that day -- and the ice that formed caused headaches on highways and left people stranded at work, school and shelters. Motorists remain stranded on metro Birmingham roadways past midnight, and first responders in Hoover, Leeds and other cities were tending first to emergency medical calls, and then to guide those stranded to safety and warmth.Feb. 12-13, 2014; that storm brought two systems of snowfall through the area, dumping a lot of snow that didn't cause near the problems the first storm of the winter did. In downtown Birmingham, there was about two to four inches of snowfall, with about five inches north of the city and up to seven inches in higher parts of Blount County, according to the National Weather Service.Feb. 24, 2015; Winter Storm Remus dumped a messy mix of snow, rain, sleet and freezing rain across a long swath from Texas to the Mid-Atlantic States, including Texas, Arkansas, Louisiana, Mississippi, Alabama, Georgia, the Carolinas, Virginia, Maryland and Delaware. Snow totals in Birmingham could be around two inches, though snow arrived late in the Magic City. In some places, like Marion and Winston counties, snow totals are approaching a foot.																
Wildfires	<ul style="list-style-type: none">June 6, 2011, The Alabama Forestry Commission is responding to a fire near Johns Road and Blue Creek Road in the Adger community. At the last check, the fire had burned more than 75 acres, expect the fire to grow up to 100 acres, no homes are in danger.																
Hurricanes	<p>Jefferson County, AL is in a high risk hurricane zone. 31 hurricanes have been recorded in the Jefferson County, AL since 1930. The largest hurricane was Unnamed in 1898. The most recent Jefferson County, AL hurricane was Lee in 2011.</p> <table><tr><td>Name</td><td>Landfall</td><td>Max Status</td><td>Max Wind (Knots)</td></tr><tr><td>Lee</td><td>9/4/2011</td><td>SS</td><td>50</td></tr><tr><td>Claudette</td><td>8/17/2009</td><td>TS</td><td>50</td></tr><tr><td>Fay</td><td>8/23/2008</td><td>TS</td><td>60</td></tr></table>	Name	Landfall	Max Status	Max Wind (Knots)	Lee	9/4/2011	SS	50	Claudette	8/17/2009	TS	50	Fay	8/23/2008	TS	60
Name	Landfall	Max Status	Max Wind (Knots)														
Lee	9/4/2011	SS	50														
Claudette	8/17/2009	TS	50														
Fay	8/23/2008	TS	60														
Droughts/Heat Waves	<p>July 27, 2012; as searing summer heat continues and rainfall in the Birmingham area remains below normal levels, more than half of Jefferson County on Thursday was categorized as being in severe drought. The U.S. Drought Monitor report last week listed all of Jefferson County as being in a moderate drought.</p>																
Landslides																	
Sinkholes																	
Earthquakes	<p>Jefferson County, AL has a low earthquake risk, with a total of 11 earthquakes since 1931. The USGS database shows that there is a 2.85% chance of a major earthquake within 50km of Jefferson County, AL within the next 50 years. The largest earthquake within 30 miles of Jefferson County, AL was a 4.8 Magnitude in 1999.</p>																
Dam/Levee Failure																	
Gravity Wave	<ul style="list-style-type: none">April 13, 2009; the strong winds which swept through the Birmingham area downing trees and power lines late last night and early this morning were produced by a phenomenon known as a gravity wave.January 11, 2013; BIRMINGHAM, Alabama -- If you experienced high winds last night, perhaps some downed trees or property damage, you can blame those events on a weather phenomenon called a gravity wave.																

Davis, Annette

From: Coker, James [cokerj@jccal.org]
Sent: Wednesday, March 11, 2015 6:01 AM
To: Davis, Annette
Subject: Tweet from EMAJeffersonCoAL (@EMAJeffCoAL)



EMAJeffersonCoAL (@EMAJeffCoAL)

[3/11/15, 05:47](#)

Thanks to the Concord Neighborhood Association; great meeting last night. We discussed the hazard mitigation plan for JeffCo.

Download the official Twitter app [here](#)



Search Twitter



EMAJeffersonCoAL

@EMAJeffCoAL



Following

Greater Alabama Council, Boy Scouts
Executive Board tonight. The BSA motto:
Be Prepared!



RETWEET

1

FAVORITES

3



4:46 PM - 12 Mar 2015



Reply to @EMAJeffCoAL

APPENDIX C

Presidential Declarations in Jefferson County Since 2009 and Mitigation Projects

Disaster Number	Disaster Type	Date	Declaration Type
1971	Severe Storms, Tornadoes, Straight-line Winds and Flooding	4/28/2011	IA, PA
4052	Severe Storms, Tornadoes, Straight-line Winds and Flooding	2/1/21012	IA
4176	Severe Storms, Tornadoes, Straight-line Winds and Flooding	5/2/2014	IA, PA

This list includes approved grants (not completion status)

Jefferson County 1971 Projects-

1971-429 Fultondale CSR
1971-430 Fultondale CSR
1971-615 Warrior CSR
1971-701 Midfield CSR
1971-423 Springville ISR (5)
1971-606 Pleasant Grove CSR
1971-360 Hoover CSR

Jefferson County Commission

1971-576 ISR, 1971-624 Concord CSR, 1971-621 North Smithfield CSR, 1971-620 Oak Grove CSR
1971-733 Planning Grant

Jefferson County EMA

Individual Safe Rooms (19 grants)
1971-192 (25), 432 (23), 427 (25), 179 (24), 219 (25), 553 (25), 155 (23), 209 (24), 588 (20), 320 (25), 203 (24), 470 (4), 572 (14), 565 (16), 445 (16), 576 (17), 381 (7), 423 (23), 160 (25)

1971-720 Warning Devices (103)
1971-687 Sirens (40)

Jefferson County Environmental Services

1971-269 (4) Generators
1971-415 (5) Generators

Birmingham (4) CSRs

1971-608 Pratt City CSR, 1971-600 CSR, 1971-610, CSR, 1971-611 Smithfield Estate Park CSR

DR 4052

4052-0001 Birmingham CSR

PDM 2013

2013-5 Howze Sanford Park CSR

FMA 2014

2014-1 Hoover Floodplain Management Plan (City withdrew this project)
2014-3 Vestavia Hills Floodplain Management Plan

LPDM 2010

2010-3 Graysville CSR

APPENDIX D



**JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY**
709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

CITIZEN INPUT FOR HAZARD MITIGATION PLANNING

In which city or township do you live? (Please include zip code)	
--	--

Which of these emergency events has affected your home or neighborhood during the past five years? Which of these events are you concerned about in the next year?

	EVENT	Past 5 years		Next year	
		YES	NO	YES	NO
A	Flooding				
B	Tornadoes				
C	Severe Storms (Thunderstorms, Hail, Lightning, High Winds, Tornadoes, Floods)				
D	Winter Storms (Extreme Cold, Snow, Ice)				
E	Wildfires				
F	Hurricanes				
G	Droughts/Heat Waves				
H	Landslides				
I	Sinkholes				
J	Earthquakes				
K	Dam/Levee failure				

Did you have to leave your home because of any of these events?

If so, which ones? List by letter designation: _____

Did you lose time from work or school because of any of these events?

If so, which ones? List by letter designation: _____

Of the concerns listed in question above, please list the ones that you think are most likely to happen. List in priority by letter designation: _____

Of the concerns that you think are most likely to happen, which one do you think would affect most of the population of Jefferson County? _____

Do you own a NOAA weather radio? YES _____ NO _____

Is it programmed to receive alerts? YES _____ NO _____

Can you receive emergency warning information on your cell phone or other wireless messaging devices?
 YES _____ NO _____

Do you have a family emergency plan in the event of a disaster? YES _____ NO _____

Do you have a disaster supply kit in the event of a disaster? YES _____ NO _____

Do you have a safe place for shelter in or around your home? YES _____ NO _____

Natural hazards can have a significant impact on a community, but hazard mitigation actions can help lessen the impacts. The following statements will help determine citizen priorities regarding planning for natural hazards in Jefferson County.

Possible Hazard Mitigation actions

	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
Protect critical facilities (transportation networks, hospitals, fire stations, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce development in hazard areas (floodplain, landslide areas, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Adopt and enforce building codes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conduct regular cleaning and repairing of storm water drains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increase dimensions of drainage culverts in flood-prone areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Encourage construction of emergency safe rooms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distribute preparedness information to community and schools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Educate property owners on wildfire mitigation techniques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Require water conservation during drought conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate the importance of the following community assets to you.

Community Assets

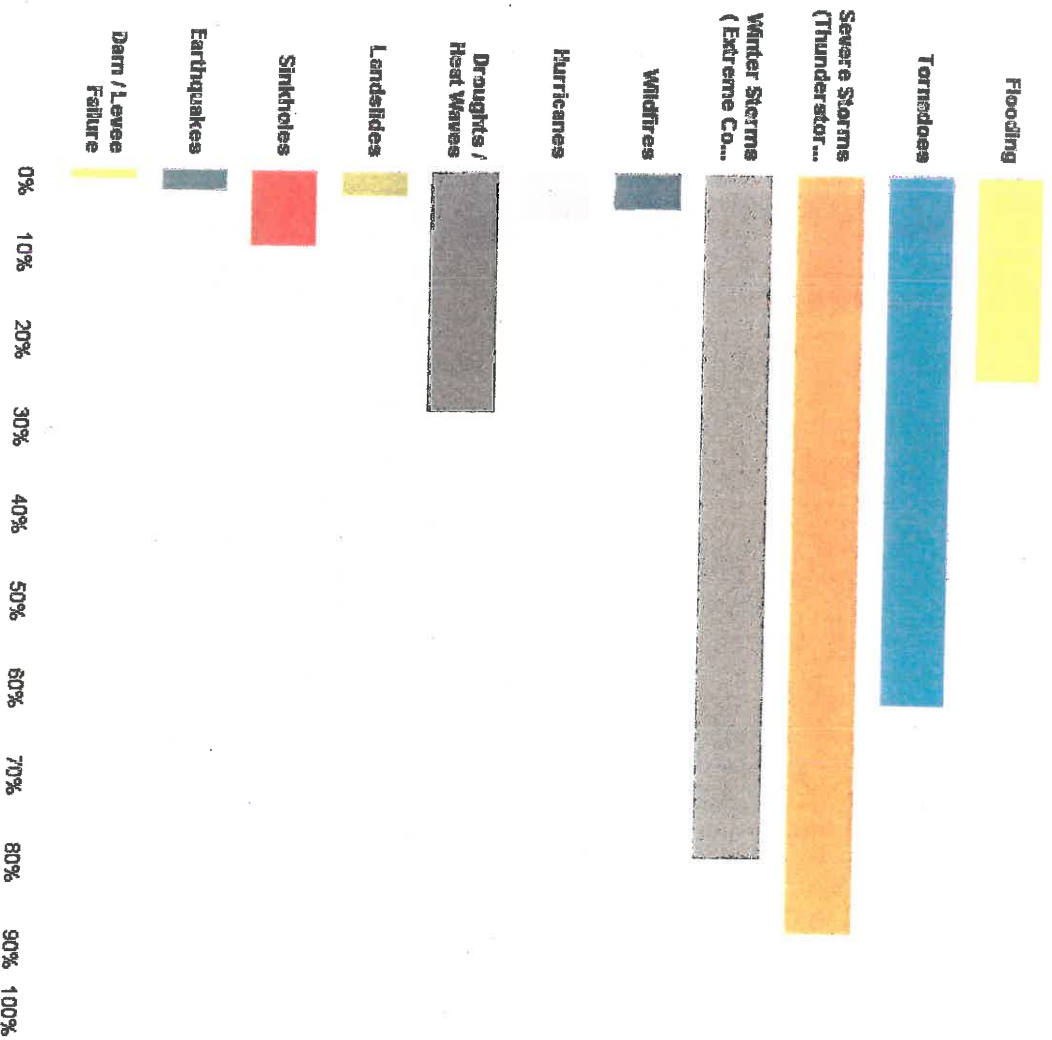
	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important
City Hall/Courthouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Major Roads and Bridges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospitals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Police/Fire Stations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Schools (K-12)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Elder-care facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Major Employers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Colleges/Universities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Museums/Historic Buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Questions: **Annette Davis – Emergency Management Officer**
Phone: 205-254-2039 Email: emainfo@jccal.org

APPENDIX E

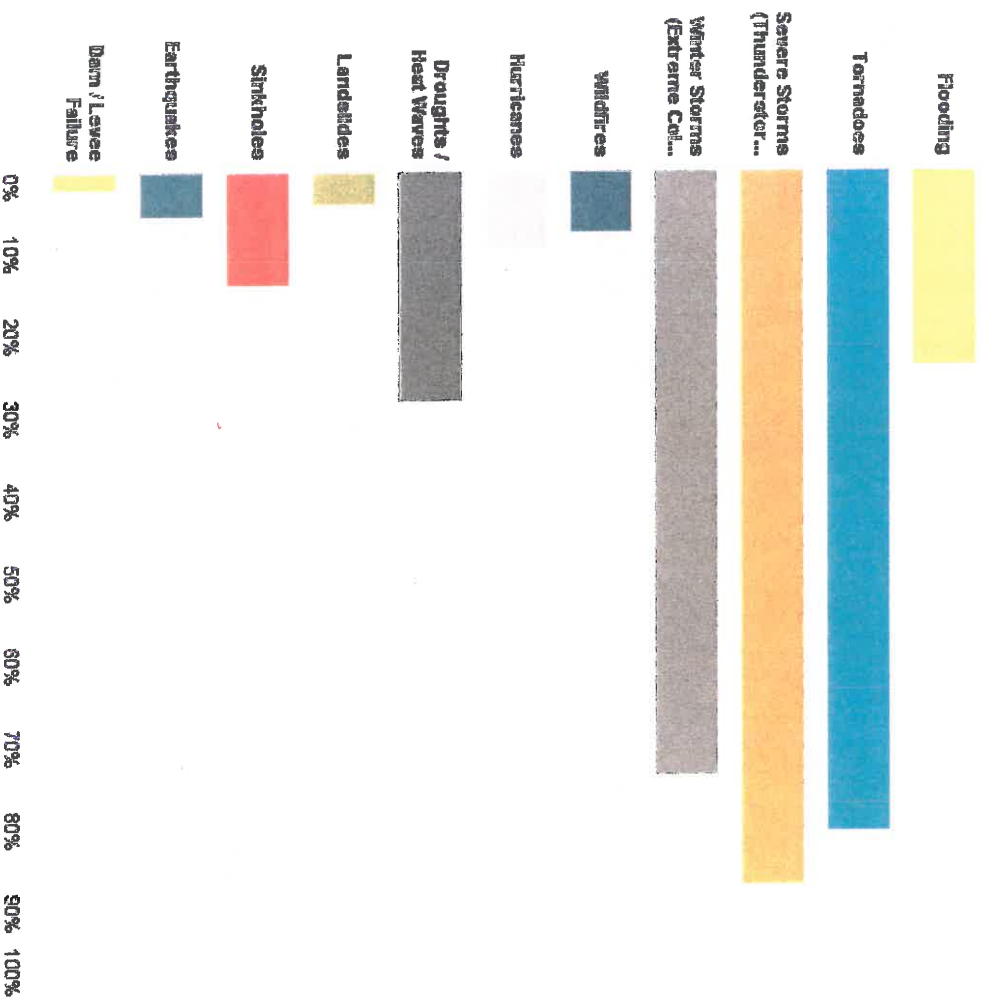
Q2 Which of these emergency events has affected your home or neighborhood during the past five years?

Answer to 1,249 Skip to 130



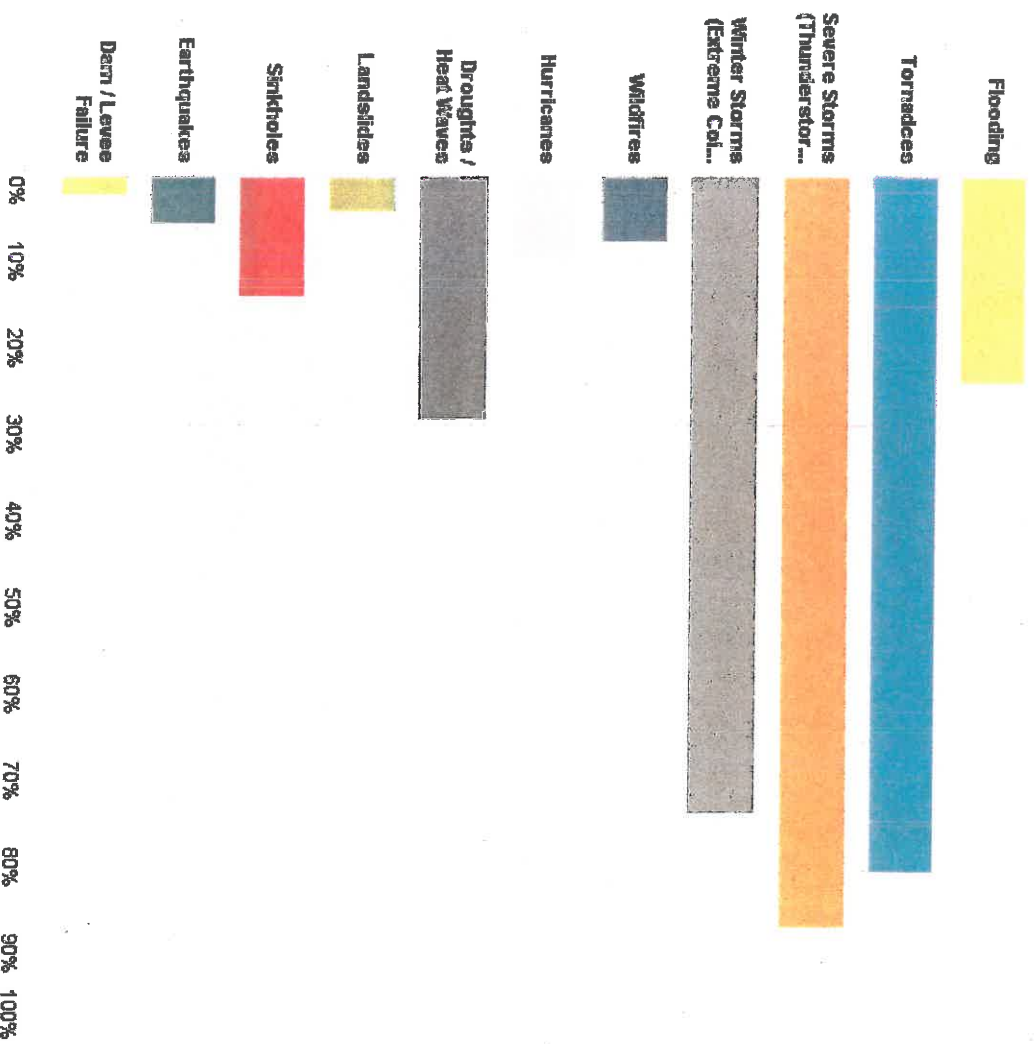
**Q3 Which of these events are you
concerned about reoccurring in the next
year?**

Answered: 874 Skipped: 465



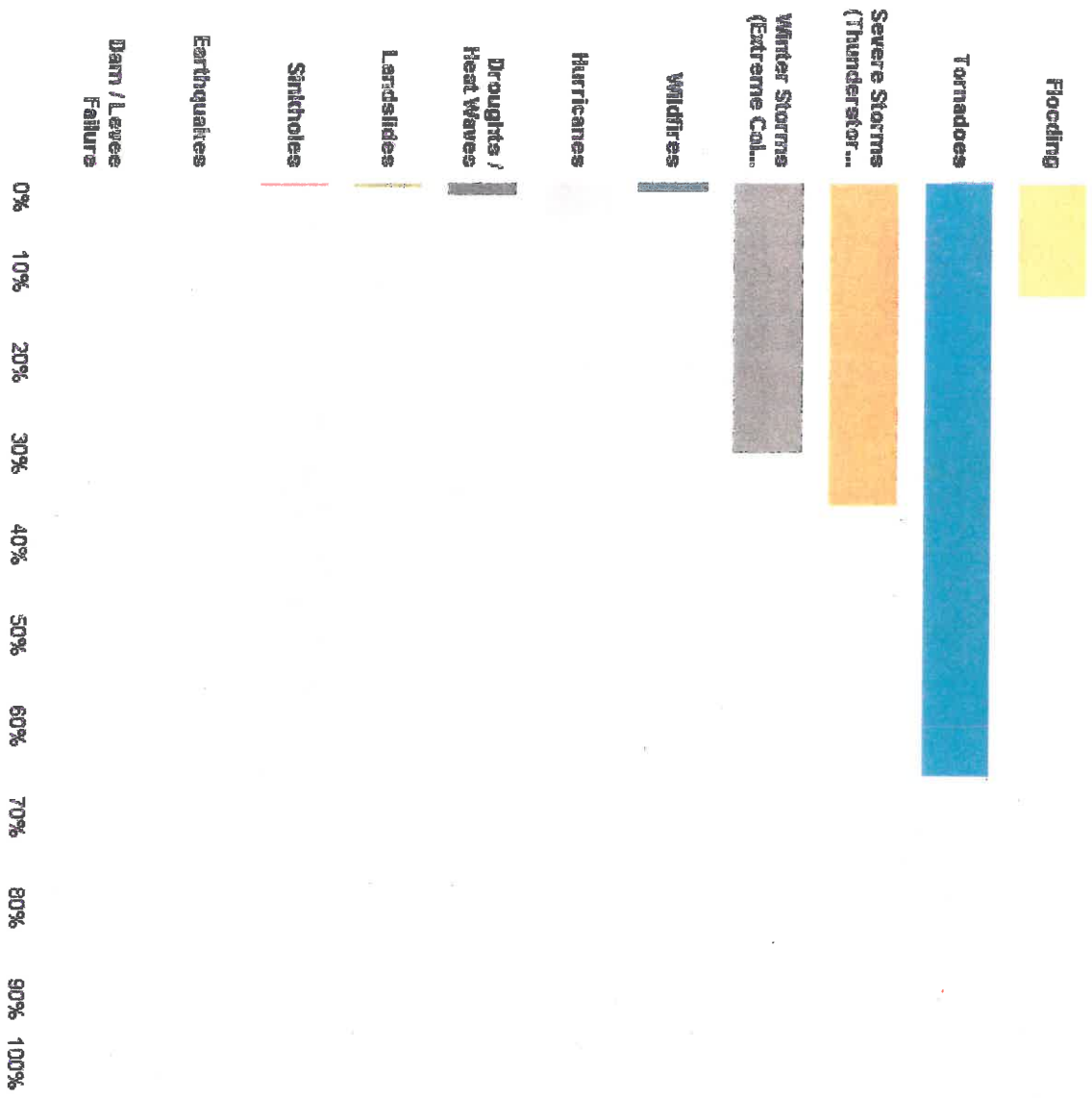
**Q3 Which of these events are you
concerned about reoccurring in the next
year?**

Answered: 974 Skipped: 485



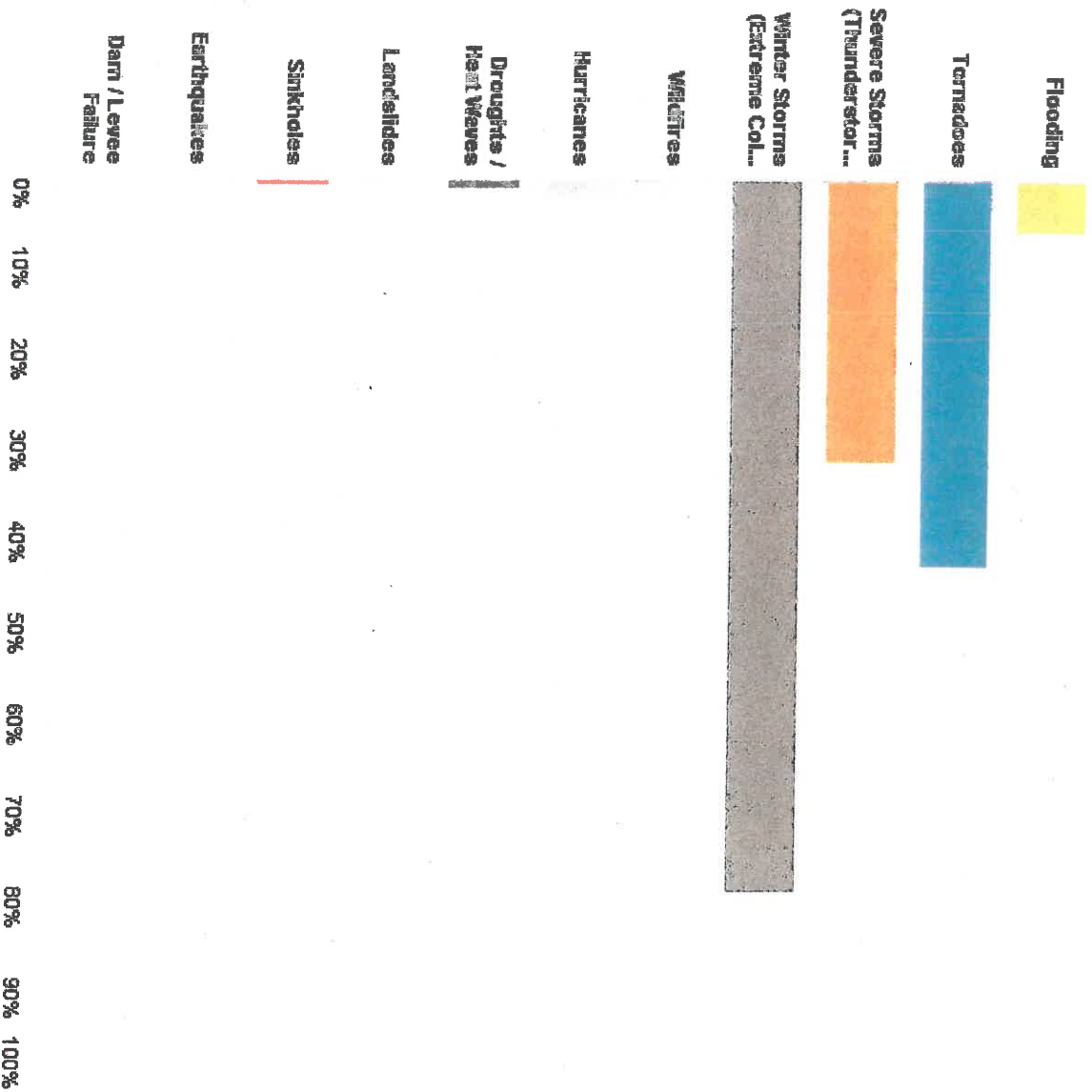
Q4 Did you have to leave your home because of any of these events?

Answered: 293 Skipped: 1,145



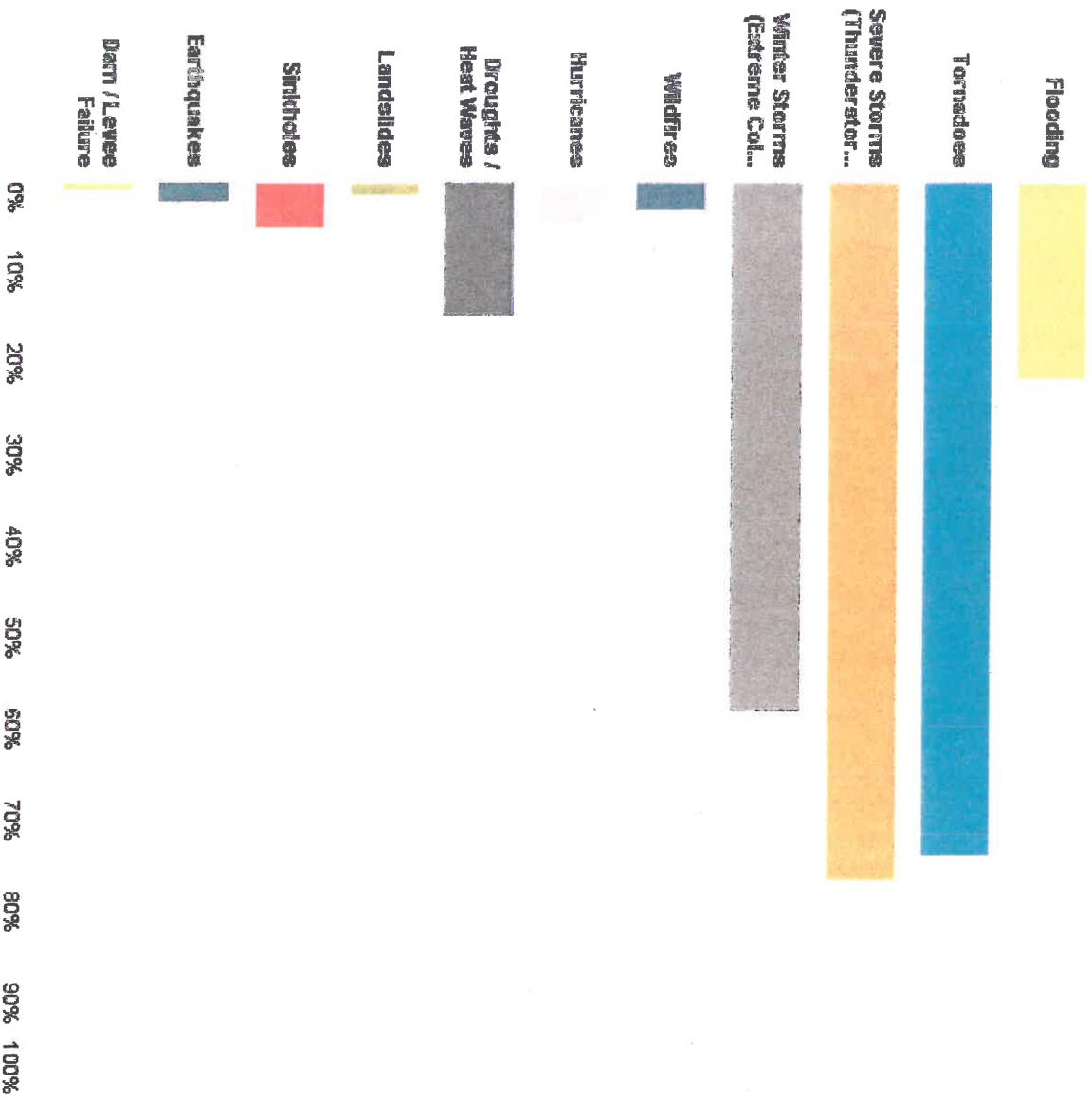
Q5 Did you lose time from work or school because of any of these events?

Answered: 533 Skipped: 809



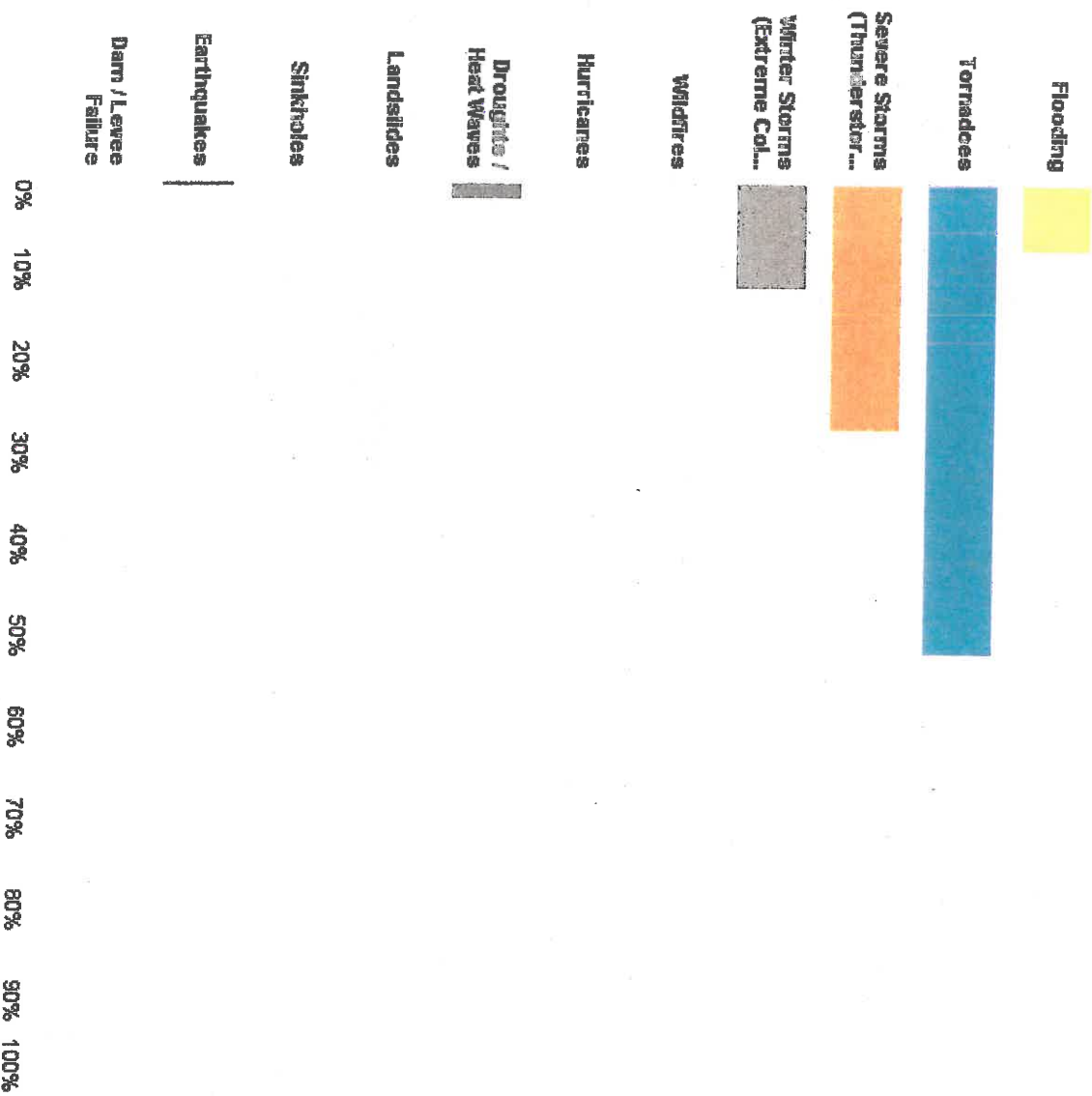
Q6 Of the events listed in question 4 and 5, which events do you think are most likely to happen again?

Answered: 1,221 Skipped: 10



Q7 Of the events that you think are most likely to happen again, which one do you think would affect most of the population of Jefferson County?

Answered: 1,234 Skipped: 197



Q8 Do you own a NOAA weather radio?

Answered: 1,053 Skipped: 56

Yes



No



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Q9 Is your weather radio programmed to receive alerts?

Answered: 819 Skipped: 710

Yes



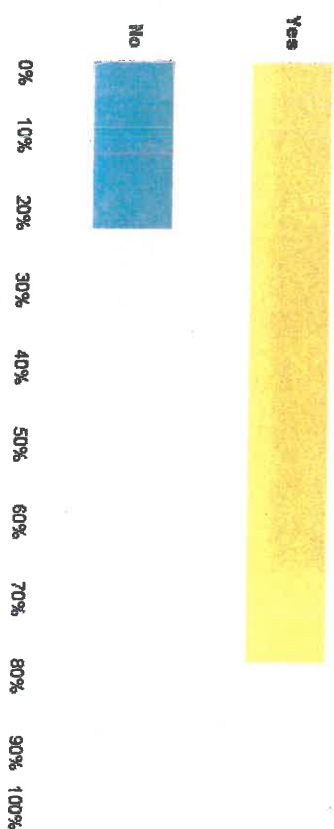
No



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

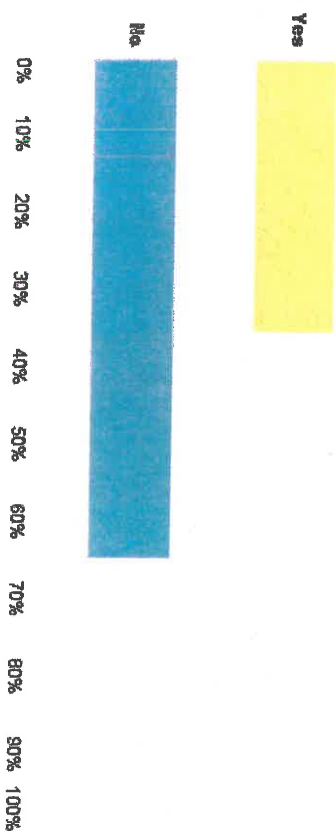
Q10 Can you receive emergency warning information on your cell phone or other wireless messaging devices?

Answered: 1,287 Skipped: 112



Q11 Are you currently signed up for Jefferson County Citizen Alert Notification System?

Answered: 270 Skipped: 1,168



Q12 Do you have a family emergency plan in the event of a disaster?

Answered: 1,302 Skipped: 137

Yes



No



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Q13 Do you have a disaster supply kit in the event of a disaster?

Answered: 1,310 Skipped: 129

Yes



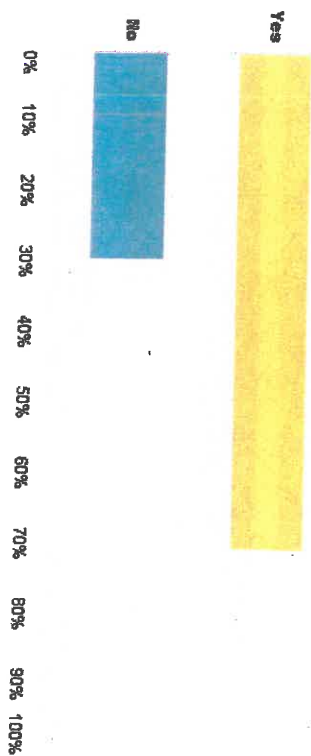
No



0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

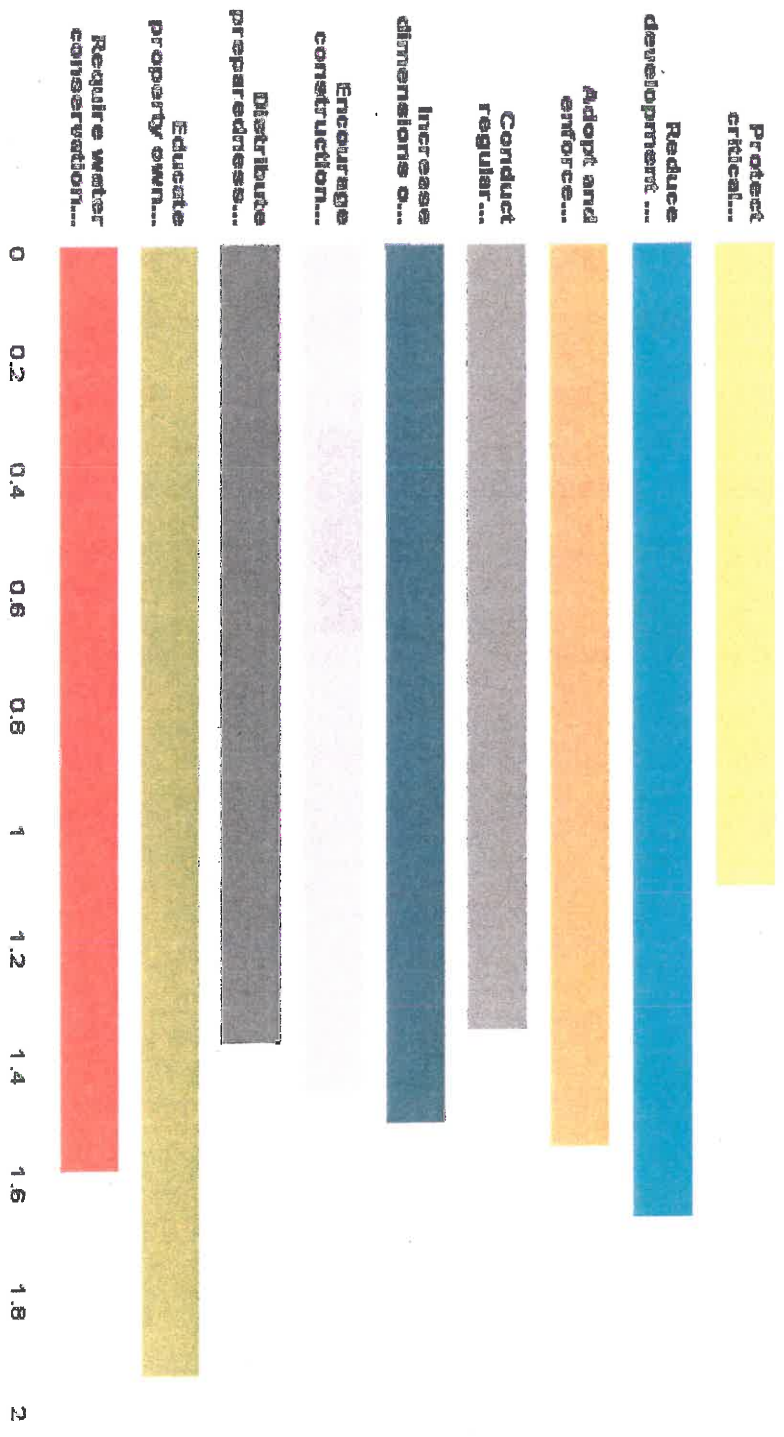
Q14 Do you have a Safe Place for shelter in or around your home?

Answered: 1,104 Skipped: 135



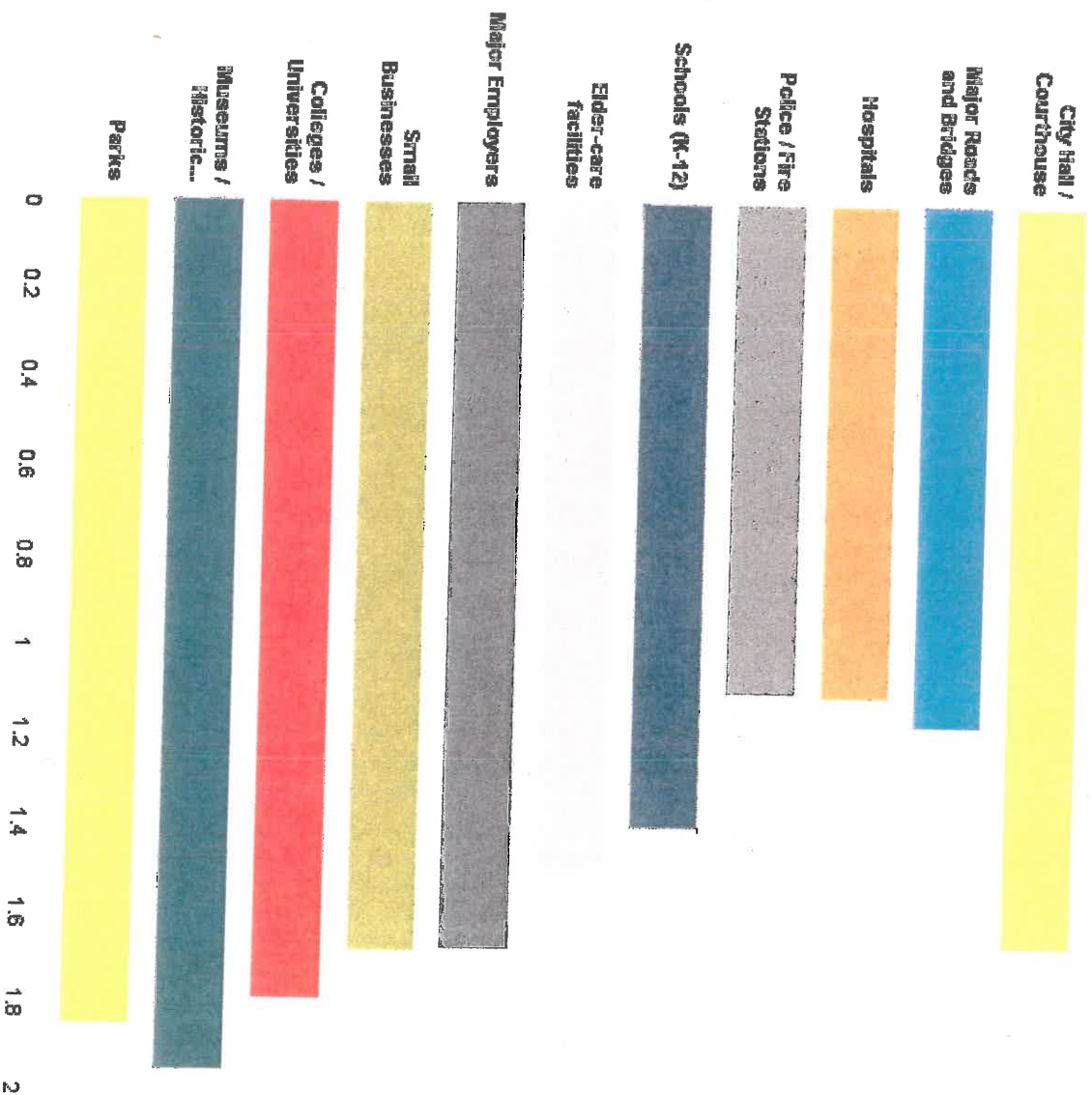
Q15 Natural hazards can have a significant impact on a community, but hazard mitigation actions can help lessen the impacts. The following statements will help determine citizen priorities regarding planning for natural hazards in Jefferson County.

Surveyed: 1,271 Responded: 1,078



Q16 Please indicate the importance of the following community assets to you

Answered: 127 Skipped: 167



Citizen Input Survey Breakdown from SurveyMonkey

Location	Total
Adamsville	53
Bessemer	18
Birmingham	321
Brighton	18
Brookside	23
Cardiff	0
Center Point	69
Clay	11
County Line	21
Fairfield	21
Fultondale	31
Gardendale	40
Graysville	28
Homewood	32
Hoover	26
Hueytown	106
Irondale	166
Kimberly	33
Leeds	7
Lipscomb	18
Maytown	51
Midfield	5
Morris	11
Mountain Brook	16
Mulga	51
North Johns	0
Pinson	11
Pleasant Grove	18
Sylvan Springs	51
Tarrant	31
Trafford	31
Trussville	102
Vestavia Hills	13
Warrior	32
West Jefferson	20
Unincorporated JC	16
TOTAL	1501

Citizen Input Survey Breakdown from Contiguous Counties (SurveyMonkey)

Location	Total
Shelby County	23
Walker County	5
Blount County	2
St. Clair County	4
TOTAL	34

APPENDIX F

Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Development Timeline

- 06/21/2004 – First Jefferson County, Alabama Hazard Mitigation Plan (developed by Lehe Planning) approved by FEMA on June 21, 2004 and adopted by JC Commission. Five year update due by 6/20/2009.
- 2006 – JCEMA applies to AEMA for planning grant funds.
- 2008 – JCEMA amends the application to AEMA to include funds to complete the 2009 HMP Update.
- 9/2008 – AEMA awards JCEMA \$242,700 through FEMA's Hazard Mitigation Grant Program to update the 2004 HMP.
- 6/2009 – JC Hazard Mitigation Planning Committee convened to begin the update of the 2004 HMP due to expire on 6/20/2009. Lehe Planning coordinating.
- 12/03/2009 - FEMA approves Jefferson County 2009 HMP Update. Using a 5-year update requirement, update due by 12/2/2014.
- 12/05/2009 – JC 2009 HMP adopted by the City of Tarrant as an "interim plan" to maintain eligibility for HMGP funding (while a full plan update is worked on).
- 11/11/2011 – Full update of the 2009 HMP completed (2011 amendment).
- 11/21/2011 – Resolution signed by JC HMPC Chair, Allen Kniphfer, adopting the JC 2009 Hazard Mitigation Plan amended 2011.

2014 HMP Update Timetable:

- **1/31/14** – Contract entered into between JCEMA and ERI International for update of JC 2009 HMP amended 2011 (plan expires 12/2/14). Per JCEMA/ERI contract, all obligations to be completed by August 31, 2014
- **7/7/14** – Request made to all JC Mayors and Commissioners by JCEMA to complete a Mitigation Actions Tool with submission to JCEMA no later than July 25, 2014.
- **8/5-6/14** – Annette Davis assigned to attend HM Planning Workshop for JCEMA at AEMA.
- **8/8/14** – Initial meeting of the Hazard Mitigation Planning Committee (9:00 a.m.) held in the JCEMA Training Room to discuss the HMP Update facilitated by Rick LaValla of ERI International. Hazard Mitigation Public Meeting (1:00 p.m.) held in JCEMA Training Room to review the 2014 HMP Update facilitated by Michael Harter of JCEMA.
- **8/31/14** – Per ERI, completed 2014 Jefferson County Multi-Jurisdictional HMP Update submitted to JCEMA in Word and pdf.

- **10/2/14** –Jefferson County 2014 HMP Update CD submitted to AEMA by Michael Harter (per Valerie Wallace - AEMA).
- **11/12/14** – Request from AEMA to JCEMA for a completed Plan Review Tool for the 2014 HMP Update. Request made to ERI International to complete and send required Plan Review Tool to JCEMA.
- **11/17/14** – Tool received from ERI.
- **11/18/14** – Completed Plan Review Tool submitted via email from JCEMA to AEMA.
- **1/5/15** – Email sent by JCEMA to AEMA inquiring on status of the 2014 HMP Update.
- **1/5/15** – Email response received by JCEMA from AEMA advising that plan approval will be delayed due to missing 2014 HMP Update documentation.
- **1/7/15** – 2nd email response received by JCEMA from AEMA advising that there are major problems with the 2014 HMP Update and State approval is unlikely. Conference call scheduled for 1pm on 1/8/15 to discuss.
- **1/8/15** – Annette Davis and Jim Coker of JCEMA on conference call with AEMA - 1:00 - 2:00 p.m. JCEMA advised by AEMA that so much required info is missing from the 2014 HMP Update that State review has been halted. AEMA advises JCEMA to start over on the 2014 HMP Update. After several emails between ERI and JCEMA, decision made by JCEMA to work in-house on the 2014 HMP Update.
- **1/12/15** – JCEMA staff advised of rejection by AEMA of the ERI produced 2014 HMP Update and decision to use JCEMA staff for plan update. Annette Davis to take lead for JCEMA.
- **1/14/15** - Jim Coker meets with JC Emergency Management Board Leaders to discuss the Hazard Mitigation Plan - 9:00 - 10:00 a.m. -Vestavia Hills City Hall.
- **1/15/15** - Jim Coker discusses the Hazard Mitigation Plan at Emergency Management Board of Directors Meeting - 11:00 a.m. - 2:00 p.m. - Restaurant.
- **1/22/15** - Jim Coker discusses Hazard Mitigation with Boy Scouts - 10:00 - 11:00 a.m. - Boy Scouts Office.
- **1/22/15** - Jim Coker discusses Hazard Mitigation with Emergency Management Board Members - 2:00 - 4:00 p.m. - Birmingham Warehouse.
- **1/27/15** - Jim Coker discusses Hazard Mitigation Citizen Outreach with Boy Scouts - 10:30 - 11:30 a.m. - Vestavia Hills Mayor's Office.
- **1/28/15** - Annette Davis attends Shelby County Hazard Mitigation Planning Committee Meeting - 1:00 - 3:00 p.m. - Shelby County Development Services Building.

- **1/29/15** – Annette Davis and Jim Coker of JCEMA on conference call with AEMA to discuss plan update needs - 8:45 - 10:45 a.m. Specific plan requirements listed in the Local Mitigation Plan Review Guide were discussed. Per AEMA, JCEMA should start over with the HM planning process.
- **2/3/15** – A Citizen Input for Hazard Mitigation Planning Survey for Jefferson County is developed by JCEMA. Surveys distributed and collected from attendees of the Everbridge Emergency Alert Notification Meeting - 10:00 a.m. - 12:00 p.m. and from Birmingham Police Communications 911 workers (3 shifts).
- **2/5/15** - Jody Hodge of JCEMA distributes and collects Citizen Input for Hazard Mitigation Planning Surveys at the Jefferson County VOAD meeting - 9:30 a.m. - 12:30 p.m. - Shades Valley Lutheran Church.
- **2/5/15** – Letter sent to all Mayors by Jim Coker advising that the JC 2014 HMP Update was not accepted by AEMA and that JCEMA is diligently working to correct shortcomings. Request made to each jurisdiction to be a part of the HM planning process. Contact information for primary and secondary representatives for the HMPC requested from each jurisdiction.
- **2/11/15** – Email sent to JCEMA Officers requesting them to distribute Citizen Input for Hazard Mitigation Planning Surveys at all meetings they facilitate or attend in Jefferson County.
- **2/19/15** – Citizen Input Surveys and Primary/Secondary Contact Information Sheets distributed by Jim Coker to Mayors attending the JC Mayors Meeting - 11:00 a.m. - 2:00 p.m. - Cafe Iz.
- **2/20/15** –HMPC Kick-off Meeting for Second Planning Session for the 2014 HMP Update– 10:00am – 12:00pm – JCEMA Training Room.
- **2/25/15** – EOC Activation (Winter Weather Warning) - Citizen Input Surveys completed by all EOC staff.
- **3/2/15** – Hazard Mitigation Public Meeting conducted by JCEMA at Jeff State Community College. Citizen Input Surveys completed and collected.
- **3/4/15** – Citizen Input Surveys distributed and completed by attendees of Jefferson County Emergency Communication Districts (ECD) Meeting – 9am – 12 noon, JCEMA Training Room.
- **3/5/15** – EOC Activation (Winter Weather Warning) - Citizen Input Surveys completed by all EOC staff.
- **3/6/15** –Citizen Input Surveys distributed to and completed by ARC and JCDH clients.
- **3/9/15** –Hazard Mitigation Plan Update discussed by Annette Davis at the Colonial Pipeline Training Class – 11am – 1pm, JCEMA Training Room. Citizen Input Surveys distributed and collected.

- **3/10/15** – Discussion of Hazard Mitigation by Jim Coker with distribution and collection of Citizen Input Surveys at the Center Point Chamber of Commerce Meeting – 11am – 1pm. Center Point City Hall.
- **3/10/15** – Discussion of Hazard Mitigation by Jim Coker with distribution and collection of Citizen Input Surveys at the Concord Community Association and Concord Fire Meeting – 6:30pm – Concord Community Center.
- **3/11/15** – Discussion of Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Emergency Preparedness for Childcare Workers Workshop – 10:15am – 11:30am – Child Care Resources, Homewood.
- **3/11/15** – Discussion of Hazard Mitigation by Jim Coker with distribution and collection of Citizen Input Surveys at Oakmont Presbyterian Church, 6:00pm – 7:00pm, Hoover.
- **3/12/15** – Discussion of Hazard Mitigation by Jim Coker with distribution and collection of Citizen Input Surveys at the Boy Scouts Meeting, 5:00pm – 7:00pm.
- **3/13/15** – Presentation on Hazard Mitigation by Annette Davis , distribution of Citizen Input Surveys and completion of Point of Contact Forms at the Western Area Mayor's Breakfast Meeting – 8:30am – 10:30am – Alabama Power Building, Hueytown.
- **3/13/15** – Collection of Citizen Input Planning Surveys completed at Gardendale Seniors Presentation by Jody Hodge – 9:30 – 11:30am – Gardendale Seniors Center.
- **3/17/15** – Discussion of Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Oak Park Villas Senior Apartments, 12:00pm – 2:00pm – Lipscomb/Bessemer.
- **3/19/15** – Discussion of Hazard Mitigation by Jim Coker at the EM Board of Directors Meeting – 11:00am – 1:00pm – Birmingham Homebuilders, Birmingham.
- **3/20/15** – Hazard Mitigation Planning Committee Meeting – 10:00am – 11:30am – JCEMA Training Room.
- **3/24/15** – Collection of completed Citizen Input Surveys by Jim Coker at Oakmont Presbyterian Church.
- **3/25/15** – Discussion of Hazard Mitigation by Annette Davis at Irondale Hazard Mitigation Meeting – 9:00am – 11:00am – Irondale City Hall.
- **3/26/15** – Discussion of Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys – 6:00pm – 7:00pm – West Jefferson Town Council Meeting – Town Hall.

- **3/27/15** – Presentation on Hazard Mitigation by Annette Davis with distribution of Citizen Input Surveys – 8:30am – 10:30am – Eastern Mayors’ Breakfast – Alabama Power Building, Center Point.
- **3/30/15** – Discussion of Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys – 10:00am – 12:00noon – Kimberly Senior Center.
- **3/30/15** – Development and launch of Survey Monkey site for online Jefferson County Citizen Input Survey completion.
- **4/1/15** – Presentation on Emergency Preparedness and Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys – 10:30am – 12:30pm – Presbyterian Manor Apartments – Birmingham.
- **4/2/15** – Discussion of Hazard Mitigation by Annette Davis with a representative of the City of Lipscomb (Mayor and City Clerk out) – 8:30am – 9:30am – Lipscomb City Hall.
- **4/14/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys – 9:00am – 11:30am – Bessemer City Council Planning Meeting – Bessemer City Hall.
- **4/16/15** – Presentation on Hazard Mitigation by Annette Davis – 11:00am – 2:00pm – JC Mayors’ Association Meeting – Thompson Tractors.
- **4/16/15** – Discussion of Hazard Mitigation by Annette Davis at Trussville Hazard Mitigation Meeting – 6:00pm – 8:30pm – Trussville Civic Center.
- **4/17/15** – Discussion of Hazard Mitigation by Annette Davis with Trafford Town Councilors and Town Clerk – 9:00am – 10:00 am – Trafford Town Hall.
- **4/20/15** – Presentation on Hazard Mitigation by Annette Davis with Sylvan Springs and Mulga personnel with distribution and collection of Citizen Input Surveys – 11:30am – 1:00pm – Sylvan Springs Town Hall.
- **4/22/15** – Discussion of Hazard Mitigation by Annette Davis with Mulga Mayor and Town Clerk – 8:30am – 10:00am – Mulga Town Hall.
- **4/22/15** – Discussion of Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the City of Birmingham Public Hazard Mitigation Meeting – 4:00pm – 7:00pm – Boutwell Auditorium.
- **4/24/15** – Hazard Mitigation Planning Committee Meeting – 10:00am – 11:30am – JCEMA Training Room.
- **4/27/15** – Presentation on Hazard Mitigation by Annette Davis at the Adamsville City Council Planning Meeting – 8:00am – 10:00am – Adamsville City Hall.

- **5/1/15** – Discussion of Hazard Mitigation with distribution and collection of Citizen Input Surveys by Annette Davis with Village Creek Society Members – 2:00pm – 4:00pm – Holy Family Parish Hall.
- **5/4/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Gardendale City Council Meeting – 7:00pm – 8:00pm – Gardendale Public Safety Building.
- **5/5/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Graysville City Council Meeting – 6:00pm – 7:00pm – Graysville City Hall.
- **5/6/15** – Discussion and development of Hazard Mitigation Actions by Annette Davis with Adamsville Mayor and City Officials – 8:30am -2:00pm – Adamsville City Hall.
- **5/11/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Midfield Pre-Council and City Council Meetings – 6:00pm – 8:00pm – Midfield City Hall.
- **5/12/15** – Presentation and development of Mitigation Actions by Annette Davis at the Irondale Hazard Mitigation Meeting – 10:00am – 1:00pm – Irondale City Hall.
- **5/12/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Leeds Hazard Mitigation Meeting – 5:00pm – 7:30pm – Leeds Civic Center.
- **5/13/15** – Presentation on Hazard Mitigation by Annette Davis at the Vestavia Hills Hazard Mitigation Meeting – 2:00pm – 4:00pm – Vestavia Hills City Hall.
- **5/14/15** – Presentation on Hazard Mitigation by Annette Davis to Jefferson County School Superintendents – 1:00pm – 3:00pm – Homewood Board of Education.
- **5/14/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Morris/Kimberly Hazard Mitigation Meeting – 6:00pm – 7:30pm – Enon Baptist Church, Morris.
- **5/21/15** – Presentation on Hazard Mitigation by Jim Coker with distribution and collection of Citizen Input Surveys at Bessemer Hazard Mitigation Public Meeting – 6:00pm – 7:00pm – Bessemer City Hall.
- **5/21/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Pinson City Council Meeting – 7:00pm – 8:30pm – Pinson City Hall.
- **5/22/15** – Hazard Mitigation Planning Meeting – 10:00am – 11:30am – JCEMA Training Room.

- **5/22/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Mountain Brook City Manager/Department Heads Planning Meeting – 9:00am – 10:30am – Mountain Brook City Hall.
- **5/28/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Fairfield Department Heads Meeting – 9:00am -11:30am – Fairfield City Hall.
- **5/29/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at Fultondale Department Heads Meeting and City Council Meeting 9:00am – 13:00pm – Fultondale City Hall.
- **6/1/15** – Planning Meeting for Hazard Mitigation at Fairfield City Hall – 12:00pm – 2:00pm.
- **6/4/15** – Presentation on Hazard Mitigation by Annette Davis with distribution and collection of Citizen Input Surveys at the Fairfield City Council Meeting – 6:00pm – 8:00pm – Fairfield City Hall.
- **6/5/15** – Hazard Mitigation Action Plan Development by Annette Davis with representatives from Pinson, Clay, and Center Point – 9:00am – 12:00pm – Pinson City Hall.
- **6/23/15** – Hazard Mitigation Action Plan Development by Annette Davis with Brookside representatives – 9:00am – 1:00pm – Brookside Town Hall.
- **6/24/15** – Close of Survey Monkey Citizen Input Survey for Jefferson County – 11:59 p.m.
- **6/30/15** – Hazard Mitigation Planning Meeting – 10:00am – 12:30pm – JCEMA Training Room.
- **8/4/15** – Hazard Mitigation Action Plan Development Meeting by Annette Davis with Hueytown Fire personnel – 10:00am – 12:00pm – JCEMA Office.
- **8/4/15** – Hazard Mitigation Action Plan Development Meeting by Annette Davis with Mountain Brook Fire personnel – 1:00pm – 3:00pm – JCEMA Office.
- **8/28/15** – Hazard Mitigation Meeting by Annette Davis with Mulga representative – 11:00am – 12:30pm.
- **8/31/15** – Hazard Mitigation Meeting by Annette Davis with Lipscomb representative – 1:00pm – 2:00pm – Lipscomb City Hall.
- **8/31/15** – Hazard Mitigation Meeting by Annette Davis with Brighton – 2:30pm – 3:00pm – Brighton City Hall.
- **10/16/15** – Hazard Mitigation Plan Update Meeting with JCEMA Staff – 9:00am – 10:30am – JCEMA Conference Room.

- **11/13/15** – Hazard Mitigation Plan Update Meeting with JCEMA Staff – 1:00pm – 2:00pm – JCEMA Conference Room.
- **11/19/15** – Presentation on Hazard Mitigation Plan Update by Jim Coker at JC Mayors' Meeting – 1:00pm – 2:00pm – Birmingham Association of Realtors, Homewood.
- **11/24/15** – Hazard Mitigation Plan Update Meeting with JCEMA Staff – 1:00pm – 2:00pm – JCEMA Training Room.
- **12/8/15** - Hazard Mitigation Plan Update Meeting with JCEMA Staff - 2:30pm - 3:30 pm - JCEMA Conference Room.
- **12/9/15** - Hazard Mitigation Planning Committee Meeting - 1:00pm - 2:00pm - JCEMA Training Room.
- **12/11/15** - Hazard Mitigation Plan Update Meeting by with JCEMA and AEMA - 1:00pm - 3:00pm - JCEMA Training Room.
- **12/15-17/15** – Hazard Mitigation Local Mitigation Plan Review Guide Assistance by AEMA with JCEMA.

APPENDIX G

Initial Planning Process Documentation

- Letter to Mayors and County Commissioners - July 7, 2014
- Mitigation Tool to be completed by jurisdictions - July 7, 2014
- Media Advisory publicizing the Hazard Mitigation meeting - July 29, 2014
- Article on Hazard Mitigation Public Meeting from al.com - August 4, 2014
- Meeting Agenda and Sign-in sheet for the Hazard Mitigation Planning Committee on August 8, 2014 at 9:00am
- Meeting Agenda and Sign-in sheet for the public on August 8, 2014 at 1:00pm.

JEFFERSON COUNTY EMERGENCY MANAGEMENT AGENCY

MEMORANDUM

TO: All Mayors and Commissioners

FROM: Jefferson County EMA

DATE: July 7, 2014

RE: Multi-Hazard Mitigation Plan update

Jefferson County EMA is in the process of updating the **2009 Jefferson County Multi-Hazard Mitigation Plan amended 2011**. By federal law a review and update of this plan is required every five years. Reference: Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U. S.C. 5165 as amended by the Disaster Mitigation Act of 2000 (DMA) (P.L. 106-390).

The Jefferson County EMA Web site at www.jeffcoema.org contains a link to download an on-line copy of the **2009 Multi-Hazard Mitigation Plan amended 2011**. Once at www.jeffcoema.org in the center of the page you will find three files. Part: Comprehensive Plan Amended 2011, Part 2: Community Action Program, and Part 3: Appendices. These three parts make up the complete plan.

BACKGROUND

The purpose of the Jefferson County Multi-Hazard Mitigation Plan is to provide a resource that local governments can use to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters. The focus of this Plan is mitigation, which is action taken to reduce or eliminate long-term risk to hazards.

It is important for the County and its local governments to have a current Multi-Hazard Mitigation Plan so as to maintain eligibility to apply for FEMA Hazard Mitigation Assistance grant programs.

It is also important to note that this Plan is intended to be a starting point for gathering ideas and should not be used as the only source for identifying actions. Local governments should seek innovative and different ideas for reducing risk that meet their unique hazard mitigation needs.

5. In column (4) insert an appropriate priority (urgency).
6. In column (5) insert an appropriate timeline. Ensure the timeline is in sync with the priority (i.e. a high priority should have a short range timeline).
7. In column (6) insert a likely funding source. You may include more than one funding source.
8. In column (7) insert the actual cost (if known) or an estimated cost (if not known).
9. Please return this completed questionnaire to Mike Harter at harterm@jccal.org no later than July 25. The Plan must under-go review by the Hazard Mitigation Steering Committee and the general public on August 8 with the final plan submitted to state by August 30. Your quick attention to this important matter is appreciated.
10. If you have any questions or concerns please contact Mike Harter at 205-254-2039 or email harterm@jccal.org.

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items 2014-2019						
(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
GENERAL: ALL HAZARDS Education and Awareness Actions	These are actions that inform and educate citizens, elected officials, and property owners about hazards and ways to mitigate them.					
		Emergency preparedness education programs for schools.				
		Drills, exercises in homes, workplaces, classrooms, etc.				
		Public service announcements.				
		Hazard "safety fairs."				
		Hazard conferences, seminars.				
		Hazard awareness weeks.				
		Preparedness handbooks, brochures. Distribution of severe weather guides, homeowner's retrofit guide, etc.				
		Regular newspaper articles.				

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items 2014-2019						
(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
Hazard Specific (Reference: JCHMP, Mitigation Ideas)	Direct mailings.					
	Utility bill inserts.					
	Annual correspondence with residents reminding them of the need to be hazard prepared.					
	Actions communities should consider to identify and evaluate a range of potential mitigation actions for reducing risk to natural hazards and disasters.					
Dam/Levee Failures (See: Flooding)						
Droughts/Heat Waves	D-1 Assess Vulnerability to Drought Risk					
	D-2 Monitor Drought Conditions					
	D-3 Monitor Water Supply					
	D-4 Plan for Drought					
	D-5 Require Water Conservation During Drought Conditions					
	D-6 Prevent Overgrazing					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	D-7 Retrofit Water Supply Systems					
	D-8 Enhance Landscaping and Design Measures					
	D-9 Educate Residents on Water Saving Techniques					
	D-10 Educate Farmers on Soil and Water Conservation Practices					
	D-11 Purchase Crop Insurance					
	EQ-1 Adopt and Enforce Building Codes					
Earthquakes	EQ-2 Incorporate Earthquake Mitigation into Local Planning					
	EQ-3 Map and Assess Community Vulnerability to Seismic Hazards					
	EQ-4 Conduct Inspections of Building Safety					
	EQ-5 Protect Critical Facilities and Infrastructure					
	EQ-6 Implement Structural Mitigation					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items 2014-2019						
(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
Flooding	Techniques					
	EQ-7 Increase Earthquake Risk Awareness					
	EQ-8 Conduct Outreach to Builders, Architects, Engineers, and Inspectors					
	EQ-9 Provide Information on Structural and Non-Structural Retrofitting					
	F-1 Incorporate Flood Mitigation in Local Planning					
	F-2 Form Partnerships to Support Floodplain Management					
Flooding	F-3 Limit or Restrict Development in Floodplain Areas					
	F-4 Adopt and Enforce Building Codes and Development Standards					
	F-5 Improve Stormwater Management Planning					
	F-6 Adopt Policies to Reduce Stormwater Runoff					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	F-7 Improve Flood Risk Assessment					
	F-8 Join or Improve Compliance with NFIP					
	F-9 Manage the Floodplain Beyond Minimum Requirements					
	F-10 Participate in the CRS					
	F-11 Establish Local Funding Mechanisms for Flood Mitigation					
	F-12 Remove Existing Structures from Flood Hazard Areas					
	F-13 Improve Stormwater Drainage System Capacity					
	F-14 Conduct Regular Maintenance for Drainage Systems and Flood Control Structures					
	F-15 Elevate or Retrofit Structures and Utilities					
	F-16 Floodproof Residential and Non- Residential Structures					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years), Mid-Range (2-5 years), Long-Range (more than 5 years), Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	F-17 Protect Infrastructure					
	F-18 Protect Critical Facilities					
	F-19 Construct Flood Control Measures					
	F-20 Protect and Restore Natural Flood Mitigation Features					
	F-21 Preserve Floodplains as Open Space					
	F-22 Increase Awareness of Flood Risk and Safety					
	F-23 Educate Property Owners about Flood Mitigation Techniques					
Hurricanes (See: Severe Wind; Flooding)						
Landslides/Erosion	ER-1 Map and Assess Vulnerability to Erosion					
	ER-2 Manage Development in Erosion Hazard Areas					
	ER-3 Promote or Require Site and Building					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	Design Standards to Minimize Erosion Risk					
	ER-4 Remove Existing Buildings and Infrastructure from Erosion Hazard Areas					
	ER-5 Stabilize Erosion Hazard Areas					
	ER-6 Increase Awareness of Erosion Hazards					
Land Subsidence	SU-1 Map and Assess Vulnerability to Subsidence					
	SU-2 Manage Development in High-Risk Areas					
	SU-3 Consider Subsidence in Building Design					
	SU-4 Monitor Subsidence Risk Factors					
	SU-5 Remove Existing Structures from Subsidence Hazard Areas					
	SU-6 Educate Residents about Subsidence					
Severe Storms						

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
Tornadoes	T-1 Encourage Construction of Safe Rooms					
	T-2 Require Wind-Resistant Building Techniques					
	T-3 Conduct Tornado Awareness Activities					
	WF-1 Map and Assess Vulnerability to Wildfire					
Wildfires	WF-2 Incorporate Wildfire Mitigation in the Comprehensive Plan					
	WF-3 Reduce Risk through Land Use Planning					
	WF-4 Develop a Wildland- Urban Interface Code					
	WF-5 Require or Encourage Fire-Resistant Construction Techniques					
	WF-6 Retrofit At-Risk Structures with Ignition-Resistant Materials					
	WF-7 Create Defensible Space Around					

**(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	Structures and Infrastructure					
	WF-8 Conduct Maintenance to Reduce Risk					
	WF-9 Implement a Fuels Management Program					
	WF-10 Participate in Firewise Program					
	WF-11 Increase Wildfire Risk Awareness					
	WF-12 Educate Property Owners about Wildfire Mitigation Techniques					
Winter Storms/Freezes (Severe Winter Weather)s	WW-1 Adopt and Enforce Building Codes					
	WW-2 Protect Buildings and Infrastructure					
	WW-3 Protect Power Lines					
	WW-4 Reduce Impacts to Roadways					
	WW-5 Conduct Winter Weather Risk Awareness Activities					
	WW-6 Assist Vulnerable Populations					
Others:						

**(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • L (Low)	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
Extreme Temperatures	ET-1 Reduce Urban Heat Island Effect					
	ET-2 Increase Awareness of Extreme Temperature Risk and Safety					
	ET-3 Assist Vulnerable Populations					
	ET-4 Educate Property Owners About Freezing Pipes					
Hail	HA-1 Locate Safe Rooms to Minimize Damage					
	HA-2 Protect Buildings from Hail Damage					
	HA-3 Increase Hail Risk Awareness					
Landslide	LS-1 Map and Assess Vulnerability to Landslides					
	LS-2 Manage Development in Landslide Hazard Areas					
	LS-3 Prevent Impacts to Roadways					
	LS-4 Remove Existing Buildings and Infrastructure from Landslide Hazard Areas					

(Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • L (Low)	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
Lightning	L-1 Protect Critical Facilities and Equipment					
	L-2 Conduct Lightning Awareness Programs					
Severe Wind	SW-1 Adopt and Enforce Building Codes					
	SW-2 Promote or Require Site and Building Design Standards to Minimize Wind Damage					
	SW-3 Assess Vulnerability to Severe Wind					
	SW-4 Protect Power Lines and Infrastructure					
	SW-5 Retrofit Residential Buildings					
	SW-6 Retrofit Public Buildings and Critical Facilities					
	SW-7 Increase Severe Wind Risk Awareness					
Multiple Hazards	MU-1 Assess Community Risk					
	MU-2 Map Community Risk					

**_____ (Name of Jurisdiction) Hazard-Specific Mitigation Action Items
2014-2019**

(1) Hazard	(2) Action Items	(3) Lead: Agency/Department for Implementing / Coordinating the Mitigation Action	(4) Priority: • H (High) • M (Medium) • (L) Low	(5) Timeline: Short-Range (less than 2 years); Mid-Range (2-5 years); Long-Range (more than 5 years); Ongoing	(6) Funding Source: • Local • State • FEMA • Private • Other	(7) Estimated Cost: • Actual • Estimated
	MU-3 Prevent Development in Hazard Areas					
	MU-4 Adopt Development Regulations in Hazard Areas					
	MU-5 Limit Density in Hazard Areas					
	MU-6 Integrate Mitigation into Local Planning					
	MU-7 Strengthen Land Use Regulations					
	MU-8 Adopt and Enforce Building Codes					
	MU-9 Create Local Funding Mechanisms for Hazard Mitigation					
	MU-10 Incentivize Hazard Mitigation					
	MU-11 Monitor Mitigation Plan Implementation					
	MU-12 Protect Structures					
	MU-13 Protect Infrastructure and Critical Facilities					



**JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY**
709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

July 29, 2014
9:30 a.m.

Contact: Annette Davis
Emergency PIO
(205) 254-2039

MEDIA ADVISORY

**PUBLIC MEETING SCHEDULED FOR REVIEW OF THE UPDATED 2014
JEFFERSON COUNTY MULTI-HAZARD MITIGATION PLAN**

A public meeting to review the 2014 Jefferson County Multi-Hazard Mitigation (Plan) is scheduled for Friday, August 8 from 1:00 PM to 3:00 PM in the Jefferson County Emergency Management Agency Training Room 709 North 19th Street Birmingham AL, 35203.

During the meeting, the public is invited to make comments or suggestions. Emergency management officials will be hand to answer any questions. Comments received from the public will be documented and considered for inclusion in the Plan.

According to Mr. Allen Kniphfer, Jefferson County Emergency Management Agency, the Multi-Hazard Mitigation Plan is a process designed to reduce the loss of life and property during times of hazardous events.

This Plan is being completed through a cooperative effort of officials from Jefferson County and its cities and towns. Once it meets with the approval of the cities and public, it will be submitted to the Alabama Emergency Management Agency (AEMA) for review and comment then it will be given to the Federal Emergency Management Agency (FEMA) for final review.

Mr. Kniphfer says the Jefferson County Multi-Hazard Mitigation Plan is designed to mesh with and support AEMA's statewide Hazard Mitigation Plan. This will help increase coordination between local, state, and federal agencies during times of disaster. In addition, by completing a hazard mitigation plan, Jefferson County is entitled to apply for future federal dollars to fund specific mitigation projects, designed to reduce and/or eliminate vulnerabilities resulting from disaster events throughout the County.



Jeffco EMA will present its disaster mitigation plan and take comments at public meeting this Friday

Jesse Chambers | jchambers@al.com By Jesse Chambers | jchambers@al.com

Email the author | Follow on Twitter

on August 04, 2014 at 2:15 PM, updated August 04, 2014 at 2:32 PM



(File photo.)

BIRMINGHAM, Alabama – Area residents who want to review the 2014 Jefferson County Multi-Hazard Mitigation Plan – a process designed to reduce the loss of life and property during severe weather and other hazardous events – can do so at a public meeting this Friday.

The meeting will take place from 1-3 p.m. in the **Jefferson County Emergency Management Agency** Training Room at 709 North 19th St. downtown, according to a news release last week from the agency.

The public is invited to make comments or suggestions, and agency officials will be at the meeting to answer questions, the release states.

Comments from the public will be documented and considered for inclusion in the plan.

According to the release, Allen Kniphfer of the agency said that the plan is being developed in concert with Jefferson County and area municipalities and, when complete, will be reviewed by the **Alabama Emergency Management Agency (AEMA)** and the **Federal Emergency Management Agency**.

Kniphfer said the plan is designed to support AEMA's statewide plan, thereby increasing coordination between local, state and federal agencies during disasters. In addition, by completing a hazard mitigation plan, Jefferson County is entitled to apply for federal money to fund mitigation projects.

For more news from Birmingham, go to www.al.com/birmingham.

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Hazard Mitigation Planning Committee (HMPC)

August 8, 2014

Agenda

- 1.0 Welcome and introductions
- 2.0 Meeting purpose: Review of the revised Jefferson County Hazard Mitigation Plan, 2014 edition
- 3.0 Background and requirements
- 4.0 Review of essential plan elements. General discussion questions:
 - Are there any new potential hazards that have developed and were not addressed in the plan?
 - Have any disasters occurred and are not included in plan?
 - Are there additional mitigation ideas that need to be incorporated into the plan?
 - What projects or other measures have been initiated, completed, deferred or deleted?
 - Are there any changes in local capabilities to carry out mitigation measures?
 - Have funding levels to support mitigation actions either increased or decreased?
- 5.0 August 8 public meeting brief
- 6.0 Timelines and next steps

Meeting Sign-In Sheet

Please Print Clearly

Project: Multi-Hazard Mitigation Plan Committee Meeting 2014 to 2019

Facilitator: Michael Harter/Rick Lavilla

Place/Room: EMA Training Room

Date: 8/8/2014

Time: 9 a.m. till 11:30

PRINT LAST NAME, FIRST NAME	ORGANIZATION	Work Phone	Cell PHONE	EMAIL
1. Sanders, Hort	CITY OF PIMBO	680-5536	503 863 371	HSANDERS@THECITYOFANDON.ORG
2. Ingrid Davis	Jefferson County EMA	205-254-2039 ext. 20046	205-705-6511	davis@jeccal.org
3. Philip Richardson	Jeff. Co. Planning	325-5438		RICHARDSONP@JCCAL.ORG
4. Bob Ammons	Jeff Co EMA	205-254-2039	205-453-3202	ammons@JCCAL.ORG
5. Don Logg	CDDH			
6. Greg Gilechrist	Nestorville Hills	205-978-0718	205-999-8242	gilechrist@vhall.org
7. Marvin Green	Vestavia Hills	205 978 0221	205 296 6516	mgreen@vhall.org
8. Walter, Horace	Jeff. Co. EMA	205 254 2039	205 235 8502	walter@jeccal.org
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				

Please Give Us Your Feedback On The Following Topics Regarding Mitigation Planning

- I. Briefly describe what hazards have impacted you or your family in the last several years?**
(Note: List by type and describe what the impacts were.)

- II. What measures were taken to mitigate (lessen) the hazard(s)**

- III. What additional measures would you suggest to mitigate the hazards you and your community faces?**

IV. What additional actions can your elected officials do to lessen the impact of hazards in the community?

V. Can you think of any actions you can do to lessen the impact of hazards in the community?

VI. Would you like more information on hazards and mitigation measures? If yes, please provide your contact information:

Name:

Address:

Phone Number:

Email Address:

VII. Any other comments?

PUBLIC HEARING AGENDA
JEFFERSON COUNTY MITIGATION PLAN

August 8, 2014

I. Introductions and Opening Remarks; EMA Staff

- Mike Harter, Jefferson County EMA

II. Power Point Presentation

- CEMP and Relationship to Mitigation Plan
- The “Whole” Community
- Plan Review and Approval Process

III. Plan Goals, Objectives, and Identified Hazards

- Handout #1- Jefferson Co Hazards-Goals Summary Table
- Discussion

IV. Plan Goals, Objectives and Mitigation Measures

- Handout #2- Jefferson Co. Mitigation Action Program
- Discussion

V. Community Hazard Awareness Outreach

- EMA Staff

VII. Survey Questionnaire/Feedback

- Handout #3- Survey Questionnaire Document
- Discussion

IX. Closing Remarks

Meeting Sign-In Sheet

Please Print Clearly

Project: Multi-Hazard Mitigation Public Meeting 2014 to 2019
 Facilitator: Michael Harter/Rick LaValla
 Place/Room: EMA Training Room

Date: 8/8/2014
 Time: 1 p.m. till 3 p.m.

PRINT LAST NAME, FIRST NAME	ORGANIZATION	Home Phone	EMAIL
1. Galbreath Kevin	AFRR	281-7012	Kevin@afrrtoday.com
2. Robert Richardson	ABC 33/40		
3. Brad Watson	City of Need	699-0907	brad@needalabama.gov
4. Annette Davis	JE EMA	674-8716	davis@jeal.org
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			

APPENDIX H



Jefferson County Emergency Management Agency
709 - 19th Street North • Birmingham, Alabama 35203
Office: (205) 254-2039 • FAX: (205) 328-9162

February 5, 2015

James A. Coker, Director
Jefferson County EMA

Jefferson County
Emergency Management
Mayor's Council

Board of Directors:

Alberto C. Zaragoza, Mayor
City of Vestavia Hills
Chairman

T. Joe Knight, Commissioner
Jefferson County Commission
Vice-Chairman

William Bell, Mayor
City of Birmingham

Othell Phillips, Mayor
City of Gardendale

Tommy Joe Alexander, Mayor
City of Irondale

Delor Baumann, Mayor
City of Hueytown

Gary Richardson, Mayor
City of Midfield

Honorable William Bell
Mayor of Birmingham
710 N 20th Street
Birmingham, Alabama 35203

Dear Mayor Bell:

In January, 2014, the Jefferson County EMA entered into a contract with a private consultant to update the 2009 (2011) Jefferson County Hazard Mitigation Plan. This plan expired on December 2, 2014. The original 2009 plan was written by a private contractor, as was the 2011 update. The 2014 update was completed by the contractor in August, 2014. In total, the amount of money spent for private contractors to develop the plan since 2009 was in excess of \$240,000.

The Jefferson County EMA was notified the week of January 5, 2015, that the Hazard Mitigation Plan (2014 update) would not be accepted by the Alabama Emergency Management Agency due to missing documentation and information. Jefferson County was not the only county to have its plan returned as incomplete.

The Jefferson County EMA is working diligently to correct shortcomings to the Hazard Mitigation Plan. This will require the collection of data which is particular to each jurisdiction in the County. Participation from each jurisdiction is a vital and required part of the Hazard Mitigation Plan process. Public meetings to discuss the proposed plan are also required in order to have a successful submission. The update to the plan, the collection of data, and public meetings will be managed by EMA staff; EMA Officer Annette Davis is working full-time on the plan revision.

Please provide the contact information for a primary and secondary representative for your jurisdiction. A *Point of Contact Information Form* is included for this purpose; this form may be mailed or emailed back to me at cokerj@jccal.org or Annette Davis at davisa@jccal.org.

I will keep you updated regarding the status of the Hazard Mitigation Plan. The submission of an acceptable plan is a priority for this agency. Thank you for your assistance.

Sincerely,

James A. Coker, Director

Enclosure: Point of Contact Information Form

sent to each Mayor

Jefferson County Emergency Management Agency

Point of Contact Information Form

Date Completed: _____

Point of Contact:	Primary	Alternate
First & Last Name:		
Title:		
Jurisdiction:		
Department:		
Address or PO Box:		
City:		
Zip:		
Office Phone:		
Fax Number:		
Work Email:		
Work Cellphone:		

Additional:	Mayor's Assistant	City Clerk
Office Phone:		
Work Email:		
Work Cellphone:		

Hazard Mitigation Planning Committee

- February 20, 2015 Agenda and Sign-in Sheet
- March 20, 2015 Agenda and Sign-in Sheet
- April 24, 2015 Agenda and Sign-in Sheet
- May 22, 2015 Agenda and Sign-in Sheet
- June 30, 2015 Agenda and Sign-in Sheet
- December 9, 2015 Agenda and Sign-in Sheet
- Hazard Mitigation Planning Committee email lists 1 and 2

KICK-OFF MEETING AGENDA

2014 JEFFERSON COUNTY HAZARD MITIGATION PLAN UPDATE

Friday, February 20, 2015 – 10:00 a.m.

Jefferson County EMA Training Room

1. Welcome and Introductions
 - Sign-in sheets – please print and make sure your email address is on the form
2. Project Background
3. Project Participation
 - Identify opportunities for public input into the 2014 Plan Update
 - Identify potential plan meeting participants who are not present today
4. Plan Update Meeting Schedule
 - Friday, March 20, 2015 – 10:00 a.m. – EMA Training Room
 - Friday, April 24, 2015 – 10:00 a.m. – EMA Training Room
 - Friday, May 22, 2015 – 10:00 a.m. – EMA Training Room
5. Public Meeting Schedule
 - Monday, March 2, 2015 – 6:00 p.m. – Jeff State Community College
6. Project Tasks
 - Review Mitigation Actions (Are they realistic? Are they applicable?)
 - What Mitigation Actions have you completed in the last 5 years?
 - What Mitigation Actions have you not completed and why?
 - List Mitigation Actions you want to accomplish over the next 5 years (in order to be eligible for Mitigation Funding, it must be in your plan)
 - Set a time-span for accomplishing goals: "Ongoing" is not acceptable.

JEFFERSON COUNTY HAZARD MITIGATION PLAN UPDATE KICK-OFF MEETING

Location of Meeting:

Jefferson County EMA Training Room

Date and Time of Meeting:

February 20, 2015 10:00 a.m.

Last Name	First Name	Jurisdiction/Agency	Title/Position	Email Address	Contact Phone #
Lowe	Rusty	MOORE FD	Exec. Dir. FD	lowe@ci.moore.al.us	288-5690
Horn	Chris	Center Point FD	Facility Manager	Horn@centerpointfire.com	368-1476
Loggins	Bobbie	City of Center Point	Public Works Dir.	cp@publicworkscenterpoint.com	306-8962
Selt	Mike	City of Alexander	Task Supervisor	mselt@ci.alexander.al.us	544-1734
Edgil	Tim	Jeff Co Sheriff	Howland Security	edgil@jccal.org	325-5873
Carlier	Mat	DEXROSS	Asst. Program Manager	mat@carlierdexross.com	873-3225
Mullins	Chris	Mtn. Brook FD	Battalion Chief	mullins@mtbrook.org	802-3838
Spickard	Harmon	DCEMA	EM Officer	welke@dcemal.org	254-2045
Davis	Annette	DCEMA	Officer	adavis@dcemal.org	254-2039
Born	Keweenaw	GRANDVIEW	Fire Chief	keweenaw@grview.com	288-2224
Johnson	Rush	Town of Sylvan Springs	Fire Chief	firechief@sjvnsprngs.al.us	491-7637
Gray Bell	Denise	City of Phenix	Fire Chief	denisebell@cityofphenix.al.us	254-2022
Gray	Amber	COB	Fire Chief	amber.gray@cobindiana.org	254-2491
Burd	Heard	Al For Comm Forest	Specialist	heard@jeffersoncountyal.us	631-2000
Vincent	Dwight	Forstman	Specialist	forstman@jeffersoncountyal.us	631-3974

Location of Meeting:	Jefferson County EMA Training Room
Date and Time of Meeting:	February 20, 2015 10:00 a.m.

Last Name	First Name	Jurisdiction/Agency	Title/Position	Email Address	Contact Phone #
Norris	Terrance	City of Bessemer	Mayor's Asst.	norris@bessemer.al.gov	424-4060
BUTLER	BASILE	Albany County	Fire Ops Chief	Basile.Butler@albamogov.org	334-340-9329
PATTERSON	HARRY	AEMA	Division Chief	Harry.Patterson@aema.org	334-388-2846
*BOB	Jones	City of Phenix City	County Administrator	jones@cityofphenix.com	205-503-8630
I Attached	This meeting	But for some reason it is not printing	The rest of the names ???		



**JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY**
709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

Meeting Agenda

2014 Jefferson County Hazard Mitigation Plan Update

Friday, March 20, 2015 – 10:00 a.m.

Jefferson County EMA Training Room

1. Welcome and introductions
 - Sign-in sheets
2. Overview of Hazard Mitigation
3. Discussion of Elements of Local Mitigation Plan Review Guide
 - Citizen Input Surveys
4. Plan Update Meeting Schedule
 - Friday, April 24, 2015 – 10:00 a.m. – EMA Training Room
 - Friday, May 22, 2015 – 10:00 a.m. – EMA Training Room
5. Project Tasks
 - Review Mitigation Actions
 - Schedule a Mitigation Planning Meeting in your jurisdiction
 - Develop a narrative of what are your greatest hazards and what is your mitigation strategy
 - Develop a time-frame and a plan for implementation

JEFFERSON COUNTY HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Jefferson County EMA Training Room

Date and Time of Meeting: March 20, 2015 10:00 a.m.

First Name	Last Name	Jurisdiction/Agency	Title/Position	Email Address	Contact Phone #
Paul	Syk	Bessmer	Fire Chief	psyd@bessmer.nv	281-1621
Jessica	Risold	Morris	Town Clerk	psyd@bessmer.nv triamorris@bessmer.nv	647-0596 201-202
Joe	Pylant	Morris	Mayor	triamorris@bessmer.nv	647-0596
Barry	Humphries	Hueytown	Building Insp.	blumpr@huetown.org	497-0522
Georgy	Koating	Leeds	Street Dep Supt	GKoating@leeds.gov	699-0911
Marc	Selt	Cedar Point	Traffic Supv.	marksel34@gmail.com	541-1734
Dana	Cube	Kimberly	CITY Council	dsmith@kimberly.com	205-358-9080
Richard	Mathews	Westmore	Fire Capt.	rgf@t1@hotmail.com	205-9192353
Robert	Knight	Pleas. Grove	Fire Chief	RJK305@MSU.com	205-276-4881
Scott	Harrison	Adamsville	Fire Chief	sharrison@cityofadamsville.org	205-674-1924
Jeff	Zisette	Midfield	Public Works Director	Zisettej@gmail.com	205-281-1599
Larry	Manning	Midfield	Fire Chief	LAManning44@bellsouth.net	281-7919
Bob	Jones	City of Pison	City Manager	bmjones@cityofpison.com	680-5556
Bob	Hood	GVA	Officer	boj@jcalios	205-2354
Don	Lygo	CEP/Phila	MDCR Director	don.lygo@biemurghand.com	205-254-2806

JEFFERSON COUNTY HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Jefferson County EMA Training Room

Date and Time of Meeting: March 20, 2015 10:00 a.m.

First Name	Last Name	Jurisdiction/Agency	Title/Position	Email Address	Contact Phone #
Charles W.	Hughes	Town of West Jefferson	Town Councilman	chughes35130@yahoo.com	531-9833
Charles	Nix	Town of West Jefferson	Mayor	cnixnj@yahoo.com	777-8074
Bobbie	Loggins	City of Center District	Public Works Director	publicworks@jccwa.com	306-8962
Rickey	Milligan	Parment	Fire Chief	rmilligan@cityofparment.com	849-2820
Darrell	Bates	Stantards	Public Works	abbsen@jccwa.com	283 5050
Russell	Ledbetter	Trussville	Fire Chief	klledbetter@trussville.com	285-6801
Johnson Rusty	Johnson	Town of Sylvan Springs	Fire Chief	firechief@jccwa.com	438-2844
Randy	Davis	Ironville	Fire Chief	rdavis@cityofironville.com	438-2844
Phil	Fitts	Ironville	Fire Chief	pfitts@cityofironville.com	283-7460 (cell)
Johnny	Butler	Forestry	Forester	johnnybutler@forestry.alabama.gov	351-1408
Basil	Butler	Forestry	Forester	basilbutler@forestry.alabama.gov	205 4313476
Marvin	Green	Vestavia Hills	Asst Chief	mgreen@vhl.org	296-6576
Kenneth	Brown	Celtnare	Fire Chief	kscabrown@celtnare.com	288-2224
J.S.	Bischoff	Homewood	Chief of Staff	jsbischoff@homewoodal.org	281-1939
James	Coker	JC EMA	Director	cokerj@jccwa.org	254-2039

JEFFERSON COUNTY HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room

March 20, 2015 10:00 a.m.

[illegible]



JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY
709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

Jefferson County Hazard Mitigation Planning Committee Meeting Agenda

Friday, April 24, 2015 – 10:00 a.m.
Jefferson County EMA Training Room

1. Welcome and Introductions
2. Project Background
 - 2014 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update
3. Mitigation Measures
 - A. Prevention
 - B. Property Protection
 - C. Public Education and Awareness
 - D. Natural Resources Protection Measures
 - E. Structural Project Measures
4. Project Tasks
 - Schedule a Mitigation Planning Meeting in your jurisdiction
 - Review Mitigation Actions
 - Develop your Mitigation Actions using the five Mitigation Measures for each hazard affecting Jefferson County
 - Submit your Mitigation Actions to EMA
5. Next Plan Update Meeting:
 - **Friday, May 22, 2015 – 10:00 a.m. – (EMA Training Room?)**

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Jefferson County EMA Training Room
 Date and Time of Meeting: April 24, 2015 - 10:00 AM

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Scott	Harbison	Adamsville	Chief - Fire	sharbisson@cityofadamsville.org	674-1924
Sandy	Ward	Kimberly	City Clerk	gwendykimberlyclerk@hotmail.com	647-5551
Brad	Watson	Leeds	Bid Supt.	brwatson@leedsablamanager	699-0907
Charles Wayne	Hughes	West Jefferson	Town Councilman	chughes35150@yahoo.com	531-9833
Brad Tuggle	Tuggle	West Jefferson	Utilities Supervisor	bt4bama@yahoo.com	440-7402
Jeff	Downes	Vestavia Hills	City Manager	jdownes@vha1.org	978-0195
Mark	Self	Cesta Post	Public Work	markself34@GMAIL	541-1734
Mr	ABEITZ	Red Cross	Dis. Trng. Mgr	Matt.Cassano@RedCross.org	20879 3225
Chris	Mullins	Mtn Brook	Batt Chief / FD	mullinsc@mtnbrook.org	802-3838
Jason	Springfield	Brookside	Chief	jspringfield@brookside.org	999-4384
Carolyn	Tyler	TRAFORD	Council member	carolyn98@bellsouth.net	907-6065
Phil	Graham	FFD	F.D.	Pgriffin14@aol.com	515-9406
Jim	Stjohn	Vestavia Hills	Fire Chief	stjohn@vha1.org	978-0225
Martin	Green	Vestavia Hills	Asst. Fire Chief	mgreen@vha1.org	978-0221
Heather	Turner	CVDAAD	President	heather.turner@cvdaad.org	837-3031
Ron	Turner	Unit	Disaster Dir	Ron.turner@unitl.org	837-2550

Charles

Webster

City of Clay

Mayor

mayor@clayalabama.org 919-2100

TERRY

HAGOOD

City of Montgomery

Fire Chief

Terry.Hagood@aol.com 492-1929-

Willie

RODGERS JR.

City of Fairfield

Asst. Fire Chief

wrodgers@fairfieldal.us 787-1679

Dixie

Bell

City of Birmingham

Floddain Admin

dixie.bell@birminghamal.gov 854-2002

Edwin

Revel

City of Alabama

Deputy Director

edwin.revel@birminghamal.gov 254-2470

Amber L.

Gray

City of Birmingham

Planner

amber.gray@birminghamal.gov 254-2491

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Jefferson County EMT Training Room
 Date and Time of Meeting: April 3rd, 2015 - 10:00 am

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Russell	Ledbetter	City of Tuscullo	Fire Chief	Redbetter@TusculloFire.com	288-6821
Larry	Manning	City of Midfield	Fire Chief	LManning44@bellsouth.net	288-8653
Bobby	Price	City of Gardendale	LT	Bobby.Price06@gmail.com	531-6870
Johnson	Rusty	Town of Sylva Springs	Fire Chief	Firechief@sylvaspringsal.org	438-2849 401-7637
Kenneth	Booth	GAYSVILLE	Fire Chief	KC@BAYVIEW@aol.com	205-288-2224
Matt	Johnson	City of Pleasant Grove	Fire Lt.	Pits 215@yahoo.com	205-787-8734
Richard	Mathews	City of Pleasant Grove	Fire Capt		
Mike	Sullivan	City of Pison	Parks Director	msullybern@aol.com	205-518-4456
LARRY	Adams	Fultondale Fire	Asst Chief	ledbetteraz@yahoo.com	205-518-6110
RUSTY	Lowie	MOORE AIRE DEM.	Executive Dir.	lowie@ci.moore.al.us	(205) 285-5690
Edie	Pepper	Compass 360	President	edipepper@mindspring.com	(205) 243-1876
Randy	Davis	Irendale	Fire Chief	davis.chief@yahoo.com	205-951-1408
JJ	Biscoff	Hammond	Chief		281-9939
Mike	Turnlin	Warrior	Building Inspector	mtumlin@cityofwarrior.com	
Janelle	Davis	JE EMT	EM Officer	davis@jeatl.org	254-2039

HAZARD MITIGATION PLAN UPDATE

Location of Meeting:	Jefferson County EMA Training Room
Date and Time of Meeting:	April 24, 2015 - 10:00 am

HAZARD MITIGATION PLAN U
Jefferson County EMA Training Room
Meeting: April 24, 2015 - 10:00 am

HAZARD MITIGATION PLAN U
Jefferson County EMA Training Room
Meeting: April 24, 2015 - 10:00 am

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**JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY**
709 - 19th Street North • Birmingham, Alabama 35203
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Meeting Agenda

Jefferson County Hazard Mitigation Planning Committee
Friday, May 22, 2015 – 10:00 a.m.
Jefferson County EMA Training Room

1. Welcome and Introductions
2. 2014 Jefferson County Multi-Jurisdictional Hazard Mitigation Plan Update
 - A. Discussion of Jurisdictional Mitigation Actions
 - B. Citizen Input Surveys
3. Project Tasks
 - Schedule a Mitigation Planning Meeting in your jurisdiction
 - Review Mitigation Actions
 - Develop your Mitigation Actions
 - Submit your Mitigation Actions to EMA
4. Next Plan Update Meeting
 - Friday, June 19, 2015 – 10:00 a.m. – (EMA Training Room)

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Jefferson County EMA Training Room
 Date and Time of Meeting: May 22, 2015 - 10:00 a.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Horace	Welker	Jeff. Co EMA	EM OFFICER	walkerh@jcccl.org	354 2045
Mike	Wazachyn	moess PD	CHIEF OF POLICE	wazachyn@att.net	612-7109
Joe	Pylant	Morris	Mayor	town.morris@belkouth.net	647-0596
Sandy	Waid	Kimberly	City Clerk	sandy.kimberly@ksh.net	647-5551
Barry	Watson	huds	Bldg Insp	barry@hudsabn.org	491-0910
Kimberly	Bost	Gwynette	Fire Chief	kbost@ga.com	205 208 2224
RANDY	DAVIS	Irondale	Fire Chief	rdavis@cityofirondale.org	205-283-7467
Robbie	Loggins	City of Center Point	Public Works Director	rob@cityofcenterpoint.com	205-306-8862
Russell	Leibetter	City of Tusculville	Fire Chief	rleibetter@tusculville-tn.com	205-288-6822
Carahyn	Tyler	Town of Trafford	Council member	tyler@trafford-tn.net	205-647-3751
Scott	Fassina	Fulton County	Fire Marshal	scott.fassina@fulton.net	205-204-3629
Janette	Davis	JCEMA	EM officer	jdavis@jcccl.org	205-204-2023
Jason	Rickels	City of Tarent	Chief	srickels@cityoftarent.com	205-249-2820
Chris	Hardin	Wascor	Training Officer	wascorfiretraining@gmail.com	205-369-52
Bobby	Pice	Gardendale	LT	Bobby.Pice@ga.com	205-531-6870

BLVIS Jennings Adamsville PD LT 205-674-56

HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room

May 22, 2015 - 10:00 a.m.

Location of Meeting:
Date and Time of Meeting:

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Edie	Leppner	Enterprise 360	President	edleppner@enterprise360.com	205-243-1811
Larry	Manning	Madfield	Fire Chief	L.Manning@44@bellsouth.net	205-404-0110
Dennis	Bell	City of Phenix	Fire Captain Admin.	dennisbell@cityofphenix.com	205-254-2022
Amber	Gray	City of Birmingham	Planner	amber.gray@birmingham.gov	205-254 24
Torrine	Morris	City of Bessemer	Mayor's Asst.	thorrie.morris@bessemer.org	205-424-40
Hebra	Byrd	AFC	Forster	jeffersoncounty@att.net	205 631 3974
Dewitt	Lincoff	AFC	Ranger		
Bob	Jones	Parsau	Novils	bjones@thehofp.com	205-288-6785
Miranda	Black	Mulga	Clerk	mulgablack@aol.com	205 781-064
Edwin	Reed	Birmingham	Deputy Director	edwin.reed@birmingham.gov	205-254-2471
TERRY	Hagood	Huerforn	Batt Chief Fias	HagoodH@aol.com	205-492-1192
Curtis	Williams	Greenville	Consultant	cwilliams374@gmail.com	205-616-666
Moey Sue	Mossey	Greenville	Mayor	msm2013@bellsouth.net	205-674-3231
JS	Bischoff	Huntswood	Chief of Staff		281-193



**JEFFERSON COUNTY
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709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

Meeting Agenda

Jefferson County Hazard Mitigation Planning Committee
Tuesday, June 30, 2015 – 10:00 a.m.
Jefferson County EMA Training Room

1. Welcome and Introductions
2. Discussion of Survey Monkey results of JC Citizen Input for Hazard Mitigation Planning
 - a. Number of Days Open – 87 (March 30 – June 24, 2015)
 - b. Number of Responses – 1439
 - c. Review of Responses by Zip Code
3. Power Point Presentation of Survey Monkey Results
 - a. Severe Thunderstorms of most concern
 - b. Tornadoes, Winter Storms, Flooding, and Droughts follow (respectively)
 - c. Dam Failure and Landslides of least concern
4. Discussion: Challenges with developing Mitigation Actions
5. Collection of Jurisdiction Mitigation Action Items
6. Next Steps
 - a. Determining if all information required to meet 44 CFR 201.6 is available
(Go through Regulation Checklist for each Plan Element)

Next Planning Meeting – To be scheduled after further plan development by EMA.

HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room
June 30, 2014 - 10:00 a.m.

Location of Meeting:
Date and Time of Meeting:

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Shnette	Davis	JE EMA	EM Officer	davis@je201.org	857-2039
Cindy J	Jones	CITY OF THOUSAND TRUSSVILLE FIRE	EMS OFFICER	cjones@thousandfire.org	205-790-8505
Matt	Johnson	CITY OF TARRANT GROVE	LT. FIRE NEPT.	pits@tsgroove.com sway@kimberlyclerk@hotmail.com	205-744-1746
Sandy	Ward	Kimberly	CITY CLERK	sway@kimberlyclerk@hotmail.com	647-5551
Edna	Ward	Jefferson Co	President	cedna@je201.org	243-1876
Bob	Jones	Chapt. Brown	Living Member	bjones@thecityofjefferson.com	503-8630
Charles Wayne	Hughes	Town of West Jefferson	Concurrence	chughes3513@jefferson.com	531-9833
Paul	Sink	Stonewall Fire	LT.	psink@stnwallfire.com	951-1408
Randy	Davis	Irondale Fire	Chief		283-7460
Brad	Doss	Irondale Fire	Asst. Chief	bdoss@cityofirondale.org	951-1408
Charles	Hozzall	Alamogordo Fire	LT.	ahozz@alamogordo.com	674-1924
Mark	Sells	City of Cedar Point	Traffic Mgr.	marksell@cedarpoint.com	541-1734
Scott	Assina	Fuller	Fuller	scott@fullerfire.com	261-3623
Chris	Mullins	Mtn. Brook	EMS Officer	mullins@mtbrook.org	802-3838
Rusty	Low	HOOPER L.D.	Exec. Officer	lower@ci.hoover.al.us	739-7039

288-5690

HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room

June 30, 2014 - 10:00 a.m.

Location of Meeting:

Date and Time of Meeting:

[illegible]



**JEFFERSON COUNTY
EMERGENCY MANAGEMENT AGENCY**
709 - 19th Street North • Birmingham, Alabama 35203
(205) 254-2039 • FAX (205) 328-9162

Meeting Agenda

Jefferson County Hazard Mitigation Planning Committee
Wednesday, December 9, 2015 – 1:00 p.m.
Jefferson County EMA Training Room

1. Welcome and Introductions
2. Power Point Overview of Hazard Mitigation Planning
3. Discussion of Status of 2014 HMP Update
4. Collection of Community Capability Forms and Additional Information for Hazard Mitigation Plan Update
5. Next Steps – Completion of Plan Update by end of December and Review and Adoption of Plan

HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room

Location of Meeting:
Date and Time of Meeting:

December 9, 2015 - 1:00 p.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Annette	Davis	VC EMA	EM Officer	davis3@jccal.org	354-2039
Bobby	Price	Gardendale	Lieutenant	Bobby.Price06@gmail.com	205-531-6870
Bob	Armstrong	TC EMA	EMD	armstrongb@jccal.org	254-2043
Jessica	Robb	Morris	Town Clerk	townmorriss.net	205-647-0556
Joe	Rylant	Morris	Mayor	Townmorriss@bellsouth.net	647-0596
Sandy	Waid	Kimberly	City Clerk	clerk@kimberlyal.org	647-5551
Kenneth	Boon	Gardendale	Fire Chief	KSCB@FIRE@AOL.com	205-388-2224
Horace	Wacker	VC EMA	EM Officer	wacker@jccal.org	205-254-2039
Cathryn	Tyler	Trafford	Council member	traffordcathryn@bellsouth.net	205-647-3951
Bobbie	Loggins	City of Center Point	Director	cityofcenterpoint@yahoo.com	366-8962
Marvin	Green	Vestavia Hills	Asst. Chief	mgreen@vhl.org	978-0221
Charles Wayne	Hughes	West Jefferson	Council member	chughes3530@yahoo.com	531-9833
Randy Davis	Davis	Trousdale Fire	Chief		283-7460
Dominic West	West	East Point	Chief	dwat@eastpointga.com	965-0521
Ronnie Dixon	Dixon	Clay	City Mgr	rdixon@clayalabama.org	229-2153

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Jefferson County EMA Training Room

Date and Time of Meeting:

December 9, 2015 - 1:00 p.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Cindy	Jones	TRUSSVILLE FIRE	EMS OFFICER	cjones@trussvillefire.com	905-790-8505
Miranda	Black	Mulga	Clerk	mulgaclerk@aol.com	205 741-0645
Mary Sue	Morgan	Chargable	Manager	msm2013@bellsouth.net	205 674-3234
Curtis	Williams	Grysville	consultant	cwilliams3744@gmail.com	205.616-6606
Phil	Griffin	Trundle F.D.	Lt.	pgn@trundlead.com	551-1404
James	Doss	Trundle F.D.	Asst. Chief	bdoss@cityoftrundle.org	951-1408
Kevin	Gulton	Fairfield Fire	Chief	kgulton@bellsouth.net kgulton@fairfieldal.us	205-787-1679
Paul	Six	Rossdale Fire	Chp	psix@rossdalefire.com	205-281-1621
Mue	Harter	EMA		harterm@tchd.org	205-254-2039
Terry	Hagood	Hueytown	Batt Chief	terry.hagood@aol.com	205-492-1929
Edwin	Revel	City of Birmingham	Deputy Director	edwin.revel@birmingham.gov	205-254-2470
Amber	Gray	City of B'ham	CRS Coordinator	amber.gray@birmingham.gov	205-254-2491
Sody	Hodge	EMA	Emergency Mgr	hodgej@jcal.org	205-354-2039

Location of Meeting:

Jefferson County EMA Training Room

Date and Time of Meeting:

December 9, 2015 - 1:00 p.m.

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Jefferson County EMA Training Room

December 9, 2015 - 1:00 p.m.

[illegible]

19/06/20

Davis, Annette

Contact Group Name: Hazard Mitigation Planning Committee 1

Members:

Amber Gray (COB)
Ammons, Bob
Andy Butler (Adamsville FD)
Annette Davis
Barry Humphries
Bob Jones
Bobbie Loggins
Bobby Price (Gardendale)
Brad Doss (Fire Captain)
Brad Tuggle (WJ Utility Supervisor)
Brad Watson
Brenda Philpot
Bryan Watkins (Brookside)
Carolyn Tyler (Trafford)
Charles Hughes (WJ Council)
Chris Hardin
Chris Horn
Chris Mullins
Christopher Blair Hughes
Christopher Riddle (Fairfield PD)
Chuck Hagler (Police Chief)
Cindy Jones
Clint Doss (Gdale Fire Chief)
Curtis Williams
Daniel Kinney (EMA)
Darrell Bates (Fultondale PW Director)

Darryl Aldrich (Fultondale)
David Kennedy
Denise Pruitt Bell (COB)
Don Lupo (COB)
Donna Cude (Kimberly)
Donnie Huey (Brookside Fire Chief)
Donnie West
Edwin Revell (COB)
Frank Mays (CP)
George Keating
Horace Walker
J. J. Bischoff
James Coker
James St. John
Jane Hicks (City Clerk)
Jason Howell (Palmerdale FD)
Jason Rickels
Jason Springfield (Brookside PD Chief)

Jeff Downes (City Manager)
Jeff Zisette (Midfield PW)
Jerry Presley

amber.gray@birminghamal.gov
ammonsb@jccal.org
afrs04@yahoo.com
davis@jccal.org
bhumphries@hueytownal.org
bjones@thecityofpinson.com
cppublicworks@yahoo.com
BobbyPrice06@gmail.com
bdoss@cityofirondaleal.gov
bt4bama@yahoo.com
bwatson@leedsalabama.gov
countyline-clerk@att.net
bryan.lee.watkins@gmail.com
carmar98@bellsouth.net
chughes35130@yahoo.com
firechief@kimberlyal.org
horn@centerpointfire.com
mullinsc@mtnbrook.org
townofmorrisfd@gmail.com
christopher.riddle1@gmail.com
chagler@hueytownal.org
cjones@trussvillefire.com
cdoss17@aol.com
cwilliams3744@gmail.com
oneononefire@yahoo.com

dbfcity@gmail.com
dafcity@bellsouth.net
kennedyd@mtnbrook.org
Denise.Bell@birminghamal.gov
don.lupo@birminghamal.gov
dsmithcude@gmail.com
donniehuey@bellsouth.net
dwest@centerpointfire.com
edwin.revell@birminghamal.gov
Franklino@bellsouth.net
gkeating@leedsalabama.gov
walkerh@jccal.org
J.J.Bischoff@homewoodal.org
cokerj@jccal.org
st.john@vhal.org
jhfcity@bellsouth.net
Jhowellpfd@gmail.com
jrickels@cityoftarrant.com

jspringfield@brianwood.org
JDownes@vhal.org
zisettej@gmail.com
jpresley@cityoftarrant.com

Davis, Annette

Contact Group Name:

Hazard Mitigation Planning Committee 2

Members:

Harter, Michael	harterm@jccal.org
Larry Adams (Fultondale FD)	ladams crazy@gmail.com
Larry Manning (Midfield Fire Chief)	lmanning44@bellsouth.net
Leon Davis, Jr. (Fairfield PD)	leondavis17@gmail.com
Leslie Barrett	traffordtownof@bellsouth.net
Mark Self (CP)	markself@gmail.com
Marvin Green	mgreen@vhal.org
Matt Johnson (PG FD)	pits215@yahoo.com
Michael Nazarchyk (Morris)	mnazarchyk@bellsouth.net
Mike Sullivan (Pinson)	msullybama@gmail.com
Mike Tumlin (Bldg. Inspector)	mtumlin@cityofwarrior.com
Mike Walker	policechief@cityofgardendale.com
Miranda Black	mulgaclerk@aol.com
Paul Syx	pfsyx@bessemeral.org
Peggy Shadix	pshadix@sylvansprings.org
Phil Griffin (Irondale Fire)	pgriffinfd@aol.com
Randy Davis (Fire Chief)	rdavis@cityofirondaleal.gov
Richard Archer (Palmerdale FD)	Archerpfd@gmail.com
Richard Matthews	pgfdlt1@hotmail.com
Ricky Milligan	rmilligan@cityoftarrant.com
Robert Ezekiel (Fire Chief)	ezekielr@mtnbrook.org
Robert Knight (PG Fire Chief)	RJK305@msn.com
Ronnie Dixon	rdixon@clayalabama.org
Ronnie Vaughn	vaughnr@mtnbrook.org
Russell Ledbetter	RLedbetter@Trussvillefire.com
Rusty Johnson	firechief@sylvanspringsal.org
Rusty Lowe	lower@ci.hoover.al.us
Sam Gaston	gastons@mtnbrook.org
Sandy Waid	swaidkimberlyclerk@hotmail.com
Scott Fassina (Fultondale Fire)	scott.fassina@att.net
Scott Harbison	sharbison@cityofadamsville.org
Steve Boone	boones@mtnbrook.org
Tammy Graham	cpclerk@charter.net
Terry Hagood (Hueytown FD)	TerryLHagood@aol.com
Tim Shotts	tshotts@trussvillefire.com
Toraine Norris	tnorris@bessemeral.org
Willie Rodgers Jr.	wrodgers@fairfieldal.us
Zachary Brooks	brooksz@jccal.org

Jurisdictional Meetings Sign-in Sheets

HAZARD MITIGATION PLAN UPDATE PUBLIC MEETING

Location of Meeting:	Bessemer City Hall
Date and Time of Meeting:	May 21, 2015

Location of Meeting:	Bessemer City Hall
Date and Time of Meeting:	May 21, 2015

[illegible]



CITY OF BIRMINGHAM

DEPARTMENT OF PLANNING, ENGINEERING & PERMITS
710 NORTH 20TH STREET
ROOM 500, CITY HALL
BIRMINGHAM, ALABAMA 35203

WILLIAM A. BELL, SR.
MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

March 23, 2015

Topic of Discussion: Introduction to the hazard mitigation planning process and identifying hazards

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher	CH	COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas	KT	COB	katrina.thomas@birminghamal.gov	254-2288



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WILLIAM A. BELL, SR.
MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

March 30, 2015

Topic of Discussion: Droughts, heatwaves, and extreme temperatures

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birninghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birninghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birninghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birninghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birninghamal.gov	254-2288



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MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

Topic of Discussion: Earthquakes

April 6, 2015

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birminghamal.gov	254-2288



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MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

April 13, 2015

Topic of Discussion: Flooding and the Community Rating System(CRS)

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birminghamal.gov	254-2288



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MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

April 20, 2015

Topic of Discussion: Landslides, erosion, and land subsidence

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birminghamal.gov	254-2288



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WILLIAM A. BELL, SR.
MAYOR

ANDREW V. BERTAS
DIRECTOR

ALL HAZARDS AWARENESS WEEK

Multi-Jurisdictional Mitigation Public Meeting
April 22, 2015

Name	Company	Email	Number
Sheleth Furley	Central City Neighborhood		205-901-6727
Monette Davis	IC EMA	davis@icema.org	205-254-2659
Michael Holston	ICEMA	mh@icema.org	
Jordan Clark		clarkj@icema.org	205-335-3047
Angela Moss	COB	angela.moss@birmingham.gov	205-297-8300
John M. Wright	Bentwell	jmw@bentwell-birmingham.gov	205-925-4430
Stephanie D Smith	Bentwell		205-643-0023
James L. Williams	City of Birmingham		205-856-4641
Antonio Jones	City of Phenix	ATJones@phenixpanel.com	205-577-9754
			205-563-1657

ATTENDANCE SHEET

FLOOD PLAIN

CRESTLINE

NEIGHBORHOOD

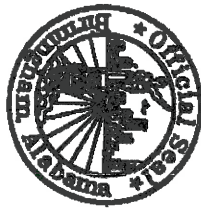
DETERMINATION

LETTERS TO:

DATE APRIL 15, 2015

NAME	ADDRESS	PHONE NO.	FIRST MEETING?	
			YES	NO
PLEASE ADD EMAIL ADDRESS IF YOU ARE NEW				
Barbara White	4352 Mountaindale 35213	956-9973		
Teri Wright	4736 Vermont Ave. 35210	383-6169		
Stuart Margaret Frenz	Leach			
Martha Noble	5109 Northumberland Rd 35213	msnoble@bellsouth.net		
Mimi Farmer	4209 Mountain Lake Rd MM 35210	farmer@ymail.com 956-3774		
J.V. Ethridge	5113 Northumberland Rd 35210	JEETHRIDGE@AOL.com		
Tricia Harkins	4225 Silver Court 35213	harkinsp@gmail.com 907-3554		✓ 205-5665
Ben Sears	337 Alpine St. 35210	427-3720		
Wayne & Beth Hutchinson	4363 Mountaindale Rd 35213	602-3554 whutch@bellsouth.net		Graybar.com
Daniel & Jennifer Carter	201 Woodside Drive 35210	Daniel.Carter@Graybar.com		
Rinda Morgan	5117 Northumberland Rd	956-2025		
LEEMARKS REPRESENTATIVE	4225 Silver Ct. (Dambay)	266-3800		✓
LEEMARKS REPRESENTATIVE	329 Rosewood (McDaniel)	266-3800		
LEEMARKS@REALTYSOUTH.COM				
Ashley Bullen Lewis	321 Rosewood St 35210	907-7622		
→ my new address →	3749 Locksley Dr 35223	mynewaddress		
SANDY VANCE	1345 SWALLOW LN 35213	956-2960		amvance
Fred Smith	5141 Northumberland	368-2280		
Fred Smith	241 Daly St	368-2280		
→ mail to 105 Euclid Ave 35213				
email suanne 525@gmail.com				

(If needed, use back of page)



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WILLIAM A. BELL, SR.
MAYOR

ANDRÉ V. BYTTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

April 27, 2015

Topic of Discussion: Tornadoes, thunderstorms and severe wind

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher	CH	COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas	KT	COB	katrina.thomas@birminghamal.gov	254-2288



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WILLIAM A. BELL, SR.

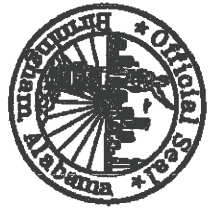
MAYOR

ANDRÉ V. BITTAS

DIRECTOR

ADB Food Policy Management PIP Meeting
Thursday Aug. 27, 2015 - 10:00 a.m.

Name	Company	Email	Number
Katrina Thomas	City of Birmingham	katrina.thomas@birminghamal.gov	854-2288
Denise Bell	City of Blount	Denise.Bell@blountal.gov	254-2082
Tam M. Smith	Enley Neighborhood	Macie 41 @ Bell Smith Mt	786-3623
Kyle G. Boren	UAB University inf.	1501 RT Q UAB. 500	934-9181
Randy Hewitt	UAB Emergency Mgt	resistt@uab.edu	934-2487
Alicia Brown	Morgans Office	Alicia.brown@birminghamal.gov	936-9603
Rene Green-Jones	Swiss 1st Bank	rg@swiss1stbank.com	949-2206
Donette Davis	VE EMG	davis7@jaccal.org	854-2037



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MAYOR

ANDRÉ V. BITTAS
DIRECTOR

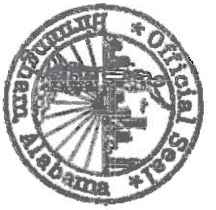
HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

May 4, 2015

Topic of Discussion: Hail, winter storms, and freezing temperature

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birminghamal.gov	254-2288



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MAYOR

ANDRE V. BIRTAS
DIRECTOR

Multi-Hazard Mitigation Participants from the
Village Creek Society Fundraiser

May 7, 2015

Name	Company	Email	Number
Dana C. Woodruff	Birmingham Large Summit Media	woodruff@birminghamlarge.com	
Chris Davis	VCS	chris.davis@vcs.com	
John C. Meacham	VCS	john.c.meacham@vcs.com	
Abbea Vanzant	Mavriq	avanzant@maivriq.com	
Phyllis Anderson	Overseight Community	phyllis@overseight.com	
Michelle Perkins	Admission Officer	amperk2012@hotmail.com	
Joseph Overton		Cingene@demerco.net	
Mrs. Brewster	COB		
Donald L. Moore	COB	MooreSS@aol.com	
M. Gordon Heath	Bayle Health Care		
Valerie Davis	Friends of East Lake Park	muhawaga@gmail.com	
Barbara Banks	Montclair	banks292@yahoo.com	
KELLY LOUE	SUSTENS	loue,kel@comcast.net	
Rennie White	City of Birmingham	rdwhite7557@yahoo.com	



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MAYOR

ANDRÉ V. RITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

May 18, 2015

Topic of Discussion: Risk and preparedness

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher	CH	COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas	KT	COB	katrina.thomas@birminghamal.gov	254-2288



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WILLIAM A. BELL, SR.
MAYOR

ANDRÉ V. BITTAS
DIRECTOR

HAZARDS MITIGATION ACTION/STRATEGY MEETING

Multi-Jurisdictional Mitigation Public Meeting

May 27, 2015

Topic of Discussion: Strategies-Action Items

Name	Initial	Org.	Email	Number
Denise Bell	DB	COB	denise.bell@birminghamal.gov	254-2022
Amber Gray	AG	COB	amber.gray@birminghamal.gov	254-2491
Edwin Revell	ER	COB	edwin.revell@birminghamal.gov	254-2470
Christopher Hatcher		COB	christopher.hatcher@birminghamal.gov	254-2558
Katrina Thomas		COB	katrina.thomas@birminghamal.gov	254-2224

Location of Meeting:
Date and Time of Meeting:

Location of Meeting:

HAZARD MITIGATION PLAN UPDATE MEETING
Brighton Town Hall
November 31, 2015 - 2:30 a.m.

[illegible]

Location of Meeting:	Docks side town Hall
Date and Time of Meeting:	6/6/3/15 9:00 a.m

Location of Meeting:	Docks side town Hall
Date and Time of Meeting:	6/6/3/15 9:00 a.m

Location of Meeting:	Docks side town Hall
Date and Time of Meeting:	6/6/3/15 9:00 a.m

[illegible]

[illegible][illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Pineport City HallDate and Time of Meeting: April 15 - 10:00 AM

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Karen	Allison	Jeffers Co Sheriff's Office	Sheriff's Sgt.	allisonbejccal.org	205-540-0968
Jason	Howell	Palmerdale Fire	Fire Chief	Howelljfd@gmail.com	205-283-4623
Richard	Archer	Palmerdale Fire	Asst. Chief	ArcherRfd@gmail.com	205-283-7292
Annette	Davis	ITA EMA	EMA Director	davis@jeccal.org	205-284-2339
Tamara	Davis	City	City Manager	rdavis@claypalmerdale.org	205-283-2153
Tamara	Hudson	Center Point	Mayor	cpuryear@centerpoint.org	205-854-4449
Patricia Davis	Loggins	Center Point	Public Works Director	cpuryear@centerpoint.org	205-306-8963
HOYT	SKINNER	PINSON	MAYOR	HWALLER@THECITYOFPINSON.COM	205-306-6800-5556
DONNIE	WEST	Center Point	Fire Chief	dwest@centerpointfire.com	205-915-0521
Bob	SONS	PINSON	Building Administrator	bsons@thecityofpinson.com	205-503-8630

**

**

TOWN OF COUNTY LINE

SPECIAL MEETING

COUNTY LINE COMMUNITY ACTION PROGRAM

FOR JEFFERSON COUNTY MULTI-HAZARD MITIGATION PLAN PUBLIC HEARING

JUNE 22ND, 2015

THE MAYOR CALLED TO ORDER THE SPECIAL MEETING OF THE COUNCIL AT 7:10 PM

The invocation was given by Myrtle Van Kleeck.

The roll call was had.

Present Mayor Self, Councilor's Myrtle Van Kleeck, Eugene Kiley, Brenda Lowe, Floyd Philpot, Steve Brewer.

A total of 8 people came to the public hearing.

Most of the discussion was centered on Building Codes and Mayor and Council Responsibility.

Each hazard was discussed individually.

A list is attached of all who attended the meeting.

Respectfully submitted by Brenda Philpot, Town Clerk

APPROVED - STEVE / FLOYD -

Location of Meeting:
Date and Time of Meeting:

Location of Meeting:
Date and Time of Meeting:

Countyline Town Hall
August 28, 2016

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Fauld City Hall
8/2/2014- 11:00 a.m.

Date and Time of Meeting:

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: City Hall Fairfield AC 35064
 Date and Time of Meeting: 6/4/15 5:30 pm

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Billie Anne	Dennis	Fairfield	citizen		781-5714
Ashley Ann	Murphy		council administrator	ashley@cityofac.org	781-6961
Jeff	Reynolds		citizen	jeffmiller@yahoo.com	787-1679
Debra	Reynolds		business	newmagrasspm.net	925-2153
James	Lewis		Church	jdewis7125@aol.com	410-0905
Shirley	King		President	kingshirleybellsouth.net	781-7146
Jakie	Young		Citizen	Jakiey24@gmail.com	925-1080
Lorene	Hansford		Citizen	lorene.hansford@gmail.com	787-4607
Gloria	Triggs		citizen	glotrig@iol.com	787-1929
Simmie	Whitney		citizen	MWhitney4470@gmail.com	788 0015
Wanda	Whitney		citizen	MWhitney4470@gmail.com	✓
Anette	Davis	TC EMA	EM Officer	davisan@jccal.org	254-2039
Christopher	Pickell	Police	SEASONS Neighborhood Ass Pres/Citizen	christopher.pickell@gmail.com	420-6260
Elaine	McLain	✓		5018 Farrel Ave	515-1240
Malinda	Coleman		Citizen	1124 Die Oak Lane	492-4844

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:	Fairfield City Hall	Chambers
Date and Time of Meeting:	6-4-5	5:30 PM

Location of Meeting:	Fairfield City Hall	Chambers
Date and Time of Meeting:	6-4-5	5:30 PM

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Date and Time of Meeting:

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Kathy	Nichols	Fairfield	citizen		205-780-6911
Alton	Woodard	Fairfield	Director Parks & Rec.	Awoodard@FairfieldAL.us	205-9453-3531
Parakee	Bert	Fairfield	Council member	dawobert@belsouth	805-993-9655
Adelle	Williams	Fairfield	Citizen	—	205-786-9444
Dorothy	Morning	Fairfield	Citizen	dorothymorning@att.net	205-410-0311
Mattie	Cook	Fairfield	Citizen	matieccook89@yahoo.com	205-788-1875
Wardrow Jr.	Cook	Fairfield	Citizen		
Amerus	Carus	Fairfield	Citizen	Amerus1.HC@gmail.com	504-6070
Jacqueline	McCarroll	Fairfield	Citizen	jacquemaria@yahoo.com	—
Malinda	Coleman	Fairfield	Citizen	malindaecoleman@att.net	
Greta	Threagies	Fairfield	Citizen	threagies@bellsouth.net	205-79-79-85
Henneth	Coachman	Fairfield	Mayor	Kcoachm@FairfieldAL.us	279-3170
Lucy	Nash	Fairfield	Mayor's Executive Assistant	lnash@FairfieldAL.us	279-3170
Willie	Andrews	Fairfield	Council member		205-5663
Henderson	Carminickel	Fairfield	Citizen	Cricket22207@bellsouth	780-6520

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HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: City Hall, Fairfield, AZ 85064
 Date and Time of Meeting: 6/4/15 5:30 PM

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Berlene	Mears	Fairfield	Citizen	BMEARS@BEUSO.HH.NET	(205) 788-5160
Marya	McGrew	}	Citizen		(205) 781-4391
Gary	Gibson		Citizen	g.b.gibson@yahoo.com	205-541 1016
Jeddie	Carves		Citizen	Jeddie.dagmar@gmail	50 785-3404
Kula	Echo		"	lechois204@bellsouth.net	205-786-2212
Genette	Simpson		"		(205) 786-3537
Brian	Debnou		"		(205) 781-0644
LaTashia	Handley		Citizen		(205) 504-7516
Kenneth	Watts		"	kgoldman204@yahoo.com	(205) 540-3278
Jessy	Anderson		Citizen	antiochfairfield@bellsouth.net	(205) 786-5302
Louis	Baldwin		Citizen		205 586 1111
Linda	Turner		Citizen	LindaTurner106@gmail.com	205 7856951
Randy	White	}	Citizen	rwhtie54@yahoo.net	205-788-2263
JAMES	MARTIN		CITIZEN		205 7800156
Harold	Nichols		"		205 780-6911

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Fultonville City HallDate and Time of Meeting: 5/29/15 - 9:30 a.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
* Scott	Epasing	Fultonville	Fire Marshal	scott.epasing@cityofvt.net	205-201-3623
Tracey	BATES	" "	Public Works	qstcity@gmail.com	205-283-5050
Janette	Davis	JC EMA	EM Officer	davisj@jccal.org	205-854-2039
Justin	MCKENZIE	Fultonville Fire	LT/EMS Officer	justin.mckenzie@gmail.com	205-415-1777
Larry	Adams	Fultonville Fire	Asst. Chief	ladams@cityofvt.net	205-368-1610
David	Smith	Fultonville Police	Sgt. Police	dpsmith.fpd@gmail.com	205-423-6356
Phillip	MANGINA	Fultonville Police	Acting Chief	pmangina.fpd@gmail.com	205-423-5041
William	BOGGS	Fultonville Police	Sgt. Police	wboggs.fpd@yahoo.com	205-601-7392
Thurp	LODER	Fultonville Park & Rec	Park Director	PLFCITY@hotmail.com	205-796-4104
Ed	HASKINS	Fultonville	Code Enforcement Officer	ehaskins@cityofvt.net	205-841-8306
Josh	Bryant	Fultonville	City Council Fire Captain	jbryant@cityofvt.net	205-288-4231
LESLEY	SLAPP	Fultonville	CAS, DEPT. COMM.	LSHAPP@BIRLSOUTH.NET	205-841-6456
Bryan	Powell	Fultonville	Fire Chief	Firechief@cityofvt.net	205-772-0184

Location - Public Safety Bldg. - Gardendale
HAZARD MITIGATION PLAN UPDATE MEETING

Time - 7:00pm - May 4, 2015

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Bobby	Prie	Gardendale Fire	Fire Lt.	BobbyPrie06@gmail.com	531-6870
CHARLOTTE	PRINCE		CITIZEN		631-5583
Alut	Doss	"	FIRE CHIEF	cdoss17@aol.com	225-6063
Janetta	Davis	JEEMA	Officer	davisja@jeema.org	854-2039
CHARLES	ALLEN	CITIZEN			631-4173
SHAROD	ALLEN	CITIZEN			631-4173
Doug	McGone	MTOLINA	PASTOR		631-7304
Paul	Davis		LT		
Jim	HAZARD		CITIZEN		285-9170
Jim	WHITLOW	CITIZEN	BOARD OF ADVISORS		631-7435
Hermit	Dooley	24800 Jones		Kdooleyexhe@comcast.net	
Nick	Henson	afire			410-3680
Sally	Godwin				631-4192
Eli	Caola	Citizen		caolaeli@gmail.com	(205) 821-5334
Darson	Caola	CITIZEN			(205) 675-6852

HAZARD MITIGATION PLAN UPDATE MEETING

Gardendale Public Safety Bldg.
May 4, 2015 - 7:00pm

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Graysville, City Council Meeting

Date and Time of Meeting:

May 1, 2015 6pm

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
KEANES	HILL	Graysville	Citizen	ange137k@charter.net	205.674.3318
Curtis	Williams	Graysville	Citizen	cwilliams374@gmail.com	205.616.6606
DAVID	Blackmon	Graysville	Citizen	antrud-blumke@multist.com	205/401-1154
Jim	LEE	Graysville	Citizen	L.J.m.26@yahoo.com	
Forhis	Saint	Graysville	Citizen	OneSource494@hotmail.com	531-3698
MURRAY	McGEE	Graysville	CITIZEN		(205) 516-1206
RICHARD	SKELTON	Graysville	CITIZEN	KFY4GKADGMail.com	205-674-8442
Gloria	CARDOL	Graysville	Citizen	gloria_cannell106@gmail.com	205-674-0805
Peggy	Thomas	Graysville	Citizen	psftflash@aol.com	205-674-6270
Julie	Twierthun	Graysville	City Employee	julietwierthun@gmail.com	205-573-0373
Mary	Breazel	Grayville	Citizen	N/A	205-674-7646
Jessie	Smith	Grayville	Citizen	N/A	205-674-7124
KENNETH	BOON	Grayville	FOOD CHIEF	KSC@fsgc@aol.com	205-288-2824
DON	BLACK	Grayville	CITIZEN	NONE	205-674-9878
Chris	Early	Grayville	Citizen		205-288-2390

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Location of Meeting:	Honolulu City Hall
Date and Time of Meeting:	May 20, 2015

Date and Time of Meeting: May 20, 2015 5 pm

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: City of Irondale
 Date and Time of Meeting: 3/25/15 0940

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Philip	Griffin	Irondale Fire	Lt.	griffinifd@aol.com	951-1408
Jason	Williams	Irondale Police	LT.	jwilliams@irondalepolice.org	951-1437
Tracy	Peoples	Irondale Public Works	Admin	tracyr@cityofirondale.org	951-1420
Donna	Newsome	Irondale Parks & Beaut.	Superintendent	Irondaleparks@bellsouth.net	983-9652
Frank	Pennington	Irondale Public Works	Fleet Maint. Supervisor	fpennington@cityofirondale.org	951-1424
Don	Mealer	Irondale	Inspections Dept	gmealer@cityofirondale.org	9567209, 2141
Glen	Merchant	Irondale	Inspections	gmerchant@cityofirondale.org	9567200, 2141
Brent	Stephens	Irondale Water	Manager	bstephens@cityofirondale.org	283-9648
Allisa	Burleson	Irondale Senior Center	Director	aburleson@cityofirondale.org	951-1418
Randy	Davis	Irondale Fire	Chief	rdavis@cityofirondale.org	951-1408
Jane	Shank	Administration	City Clerk	jshank@cityofirondale.org	951-1413
Del	Wilson	Irondale Public Library	Director	dwilson@bham.lib.al.us	951-1415
Michelle	Hannick	Irondale Library	Librarian	mahannick@bham.lib.al.us	951-1415
J.T.	McNabb	Irondale Court	Court Clerk	jmcnabb@cityofirondale.org	951-1414
Tommy	Alexander	Irondale (Mayor)	Mayor	mayor@cityofirondale.org	229-8487
Annette	Davis	JE EMA	EM Officer	davis@jeal.org	854-2039

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Irondale Fire Dept
 Date and Time of Meeting: 5/14/15 1200

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Philip	Gyffur	Irondale Fire	LT.	griffith@cal.com	5159406
Tom	Johnson	Irondale Police	S. det.	thomas.johnson@alecop.gov	825-956-5990
Jason	Wiggins	Irondale P.D.	LT	jwiggins@irondalepolice.org	558-1437/866-5990
Beet	Stephens	Irondale's Wildfire	Manager	stephens@irondalecal.gov	205-283-9648
Frank	Remington	Irondale P.W.	Shop supervisor	frankremington@irondalecal.gov	2836725
Donna	Newsome	Irondale Parks + Beaut Parks + Beaut Superintendent		irondale.parks@belkouth.net	283-9652
Tracy	Peoples	Irondale Public Wks	Admin	tracy@cityofirondale.org	951-1420
Brad	Doss	Irondale Fire Dept	Captain	bdoss@cityofirondale.org	951-1408
Alisa	Burleson	Irondale Sr. Center	Director	alburleson@cityofirondalecal.gov	951-1418
Randy	Davis	I. Fire Dept	Chief	rdavis@cityofirondalecal.gov	951-1408
Tommy	McNabb	Irondale Court	Court clerk	judice@cityofirondalecal.gov	951-1444
Glenn	Merchant	Irondale Building Dept	Inspector	gmerchant@cityofirondalecal.gov	956-9200 (692)
James	Stearns	City Clerk/Irondale City Clerk		jstearns@cityofirondalecal.gov	951-1413
Tommy Sue	Alexander	Mayor - Irondale Mayor		mayor@cityofirondale.org	954-9200
Del	Wilson	IR Library	Director	dwilson@irondale.org	951-1415

Notes of Kimberly and Morris - Public Meeting

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Evans Baptist Church, Morris, AL 35666
 Date and Time of Meeting: May 14, 2015 6:00 p.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Sandy	Wald	Kimberly	City Clerk	swald@kimberlyclerk.net	612-5495
Joe	Plaut	Morris	Mayor	jplaut@baylor.net	336-0005
Betty	Plaut	Morris	Citizen	bplaut@att.net	536-0005
John	Richardson	Kimberly	Councilman	john.richardson@kimberlyga.gov	590-4087
Jack	Womack	Morris	Councilman		647-5813
Jeany	Vinceast	Morris	RDG. Inspections		369-2723
T.W.	Goodons	Cullman Jeff. Co.	Foreman	twg@cigas.com	205-907-4473
Roger by	Long	Cullman Jeff. Co.	Municipal Clerk	Roger.L@CJSGas.com	205-907-0269
Dana	Cude	Kimberly	City Council	dsmcude@gmail.com	205-238-9058
Maria	Marcus	Morris	Police Chief	maria@chicago.net	205-612-7109
Mike	Walls	Kimberly	Fire Captain	magis@wallsoffice.net	205-617-5551
Annette	Davis	JE EMA	EM Officer	davis@jeema.org	205-254-2039

Cities of Kimberly and Morris - Public Meeting

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Evon Baptist Church, Morris, AL 35666
 Date and Time of Meeting: May 14, 2015, 6:00 p.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Brandon	Holligan	Morris	Street Dept.	bholligan@ymail.com	205-647-2043
Cyodi	Egel	Kimberly	Citizen	—	205-647-1250
Dogle	Creel	Kimberly	Citizen	—	205-647-1250
Ann	RESNA	MORRIS	CITIZEN	—	205-647-1250
Louis	RESNA	MORRIS	COUNCILMAN CITIZEN	—	647-5808
LINDA	NORTON	G'DALE	CITIZEN	almond@bellsouth.net	647-5808
Betty	Norton	Gardenville	Citizen	TRINKETIN@HOTMAIL	881-5709
Bill	Isbell	Kimberly	Chief	brackett@HOTMAIL	249-5765
STEVE	JONES	MORRIS	Councilman	—	647-5551
Art	McCook	MORRIS	CITIZEN	babblue@HOTMAIL.COM	325-5508
Max	McCool	MORRIS	CITIZEN	gabriel@bellsouth.net	647-1084
Bob	Jones	Kimberly	Citizen	—	2047-1084
Brian	Hill	Kimberly	Asst-Fire Chief	bhill@flegmail.com	213-9071
Tim	Morris	Kimberly	Firefighter	harris.timothy2@ymail.com	617-4457
Blair	Hushes	Morris	Fire Chief	Morris Fire Dept @ yahoo.com	601-9934

HAZARD MITIGATION PLAN UPDATE MEETING

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:	Evon Baptist Church
Date and Time of Meeting:	May 14, 2015
	Morris, AL 35166

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:	Evon Baptist Church
Date and Time of Meeting:	May 14, 2015
	Morris, AL 35166

[illegible]

2014 Hazard Mitigation Plan Update

City of Kimberly – Action Taken by the City

- February 20, 2015, Council Member, Donna Cude attended the Jefferson county EMA kick-off meeting.
- April 8, 2015, City Clerk Sandy Waid, Fire Chief Brian Gober, and Court Clerk Mike Walls attended a meeting at the Kimberly Senior Center hosted by Annette Davis and Jim Coker.
- April 15, 2015 Bob Jones, Zoning Officer, along with the mayor and council input, developed a narrative for the Hazard Mitigation Plan.
- April 24, 2015, City Clerk, Sandy Waid attended the Jefferson County EMA.
- April 16, 2015, Citizen Input Surveys were placed at the Kimberly Post Office.
- May 11, 2015, the city held a department head meeting.
- May 14, 2015, A public meeting was held at ENON Baptist Church in Morris, AL.
- May 5, 2015, City Clerk, Sandy Waid contacted the Kimberly Senior Center Director, Pat Akers and verbally requested she invite all center participants to attend the public meeting on May 14, 2015.
- April 30, 2015, City Clerk, Sandy Waid sent an email to mayor, council members, department heads requesting that they attend the public meeting on May 14, 2014.
- April 30, 2015, notice of the public meeting was posted on the City's Website, Facebook and on the City's marquee sign inviting the public.
- May 1, 2015 the North Jefferson News published notice of the public meeting on May 14, 2015 @ 6p.m. at Enon Baptist Church.
- May 22, 2015, Submitted Updated Hazard Mitigation Plan to Annette Davis at the Jefferson County Emergency Management Agency along with following:
 1. (48) Citizen Input Survey's
 2. Sign-in sheets from all meetings attended
 3. Synopsis of action taken by the city
 4. Notes from City department head meeting

City of Kimberly
Hazard Mitigation Plan
Department Head Meeting

May 11, 2015

Attendees: Sandy Waid, City Clerk, John Richardson, Council Member, Brian Gober, Fire Chief, Bill Isbell, Police Chief, Bob Jones, Zoning Officer, Brent Earnest, Building Superintendent, Lance Shivers, Public Works Supervisor, Brad Stark, Mayor Pro-Tem

Mr. Stark presided over the meeting and explained that FEMA rejected the 2014 Multi-Hazard Mitigation Plan. Also, in order for the City to be eligible for future FEMA funding in the event of a natural disaster, the City must perform the following tasks:

- *Review Mitigation Actions (Are they realistic) (Are they applicable)
- *What Mitigation Actions have you completed in the last 5 years?
- *What Mitigation Actions have you not completed and why?
- *List Mitigation Actions you want to accomplish over the next 5 years.
- *Set a time-span for accomplishing goals.

After a lengthy discussion of ways to reduce the damage from natural disasters by performing the above tasks, Mr. Stark asked each department head to submit ways their department can reduce the risks of natural disasters primarily focusing on ways to protect life, property, and the economy.

A Hazard Mitigation Plan Update is attached.

City of Kimberly
P.O. Box 206
Kimberly, AL 35091

Kimberly Department Head Hazard Mitigation Plan Meeting

May 11, 2015

Present:

Job Title:

Aandy Wail

City Clerk

John Richardson

Councilman

Brian Gober

Fire Chief

Bill Isbell

Chief, Police

Bob Jones

Zoning Officer

Brent Earnest

Building Superintendent

Lance Shivers

Dir of Streets + Parks

BRAD STARK

Councilman

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Date and Time of Meeting:

August 31, 2015 - 8:00 p.m.

[illegible]

CITY OF MIDFIELD HAZARD MITIGATION PLANNING MEETING 5-11-2015

NAME	COMPANY	PHONE	E-MAIL
1 Jeff Assette	City of Midfield	281-1599	zassette@gmail.com
2 Velma Johnson	City of Midfield	205-283-3000	VelmaJohnson@gmail.com
3 Joise Anderson	City of Midfield	205-960-4140	JoiseA@gmail.com
4 Jimmy Robinson	City of Midfield	912-8734	
5 James Treasor	City of Midfield	205-901-9250	JamesTreasure@gmail.com
6 LeRoy Sutton	City of Midfield	205-941-3540	leeroy.sutton@cityofmidfield.com
7 Jonelle Vane	City of Midfield	205-745-3541	trane@cityofmidfield.com
8 Larry T. Manning	City of Midfield	205-424-0110	l.manning44@bellsouth.net
9 Chara Treasor	City of Midfield	205-986-6244	chara.treasor@gmail.com
10 Christopher Corne	City of Midfield	923-7575	chris@corne.com
11 Thelma Davis	City of Midfield	954-8039	thelma.davis@gmail.com
12 Geraldine Page	Citizen	914-3017	geraldinepage45@yahoo.com
13 Raymond W. Ben	Citizen	527-1756	raymondwben@net
14 David W. Burt	Citizen	926-5458	dburt@companya.com
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Contract #

205-253
90883
3699728
205/647-108
205/903-1245
205-332-401C
205-209-1197
205-612-108
89-1648
834-4685

Tities of Kimberly and Morris - Public Meeting

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: *Evon Baptist Church, Morris, AL 35466*
 Date and Time of Meeting: *May 14, 2015 6:00 p.m.*

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Sandy	Ward	Kimberly	City Clerk	swaidkimberlyclerk@hotmail.com	612-5495
Joe	Rylant	Morris	Mayor	JRylant2001@sonline.net	990-2005
Betty	Rylant	MORRIS	Citizen	brylant2001@att.net	596-0005
John	Richardson	Kimberly	Councilman	john.richardson@kimberlyga1.org	590-4087
Jack	Womack	MORRIS	Councilman		(479-5813
Jeery	Vineant	MORRIS	BDDG. Inspections		369-9228
T.W.	Goodons	Cullman Jeff. Coas	Foreman	twg@cigas.com	205-907-4473
Roger Ray	Ray	Cullman Jeff GAS	Mayor/Police Officer	Roger-L@CJSGAS.com	205-907-0769
Dora	Cude	Kimberly	City Council	dora@cude@gmail.com	205-238 9058
MIKE	HAZARDHYKE	MORRIS PD	POLICE CHIEF	mhazardhyke@ATT.NET	205-612-7109
MIKE	WALLS	Kimberly FD	FIRE FIGHTER	mwalls7070@att.net	205-647-5551
Annette	Davis	TC EMA	EM Officer	davis3@jccol.org	205-254-2039

Lities of Kimberly and Morris - Public Meeting

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: *Enon Baptist Church, Morris, AL 35466*
 Date and Time of Meeting: *May 14, 2015 6:00 p.m.*

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Brandon	Holligan	Morris	Street Dept.	Bholligan@ymail.com	205-647-2443
Cyndi	Geel	Kimberly	citizen	—	205-647-1250
Doyle	Creel	Kimberly	citizen	—	205-647-1250
Ann	RESNA	MORRIS	CITIZEN	—	647-5808
Louis	RESNA	MORRIS	COUNCILLMAN CITIZEN	alrourke@bellsouth.net	647-5808
LINDA	NORTON	G'DALE	CITIZEN	TRINKETIN@HOTMAIL	841-5709
Betty	Norton	Gardendale	Citizen	BROSTADSR@HOTMAIL	249-5765
BILL	Isbell	Kimberly	Chief	—	647-5551
STEVE	JONES	MORRIS	COUNCILMAN	bdblue@HOTMAIL.COM	325-5508
Pat	McCook	MORRIS	CITIZEN	paternavale@bellsouth.net	647-1084
Max	McCool	MORRIS	CITIZEN	—	247-1084
Bob	Jones	Kimberly	Citizen	bja8920@ymail.com	288-6785
Brian	Hill	Kimberly	Asst Fire Chief	bhill9fd@gmail.com	2139071
Tim	Harris	Kimberly	Firefighter	harris.timothy2@gmail.com	617-4457
Blair	Hughes	Morris	Fire Chief	Morris-fire dept @ yahoo.com	601-9924

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:	Enon Baptist Church, Morris.
Date and Time of Meeting:	MAY 14, 2015 6:00 P.M.

[illegible]

Mountain Brook Hazard Mitigation Meeting
Tuesday, May 26, 2015 — Mountain Brook Council Chambers.

Susan Dudge Chamber of Commerce
susan@welcometob
mountainbrook.com 238-1255

Dana Hazen City Planner
802-3871

SAM GASTON City Manager
802-3803

Terry Webb Parks + Recreation

Jerry Weism 802-3812

Katie Moellering - Emmet O'Neal Library 445-1118

GREG HAGOOD Police DEPT (205) 802-3853

Hannon Davidson Chamber of Commerce 871-3779

Wendy Kenny - Admin Asst to C.M. 802-3800

Annette Davis - JC EMA - 254-2039

Chris Mullins - Fire Department 802-3838

Ronnie Vaughn Public Works 802-3865

Sylvan Springs / Mulga

HAZARD MITIGATION PLANNING
COMMUNITY INVOLVEMENT MEETING
Monday, April 20, 2015

SIGN- IN SHEET

Ken Poe	Mulga Water and Gas
Ken Gortner	Mulga Water and Gas
Brenty Johnson	Town of Sylvan Springs
Greg Kilburn	Town of SYLVAN Springs
Peggy Shady	
Vickie Paradis	
James Peckham	Sylvan Springs Fire
J. Paradis	
Ray McRij	
Ben Howe	
Kelly Price	SSFA

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Mulga Town Hall

Date and Time of Meeting:

April 22, 2015

[illegible]

Location of Meeting:

Mulga Town H 11
August 28, 2015 - 11:00 AM - 12:30 PM

[illegible]

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Pinson City HallDate and Time of Meeting: 6/15/15 - 9:30 a.m.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Brian	Allison	Pinson Co Sheriff's Office	Sheriff's Sgt.	allisonb@jccal.org	205-540-0968
Jason	Howell	Palmerdale Fire	Fire Chief	Howelljfd@gmail.com	205-283-4163
Richard	Archer	Palmerdale Fire	Asst. Chief	Archerjfd@gmail.com	205-283-7292
Annette	Davis	ITC EMA	Kim Dyer	davis@jccal.org	205-254-2339
Frank	Dyer	Chast	City Manager	rdyer@claypaladine.org	205-229-2153
Tom	Henderson	Center Point	Mayor	cpurzya@charter.net	205-854-4440
Bobbie Harris	Harris	Center Point	Public Works Director	cpurzya@charter.net	205-854-4440
Holt	SKINNER	PINSON	MAYOR	SKINNER@THECITYOFP	205-306-8962
DONNIE	WEST	Center Point	Fire Chief	dwest@centerpointfire	205-965-0521
Bob	Sims	PINSON	County Administrator	brians@thehofpinson.com	205-503-8630

**

**

680-5356

Sylvan Springs

HAZARD MITIGATION PLANNING COMMUNITY INVOLVEMENT MEETING Monday, April 20, 2015

SIGN-IN SHEET

Ken Poe	Mulga Water and Gas
Ken Garther	Mulga Water and Gas
Ken Garther	Town of Sylvan Springs
Greg Kilburn	Town of Sylvan Springs
Peggy Shady	
Vickie Paradise	
Tom Paradise	Sylvan Springs Fire
T. Paradise	
Ray McRij	
Don Home	
Kelly Price	SSFD

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting: Tarrant Public Safety Building / Tarrant City Hall
 Date and Time of Meeting: 6/8/15 11:00 AM 6/8/15 @ 1:00 PM

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
LARRY	RICE	TARRANT PD	L.T.	Lrice@tarrantpd.com	205-849-2811
Chris	Kenny	TARRANT PD	Cpl.	CKenny@tarrantpd.com	205-849-2811
Phillip	George	TARRANT PD	SGT	PGeorge@tarrantpd.com	205-849-2811
BRENDA	BOBBAN	TARRANT PD	NOMIN. ASST.	bboosan@tarrantpd.com	205-849-2811
DESIRÉE	DESIRÉE	TARRANT P.D.	dispatcher	dtrits@tarrantpd.com	205-849-2811
Zachary	Drummond	Tarrant P.d	SGT	Zdrummond@tarrantpd.com	205-849-2811
Koger	ROSS	Tarrant PD	Patrol Officer	Rross@tarrantpd.com	205-849-2811
ADAM	DOZIER	TARRANT PD.	PATROL OFFICER	DEVILDO6DOZIER@HOTMAIL.	205-356-5959
Betty	Middlebrook	Tarrant City	Council member	bmiddlebrook@tarrantcity.org	305-434-2914
DENNIS	REND	TARRANT P.D.	CHIEF OF POLICE	DREND@TARRANTPD.COM	205-849-2811
Ken	Jones	Tarrant Inspections	Building Inspections Office	Kjones@cityoftarrant.com	205-849-2816
Debbie	Matthews	City Council	Council Mem.	matthews@tarrantcity.org	205-563-0936
James	Phillips	Tarrant Public Works	Dir Public Works	JPhillips@cityoftarrant.com	205-849-2816
Chris	O'Rear	Tarrant Public Works	Dir Public Works	CORear@cityoftarrant.com	205-849-2828
Bernie	Goldman	Tarrant Public Works	City Attorney	bgoldman@tarrantcity.org	205-562-0142

Shana D. Horton Tarrant City Council Council Member hortonshana@tarrantcity.org 205-849-2071

Joyce Juch Tarrant City Council Mayor juch@tarrantcity.org 205-849-4924

Barbara Donald Tarrant City Clerk barbara.donald@tarrantcity.org

Bruce Seiler Tarrant City Clerk bseiler@tarrantcity.org

Oliver Stampler Tarrant City Clerk oliver.stampler@tarrantcity.org

Location of Meeting:
Date and Time of Me

Tarrant Public Safety Bldg / Tarrant City Hall
6/8/15 - 11:00 a.m. / 6/8/15 - 1860

6/8/15 - 7862

[illegible]

Trafford Hazard Mitigation Meeting

4/17/15

9:00 a.m. - Town Hall

	<u>Agency</u>	<u>Email</u>
1. Annette Davis	JC EMA	davisj@jcema.com
2. Leslie Barrett	Trafford Townhall	TraffordTown@bellsouth.net
3. Carolyn Tyler	TRAFFORD TOWN HALL	carman98@bellsouth.net
4. Phyllis Thomas	Trafford Town Hall	Phyllis.thomas@yahoo.com

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:	TRAFORD Town Hall
Date and Time of Meeting:	Thurs 11.30.15 - 3pm

Location of Meeting:	Trattoria Town Hall
Date and Time of Meeting:	March 1, 2015 - 3pm

[illegible]

Davis, Annette

From: Lieutenant Cynthia Jones [CJones@Trussvillefire.com]
Sent: Friday, April 17, 2015 7:41 AM
To: Davis, Annette
Subject: Attendance from Trussville Hazard Mitigation Forum

Good Morning Annette,

Here is a list of those who attended the meeting last night:

*4/16/15
(Trussville Civic Center - 6:00p.m.)*

Russell Ledbetter, Fire Chief, *Trussville - RLedbetter@Trussvillefire.com*

Cindy Jones- *Training Officer + EMS - Trussville - cJones@trussvillefire.com*

Gene Melton, Mayor *Trussville - mayor@trussville.org*

Bonnie Melton- *Citizen (wife of Mayor)*

Annette Davis - Jefferson County EMA - davis2@jccal.org

Cindy Jones, Lieutenant
EMS & Training Officer
Trussville Fire & Rescue
421 Cherokee Drive
Trussville Alabama 35173
205-790-8505 Cell
205-655-4149 fax
cJones@trussvillefire.com
www.trussvillefire.com



Turn Your Attention To Fire Prevention

HAZARD MITIGATION PLAN UPDATE MEETING

Location of Meeting:

Pinecroft City Hall

Date and Time of Meeting:

4/21/15 - 10:00 AM.

First Name	Last Name	Jurisdiction or Agency	Title/Position or "Citizen"	Email Address	Contact Phone #
Brian	Allison	Pinson Co Sheriff's Office	Sheriff's Sgt.	allison.b@jccal.org	205-540-0968
Jason	Howell	Palmerdale Fire	Fire Chief	Howelljfd@gmail.com	205-283-4683
Richard	Archer	Palmerdale Fire	Asst. Chief	Archerjfd@gmail.com	205-283-7292
Annette	Davis	TC EMA	EM Officer	davis@jccal.org	205-854-2039
Trace	Davis	Class	City Manager	rdavis@claydabone.org	205-829-2153
Tom	Howellson	Center Point	Mayor	cmh@centerpoint.org	205-854-4440
Billy Davis	Loggins	Center Point	Public Works Director	publicworks@jccal.org	205-306-8963
Hoyt	SKOVERS	PINSON	MAYOR	HOWELLSON@THECITYOFPINSON.ORG	680-5556
DONNIE	WELST	Center Point	Town Chief	donnell@centerpointfire	205-965-0521
Bob	JONES	PINSON	County Administrator	bjones@thepinson.com	205-503-8630

Pinson Co. Sheriff's Office

Location of Meeting: City of Vestavia Hills City Hall

Location of Meeting:

City of Vestavia Hills City Hall

Date and Time of Meeting: Jan 14 2015 0845

[illegible]

Warrior

Scheduled meetings on HMP

4/20- Hardin, Tumlin. EMA training room

4/25- Hardin, C. Neely. Initial start up planning

4/30- Hardin, Archer, Horn, A. Crane, M. Tumlin, C. Neely, dispatchers on duty, Officer James.
staff numbers and implementation

5/1- Hardin, Tumlin. plan implementation

5/22- Hardin, everbridge (EMA) 8a-12p

% Chief Green (VHFD) HMP

5/23 Hardin, Lt Price (Gardendale Fire) HMP

6/5- Hardin, Clay, Kim, Ms Wesson

6/18- Mayor, City Council, Kathy Jolly, Demitra Mixon, Mike Tumlin

Hazard Mitigation Plan approved

7/1- Hardin, Annette Davis - Plan submitted to EMA

Emergency/Mass Notification and Critical Communications will be assessed by the Everbridge system.

Administrators

Chris Hardin

Managers

Corey Archer

Andrew Hill

Clay Neely

Dispatchers

Bobby Reno

Andrew Johnson

Location of Meeting:
Date and Time of Meeting:

West Jefferson Town Hall
7/15/15 - 9:00 a.m.

Date and Time of Meeting:

[illegible]

Other Meetings where Hazard Mitigation Planning was discussed

Location of Meeting: Jefferson County EMA Training Room
Date and Time of Meeting: February 3, 2015 10:00 a.m.

System meeting
(Hazard Mitigation Citizen Input forms)

[illegible]

HCARC
UAB 2020 Building
3-Feb-15

First Name	Last Name	Agency	Phone	Email Address
Thomas	Manthei	HCAAC Vice Pres	934 258	Thomas@uab.edu
Nancy	Whittle	BASO St. Vincent's Bham	939-7870	ak4lg@yahoo.com
Donna	Keith	St. Vincent's Bham	939-7870	donna.keith@stvhb.com
Cheri	Brooker	St. Vincent's Bham	939-7770	cheri.brooker@stvhb.com
Bill	Moyfield	UAB Health System	704-4464	wgmoyfield@gmail.com
Roger	Pearsons	AT Labs	205-641-9063	Roger.E.Pearsons@SCI.com
Paul	Frey	VA Hospital AND Walker County Emergency Center	205-678-3580 503-5132	PFREY5@GMAIL.COM MASIBCS2@aol.com
MABEL	SORENSEN	BIRMINGHAM VA MEDICAL CENTER	714-4704	david.dykeman@va.gov
DAN	DYKEMAN	Birmingham VAMC	369-4597	thommy.turners@uab.edu
Tim	TURNER	UAB	365-1372	ke44r@gmail.com
Kris	Kirby	UAB	687-0785	mail@lkey.info
LARRY	Lokey	UAB	249-6489	billsprie13@gmail.com
DAVID	WILLESPIE	JEFF COAKES	685-4145	John.Hoopere@dph. State.al.us
Joh.	Hooper	ADPH (Medical Dept) UABMU	481-7032	chooper@uabmc.org
Carl	Chaffin			

UAB 2020 Building

3-Feb-15

[illegible]

Jefferson County EMA Training Room

10-Feb-15

First Name	Last Name	Agency	Phone	Email Address
JAMES	Coker	TC EMA		cokerj@jccal.org
Annette Mayor	Davis	TC EMA		davisa@jccal.org
Barbara Counailor	Watkins	City of Brighton		cityofbrighton@att.net
Annie	Woods	City of Brighton		cityofbrighton@att.net

Public meeting notice, Hazard Mitigation Plan March 2, 2015 via Twitter

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Kelvin Reynolds retweeted
 **Fox News** @FoxNews · 47s
@Netanyahu: "Purpose of my address to Congress... is to speak up about a potential deal w/ Iran that could threaten the survival of Israel."
24 9

 **EMAJeffersonCoAL** @EMAJeffCoAL · 11s
JeffCoEMA Public meeting concerning the County Hazard Mitigation Plan; Jefferson State Carson Rd 6:00pm tonight Lurleen Wallace Hall
1 1

 **Parrish Alleman** @pealleman · 1m
The man was released from prison in 2011 after serving a sentence for murder. He told dep. he ran from them to avoid going back to prison.
1 1

Birmingham-Southern retweeted
 **Chip Patton** @tchipster · Feb 28
I just gave \$50 to Birmingham-Southern as a thank you to President Krulak. Feel free to help them reach their goal! bsc.givecorps.com/causes/960-ann...
1 1

 **EMAJeffersonCoAL** @EMAJeffCoAL · 2m
From @NWSBirmingham
Tonight - Rain chances continue as front stalls. Patchy fog poss. Lows mid 40s N - mid 50s S.

Rain chances continue as a cold front stalls across the area.
Patchy fog also possible.

With Outstandi... 2012 - Microsoft Word Twitter - Mozilla Firefox Search De

Jefferson County EMA Training Room
6-Mar-15

Hazard Mitigation Citizen Input Surveys

[illegible]

9-Mar-15

[illegible]

Colonial Pipeline & Plantation Pipeline Training Class
3/9/15 - JCEMA Training Room - 11am - 1pm
Hazard Mitigation Plan discussed.



KINDER MORGAN

Jefferson County, AL

03/09/15

Agency	Bessemer Fire Department	Volunteer	<input checked="" type="radio"/> Career	Both
Address	1111 2nd Avenue N.			
City	Bessemer	State	AL	Zip 35020
Email	ca.phillips@bessemeral.org	Phone #	205-965-4204	
Signature	Craig Phillips	Print Name	Craig Phillips	

Agency	Birmingham Fire Dept	Volunteer	<input checked="" type="radio"/> Career	Both
Address	2210 Highland Ave			
City	Birmingham	State	AL	Zip 35215
Email	zwillis@birmingham.al.gov	Phone #	(205) 215-6687	
Signature	Zachary Willis	Print Name	Zachary Willis	

Agency	Birmingham Fire	Volunteer	<input checked="" type="radio"/> Career	Both
Address	2210 Highland Ave			
City	Birmingham, AL 35205	State	AL	Zip 35205
Email	Eugene Thomas 2 @ birmingham.al.gov	Phone #	205-933-8643	
Signature	Eugene Thomas	Print Name	Eugene Thomas	

Agency	Bessemer Fire	Volunteer	<input type="radio"/> Career	Both
Address	1111 2nd Ave N			
City	Bessemer	State	AL	Zip 35020
Email	MRHageni@hotmail.com	Phone #	205 428-5151	
Signature	Keith Clay	Print Name	Keith Clay	

Agency	Jefferson Co Sheriff	Volunteer	<input checked="" type="radio"/> Career	Both
Address	2200 8th Av N			
City	B'ham	State	AL	Zip 35203
Email	edgill@jccal.org	Phone #	305-5873	
Signature	Tim Edgill	Print Name	Tim Edgill	

Agency	Jefferson Co EMA	Volunteer	<input checked="" type="radio"/> Career	Both
Address	709 19th St N.			
City	B'ham AL	State	AL	Zip 35203
Email	davis@jccal.org	Phone #	205-254-2039	
Signature	Annette Davis	Print Name	Annette Davis	

**KINDER MORGAN**

Jefferson County, AL

03/09/15

Agency <u>BFRS</u>	Volunteer <input checked="" type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address	
City	State Zip <u>35244</u>
Email <u>Joseph.Williams@bfrs.com</u>	Phone # <u>205 910-1874</u>
Signature <u>[Signature]</u>	Print Name <u>JOSEPH WILLIAMS</u>

Agency <u>BFRS</u>	Volunteer <input checked="" type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address	
City <u>BIRMINGHAM</u>	State <u>AL</u> Zip
Email <u>KSCHOUFENS@YAHOO.COM</u>	Phone # <u>205-425-1786</u>
Signature <u>[Signature]</u>	Print Name <u>KURT SCHOUFENS</u>

Agency <u>EMA/UAB</u>	<input checked="" type="checkbox"/> Volunteer <input type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address	
City <u>Birmingham</u>	State <u>AL</u> Zip
Email <u>CIRAY@uab.edu</u>	Phone # <u>334-313-2287</u>
Signature <u>[Signature]</u>	Print Name <u>CASEY RAY</u>

Agency <u>Trussville Fire</u>	Volunteer <input checked="" type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address <u>PO Box 159</u>	
City <u>Trussville</u>	State <u>AL</u> Zip <u>35178</u>
Email <u>RMclaughlin@TrussvilleFire.com</u>	Phone # <u>205-655-0491</u>
Signature <u>[Signature]</u>	Print Name <u>Keith McLaughlin</u>

Agency <u>BFRS</u>	Volunteer <input checked="" type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address	
City <u>BIRMINGHAM</u>	State <u>AL</u> Zip
Email	Phone #
Signature <u>[Signature]</u>	Print Name <u>DANIEL COOPER</u>

Agency <u>BFRS</u>	Volunteer <input type="checkbox"/> Career <input type="checkbox"/> Both <input type="checkbox"/>
Address	
City <u>Birmingham</u>	State <u>AL</u> Zip
Email <u>rescue.mgn.01@yahoo.com</u>	Phone #
Signature <u>[Signature]</u>	Print Name <u>Mark Hill</u>

**KINDER MORGAN**

Jefferson County, AL

03/09/15

Agency	Bessemer Fire Department	Volunteer	<input checked="" type="radio"/> Career	Both
Address	1800 1111 2nd Ave N			
City	Bessemer	State	AL	Zip 35020
Email	jbeidson@bessemeral.org	Phone #	428-5151	
Signature	Johnny Eidson	Print Name	Johnny Eidson	

Agency	Jefferson County EMA	Volunteer	<input checked="" type="radio"/> Career	Both
Address	109 North 19th Street			
City	Birmingham	State	AL	Zip 35203
Email	hodgej@jccal.org	Phone #	205-6254-2039	
Signature	Jody Hodge	Print Name	Jody Hodge	

Agency	Hoover Fire Dept	Volunteer	<input checked="" type="radio"/> Career	Both
Address	1891 Patton Chapel Rd			
City	Hoover	State	AL	Zip 35003
Email	praterd@ci.hoover.al.us	Phone #	261-2007	
Signature	Duane Prater	Print Name	Duane Prater	

Agency	Birmingham Fire & Rescue	Volunteer	<input checked="" type="radio"/> Career	Both
Address				
City		State		Zip
Email		Phone #	910-8164	
Signature	Rob Trautman	Print Name	Rob Trautman	

Agency	Birmingham Fire & Rescue	Volunteer	<input checked="" type="radio"/> Career	Both
Address				
City		State		Zip
Email	kginduke79@gmail.com	Phone #	585-0737	
Signature	Kevin Duke	Print Name	Kevin Duke	

Agency	BFRS	Volunteer	<input checked="" type="radio"/> Career	Both
Address	1512 Springville Rd			
City	Birmingham	State	AL	Zip 35215
Email	Bryan.Cadiz@Birmingham.gov	Phone #		
Signature	Bryan A. Cadiz	Print Name	853-4346	

**KINDER MORGAN**

Jefferson County, AL

03/09/15

Agency	Midfield Police Dept	Volunteer	<input checked="" type="radio"/> Career	Both
Address	725 Bessemer Super Hwy			
City	Midfield	State	AL	Zip 35222
Email	j.e.l.k.s.67@gmail.com	Phone #	255-237575	
Signature		Print Name	Daniel Coffey	

Agency	Birmingham Fire Rescue	Volunteer	<input type="radio"/> Career	Both
Address	100 Spaulville Rd			
City	Bham	State		Zip
Email	Charley Agnew @ birminghamal.gov	Phone #		
Signature		Print Name		

Agency	BFRS	Volunteer	<input type="radio"/> Career	Both
Address	1512 Spaulville Rd			
City	Bham	State		Zip
Email	Timothy S. Sillars Firehouse11.com	Phone #		
Signature		Print Name		

Agency	BFRS	Volunteer	<input checked="" type="radio"/> Career	Both
Address				
City		State		Zip
Email	wehardley@gmail.com	Phone #	205-925-6786	
Signature		Print Name	Norman Hardley	

Agency	BFRS	Volunteer	<input type="radio"/> Career	Both
Address	1805 7th Ave S			
City	Bham	State	AL	Zip 35173
Email	Thomas White @ birminghamal.gov	Phone #		
Signature		Print Name	Thomas White	

Agency	JEFF C EMA	Volunteer	<input checked="" type="radio"/> Career	Both
Address	709 N. 19th St.			
City	Bham	State	AL	Zip 35203
Email	ammons@JEFFC.ORG	Phone #	205-254-2039	
Signature		Print Name		



Jefferson County, AL

03/09/15

Agency	Jefferson Co. EMS	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address	709 19th Street North			
City	Birmingham	State	AL	Zip 35203
Email	waagner@jccal.org	Phone #	205 254 2039	
Signature			Print Name Horace K. Waagner	

Agency	Fair Field Fire & Rescue	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address	5231 Court B			
City	Fair Field AL 35061	State	AL	Zip 35061
Email	wrogers@fairfieldal.org	Phone #	(205) 453-3535	
Signature			Print Name Willie E. L. Rodgers Jr.	

Agency		Volunteer	<input type="radio"/> Career	<input type="radio"/> Both
Address				
City		State		Zip
Email		Phone #		
Signature			Print Name	

Agency		Volunteer	<input type="radio"/> Career	<input type="radio"/> Both
Address				
City		State		Zip
Email		Phone #		
Signature			Print Name	

Agency		Volunteer	<input type="radio"/> Career	<input type="radio"/> Both
Address				
City		State		Zip
Email		Phone #		
Signature			Print Name	

Agency		Volunteer	<input type="radio"/> Career	<input type="radio"/> Both
Address				
City		State		Zip
Email		Phone #		
Signature			Print Name	

**KINDER MORGAN**

Jefferson County, AL

03/09/15

Agency <u>BFRS</u>	Volunteer <input checked="" type="checkbox"/>	Career <input type="checkbox"/>	Both <input type="checkbox"/>
Address			
City	State	Zip	
Email <u>ramadebairly@yahoo.com</u>	Phone # <u>(205) 746-8899</u>		
Signature <u>[Signature]</u>	Print Name <u>Ramade Bairly</u>		

Agency <u>Fairfield Fire + Rescue</u>	Volunteer <input type="checkbox"/>	Career <input type="checkbox"/>	Both <input type="checkbox"/>
Address <u>5231 COURT B</u>			
City <u>Fairfield, AL</u>	State <u>AL</u>	Zip <u>35064</u>	
Email <u>fjefferson@fairfieldal.us</u>	Phone # <u>205-787-1679</u>		
Signature <u>[Signature]</u>	Print Name <u>Frankie Jefferson</u>		

Agency <u>Vestavia Hills</u>	Volunteer <input type="checkbox"/>	Career <input checked="" type="checkbox"/>	Both <input type="checkbox"/>
Address <u>513 Montgomery Hwy</u>			
City <u>Vestavia Hills</u>	State	Zip <u>35216</u>	
Email <u>mgreg@vhal.org</u>	Phone # <u>978-0221</u>		
Signature <u>[Signature]</u>	Print Name <u>Manir Green</u>		

Agency <u>JEFFERSON CO. EMA</u>	Volunteer <input type="checkbox"/>	Career <input checked="" type="checkbox"/>	Both <input type="checkbox"/>
Address <u>709 19TH ST. N.</u>			
City <u>BIRMINGHAM</u>	State <u>AL</u>	Zip <u>35203</u>	
Email <u>COKEJ@JCCAL.ORG</u>	Phone # <u>205 254 2039</u>		
Signature <u>[Signature]</u>	Print Name <u>JAMES COKER</u>		

Agency	Volunteer	Career	Both
Address			
City	State	Zip	
Email	Phone #		
Signature	Print Name		

Agency	Volunteer	Career	Both
Address			
City	State	Zip	
Email	Phone #		
Signature	Print Name		



Jefferson County, AL

03/09/15

Agency	BFRS	Volunteer	Career	Both
Address	7633 D.W. Robbins Rd			
City	Dora AL	State	AL	Zip 35062
Email	jasendcox25@gmail.com		Phone #	(205) 601-1346
Signature	Jason D. Cox		Print Name	Jason D Cox

Agency	Central Point Fire	Volunteer	Career	Both
Address	2229 CENTRAL POINT PKY			
City	Phenix	State	AL	Zip 35215
Email	Coleman E. Kerner@centralpointfire.com		Phone #	205 8530295
Signature	W.C. Coleman		Print Name	W.C. COLEMAN

Agency	CENTER POINT FIRE DISTRICT	Volunteer	Career	Both
Address	2229 CENTER POINT PARKWAY			
City	CENTER POINT	State	AL	Zip 35215
Email	underwood@centerpointfire.com		Phone #	205-965-6167
Signature	Pam W. Underwood		Print Name	Pam W. Underwood

Agency	BFRS	Volunteer	Career	Both
Address	6449 1st Ave N			
City	Birmingham	State	AL	Zip 35212
Email	batoniwright@yahoo.com		Phone #	(205) 382-3938
Signature	B. Wright		Print Name	B. Wright

Agency	BFRS	Volunteer	Career	Both
Address	6449 1st Ave N			
City	Birmingham	State	AL	Zip 35212
Email	Stanley.Burroughs@birmingham.gov		Phone #	595-1611
Signature	Stanley Burroughs		Print Name	Stanley Burroughs

Agency		Volunteer	Career	Both
Address				
City		State		Zip
Email			Phone #	
Signature			Print Name	

**KINDER MORGAN**

Jefferson County, AL

03/09/15

Agency	Birmingham Fire	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address				
City		State	Zip	
Email		Phone #	205-999-2860	
Signature	Eric Guber	Print Name	Eric Guber	

Agency	Birmingham Fire	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address				
City		State	AL	Zip
Email	mariponathan@yahoo.com		Phone #	205 925-6786
Signature			Print Name	Nathan Maripon

Agency	Center Point	Volunteer	<input type="radio"/> Career	<input checked="" type="radio"/> Both
Address 2229 Center Point Rd.				
City	Bham	State	AL	Zip 35215
Email	angelo@centerpointfire.com		Phone #	853-5098
Signature	Matt Angelo		Print Name	Matt Angelo

Agency	BFRS	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address				
City	Birmingham, AL	State	AL	Zip 35212
Email	RLR100@gmail.com		Phone #	205 588 8352
Signature			Print Name	Richard Rutledge

Agency	BFRS	Volunteer	<input checked="" type="radio"/> Career	<input type="radio"/> Both
Address 1208 7th Ave N				
City	Birmingham	State	AL	Zip 35203
Email	KENNETH.HARNELL@BIRMINGHAMAL.GOV		Phone #	205 925 6786
Signature			Print Name	Kenneth Harnell

Agency		Volunteer	<input type="radio"/> Career	<input type="radio"/> Both
Address				
City		State	Zip	
Email		Phone #		
Signature		Print Name		



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Hazard mitigation planning being discussed at the Western Mayors Breakfast, Jefferson County.



7:36 AM - 13 Mar 2015



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JeffCoEMA Hazard Mitigation Plan update meeting



8:04 AM - 20 Mar 2015



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Trends

#72andShockTop Promoted by Shock Top Brewing #SolarEclipse #KeepSpringBubbly
#BrusselsForum10 #AUSvPAK Yemen #MarchMadness Kevin Durant Dwight Walker
UCLA



Hazard Mitigation / Safety Dept. Training

Course/Topic:

Disaster Preparedness

Instructor:

Red Cross

Location/Job #:

Date:

5/4/15

Training Address:

Itinerary:

Employee ID	Print Name	Signature	Job Name	Superintendent
	Shereen Carr	Shereen Carr		
	Amna Echols	Amna Echols		
	Georges Trucks	Georges Trucks		
	Brett Leitch	Brett Leitch		
	Alex Gorman	Alex Gorman		
	Daniel Stoddard	Daniel Stoddard		
	Ashley Hamilton	Ashley Hamilton		
	Kathryn Swinford	Kathryn Swinford		
	Dana Spahr	Dana Spahr		
	Evin Elliott	Evin Elliott		
	Roscoe Anderson	Roscoe Anderson		
	Jane Dwyer	Jane Dwyer		










Hazard Mitigation Safety Dept. Training

Course/Topic: Disaster Preparedness Instructor: Red Cross

Location/Job #: _____ Date: 5/4/15

Training Address: _____

Itinerary: _____

Employee ID	Print Name	Signature	Job Name	Superintendent
	James Benson			
	Jeff Harz			
	Caleb Lee			
	Nick Harper			
	Tiff Davis		Pizitz	BMT
	Blake Bailey		Pizitz	BMT
	Melissa Martin		Pizitz	BMT



Safety Dept. Training

Course/Topic:

Hazard Mitigation

Instructor:

Red Cross

Location/Job #:

Date:

5/15

Training Address:

Itinerary:

[illegible]

Safety Dept. Training

Disaster Mitigation

Instructor:

Disaster Preparedness

Red Cross

Course/Topic:

Location/Job #:

Date:

5/4/15

Training Address:

Itinerary:

Employee ID	Print Name	Signature	Job Name	Superintendent
	<i>Pam Clark</i>	<i>Pam Clark</i>		
	<i>Chapple Chandler</i>	<i>Chapple Chandler</i>		
	<i>Wendy Pearson</i>	<i>Wendy Pearson</i>		
	<i>Tanara Evans</i>	<i>Tanara Evans</i>		
	<i>Ginny Billings</i>	<i>Ginny Billings</i>		
	<i>Jess Stord</i>	<i>Jess Stord</i>		
	<i>John Chambers</i>	<i>John Chambers</i>		

III
Present

VH
Trussville
Midfield
Gardendale
Homewood
Tarrant
Heads

Everbridge
Superintendent's
Mtg.

5/14/15

1:30 p.m.

Homewood Bd. of
Ed.

Dr. ^{Bin}Cleveland - Homewood
Dr. ^{Richard}Rice - U of A - Tusc.

Absent

- Hoover
- Mtn. Brook
- Bham
- Fairfield
- JCO
- Bessemer

JC EMA

- Jim Coker
- Annette Davis
- Jody Hodge

- Bham 9-1-1
Greg Silas

Homewood Fire

Mike Anastasia

Henderson's Event Center

Caterer - Event Planning

EMA STAFF HM Meeting
10/16/2015 - JCEMA Conference Room
9:00 a.m.

Horace A. Welke

Bob Ammons

J. Cole

Mike Hartman

Sady Hodge

Saydee White

Annette Davis

Hazard Mitigation Planning Meeting
EMA Conference Room
November 13, 2015 – 1:00 p.m.

Attendees:

Jim Coker 

Annette Davis 

Michael Harter 

✓ Bob Ammons 

Jody Hodge 

Horace Walker 

Gay Nell White 

Mayor's Meeting 11/19/15 - Tim & Gaynell attended.

The Jefferson County Hazard Mitigation Plan Update is still being worked on. Thank you to all who submitted Mitigation Action Items for your jurisdiction. That portion of the plan is complete, but we still are working on the main portion of the plan which includes community profile information for each jurisdiction. Specific information is needed for that plan section including:

- Information on the hazards that have affected your jurisdiction since 2009 and the impact (dollar loss from structures damaged or destroyed or number of lives lost);
- A description of the community's greatest vulnerabilities and how your mitigation strategy will address those;
- A list of what you deem to be critical facilities or vulnerable populations in your jurisdiction, with the location (address).

We are asking for a designated person (or alternate) to attend an upcoming Hazard Mitigation Meeting at the EMA Office on Wednesday, December 9, 2015 at 1:00 p.m. Please complete the form designating the people to represent your jurisdiction. Information on what to bring to the meeting will be emailed to them.

Hazard Mitigation Planning Meeting
EMA Training Room
November 24, 2015 – 1:00 p.m.

Attendees:

Jim Coker

A black ink signature, appearing to be 'JC', written in a stylized, cursive manner.

Annette Davis

A purple ink signature, appearing to be 'AD', written in a stylized, cursive manner.

Michael Harter

A black ink signature, appearing to be 'MH', written in a stylized, cursive manner.

Bob Ammons

A blue ink signature, appearing to be 'BA', written in a stylized, cursive manner.

Jody Hodge

A blue ink signature, appearing to be 'JH', written in a stylized, cursive manner.

Gay Nell White

A blue ink signature, appearing to be 'GNW', written in a stylized, cursive manner.

EMA HAZARD MITIGATION PLANNING MEETING

EMA CONFERENCE ROOM

DECEMBER 8, 2015 – 2:30 p.m.

Attendees:

Jim Coker

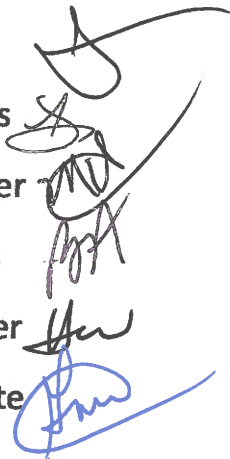
Annette Davis

Michael Harter

Bob Ammons

Horace Walker

Gay Nell White

A series of handwritten signatures in black ink, corresponding to the list of attendees. The signatures are written over the names of Jim Coker, Annette Davis, Michael Harter, and Bob Ammons. A signature in blue ink is written over the name of Gay Nell White.

(Surrounding Counties)

Jefferson County EMA Training Room
December 17, 2015 - 10:00 a.m.

[illegible]

APPENDIX I

STATE OF ALABAMA
JEFFERSON COUNTY
CITY OF ADAMSVILLE
RESOLUTION 2015-13

RESOLUTION 2015-13

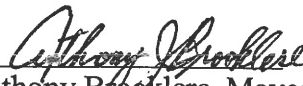
**A RESOLUTION ADOPTING THE CITY OF ADAMSVILLE HAZARD MITIGATION
PLAN**

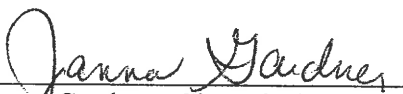
WHEREAS, the City Council of the City of Adamsville acknowledges the significant damage that can result from various acts of nature, and furthermore recognizes the importance of planning for the prevention or lessening of damage from said acts, and

WHEREAS, the City Council of the City of Adamsville, Alabama is desirous of a City plan to aid in mitigating said damage;

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL, to formally adopt the Hazard Mitigation Plan, known hereafter as the "Adamsville Community Action Program 2014-2019."

ADOPTED AND APPROVED this 21st day of May, 2015.


Anthony Brooklere, Mayor Pro Tem

ATTEST: 
Janna Gardner, City Clerk

I, the undersigned qualified City Clerk of the City of Adamsville, Alabama do hereby certify that the above and foregoing is a true copy of a resolution lawfully passed and adopted by the City Council named therein, at a regular council meeting, and that such resolution is on file in the City Clerk's office.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City on this 21st Day of May, 2015


Janna Gardner, City Clerk

CITY OF LEEDS

RESOLUTION NUMBER: 2015-06-10

RESOLUTION IN CONSIDERATION OF APPROVAL OF THE LEEDS HAZARD MITIGATION PLAN

WHEREAS, the Planning and Zoning Commission of the City of Leeds, Alabama has received a request from the Jefferson County Emergency Management Agency to develop an updated Hazard Mitigation Plan for the City of Leeds; and

WHEREAS, the City staff has worked with the Jefferson County EMA to develop an acceptable Plan for such purposes; and

WHEREAS, after due consideration the Commission makes its recommendation to the City Council to adopt the attached Plan as presented.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LEEDS, ALABAMA, AS FOLLOWS:

1. The above Recitals are true and correct and included herein as if fully set forth.
2. The Hazard Mitigation Plan as attached hereto as if fully set forth is hereby approved.
3. The Mayor and City staff shall have the full authority to do those things, perform those functions, and to sign necessary documentation in order to carry out the actions so authorized herein.

APPROVED AND ADOPTED at a regular meeting of the City Council of the City of Leeds, Alabama on this the 15th day of June, 2015.

AYES: 5

NAYS: 0

ABSENT FROM VOTING: 1

ABSTAIN: 0

CITY OF LEEDS, ALABAMA




David Miller, MAYOR

June 15, 2015

DATE

ATTEST:



Kevin Fouts, City Clerk

I, Kevin Fouts, City Clerk of the City of Leeds, hereby certify that the above Resolution was duly adopted by the City Council of the City of Leeds at a regular meeting held on the 15th day of June, 2015.



Kevin Fouts, City Clerk