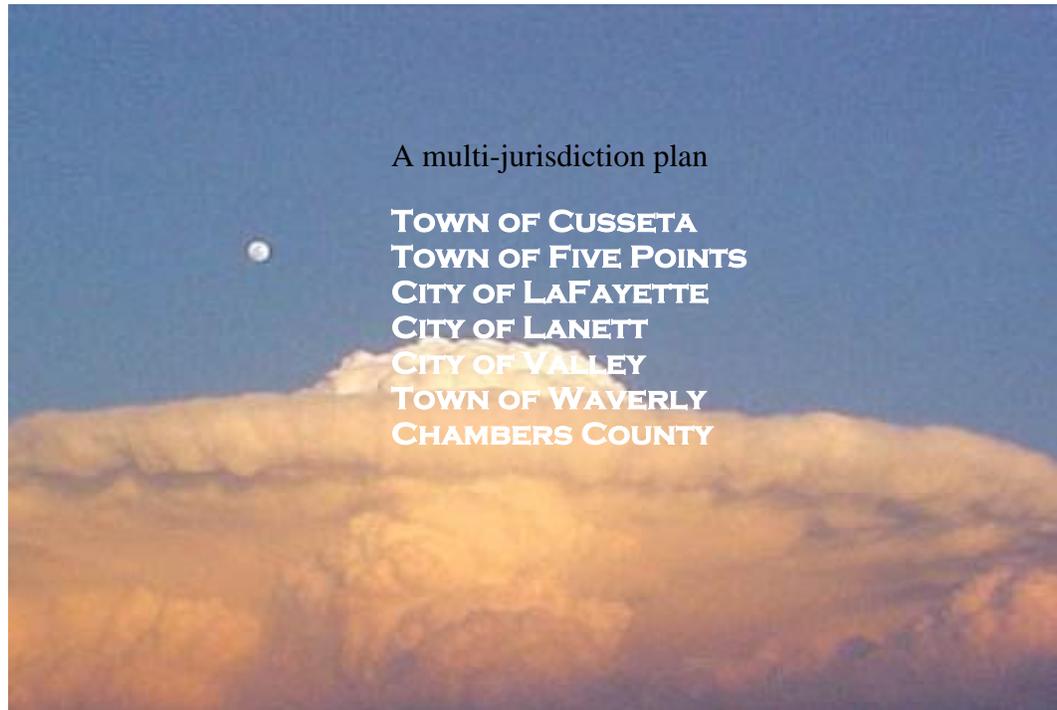


2011
CHAMBERS COUNTY, ALABAMA

Multi-Hazard Mitigation Plan

I. Comprehensive Plan



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



With the support of the Chambers County EMA by:



Funding provided by the Alabama EMA through the
FEMA Hazard Mitigation Grant Program

September 14, 2011

2011 Chambers County, Alabama, Multi-Hazard Mitigation Plan

*Town of Cusseta, Town of Five Points, City of LaFayette, City of Lanett,
City of Valley, Town of Waverly, and Chambers County*

Chambers County Hazard Mitigation Planning Committee

Donnie Smith, Chambers County EMA/911 Director
Kathy Hornsby, Chambers County EMA/911 Deputy Director
Jessica Yeager, Chambers County EMA/911
Josh Harvill, Chambers County Highway Department
Henry Hawkins, Chambers County Highway Department
Valerie Gray, Chambers County Development Authority
Richard Carter, Chambers County Sheriff's Office
Neal Marberry, East Alabama Fire and Water District
Aubrey (Bug) Weldon, Town of Cusseta Volunteer Fire Department
James Williams, AL Forestry Commission and Five Points VFD
Willie C. Kirby, Huguley Fire Department
Kenneth Phillips, City of LaFayette Fire and EMS
Kenneth Vines, City of LaFayette Police Department
Scott Hamil, City of Lanett, EMS
Jerry Thrower, City of Lanett Street Department
Johnny Allen, City of Lanett Fire/EMS
Timothy J. Hughes, City of Valley EMS
Tommy Weldon, City of Valley Police Department
Marcus Moreman, Town of Waverly, City Hall

Contacts

Kathy Hornsby
Deputy Director
Chambers County Emergency Management &
Communications District, Inc. (EMA/911)
www.chamberscounty911.com
3507 Veteran's Memorial Pkwy.
Lanett, AL 36863
334-576-0911
deputy.director@chamberscounty911.com

James E. Lehe, AICP
Manager

Lehe Planning, LLC
leheplanning.com
300 Century Park S, Suite 216
Birmingham, AL 35226
205-978-3633
jelehe@leheplanning.com

The preparation and publication of this plan was funded in part by a FEMA grant under the Hazard Mitigation Grant Program awarded by the Alabama EMA to the Chambers County Commission.

Copyright © 2011 by Lehe Planning, LLC. All Rights Reserved. This document contains proprietary materials and methods copyrighted by Lehe Planning, LLC. Permission is granted to the Chambers County Emergency Management Agency (EMA) for its internal use. Use by anyone other than the Chambers County EMA requires the express written permission of Lehe Planning, LLC. You may not copy, modify, publicly display, distribute, reverse engineer, or incorporate into your products or services this document (or any of the information or data structures contained herein) without the express written authorization of Lehe Planning, LLC.

September 14, 2011

Contents

Executive Summary ix

Multi-Hazard Mitigation Plan

Chapter 1 Introduction.....1-1
Chapter 2 Prerequisites.....2-1
Chapter 3 Community Profiles.....3-1
Chapter 4 The Planning Process.....4-1
Chapter 5 Risk Assessment5-1
Chapter 6 Mitigation Strategy6-1
Chapter 7 Plan Maintenance Process7-1

Community Action Programs

1.0 Development of Community Action Programs2
2.0 Community Action Programs for Each Jurisdiction2

Appendices

Appendix A Federal Requirements for Local Mitigation Plans A-1
Appendix B Community Mitigation Capabilities B-1
Appendix C 2004 Plan Implementation Status C-1
Appendix D HMPC Hazard Identification and Ratings D-1
Appendix E Hazard Profile Data..... E-1
Appendix F Identification and Analysis of Mitigation Measures F-1
Appendix G Committee Meeting Documentation G-1
Appendix H Community Involvement Documentation..... H-1
Appendix I Multi-Jurisdictional Participation Activities..... I-1
Appendix J Adopting Resolution.....J-1

Chapter 1 Introduction.....1-1
1.1 Background.....1-1
1.2 Authority.....1-1
1.3 Funding.....1-2
1.4 Eligibility for FEMA Hazard Mitigation Assistance Grants1-2
1.5 Chambers County, Alabama, Natural Hazards Mitigation Plan (2006).....1-3
1.6 The 2011 Chambers Co. Multi-Hazard Mitigation Plan Update.....1-3

Chapter 2 Prerequisites.....2-1

- 2.1 Federal Prerequisites2-1
- 2.2 Plan Approval Required for Mitigation Grants Eligibility2-1
- 2.3 Multi-Jurisdictional Participation2-2
- 2.4 Multi-Jurisdictional Plan Adoption2-3

- Chapter 3 Community Profiles3-1**
 - 3.1 Federal Advisory Guidance for Community Profiles.....3-1
 - 3.2 Summary of Plan Updates.....3-1
 - 3.3 Geographic Setting and History3-2
 - 3.4 Government3-5
 - 3.5 Physical Features.....3-5
 - 3.6 Climate.....3-7
 - 3.7 Demographics3-8
 - 3.8 Economy3-14
 - 3.9 Utilities3-19
 - 3.10 Media3-19
 - 3.11 Transportation3-20

- Chapter 4 The Planning Process.....4-1**
 - 4.1 Federal Requirements for the Planning Process4-1
 - 4.2 Summary of Plan Updates.....4-2
 - 4.3 Opportunities for Public Comment on the Plan4-2
 - 4.4 Opportunities for Involvement in the Planning Process.....4-3
 - 4.5 Review and Incorporation of Applicable Plans and Documents4-4
 - 4.6 How the Plan was Prepared4-5
 - 4.7 Who was Involved in the Planning Process4-6
 - 4.7.1. The Hazard Mitigation Planning Committee4-6
 - 4.7.2. The Mission of the Hazard Mitigation Planning Committee.....4-7
 - 4.7.3 Preparation of the Plan Update4-7
 - 4.8 How the Public was Involved in the Planning Process4-8
 - 4.9 The Plan Review and Update Process4-8

- Chapter 5 Risk Assessment5-1**
 - 5.1 Federal Requirements for Risk Assessments5-1
 - 5.2 Summary of Plan Updates.....5-2
 - 5.3 Identification of Hazards Affecting Each Jurisdiction.....5-2
 - 5.3.1 Types of Hazards.....5-2
 - 5.3.2 Sources for Identifying Chambers County Hazards.....5-5
 - 5.4 Hazard Profiles.....5-8
 - 5.4.1 Severe Storms Profile5-8
 - 5.4.2 Tornadoes Profile5-10
 - 5.4.3 Winter Storm/Freezes Profile5-15
 - 5.4.4 Drought/Heat Waves Profile5-18
 - 5.4.5 Hurricanes Profile5-19

5.4.6	Floods Profile.....	5-22
5.4.7	Dam/Levee Failures Profile.....	5-25
5.4.8	Wildfires Profile.....	5-32
5.4.9	Sinkholes (Land Subsidence) Profile.....	5-40
5.4.10	Earthquakes Profile	5-42
5.4.11	Landslides Profile	5-46
5.5	Vulnerability of Structures within Each Jurisdiction	5-49
5.5.1	Scope of Structure Inventory	5-49
5.5.2	Inventory Methodology	5-49
5.5.3	HAZUS-MH Structure Inventory	5-52
5.5.4	Existing and Future Structure Vulnerabilities by Hazard and Jurisdictions	5-55
5.6	Estimate of Dollar Losses to Vulnerable Structures	5-73
5.6.1	Scope and Purpose of Loss Estimates.....	5-73
5.6.2	Loss Estimate Methodology	5-73
5.6.3	HAZUS-MH Loss Estimates	5-74
5.6.4	Loss Estimates Based on Historical Records	5-87
5.6.5	Recommended Risk Assessment Measures	5-87
5.7	General Description of Land Uses and Development Trends	5-88
5.7.1	Impacts of Development Trends on Vulnerability.....	5-88
5.7.2	Past Trends.....	5-88
5.7.3	Future Trends	5-94
5.8	Repetitively-Damaged NFIP-Insured Structures.....	5-96
5.9	Summary of Hazards and Community Impacts.....	5-97
5.10	Risks that Vary Among the Jurisdictions.....	5-103
Chapter 6	Mitigation Strategy.....	6-1
6.1	Federal Requirements for the Mitigation Strategy.....	6-1
6.2	Summary of Plan Updates.....	6-2
6.3	Goals for Hazard Mitigation	6-2
6.3.1	Description of How the Goals were Developed	6-2
6.3.2	The Vision for Disaster-Resistant Chambers Co. Communities.....	6-4
6.3.3	Community Goals.....	6-6
6.3.4	Compatibility with 2010 Alabama State Plan Goals	6-6
6.4	Participation and Compliance with the NFIP.....	6-7
6.5	Implementation of Mitigation Actions	6-8
Chapter 7	Plan Maintenance Process	7-1
7.1	Federal Requirements for the Plan Maintenance Process	7-1
7.2	Summary of Plan Updates.....	7-1
7.3	Monitoring, Evaluating, and Updating the Mitigation Plan	7-2
7.3.1	Ongoing Monitoring of the Plan.....	7-2
7.3.2	Evaluating the Plan.....	7-2
7.3.3	Plan Update Process	7-3

7.4 Incorporation of the Mitigation Plan into Other Planning Mechanisms7-4
7.5 Continuing Public Participation in the Plan Maintenance Process7-5

List of Maps

Map 3-1 Chambers County Location.....3-2
Map 3-2 Chambers County Municipalities3-3
Map 3-3 General Physiography3-6
Map 3-4 Alabama Forest Types3-7
Map 3-5 Transportation Facilities3-21
Map 5-1 Tracks of the Tornadoes Paths on April 27, 2011.....5-11
Map 5-2 Chambers County Tornado Locations, 1950-2009.....5-13
Map 5-3 Alabama Winter Storm Frequency, 1993-20065-17
Map 5-4 Hurricane and Storm Paths, 1851-20045-21
Map 5-5 Flood Zones.....5-24
Map 5-6 Chambers County Dams/Levees5-27
Map 5-7 West Point Lake Dam Inundation Area (1)5-30
Map 5-8 West Point Lake Dam Inundation Area (2)5-31
Map 5-9 Chambers County Forest Fuels5-34
Map 5-10 Chambers County Vegetation Cover.....5-35
Map 5-11 Chambers County Wildfire Risk5-36
Map 5-12 Alabama Total Acres Burned, 1999-20095-37
Map 5-13 Chambers County Fire Observations5-38
Map 5-14 Chambers County Fire Occurrences5-39
Map 5-15 Outcrops of Carbonate Rocks in Alabama5-40
Map 5-16 Active Sinkhole Areas in Alabama5-41
Map 5-17 Seismic Zones in Southeastern United States5-42
Map 5-18 Peak Ground Acceleration5-44
Map 5-19 Alabama Earthquake Locations5-45
Map 5-20 Chambers County Landslide Areas.....5-48
Map 5-21 Government Facilities5-62
Map 5-22 Public Safety Facilities5-64
Map 5-23 Schools.....5-66
Map 5-24 Hospitals and Elderly Care Facilities5-68
Map 5-25 Transportation Infrastructure5-69
Map 5-26 Dams5-72
Map 5-27 HAZUS-MH Flood Loss Estimate, 100 Year Event.....5-78
Map 5-28 HAZUS-MH Flood Loss Estimate, 500 Year Event.....5-79
Map 5-29 HAZUS-MH Hurricane Loss Estimate, 100 Year Event5-82
Map 5-30 HAZUS-MH Hurricane Loss Estimate, 500 Year Event5-83
Map 5-31 HAZUS-MH Earthquake Loss Estimate, 100 Year Event5-85
Map 5-32 HAZUS-MH Earthquake Loss Estimate, 500 Year Event5-86
Map 5-33 Population Density in Chambers County5-90
Map 5-34 Population Density5-91
Map 5-35 Land Cover in Chambers County5-93

List of Tables

Table 3-1 Summary of Plan Updates3-1

Table 3-2 General Climate Observations3-8

Table 3-3 Population Changes 1970-2009.....3-10

Table 3-4 Population by Race and Hispanic Origin3-12

Table 3-5 Population by Gender3-12

Table 3-6 Largest Employers3-14

Table 4-1 Summary of Plan Updates4-2

Table 5-1 Summary of Plan Updates5-2

Table 5-2 Identified Chambers County Hazards.....5-3

Table 5-3 Comparison of Identified Chambers County Hazards to 2010 State Plan.....5-5

Table 5-4 Summary of Federally-Declared Disasters, 1975-20115-7

Table 5-5 Annual Summary of Severe Storm Events, 1965-20105-9

Table 5-6 Annual Summary of Tornado Events, 1970-2010.....5-14

Table 5-7 Winter Weather Observations5-15

Table 5-8 Annual Summary of Winter Storm/Extreme Cold Events, 1996-2010.....5-16

Table 5-9 Annual Summary of Drought/Extreme Heat Events, 1996-2010.....5-18

Table 5-10 Annual Summary of Hurricane Events, 1995-2010.....5-22

Table 5-11 Annual Summary of Flood Events, 1996-20105-25

Table 5-12 Chambers County Dams/Levees5-28

Table 5-13 Population (2010) Distribution by Jurisdiction.....5-50

Table 5-14 1990-2010 Annual Growth Rates by Incorporated Jurisdictions5-51

Table 5-15 2035 Growth Projections and Multipliers5-51

Table 5-16 Population (2035) Distribution by Jurisdiction.....5-51

Table 5-17 Hazard Exposure Rates by Jurisdiction.....5-52

Table 5-18 HAZUS-MH Population and Building Value Data5-53

Table 5-19 HAZUS-MH Building Inventory by Occupancy5-53

Table 5-20 HAZUS-MH Building Inventory by Construction Type5-53

Table 5-21 Building Exposure by Occupancy.....5-55

Table 5-22 Building Values by Jurisdiction.....5-56

Table 5-23 Building Count by Occupancy and Jurisdiction.....5-57

Table 5-24 Building Exposure by Jurisdiction and Hazard5-58

Table 5-25 HAZUS-MH Essential Facilities Data5-59

Table 5-26 HAZUS-MH High Potential Loss Facilities Data5-59

Table 5-27 HAZUS-MH Transportation Systems Lifeline Inventory.....5-59

Table 5-28 HAZUS-MH Utilities Systems Lifeline Inventory5-60

Table 5-29 Government Facilities5-61

Table 5-30 Public Safety Facilities5-63

Table 5-31 Chambers County Schools5-65

Table 5-32 Chambers County Hospitals and Elderly Care Facilities.....5-67

Table 5-33 Dams.....5-70

Table 5-34 Population Distribution by Jurisdiction.....5-74

Table 5-35	HAZUS-MH Flood Module Quick Assessment Results.....	5-75
Table 5-36	Total Economic Losses by Jurisdiction.....	5-76
Table 5-37	Expected Building Damage by Occupancy.....	5-76
Table 5-38	Expected Building Damage by Building Type.....	5-77
Table 5-39	Building Related Economic Loss Estimates	5-77
Table 5-40	HAZUS-MH Hurricane Scenarios.....	5-81
Table 5-41	Chambers County Historic Growth Trends.....	5-88
Table 5-42	Population 2000-2010 and Projections 2015-2035.....	5-94
Table 5-43	Population Projections by Jurisdiction	5-94
Table 5-44	NFIP Policies and Repetitive Loss Claims.....	5-97
Table 5-45	Summary of Hazards and Community Impacts	5-99
Table 5-46	Jurisdictional Risk Variations	5-105
Table 6-1	Summary of Plan Updates	6-2
Table 6-2	NFIP Community Status, Chambers County Jurisdictions.....	6-8
Table 6-3	2011-2016 Chambers County Multi-Jurisdictional Mitigation Action Program..	6-12
Table 7-1	Summary of Plan Updates	7-1

List of Charts

Chart 3-1	Population by Municipality.....	3-8
Chart 3-2	Population by Age.....	3-11
Chart 3-3	Educational Attainment of Population Ages 25 Years or Older.....	3-13
Chart 3-4	Employment by Industry.....	3-15
Chart 3-5	Housing Units by Value.....	3-16
Chart 3-6	Housing Stock by Age.....	3-17
Chart 3-7	Household Income Distribution	3-18
Chart 5-1	Monthly Tornado Frequency, 1950-2006	5-12
Chart 5-2	Annual Frequency of Tornado Intensity, 1950-2006.....	5-14
Chart 5-3	Projected Population Changes.....	5-95

List of Figures

Figure 3-1	Chambers County Museum, Located in Fayette	3-4
Figure 5-1	Photo from November 2006 Tornado.....	5-16
Figure 5-2	Hurricane Opal Track.....	5-22
Figure 5-3	Modified Mercalli Intensity Scale	5-44

Executive Summary

I. 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. 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. The initial plan was created by Lehe Planning, LLC, under the direction of the Chambers County EMA. The 2006 Chambers County, Alabama, Natural Hazards Mitigation Plan was approved by FEMA and subsequently adopted by all Chambers County jurisdictions.

II. Organization of the Plan

The 2011 Chambers 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 Multi-Hazard Mitigation Planning Guidance, FEMA, July 1, 2008. The organization of this plan is consistent with the organization of the 2010 Alabama Hazard Mitigation Plan, which also parallels the Federal requirements. The main body of the plan, the “Comprehensive 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 update is also organized similar to the 2006 plan, which allows for easy cross reference. Each chapter of the 2011 plan update references the requirements of 44 CFR Section 201.6 that it addresses and includes a table that summarizes the updates to the 2006 plan.

EXECUTIVE SUMMARY 2011 Chambers County Multi-Hazard Mitigation Plan

A supplemental plan document includes “Community Action Programs” which breaks out the Community Action Programs for each jurisdiction and notes priorities, time frame, implementation responsibilities, cost estimates, if available, and potential funding sources.

The “Appendices” provide evidence and supporting documentation to the Planning Process, Risk Assessment, and Mitigation Strategy chapters of the Comprehensive Plan.

III. Highlights of the Plan

Through a comprehensive planning process and risk assessment, this plan update creates a unified approach among all Chambers County communities for dealing with identified hazards and associated risk issues. It serves as a guide for local governments in their ongoing efforts to reduce community vulnerabilities. It also evaluates the previous plans and notes its successes and shortcomings. The plan update suggests adjustments and introduces new measures to address the identified hazards.

Each hazard that may be viewed as a possible risk to Chambers 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 action programs that direct each community in the implementation and monitoring of the measures are included in the update.

Chapter 1. Introduction

Chapter 1 of the plan update provides a general introduction to the plan update. It explains the purpose of the plan and which jurisdictions participated in the plan update. The chapter mentions the regulations that require the active participation by local jurisdictions in the mitigation planning process. Also included in this chapter is the explanation of various funding sources that can be applied for if a plan update is submitted to FEMA. Summaries of both the initial plans’ and this update’s planning processes are also included in this section.

Chapter 2. Prerequisites

Chapter 2 of the plan update addresses the Federal regulations governing the development and updating of the mitigation plan. It addresses 44 CFR §. 201.6 and the prerequisites required through these regulations. It describes the various mitigation grants and other federal money available for the County’s use for mitigation planning.

Chapter 2 also addresses multi-jurisdictional participation and plan adoption. It describes the relationship and responsibilities of the various entities involved in the planning process. It also explains the various means in which they 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

Chapter 3 profiles the participating jurisdictions. Each jurisdiction within Chambers County is described in detail. The overall geographic setting and history of Chambers 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

Chapter 4 explains the planning process in detail. It explains how the public was involved in the planning process, what steps the Chambers County Hazard Mitigation Planning Committee (HMPC) took in developing the plan update, what documents were consulted in the plan update and how the plan was prepared, reviewed and updated.

From December 2010 through September 2011, the Chambers County Hazard Mitigation Committee held five meetings. The Chambers County EMA staff and the planning consultant team organized the planning process and the HMPC representative membership. The HMPC, comprised of representatives from all the jurisdictions and organizations concerned with hazard mitigation, guided the development of this plan.

At the meetings, each Committee member was asked to participate in a series of exercises designed to solicit input into the planning process. A notice was sent to various local and regional agencies with an interest in hazard mitigation, agencies that have the authority to regulate development, and representatives of businesses, academia and other private and non-profit interests informing them of the draft plan and requesting their input and cooperation.

The participating jurisdictions provided copies of their plans, studies, reports, ordinances, regulations and technical information to the planning team. The planning team reviewed the documents and recorded the sections from each document that pertained to hazard mitigation. These documents were closely examined to see what mitigation measures were currently being pursued and what new measures could be included in future revisions.

The Hazard Mitigation Planning Committee solicited public input into the mitigation plan through a community meeting and an internet Web site. A toll free number was available for the residents to reach the planning team. They were also invited to attend committee meetings and provide their comments and concerns. The HMPC sponsored a special community meeting for additional public input into the planning process during the drafting stage of the plan. At that meeting, the plan, hazards, and mitigation measures were discussed among participants. Displays and

EXECUTIVE SUMMARY **2011 Chambers County Multi-Hazard Mitigation Plan**

handouts regarding various hazards were made available to the public. The public was encouraged to fill out a public survey about the risks and threats of hazards.

A public hearing to receive comments was held by each jurisdiction prior to adopting the plan by resolution, as required by State law. The original resolutions and public hearing minutes are kept on file at the administrative offices of each jurisdiction and the Chambers County EMA office.

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

- Update of the Community Profiles to reflect changed demographics, economic characteristics, and growth and development trends.
- A detailed assessment of local capabilities to carry out mitigation measures.
- An evaluation of the status and effectiveness of Community Mitigation Action Programs adopted in the previous plans, which was reflected in the 2011 Action Programs for each jurisdiction.
- A reassessment of risks to include detailed research and analysis of hazards affecting the communities.
- The analysis of flood, earthquake, and hurricane wind impacts using the latest edition of HAZUS-MH software.
- A review and recommitment to the vision for disaster-resistant communities; modifications to the previous goals; and support of the 2010 State goals for hazard mitigation.
- Identification and analysis of a comprehensive range of mitigation alternatives.
- A reprioritization of mitigation actions and projects.
- Revised mitigation action programs for each jurisdiction to better reflect the results of the plan update.
- Revisions to the plan maintenance procedures to institute streamlined amendments and better explain circumstances that require amendments.

Chapter 5. Risk Assessment

Chapter 5 first describes the process used to identify and prioritize the hazard risks to each Chambers County jurisdiction. It describes the resources used to identify

EXECUTIVE SUMMARY **2011 Chambers County Multi-Hazard Mitigation Plan**

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 Chambers County, followed by an explanation of the location, extents, previous occurrences, and the probabilities of future occurrences. The hazard profiles rely heavily on maps, charts, tables, and figures to communicate the profile information. The new Federal requirements for repetitive loss properties are included in this chapter.

Vulnerability assessments are reported for each identified hazard. The vulnerability assessments include a summary of the impacts of each hazard on each jurisdiction. The estimates of losses are calculated in HAZUS-MH for hurricanes, earthquakes, and floods.

Chapter 5 concludes with an analysis of how the risks vary among the jurisdictions. This concluding section summarizes the findings of the hazard profiles and vulnerability assessments.

A complete reevaluation of the hazards was performed by the planning team in the plan update process. Hazard profiles and vulnerability assessments were based on current and more complete information since the original plans. The latest release of HAZUS-MH was applied to the risk assessment for hurricanes, earthquakes, and floods.

Chapter 6. Mitigation Strategy

Chapter 6 addresses the full range of mitigation strategies evaluated by the HMPC. It explains the common community vision for disaster resistance and the various goals that the plan is trying to achieve, along with companion objectives that can be used to achieve those goals. It identifies and analyzes mitigation actions and projects. A description of participation and compliance with the National Flood Insurance Program is provided. The implementation of mitigation actions is discussed, and the final section presents the County's overall mitigation action program. The "Community Action Programs" supplement Chapter 6 by breaking out the action programs for each community.

The goals in the previous plans have been updated based on current conditions, including the completion of mitigation measures over the five-year plan implementation cycle, the 2011 update to the risk assessment in Chapter 5, the update to the risk assessment in the 2010 Alabama Hazard Mitigation Plan, and the update of State goals and mitigation priorities reflected in the state plan.

The goals for this plan update are, as follows:

1. **Prevention Goal.** Manage the development of land and buildings to minimize risks of loss due to hazards.
2. **Property Protection Goal.** Protect structures and their occupants and contents from the damaging effects of hazards.

EXECUTIVE SUMMARY **2011 Chambers County Multi-Hazard Mitigation Plan**

3. **Public Education and Awareness Goal.** Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property.
4. **Natural Resources Protection Goal.** 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.
5. **Structural Projects Goal.** 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.

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 were developed by FEMA for managing a successful mitigation program and were used as guidelines for identifying and sorting the alternative mitigation measures. They are prevention, property protection, public education and awareness, natural resources protection, and structural projects. Emergency services measures were discarded as a mitigation goal by FEMA and the available emergency services that could be incorporated into one of the five above categories were and those that could not were not addressed in this plan update.

The Hazard Mitigation Planning Committee (HMPC) and local jurisdictions selected among the available mitigation measures within each of the above categories and prioritized the measures by applying the STAPLEE method. They also evaluated the 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 capabilities 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. Each jurisdiction assigned a priority to selected measures, established a general completion schedule, assigned administrative responsibility for carrying out the measures, estimated costs, where possible, and identified potential funding sources, including potential eligibility for FEMA Hazard Mitigation Assistance Programs.

A separate action program has been established for each community in the supplemental document, "Community Action Programs." The proposed measures are within the authority of the jurisdiction or are part of a joint effort among multiple jurisdictions covered by this plan. All actions included in these programs are achievable and within the capabilities of each jurisdiction.

Chapter 7. Plan Maintenance Process

Chapter 7 describes the maintenance process for the 2011 Chambers County Multi-Hazard Mitigation Plan. It explains the monitoring, evaluation and updating procedures and how to incorporate the plan into other planning mechanisms. It also describes the need for continuing public participation in the plan maintenance process.

The plan explains that ongoing monitoring of the plan should occur throughout the next five years until the next scheduled update. Ongoing status reports of each jurisdiction's progress will be reviewed by the HMPC, with the support of the Chambers County EMA staff, and should include 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 review process may require adjustments to the selection of mitigation measures, priorities, timelines, lead responsibilities, and funding sources.

Plan evaluation should occur within sixty days following a significant disaster or an emergency event having a substantial impact on a portion of or the entire Chambers County area or any of its jurisdictions. A risk assessment should be done and the findings should determine any new mitigation initiatives that should be incorporated into this plan to avoid similar losses from future hazard events.

The HMPC will oversee an annual evaluation of progress towards implementation of the Mitigation Strategy. In its annual review, the HMPC will discuss the following topics to determine the effectiveness of the implementation actions and the need for revisions to the Mitigation Strategy:

- Are there any new potential hazards that have developed and were not addressed in the plan?
- Have any disasters occurred, which are not included in plan?

EXECUTIVE SUMMARY **2011 Chambers County Multi-Hazard Mitigation 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? Why?
- Are there any changes in local capabilities to carry out mitigation measures?
- Have funding levels to support mitigation actions either increased or decreased?

Any updates, revisions, or amendments to the Chambers County Emergency Operations 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. 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 be integrated 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. Consequently, the Hazard Mitigation Planning Committee 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.

Public meetings will be held when significant modifications to the plan are required or when otherwise deemed necessary by the Hazard Mitigation Planning Committee. The public will be able to express their concerns, ideas, and opinions at the meetings. At a minimum, public hearings will be held during the annual and five-year plan updates and to present the final plan and amendments to the plan to the public before adoption.

Appendices

The final sections of the plan are included in the “Appendices.” The evidence and supporting documents for this plan update that were able to be included in this plan update have been inserted into the following appendices:

- A *Federal Requirements for Local Mitigation Plans* contains the entire 44 CFR Sec. 201.6 requirements for local mitigation plans.
- B *Community Mitigation Capabilities* reports on the results of a comprehensive survey and assessment of each jurisdiction’s capabilities to implement mitigation measures.

EXECUTIVE SUMMARY 2011 Chambers County Multi-Hazard Mitigation Plan

- C *2006 Plan Implementation Status* reports the evaluation results of implementation of mitigation measures recommended for implementation by each jurisdiction in the 2006 plan.
- D *HMPC Hazard Identification and Ratings* reports the results of the Committee exercise for identifying hazards for inclusion in the 2011 plan update and the ratings of the hazards for extents and probability of future occurrences, along with completed descriptions of each identified hazard.
- E *Hazard Profile Data* contains detailed hazard records of the National Weather Service, the National Climatic Data Center, and local records.
- F *Identification and Analysis of Alternative Mitigation Measures* examines the range of mitigation measures considered for the 2011 Mitigation Strategy.
- G *Committee Meeting Documentation* documents the HMPC meetings during the drafting phase of the 2011 plan update.
- H *Community Involvement Documentation* reports on the full scope of community involvement opportunities during the drafting phase of the 2011 plan update.
- I *Multi-Jurisdictional Participation Activities* records the scope of participation of all jurisdictions in the drafting and adoption of the 2011 plan update.
- J *Adopting Resolution* presents a model resolution for plan adoption by local governing bodies.

Other documents and materials mentioned in the plan or used in its preparation but not included in the plan appendices are kept on file in the Chambers County EMA office. These other documents and materials, include, but are not limited to the following items:

- Damage reports of hazard events;
- Meeting records of the Hazard Mitigation Planning Committee prior to 2011, since first established in 2005; and
- Previous plans, plan amendments, and supporting documentation.

Chapter 1 – Introduction

- 1.1 Background
- 1.2 Authority
- 1.3 Funding
- 1.4 Eligibility for FEMA Hazard Mitigation Assistance Grants
- 1.5 Chambers County, Alabama, Natural Hazards Mitigation Plan (2006)
- 1.6 The 2011 Chambers County Multi-Hazard Mitigation Plan Update

1.1 Background

The 2011 Chambers County Multi-Hazard Mitigation Plan is a multi-jurisdictional guide for all communities that have participated in the preparation of this plan through the Hazard Mitigation Planning Committee (HMPC). The jurisdictions that participated in the development of this plan include Chambers County; the cities of LaFayette, Lanett, and Valley; and the towns of Cusseta, Five Points, and Waverly. 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.

1.2 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 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 of FEMA approval in order to remain eligible for mitigation grant funding.

1.3 Funding

The Chambers County EMA applied to the Alabama EMA for planning grant funds in early 2010 to complete the 2011 update of this plan. In September 2010, the Alabama EMA awarded a \$45,000 planning grant funded through the FEMA Hazard Mitigation Grant Program (HMGP) to the Chambers County Commission to fund 75% of the \$60,000 total cost of the five year plan update for all incorporated and unincorporated areas within Chambers County.

1.4 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 Grant Program (PDM). 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 Program (FMA). 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 (RFC) grant 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 (SRL) grant 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 (SRL) structures insured under the National Flood Insurance Program (NFIP).

1.5 Chambers County, Alabama, Natural Hazards Mitigation Plan (2006)

The planning process began in April of 2005 with the appointment of the Hazard Mitigation Planning Committee (HMPC) by the Local Emergency Planning Committee of the Chambers County Emergency Management Agency (EMA). The committee first convened on April 15, 2005. The original plan was prepared over the 2005 to 2006 period and was locally adopted in May, 2006. Due to apparent administrative errors and delays, however, the 2006 plan was not approved by FEMA until 18 months later in November, 2007.

The scope of the 2006 Chambers County, Alabama, Natural Hazards Mitigation Plan is the unincorporated and incorporated areas within Chambers County. The plan addresses all natural hazards deemed to threaten property and persons within the county. Both short- and long-term hazard mitigation strategies are addressed, implementation tasks assigned, and funding alternatives identified.

1.6 The 2011 Chambers County Multi-Hazard Mitigation Plan Update

The Hazard Mitigation Planning Committee (HMPC) re-convened in December, 2010 to update the 2006 plan as the 2011 Chambers County Multi-Hazard Mitigation Plan. The Chambers County Commission retained the firm of Lehe Planning, LLC, to prepare the plan under the direction of the HMPC and the Chambers County EMA Deputy Director, Kathy Hornsby. The firm's manager, James E. Lehe, AICP, a professional urban planner, served as the Planning Coordinator for the update. The 2011 HMPC represents unincorporated Chambers County, the cities of LaFayette,

Lanett, and Valley; and the towns of Cusseta, Five Points, and Waverly, as well as other stakeholders and interested agencies. The HMPC convened on a regular basis during the update process to oversee the drafting of the plan. Through a comprehensive planning process and risk assessment, the plan creates a unified approach among all Chambers County communities for dealing with identified hazards and associated risk issues. It serves as a guide for local governments in their ongoing efforts to reduce community vulnerabilities.

Chapter 2 – Prerequisites

- 2.1 Federal Prerequisites
- 2.2 Plan Approval Required for Mitigation Grants Eligibility
- 2.3 Multi-Jurisdictional Participation
- 2.4 Multi-Jurisdictional Plan Adoption

2.1 Federal Prerequisites

This chapter of the Plan addresses the Prerequisites of 44 CFR Sections 201.6(a)(1) and (4) and (c)(5), as follows:

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.

2.2 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 Grant Program (PDM), the Flood Mitigation Assistance Program (FMA), the Repetitive Flood Claims (RFC) Program, and the Severe Repetitive Loss Program (SRL). 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's funding source.

2.3 Multi-Jurisdictional Participation

The Chambers County EMA serves as the lead coordinating agency for mitigation planning. It has been working in conjunction with the Hazard Mitigation Planning Committee (HMPC) and has remained in contact and coordinated mitigation activities with all Chambers County jurisdictions throughout the five year period since the initial 2006 plan was first approved. Chambers County, the cities of LaFayette, Lanett, and Valley; and the towns of Cusseta, Five Points, and Waverly, all have continued to participate in the 2011 plan update of the existing plan. In addition to the participating jurisdictions, other stakeholders affected by the plan, including Federal, State, and regional agencies, business interests, academia, non-profits, and the general public contributed to the drafting of this Plan. (See Chapter 4 – “The Planning Process” for a 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 hazard mitigation assistance 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 presented many opportunities for multi-jurisdictional participation. (See Appendix I “Multi-Jurisdictional Participation Activities,” which shows the type of participation by Chambers County jurisdictions.) These multi-jurisdictional participation opportunities included the following activities:

- Attendance and participation in HMPC committee meetings beginning on December 16, 2010, during the drafting phase of the plan (see Appendix G “Committee Meeting Documentation,” which includes agendas, sign-in sheets, and meeting minutes).
- Providing key staff support to complete HMPC exercises and questionnaires regarding local capabilities for conducting mitigation activities, the implementation status of the 2006 Community Mitigation Action Programs, 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.
- Compiling plans, studies, reports, regulations, ordinances, and codes related to hazard mitigation and making these documents available to planners for review.
- Conferring with planners during the drafting phase of the plan update.
- Providing information to the HMPC and planners on critical facilities and infrastructure.
- Attendance and participation in the Community Meeting held during the drafting phase of the plan update.
- Communicating with elected officials and other jurisdictional constituents on the scope and contents of the draft plan update.
- Conducting public hearings, which offered additional opportunities for public comments prior to formal adoption by the governing bodies.

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

- Attending HMPC meetings as observers of these open public forums, which were publicly announced.
- Participating in the Community Meeting.
- Completing Public Questionnaires distributed at the Community Meeting.
- Accessing the plan update website at <http://chambers.hazardmitigationplan.com> to keep abreast of HMPC activities, review draft sections of the plan, and offer comments and suggestions through a special email account, chambers@hazardmitigationplan.com.
- Contacting HMPC members and Chambers County EMA staff.
- Contacting planners through a toll free number at 1-866-978-3633, established for the plan update or by email through the special email account noted above.
- Contacting elected officials of each jurisdiction.
- Attending public hearings of the local governing bodies and offering comments.

2.4 Multi-Jurisdictional Plan Adoption

The governing bodies of each participating jurisdiction have adopted the 2011 Chambers County Multi-Hazard Mitigation Plan Update by resolution following public notice and hearing. Adoption followed notification from the Alabama EMA that the plan had received conditional approval from FEMA pending adoption. Adoption by all participating jurisdictions took place within one year of the notification of FEMA conditional approval, and afterwards, a certified copy of each adopting resolution was transmitted to FEMA through the Alabama EMA. Once the first resolution had been received by FEMA, the plan was formally approved on that date, which begins the next five year planning cycle. FEMA then issued a final approval notification. (The form of

the adopting resolutions is in Appendix J “Adopting Resolution”). Copies of the resolution are on file at the EMA and with each jurisdiction.

Chapter 3 – Community Profiles

- 3.1 Federal Advisory Guidance for Community Profiles
- 3.2 Summary of Plan Updates
- 3.3 Geographic Setting and History
- 3.4 Government
- 3.5 Physical Features
- 3.6 Climate
- 3.7 Demographics
- 3.8 Economy
- 3.9 Utilities
- 3.10 Media
- 3.11 Transportation

3.1 Federal Advisory Guidance for Community Profiles

This chapter addresses the advisory on page 27 of the FEMA Local Multi-Hazard Mitigation Planning Guidance, July 1, 2008, which suggests community profile information be included for context:

The planning team should consider including a current description of the jurisdiction in this section or in the introduction of the plan. The general description can include a socio-economic, historic, and geographic profile to provide a context for understanding the mitigation actions that will be implemented to reduce the jurisdiction's vulnerability.

3.2 Summary of Plan Updates

Table 3-1 summarizes changes made to the 2006 plan as a result of the 2011 plan update, as follows:

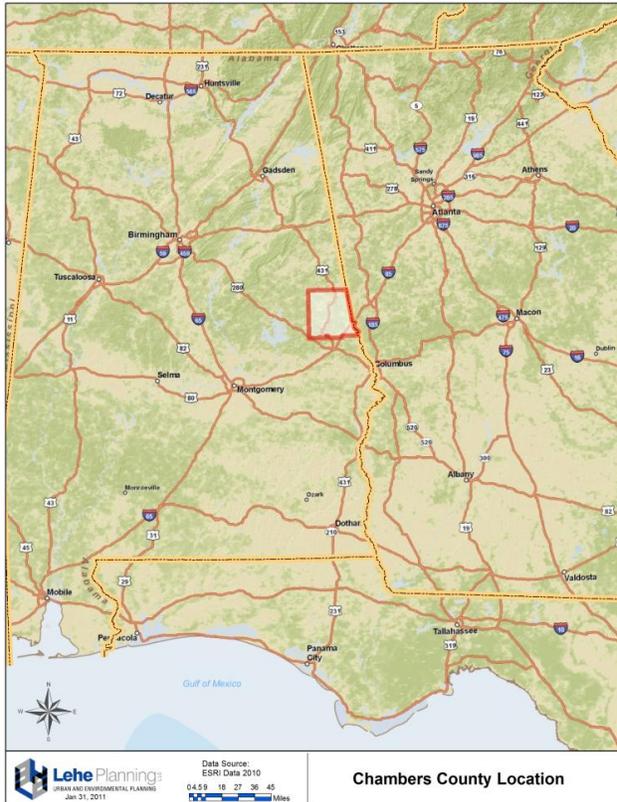
Table 3-1. Summary of Plan Updates

Section	Change	
3.3	Geographic Setting and History	Updated descriptions, maps, and data
3.4	Government	Updated descriptions and data
3.5	Physical Features	Updated descriptions, maps, and data
3.6	Climate	Updated descriptions and data
3.7	Demographics	Updated descriptions, map, and data
3.8	Economy	Updated descriptions, map, and data
3.9	Utilities	Updated descriptions and data
3.10	Media	Updated descriptions and data
3.11	Transportation	Updated descriptions, map, and data

3.3 Geographic Setting and History

Chambers County

Chambers County was established on December 18, 1832 from Creek Nation territory, by an act of the Alabama General Assembly. The county is named for a U.S. Senator from Alabama, Henry Chambers. For much of its history, Chambers County’s economy depended on cotton-growing and the textile industry, and the City of Valley is a combination of four former mill towns. The county is located in east central Alabama, as shown on Map 3-1 “Chambers County Location,” and is separated from Georgia on the east by the Chattahoochee River, and adjoins Randolph County on the north, Tallapoosa County on the west, and Lee County on the south. Chambers County has a population of approximately 34,320 (Census estimate 2009) and contains nearly 603 square miles. The City of LaFayette is the county seat and was selected in 1833 for its central location and built for that purpose.

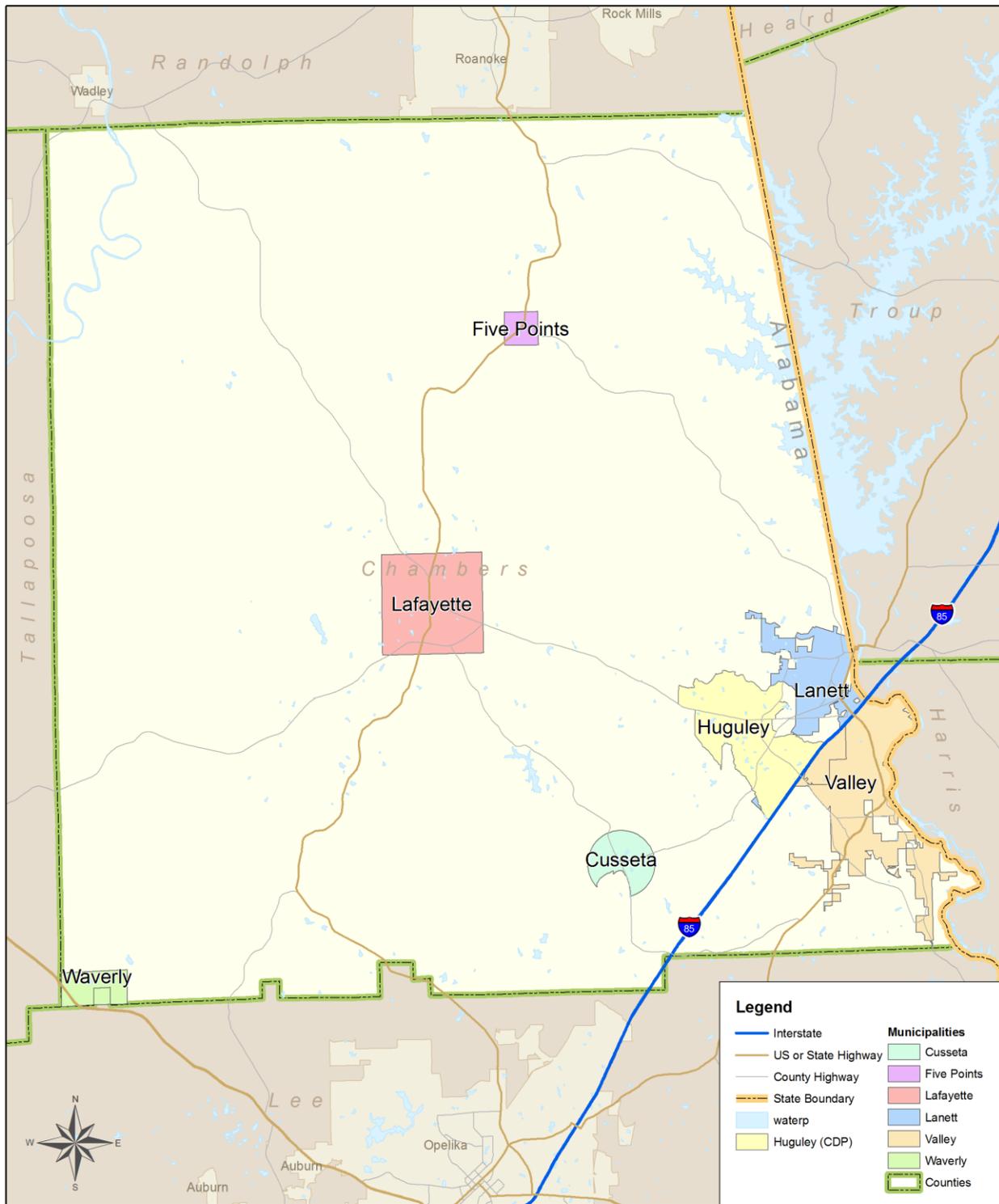


Map 3-1. Chambers County Location

Chambers County includes six incorporated municipalities and one unincorporated community, recognized as a Census Designated Place (CDP) by the Census Bureau, which are shown on Map 3-2 “Chambers County Municipalities,” as follows:

- Town of Cusseta
- Town of Five Points
- City of LaFayette
- City of Lanett
- City of Valley
- Town of Waverly
- Huguley CDP

Map 3-2. Chambers County Municipalities



Town of Cusseta

The Town of Cusseta, named after the Creek Indian village of the same name, is located in southeastern Chambers County. It was first incorporated in 1853, but, as population dwindled over the years, its status was forgotten. In 2010 it was reincorporated. It is the second smallest municipality in Chambers County with a population of 123 residents, according to the 2010 Census.

Town of Five Points

The Town of Five Points is located in northern Chambers County. It encompasses an area of 1.0 sq miles and is the second smallest municipality in Chambers County with a 2010 population of 141.

City of LaFayette

The City of LaFayette, county seat of Chambers County, is located in the west central part of the county, thirteen miles west of the Georgia state line. The town was incorporated on Jan 7, 1835, to serve as the county seat of the recently-created Chambers County, as leaders wanted a site close to the county's geographic center. LaFayette is surrounded by four major lakes: West Point Lake, Lake Martin, Lake Harris, and Lake Walter F. George. The city has an area of 8.9 square miles and has an estimated 2010 population of 3,003.



**Figure 3-1. Chambers County Museum,
Located in LaFayette**

City of Lanett

The City of Lanett is located in east central Chambers County, north of exit 79 on Interstate 85. The state line separates Lanett from the town of West Point, Georgia, the location of a Kia Motors automotive plant. Lanett was incorporated on December 7, 1865. Lanett has an area of 5.4 square miles and is the second largest city in Chambers County with a 2010 population of 6,468 residents.

City of Valley

The City of Valley is located in southeastern Chambers County, on the banks of the Chattahoochee River, which serves as the state line between Alabama and Georgia. The city is the anchor of the Valley, Alabama, Micropolitan Statistical Area (MSA) and is

the largest municipality in Chambers County with a 2010 population of 9,524 residents. Interstate 85 traverses Valley between Auburn, Alabama, and Atlanta, Georgia. Valley was created in 1980 out of the four textile mill villages of Fairfax, Langdale, Riverview, and Shawmut. Valley encompasses an area of 9.7 square miles.

Town of Waverly

The Town of Waverly is located in southwestern Chambers County. The town is split between Chambers County and Lee County. Waverly is part of the Auburn Metropolitan Area. Waverly has a total area of 1.7 square miles, with a 2010 population of 98. It is the smallest municipality in Chambers County.

Community of Huguley (unincorporated)

The unincorporated community of Huguley is a Census Designated Place located in southeastern Chambers County. The community has an area of 8.8 square miles and a 2010 population of 2,540. The Lanett municipal airport is located in Huguley.

3.4 Government

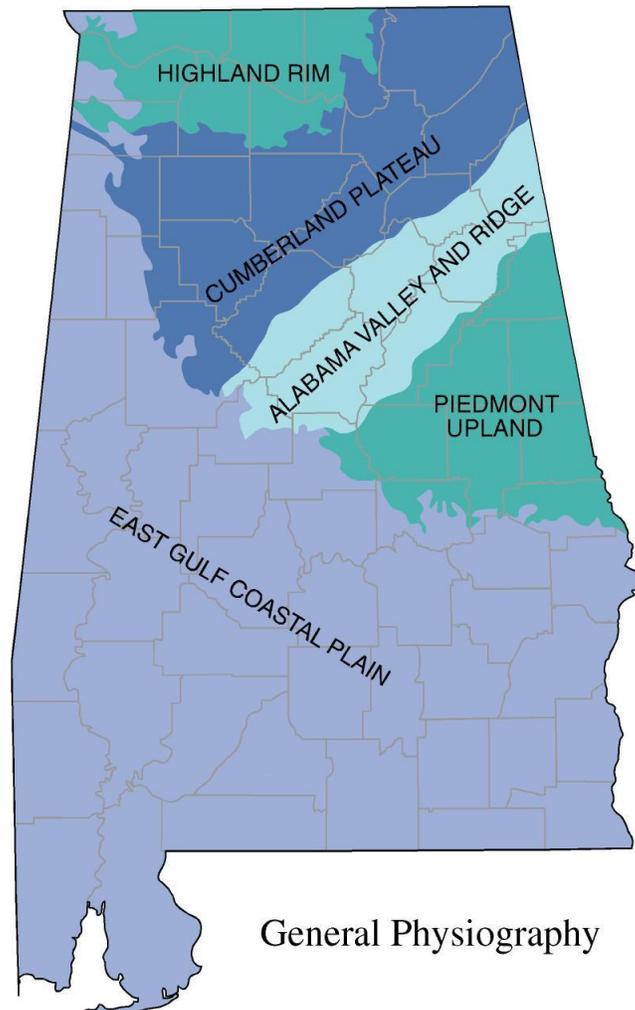
The main governing body for Chambers County is the Chambers County Commission, with the courthouse offices located in LaFayette. The Chambers County Commission is composed of a six member Board: one Chairman and five Commissioners that are elected from districts to serve four year terms, which are staggered. The Chairman is elected by the Commission body each year.

All of the municipalities have a mayor/council form of government.

3.5 Physical Features

Chambers County is located within the Piedmont Uplands physiographic province of Alabama, according to the Geological Survey of Alabama. Chambers County's location within the Piedmont Uplands is depicted in Map 3-3 "General Physiography." The Encyclopedia of Alabama defines the Piedmont Uplands province as "a plateau that slopes from the north (where elevations commonly exceed 1,000 feet above sea level) to the south, where its contact with the East Gulf Coastal Plain section commonly occurs at about 500 feet." It encompasses 597 square miles of land and 6 square miles of water.

The "Star Blue Quartz," mined in Chambers County, became the official gemstone of Alabama in 1990. (Source: [Minerals in the Economy of Alabama](#))

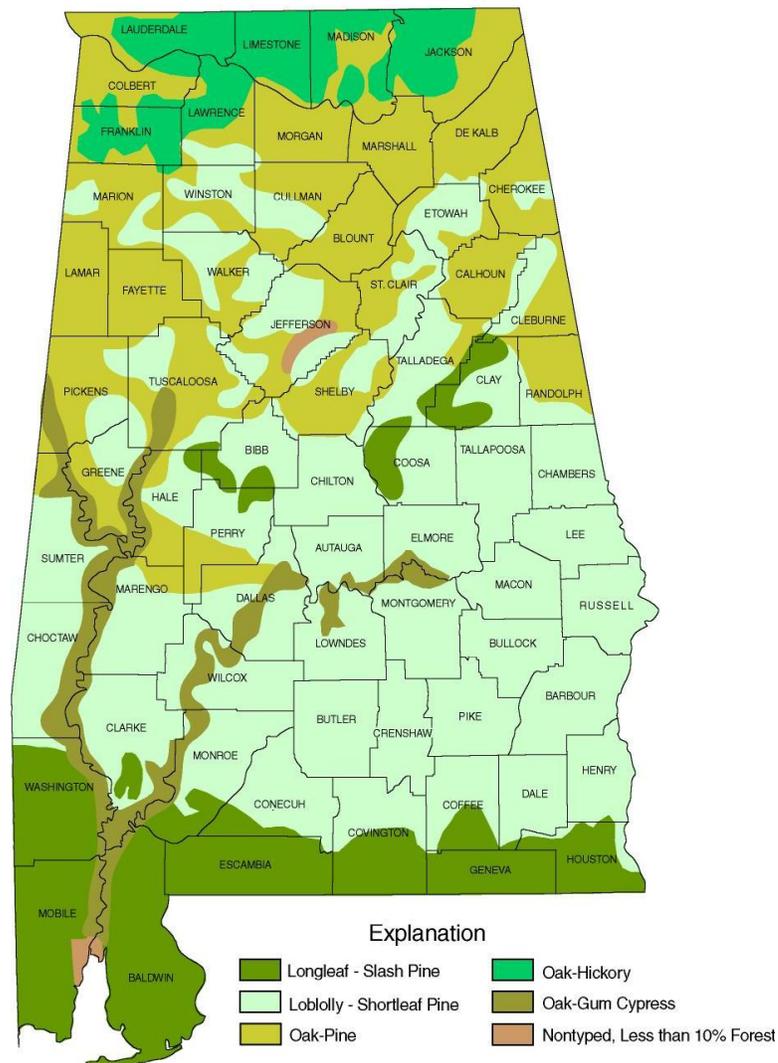
Map 3-3. General Physiography

Produced by the Dept. of Geography
College of Arts and Sciences
The University of Alabama

Two major rivers run through Chambers County: the Tallapoosa River, which runs along the northwestern corner of the county, and the Chattahoochee River, which runs along the eastern border of the county. The Chattahoochee River is a major resource for Chambers County, as it supplies water to Valley and other communities along the river.

The dominant varieties of trees in Chambers County forests are the loblolly pine, a fast-growing pine tree, generally harvested for lumber, and the shortleaf pine, a yellow pine generally harvested for wood pulp. Chambers County's location within Alabama's distribution of forest types is depicted in Map 3-4 "Alabama Forest Types."

Map 3-4. Alabama Forest Types



Produced by the Dept. of Geography
The University of Alabama

3.6 Climate

Chambers County has a mild sub-tropical climate with warm, humid summers and mild winters. The average annual precipitation is 55.5 inches. Snowfall is very rare. Table 3-2 presents general climate observations:

Table 3-2. General Climate Observations

Category	Average
Annual Average Temperature	62.4° F
Average January Temperature	44.5° F
Average July Temperature	78.9° F
Average Annual Precipitation	55.5 inches
Average Annual Snowfall	0.4 inches

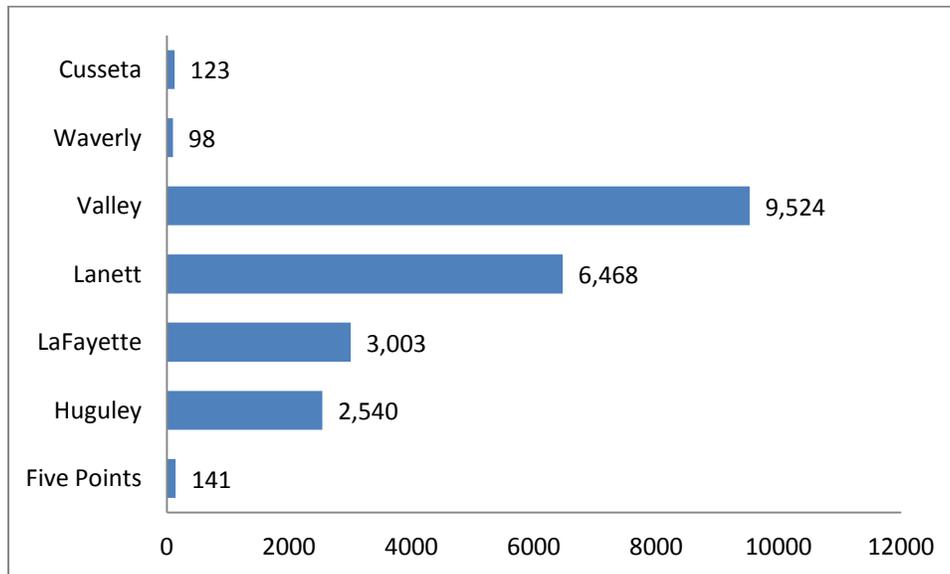
Source: Southeast Regional Climate Center

3.7 Demographics

2010 Population

Chambers County has a 2010 estimated population of 34,215. The cities of Valley and Lanett are the major municipalities, with populations of 9,524 and 6,468 residents. These cities combined account for almost 50 percent of Chambers County’s population. All other municipalities are extremely small in comparison. Waverly has the lowest population with 98 residents.

Chart 3-1. Population by Municipality



Source: 2010 U.S. Census Bureau

Population Growth

Chambers County experienced population decline of 5.9 percent between 1970 and 2010, and all municipalities likewise experienced population losses over this period. The population of the City of Valley, however, increased between the years 2000 and 2010. More detailed demographic data can be found in section 5.7 “General Description of Land Uses and Development Trends.”

Table 3-3. Population Changes 1970-2010

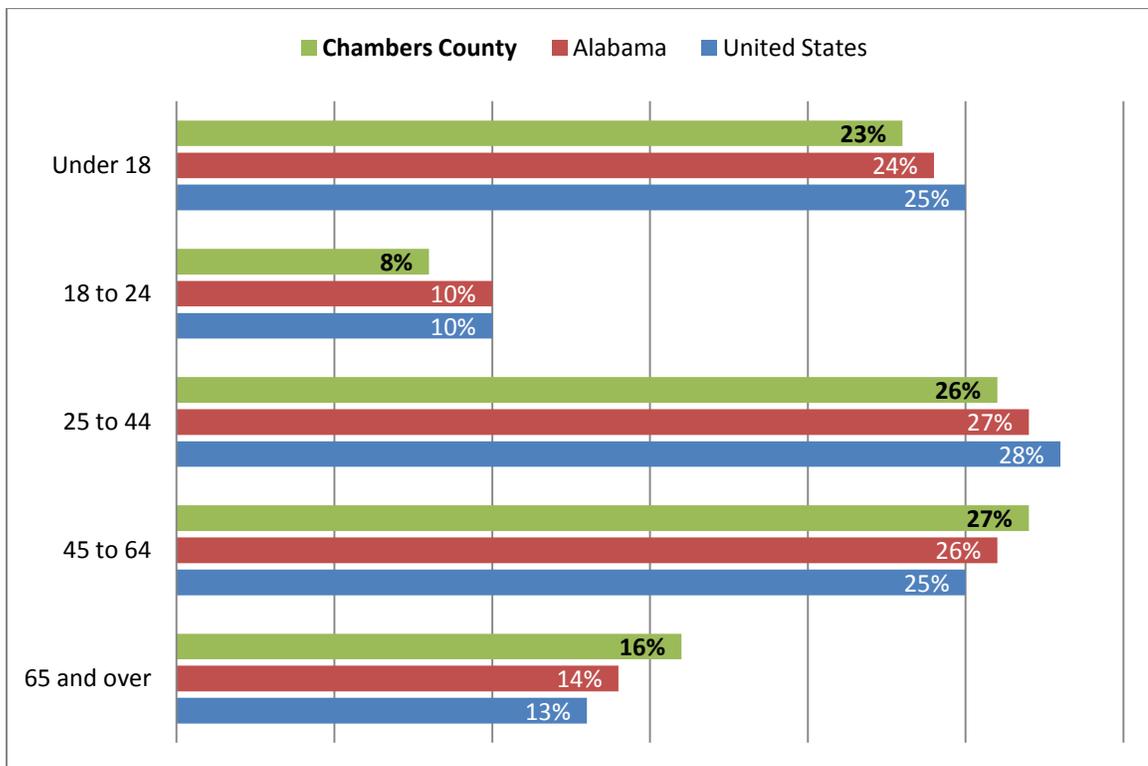
JURISDICTION	1970	1980	1990	2000	2010	Pop Change 1970-2010	% Change 1970-2010	Pop Change 2000-2010	% Change 2000-2010
State of Alabama	3,444,165	3,894,025	4,040,389	4,447,100	4,708,708	1,264,543	36.7%	261,608	5.9%
Chambers County	36,356	39,191	36,876	36,583	34,215	-2,141	-5.9%	-2,368	-6.5%
Cusseta	-	-	-	-	123	-	-	-	-
Five Points	247	197	200	146	141	-106	-43%	-5	-3.5%
LaFayette	3,530	3,647	3,151	3,234	3,003	-527	-14.9%	-231	-7.1%
Lanett	6,908	8,922	8,985	7,897	6,468	-440	-6.3%	-1,429	-18.1%
Valley	-	-	8,215	9,198	9,524	-	-	326	3.5%
Waverly	247	228	152	184	98	-149	-60.3%	-86	-46.7%

Source: U.S. Census Bureau

Age Distribution

Data from the 2005-2009 American Community indicates that Chambers County's age distribution is slightly older than the populations of Alabama and the United States. Over thirty one (31.1) percent of Chambers County's population is under the age of 25. Residents between 25 and 64 years of age composed a slim majority of the population. The group aged 65 years and older represents 16.3 percent of Chambers County's population. This age group affects such community resources as health care facilities and elderly and public assistance programs—particularly during severe weather events. Chart 3-2 breaks down population by age groups.

Chart 3-2. Population by Age



Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

Racial Composition

Chambers County is racially diverse, although the racial composition varies considerably among communities. The white share of population within incorporated areas ranges from 74.6 percent in Waverly to 29.8 percent in LaFayette, which has the highest African American population at 69.6 percent. Lanett and Five Points also have majority African American populations. Persons of Hispanic origin of any race are estimated to be a small percentage of the population. A relatively small percentage of American Indians reside in Chambers County. No data was available for Cusseta.

Table 3-4. Population by Race and Hispanic Origin

Community	White	Black/African American	American Indian	Asian	Other Race	Two or More Races	Hispanic (of any race)
Chambers County	60.4%	37.3%	0.2%	0.2%	0.1%	1.8%	1.3%
Cusseta	-	-	-	-	-		-
Five Points	41.8%	54.4%	0%	0%	0%	3.8%	0%
Huguley *	78.4%	18.8%	0%	0%	0%	2.8%	1.4%
LaFayette	29.8%	69.6%	0%	0%	0%	0.3%	0%
Lanett	41.6%	55.2%	0%	0%	0.4%	2.7%	3.2%
Valley	61.8%	34.1%	0.6%	0.7%	0.1%	2.7%	0.8%
Waverly	74.6%	25.4%	0%	0%	0%	0%	0%

*Census Designated Place

Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

Gender

Table 3-5 shows population distribution by gender in Chambers County jurisdictions. Nationally, women compose a larger share of the population, because women live longer than men. No data was available for Cusseta.

Table 3-5. Population by Gender

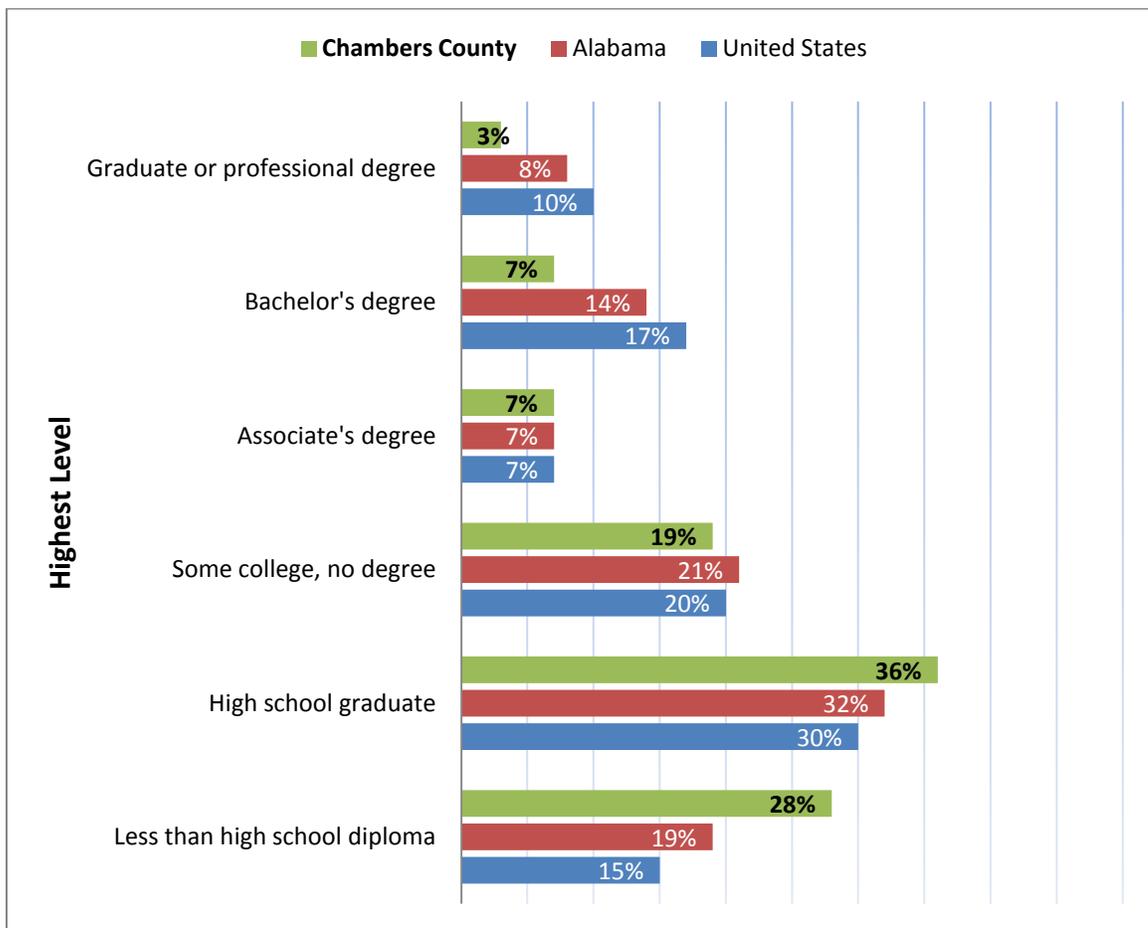
Community	Male	Female
Chambers County	47.3%	52.7%
Cusseta	-	-
Five Points	46.7%	53.3%
Huguley *	49.8%	50.2%
LaFayette	39.4%	60.6%
Lanett	46.4%	53.6%
Valley	48.1%	51.9%
Waverly	43.7%	56.3%
*Unincorporated Census Designated Place (CDP)		

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

Educational Attainment

Chambers County exhibits lower levels of educational attainment, as measured by the highest level of education received for residents aged 25 and older, than either Alabama or the United States. Chart 3-3 compares Chambers County, Alabama, and the United States by educational attainment. Chambers County significantly surpasses both Alabama and the US in the share of its population with less than a high school diploma. Only three percent of Chambers County residents have attained a graduate or professional degree.

Chart 3-3. Educational Attainment of Population Ages 25 Years or Older



Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

3.8 Economy

Business and Industry

Chambers County is served by the Greater Valley Area Chamber of Commerce. The county’s largest employers are the Chambers County School System, Lanier Health Services, Wal-Mart, InterCall (Valley) and MeadWestvaco. The city’s major manufacturing players are Knauf Insulation, AJIN USA, and Johnson Textiles. The Economic Development Partnership of Alabama lists the area’s top manufacturing and non-manufacturing employers and their number of employees, as follows:

Table 3-6. Largest Employers

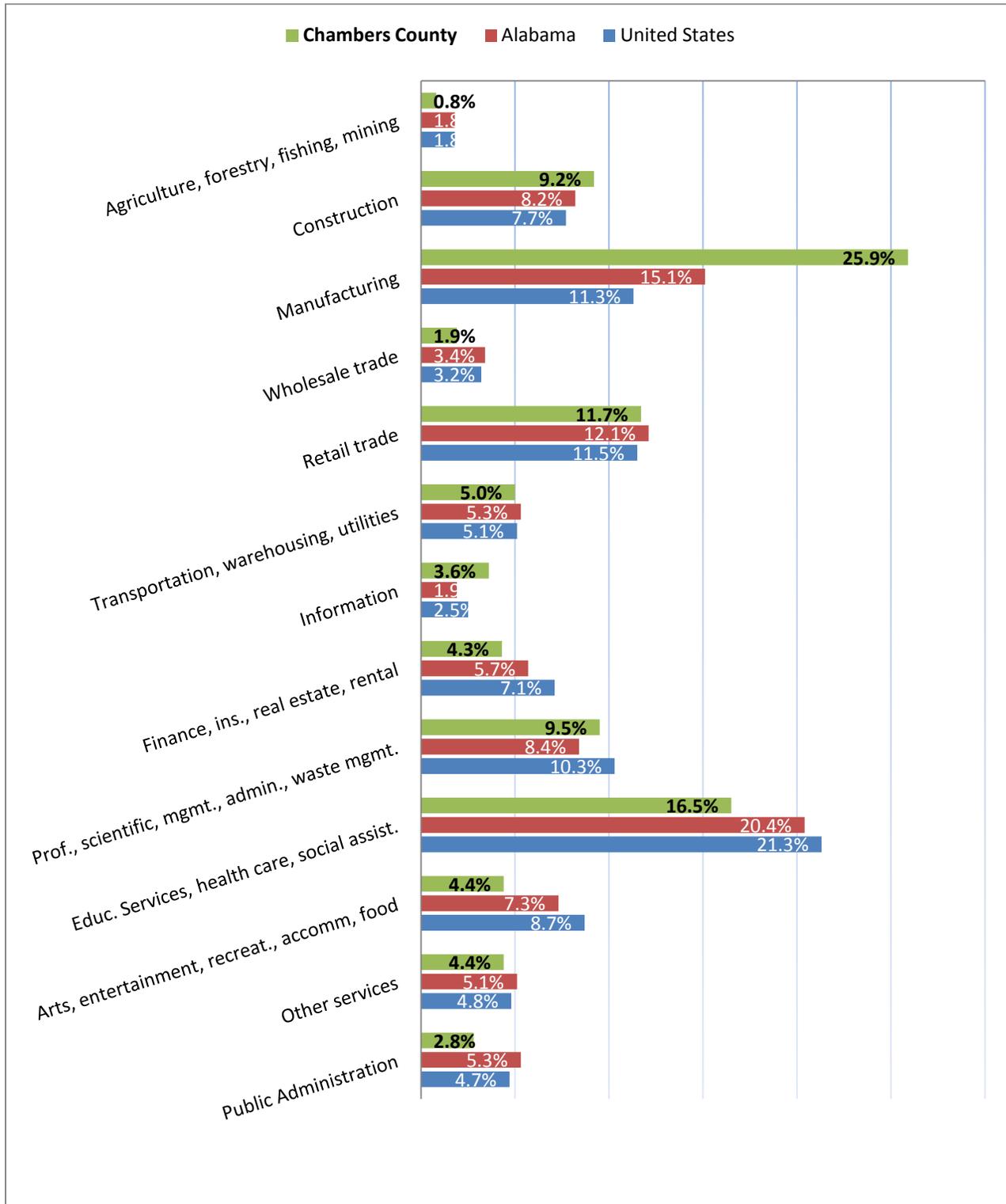
MANUFACTURING	EMPLOYEES
Knauf Insulation	178
AJIN USA	135
Johnson Textiles	105
Kardoes Rubber Company	80
East Alabama Lumber Company	75
MP Tech America	66
Letica Corporation	54
Norman W. Paschall Company	32

NON-MANUFACTURING	EMPLOYEES
Chambers County School System	650
Lanier Health Services	400
Wal-Mart	350
InterCall (Valley)	250
MeadWestvaco	225
Lanett City Schools	130

Source: Economic Development Partnership of Alabama

Relative to the State of Alabama, Chambers County’s workforce is employed at a higher rate in manufacturing, construction, information, and professional occupations and at a significantly lower rate in educational services.

Chart 3-4. Employment by Industry

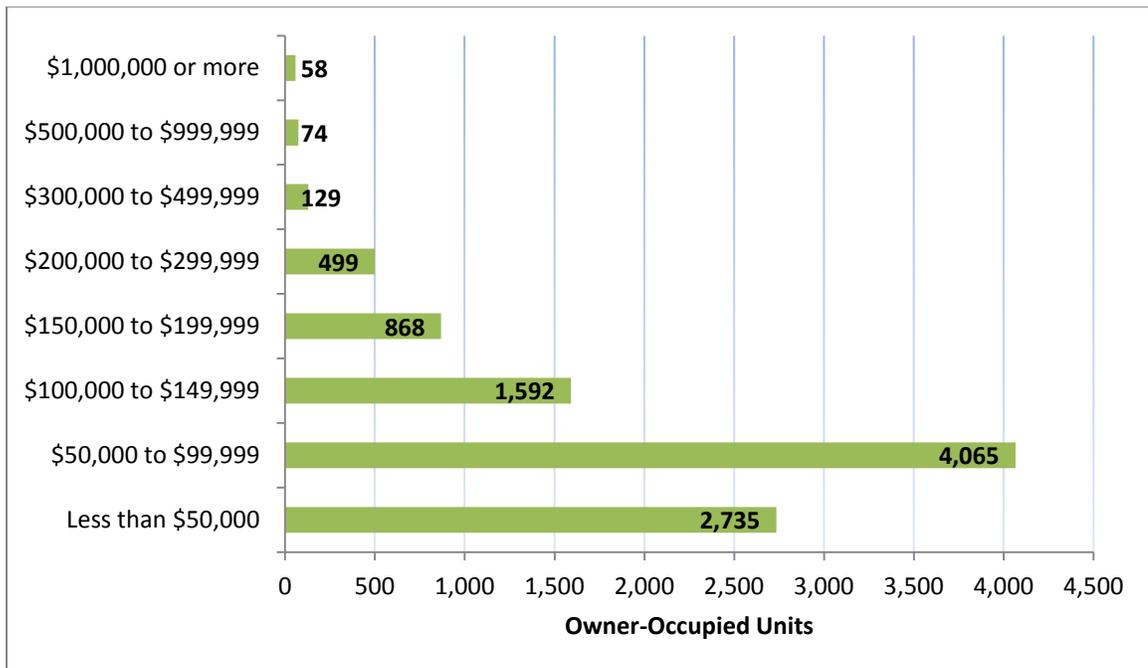


Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

Income and Housing

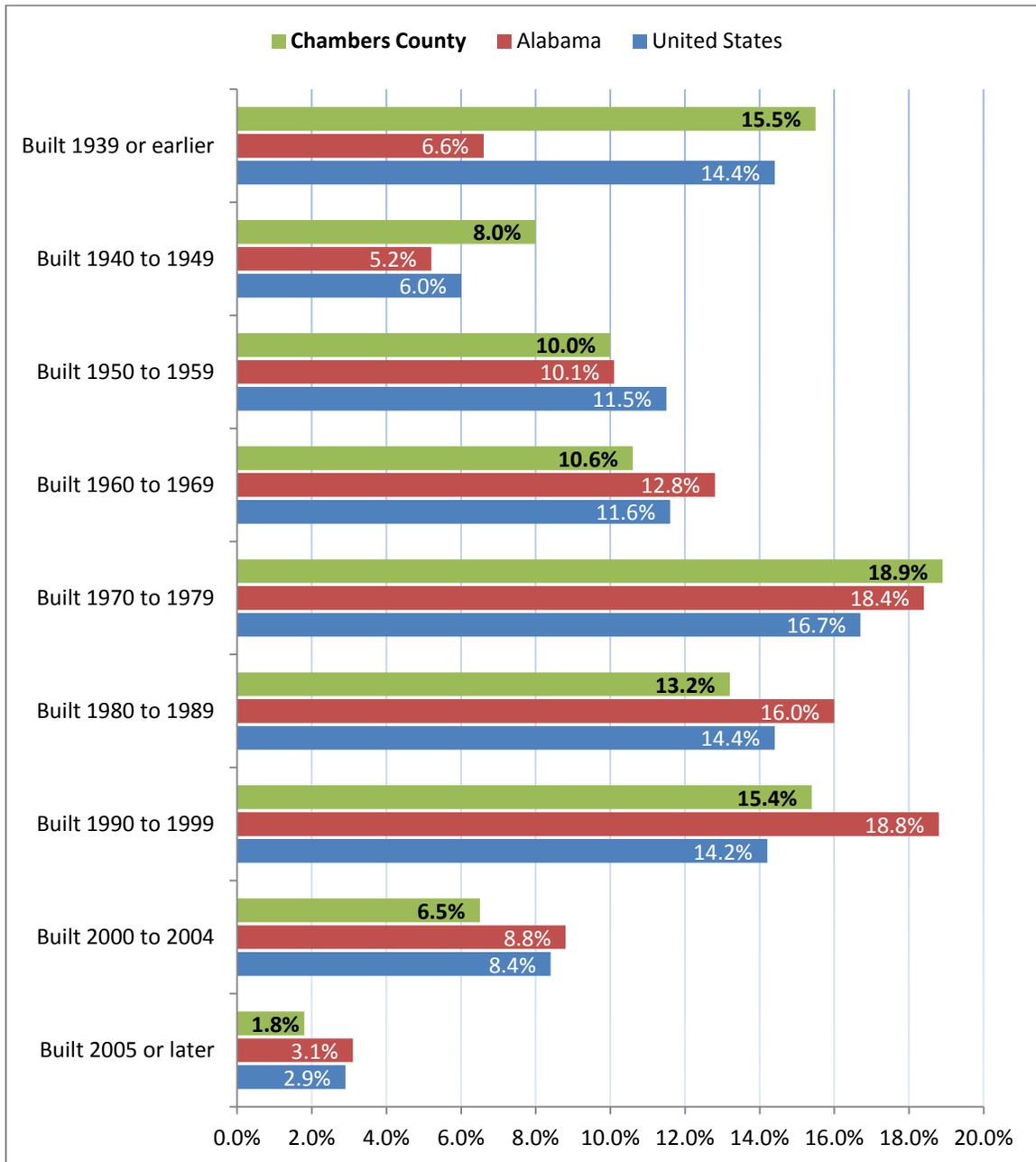
Data on income and housing are reported from the 2005-2009 5-year estimates of the U.S. Census Bureau's American Community Survey. The median household income for Chambers County was \$32,433, which is below the state median of \$41,216. Statistics indicate 16 percent of Chambers County residents and 16.8 percent of Alabama residents lived below the poverty line at some point in the 12 months prior to data collection. Social Security benefits contributed to the income of 37.6% of Chambers County households, and the mean benefit per recipient household is \$14,062. The median value for a home in Chambers County was \$79,200 in 2009. The number of housing units by range of value is shown in Chart 3-5. Chambers County's housing stock is older than Alabama's housing stock, as shown in Chart 3-6.

Chart 3-5. Housing Units by Value



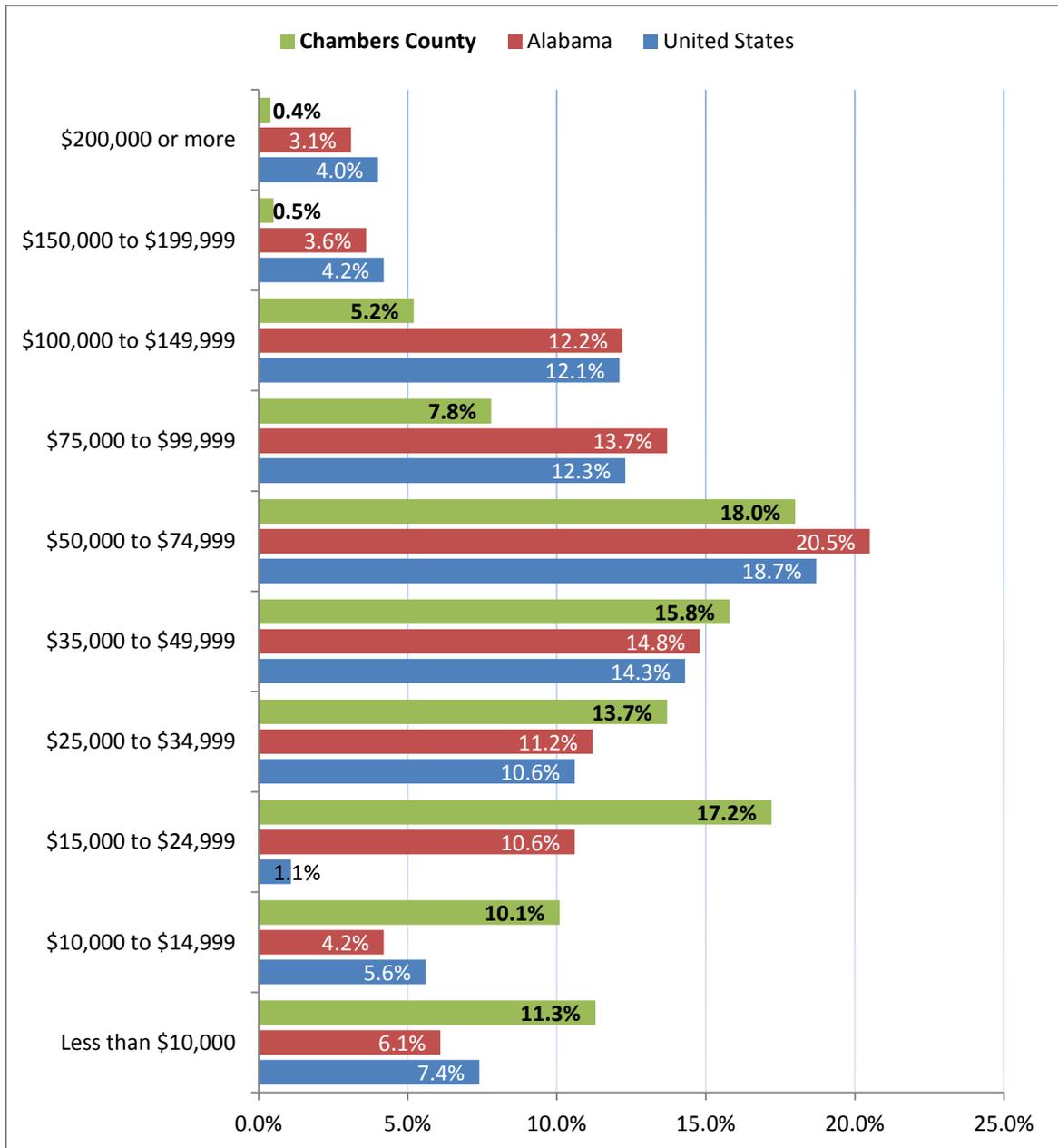
Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

Chart 3-6. Housing Stock by Age



Source: U.S. Census Bureau, 2005-2009 American Community Survey 5-year Estimates

Chart 3-7. Household Income Distribution



Tourism

Chambers County has many attractions and events for tourists and local residents. Major tourist attractions and events include:

- ✓ Alabama’s first kindergarten,
- ✓ Chambers County Courthouse,

- ✓ Chambers County Lake,
- ✓ Chambers County Museum,
- ✓ Cobb Memorial Archives,
- ✓ Fort Cusseta,
- ✓ Fort Tyler,
- ✓ Iron Bridge,
- ✓ Iron Man Statue,
- ✓ Joe Lewis Barrow's birthplace,
- ✓ Langdale Mill,
- ✓ Rails to Trails,
- ✓ Riverdale Textile Mill,
- ✓ Riverside Country Club,
- ✓ The Cotton Duck,
- ✓ The Doll House,
- ✓ The Kissing Bridge, and
- ✓ West Point Lake.

3.9 Utilities

Electric Power

Chambers County is served by Alabama Power Company, Alabama Municipal Electric Authority, and Tallapoosa River Electric Cooperative for their electric power needs.

Natural Gas

Alabama Gas Company, Southeast Alabama Gas District, Cities of LaFayette and Lanett provide local distribution of natural gas to Chambers County.

Water and Sewer

Chambers County is served by Lanett Water Works, LaFayette Water Department, East Alabama Water Sewer, Sewer and Fire Protection District, and Huguley Water System.

3.10 Media

TV and Radio

Chambers County is provided cable by Charter Communications and Knology. The satellite providers are Direct TV and Dish Network. The County has two local radio stations.

Newspapers

There are two local newspapers published in Chambers County. The newspapers are the *Valley Times-News*, based in the City of Lanett, and the LaFayette Sun, based in the City of LaFayette.

Telephone, Cellular, and Internet Services

An extensive range of regional and national cellular providers serve Chambers County. Knology and Charter Communications provide telephone and internet services.

3.11 Transportation**Interstates**

I-85 is the major interstate roadway serving Chambers County, as well as U.S. Highways 431, 280, and 29 and State Highways 147, 22, 50, and 77.

Trucking

There are several trucking lines that serve Chambers County.

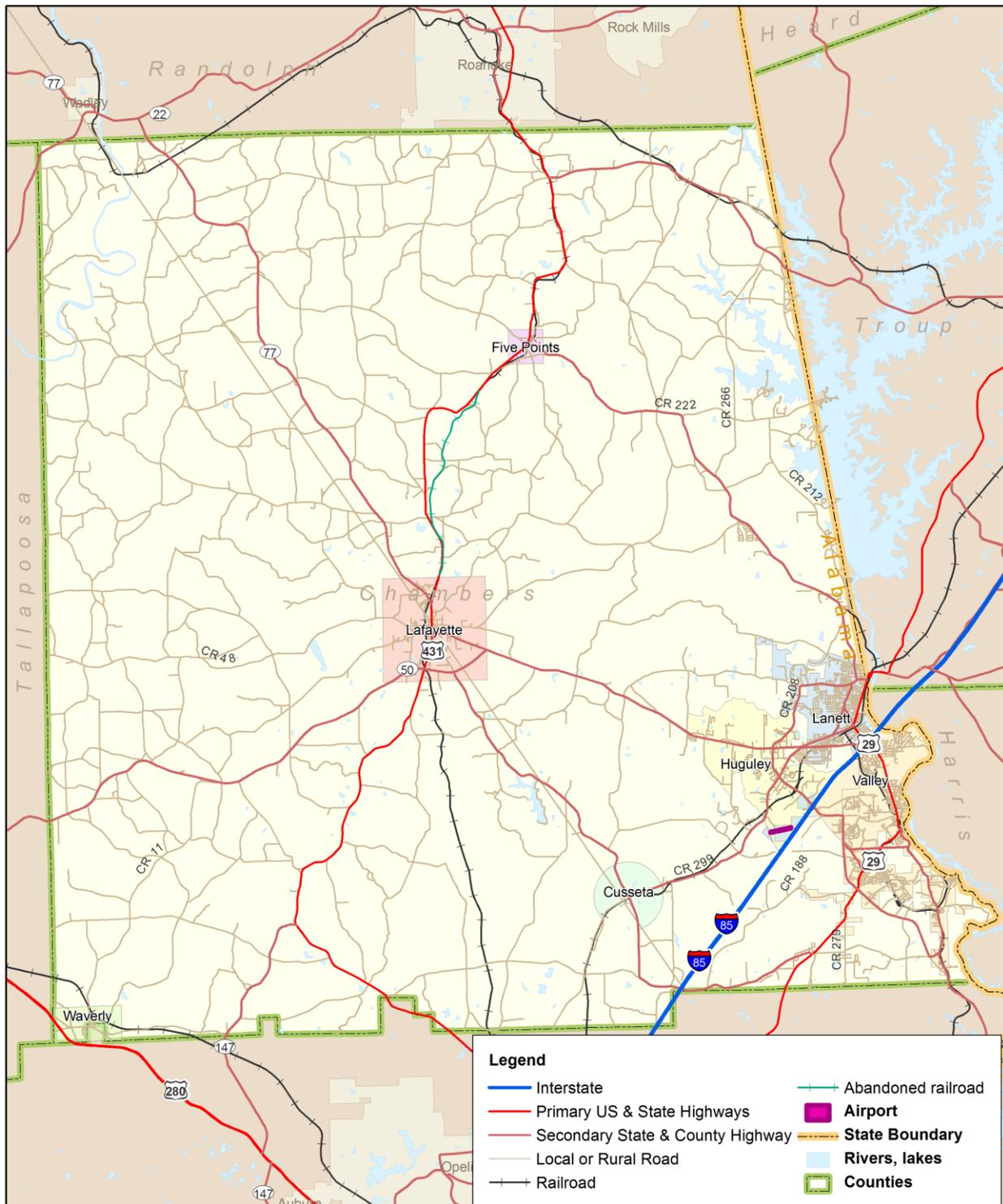
Railway

Chambers County is served by one major railroad: CSX Transportation.

Airports

Chambers County has one airport, Lanett Municipal Airport, which provides service to small private aircraft.

Map 3-5. Transportation Facilities



Lehe Planning
 URBAN AND ENVIRONMENTAL PLANNING
 September 21, 2011

Data Source: ESRI 2011
 Chambers County 2011

0 0.45 0.9 1.8 2.7 3.6 4.5
 Miles

Chambers County Transportation

Chapter 4 - The Planning Process

- 4.1 Federal Requirements for the Planning Process
- 4.2 Summary of Plan Updates
- 4.3 Opportunities for Public Comment on the Plan
- 4.4 Opportunities for Involvement in the Planning Process
- 4.5 Review and Incorporation of Applicable Plans and Documents
- 4.6 How the Plan was Prepared
- 4.7 Who was Involved in the Planning Process
- 4.8 How the Public was Involved in the Planning Process
- 4.9 The Plan Review and Update Process

4.1 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:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) 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.”

4.2 Summary of Plan Updates

Table 4-1 summarizes changes made to the 2006 plan as a result of the 2011 plan update:

Table 4-1. Summary of Plan Updates

Section		Change
4.3	Opportunities for Public Comment on the Plan	Adds new opportunities through toll free number, new Web site, and an updated public survey
4.4	Opportunities for Involvement in the Planning Process	Expanded opportunities
4.5	Review and Incorporation of Applicable Plans and Documents	Incorporated new studies; intensive examination of local tools
4.6	How the Plan was Prepared	Increased number and scope of HMPC meetings; more direct involvement and oversight by HMPC
4.7	Who was Involved in the Planning Process	Reorganized HMPC with new members
4.8	How the Public was Involved in the Planning Process	Increased involvement
4.9	The Plan Review and Update Process	This is the first 5 year review and update of the plan

4.3 Opportunities for Public Comment on the Plan

Public input into the mitigation plan was solicited by the Hazard Mitigation Planning Committee (HMPC) through a public survey, public meetings and an internet Web site at chambers.hazardmitigationplan.com. The plan was continually updated and available for public review and comment on the Web site throughout the planning process. Residents were encouraged to provide input through their representative on the Committee from each jurisdiction. A toll free number, 866-978-3633, was available for the residents to reach the planning team. (Refer to Appendix H “Community Involvement Documentation” for further explanation and documentation.)

On September 14, 2011, a community meeting was held at the offices of the Chambers County EMA/911 Center. Members of the Hazard Mitigation Planning Committee and the Chambers County EMA were available to discuss the

planning process and each community's mitigation actions program. Severe weather information, mitigation measures, and a public participation survey form were available for the participants. A copy of the survey can be found in Appendix H "Community Involvement Documentation".

As required by State law, all jurisdictions held a public hearing to receive comments prior to each jurisdiction adopting this Plan by resolution. The Chambers County EMA has copies of the resolutions and public hearing minutes at their office.

4.4 Opportunities for Involvement in the Planning Process

Various local and regional agencies with an interest in hazard mitigation, agencies that have the authority to regulate development, and representatives of businesses, academia and other private and non-profit interests were sent a notice and survey notifying them of the draft plan update and requesting their input and cooperation. (Copies of the notice and survey are included in Appendix H). Those agencies which received the notice and survey are listed below.

Federal Agencies

- National Weather Service – Birmingham Office
- U.S.D.A. Natural Resources Conservation Service – Alabama District
- U.S. Army Corps of Engineers – Mobile District
- FEMA

State Agencies

- Alabama Emergency Management Agency (AEMA)
- Alabama Department of Economic and Community Affairs (ADECA)
- Alabama Department of Environmental Management (ADEM)
- Alabama Department of Transportation (ALDOT)
- Alabama Forestry Commission
- Geological Survey of Alabama
- Alabama Historical Commission

Local and Regional Agencies

- East Alabama Regional Planning and Development Commission
- Chambers County Development Authority
- Greater Valley Area Chamber of Commerce

Neighboring Counties (represented by County EMA directors)

- Randolph County
- Lee County
- Tallapoosa County
- Harris County (Georgia)
- Troup County (Georgia)

Businesses (major employers in Chambers County)

- Wal-Mart
- InterCall
- MeadWestvaco

Academia

- Chambers County Public Schools – Board of Education
- Lanett City Schools – Board of Education
- Southern Union State Community College – Valley Campus

Non-Profits and Other Agencies

- American Red Cross, East Alabama Chapter
- Salvation Army
- Lanier Health Services

4.5 Review and Incorporation of Applicable Plans and Documents

Copies of the participating jurisdictions' plans, studies, reports, ordinances, regulations and technical information that they believed related to hazard mitigation were provided to the planning team. The documents were reviewed to see what hazard mitigation measures were currently being pursued and what new measures could be included in future revisions of the existing documents. Specific natural hazards concerns were addressed by some of these documents, i.e. floodplain management, storm water detention, erosion and sedimentation control and shoreline management.

The following plans and documents were reviewed by the planning team:

- Emergency Operations Plan
- Comprehensive Plans

- Building Codes and Related Ordinances
- Zoning Ordinances
- Subdivision Regulations
- Flood Plain Management Ordinances
- West Point Dam Break Study, 1983, U.S. Army Corp of Engineers
- Alabama State Hazard Mitigation Plan 2010
- U.S. Census Bureau and Alabama Data Center demographic and economic reports
- NOAA and NWS storm events records
- FEMA and local disasters reports
- Flood Insurance Studies and Flood Insurance Rate Maps

Any pertinent mitigation strategies developed from this mitigation plan update should be integrated into any revisions of existing comprehensive plans and future planning documents at the appropriate time. Chapter 6 – “Mitigation Strategy” contains specific measures for plan integration in the Community Mitigation Action Programs section for each jurisdiction.

4.6 How the Plan was Prepared

The Chambers County Hazard Mitigation Committee held five meetings from December 2010 through September 2011 to work on the plan drafting process. Agendas and sign-in sheets from these meetings are on file in the EMA office and copies are included in Appendix G “Committee Meeting Documentation.”

The kick-off meeting was held on December 16, 2010. The meeting topics included an introduction to mitigation planning, a review of the 2006 plan, and a preview of the plan update process. Each member was given a questionnaire on their jurisdiction’s capabilities. A risk assessment handout was provided which asked members to identify natural hazards they believed affected their jurisdiction and to rate the extents and probabilities of future occurrences. They were also asked to provide information on previous hazard events on a “Hazard Profile” Worksheet. (See Appendices B, C, and D for the results of these exercises.)

The Committee reviewed Chapters 1, 2, and 7, and Appendices A and J during the Committee meeting held on February 17, 2011. Chapter 3 – “Community Profiles” was handed out and changes were recommended at the meeting. The findings of the previous Hazard Identification and Hazard Profile exercises were also discussed.

The Committee reconvened on May 26, 2011 and the first part of Chapter 5 – “Risk Assessment” was reviewed. There was further discussion on the results of the Hazard Identification and Hazard Profile exercises and the differences in the hazards

by jurisdiction. The Community Capabilities table was provided to the members and they were asked to make corrections to the table. (See Appendix B “Community Mitigation Capabilities” for the results.) The 2006 implementation status exercise from the first meeting was discussed. They reviewed the mitigation measures they chose for the 2006 amended plan and indicated if the measure had been met or not, and if not, why. (See Appendix C “2006 Plan Implementation Status”.) The planning team described the different hazards that affect Chambers County and how their risks vary throughout the county and its communities.

The final planning meeting before the development of the draft plan was held on September 13, 2011. Part Two of Chapter 5 and Part One of Chapter 6 were provided to the members prior to the meeting. The impacts on the communities by the different hazards and how the risks vary from area to area within the county were discussed. The members were introduced to the 5 main goals of mitigation actions, possible mitigation measures, and the STAPLEE method for



deciding the worth of different mitigation measures. To begin the mitigation action program selection process, the Committee members were provided a listing of alternative mitigation measures and a worksheet of mitigation measures from which they could choose the mitigation measures that most suited their jurisdiction. There was additional space at the end of the worksheet to add mitigation measures they felt should be included for their jurisdiction.

The Committee members’ mitigation ideas were included in the draft plan. The planning team referenced all the information from Committee meetings and the Committee exercises in writing the plan update.

The Committee reconvened on September 14, 2011 after the Community Meeting to complete the draft review and discuss all components of the 2011 draft plan. The planning team assembled the final draft plan for review and approval by the Alabama Emergency Management Agency.

4.7 Who was Involved in the Planning Process

4.7.1 The Hazard Mitigation Planning Committee

Representatives from all the jurisdictions and organizations concerned with hazard mitigation made up the Chambers County Hazard Mitigation Planning Committee (HMPC) and guided the development of this plan. The HMPC members and the jurisdictions and organizations they represented are listed below:

- Donnie Smith, Chambers County EMA/911 Director
- Kathy Hornsby, Chambers County EMA/911 Deputy Director
- Jessica Yeager, Chambers County EMA
- Josh Harvill, Chambers County Highway Department
- Henry Hawkins, Chambers County Highway Department
- Valerie Gray, Chambers County Development Authority
- Richard Carter, Chambers County Sheriff's Office
- Neal Marberry, East Alabama Fire and Water District
- Aubrey (Bug) Weldon, Town of Cusseta Volunteer Fire Department
- James Williams, AL Forestry Commission and Five Points Vol. Fire Dept.
- Willie C. Kirby, Huguley Fire Department
- Kenneth Phillips, City of LaFayette Fire and EMS
- Kenneth Vines, City of LaFayette Police Department
- Scott Hamil, City of Lanett, EMS
- Jerry Thrower, City of Lanett Street Department
- Johnny Allen, City of Lanett Fire/EMS
- Timothy N. Hughes, City of Valley EMS
- Tommy Weldon, City of Valley Police Department
- Marcus Moreman, Town of Waverly, City Hall

Notes:

- *The Chambers County EMA serves as the lead local agency supporting the drafting, adoption, and ongoing implementation of the plan. The EMA supports committee activities and represents the interests of all Chambers County jurisdictions and agencies, including school boards and utilities.*

4.7.2 The Mission of the Hazard Mitigation Planning Committee

The Committee chose to retain the mission statement from the 2006 plan for this update:

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

- *Engages public participation and support;*
- *Facilitates Federal, state, regional and local agencies' coordination;*
- *Constantly monitors and evaluates the potential risks of natural hazards to life and property;*
- *Actively mobilizes all available community resources and measures to mitigate the threats of natural hazards; and,*
- *Results in programmed actions with specific results.*

4.7.3 Preparation of the Plan Update

The 2011 plan update was prepared under the direction of the Hazard Mitigation Planning Committee with the support of the Chambers County EMA. Lehe Planning, LLC, the same firm that assisted with the 2006 plan, was retained by the Chambers County Commission to prepare the 2011 update. James E. Lehe, AICP, a professional urban planner, served as the Plan Coordinator. Any revisions, amendments, or updates to this Plan will receive the guidance of a professional planner who will continue to provide support to the Committee.

4.8 How the Public was Involved in the Planning Process

Many opportunities were provide to the public to participate in the plan update. Opportunities ranged from being an active participant during committee meetings to offering comments through the internet and over the telephone. All Hazard Mitigation Planning Committee meetings were open to the public.

On September 14, 2011, the HMPC sponsored a special community meeting at the EMA/911 offices. The plan, hazards, and mitigation measures were discussed among participants during that meeting. Displays and handouts regarding various hazards were made available to the public. A public survey about the risks and threats of hazards to their community was



available and the public was encouraged to fill it out.

Interested parties were provided a toll free number (1-866-978-3633) for them to contact the planning team with questions and comments. An email address at chambers@hazardmitigationplan.com was also provided as another means to contact the planning team.

The public was invited to attend the public hearings held by their jurisdiction at the end of the planning process, prior to plan adoption, to allow them a final opportunity for public comment.

Appendix H “Community Involvement Documentation” provides detailed documentation and additional discussion of public involvement in the planning process.

4.9 The Plan Review and Update Process

A comprehensive update of the entire 2006 plan elements was the goal of this plan update. This was achieved through a process that involved the following tasks, among others:

- Changes in demographics, economic characteristics, and growth and development trends made to the Community Profiles section.
- A local capabilities assessment to determine a jurisdiction’s ability to carry out mitigation measures.
- An evaluation of the implementation of the measures from the Community Mitigation Action Programs adopted in the 2006 plan for each jurisdiction, which was reflected in the 2011 Community Action Programs.
- Detailed research and analysis of hazards and their risks affecting each community.
- An update of critical facilities and assessment of vulnerabilities.
- A reexamination of development trends and exposure to risks.
- A review and recommitment to the vision for disaster-resistant communities; modifications to the 2006 goals; and support of the 2010 State goals for hazard mitigation.
- Identification and analysis of a comprehensive range of mitigation alternatives.
- Reprioritization of mitigation actions and projects.
- Updated mitigation action programs for each jurisdiction to reflect the results of the plan update.
- The institution of streamlined amendments to better insure continuous monitoring and implementation of mitigation actions during the plan maintenance process.

Chapter 5 – Risk Assessment

- 5.1 Federal Requirements for Risk Assessments
- 5.2 Summary of Plan Updates
- 5.3 Identification and Description of Hazards
- 5.4 Hazard Profiles
- 5.5 Vulnerability of Structures within Each Jurisdiction
- 5.6 Estimate of Dollar Losses to Vulnerable Structures
- 5.7 General Description of Land Uses and Development Trends
- 5.8 Repetitively-Damaged NFIP-Insured Structures
- 5.9 Summary of Hazards and Community Impacts
- 5.10 Risks that Vary Among the Jurisdictions

5.1 Federal Requirements for Risk Assessments

This chapter 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 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.”

5.2 Summary of Plan Updates

Table 5-1 summarizes changes made to the 2006 plan:

Table 5-1. Summary of Plan Updates

Section		Change
5.3	Identification and Description of Hazards	Identifies multi-hazards; describes sources
5.4	Hazard Profiles	Improves descriptions of locations and extents; updates past occurrences; improves mapping
5.5	Vulnerability of Structures within Each Jurisdiction	A more comprehensive inventory of buildings, critical facilities, and infrastructure from HAZUS-MH; update of GIS data and mapping; improved methodologies; includes future conditions
5.6	Estimate of Dollar Losses to Vulnerable Structures	Improved methodology and documentation; updated GIS mapping
5.7	General Description of Land Uses and Development Trends	More extensive analysis; updates population and growth data; expands mapping
5.8	Repetitively-Damaged NFIP-Insured Structures	Addresses new requirement
5.9	Summary of Hazards and Community Impacts	Previously mentioned in hazard profiles; more community specific impact descriptions
5.10	Risks that Vary Among the Jurisdictions	Improved explanation of how risks vary

5.3 Identification of Hazards Affecting Each Jurisdiction

5.3.1 Types of Hazards

The hazards affecting each Chambers County jurisdiction are listed in Table 5-2 “Identified Chambers County Hazards.” This table also notes several hazards that may occur as consequences of other hazards. For example, hurricanes frequently spawn tornadoes. The 2006 Chambers County Natural Hazards Mitigation Plan includes a similar list of natural hazards, but the 2011 Chambers County Multi-Hazard Mitigation Plan identifies hazards that can occur as consequences of other hazards. Detailed descriptions of these hazards can be found in Appendix D, “HMPC Hazard Identification and Ratings”.

Table 5-2. Identified Chambers County Hazards

Hazards	Associated Hazards	Jurisdictions Affected
<p align="center">Severe Storms</p>	<p>Thunderstorms Hail Lightning High Winds Tornadoes Floods</p>	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
<p align="center">Tornadoes</p>	<p>High Winds Severe Storms</p>	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
<p>Winter Storms/Freezes Wildfires</p>	<p>Snow Storms Ice Storms Extreme Cold</p>	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
<p align="center">Drought/Heat Waves</p>	<p>Extreme Heat Wildfires Sinkholes</p>	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
<p align="center">Hurricanes</p>	<p>Tropical Storms Tropical Depressions Severe Storms High Winds Floods</p>	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly

Hazards	Associated Hazards	Jurisdictions Affected
Floods		Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
Dam/Levee Failures	Floods	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
Wildfires		Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
Sinkholes (Land Subsidence)		Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly
Earthquakes	Landslides	Chambers County
		Cusseta
		Five Points
		Lafayette
		Lanett
		Valley
		Waverly

<i>Hazards</i>	<i>Associated Hazards</i>	<i>Jurisdictions Affected</i>
Landslides		<i>Chambers County</i>
		<i>Cusseta</i>
		<i>Five Points</i>
		<i>Lafayette</i>
		<i>Lanett</i>
		<i>Valley</i>
		<i>Waverly</i>

5.3.2 Sources for Identifying Chambers County Hazards

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

1. HMPC Hazard Identification and Ratings Exercise. The Hazard Mitigation Planning Committee began the 2010 hazard identification process by completing an exercise to evaluate the list of hazards identified in the 2006 plan, which is reported in Appendix D “HMPC Hazard Identification and Ratings.” A similar exercise was administered for the 2006 plan, and Appendix D compares the results.
2. 2010 Alabama State Plan. The 2010 update of the State Plan served as an additional resource for identifying local hazards. The planning committee compared the list of all of the hazards identified by the State against the local list of hazards noted differences between the two lists. Table 5-3 compares the hazards identified in this 2011 plan update to those identified in the 2010 Alabama State Plan.

Table 5-3. Comparison of Identified Chambers County Hazards to 2010 State Plan

Hazards Identified in 2010 Alabama State Plan	Equivalent 2011 Chambers County Identified Hazards	Differences
Floods (riverine flooding, storm surge, flash floods)	Floods	Riverine and flash floods included as components of Floods in Chambers County plan.
High Winds (hurricanes, tornadoes and windstorms)	Tornadoes – High Winds Severe Storms – High Winds Hurricanes – High	High winds included as components of tornadoes, severe storms, and hurricanes in Chambers County plan.

Hazards Identified in 2010 Alabama State Plan	Equivalent 2011 Chambers County Identified Hazards	Differences
	Winds	
Winter/Ice Storms	Winter Storms/Freezes	Chambers County plan identifies extreme cold as an associated hazard.
Landslides	Landslides	Chambers County plan identifies mudslides as an associated natural hazard.
Land Subsidence	Sinkholes (Land Subsidence)	Difference in terminology.
Earthquakes	Earthquakes	Chambers County plan identifies landslides as an associated natural hazard.
Droughts	Droughts/Heat Waves	Included as a component of droughts/heat waves in Chambers County plan. Chambers County plan identifies sinkholes as a consequence of droughts/heat waves.
Hail	Severe Storms – Hail	Included as a component of severe storms in Chambers County plan.
Wildfires	Wildfires	Chambers 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 Chambers County plan.
Lightning	Severe Storms – Lightning	Included as a component of severe storms in Chambers County plan.
Dam Failures	Dam/Levee Failures	Chambers County plan associates floods with dam/levee failures.
Tsunamis	None	Scientists agree that tsunamis are not a threat to coastal Alabama.

3. List of Federally-Declared Disasters. Federal disaster declarations affecting Chambers County were an additional source for hazard identification. All declarations that have been issued since 1975 and May 1, 2011 are included in the following table:

Table 5-4. Summary of Federally-Declared Disasters 1975-2011

Disaster Number	<i>Disaster Type</i>	Date	Declaration Type*
285	Severe Storm	04/09/1975	IA,PA-ABCDEFG,DH,DUA,IFG
488	Severe Storm	10/02/1975	IA,PA-ABCDEFG,DH,DUA,IFG
3045	Drought	07/20/1977	PA-AB
578	Flood	04/18/1979	IA,DH,DUA,IFG
861	Severe Storm	04/07/1990	IA,PA-ABCDEFG,DH,DUA,IFG
3096	Snow	03/15/1993	PA-AB
1070	Hurricane	10/12/1995	IA,PA-ABCDEFG,DH,DUA,IFG
1466	Severe Storm	05/12/2003	IA, PA-ABCDEFG,DH,DUA,IFG
1549	Hurricane	09/15/2004	IA, ABCDEFG,DH,HM, DUA,IFG
1593	Hurricane	07/10/2005	PA-ABCDEFG, HM, DFA
1605	Hurricane	08/29/2005	HM, B
3282	Hurricane	08/30/2008	PA-AB
1971	Tornado, Severe Storm	04/28/2011	IA,PA-ABCDEFG,CC,DH,DUA,IFG
* Declaration Type Key			
IA – Individual assistance		A – Debris removal	
PA – Public assistance		B – Protective measures	
DH – Disaster housing		C – Roads and bridges	
CC – Crisis counseling		D – Water control facilities	
DFA – Direct federal assistance		E – Public buildings	
DUA – Disaster unemployment assistance		F – Public utilities	
HM – Hazard mitigation		G – Recreation	
IFG – Individual and family grant		SA – Stafford Act	
IHP - Individuals and households		403C – Department of Defense	
SBA – Small Business Administration			

Source: FEMA, Region IV

4. Other Hazard Identification Sources. Other sources for identifying hazards included the following:
 - Chambers County EMA staff and local government professionals
 - Discussions with longstanding residents who served on the HMPC and participated in community events and surveys
 - Interviews with professional experts from local jurisdictions and federal and state agencies, including the National Weather Service, Geologic Survey of Alabama, Alabama EMA, Alabama Forestry Commission and others
 - Local newspapers
 - National Weather Service records
 - NOAA Storm Events Database
 - Extensive internet research

5.4 Hazard Profiles

5.4.1 Severe Storms Profile

According to the Hazard Mitigation Planning Committee (see Appendix D “HMPC Hazard Identification and Ratings), severe storms are the highest natural hazard threat to Chambers County communities. NOAA records confirm this perception. Severe storms maybe accompanied by high winds, thunderstorms, lightning, tornadoes, and hail.

The National Climatic Data Center reports that during the afternoon of May 10, 2009, several damaging storms passed through Chambers County. The storms were accompanied with large hail and damaging winds. Nine trees were blown down near I-85, two miles southeast of Cusseta, causing \$4,000 in property damage, and several uprooted trees three miles southwest of Glass, caused \$3,000 in property damages. In other areas, downed trees and power lines caused another \$3,000 in property damages. Large hail was recorded in certain areas but caused no damage.

Location

Severe storms lack geographic centers and boundaries, therefore cannot be substantively mapped. All areas of Chambers County have equal exposure to severe storms, including thunderstorms, high winds, heavy precipitation, and hail.

Extent

The extent of severe storms depends on severity and duration. A storm’s severity is measured by the combination of rainfall, wind-speed, the size of any accompanying hail, and the intensity of lightning. 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, including crop 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. The most typical threat of high winds is power outages, which usually occurs when trees fall onto power lines, although they can cause severe damage to buildings and infrastructure.

Past Occurrences

National Climatic Data Center (NCDC) records indicate frequent severe storms during the 1965-2010 period. There have been 138 severe storm events reported for Chambers County, averaging over three per year. The most severe storm passed

through on September 17, 1994 three miles north of Lafayette and caused an estimate of \$500,000 of damage. The storm was responsible for damage to four houses off Highway 431.

Table 5-5. Annual Summary of Severe Storm Events, 1965-2010

Year	Type	Number	Deaths	Injuries	Total Damages (\$)
1965	Thunderstorm/High Winds	1	0	0	\$0
1969	Thunderstorm/High Winds	1	0	0	\$0
1970	Thunderstorm/High Winds	1	0	0	\$0
1971	Thunderstorm/High Winds	1	0	0	\$0
1973	Hail	1	0	0	\$0
	Thunderstorm/High Winds	1	0	0	\$0
1974	Thunderstorm/High Winds	1	0	0	\$0
1979	Thunderstorm/High Winds	3	0	0	\$0
1980	Hail	1	0	0	\$0
	Thunderstorm/High Winds	3	0	0	\$0
1981	Thunderstorm/High Winds	1	0	0	\$0
1982	Hail	2	0	0	\$0
	Thunderstorm/High Winds	1	0	0	\$0
1983	Thunderstorm/High Winds	1	0	0	\$0
1985	Thunderstorm/High Winds	1	0	0	\$0
1986	Hail	1	0	0	\$0
	Thunderstorm/High Winds	2	0	0	\$0
1987	Thunderstorm/High Winds	2	0	0	\$0
1988	Hail	2	0	0	\$0
1989	Thunderstorm/High Winds	4	0	0	\$0
1990	Thunderstorm/High Winds	3	0	0	\$0
1991	Hail	2	0	0	\$0
	Thunderstorm/High Winds	3	0	0	\$0
1992	Thunderstorm/High Winds	4	0	0	\$0
1994	Hail	1	0	0	\$0
	Thunderstorm/High Winds	1	0	0	\$500,000
1995	Hail	3	0	0	\$0
1995	Lightning	2	0	0	\$30,000
	Thunderstorm/High Winds	3	0	0	\$49,000
1996	Hail	2	0	0	\$25,000
	Thunderstorm/High Winds	2	0	0	\$22,000
1997	Hail	5	0	0	\$30,000
1998	Hail	7	0	0	\$25,000
	Thunderstorm/High Winds	2	0	0	\$15,000

Year	Type	Number	Deaths	Injuries	Total Damages (\$)
1999	Thunderstorm/High Winds	2	0	0	\$70,000
2000	Thunderstorm/High Winds	1	0	0	\$25,000
2001	Hail	2	0	0	\$0
	Thunderstorm/High Winds	2	0	0	\$4,000
2002	Hail	1	0	0	\$3,000
	Thunderstorm/High Winds	1	0	0	\$75,000
2003	Hail	5	0	0	\$5,000
	Thunderstorm/High Winds	3	0	0	\$46,000
2004	Thunderstorm/High Winds	2	0	0	\$67,000
2005	Hail	11	0	0	\$16,000
	Thunderstorm/High Winds	3	0	0	\$12,000
2006	Hail	7	0	0	\$2,000
	Thunderstorm/High Winds	1	0	0	\$2,000
2007	Hail	3	0	0	\$0
	Thunderstorm/High Winds	1	0	0	\$5,000
2008	Hail	5	0	0	\$0
	Thunderstorm/High Winds	3	0	0	\$5,000
2009	Hail	2	0	0	\$0
	Thunderstorm/High Winds	5	0	0	\$22,000
2010	Hail	1	0	0	\$0
	Thunderstorm/High Winds	6	0	0	\$28,000
TOTAL		138	0	0	\$1,083,000
Annual Average		3.1	0	0	\$24,067

Source: National Climatic Data Center

Probability of Future Events

It is certain that severe storms will show annual occurrences throughout all of Chambers County jurisdictions. Although, not every storm will exhibit all the hazards associated with severe storms; high winds are less frequent, and large, damaging hail is rare.

5.4.2 Tornadoes Profile

On April 27th, 2011, at least 28 tornadoes touched down in central Alabama, causing over a thousand injuries and 249 deaths within the state. Map 5-1 shows the paths and intensity of these tornadoes. A tornado with an EF-4 rating touched down in central Elmore County and moved eastward across Tallapoosa County into western Chambers County, where the funnel followed County Road 54 north and completely destroyed one home within the county. Although no deaths or injuries were reported

within Chambers County, a total of seven deaths and 30 injuries are attributed to the tornado.

Map 5-1. Tracks of the Tornadoes' Paths in Alabama on April 27, 2011

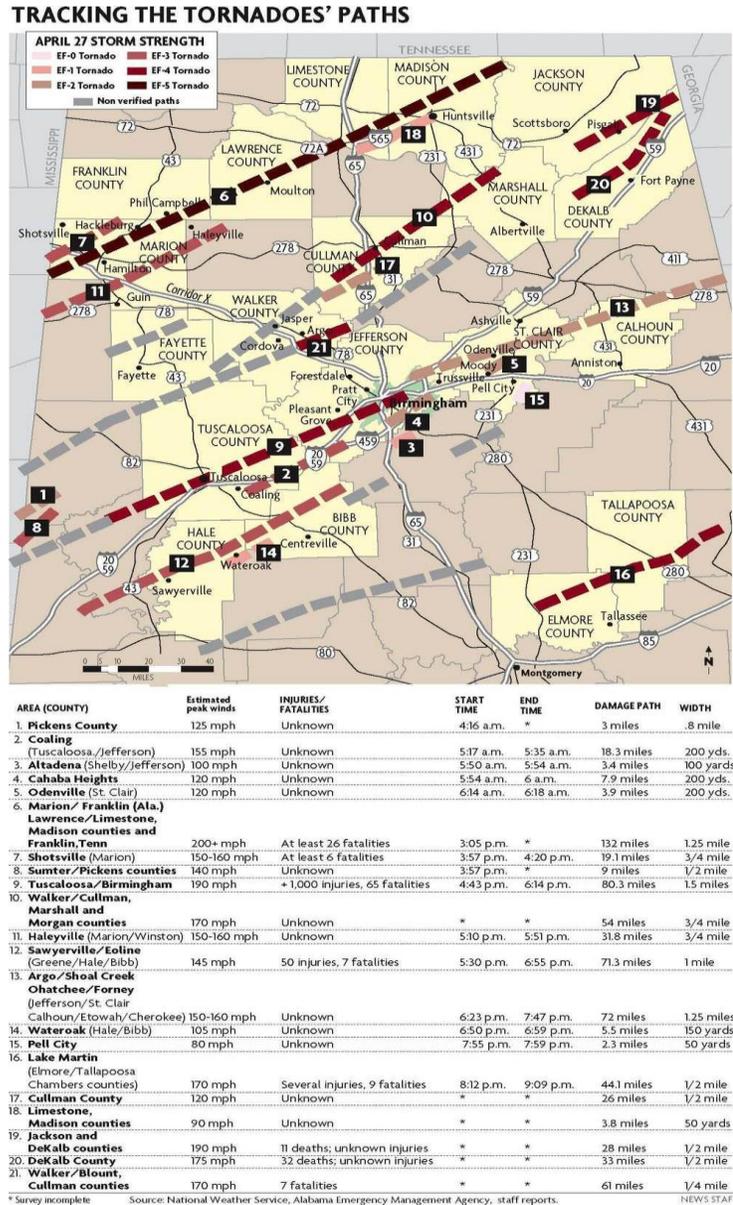
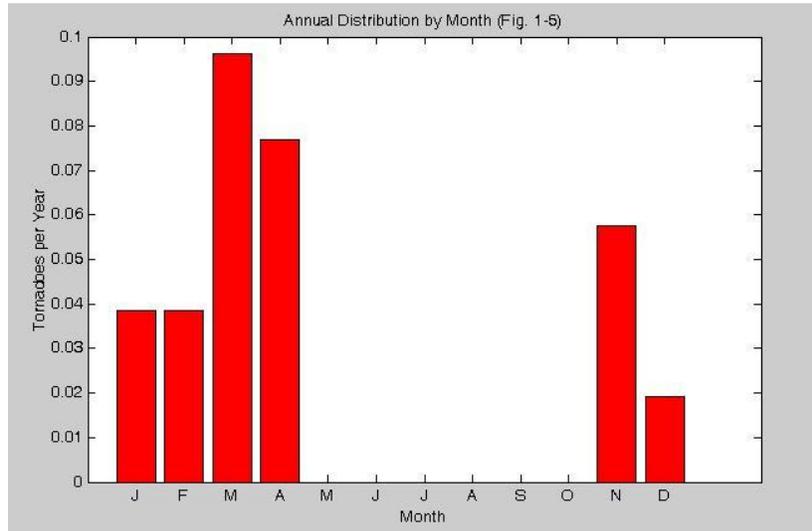


Chart 5-1, below, shows Chambers County's monthly tornado frequency, with the months of March and April being the most frequent months from 1950-2006. (The SATT software, produced by VorTek, LLC, shows tornadic activity within a 18 mile radius of the center of Chambers County, which includes some areas beyond the county limits).

Chart 5-1. Monthly Tornado Frequency, 1950-2006

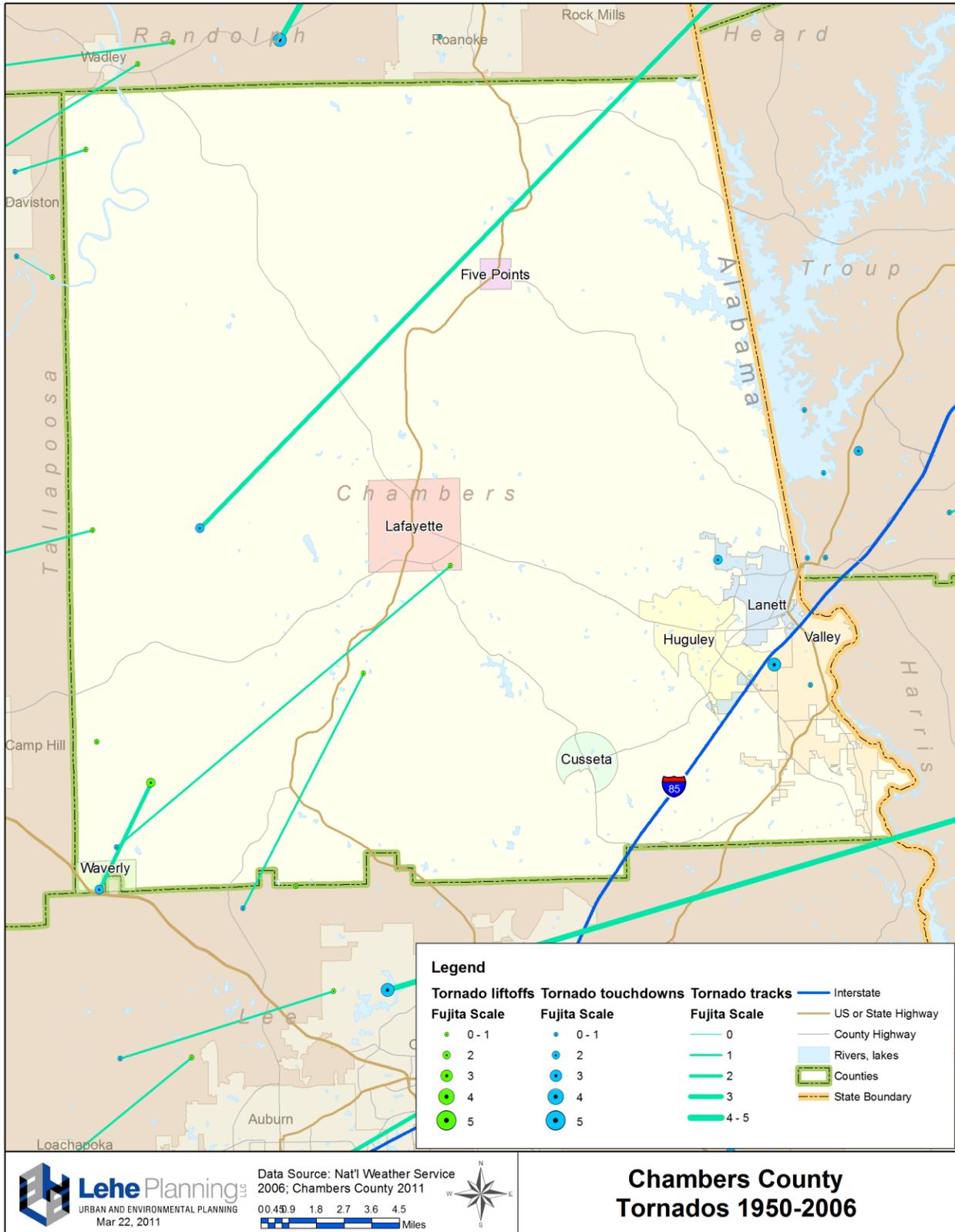


Source: VorTek, LLC. SATT 3.0 (Site Assessment of Tornado Threat) software

Location

All Chambers County locations and jurisdictions are equally at risk for tornadoes. Map 5-2 “Chambers County Tornado Locations, 1950-2009,” shows touchdown locations and paths.

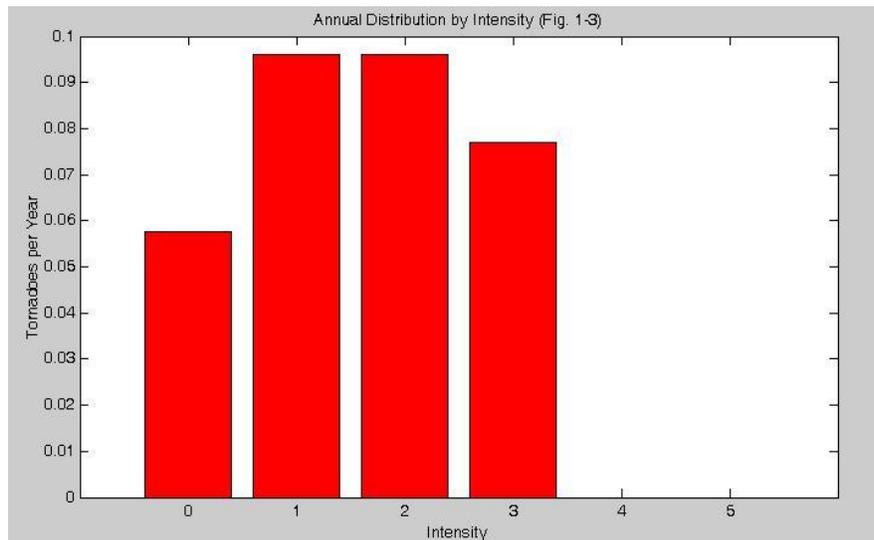
Map 5-2. Chambers County Tornado Locations, 1950-2009



Extent

Tornadoes pose a significant threat to Chambers County communities. The Hazard Mitigation Planning Commission (HMPC) ranked tornadoes second among all hazards in terms of exposure, risk and probability of future occurrences (see Appendix D “HMPC Hazard Identification and Ratings”). In Chambers County, tornadoes tend to be severe but infrequent. Chart 5-2 below shows the frequency of tornadoes by intensity over the 1950-2006 period. The average intensity of tornadoes is in between an F-1 and F-2 rating.

Chart 5-2. Annual Frequency of Tornado Intensity, 1950-2006



Source: VorTek, LLC. SATT 3.0 (Site Assessment of Tornado Threat) software

Past Occurrences

According to the National Climatic Data Center (see Table E-2 in Appendix E “Hazard Profile Data”), Chambers County was the site of twelve tornado events between 1970 and 2010. These events caused 14 injuries, 2 deaths and damages of \$3.5 million—an average of 0.3 tornadoes and \$88,000 in property damages per year. The tornado from the April 27, 2011 outbreak discussed above is not yet recorded in the NCDC database.

Table 5-6. Annual Summary of Tornado Events, 1970-2010

Year	Number	Deaths	Injuries	Total Damages
1970	1	2	14	\$250,000
1971	1	0	0	\$25,000
1972	1	0	0	\$25,000
1973	1	0	0	\$25,000
1974	1	0	0	\$25,000

Year	Number	Deaths	Injuries	Total Damages
1984	1	0	0	\$25,000
1989	1	0	0	\$2,500,000
1994	1	0	0	\$550,000
1995	1	0	0	\$42,000
2005	2	0	0	\$3,000
2006	1	0	0	\$50,000
TOTAL	12	2	14	\$3,520,000
Annual Average	0.3	0.1	0.4	\$88,000

Source: National Climatic Data Center

Probability of Future Events

If historical trends continue, Chambers County can anticipate one tornado once every three or four years. Tornadoes cost Chambers County communities an average of \$90,000 in property damages per year and result in one casualty every ten years.

5.4.3 Winter Storms/Freezes Profile

Chambers County’s mild subtropical climate makes winter storms infrequent. Winter storms that do strike Chambers County are relatively mild, characterized by snow dusting or light freezing rain. On average, the county receives 0.4 inches of snowfall annually with one winter storm event every year. Rarely do snowfalls exceed two inches or freezes disrupt road travel for long periods. Although, when winter storms or severe freezes do occur, major transportation disruptions and power outages are expected, due to the inexperience of having to deal with such infrequent events.

The risks of winter storms and freezes include loss of life due to cold, power outages for extended periods of time, agriculture damage, and road hazards. Fallen trees and limbs and heavy snow loads can collapse roofs and cause downed power and communication lines. Therefore, snowfalls of over two inches and long-lasting freezes, though rare, pose the greatest threats. Disruptions can last for several days following these extreme winter storm conditions.

Winter temperatures in Chambers County are generally moderate; the average temperature is 44.3° F and the average winter minimum is 32° F. Extreme cold temperatures are rare for this area. These rare temperature lows can result in burst plumbing in homes and occasional deaths due to lack of sufficient heating or exposure. The lowest recorded temperature of -7° F occurred in 1985.

Table 5-7. Winter Weather Observations

Item	Observation
Average Winter Temperature	44.3° F
Average Winter Minimum Temperature	32° F

Lowest Temperature (January 21, 1985)	-7° F
Average Season Snowfall	0.4 inches
Largest Snowfall (1983)	5 inches

Source: SE Regional Climate Center/National Climate and Data Center

Location

All participating jurisdictions are equally likely to experience winter storms/freezes, which may be accompanied by snow, freezing rains, and extreme temperature lows.

Extent

Chambers County experiences annual disruptions and some damages due to severe winter storms/freezes. The yearly average snowfall is 0.4 inches, but some events have produced major disruptions and damages. Winter temperatures on average are above freezing, but occasional freezes do occur. The Hazard Mitigation Planning Committee (HMPC) (see Appendix D “HMPC Hazard Identification and Ratings.”) rated the extent of winter storms/freezes as the third highest threat among the natural hazards.

Past Occurrences

Table 5-8 “Annual Summary of Winter Storm/Extreme Cold Events” provides a summary of the available historical data from 1996 to 2010 for winter weather events in Chambers County from the National Climate and Data Center (NCDC). There have been fifteen reported winter storms or extreme cold events since 1996 (Refer to Table E-7 “Chambers County Snow and Ice Events, 1950-2010” and Table E-8 “Chambers County Extreme Cold Events, 1950-2010” in Appendix E).

The most recent recorded snow event was on February 12, 2010, which brought one to seven inches of snow to the eastern and southern sections of Central Alabama. Chambers County had one inch of snow accumulation. The largest snowfall recorded in Chambers County occurred on March 24, 1983 at 5 inches.

Table 5-8. Annual Summary of Winter Storm/Extreme Cold Events, 1996-2010

Year	Type	Number	Deaths	Injuries	Total Damages
1996	Extreme Cold	2	0	0	\$52,000,0000
	Storm	2	0	0	\$978,000
1997	Storm	1	0	0	\$0
2000	Storm	1	0	0	\$1,100,000
2002	Snow	2	0	0	\$0
2003	Extreme Cold	1	1	0	\$0

Year	Type	Number	Deaths	Injuries	Total Damages
2005	Storm	1	0	0	\$425,000
2008	Snow	2	0	0	\$0
2009	Snow	1	0	0	\$0
2010	Snow	2	0	0	\$0
TOTAL		15	1	0	\$54,503,000
Annual Average		1.1	0.1	0	\$3,893,071

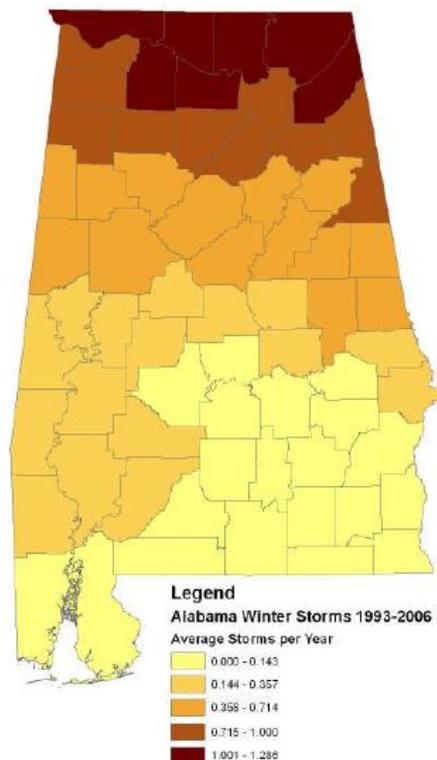
Source: National Climatic Data Center

Probability of Future Events

Winter storms/freezes should continue to affect Chambers County approximately every two years. More severe events, such as those with snowfalls exceeding two inches, enduring freezes, and extremely low temperatures, should occur once every five years, on average. These average estimates are based solely on the continuance of historical trends and are not guarantees of future weather behavior.

The Hazard Mitigation Planning Committee (see Appendix D) rated the probability of future occurrences at moderately high. Map 5-3 shows the moderate relative frequency of winter storms in Central Alabama from 1993 to 2006.

Map 5-3. Alabama Winter Storm Frequency (1993-2006)



Source: 2007 Alabama State Plan

5.4.4 Droughts/Heat Waves Profile

An historic drought affected most of Alabama from 2006 to 2008. During this period Chambers County experienced 12 drought events and was rated as having a D2 Severe Drought classification.

Location

Droughts and heat waves affect all areas and jurisdictions of Chambers County equally. Certain areas, such as agricultural areas and areas with vulnerable water supplies, may be more susceptible to the adverse effects of droughts.

Extent

Typically, Chambers County droughts and extreme heat events do not carry reported damages. The single casualty on record occurred in 1999, when heat index temperatures of 110 degrees lead to the death of an elderly woman. The highest recorded temperature of 107 occurred in July of 1952. The Hazard Mitigation Planning Committee (HMPC) (see Appendix D “HMPC Hazard Identification and Ratings.”) rated the extent of droughts/heat waves as the fourth highest threat among the natural hazards.

Past Occurrences

According to the National Climatic Data Center (NCDC) records, there have been 14 droughts in Chambers County between 1996 and 2010. These events are recorded in Table E-9 in Appendix E “Hazard Profile Data.” Also, during the same period, Chambers County endured two episodes of extreme heat conditions, which caused one death. These are provided in Table E-10 “Chambers County Extreme Heat Events” in Appendix E.

Table 5-9. Annual Summary of Drought/Extreme Heat Events, 1996-2010

Year	Type	Number	Deaths	Injuries	Total Damages
1996	Extreme Heat	1	0	0	\$0
1999	Extreme Heat	1	1	0	\$0
2006	Drought	3	0	0	\$0
2007	Drought	2	0	0	\$0
2008	Drought	7	0	0	\$0
2010	Drought	2	0	0	\$0
TOTAL		16	1	0	\$0
Annual Average		1.1	0.1	0	\$0

Source: National Climatic Data Center

Probability of Future Events

Droughts and heat waves are expected to affect Chambers County, on average, once every year.

5.4.5 Hurricanes Profile

On October 4, 1995, Hurricane Opal came ashore in the Florida Panhandle and continued to move north-northeast into the state of Alabama. The hurricane caused extensive damage, and the eastern portion of the state experienced the most damage. Trees, signs and power lines were downed statewide as 2.6 million Alabama residents lost electricity for up to one week. Hurricane Opal caused \$0.1 billion in property damage and \$10 million in crop damage. The following map shows the path and strength of Opal as it passed through Chambers County.

Figure 5-2. Hurricane Opal Track



Source: National Hurricane Center

Location

All Chambers County locations and jurisdictions generally share equal risks for hurricanes. The paths of the storms since 1851 are shown on Map 5-4 “Hurricane & Storm Paths, 1851-2004,” which shows all areas of Chambers County are equally affected. The County generally does not have many direct hits from hurricanes, but because of its close proximity to the Gulf of Mexico it can still get the effects of high winds and heavy rain from hurricanes and tropical storms as they move north.

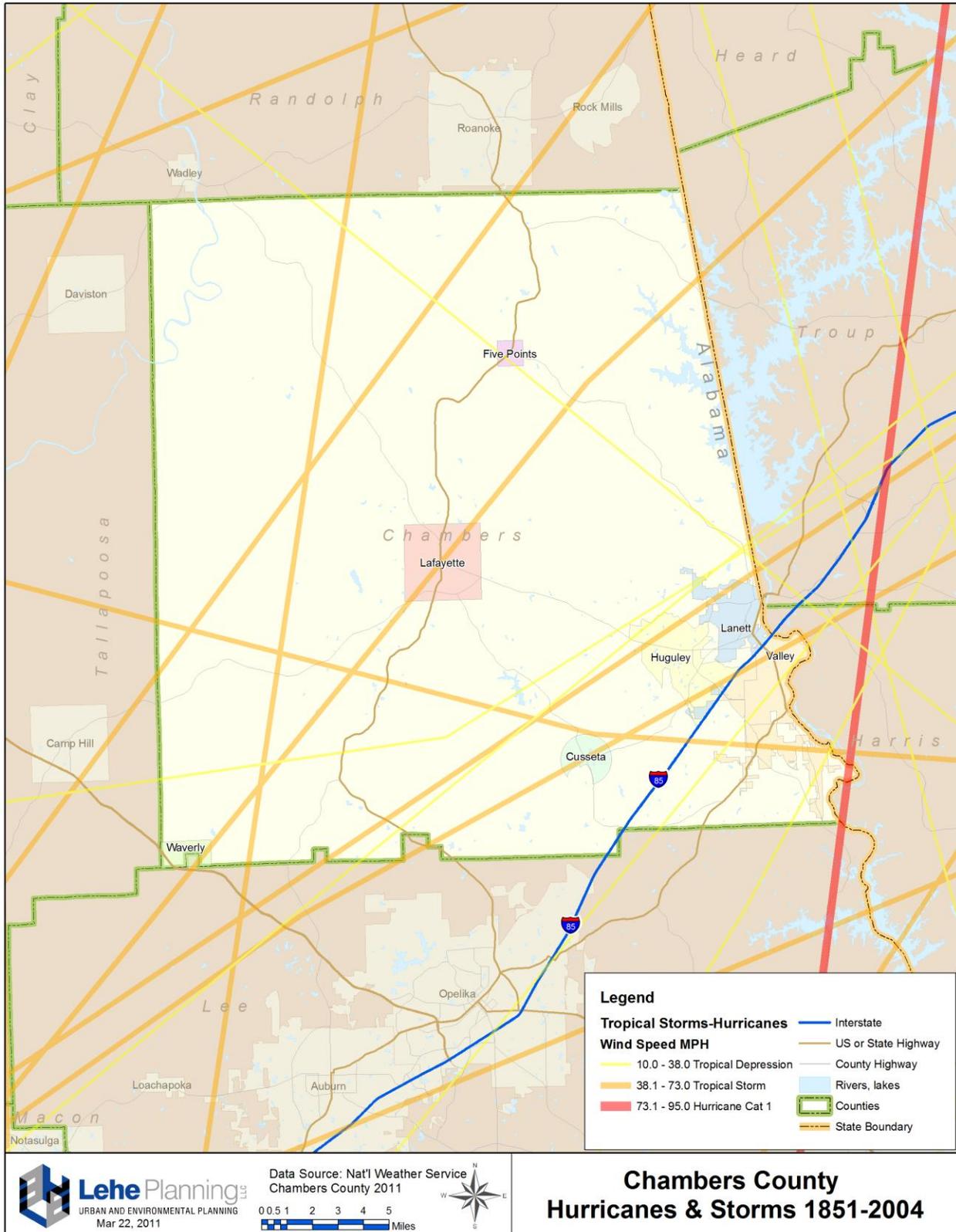
Extent

Hurricanes pose the greatest threat to life and property, but tropical depressions and storms can also cause extensive damage and loss of life. On average, Chambers County experiences a hurricane event once every five years, with severe damage. Hurricanes can be accompanied by tropical storms, tropical depressions, severe storms, high winds, floods, and even tornadoes. The last recorded hurricane event for Chambers County was a tropical storm in 2005.

Tropical storms and depressions often bring torrential rains and flooding that may outlive the storm itself by several days. A relatively weak tropical storm or depression may cause more damage than a high-intensity, fast-moving hurricane if the storm lingers long enough to saturate flood plains.

Tornadoes may also form as a by-product of hurricanes. The threat of tornadoes expands the geographic scope of risk, because tornadoes can cause severe damage inland. Half of all hurricanes produce at least one tornado—typically within 12 hours of landfall and during daylight hours. The Hazard Mitigation Planning Committee (HMPC) (see Appendix D “HMPC Hazard Identification and Ratings.”) rated the extent of hurricanes as a moderate threat among the natural hazards.

Map 5-4. Hurricane & Storm Paths, 1851-2004



Past Occurrences

Table 5-10 “Annual Summary of Hurricane Events, 1950-2010” provides a summary of the available historical data for hurricane events in Chambers County from the National Climate and Data Center (NCDC). There have been three reported hurricane or tropical storm events since 1995 (Refer to Table E-6 “Chambers County Hurricane and Tropical Storm Events, 1950-2010” in Appendix E).

The most recent tropical storm event was on August 29, 2005, when a storm system spun off Hurricane Katrina. Power outages lasted more than a week for some residents. Although specific estimates for Chambers County are unavailable, the NCDC storm report indicates that rainfall reached six inches in some areas of Alabama. This storm caused \$34.9 million in property damage and eight injuries total, although no injuries were reported for Chambers County.

Table 5-10. Annual Summary of Hurricane Events, 1995-2010

Year	Type	Number	Deaths	Injuries	Total Damage
1995	Hurricane	1	2	0	\$110,000,000
2005	Tropical Storm	2	0	8	\$34,913,000
Total*		3	2	8	\$144,913,000
Annual Average*		0.2	0.1	0.5	\$9,660,867

*Includes other counties in Alabama

Source: National Climatic Data Center

Probability of Future Events

Historical records are not a guarantee of future frequency, but extrapolating from previous events can provide a baseline for planning mitigation strategies. Due to the County’s proximity to the Gulf of Mexico, Chambers County can expect remnants of Gulf Coast hurricanes and, occasionally, direct impacts. On average, Chambers County can anticipate a hurricane event to occur once every five years with around \$9.6 million in damages.

5.4.6 Floods Profile

On May 7, 2003, Chambers County suffered its most destructive recorded flood event. The Chattahoochee River flooded eastern portions of the county due to heavy rainfall. Four residences were completely destroyed, and 32 homes suffered major damage. Thirty-one businesses suffered major damage. Government infrastructure received nearly \$900,000 in damage. The flood caused a total of \$4.5 million in property damage and \$275,000 in crop damage.

According to the Hazard Mitigation Planning Committee (see Appendix D “HMPC Hazard Identification and Ratings”) and surveys of community opinions, floods are a

moderate concern to Chambers County communities. NOAA records affirm these public perceptions.

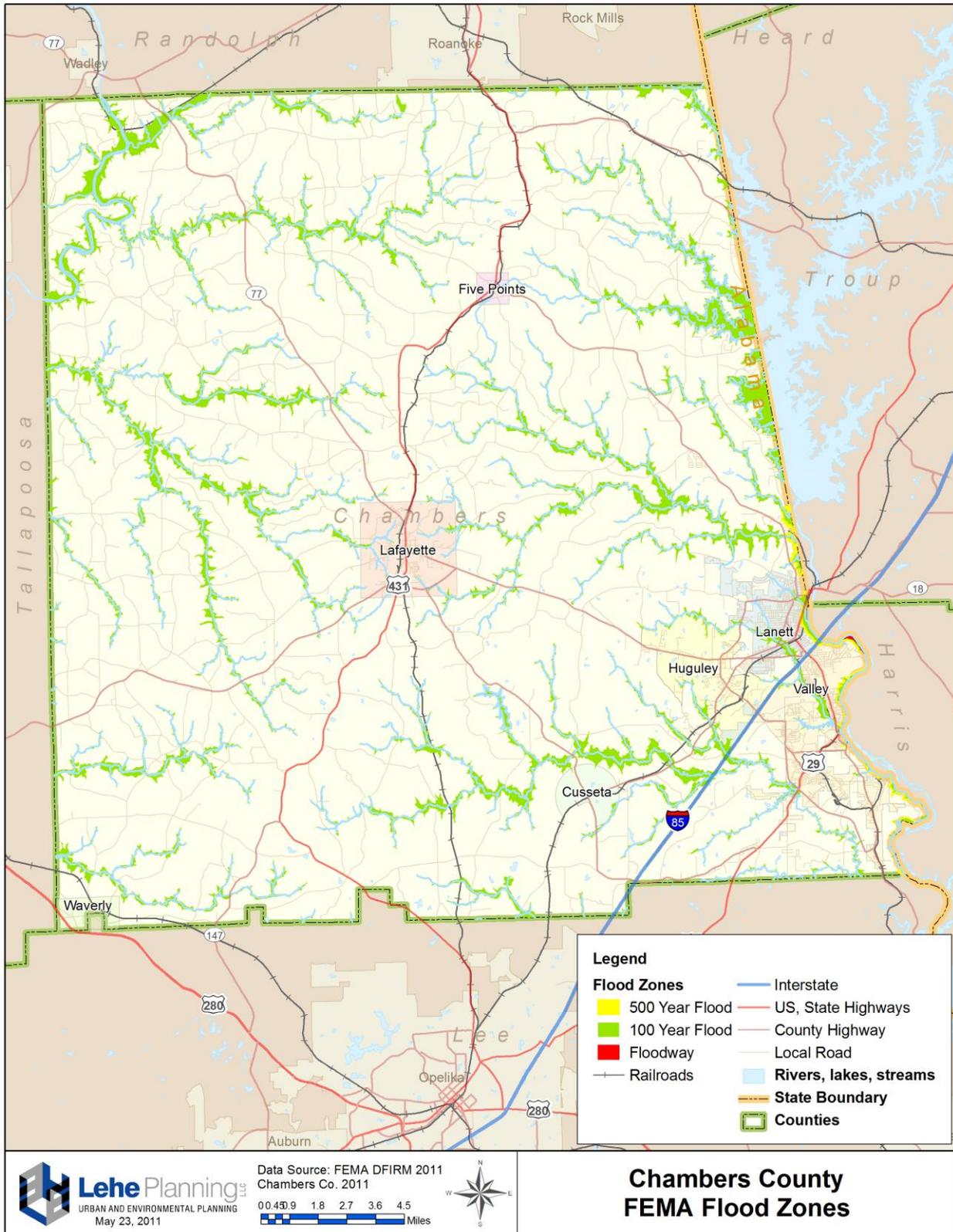
Location

The Flood Insurance Rate Maps (FIRMs) of the National Flood Insurance Program (NFIP) indicates Chambers County has extensive areas prone to flooding. Map 5-5 "Flood Zones" shows that most of the flood zones reside in unincorporated Chambers County, where there is less population density. The cities of Lanett and Valley include areas designated as 500-year and 100-year flood zones located along the Chattahoochee River. However, Chambers County's primary concern is localized, flash flooding of roads and bridges.

Extent

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. Chambers County experiences riverine flooding, primarily along local streams and tributaries of the Chattahoochee River, many of which are flash floods.

Map 5-5. Flood Zones



Past Occurrences

National Climatic Data Center (NCDC) records (see Table E-5 in Appendix E) indicate frequent flooding in Chambers County over the period since 1996. There have been 13 floods reported with a frequency of almost one per year, as shown in Table 5-11 below. According to these NCDC estimates, damage has averaged \$375K per year and around \$403K per event.

Table 5-11. Annual Summary of Flood Events, 1996-2010

Year	Number	Deaths	Injuries	Total Damages
1996	1	0	0	\$17,000
1998	1	0	0	\$30,000
1999	1	0	0	\$8,000
2003	4	0	0	\$5,145,000
2004	1	0	0	\$3,000
2005	3	0	0	\$37,000
2006	1	0	0	\$10,000
2009	1	0	0	\$0
TOTAL	13	0	0	\$5,250,000
Annual Average	0.9	0	0	\$375,000

* includes damages for Chambers and other Alabama counties.

Source: National Climatic Data Center

Probability of Future Events

Past trends indicate that regular occurrences of heavy rainfall will continue to create flooding throughout Chambers County. Chambers County should expect approximately one flood event per year, although the severity of damage may vary widely from one year to the next.

5.4.7 Dam/Levee Failures Profile

Dam and levee failures are potentially catastrophic flood events and can occur with little warning. A failure is usually the result of neglect, unsound construction, or structural damage attributable to an earthquake or other natural hazard. Severe dam and levee failures are very rare in the United States, but, when they do occur, downstream damages can include devastating human casualties, property damages, and altered natural landscapes.

Location

According to the U.S. Corps of Engineers 1999 Dam Inventory, there are 47 dams and levees in Chambers County. Many of these dams have minimal discharge and are used for catfish ponds. Only 17 of the 47 dams have significant discharges; only one of the dams, West Point Dam, contains significant volumes of water. Lanett and Valley are both located on the Chattahoochee, downstream from West Point Dam. Map 5-6

“Chambers County Dams/Levees” show the major dams for the County. These structures are located across the County, so a slight risk of dam or levee failure exists for several incorporated jurisdictions. Additionally, the Langdale and Riverview Dams have significant inundation areas within Chambers County, although the dams are located in the State of Georgia.

Map 5-6. Chambers County Dams/Levees

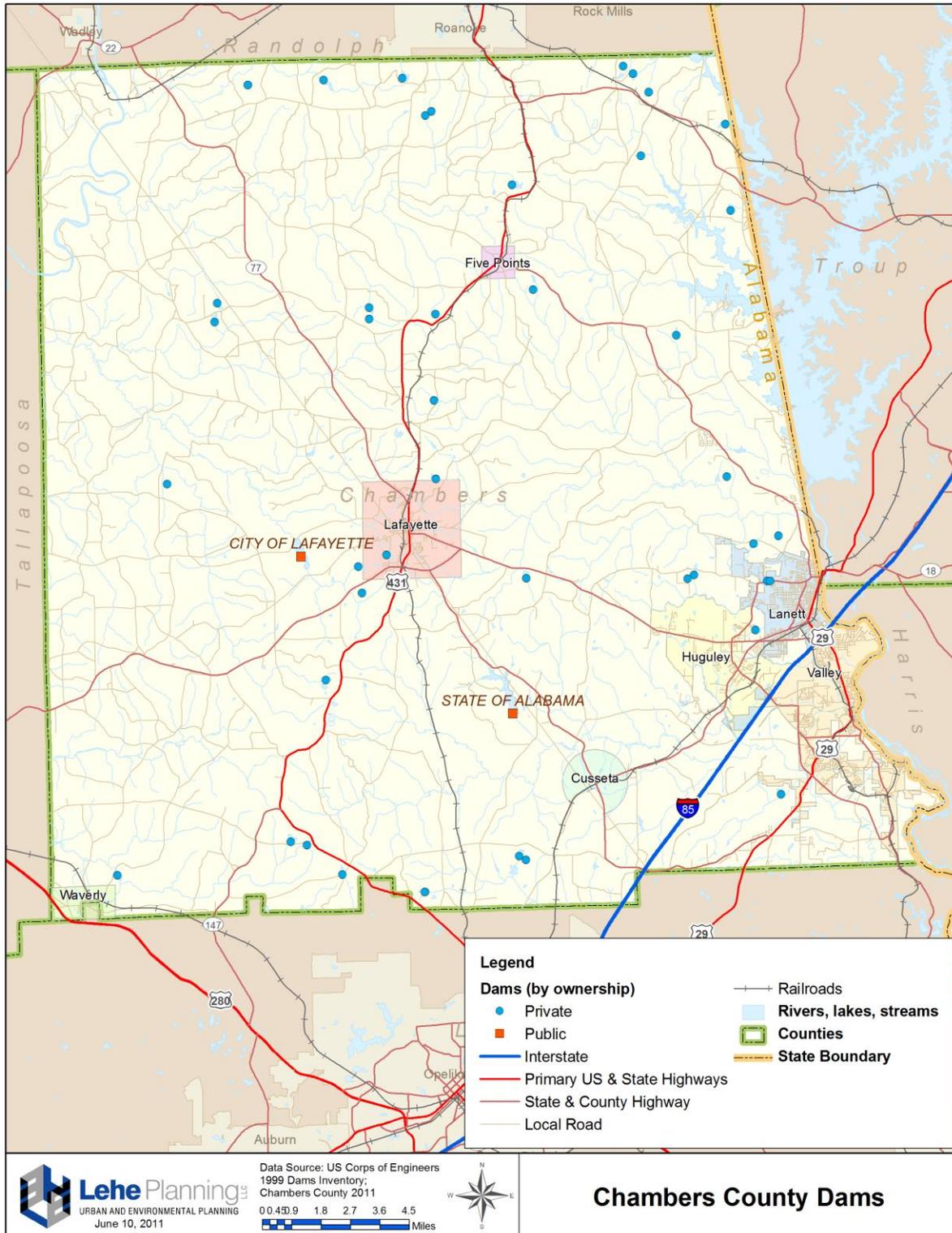


Table 5-12. Chambers County Dams/Levees

Name	River	Owner	Year Completed	Dam Length	Height	Max Storage
Riverside No. 1	Tr Moores Cr	Private	1973	255	13	50
Riverside No. 2	Tr Moores Cr	Private	1973	175	17	50
Chambers County Public Lake	Wilcat Creek	State of Alabama	1962	1350	44	3800
Edge	Sandy Creek	Private	1971	300	22	65
Lanier	Tr Oseligee Creek	Private	1952	350	25	130
Allens	Tr Pigeon Roost Creek	Private	1970	250	15	70
Kilpatrick	Tr Osanippa Creek	Private	1948	450	22	100
Hinkle	Tr Halawakee Creek	Private	1954	1200	23	170
Stephens Mill	South Sandy Creek	Private	1952	140	15	240
Jeff Beard	Tr Sandy Creek	Private	1968	420	21	220
Robinson	Tr Davis Creek	Private	1954	1200	30	400
J H Hines	Tr Finley Creek	Private	1946	400	22	110
Flint Hill	Tr Halawakee Creek	Private	1952	900	24	330
Dawson Day	Tr Water Works Creek	Private	1958	400	21	65
Nolen	Tr Chatahospee Mill Creek	Private	1954	600	29	90
Clay Floyd	Tr Halawakee Creek	Private	1954	430	18	70
Simmons	Tr Oseligee Creek	Private	1951	320	30	170
Wheeler	Tr Allen Creek	Private	1946	400	25	100
W C Hines	Tr Finley Creek	Private	1944	330	21	100
Sharpe No 2	Tr Carlisle Creek	Private	1952	240	14	70
Sharpe No 1	Tr Carlisle Creek	Private	1952	330	27	175
Slaughter	Tr Chatahospee Mill Creek	Private	1971	330	20	130
Welch	Tr Caty Creek	Private	1972	250	28	185
Royston	Tr Chickasanoxee Creek	Private	1972	375	22	80
Robinson	Tr Wells Creek	Private	1952	400	17	85
Thompson	Tr Hardley Creek	Private	1950	550	25	130
Darden	Tr Moores Creek	Private	1972	450	20	70
Stricklands Lake Dam	Tr Cuss Creek	Private	1946	550	25	80
Edgar	Tr Sandy Creek	Private	1951	300	21	95
Slay	Rocky Branch	Private	1965	300	23	85
Phillips	Tr Moores Creek	Private	1958	450	31	130
Smith	Tr Moores Creek	Private	1953	200	28	95
Dempsey	Tr Little Chatahospee	Private	1977	450	22	135
Kendrick-Holmes	Tr Osaligee Cr	Private	1974	300	17	110
White	Tr Little Chatahospee Cr	Private	1950	120	18	60
Spencer	Tr Guss Cr	Private	1953	375	25	85
Baker	Tr Guss Creek	Private	1956	400	24	110

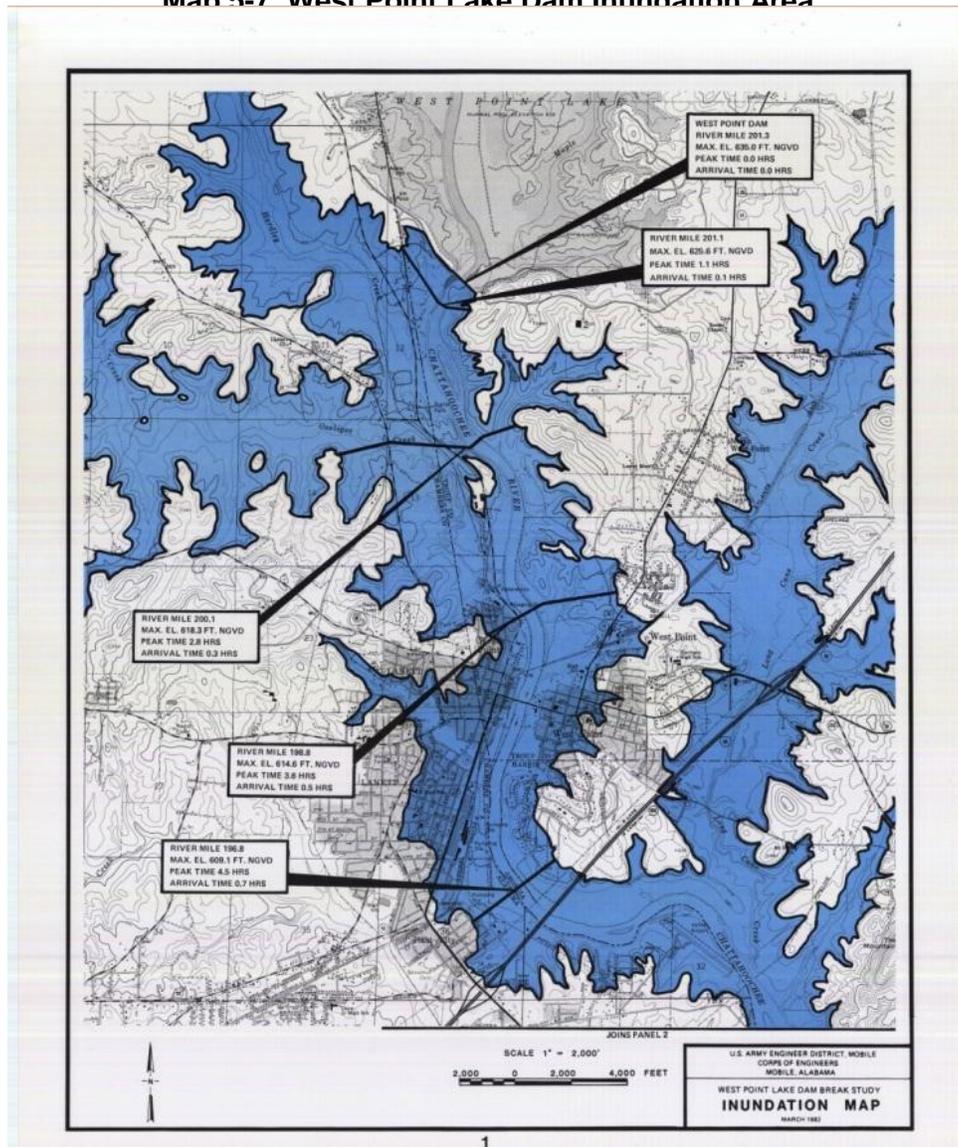
Name	River	Owner	Year Completed	Dam Length	Height	Max Storage
Cunningham	Tr West Point Lake	Private	1957	420	24	80
Hudson	Tr West Point Lake	Private	1950	500	28	115
Langley	Tr Stroud Cr	Private	1950	500	26	56
Brown	Tr Chickasanoxee Cr	Private	1964	420	20	65
Taunton	Tr Osanippa Cr	Private	1950	530	20	90
Montgomery	Tr Halawakee Cr	Private	1950	450	11	50
Timmons	Tr Oseligee Cr	Private	1953	465	19	70
High Pine Creek Site 12	Caty Creek	Private	1962	800	0	329
High Pine Water Shed Dam No 11	Caty Creek	Private	1962	760	0	871
Lafayette City Lake	Finley Creek	City of Lafayette	1955	650	0	888

Source: US Corps of Engineers 1999 Dams Inventory

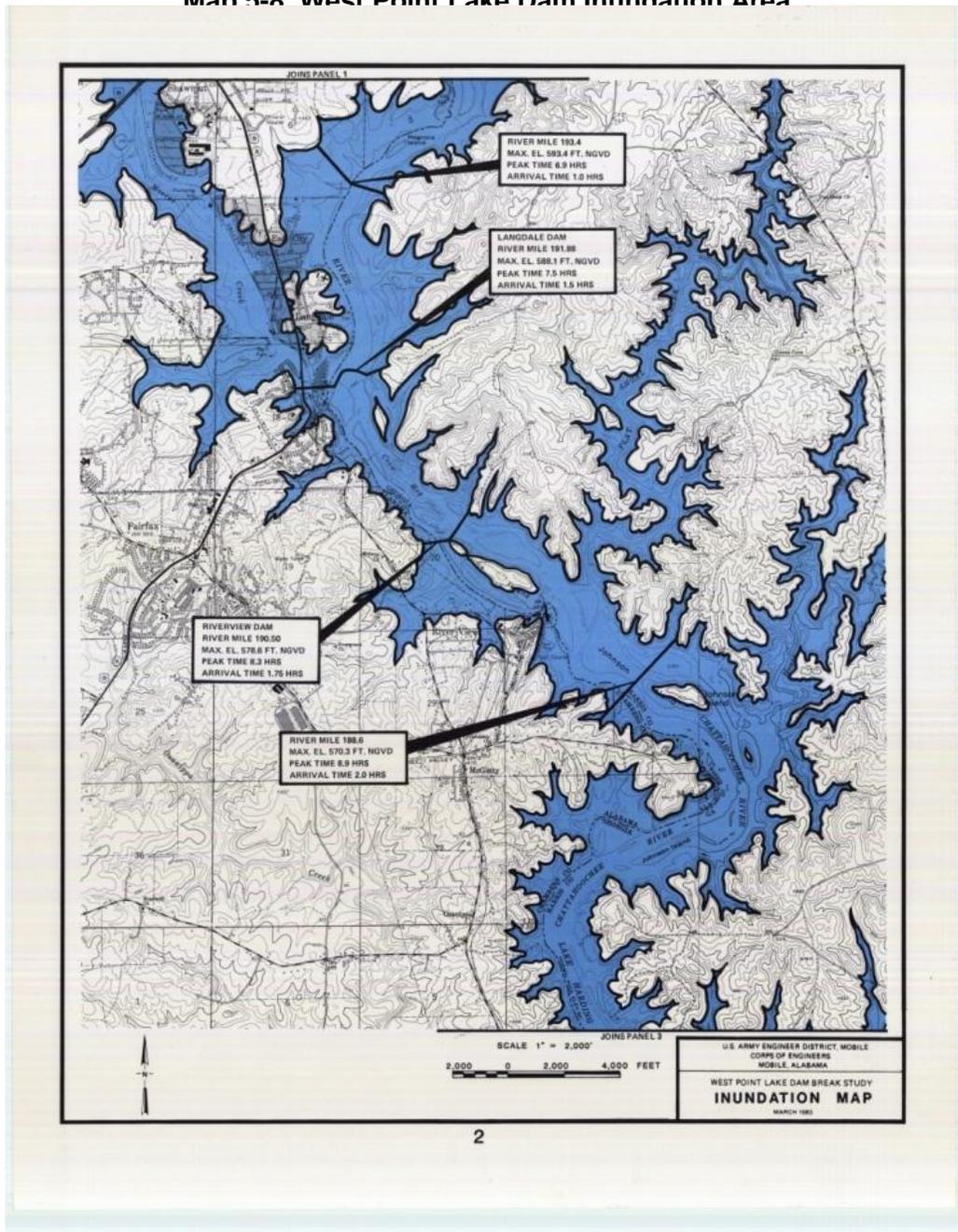
Extent

West Point Lake was created by the Army Corp of Engineers during the 1960's through the construction of a series of dams on the Chattahoochee River. A failure at any of the dams downstream from West Point Lake could have devastating consequences for the municipalities of Lanett and Valley, although the risk of a failure at any of these dams is very small. Below, Maps 5-7 and 5-8 illustrate the dam inundation areas, according to a 1983 study by the Corp of Engineers. (Note: The maps include labels for the municipalities of Fairfax, Langdale, Riverview, and Shawmut, which were combined into the City of Valley.)

Map 5-7 West Point Lake Dam Inundation Area



Map 5-8 West Point Lake Dam Inundation Area



Past Occurrences

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

Probability of Future Events

The risks to Chambers County associated with dam/levee failure are minimal. The U.S. Corps of Engineers monitors and inspects the West Point Dam; therefore the dam poses little risk for failure.

5.4.8 Wildfires Profile

The two primary categories of wildfires experienced in Chambers County are wildland fires and interface fires. Wildland fires are uncontrolled fires that spread through vegetative fuels. Chambers County has vast forested lands, grass lands, and brush to fuel wildfires. Map 5-9 “Chambers County Forest Fuels” shows the extensive coverage of forest fuels throughout the county, as well as developed urban areas in proximity to the forest fuels. Interface fires spread through both vegetation and the built up environment, which can be seen on Map 5-10 “Chambers County Vegetation Cover.” Wild land-urban interface, which is the transition area between human development and unoccupied land, increases the risk of man-made wildfires.

Non-permitted burns are a major issue in relation to wildfires. These burns tend to rage out of control, leading to damaging fires. Standard land management practices call for prescribed burns, thinning, mowing and the use of herbicides to reduce dangerous concentrations of underbrush vegetation, which in return, helps reduce the fuels available for wildfires and aids in the development of healthy habitats and regeneration of species.

Location

Primarily rural areas of unincorporated Chambers County are most susceptible to wildfires; however, wildfires can occur in any area with the proper mix of fuel, topography, and weather. The vulnerable wild land-urban interface makes all cities and towns equally susceptible. Map 5-11 “Chambers County Wildfire Risk,” denotes risk levels for wildfires by area. Chambers County’s major concern and main cause for wildfires is debris burning.

Extent

Chambers County has multiple fuel sources, as shown on Map 5-9 “Chambers County Forest Fuels,” and is prone to drought and thunderstorms which increase the potential severity of wildfires significantly. Weather conditions, given the high frequency of severe storms with lightning and periodic severe drought conditions, can exacerbate wildfires.

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

Firefighting resources can affect the severity of wildfires. Rural fire departments are almost exclusively made up of volunteers and usually have limited firefighting 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

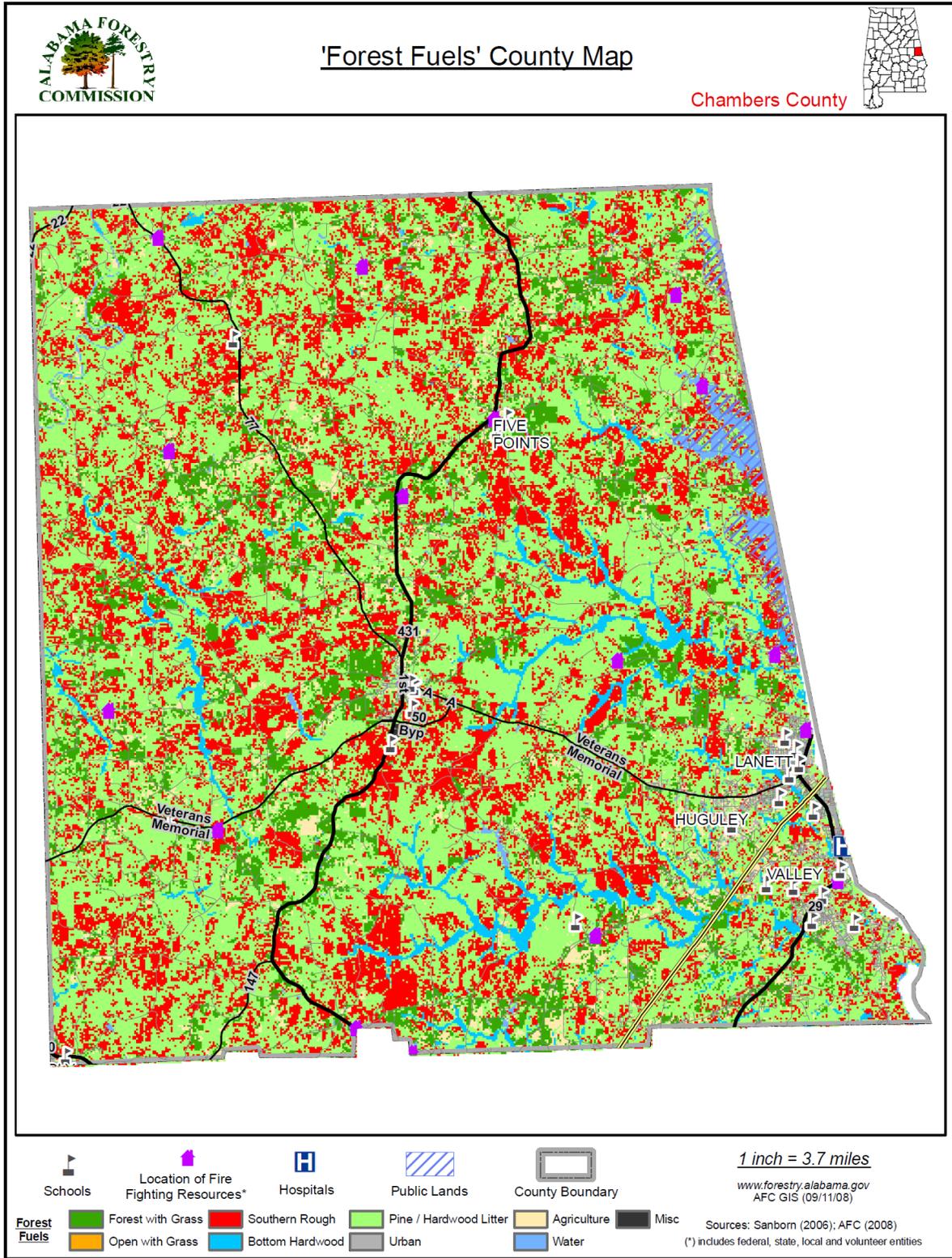
According to the Alabama Forestry Commission, Chambers County has had seventeen wildfires for the 2011 calendar year, resulting in 144.75 acres burned. Between 1997 and 2009, the County averaged 44 fires per year, with an average of 321.8 acres burned per year. Map 5-12 colors Alabama counties according to the total acres burned by wildfire from 1999 to 2009. Chambers County ranks 36th among 67 Alabama counties for number of fires and 44th for acres burned.

Map 5-13 “Chambers County Fire Observations” shows the location of wildfires over between 2000 and March 2011. Map 5-14 “Chambers County Fires Occurrences” shows areas at various levels of wildfire occurrences from low to high. These wildfire occurrence areas generally coincide with areas denoted as low to high risk areas on Map 5-11 “Chambers County Wildfire Risk.”

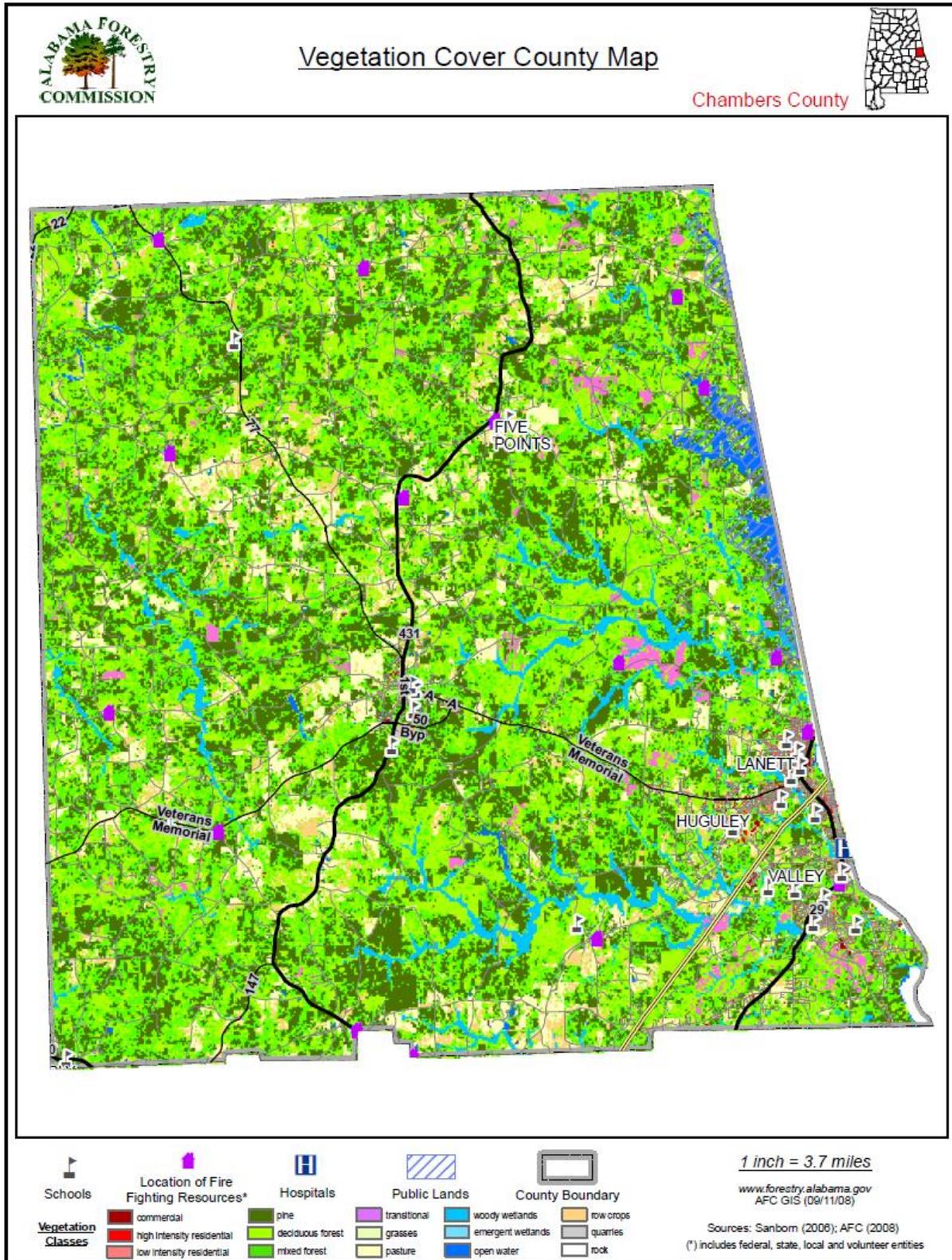
Probability of Future Events

Chambers County, on average, is the site of 44 wildfires per year, which cause damage to 321.8 acres. The average size of each wildfire is 7.3 acres. Unless there are major changes in the weather or the urban-land interface, the probability of future events—based on recent trends and historical information—should remain approximately 44 wildfires per year. Although one can extract data and estimates of future frequency from historical information, the risk of a specific wildfire occurring and the location of damage are largely random.

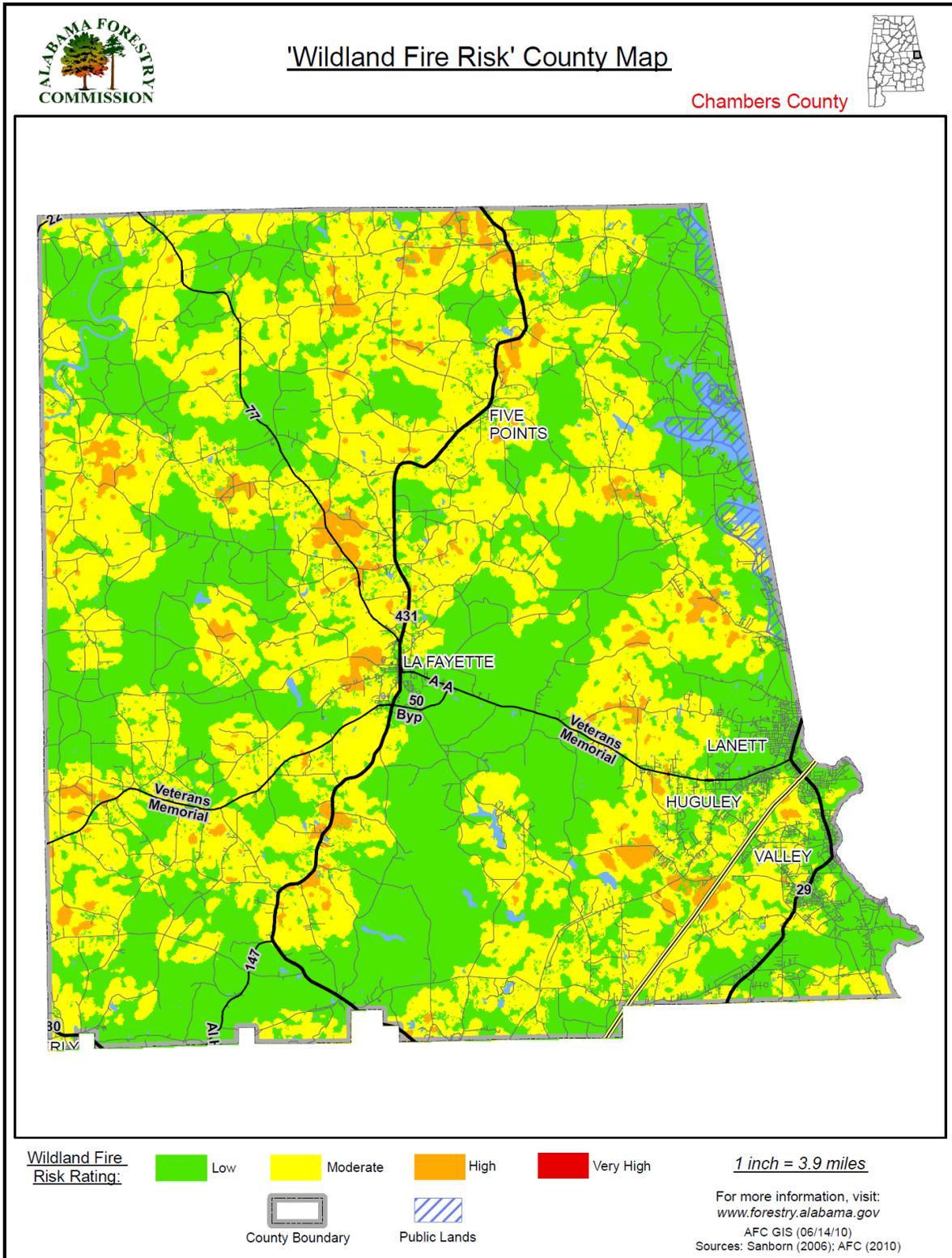
Map 5-9. Chambers County Forest Fuels



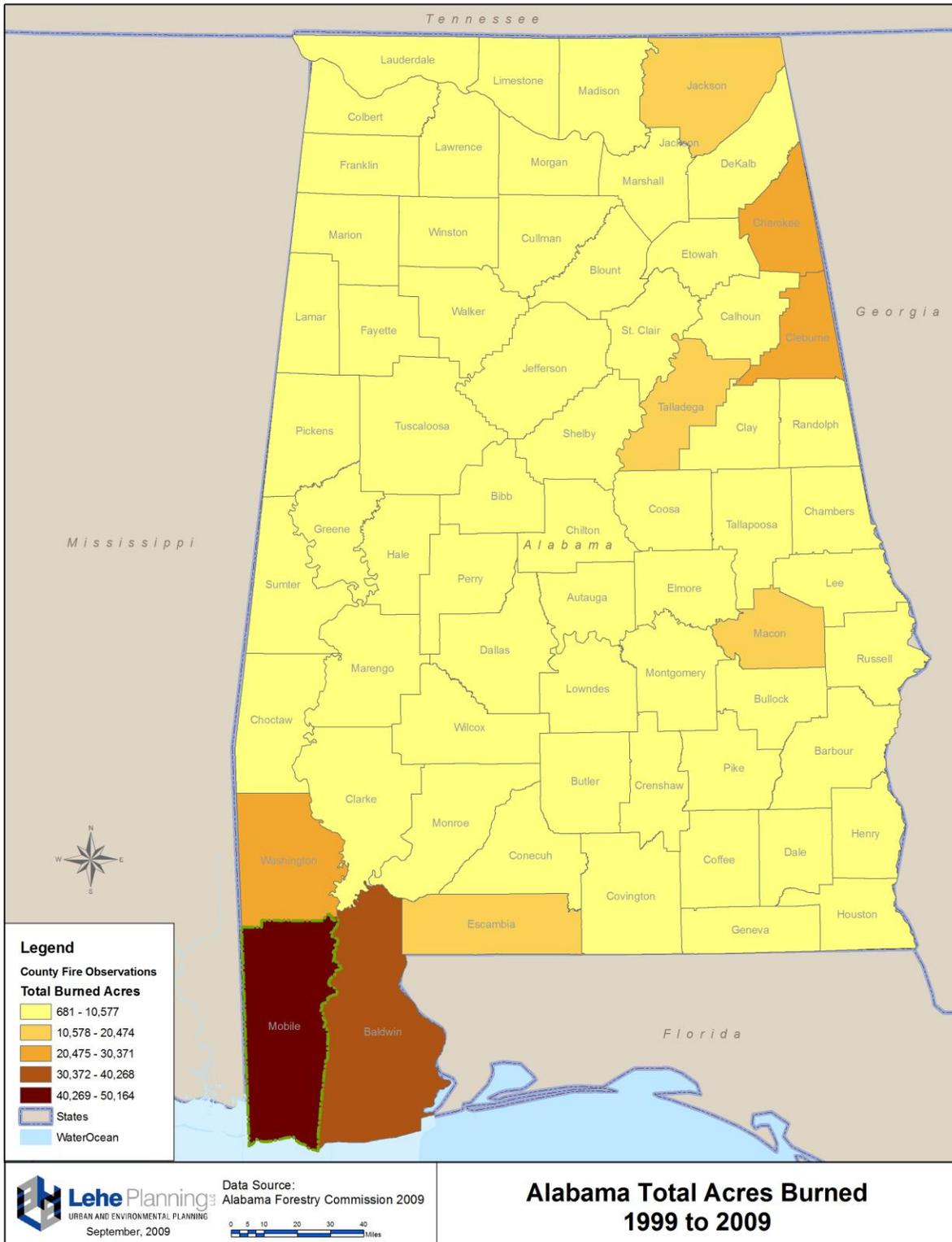
Map 5-10. Chambers County Vegetation Cover



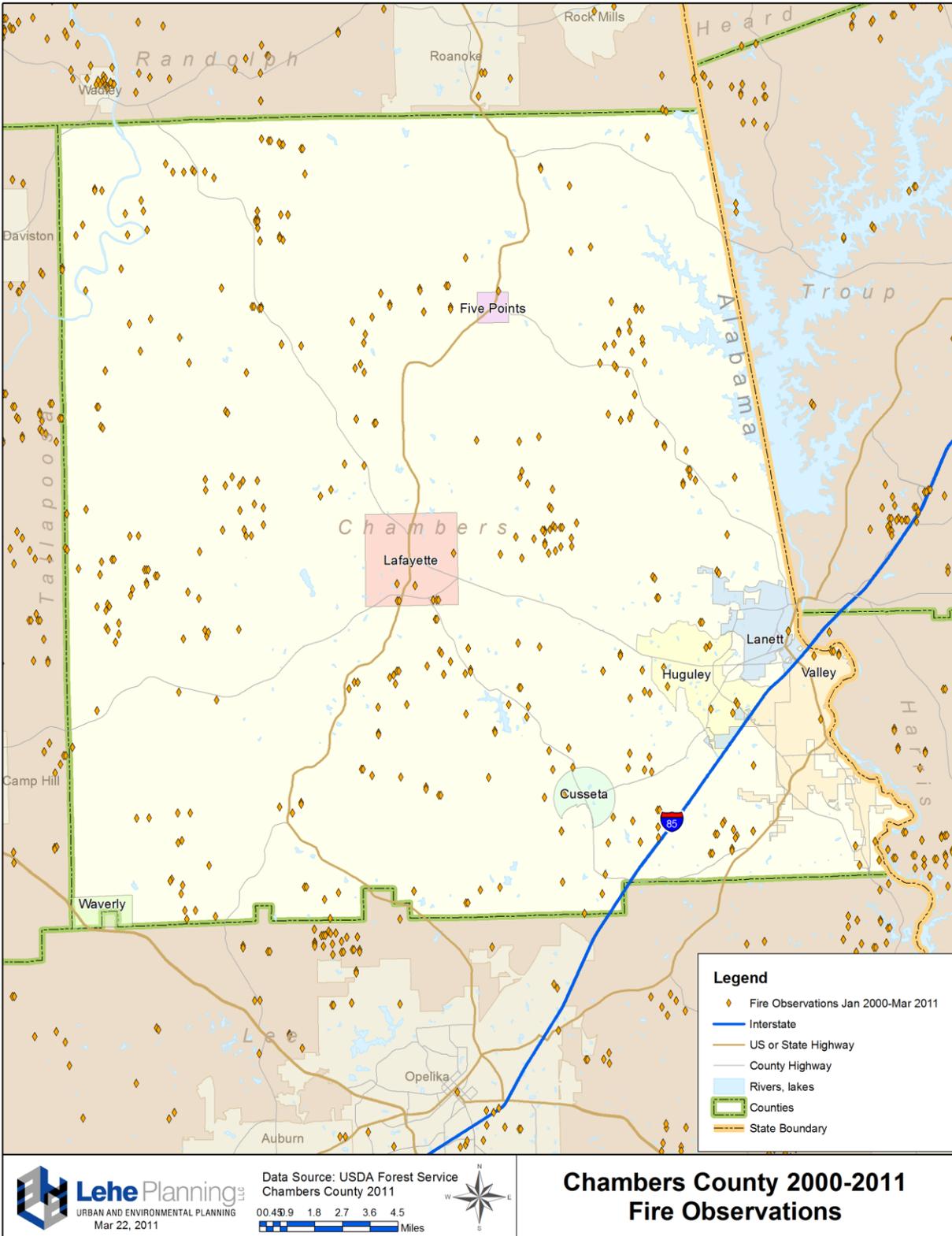
Map 5-11. Chambers County Wildfire Risk



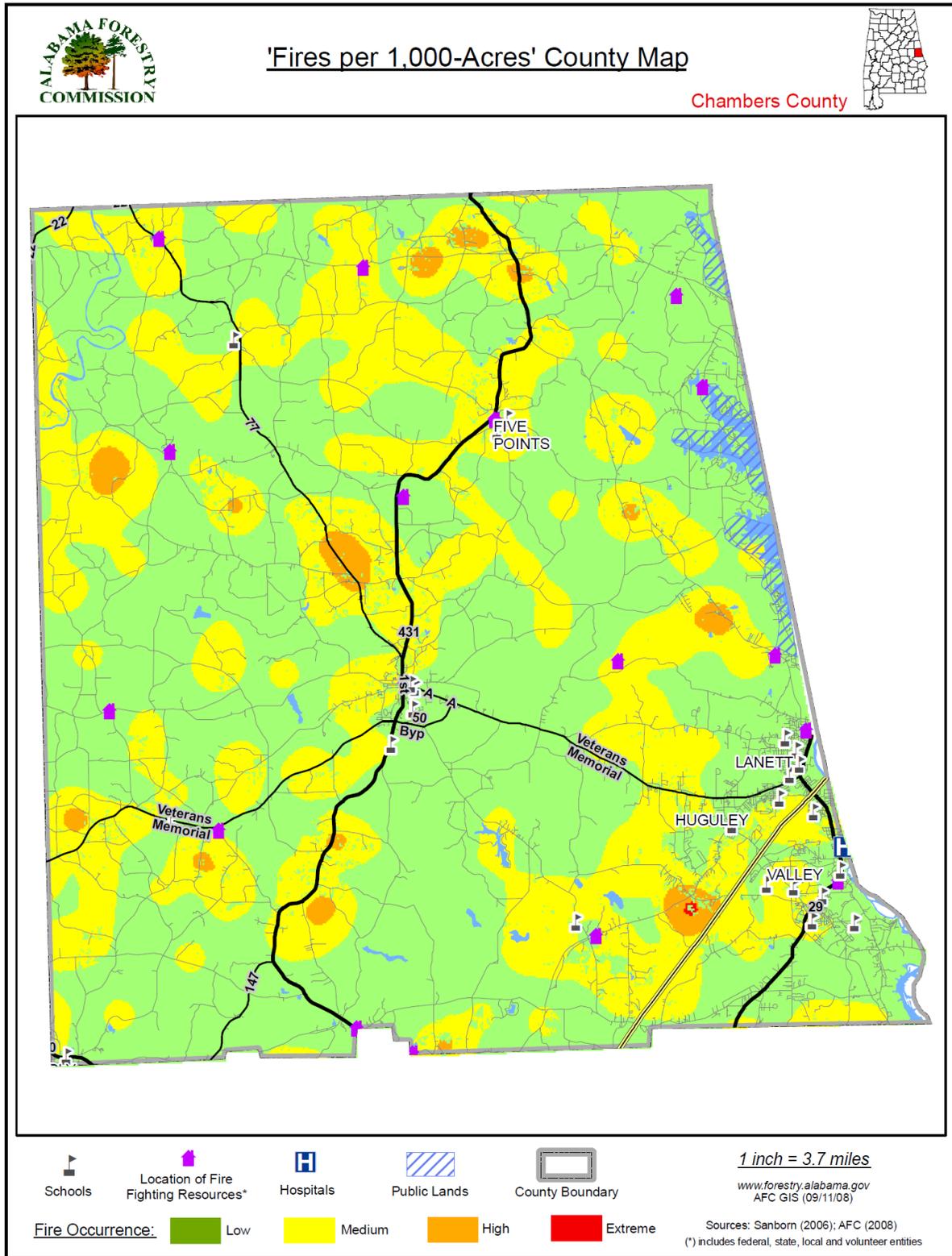
Map 5-12. Alabama Total Acres Burned 1999-2009



Map 5-13. Chambers County Fire Observations



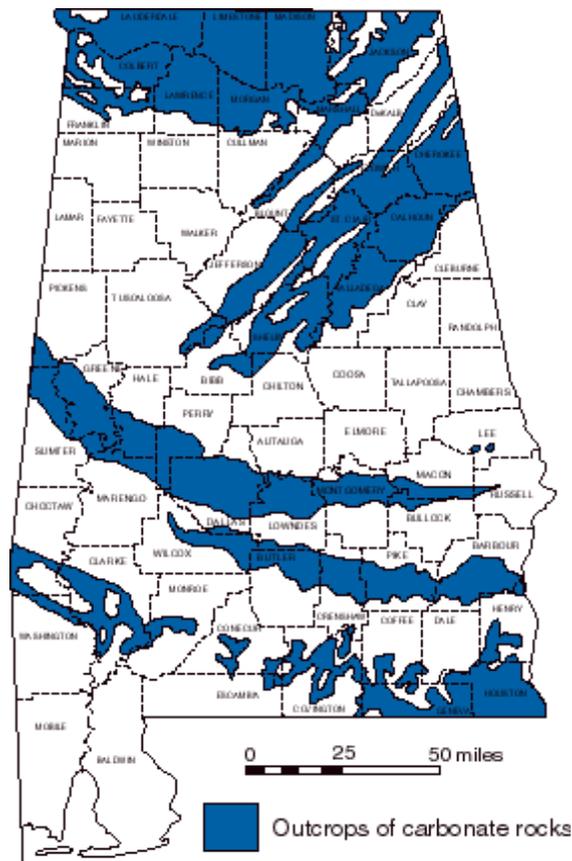
Map 5-14. Chambers County Fires Occurrences



5.4.9 Sinkholes (Land Subsidence) Profile

Most sinkholes in Alabama are associated with limestone and dolomite outcrops that occur beneath the topsoil. Chambers County, located in Central Alabama, does not contain any major carbonate rock formations (see Map 5-15 “Outcrops of Carbonate Rocks in Alabama”). When carbonate rock interacts with underground water, the water dissolves the rock and thereby carves out caves, subterranean water corridors, and other geological features collectively known as karst topography. Alabama contains over 2,000 caves because of the karst topography (see detailed discussion in Sinkholes Description Section in Appendix D). Sinkholes occur when holes in the carbonate rock grow large enough to collapse under the weight of higher sediments, topsoil, foliage, or human structures. Certain activities can increase the potential for sinkholes in these areas, such as: periods of drought, excessive rainfall, well pump-age, and construction.

Map 5-15. Outcrops of Carbonate Rocks in Alabama

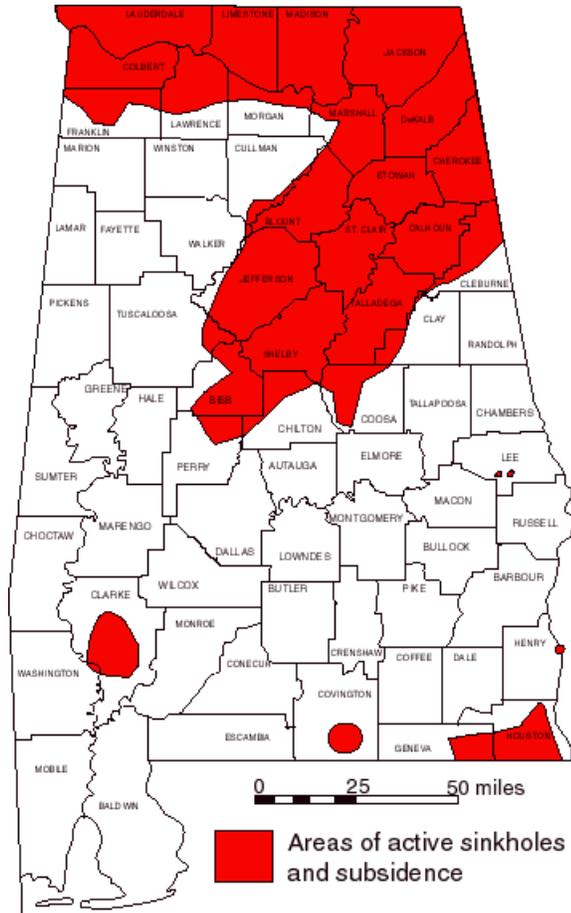


Source: Geological Survey of Alabama

According to the Geological Survey of Alabama, Chambers County is located in an area with no sinkhole activity and subsistence, as shown on Map 5-16 “Active

Sinkhole Areas in Alabama.” The areas highlighted below in red on Map 5-16 approximates the regions of limestone and dolomite outcrops identified in Map 5-15.

Map 5-16. Active Sinkhole Areas in Alabama



Source: The Geological Survey of Alabama

Location

All Chambers County locations and jurisdictions are equally unlikely to experience sinkholes.

Extent

No data suggest that sinkholes are a threat to Chambers County. Barring new data or changed conditions, it is unlikely that any county jurisdiction or community will be significantly impacted by sinkholes.

Past Occurrences

Data from the Geological Survey of Alabama counts over 4,000 sinkhole events in Alabama; however, there are no reports of sinkholes in Chambers County.

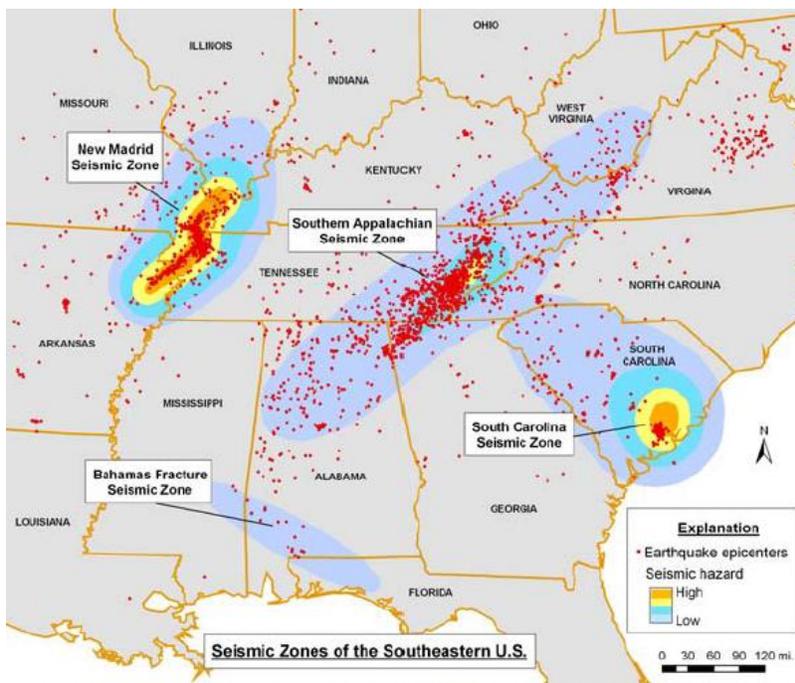
Probability of Future Events

Chambers County lacks a history of sinkholes as well as the geological conditions conducive to sinkholes; therefore, the probability of future sinkhole events is minimal for all jurisdictions. However, sinkholes can be triggered by a change in the local environment that affects the soil mass. Ongoing data collection by the Geological Survey of Alabama might reveal unknown conditions that raise the likelihood of sinkholes within Chambers County.

5.4.10 Earthquakes Profile

According to the Geological Survey of Alabama, records show hundreds of earthquakes in Alabama since 1886, but there are none on record for Chambers County. Map 5-17 “Seismic Zones in Southeastern United States” illustrates that most Alabama earthquakes are associated with the Southern Appalachian Seismic Zone, which ends north of Chambers County.

Map 5-17. Seismic Zones in Southeastern United States



Source: Geological Survey of Alabama, Mapping and Hazards Program

Location

All of Chambers County is equally exposed to earthquakes. When earthquakes strike a region, it is impossible to predict which area will be affected the most at a sub-county level.

Extent

According to the Geological Survey of Alabama (GSA), recent seismograph records indicate that earthquakes in the state are frequent but not strong enough to be felt on the land surface. Earthquakes can occur anywhere in Alabama but are unlikely to cause damage. As discussed in the “Earthquakes Description” included in Appendix D, the severity of an earthquake is measured on the Modified Mercalli Intensity Scale, which numbers earthquakes by energy released on a scale of 1 to 10.

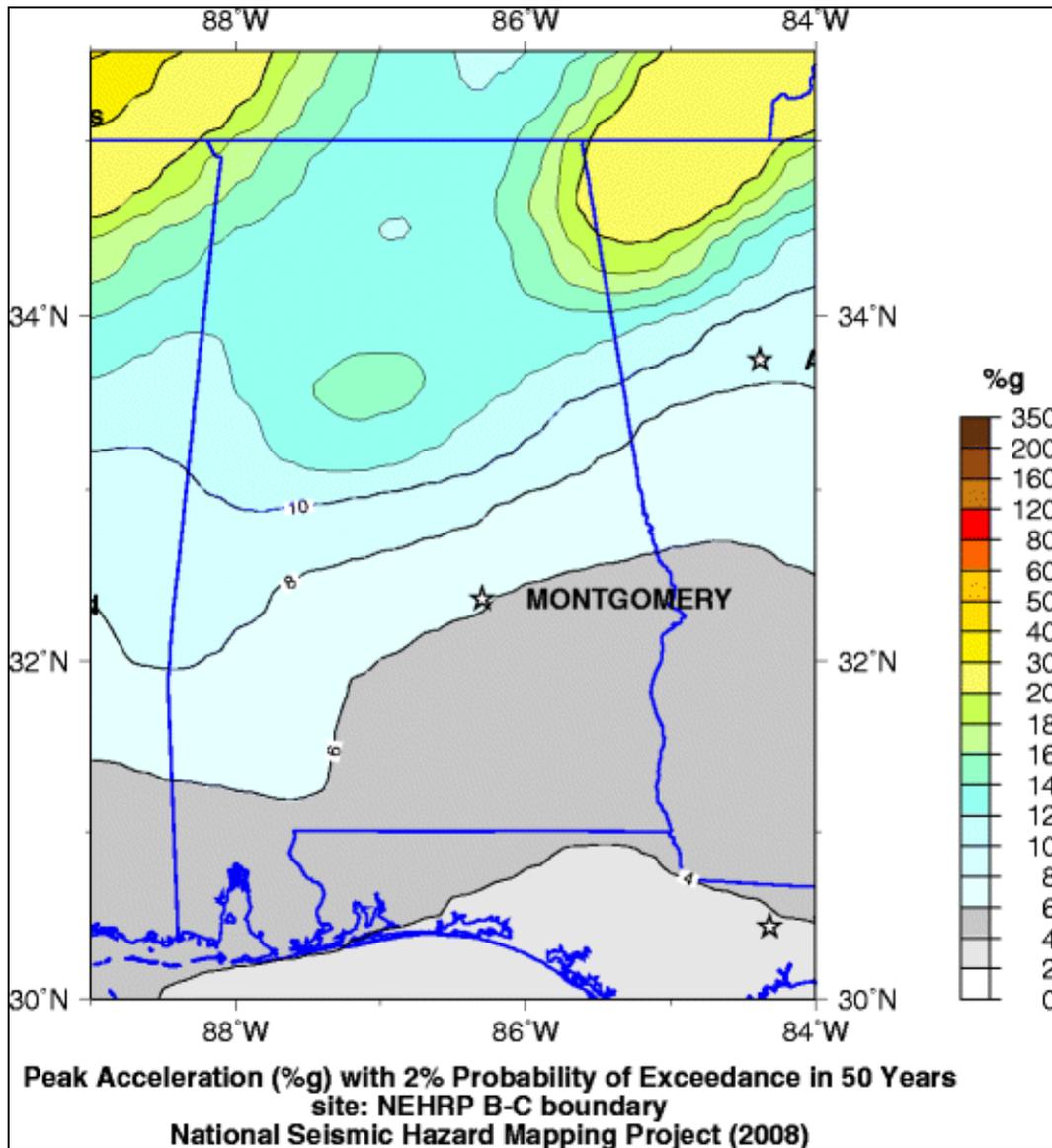
Figure 5-3. Modified Mercalli Intensity Scale

I.	Not felt.
II.	Felt by persons at rest, on upper floors, or favorably placed.
III.	Felt indoors. Vibrations like passing of light trucks.
IV.	Vibration like passing of heavy trucks.
V.	Felt outdoors. Small unstable objects displaced or upset.
VI.	Felt by all. Furniture moved. Weak plaster/masonry cracks.
VII.	Difficult to stand. Damage to masonry and chimneys.
VIII.	Partial collapse of masonry. Frame houses moved.
IX.	Masonry seriously damaged or destroyed.
X.	Many buildings and bridges destroyed.
XI.	Rails bent greatly. Pipelines severely damaged.
XII.	Damage nearly total.

Source: Geological Survey of Alabama

The USGS has developed a methodology for assessing the magnitude and frequency of seismic events. This methodology measures the probability of exceeding a peak ground motion measured as peak ground acceleration (PGA) within a given period of years. The PGA map (Map 5-18) for Alabama shows the potential severity of a 50-year earthquake in Chambers County is extremely low at 6%g, where %g is the percentage of the total horizontal ground acceleration of the earthquake event.

Map 5-18. Peak Ground Acceleration

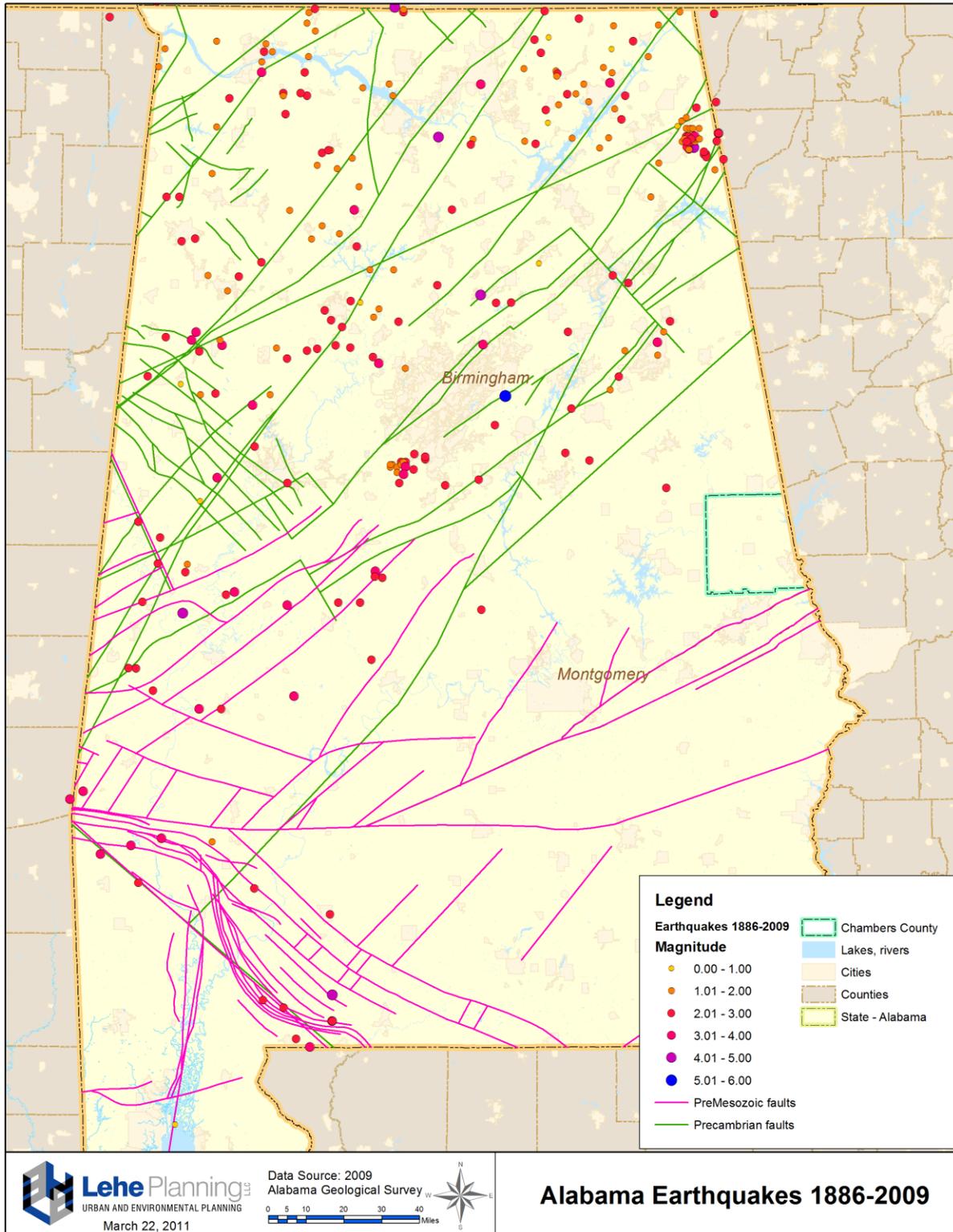


Source: United States Geological Survey, Earthquakes Hazards Program

Past Occurrences

Map 5-19 “Alabama Earthquake Locations” shows the location and magnitude of recorded earthquakes from 1886 through May, 2009. The Geological Survey of Alabama does not have any records nor was the planning team able to uncover any evidence that earthquakes have occurred in Chambers County.

Map 5-19. Alabama Earthquake Locations



Probability of Future Events

The probability of future earthquakes is equally unlikely for all jurisdictions in Chambers County, which is at a minimal risk for a significant, damage-causing earthquake.

5.4.11 Landslides

Chambers County is in a location that has low susceptibility and low incidence of landslides. According to the Hazard Mitigation Planning Committee (see Appendix D “HMPC Hazard Identification and Ratings”) and surveys of community opinions, landslides are a minimum concern to Chambers County communities.

The Geologic Survey of Alabama (GSA) has studied the potential for landslides throughout Alabama. Geographic Information System (GIS) data provided by the GSA for this plan, classifies landslide incident and susceptibility shown on Map 5-20 “Chambers County Landslide Areas,” as follows:

1. Landslide susceptibility. Susceptibility is the probable degree of response to landslide triggers, that is, the response to cutting or excavation, loading of slopes, or to unusually high rainfall. Generally, unusually high rainfall or changes in existing conditions can initiate landslide movement in areas where rocks and soils have experienced numerous landslides in the past. The potential for landslides is classified into one of the following categories:
 - High susceptibility – greater than 15% of a given area is susceptible to land sliding;
 - Medium susceptibility – 1.5% to 15% of a given area is susceptible to land sliding; or
 - Low susceptibility – less than 1.5% of a given area is susceptible to land sliding.
 - No susceptibility indicated – susceptibility is the same as or lower than incidence.
2. Landslide incidence. Landslide incidence is the number of landslides that have occurred. These areas are classified according to the percentage of the area affected by landslides, as follows:
 - High incidence – greater than 15% of a given area has previously experienced land sliding;
 - Medium incidence – 1.5% to 15% of a given area has previously experienced land sliding; or
 - Low incidence – less than 1.5% of a given area has previously experienced land sliding.

Location

All jurisdictions in Chambers County, as shown below in Map 5-20 “Chambers County Landslide Areas,” are rated as having a low degree of susceptibility to landslides.

Extent

No landslides are reported for Chambers County. The county’s flat geography places limits the severity of damage from landslides.

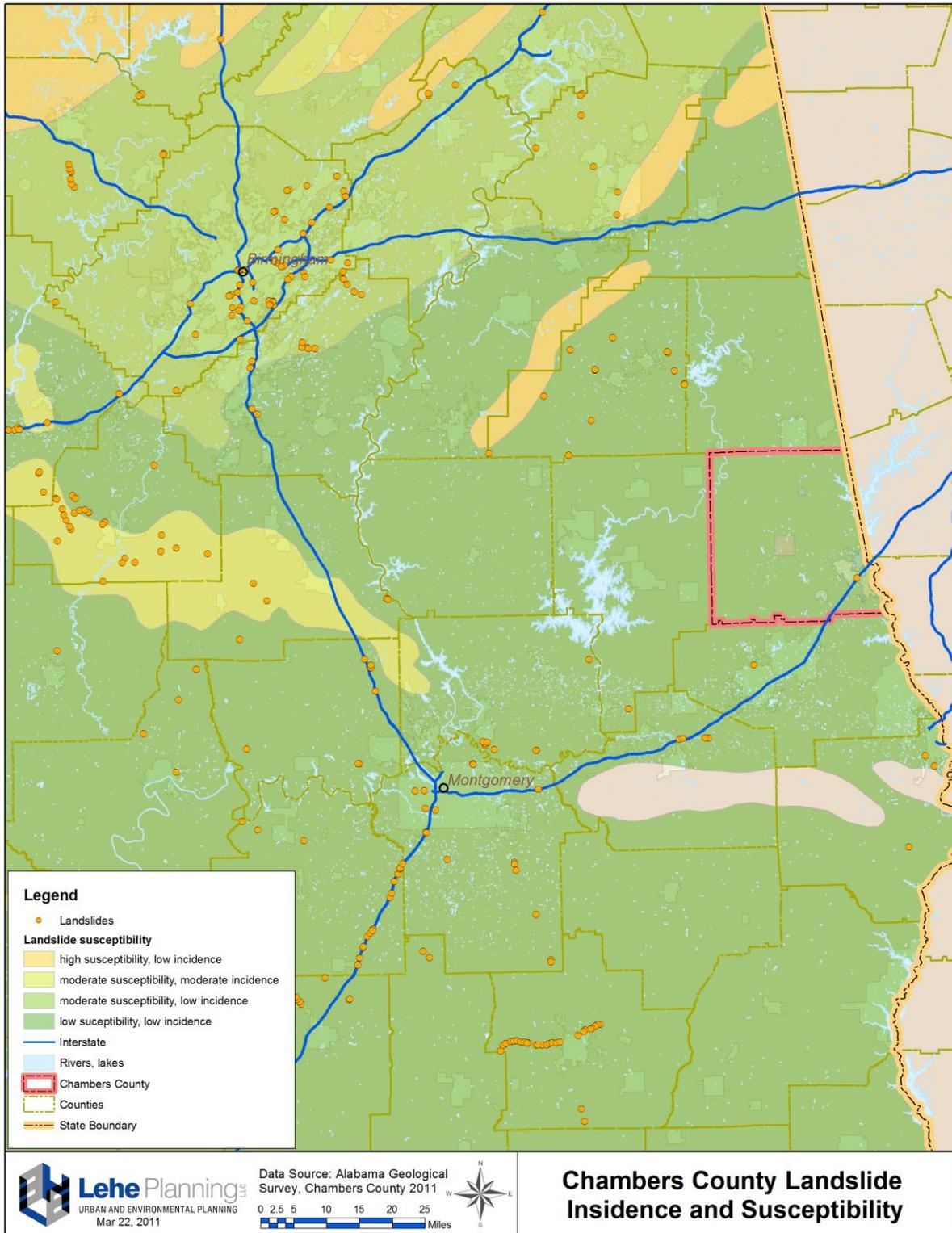
Past Occurrences

The National Climatic Data Center shows no records of landslides in Chambers County. The planning team was unable to uncover evidence that landslides have occurred in the County.

Probability Events

Based on the lack of evidence of past occurrences and geographic features conducive to landslides, the probability of future landslides is equally unlikely for all jurisdictions in Chambers County. Any future landslides are likely to be the result of construction activities and will be commensurately minor in scope.

Map 5-20. Chambers County Landslide Areas



5.5 Vulnerability of Structures within Each Jurisdiction

5.5.1 Scope of Structure Inventory

Section 5.5 presents an inventory of existing and future buildings, critical facilities, and infrastructure. For the purposes of this risk assessment, *vulnerability* refers to the exposure of buildings, critical facilities, and infrastructure to a particular hazard and their susceptibility to damage from the hazard. The inventory in this section forms the loss estimates in Section 5.6 “Estimate of Dollar Losses to Vulnerable Structures.”

Many Chambers County hazards are county-wide, including severe storms, hurricanes, tornadoes, winter storms/freezes, droughts/heat waves, wildfires, and earthquakes. Floods, sinkholes, landslides and dam failures, on the other hand, are location-specific hazards.

5.5.2 Inventory Methodology

The planning team assembled structure inventories in three steps.

First, a countywide inventory of the number and property values of structures was created using FEMA’s HAZUS-MH, which is a risk assessment software tool for projecting losses from floods, hurricane winds, and earthquakes. The planning team used the latest edition of HAZUS-MH software (release MR-3, Patch 3, as of March 2009). HAZUS-MH modeled scenarios for Chambers County using a Level 1 analysis, which utilizes data provided with the software and calculates damages at the county level. Calculations below the county level are not recommended, because accuracy tends to diminish.

Second, the planning team used local GIS data to create maps and lists of critical facilities located in vulnerable areas. The GIS data came from Chambers County, Geologic Survey of Alabama, U.S.G.S., National Weather Service, NFIP, U.S. Census Bureau, Alabama State Data Center, and the Alabama Forestry Commission.

Third, to estimate future building values and exposures, the planning team applied population projections from the Alabama State Data Center to the HAZUS-MH tables of existing building values. It is important to note that both population projections and HAZUS-generated structure counts and values are approximate; however, the planning team’s estimates are useful for prioritizing mitigation measures by place and hazard, since the *relative* values of existing and future populations, values, and rates of exposure are probably accurate.

The designation *building*, as used in this risk assessment, includes all walled and roofed structures. The designations *critical facilities* and *infrastructure* include the following structures, as classified by HAZUS-MH:

Critical Facilities

- Essential Facilities. These critical facilities are essential to the health and welfare of the entire Chambers County population and are particularly critical following hazard events. Emergency response facilities (police, fire, and emergency management), medical care facilities (hospitals and other care facilities), schools, and shelters for evacuation are all examples of essential facilities.
- High Potential Loss Facilities. These critical facilities include military installations, nuclear power plants and dams.

Infrastructure

- Transportation Systems Lifeline. These facilities include highways, bridges, tunnels, heavy/light railways, airports, buses, ports, and waterways.
- Lifeline Utility Systems Lifeline. These facilities are essential lifelines that include potable water, wastewater, natural gas, oil, electric, and communications systems.

Other

- User-Defined Facilities. The user may include additional facilities or systems unique to their study region which are not included in the general HAZUS-MH listing of critical facilities and infrastructure.

Critical facilities and infrastructure have been apportioned to each jurisdiction on the basis of population distribution, as follows:

Table 5-13. Population Distribution by Jurisdiction

Jurisdiction	2010 Population	% of Total
Cusseta	123	0.4%
Five Points	141	0.4%
LaFayette	3,003	8.8%
Lanett	6,468	18.9%
Valley	9,524	27.8%
Waverly	145	0.4%
Unincorporated	14,811	43.3%
Chambers County	34, 215	100.0%

(Source: U.S. Census 2010)

The plan projects future numbers of buildings, critical facilities, and infrastructure to the year 2035 using the Alabama State Data Center’s projection of Chambers County population growth. Since no projections existed for individual jurisdictions, the method described here was developed to provide a 2035 projected population for each jurisdiction. To project populations for each jurisdiction, the annual growth rate for each jurisdiction has been calculated based upon population growth between 1990 and 2010. In the case of the overall population of Chambers County, the Alabama State Data

Center 2035 county estimate has been used, and the unincorporated area projection is that countywide population less the total of all municipal populations.

The 2035 populations of Chambers County and its jurisdictions are used to compute *growth multipliers*. The growth multiplier is equal to 1 + the 2010-2035 percentage increases for each jurisdiction. For example, if 1,000 residential buildings are presently exposed, then a 2035 Growth Multiplier of 1.35 (where a jurisdiction’s population is projected to increase 35 percent) would project 1,350 residential buildings will be exposed in 2035. The Growth Multiplier is applied to all present day estimates to project future conditions. This growth projection method is not precise, but it does provide a good indication of how growth might affect future exposure of structures to hazards.

Table 5-14. 1990-2010 Annual Growth Rates by Incorporated Jurisdiction

Cusseta	-	123	-	-	-
Five Points	200	141	-59	-29.5%	-1.7%
LaFayette	3,151	3,003	-148	-4.7%	-0.2%
Lanett	8,985	6,468	-2,517	-28.0%	-1.6%
Valley	8,215	9,524	+1,309	+15.9%	+0.7%
Waverly	152	145	-7	-4.6%	-0.2%

Source: U.S. Census 2010

Table 5-15. 2035 Growth Projections and Multipliers

Jurisdiction	2010	Projected 2035	Projected Change 2010-2035	Percent Increase 2010-2035	2035 Growth Multiplier
Cusseta	123	128	+5	+3.7%	1.037
Five Points	141	91	-50	-35.4%	0.646
LaFayette	3,003	2,828	-175	-5.8%	0.942
Lanett	6,468	4,289	-2,179	-33.7%	0.663
Valley	9,524	11,457	+1,933	+20.3%	1.203
Waverly	145	137	-8	-5.7%	0.943
Unincorporated	14,811	13,114	-1,697	-11.5%	0.885
Chambers County	34,215	35,475	+1,260	+3.7%	1.037

Source: Derived from Alabama State Data Center 2035 Chambers County Projection and the 2010 Census

Table 5-16. Population Distribution by Jurisdiction

Jurisdiction	2035 Population	% of Total
Cusseta	128	0.4%
Five Points	91	0.3%
LaFayette	2,828	8.0%
Lanett	4,289	12.1%
Valley	11,457	32.3%
Waverly	137	0.4%

Jurisdiction	2035 Population	% of Total
Unincorporated	13,114	37.0%
Chambers County	35,475	100.0%

Source: Based upon 2035 Chambers County Project by the Alabama State Data

5.5.3 HAZUS-MH Structure Inventory

The percent exposure can be applied to the structure inventories to derive a general estimate of vulnerable structures by hazard. Most hazards are county-wide, but location-specific hazards – flooding, wildfires, dam/levee failures, sinkholes and landslides – can vary from minimal vulnerability to as much as 100% of a community’s total geographic area. In cases where exposure is 1% or less, a 1% exposure rate has been applied.” Although this does not yield a precise estimate, it provides a general indication of the number and types of structures exposed to each hazard within each jurisdiction. This data is shown in Table 5-17 below.

Table 5-17. Hazard Exposure Rates by Jurisdiction

Identified Hazard	Cusseta	Five Points	LaFayette	Lanett	Valley	Waverly	Unincorporated	Chambers County
Severe Storms	100%	100%	100%	100%	100%	100%	100%	100%
Tornadoes	100%	100%	100%	100%	100%	100%	100%	100%
Floods	<1%	<1%	<1%	5%	5%	<1%	2%	2%
Droughts/Heat Wave	100%	100%	100%	100%	100%	100%	100%	100%
Hurricanes	100%	100%	100%	100%	100%	100%	100%	100%
Winter Storms/Freezes	100%	100%	100%	100%	100%	100%	100%	100%
Dam/Levee Failures	<1%	<1%	<1%	<35%	<10%	<1%	<1%	<1%
Wildfires	5%	10%	5%	2%	10%	5%	10%	5%
Sinkholes	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Earthquakes	100%	100%	100%	100%	100%	100%	100%	100%
Landslides	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%

General Description of the Planning Region

HAZUS-MH refers to the geographic study area as the *region*, which is all of Chambers County, including all unincorporated areas and six municipalities. A more complete description of the planning region is presented in Chapter 3 “Community Profiles.” The descriptions provided here were generated by the HAZUS-MH Global

Reports for county-wide assessments of hurricanes. The Chambers County region is generally described by HAZUS-MH, as follows:

- The geographical size of the region is 603.43 square miles.
- The region contains 9 census tracts.
- There were over 14,000 households in the region, with a total population of 36,583 persons, according to the 2000 Census.

Table 5-18. HAZUS-MH Population and Building Value Data

State	County Name	2000 Population	Building Value (millions of dollars)		
			Residential	Non-Residential	Total
Alabama	Chambers	36,583	\$1,413	\$544	\$1,957

Table 5-19. HAZUS-MH Building Inventory by Occupancy

Occupancy	Count	Share
Agriculture	50	0.3%
Commercial	684	3.8%
Education	28	0.2%
Government	25	0.1%
Industrial	223	1.2%
Religion	142	0.8%
Single Residential	11,986	65.8%
Other Residential	5,070	27.8%
Total	18,208	100%

Building Inventory

- HAZUS-MH estimates that there are some 18,000 buildings in the region, which have an aggregate replacement value of \$1.9 billion.
- In terms of building construction types found in the region, wood frame construction makes up 71% percent of the building inventory. Manufactured housing accounts for 17% of buildings, a considerable amount.

Table 5-20. HAZUS-MH Building Inventory by Construction Type

Construction Type	Count	Share
Wood	12,880	70.72%

Construction Type	Count	Share
Steel	548	3.01%
Concrete	153	0.84%
Precast	36	0.20%
Reinforced Masonry	283	1.55%
Unreinforced Masonry	1,288	7.07%
Manufactured Housing	3,024	16.60%
Total	18,212	100.00%

Critical Facilities Inventory

HAZUS-MH breaks critical facilities into the two groups described below and estimates the number of each type of facility.

- (1) **Essential facilities**, which include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. HAZUS-MH estimates the numbers and types of essential facilities within the region, as follows:

- ✓ 1 hospital with a total bed capacity of 175 beds;
- ✓ 17 schools;
- ✓ 8 fire stations;
- ✓ 6 police stations; and
- ✓ 0 emergency operations facilities.

- (2) **High potential loss facilities**, which include dams, levees, military installations, and nuclear power plants. HAZUS-MH estimates the numbers and types of high potential loss facilities, as follows:

- ✓ 47 dams, with three classified as “high hazard;”
- ✓ 0 military installations; and
- ✓ 0 nuclear power plants.

Transportation and Utility Lifeline Inventories

HAZUS-MH breaks lifeline inventories into the two groups described below and estimates the number of each type of facility. HAZUS-MH estimates the total value of the lifeline inventory at \$1.1 billion. A more detailed breakdown is provided in Table 5-27 “HAZUS-MH Transportation System Lifeline Inventory.”

- (1) **Transportation systems**, which include highways, railways, light rail, bus, ports, ferry and airports. HAZUS-MH estimates the length of highways and the number of bridges, as follows:

- ✓ 103 miles (165 kilometers) of highways; and
- ✓ 164 bridges.

(2) **Utility systems**, which include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. HAZUS-MH estimates the length of pipes, as follows:

- ✓ 2,696 miles (4,339 kilometers) of pipes.

5.5.4 Existing and Future Structure Vulnerabilities by Hazard and Jurisdiction

Buildings

The building exposure totals generated by HAZUS-MH are gross estimates that show relative vulnerability of buildings to earthquakes, hurricane winds, and flooding. The numbers provided in the HAZUS-MH reports are not based on actual field inventories, which is beyond the scope of this planning process. Many of the numbers provided by HAZUS-MH are generated from formulas based on national standards. Where values are given for future conditions, the values are in 2006 dollars.

Building exposure in Chambers County is mostly residential at about 72.2 percent. This ratio should remain constant through the 2035 plan horizon, and occupancy ratios are assumed constant for the purposes of this analysis.

Table 5-21. Building Exposure by Occupancy

Occupancy	Existing Exposure (\$1,000)	Future Exposure (\$1,000)	% of Total
Agriculture	\$7,749	\$9,307	0.4%
Commercial	\$260,062	\$298,706	13.3%
Education	\$29,546	\$ 31,412	1.5%
Government	\$12,189	\$15,152	0.6%
Industrial	\$157,478	\$164,413	8.0%
Religious	\$77,197	\$89,131	3.9%
Residential	\$1,412,559	\$1,662,306	72.2%
Total	\$1,956,780	\$2,270,427	100.00%

Building values within each jurisdiction are expected to increase according to (a) growth in Chambers County’s population; and (b) the growth in each jurisdiction’s share of the county population. Communities need to be cognizant of the increasing risks and exposure resulting from growth.

Chambers County is projected to grow 3.7 percent from 2010 to 2035, with increases projected as high as 20.3 percent for Valley and declines as sharp as 35.4% for Five Points. Occupancy of buildings by jurisdiction is assumed to generally follow the county-wide distribution, and is projected to change according to each jurisdiction’s growth multiplier.

Table 5-22. Building Values by Jurisdiction

Jurisdiction	Building Value (\$ 1,000's)					
	Existing Residential	Future Residential	Existing Non-Residential	Future Non-Residential	Existing Total	Future Total
Cusseta	\$5,078	\$5,266	\$1,956	\$2,029	\$7,034	\$7,295
Five Points	\$5,821	\$6,205	\$2,243	\$2,326	\$8,064	\$8,596
LaFayette	\$123,978	\$116,743	\$47,765	\$49,533	\$171,744	\$161,720
Lanett	\$267,030	\$177,062	\$102,879	\$106,686	\$369,909	\$245,279
Valley	\$393,196	\$473,014	\$151,488	\$157,093	\$544,684	\$655,254
Waverly	\$5,986	\$5,644	\$2,306	\$2,392	\$8,293	\$7,818
Unincorporated	\$611,469	\$547,793	\$235,583	\$244,299	\$847,052	\$758,843
Chambers County	\$1,412,559	\$1,464,578	\$544,221	\$564,357	\$1,956,780	\$2,028,840

Note: Totals of all municipalities and unincorporated areas may not equal Chambers County totals due to rounding.

Table 5-23. Building Count by Occupancy and Jurisdiction

Jurisdiction	Building Count by Occupancy															
	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future
	Agric.		Commercial		Education		Govt.		Industrial		Religion		Single Family		Other Resid.	
Cusseta	0	0	2	3	0	0	0	0	1	1	1	1	43	45	18	19
Five Points	0	0	3	3	0	0	0	0	1	1	1	0	49	32	21	13
LaFayette	4	4	60	62	2	2	2	2	20	18	12	12	1,052	991	445	419
Lanett	9	6	129	134	5	4	5	3	42	28	27	18	2,266	1,502	958	636
Valley	14	17	191	198	8	9	7	8	62	75	39	47	3,336	4,014	1,411	1,698
Waverly	0	0	3	3	0	0	0	0	1	1	1	1	51	48	21	20
Unincorporated	22	19	297	307	12	11	11	10	97	85	61	54	5,189	4,594	2,195	1,943
Chambers County	50	52	685	710	28	29	25	26	223	231	141	146	11,986	12,427	5,070	5,257

Note: Totals of all municipalities and unincorporated areas may not equal Chambers County totals due to rounding.

Table 5-24. Building Exposure by Jurisdiction and Hazard

Identified Hazard	Building Exposure (\$ millions) by Jurisdiction															
	Cusseta		Five Points		LaFayette		Lanett		Valley		Waverly		Unincorporated		Chambers County	
	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future	Existing	Future
Severe Storms	7	7	8	5	172	162	370	245	545	655	8	8	847	750	1,957	2,029
Tornadoes	7	7	8	5	172	162	370	245	545	655	8	8	847	750	1,957	2,029
Floods	>0	>0	>0	>0	>0	>0	19	12	27	33	>0	>0	17	15	39	41
Droughts/Heat Wave	7	7	8	5	172	162	370	245	545	655	8	8	847	750	1,957	2,029
Hurricanes	7	7	8	5	172	162	370	245	545	655	8	8	847	750	1,957	2,029
Winter Storms/Freezes	7	7	8	5	172	162	370	245	545	655	8	8	847	750	1,957	2,029
Dam/Levee Failures	>0	>0	>0	>0	>0	>0	129	86	82	98	>0	>0	>0	>0	>0	>0
Wildfires	>0	>0	1	1	9	8	7	5	55	66	>0	>0	85	75	98	101
Sinkholes	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0
Earthquakes	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0
Landslides	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0	>0

Note: Totals of all municipalities and unincorporated areas may not equal Chambers County totals due to rounding.

Critical Facilities

HAZUS-MH estimates there are nearly 76 critical facilities within Chambers County. Additional facilities will be added as population increases to as many as 79.

Table 5-25. HAZUS-MH Essential Facilities Data

Classification	Existing Estimate	Future Estimate
Hospitals	1 (175 total bed capacity)	1 (182 bed capacity)
Schools	17	18
Emergency Ops. Centers	0	0
Police Stations	6	6
Fire Stations	8	8

Table 5-26. HAZUS-MH High Potential Loss Facilities Data

Classification	Existing Estimate	Future Estimate
Dams	47 (3 classified "high hazard")	49 (3 classified "high hazard")
Hazard Materials Sites	12	12
Military Installations	0	0
Nuclear Power Plants	0	0

Infrastructure

Infrastructure inventories appear below. Infrastructure expansion is not directly related to population growth; consequently, no projections are given here. Most of the at-risk transportation system components are highway road segments and bridges, which are most vulnerable to flooding.

Table 5-27. HAZUS-MH Transportation Systems Lifeline Inventory

System	Component	# Locations/Segments	Replacement Value (\$ millions)
Highway	Bridges	164	\$57.00
	Segments	31	\$770.20
	Tunnels	0	\$0.00
		<i>Subtotal</i>	\$827.20
Railways	Bridges	0	\$0.00
	Facilities	0	\$0.00
	Segments	17	\$54.00
	Tunnels	0	\$0.00
		<i>Subtotal</i>	\$54.00
Light Rail	Bridges	0	\$0.00
	Facilities	0	\$0.00
	Segments	0	\$0.00

System	Component	# Locations/Segments	Replacement Value (\$ millions)
	Tunnels	0	\$0.00
		<i>Subtotal</i>	\$0.00
Bus	Facilities	1	\$1.00
		<i>Subtotal</i>	\$1.00
Ferry	Facilities	0	\$0.00
		<i>Subtotal</i>	\$0.00
Port	Facilities	0	\$0.00
		<i>Subtotal</i>	\$0.00
Airport	Facilities	1	\$10.70
	Runways	1	\$38.00
		<i>Subtotal</i>	\$48.60
		Total	\$930.80

The types of utilities most vulnerable to hazards are wastewater treatment plants, water treatment and distribution facilities, and electric power lines and substations. Hurricanes, severe storms, and flooding pose the greatest threat to these facilities.

Table 5-28. HAZUS-MH Utilities Systems Lifeline Inventory

System	Component	# Locations / Segments	Replacement value (\$ millions)
Potable Water	Distribution Lines	NA	\$43.40
	Facilities	0	\$0.00
	Pipelines	0	\$0.00
		<i>Subtotal</i>	\$43.40
Waste Water	Distribution Lines	NA	\$26.00
	Facilities	3	\$179.80
	Pipelines	0	\$0.00
		<i>Subtotal</i>	\$205.90
Natural Gas	Distribution Lines	NA	\$17.40
	Facilities	0	\$0.00
	Pipelines	0	\$0.00
		<i>Subtotal</i>	\$17.40
Oil Systems	Facilities	0	\$0.00
	Pipelines	0	\$0.00
		<i>Subtotal</i>	\$0.00
Electrical Power	Facilities	0	\$0.00
		<i>Subtotal</i>	\$0.00
Communication	Facilities	4	\$0.40
		<i>Subtotal</i>	\$0.40
		Total	\$267.00

Local Inventories of Critical Facilities and Infrastructure

The following maps and tables show the locations of major critical facilities.

Table 5-29. Government Facilities

Type	Name	Address	City	Zip
Govt Offices–County	Chambers County Admin	2 S Lafayette St	Lafayette	36862
Govt Offices–County	Chambers County Dept-Human	6287 Fairfax Byp	Valley	36854
Govt Offices–County	Chambers County Emergency Comm	3507 Veterans Memorial Pkwy	Lanett	36863
County Govt-Public Health Programs	Chambers County Health Dept	5 Medical Park	Valley	36854
County Govt-Correctional Institutions	Chambers County Jail	105 Alabama Ave W	Lafayette	36862
Govt Offices–County	Chambers County Landfill	7245 Veterans Memorial Pkwy	Lanett	36863
County Govt-Legal Counsel	Chambers County Offices	18 Alabama Ave E	Lafayette	36862
County Govt-Education Programs	Chambers County School Bus	13060 Veterans Memorial Pkwy	Lafayette	36862
County Govt-General Offices	Chambers County Valley Annex	3205 22nd Ave	Valley	36854
Govt Offices–County	Chambers Registrar Office	4 1st St SE # 212	Lafayette	36862
Govt Offices–County	County Shop	18107 US Highway 431	Lafayette	36862
City Govt-Executive Offices	Lafayette City Hall	50 Alabama Ave W	Lafayette	36862
Govt Offices-City, Village & Twp	Lafayette Electric Dept	291 4th Pl SE	Lafayette	36862
Govt Offices-City, Village & Twp	Lafayette Nutrition Ctr	312 4th Ave SE	Lafayette	36862
Govt Offices-City, Village & Twp	Lanett City Gym	401 S 7th St	Lanett	36863
City Govt-Executive Offices	Lanett City Hall	401 N Lanier Ave	Lanett	36863
Federal Govt-Conservation Depts	US Army Corps Of Engineers	1000 County Road 222	Lanett	36863
Federal Govt-Conservation Depts	US Army Corps Of Engineers	1001 County Road 393	Lanett	36863
Federal Govt-National Security	US Army National Guard Armory	6448 Fairax Byp	Valley	36854
Federal Govt-Conservation Depts	US Consolidated Farm Svc Agcy	15055 US Highway 431	Lafayette	36862
Post Offices	US Government	3200 County Road 83	Cusseta	36852
Post Offices	US Post Office	1 1st St	Lanett	36863
Post Offices	US Post Office	1425 California Rd	Valley	36854
Post Offices	US Post Office	18 Alabama Ave W	Lafayette	36862
Post Offices	US Post Office	27038 US Highway 431	Five Points	36855
Post Offices	US Post Office	30 Fob James Dr	Valley	36854
City Govt-Executive Offices	Valley City Hall	20 Fob James Dr	Valley	36854

Map 5-21. Government Facilities

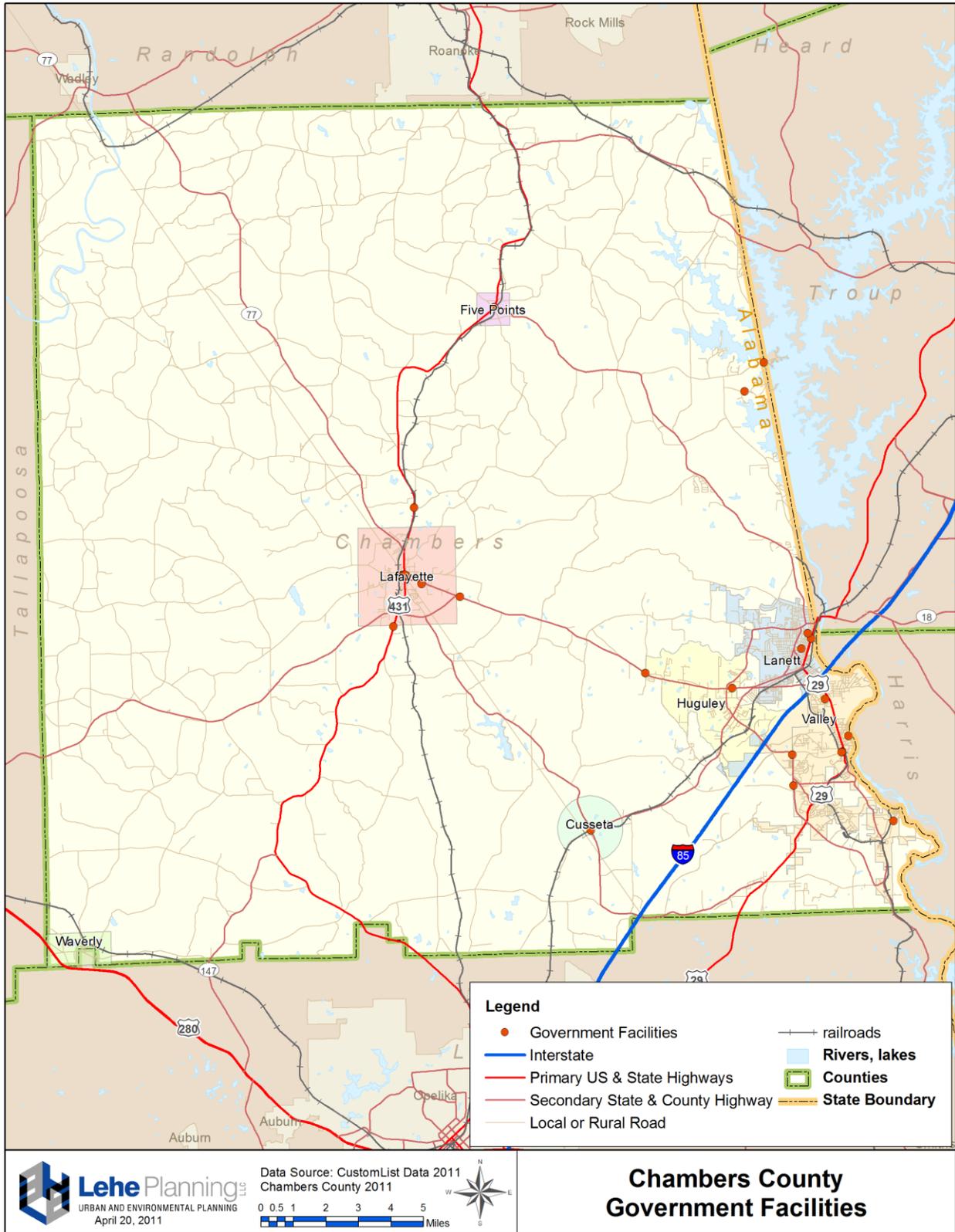


Table 5-30. Public Safety Facilities

Type	Name	Address	City	Zip
Fire Departments	Abanda Volunteer Fire	17046 Highway 77	Wadley	36276
E911-EMA	Chambers County EMA/E911	3507 Veterans Memorial Parkway	Lanett	36863
Fire Departments	Cusseta Volunteer Fire	4429 County Rd 299	Cusseta	36852
Fire Departments	East Alabama Fire Station 1	150 Fob James Dr	Valley	36854
Fire Departments	East Alabama Fire Station 2	2407 US Hwy 29	Valley	36854
Fire Departments	Five Points Volunteer Fire	27044 US 431 N	Five Points	36855
Fire Departments	Fredonia Fire & Rescue VFD	10417 County Rd 267	Lanett	36863
Fire Departments	Huguley Fire Station 1	5016 Veterans Memorial Parkway	Lanett	36863
Fire Departments	Huguley Fire Station 2	2095 County Rd 177	Cusseta	36862
Fire Departments	Lafayette Fire Dept	56 2nd Ave SW	Lafayette	36862
Police Departments	Lafayette Police Dept	50 Alabama Ave W	Lafayette	36862
Rescue Squads	Lakeview Fire & Rescue	3181 County Rd 289	Lanett	36863
Fire Departments	Lanett Fire & Rescue	401 N Lanier Ave	Lanett	36863
Police Departments	Lanett Police Dept	401 N Lanier Ave	Lanett	36863
Fire Departments	Lee Chamber Volunteer Fire	5350 Lee Road 270	Valley	36854
Fire Departments	Mt. Olive Volunteer Fire	2209 County Rd 237	Roanoke	36863
Fire Departments	Oak Bowery Fire & Rescue VFD	3306 Hwy 341	North Lafayette	36862
Fire Departments	Ridge Grove Volunteer Fire	9104 County Road 48	Lafayette	36862
Fire Departments	Standing Rock Volunteer Fire	3512 County Rd 278	Five Points	36855
Fire Departments	Union Hill Volunteer Fire	8422 Hwy 77	Lafayette	36862
Fire Departments	Valley Fire Dept	615 US Highway 29	Valley	36854
Police Departments	Valley Police Dept	20 Fob James Dr	Valley	36854
Rescue Squads	Valley Rescue Squad Inc	1641 S Phillips Rd	Lanett	36863
Fire Departments	West Chambers Fire & Rescue	21331 Veterans Memorial Pkwy	Lafayette	36862

Map 5-22. Public Safety Facilities

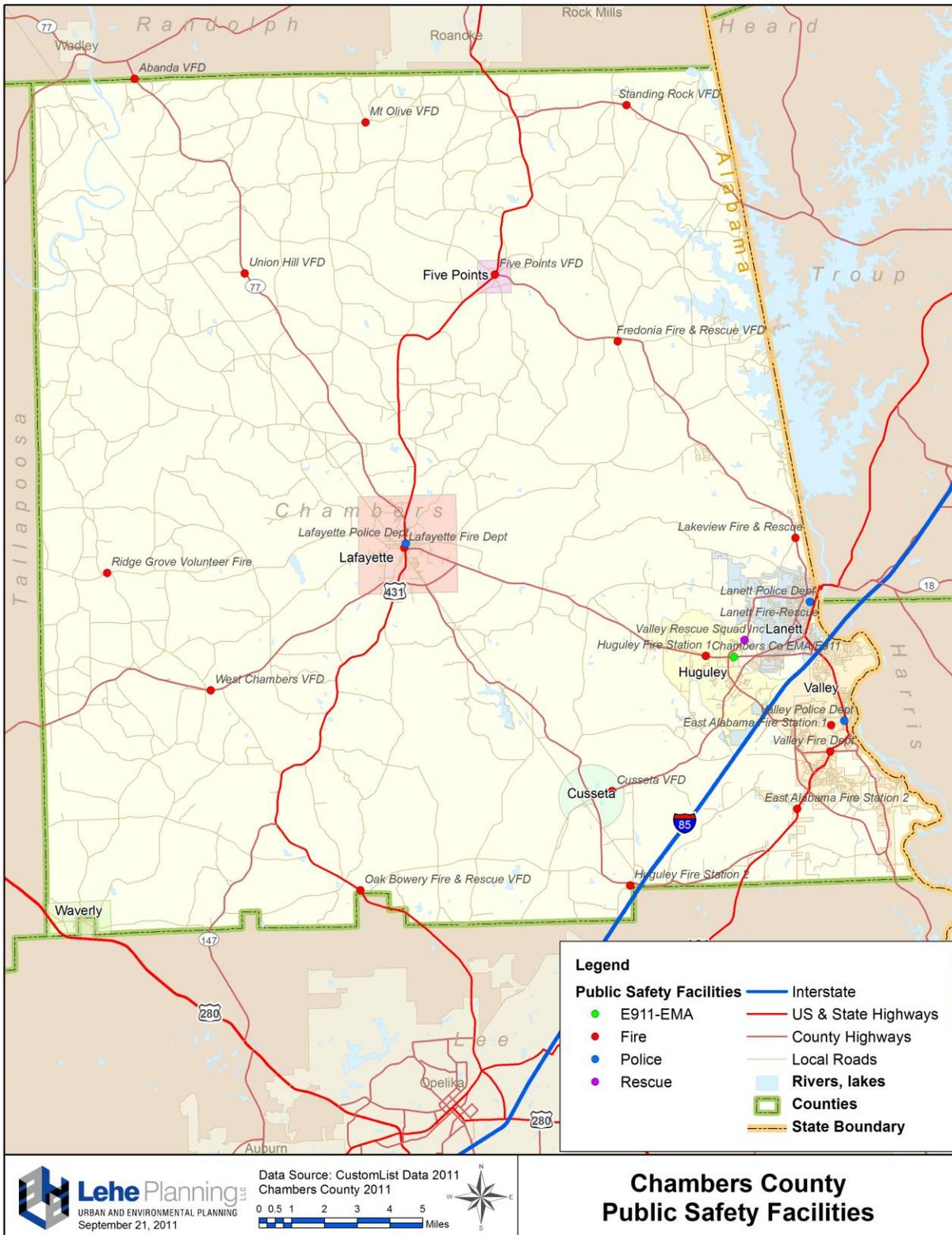


Table 5-31. Chambers County Schools

School Type	Name	ADDRESS	CITY	STATE	ZIPCODE
Private	Acts Academy	316 Fob James Dr	Valley	AL	36854
Public-Chambers Co	Bob Harding-Shawmut Elem	3301 23Rd Dr	Valley	AL	36862
Private	Chambers Academy	15048 US Highway 431	Lafayette	AL	36862
Public-Chambers Co	Chambers Co Career Tech Ctr	502 Area Vocational Center Dr SE	Lafayette	AL	36862
Public-Chambers Co	Fairfax Elem School	502 Boulevard	Valley	AL	36854
Public-Chambers Co	Five Points Elem School	10180 County Road 222	Five Points	AL	36855
Public-Chambers Co	Huguley Elem School	3011 Phillips Rd	Lanett	AL	36863
Public-Chambers Co	John P Powell Middle School	621 1St St Se	Lafayette	AL	36862
Public-Chambers Co	Lafayette Eastside Elem School	300 Ave A Se	Lafayette	AL	36862
Public-Chambers Co	Lafayette High School	214 1St Ave Se	Lafayette	AL	36862
Public-Chambers Co	Lafayette Lanier Elem School	6001 20Th Ave	Valley	AL	36854
Public-Lanett City	Lanett Central Elem School	200 S 8Th Ave	Lanett	AL	36863
Public-Lanett City	Lanett Jr High School	1302 N Cherry Dr	Lanett	AL	36863
Public-Lanett City	Lanett Senior High School	1301 S 8Th Ave	Lanett	AL	36863
Public-Chambers Co	Plainview Headstart	23060 Veterans Memorial Pkwy	Lafayette	AL	36862
Public-Chambers Co	Southern Union State Comm College	321 Fob James Dr	Valley	AL	36854
Private	Springwood School	1814 Cherry Drive	Lanett	AL	36863
Private	Temple Christian School	2615 54Th Blvd	Valley	AL	36854
Private	Valley Haven School	6345 Fairfax Bypass	Valley	AL	36854
Public-Chambers Co	Valley High School	501 US Highway 29	Valley	AL	36854
Public-Chambers Co	W F Burns Middle School	292 Johnson St	Valley	AL	36854

Map 5-23. Schools

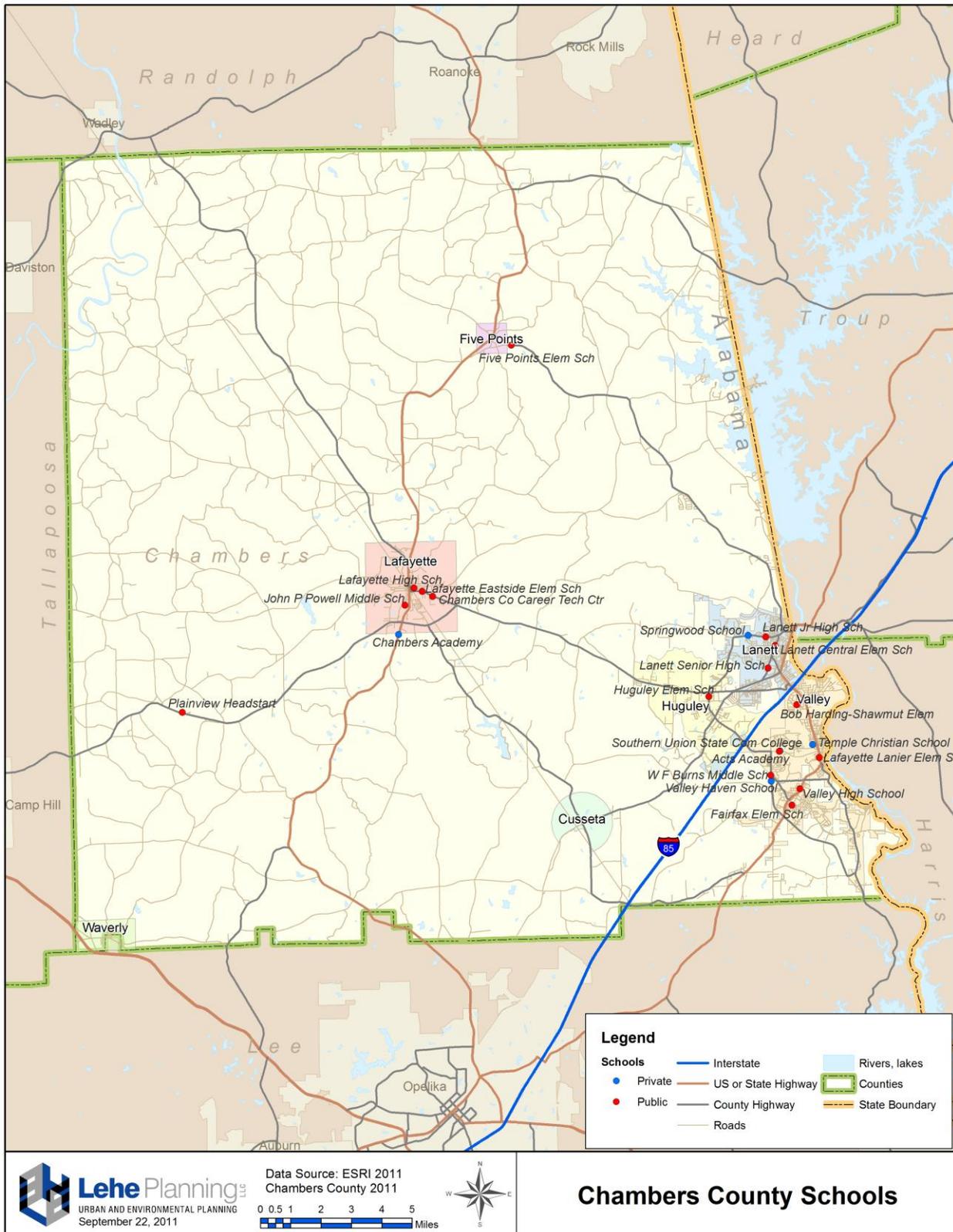
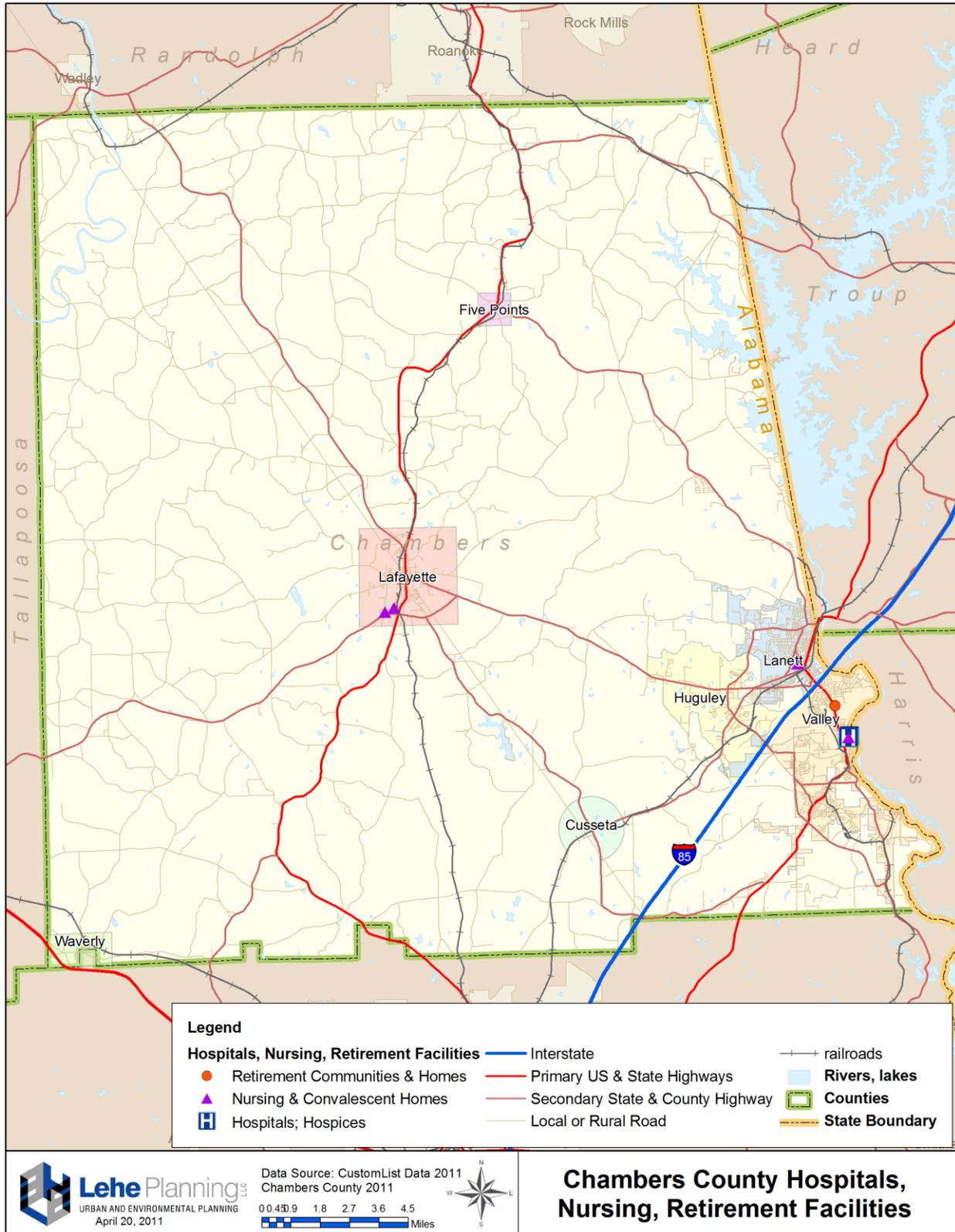


Table 5-32. Chambers County Hospital and Elderly Care Facilities

Type	Name	Address	City	Zip
Hospices	Chattahoochee Hospice Inc	6 Medical Park	Valley	36854
Hospitals	Lanier Health Svc	4800 48th St	Valley	36854
Nursing & Convalescent Homes	Lafayette Extended Care Inc	805 Hospital St	Lafayette	36862
Nursing & Convalescent Homes	Lafayette Nursing Home	555 B St SW	Lafayette	36862
Nursing & Convalescent Homes	Lanett Geriatric Ctr	702 S 13th St	Lanett	36863
Nursing & Convalescent Homes	Lanier Nursing Home	4800 48th St	Valley	36854
Retirement Communities & Homes	Sylvia Word Manor	1901 35th St # 300	Valley	36854

Map 5-24. Hospitals and Elderly Care Facilities



Map 5-25. Transportation Infrastructure

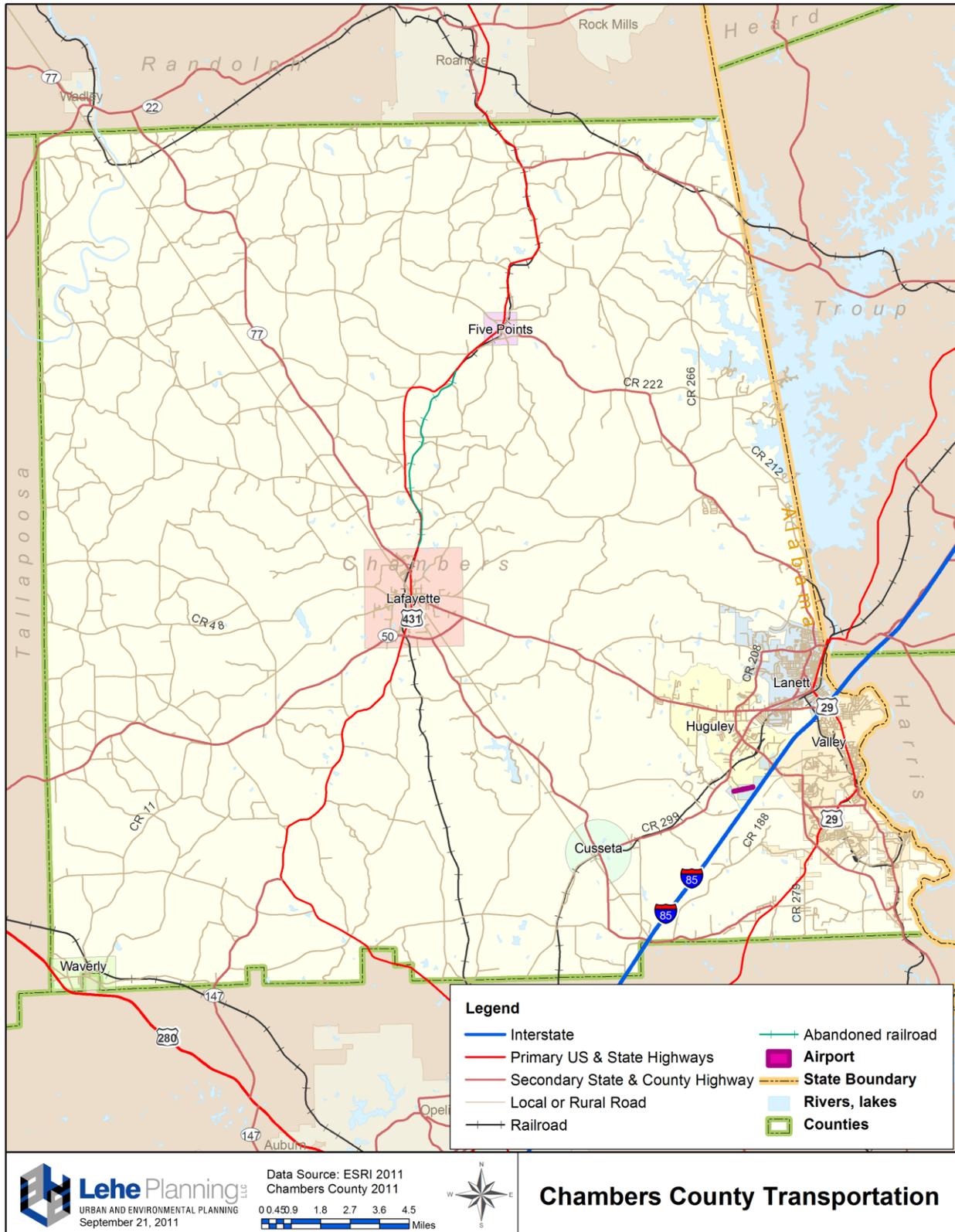
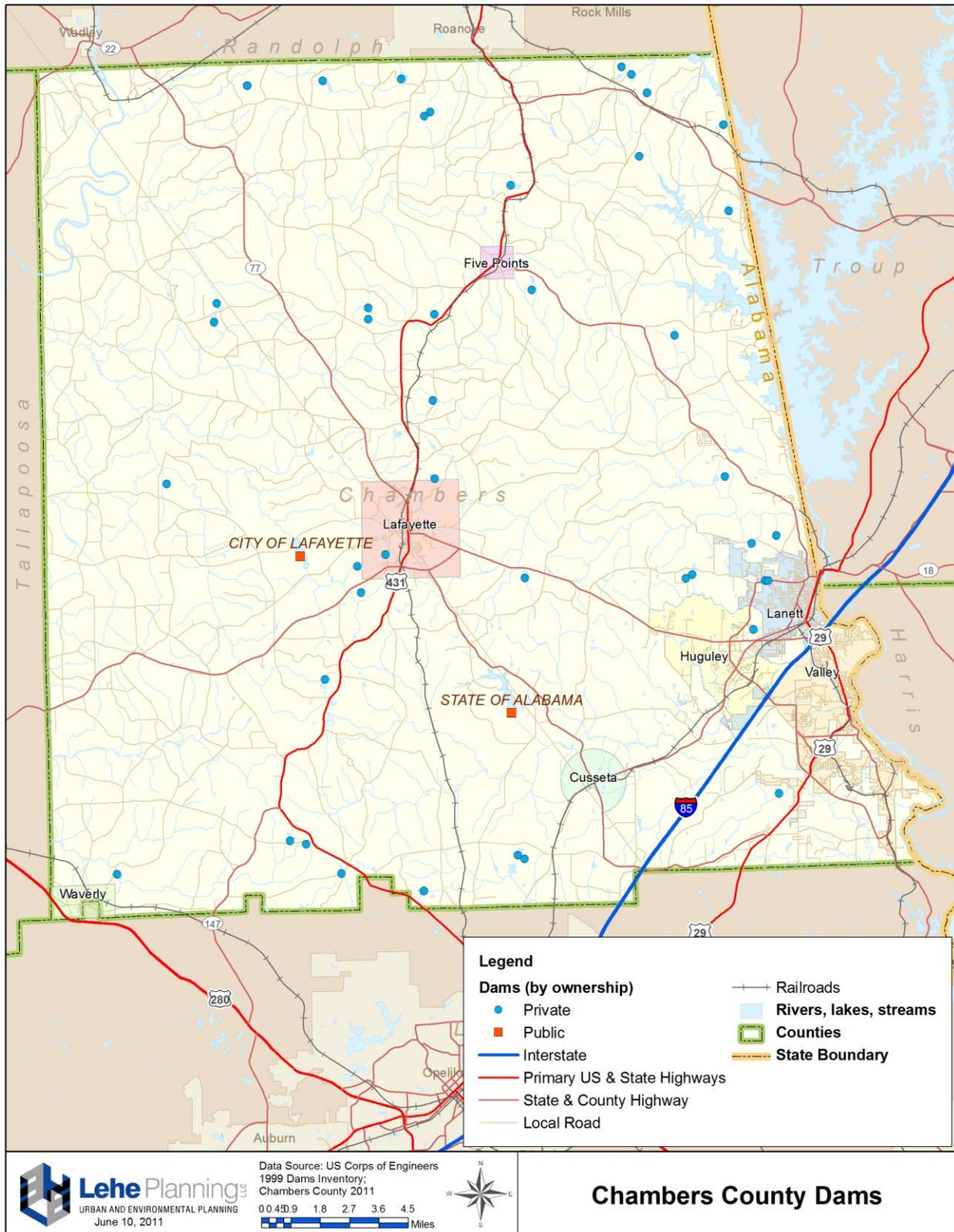


Table 5-33. Dams

Name	Purpose	Year Completed	Hazard Class
Riverside No 1	Recreation	1973	High
Riverside No 2	Recreation	1973	High
Chambers County Public Lake	Recreation	1962	Low
Edge	Recreation; Fish & wildlife pond	1971	Low
Lanier	Recreation	1952	Low
Allens	Recreation	1970	Low
Kilpatrick	Recreation	1948	Low
Hinkle	Recreation	1954	Low
Stephens Mill	Recreation	1952	Significant
Jeff Beard	Recreation	1968	Low
Robinson	Recreation	1954	Significant
J H Hines	Recreation	1946	Low
Flint Hill	Recreation	1952	Low
Dawson Day	Recreation	1958	Low
Nolen	Recreation	1954	Significant
Clay Floyd	Recreation	1954	Low
Simmons	Recreation	1951	Low
Wheeler	Recreation	1946	Low
W C Hines	Recreation	1944	Low
Sharpe No 2	Recreation	1952	Low
Sharpe No 1	Recreation	1952	Low
Slaughter	Recreation	1971	Low
Welch	Recreation	1972	Low
Royston	Recreation	1972	Low
Robinson	Recreation	1952	Low
Thompson	Recreation	1950	Low
Darden	Recreation	1972	Low
Stricklands Lake Dam	Recreation	1946	Low
Edgar	Recreation	1951	Low
Slay	Recreation	1965	Low
Phillips	Recreation	1958	Low
Smith	Recreation	1953	Low
Dempsey	Flood Control	1977	Low
Kendrick-Holmes	Recreation	1974	Significant

White	Recreation	1950	Low
Spencer	Recreation	1953	Low
Baker	Recreation	1956	Low
Cunningham	Recreation	1957	Low
Hudson	Recreation	1950	Low
Langley	Recreation	1950	Significant
Brown	Recreation	1964	Low
Taunton	Recreation	1950	Low
Montgomery	Recreation	1950	Low
Timmons	Recreation	1953	Low
High Pine Creek Site 12	Flood Control	1962	Low
High Pine Water Shed Dam	Flood Control	1962	Low
LaFayette City Lake	Water Supply	1955	High

Map 5-26. Dams



5.6 Estimate of Dollar Losses to Vulnerable Structures

5.6.1 Scope and Purpose of Loss Estimates

This section provides estimates of damages to vulnerable structures identified above in Section 5.5. Lost estimates are calculated using the structure, contents, and function of each asset. The following definitions are used:

- ✓ *Structure loss* – (% damage) X (\$ replacement value of the structure)
- ✓ *Content loss* – (% damage) X (\$ replacement value of the contents)
- ✓ *Functional Loss* - indirect effects of the hazard, such as the days of interruptions in operations that an asset incurs during an event.

For hazards with damage records, loss estimates count damages from the most probable severity. For location-specific events, loss estimates evaluate the affected parts of each jurisdiction. Although these estimates are broad, they can be useful in roughly assessing the benefits and costs of a proposed mitigation project. Moreover, these estimates provide a basis for selecting and prioritizing actions recommended by the Mitigation Strategy in Chapter 6.

This section also describes methodology and highlights limitations of insufficient data and lack of reliable methods. Measures for compiling and analyzing data to improve risk assessment studies appear in Section 5.6.5 “Recommended Risk Assessment Measures.”

As explained above, most hazards are county-wide. In the case of county-wide hazards, exposure is distributed uniformly over all municipalities and unincorporated areas. County-wide hazards include tornadoes, severe storms, winter storms/freezes, droughts/heat waves, wildfires, and earthquakes. In contrast, exposure to location-specific hazards—including flooding, dam/levee failures, sinkholes and landslides—varies widely among jurisdictions.

5.6.2 Loss Estimate Methodology

Method 1: HAZUS-MH Loss Estimates

This plan estimates losses using HAZUS-MH, which was used as a basis for the vulnerable structures inventory of Section 5.5. HAZUS-MH uses approximations and algorithms to estimate losses, so results do not reflect actual losses with certainty. These loss estimates are most useful for judging a hazard’s risk *relative to* other hazards and the vulnerability of a structure *relative to* other structures, rather than as absolute measures of likelihood and economic appraisal. These 2011 HAZUS-MH loss estimates are updates of estimates included in the 2006 plan.

HAZUS-MH offers three levels of analysis. Level 1 requires the least amount of local data and is sufficient for mitigation policy planning purposes. A Level 1 analysis

relies on the national data set provided with HAZUS-MH. The analysis provides general loss estimates for earthquakes, floods, and hurricane winds. All loss estimates are at a county level, which is the smallest geographic area of meaningful analysis using HAZUS-MH.

Method 2: Estimates Based upon Historical Records

Data and records from Section 5.4 supplemented the HAZUS-MH data to prepare loss estimates. Damage data and records of previous occurrences were obtained from the following primary sources:

1. NFIP insurance claims data since 1978 (see Section 5.8);
2. NOAA, National Climatic Data Center damage estimates (see damage summaries in Section 5.4 “Hazard Profiles” and Appendix E “Hazard Profile Data.”
3. National Weather Service Alabama Tornado database.
4. Alabama State Hazard Mitigation Plan, 2010 update, section 5.5 “Vulnerability Assessment and Loss Estimation.”

Jurisdictional Estimates

To derive jurisdictional estimates, the planning team used existing (2010) and future (2035) population estimates to distribute losses among Chambers County’s seven jurisdictions. Population distribution appears in Table 5-34 below. (See Section 5.5.2 “Inventory Methodology”). The damage estimates in this section, however, only apply to existing conditions.

Table 5-34. Population Distribution by Jurisdiction

Jurisdiction	2010	% of 2010	Projected 2035	% of 2035 Projection
Cusseta	123	0.4%	128	0.4%
Five Points	141	0.4%	91	0.3%
LaFayette	3,003	8.8%	2,828	8.0%
Lanett	6,468	18.9%	4,289	12.1%
Valley	9,524	27.8%	11,457	32.3%
Waverly	145	0.4%	137	0.4%
Unincorporated*	14,811	43.3%	13,114	37.0%
Chambers County	34, 215	100.0%	35,475	100.0%

5.6.3 HAZUS-MH Loss Estimates

The planning team performed HAZUS-MH Hurricane studies to estimate losses. Global Summary and Quick Assessment Reports of the HAZUS-MH runs contain detailed results. These studies, maps, and reports were prepared by a qualified GIS

professional with advanced HAZUS training classes completed at the FEMA Emergency Management Institute in Emmitsburg, Maryland, and extensive experience in its local application to mitigation planning. The following HAZUS-MH reports are on file with the Chambers County EMA and available for public review:

- HAZUS-MH Probabilistic 100-Year Hurricane Report, dated August 8, 2011
- HAZUS-MH 100-Year Flood Event Global Report, dated June 22, 2011
- HAZUS-MH 500-Year Flood Event Global Report, dated July 27, 2011
- HAZUS-MH 500-Year/5.00 Magnitude Earthquake Event Global Report, dated August 08, 2011

Flood Loss Estimates

The planning team used HAZUS-MH to assess 100-year and 500-year flood event scenarios. The following table itemizes the overall “Quick Assessment” results for the 100-year flood event:

Table 5-35. HAZUS-MH Flood Module Quick Assessment Results

Chambers County 100 Year Flood Event	
Area (Square Miles)	597
Number of Residential Buildings	17,056
Number of All Buildings	18,208
Number of Persons in the Region	37,000
Residential Building Exposure (\$ millions)	\$1,413
Total Building Exposure (\$ millions)	\$1,957
Displaced Population (# of households)	
Short Term Shelter Requirements (# of people)	
Residential Property (Capital Stock) Losses (\$ millions)	\$11.93
Total Property (Capital Stock) Losses (\$ millions)	\$19.57
Business Interruptions (Income) Losses (\$ millions)	\$0.23
Total Economic Losses (\$ millions)	\$31.73

Economic Losses by Jurisdiction. The following table shows jurisdictional loss estimates, which were obtained by dividing the county’s total losses by each jurisdiction’s share of the 2010 county population.

Table 5-36. Total Economic Losses by Jurisdiction

Jurisdiction	Share of Losses	Total Economic Losses (\$ millions)
Cusseta	0.36%	\$0.11
Five Points	0.41%	\$0.13
LaFayette	8.78%	\$2.79
Lanett	18.90%	\$6.00
Valley	27.84%	\$8.83
Waverly	0.42%	\$0.13
Unincorporated*	43.29%	\$13.74
Chambers County	100.00%	\$31.73

Building-Related Damages. HAZUS estimates that a 100-year flood event would moderately damage 65 buildings — over 32 percent of the total number of buildings at risk of flooding in Chambers County. The event would destroy four buildings. The following tables show the detailed results, and GIS maps illustrate the HAZUS-generated damages due to flooding.

Table 5-37. Expected Building Damage by Occupancy

Occupancy	1-10		11-20		21-30		31-40		41-50		Substantially	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Commercial	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Education	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Government	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Industrial	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Religion	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Residential	0	0.00	2	3.08	27	41.54	19	29.23	13	20.00	4	6.15
Total	0		2		27		19		13		4	

Table 5-38. Expected Building Damage by Building Type

Building Type	1-10		11-20		21-30		31-40		41-50		Substantially	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Concrete	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
ManufHousing	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	100.00
Masonry	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Steel	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Wood	0	0.00	2	3.28	27	44.26	19	31.15	13	21.31	0	0.00

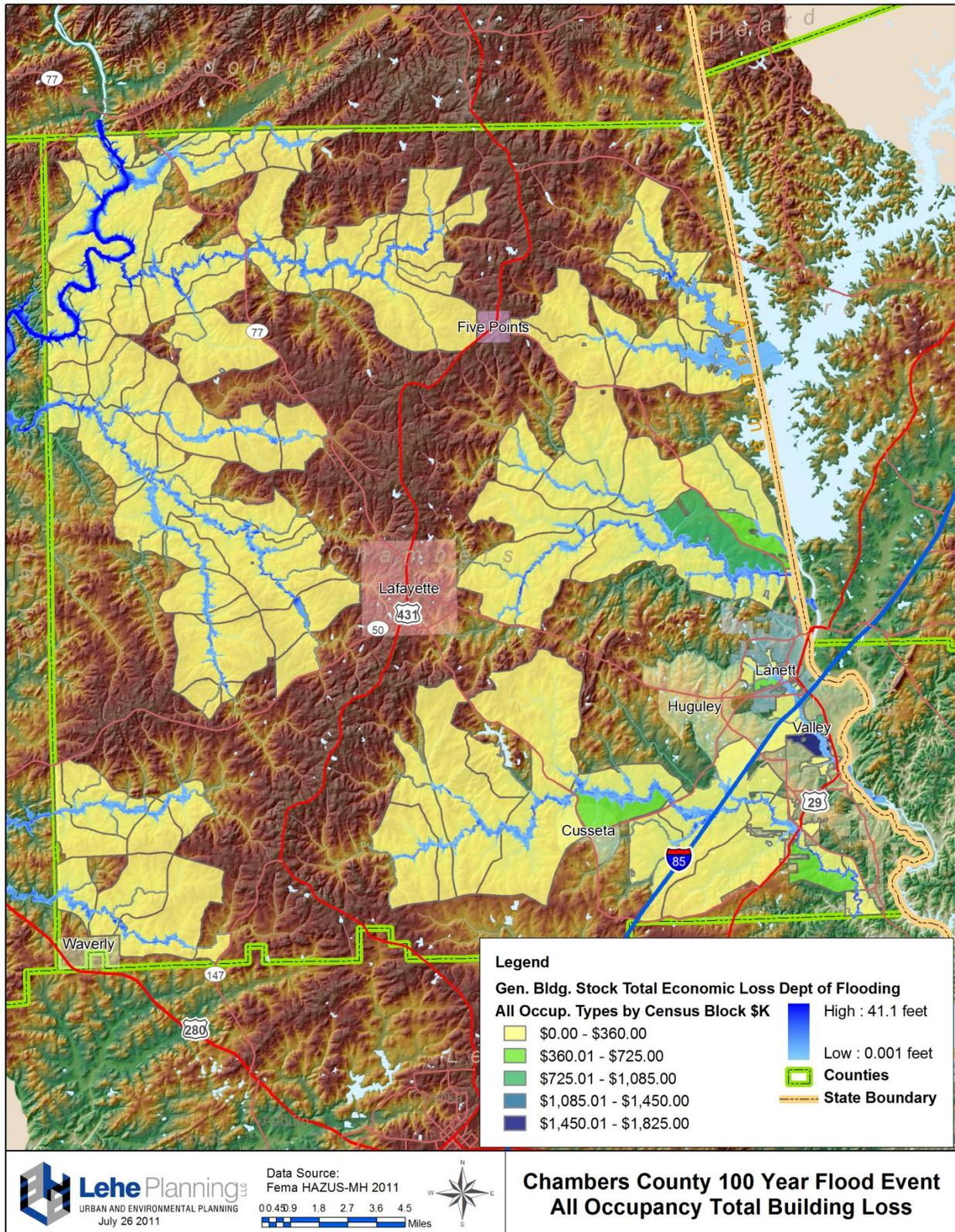
Essential Facilities Damages. HAZUS predicts that a 100-year flood event would moderately damage one police station among an estimated 32 essential facilities (police stations, fire stations, hospitals, and schools) in Chambers County.

Building Related Losses. Building losses are broken into two categories by HAZUS: direct building losses and business interruption losses. Direct building losses include estimated costs to repair or replace damaged buildings and contents. Business interruption losses are losses associated with the inability to operate a business as a result of the flood and also include temporary living expenses for displaced households. The total losses are estimated at \$19.57 million, with 1% related to business interruption. Residential occupancies account for 60.04% of the total loss.

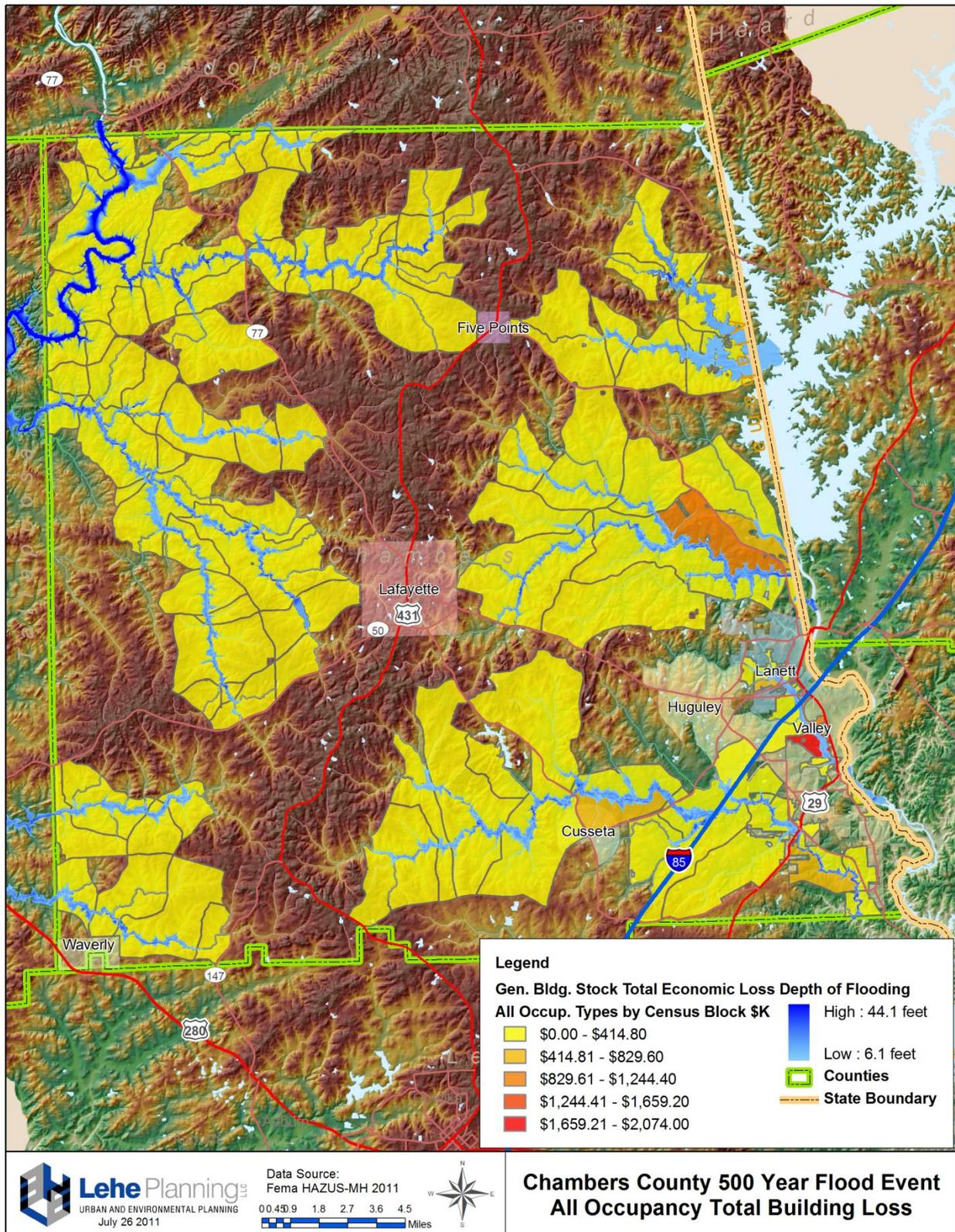
Table 5-39. Building Related Economic Loss Estimates (\$ millions)

Category	Area	Residential	Commercial	Industrial	Others	Total
<u>Building Loss</u>						
	Building	7.60	1.19	0.35	0.31	9.44
	Content	4.33	3.25	0.72	1.52	9.82
	Inventory	0.00	0.15	0.13	0.03	0.31
	Subtotal	11.93	4.58	1.19	1.86	19.57
<u>Business Interruption</u>						
	Income	0.00	0.02	0.00	0.00	0.02
	Relocation	0.01	0.00	0.00	0.00	0.02
	Rental Income	0.00	0.00	0.00	0.00	0.00
	Wage	0.00	0.02	0.00	0.18	0.19
	Subtotal	0.01	0.04	0.00	0.18	0.23
<u>ALL</u>	Total	11.94	4.62	1.19	2.03	19.80

Map 5-27. HAZUS-MH Flood Loss Estimate, 100 Year Event



Map 5-28. HAZUS-MH Flood Loss Estimate, 500 Year Event



Hurricane Loss Estimates

The planning team used HAZUS-MH to assess a 100-year hurricane event scenario. HAZUS only assesses the hurricane wind effects of each event. The following tables show the loss estimates generated by HAZUS-MH, followed by Map 5-29, which show the geographic distribution of economic losses for a 100-year event, and Map 5-30, which is for a 500-year event.

Table 5-40. HAZUS-MH Hurricane Scenarios

<i>Occupancy</i>	<i>Building Count</i>	<i>Dollar Exposure (\$ K)</i>
Residential	17,056	1,412,559
Commercial	684	260,062
Other	468	284,159
Total	18,208	1,956,780

Number of Residential Buildings Damaged

<i>Return Period</i>	<i>Minor</i>	<i>Moderate</i>	<i>Severe</i>	<i>Destruction</i>	<i>Total</i>
10	0	0	0	0	0
20	2	0	0	0	2
50	17	0	0	0	17
100	125	3	0	0	128
200	426	18	0	0	444
500	1,446	148	4	5	1,603
1000	2,358	326	12	12	2,707

Number of Buildings Damaged

<i>Return Period</i>	<i>Minor</i>	<i>Moderate</i>	<i>Severe</i>	<i>Destruction</i>	<i>Total</i>
10	0	0	0	0	0
20	5	0	0	0	5
50	22	0	0	0	22
100	136	4	0	0	140
200	450	20	0	0	470
500	1,515	163	6	5	1,689
1000	2,469	359	17	13	2,859

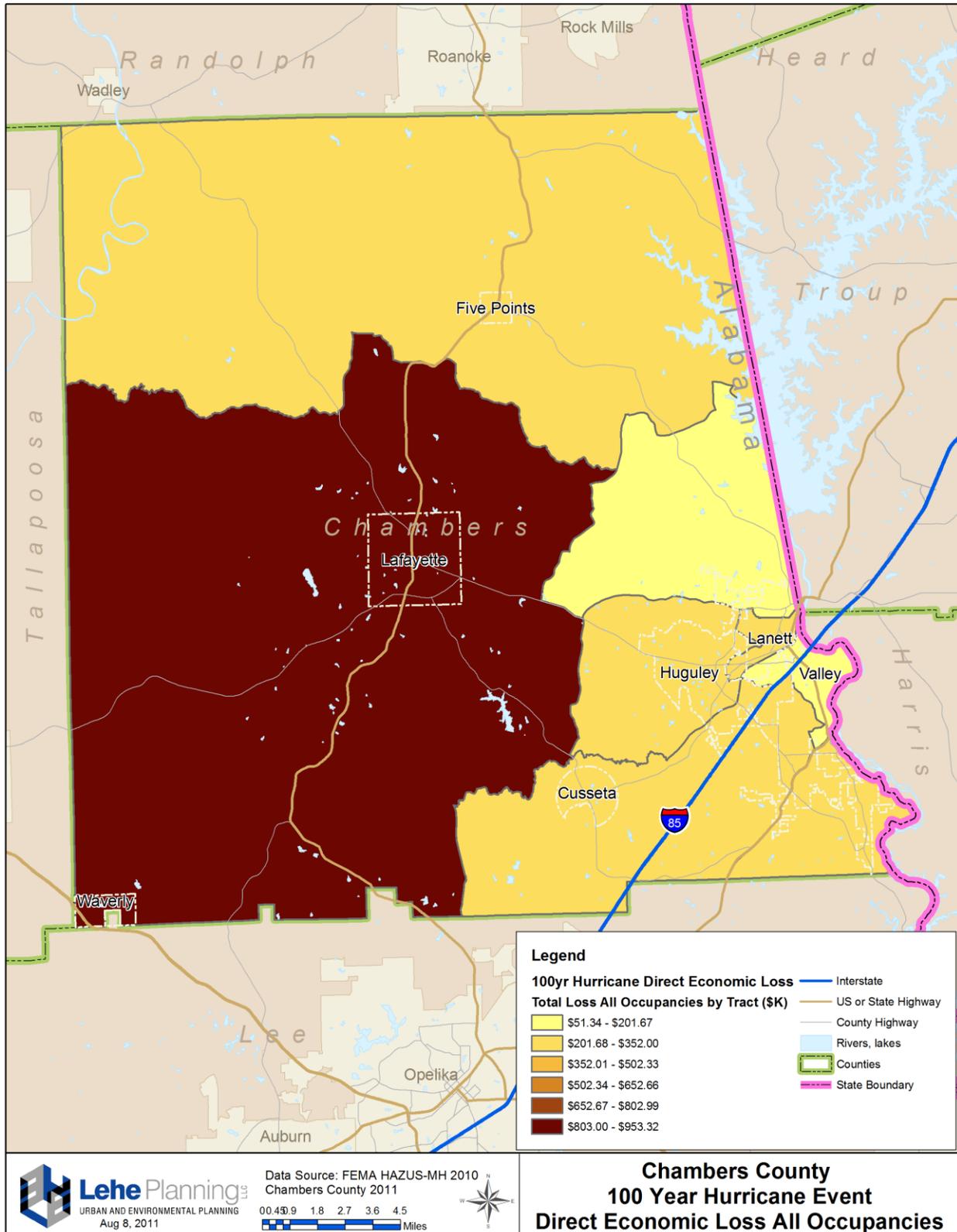
Shelter Requirements

<i>Return Period</i>	<i>Displaced Households (#Households)</i>	<i>Short Term Shelter (#People)</i>
10	0	0
20	0	0
50	0	0
100	0	0
200	0	0
500	12	4
1000	28	8

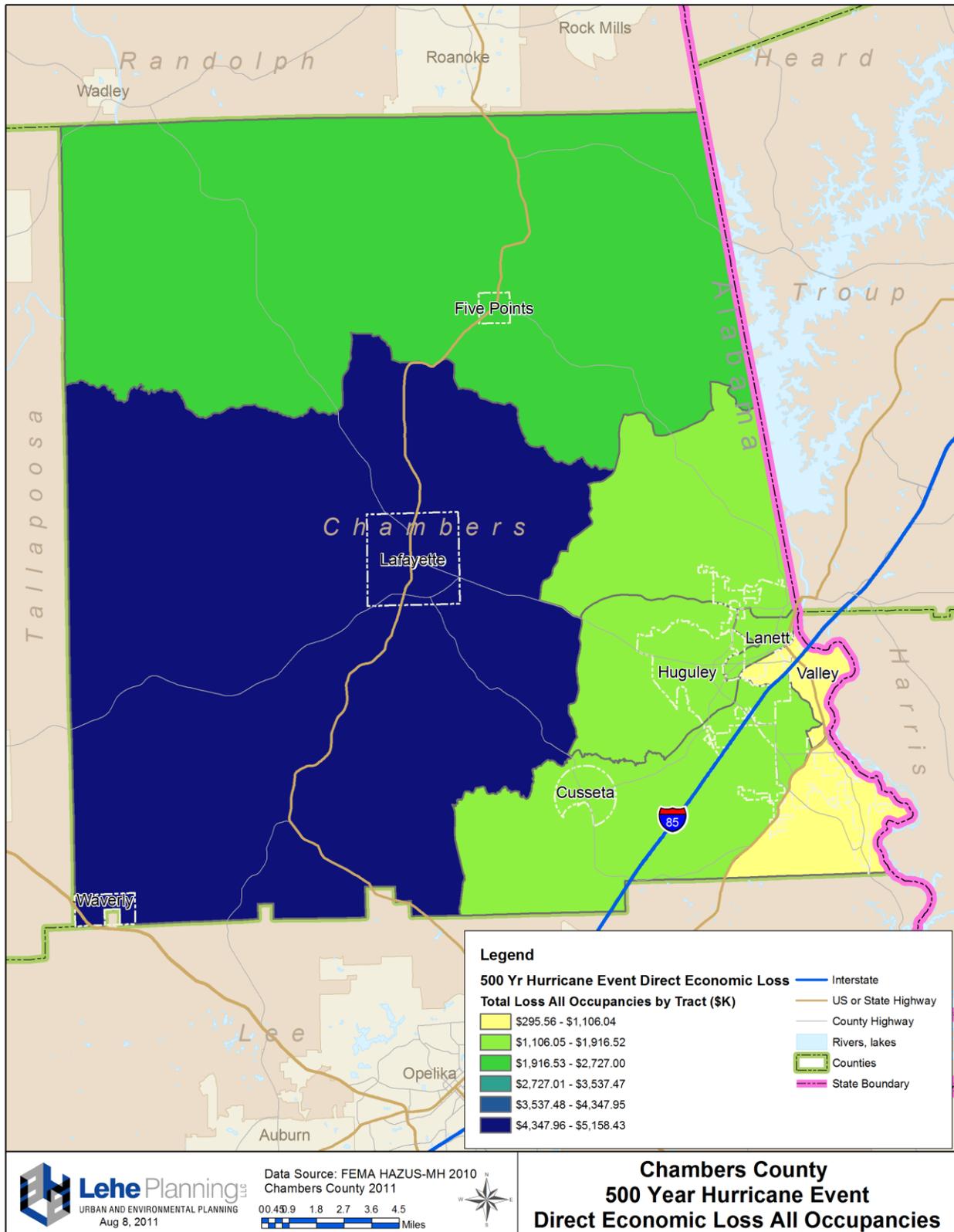
Economic Loss (x 1000)

<i>ReturnPeriod</i>	<i>Property Damage (Capital Stock) Losses</i>		<i>Business Interruption (Income) Losses</i>
	<i>Residential</i>	<i>Total</i>	
10	0	0	0
20	17	18	0
50	841	898	0
100	2,430	2,541	124
200	4,999	5,381	478
500	11,021	12,625	1,855
1000	17,854	22,888	3,618
Annualized	126	150	20

Map 5-29. HAZUS-MH Hurricane Loss Estimate, 100 Year Event



Map 5-30. HAZUS-MH Hurricane Loss Estimate, 500 Year Event



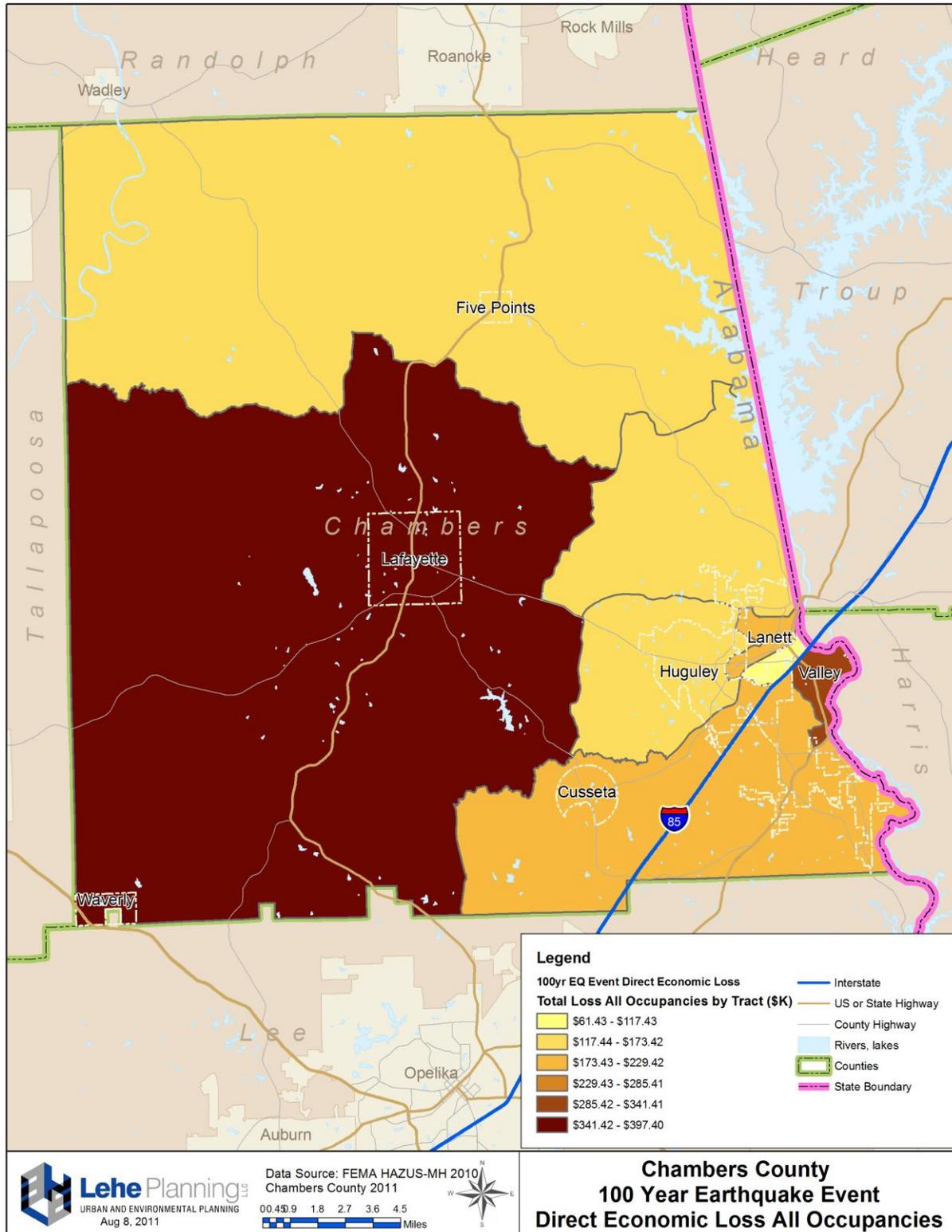
Earthquake Loss Estimates

The planning team used HAZUS-MH to estimate the losses of a 100-year earthquake event. Results indicate only minimal damage: only 0.4% of all buildings (estimated 77 buildings) would be moderately damaged. HAZUS-MH predicts no damage to essential facilities—such as hospitals, schools, EOCs, Police and Fire Stations—although 7 percent of hospital beds would be unavailable immediately after the event, with all but 2 percent in service one week later and 100 percent of beds operational after 30 days.

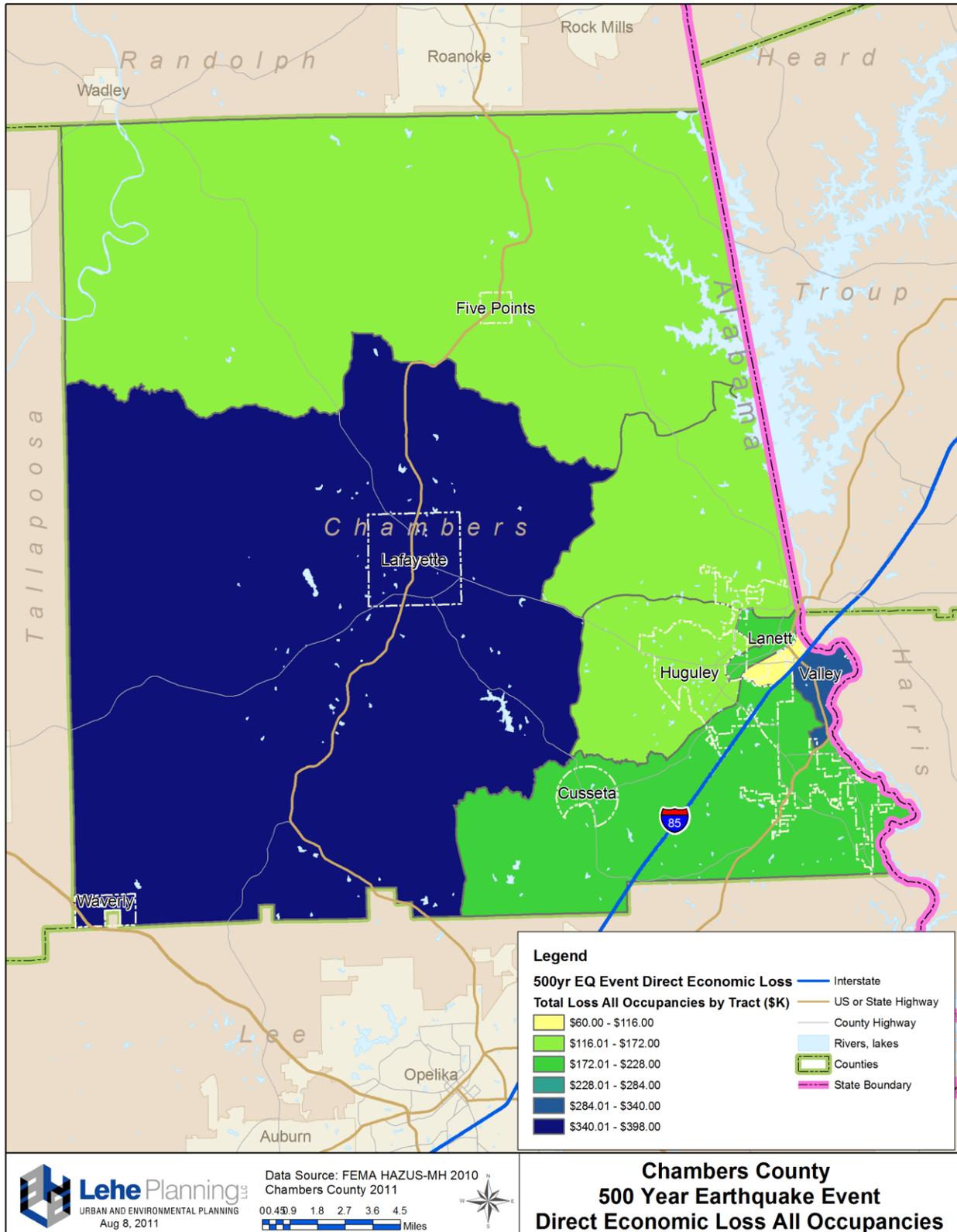
Additionally, the event report predicts that all components of the transportation system will maintain at least 50 percent functionality, because no component will suffer damage. Likewise, HAZUS predicts no disabling damage to the utility infrastructure but rather only a handful of leaks and breaks in water and gas lines. Therefore, the model projects no interruption of water or electrical service.

No casualties are expected, and total building-related economic losses (structural, contents, inventory, income and wages, etc.) are estimated at \$1.82 million countywide, 37% of which can be attributed to business interruption losses. Likewise, estimated damage to transportation, utilities and communications systems is minimal.

Map 5-31. HAZUS-MH Earthquake Loss Estimate, 100 Year Event



Map 5-32. HAZUS-MH Earthquake Loss Estimate, 500 Year Event



5.6.4 Loss Estimates Based on Historical Records

Severe Storms Loss Estimates

As reported in the severe storms hazard profile in Section 5.4.1, National Climatic Data Center (NCDC) records show frequent annual severe storm occurrences since 1965. The database shows 138 severe storm events for Chambers County—roughly three per year. The database also shows almost \$1.1 million in damages since 1965.

Tornado Loss Estimates

According to the NOAA National Climatic Data Center and National Weather Service (NWS) records (see Section 5.4.2 “Tornadoes Profile”), Chambers County has been the site of 12 tornadoes since 1970, averaging over 0.3 annually. These tornadoes caused 14 injuries and property damages of nearly \$3.5 million.

Flood Loss Estimates

The National Climatic Data Center (NCDC) Storm Events Database shows frequent flooding since 1996. There have been 13 floods reported for Chambers County—0.9 per year—for the 1996-2010 period. It is infeasible to estimate the average annual damages, as nearly all damages are attributable to the May 7, 2003 flooding of the Chattahoochee River, which affected 900 industries, businesses, and homes in Chambers County.

Loss Estimates for Remaining Hazards

Historical data is not available to estimate losses from the remaining hazards identified in this Plan. In some cases, there have been no recorded events, such as dam/levee failures, and in other cases, no damages resulted from an event, as is the case for instances of earthquakes, landslides, and sinkholes.

5.6.5 Recommended Risk Assessment Measures

The Mitigation Strategy of this Plan should include both short term and long term measures to improve the completeness and reliability of loss estimates. These measures should carry out the following general objectives:

- ✓ Critical Facilities Assessments. Assess critical facilities (hospitals, schools, fire and police stations, special needs housing, and others) to address building and site vulnerabilities to hazards, identify damage control and retrofit measures to reduce vulnerability to damage and disruption of operations during severe weather and disaster events.
- ✓ Geographic Information Systems (GIS). Maintain a comprehensive database of hazard locations, socio-economic data, infrastructure, and critical facilities inventories.

- ✓ Planning Studies. Conduct special plans and studies, as needed, to identify hazard risks and develop mitigation projects.

5.7 General Description of Land Uses and Development Trends

5.7.1 Impacts of Development Trends on Vulnerability

Development trends demand consideration in any plan for hazard mitigation. This section examines development trends affecting vulnerability to natural hazards. Development can raise vulnerability in several ways, including:

- Competing uses for land can push new development into areas prone to flooding, landslides and other location-specific hazards.
- New roads, parking lots, and other impervious surfaces can increase urban runoff and thereby exacerbate flooding.
- New residential, commercial and industrial development in previously rural areas can boost the community’s vulnerability to wildfires.
- Increased population can stretch scarce water resources in times of drought.
- Development on slopes and geologically unstable terrain can increase exposure to and even cause sinkholes and landslides.

5.7.2 Past Trends

Growth in Chambers County has declined over the past twenty years, contrasting the growth rate for the State of Alabama. Between 1990 and 2000, Chambers County’s population declined slightly, falling by 0.8 percent, while Alabama’s population grew by 10.1 percent. In the following decade, Chambers County’s population decreased even further by 6.5 percent, while Alabama’s population gained 7.5%. Table 5-41 depicts population growth trends from 1990 to 2010.

Table 5-41. Chambers County Historic Growth Trends

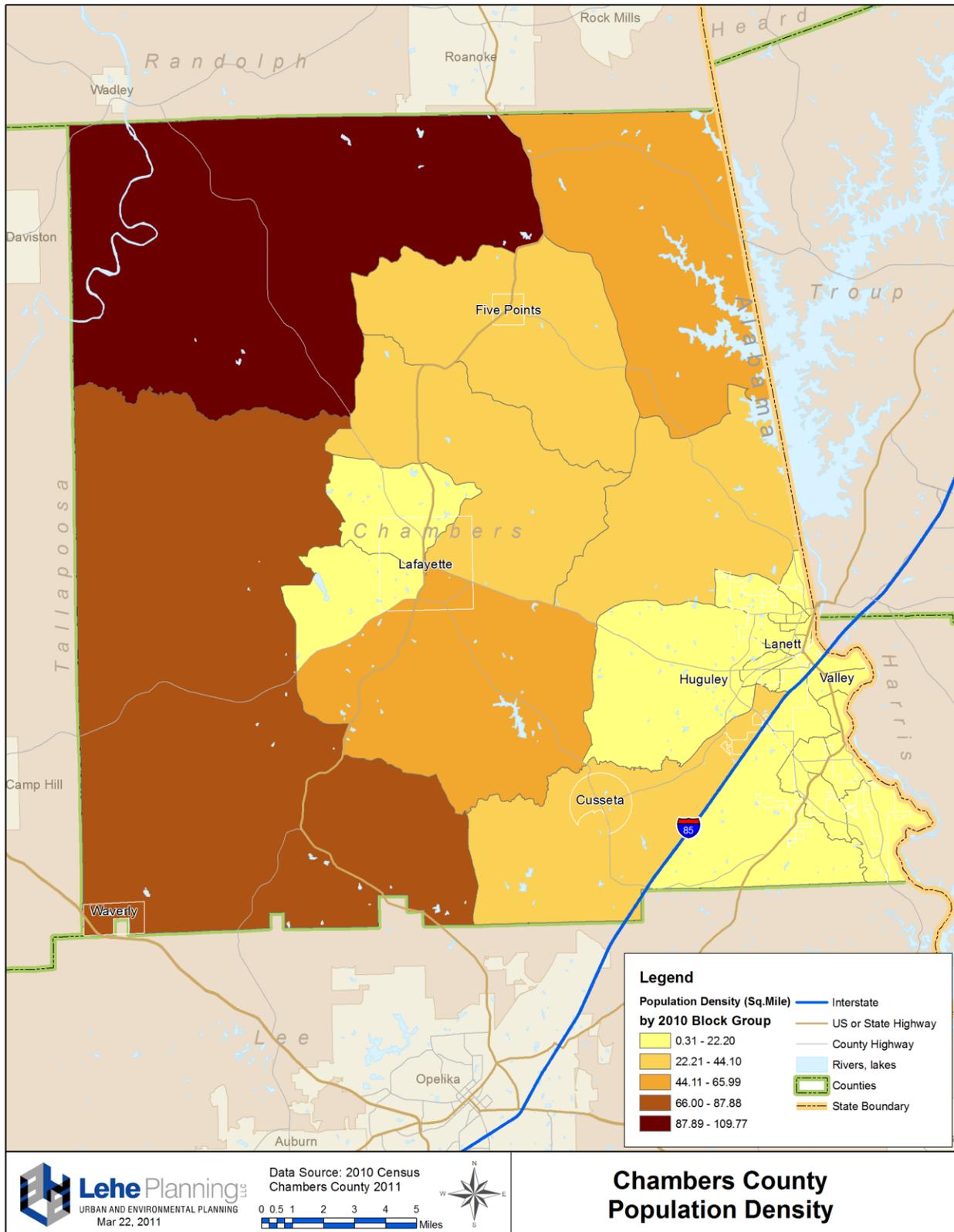
Jurisdiction	1990	2000	Number Change	Percent Change	2010	Number Change	Percent Change
Alabama	4,040,389	4,447,100	406,711	10.1%	4,779,736	332,636	7.5%
Chambers County	36,876	36,583	-293	-0.8%	34,215	-2,368	-6.5%
Cusseta	-	-	-	-	123	-	-
Five Points	200	146	-54	-27.0%	141	-5	-3.4%
LaFayette	3,151	3,234	83	2.6%	3,003	-231	-7.1%
Lanett	8,985	7,897	-1,088	-12.1%	6,468	-1,429	-18.1%
Valley	8,215	9,198	983	12.0%	9,524	326	3.5%
Waverly	152	184	32	21.1%	145	-39	-21.2%
*No data was provided for Cusseta, because it wasn’t incorporated until 2010							
Source: US Census 2010							

Distribution of Growth within Chambers County

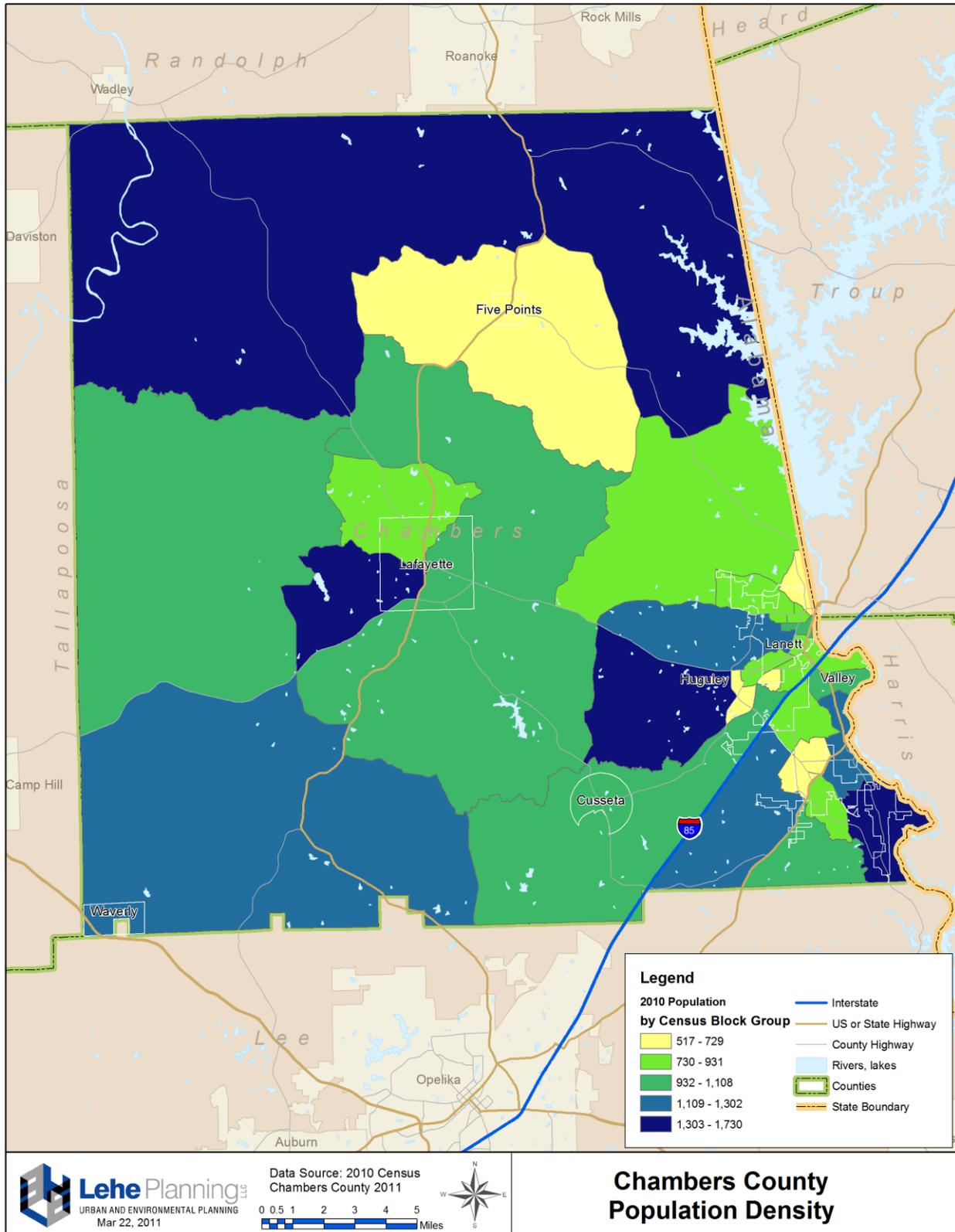
With a 2010 population of 9,524, the City of Valley is the largest city in Chambers County, and roughly a third of Chambers County's population resides within its borders. Between 1990 and 2000, Valley grew by 12 percent, the population continued to grow over the past decade with 326 new residents or 3.5 percent. The population of the unincorporated areas of Chambers County declined by 1,113 residents over the last decade.

Northwestern Chambers County, part of the unincorporated area, is home to the densest population concentration. Map 5-33 shows population density (persons per square mile) for Chambers County in 2010. Map 5-34 shows population change by census block group.

Map 5-33. Population Density in Chambers County



Map 5-34. Population Density

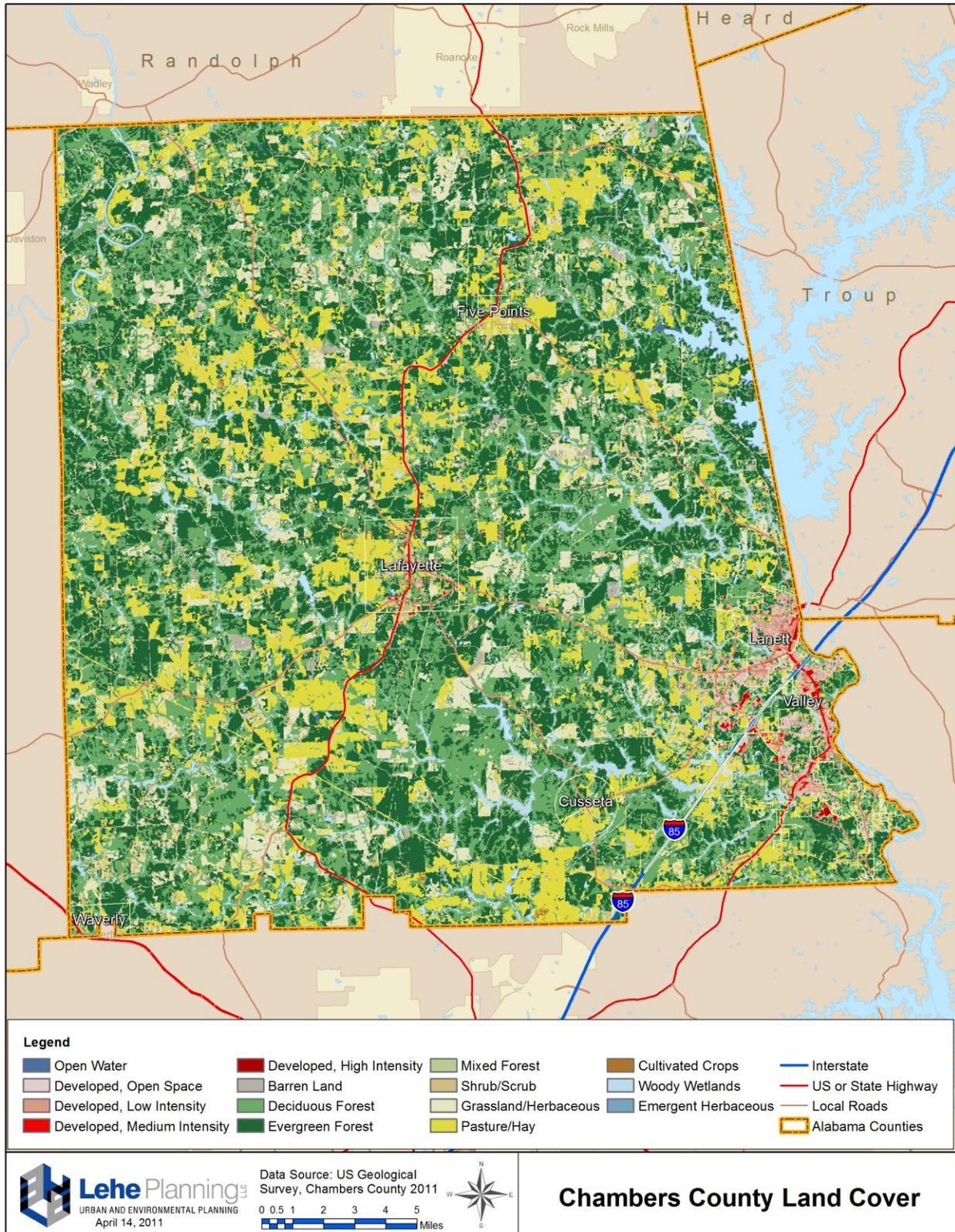


Land Use

Chambers County is comprised of mainly agricultural and forest land. Residential areas are primarily within the incorporated jurisdictions and the census designated place, Huguley. The major population center is in the northwestern corner of Chambers County in the unincorporated area to the west of Five Points, bordering Randolph and Tallapoosa Counties. The second most dense area of Chambers County is on the west side of the county, to the west of Lafayette. This area comprises mainly of unincorporated land and the city limits of Waverly.

The land cover shown in Map 5-35 provides further information about development patterns in Chambers County. Development in Chambers County is highly concentrated around the Cities of Lanett and Valley. The west central area of the county is primarily uncultivated pasture land, while the land in the surrounding areas is deciduous and evergreen forest. Very little of Chambers County's land is in use as cultivated farmland.

Map 5-35. Land Cover in Chambers County



5.7.3 Future Trends

Table 5-42 presents projected growth in Chambers County between 2010 and 2035 according to projections compiled by the Center for Business and Economic Research at the University of Alabama. Chambers County’s population growth is expected to remain lower-than-average for Alabama counties: the CBER projects a four percent reduction for Chambers County and 19.0 percent growth for the State of Alabama.

Table 5-42. Population 2000-2010 and Projections 2015-2035

Population Estimate/Projection							Change 2010-2035	
	2000 ^a	2005 ^a	2010 ^a	2015 ^b	2025 ^b	2035 ^b	Number	Percent
Alabama	4,447,100	4,537,299	4,779,736	4,974,386	5,362,974	5,689,407	9,909,671	19.0%
Chambers	36,583	35,136	34,215	34,708	35,136	35,475	1,260	3.9%

^aUS Census Bureau, 2010 Census ^bCenter for Business and Economic Research, U. of Alabama

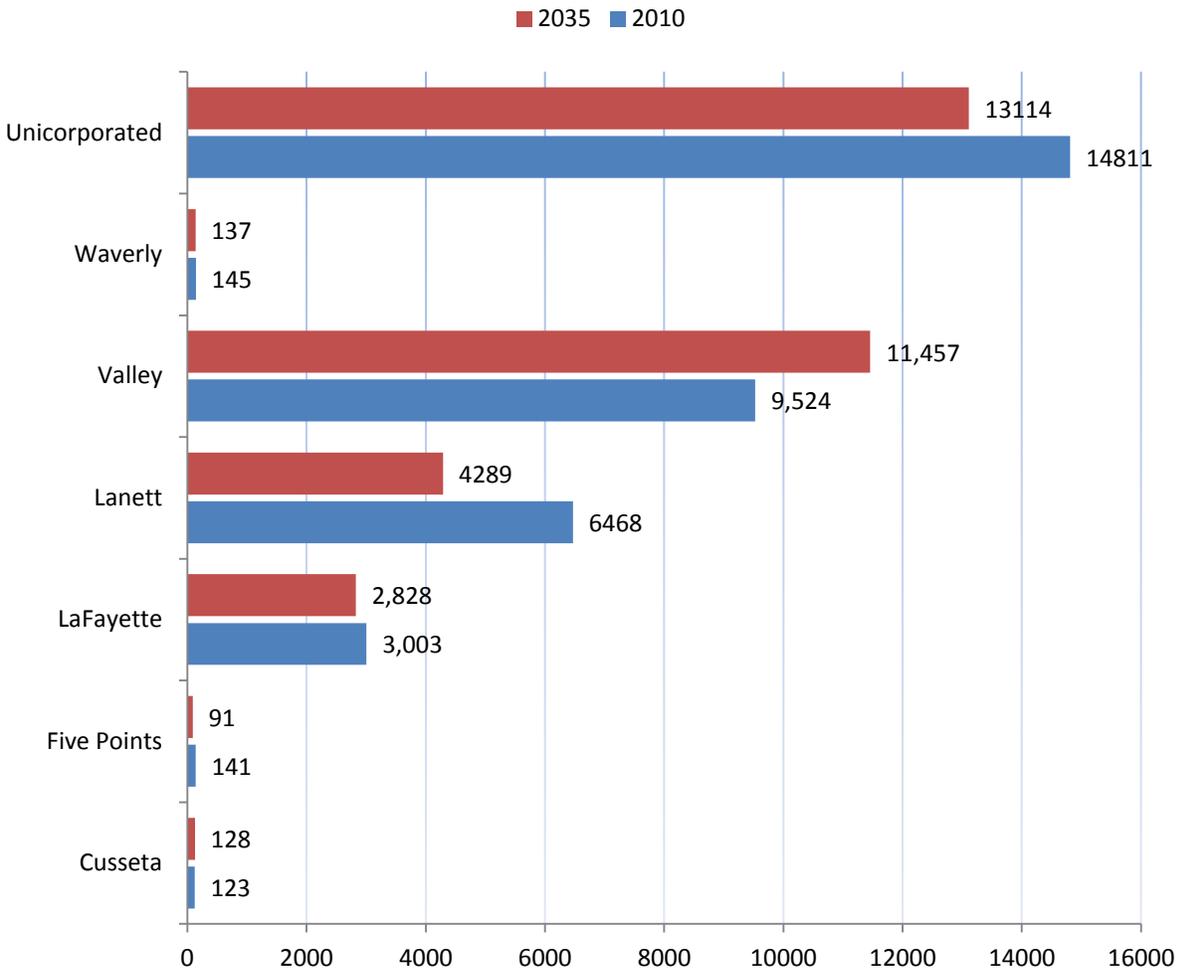
These projections are based on statistical inferences from historical data. The projections do not account for recent economic development in Chambers County. Faster-than-expected economic development—particularly in the Greater Valley Area’s expanding manufacturing sector—could induce swifter population growth.

Table 5-43. Population Projections by Jurisdiction

	2010	Projected 2035	Projected Change 2010-2035	Percent Increase 2010-2035	% of Total 2035
Cusseta	123	128	+5	+3.7%	0.4%
Five Points	141	91	-50	-35.4%	0.3%
Lafayette	3,003	2,828	-175	-5.8%	8.0%
Lanett	6,468	4,289	-2,179	-33.7%	12.1%
Valley	9,524	11,457	+1,933	+20.3%	32.3%
Waverly	145	137	-8	-5.7%	0.4%
Unincorporated	14,811	13,114	-1,697	-11.5%	37.0%
Chambers County	34,215	35,475	+1,260	+3.7%	100.0%

Source: Derived from Alabama State Data Center 2035 Chambers County Projection and the 2010 Census

Chart 5-3 Projected Population Changes



Economic development prospects

Chambers County’s most promising economic development prospects center on automobile industry. From 1990 to the present, Alabama has witnessed a small industrial renaissance, as automakers such as Mercedes, Hyundai, and Toyota have located plants in Alabama. The automotive industry has grown faster in Alabama than in any other state in North America. In 2009, the South Korean automaker Kia Motors located the company’s first North America manufacturing facility in West Point, Georgia, which is contiguous to Lanett. Kia Motors Manufacturing Georgia (KMMG) is expected to employ 2,500 employees once at full capacity and be able to produce 300,000 vehicles annually. Currently KMMG employs over 2,000 employees and the supporting suppliers have created over 5,200 jobs. Recently one of the on-site suppliers, Glovis Georgia LLC, signed a long-term lease on a 262,000 square foot building for its expansion in Valley, Alabama.

Four Tier 1 suppliers have chosen Chambers County for their new facilities to supply Kia Motors. The four suppliers are AJIN USA, MP TECH America, Daedong Hi-Lex of America, and Daeki America. MP TECH is located in the Chambers County Industrial Park, which is starting to expand and grow, and Daedong Hi-Lex America is located in the Cusseta Industrial Park. The tract of land of 26 acres bordering the Chambers County Industrial Park was chosen as an AdvantageSite. This designation means the tract of land met certain federal standards of infrastructure, planning, zoning, environmental efficiency and accessibility; making this area a highly desirable location.

5.8 Repetitively-Damaged NFIP-Insured Structures

FEMA defines *repetitive loss* property as properties that 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 the State NFIP Coordinator, Chambers County and its municipalities have a total of one repetitively damaged property. This property is a residential dwelling. Table 5-44 describes the number of policies in force and shows the repetitive loss property located in Valley.

Table 5-44. NFIP Policies and Repetitive Loss Claims

Community Name	Total NFIP Policies	Repetitive Loss Structures	Total RL Claims	Total RL Losses	Total Insurance in Force
Unincorporated	26	0	0	\$0	\$5,824,400
Five Points	0	0	0	0	\$0
LaFayette	5	0	0	\$0	\$623,400
Lanett	31	0	0	\$0	\$4,717,500
Valley	1	1	2	\$25,150	\$140,000
Waverly	0	0	0	\$0	\$0
Total for Chambers County	63	1	2	\$25,150	\$11,305,300

Source: NFIP State Coordinator 07/06/2011

5.9 Summary of Hazards and Community Impacts

Table 5-45 summarizes each jurisdiction’s vulnerability. Community impacts include the following descriptions and measurements:

Location. Location measures the geographic extent of the identified hazard in one of three ways, as follows:

- 1) *Community-wide* - the entire geographic area is affected;
- 2) *Partial* - a significant portion of the community is affected; or
- 3) *Minimal* - a negligible area is affected.

Probability. Probability measures the likelihood of the hazard occurring within the community, based on historical incidence. The scale for frequency runs as follows:

- 1) *Very high* - annually;
- 2) *High* - every two to three years;
- 3) *Moderate* - every three to ten years;
- 4) *Low* - every ten years; or
- 5) *Very low* - rare.

Extent. Extent measures the severity of the hazard and its potential to cause casualties, business losses, and damage to structures. The scale utilized runs as follows:

- 1) *Devastating* - the potential for devastating casualties, business losses, and structure damage;
- 2) *Significant* - the potential for some casualties and significant, but less than devastating, business losses and structure damage;
- 3) *Moderate* – moderate potential for economic losses and structure damage; or

- 4) *Slight* – slight or minimal potential for economic losses and structure damage.

Exposure. Exposure measures the percentage of structures within the community, including buildings, critical facilities, and infrastructure lifelines, that are exposed to the hazard. The classifications are defined as follows:

- 1) *High* - includes more than approximately 25 percent of the structures;
- 2) *Medium* - includes 10 percent to 25 percent of the structures; or
- 3) *Low* - includes less than 10 percent of the structures.

Damage Potential. Damage potential measures the damage that can be expected should an event take place. The classifications are defined as follows:

- 1) *High* - a hazard could damage more than 5 percent of the structures in a community;
- 2) *Medium* - a hazard could damage between 1 and 5 percent of the structures in a community; or
- 3) *Low* - a hazard could damage fewer than 1 percent of the structures in a community.

Table 5-45. Summary of Hazards and Community Impacts

Hazard	Jurisdiction	Community Impacts			Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure	
		Location	Probability	Extent	Exposure	Damage Potential
Severe Storms	Cusseta	Community-wide	Very High	Moderate	High	Low
	Five Points	Community-wide	Very High	Moderate	High	Low
	LaFayette	Community-wide	Very High	Moderate	High	Low
	Lanett	Community-wide	Very High	Moderate	High	Low
	Valley	Community-wide	Very High	Moderate	High	Low
	Waverly	Community-wide	Very High	Moderate	High	Low
	Unincorporated	Community-wide	Very High	Moderate	High	Low
	Chambers County	Community-wide	Very High	Moderate	High	Low
Tornadoes	Cusseta	Community-wide	Moderate	Significant	High	High
	Five Points	Community-wide	Moderate	Significant	High	High
	LaFayette	Community-wide	Moderate	Significant	High	High
	Lanett	Community-wide	Moderate	Significant	High	High
	Valley	Community-wide	Moderate	Significant	High	High
	Waverly	Community-wide	Moderate	Significant	High	High
	Unincorporated	Community-wide	Moderate	Significant	High	High
	Chambers County	Community-wide	Moderate	Significant	High	High
Winter Storms/Freezes	Cusseta	Community-wide	Low	Moderate	High	Low
	Five Points	Community-wide	Low	Moderate	High	Low
	LaFayette	Community-wide	Low	Moderate	High	Low
	Lanett	Community-wide	Low	Moderate	High	Low
	Valley	Community-wide	Low	Moderate	High	Low
	Waverly	Community-wide	Low	Moderate	High	Low
	Unincorporated	Community-wide	Low	Moderate	High	Low
	Chambers County	Community-wide	Low	Moderate	High	Low
Drought/Heat Waves	Cusseta	Community-wide	High	Moderate	High	Low
	Five Points	Community-wide	High	Moderate	High	Low

Hazard	Jurisdiction	Community Impacts			Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure	
		Location	Probability	Extent	Exposure	Damage Potential
	LaFayette	Community-wide	High	Moderate	High	Low
	Lanett	Community-wide	High	Moderate	High	Low
	Valley	Community-wide	High	Moderate	High	Low
	Waverly	Community-wide	High	Moderate	High	Low
	Unincorporated	Community-wide	High	Moderate	High	Low
	Chambers County	Community-wide	High	Moderate	High	Low
Hurricanes	Cusseta	Community-wide	Moderate	Significant	High	Low
	Five Points	Community-wide	Moderate	Significant	High	Low
	LaFayette	Community-wide	Moderate	Significant	High	Low
	Lanett	Community-wide	Moderate	Significant	High	Low
	Valley	Community-wide	Moderate	Significant	High	Low
	Waverly	Community-wide	Moderate	Significant	High	Low
	Unincorporated	Community-wide	Moderate	Significant	High	Low
	Chambers County	Community-wide	Moderate	Significant	High	Low
Floods	Cusseta	Minimal	Low	Slight	Low	Low
	Five Points	Minimal	Low	Slight	Low	Low
	LaFayette	Minimal	Low	Slight	Low	Low
	Lanett	Partial	Moderate	Moderate	Low	Medium
	Valley	Partial	Moderate	Moderate	Low	Medium
	Waverly	Minimal	Low	Slight	Low	Low
	Unincorporated	Partial	Moderate	Moderate	Low	Medium
	Chambers County	Partial	Moderate	Moderate	Low	Low
Dam/Levee Failures	Cusseta	Minimal	Very Low	Slight	Low	Low
	Five Points	Minimal	Very Low	Slight	Low	Low
	LaFayette	Minimal	Very Low	Slight	Low	Low
	Lanett	Partial	Very Low	Significant	Moderate	High
	Valley	Partial	Very Low	Significant	Moderate	High
	Waverly	Minimal	Very Low	Slight	Low	Low

Hazard	Jurisdiction	Community Impacts			Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure	
		Location	Probability	Extent	Exposure	Damage Potential
	Unincorporated	Minimal	Very Low	Slight	Low	Low
	Chambers County	Minimal	Very Low	Moderate	Low	Medium
Wildfires	Cusseta	Partial	Moderate	Slight	Low	Low
	Five Points	Partial	Moderate	Slight	Low	Low
	LaFayette	Partial	Moderate	Slight	Low	Low
	Lanett	Partial	Moderate	Slight	Low	Low
	Valley	Partial	Moderate	Slight	Low	Low
	Waverly	Partial	Moderate	Slight	Low	Low
	Unincorporated	Partial	Moderate	Slight	Low	Low
	Chambers County	Partial	Moderate	Slight	Low	Low
Sinkholes (Land Subsidence)	Cusseta	Minimal	Very Low	Slight	Low	Low
	Five Points	Minimal	Very Low	Slight	Low	Low
	LaFayette	Minimal	Very Low	Slight	Low	Low
	Lanett	Minimal	Very Low	Slight	Low	Low
	Valley	Minimal	Very Low	Slight	Low	Low
	Waverly	Minimal	Very Low	Slight	Low	Low
	Unincorporated	Minimal	Very Low	Slight	Low	Low
	Chambers County	Minimal	Very Low	Slight	Low	Low
Earthquakes	Cusseta	Community-wide	Very Low	Slight	High	Low
	Five Points	Community-wide	Very Low	Slight	High	Low
	LaFayette	Community-wide	Very Low	Slight	High	Low
	Lanett	Community-wide	Very Low	Slight	High	Low
	Valley	Community-wide	Very Low	Slight	High	Low
	Waverly	Community-wide	Very Low	Slight	High	Low
	Unincorporated	Community-wide	Very Low	Slight	High	Low
	Chambers County	Community-wide	Very Low	Slight	High	Low
Landslides	Cusseta	Minimal	Very Low	Slight	Low	Low
	Five Points	Minimal	Very Low	Slight	Low	Low

Hazard	Jurisdiction	Community Impacts			Impacts on Vulnerable Community Buildings, Critical Facilities, and Infrastructure	
		Location	Probability	Extent	Exposure	Damage Potential
	LaFayette	Minimal	Very Low	Slight	Low	Low
	Lanett	Minimal	Very Low	Slight	Low	Low
	Valley	Minimal	Very Low	Slight	Low	Low
	Waverly	Minimal	Very Low	Slight	Low	Low
	Unincorporated	Minimal	Very Low	Slight	Low	Low
	Chambers County	Minimal	Very Low	Slight	Low	Low

5.10 Risks that Vary Among the Jurisdictions

This Plan has strongly emphasized the variations in risks among jurisdictions. In particular, the following sections contain specific references to jurisdictional variations:

- Hazard identification. Each jurisdiction was independently assessed to identify pertinent hazards, based on the sources noted in Section 5.3 “Identification of Hazards Affecting Each Jurisdiction.” Descriptions of hazards can be found in Appendix D, “Hazard Identification, Ratings and Descriptions”.
- Hazard profiles. Each of the hazard profiles in Section 5.4 notes how the location, extent, past occurrences, and probability of future events may vary among all jurisdictions. Maps are included, where possible, to emphasize the locations of hazards in relation to jurisdictional limits.
- Summary of Community Impacts. Table 5-45 “Summary of Hazards and Community Impacts” summarizes how hazards impact each jurisdiction.

Risk may vary among jurisdictions, as described in Table 5-46 “Jurisdictional Risk Variations.” This table presents an overview of the common and unique risks within each jurisdiction and the unique characteristics of those risks. The risk variations table uses the following terms, as defined here:

Variation of Risks. Measures whether a risk is common or unique, as follows:

- 1) *Common risk* - affects all areas equally; or
- 2) *Unique risk* - affects certain jurisdictions with varying probability and extent.

Location. Indicates whether a hazard’s impact varies within the community, as follows:

- 1) *Specific locations* - the hazard only threatens particular parts of the jurisdiction; or
- 2) *Not unique* - the hazard affects all parts of the jurisdiction.

Probability. Probability measures the likelihood of the hazard occurring within the community, based on historical incidence. The scale for frequency runs as follows:

- 1) *Very high* - annually;
- 2) *High* - every two to three years;
- 3) *Moderate* - every three to ten years;
- 4) *Low* - every ten years; or
- 5) *Very low* - rare.

Extent. Extent measures the severity of the hazard and its potential to cause casualties, business losses, and damage to structures. The scale utilized runs as follows:

- 1) *Devastating* - the potential for devastating casualties, business losses, and structure damage;
- 2) *Significant* - the potential for some casualties and significant, but less than devastating, business losses and structure damage;
- 3) *Moderate* – moderate potential for economic losses and structure damage; or
- 4) *Slight* – slight or minimal potential for economic losses and structure damage.

Table 5-46. Jurisdictional Risk Variations

Hazard	Variation of Risks	Jurisdiction	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
Severe Storms	Common Risks	Cusseta	Not Unique	Very High	Moderate
		Five Points	Not Unique	Very High	Moderate
		LaFayette	Not Unique	Very High	Moderate
		Lanett	Not Unique	Very High	Moderate
		Valley	Not Unique	Very High	Moderate
		Waverly	Not Unique	Very High	Moderate
		Unincorporated	Not Unique	Very High	Moderate
		Chambers County	Not Unique	Very High	Moderate
Tornadoes	Common Risks	Cusseta	Not Unique	Moderate	Significant
		Five Points	Not Unique	Moderate	Significant
		LaFayette	Not Unique	Moderate	Significant
		Lanett	Not Unique	Moderate	Significant
		Valley	Not Unique	Moderate	Significant
		Waverly	Not Unique	Moderate	Significant
		Unincorporated	Not Unique	Moderate	Significant
		Chambers County	Not Unique	Moderate	Significant
Winter Storms/Freezes	Common Risks	Cusseta	Not Unique	Low	Moderate
		Five Points	Not Unique	Low	Moderate
		LaFayette	Not Unique	Low	Moderate
		Lanett	Not Unique	Low	Moderate
		Valley	Not Unique	Low	Moderate
		Waverly	Not Unique	Low	Moderate
		Unincorporated	Not Unique	Low	Moderate
		Chambers County	Not Unique	Low	Moderate
Drought/Heat Waves	Common Risks	Cusseta	Not Unique	High	Moderate
		Five Points	Not Unique	High	Moderate

Hazard	Variation of Risks	Jurisdiction	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
		LaFayette	Not Unique	High	Moderate
		Lanett	Not Unique	High	Moderate
		Valley	Not Unique	High	Moderate
		Waverly	Not Unique	High	Moderate
		Unincorporated	Not Unique	High	Moderate
		Chambers County	Not Unique	High	Moderate
Hurricanes	Common Risks	Cusseta	Not Unique	Moderate	Significant
		Five Points	Not Unique	Moderate	Significant
		LaFayette	Not Unique	Moderate	Significant
		Lanett	Not Unique	Moderate	Significant
		Valley	Not Unique	Moderate	Significant
		Waverly	Not Unique	Moderate	Significant
		Unincorporated	Not Unique	Moderate	Significant
Chambers County	Not Unique	Moderate	Significant		
Floods	Unique Risks	Cusseta	Specific Locations	Low	Slight
		Five Points	Specific Locations	Low	Slight
		LaFayette	Specific Locations	Low	Slight
		Lanett	Specific Locations	Moderate	Moderate
		Valley	Specific Locations	Moderate	Moderate
		Waverly	Specific Locations	Low	Slight
		Unincorporated	Specific Locations	Moderate	Moderate
		Chambers County	Specific Locations	Moderate	Moderate
Dam/Levee Failures	Unique Risks	Cusseta	Minimal	Very Low	Slight
		Five Points	Minimal	Very Low	Slight
		LaFayette	Specific Locations	Very Low	Slight
		Lanett	Specific Locations	Very Low	Significant
		Valley	Specific Locations	Very Low	Significant
		Waverly	Minimal	Very Low	Slight

Hazard	Variation of Risks	Jurisdiction	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
		Unincorporated	Specific Locations	Very Low	Slight
		Chambers County	Specific Locations	Very Low	Moderate
Wildfires	Unique Risks	Cusseta	Specific Locations	Moderate	Slight
		Five Points	Specific Locations	Moderate	Slight
		LaFayette	Specific Locations	Moderate	Slight
		Lanett	Specific Locations	Moderate	Slight
		Valley	Specific Locations	Moderate	Slight
		Waverly	Specific Locations	Moderate	Slight
		Unincorporated	Specific Locations	Moderate	Slight
		Chambers County	Specific Locations	Moderate	Slight
Sinkholes (Land Subsidence)	Unique Risks	Cusseta	Specific Locations	Very Low	Slight
		Five Points	Specific Locations	Very Low	Slight
		LaFayette	Specific Locations	Very Low	Slight
		Lanett	Specific Locations	Very Low	Slight
		Valley	Specific Locations	Very Low	Slight
		Waverly	Specific Locations	Very Low	Slight
		Unincorporated	Specific Locations	Very Low	Slight
		Chambers County	Specific Locations	Very Low	Slight
Earthquakes	Common Risks	Cusseta	Not Unique	Very Low	Slight
		Five Points	Not Unique	Very Low	Slight
		LaFayette	Not Unique	Very Low	Slight
		Lanett	Not Unique	Very Low	Slight
		Valley	Not Unique	Very Low	Slight
		Waverly	Not Unique	Very Low	Slight
		Unincorporated	Not Unique	Very Low	Slight
		Chambers County	Not Unique	Very Low	Slight
Landslides	Unique Risks	Cusseta	Specific Locations	Very Low	Slight
		Five Points	Specific Locations	Very Low	Slight

Hazard	Variation of Risks	Jurisdiction	Hazard's Unique Risk Characteristics		
			Location	Probability	Extent
		LaFayette	Specific Locations	Very Low	Slight
		Lanett	Specific Locations	Very Low	Slight
		Valley	Specific Locations	Very Low	Slight
		Waverly	Specific Locations	Very Low	Slight
		Unincorporated	Specific Locations	Very Low	Slight
		Chambers County	Specific Locations	Very Low	Slight

Chapter 6 – Mitigation Strategy

- 6.1 Federal Requirements for the Mitigation Strategy
- 6.2 Summary of Plan Updates
- 6.3 Goals for Hazard Mitigation
- 6.4 Participation and Compliance with the National Flood Insurance Program (NFIP)
- 6.5 Implementation of Mitigation Actions

6.1 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:

- (i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
- (ii) 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.
- (iii) An action plan describing how the actions identified in paragraph (c) (3) (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.
- (iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.”

6.2 Summary of Plan Updates

Table 6-1 summarizes changes made to the 2006 plan as a result of the 2011 update, as follows:

Table 6-1 Summary of Plan Updates

Section		Change
6.3	Goals for Hazard Mitigation	Goals and objectives from previous plans reviewed and modified based on current conditions; removed Emergency Services goal and hazard specific goals; expanded vision statement to include underlying principles and purposes; reviewed compatibility with State goals.
6.4	Participation and Compliance with the National Flood Insurance Program (NFIP)	Describes participation and ongoing commitments of NFIP participants to enhance flood plain management program activities.
6.5	Implementation of Mitigation Actions	Describes new selection criteria for mitigation actions and projects.
6.6	Multi-Jurisdictional Community Mitigation Action Programs	Creates new five-year action programs for each participating community.

6.3 Goals for Hazard Mitigation

6.3.1 Description of How the Goals were Developed

The goals in the previous plans have been updated based on current conditions, including the following factors, among others:

- The completion of mitigation measures over the five-year plan implementation cycle (see Appendix C “2006 Plan Implementation Status”);
- The 2011 update to the risk assessment in Chapter 5;
- The update to the risk assessment in the 2010 Alabama State Hazard Mitigation Plan; and
- The update of State goals and mitigation priorities reflected in the State Plan.

The Hazard Mitigation Planning Committee (HMPC) evaluated the validity and effectiveness of the goals from the previous 2006 plan and determined that most of the goals statements should be retained in the 2011 plan update. The previously approved plan also included objectives, and this amendment carries forward many of the same objectives. Some objectives have been modified and new objectives have been added to better identify and select among available mitigation measures that best respond to

the considerations listed in the next paragraph (see Appendix F “Alternative Mitigation Measures”). The 2006 implementation status report in Appendix C “2006 Plan Implementation Status” documents which objectives have been met.

Among the considerations reviewed by the planning team during the process of updating this goals section of the mitigation strategy were the following concerns:

- Whether the 2006 goals and objectives reflected the updates to the local risk assessment and the 2010 update to the State risk assessment;
- Whether the 2006 goals and objectives effectively directed mitigation actions and projects that helped reduce vulnerability to property and infrastructure;
- Whether the 2006 goals and objectives support the changed 2011 mitigation priorities established by the HMPC; and
- Whether the 2006 goals reflect the adopted goals in the 2010 Alabama State Hazard Mitigation Plan.

The updated goals are presented in Section 6.3.3 “Community Goals” and have also been incorporated into the “Community Action Programs” in Volume II.

As further explained in Appendix F, a strategic planning approach has been used for identification and analysis of mitigation actions and projects. FEMA’s program categories for managing a successful mitigation program were used 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 Outreach.** 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 comprehensive listing of alternative mitigation measures within each of the above mitigation program areas was developed by the planning team (again, refer to Appendix F “Identification and Analysis of Mitigation Measures”). The process by which the Hazard Mitigation Planning Committee (HMPC) and local jurisdictions finally selected among the available mitigation measures applied the STAPLEE method. STAPLEE examines social, technical, administrative, political, legal, environmental, and economic considerations.

HMPC representatives from each jurisdiction participated in the evaluation and selection of the mitigation measures. Not all of the mitigation measures initially considered were included in the final Community Action Programs (see Volume II “Community Action Programs”). The STAPLEE evaluation eliminated many of the measures. Also, some communities did not have the capabilities to carry out a particular measure under consideration or had other concerns revealed by the STAPLEE method.

A capability assessment was performed by the planning team to determine each participating community’s capability to implement their selected mitigation action program. A report of the assessment is documented in Appendix B - “Community Mitigation Capabilities.” The assessment includes, among other capability factors, a review of local plans, studies, regulatory tools and other local planning tools. Mitigation measures to improve these tools to better integrate mitigation objectives were considered and, where deemed appropriate, selected for the action programs.

In addition to STAPLEE and community capabilities, the communities examined other evaluation criteria, including consistency with the vision, goals, and objectives established for the 2011 plan update; cost effectiveness in terms of benefit to cost; FEMA and State funding priorities for Hazard Mitigation Assistance grants; and the fiscal and staffing capabilities of the jurisdictions for carrying out the measures.

The “2011-2016 Chambers County Multi-Jurisdictional Mitigation Action Program,” as presented in Table 6-3 in Section 6.5, presents all the goals, objectives and measures chosen by each of the participating jurisdictions. The Community Action Programs in Volume II, which supplements Table 6-3, breaks out the same mitigation goals, objectives, and mitigation measures by community and adds the priority, timeframe for completion, and responsibility for implementation.

6.3.2 The Vision for Disaster-Resistant Chambers County Communities

Chambers 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. Chambers County is committed to reduce the exposure and risk of natural hazards to its communities by activating all available resources through cooperative intergovernmental and private sector initiatives, and augmenting public knowledge and awareness.

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

- severe storms,
- tornadoes,
- floods,
- droughts/heat waves,
- hurricanes,
- winter storms/freezes,
- dam/levee failures,
- wildfires,
- sinkholes,
- earthquakes, and
- landslides.

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

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

6.3.3 Community Goals

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

1. **Prevention Goal.** Manage the development of land and buildings to minimize risks of loss due to natural hazards.
2. **Property Protection Goal.** Protect structures and their occupants and contents from the damaging effects of natural hazards.
3. **Public Education and Awareness Goal.** Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property.
4. **Natural Resources Protection Goal.** 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.
5. **Structural Projects Goal.** 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.

6.3.4 Compatibility with 2010 Alabama State Plan Goals

The 2011 Chambers County Multi-Hazard Mitigation Plan vision, goals, and objectives are reflective of the goals adopted in the 2010 Alabama State Hazard Mitigation Plan. The State plan includes the following six goals for statewide hazard mitigation:

1. Enhance the comprehensive statewide hazard mitigation system.
2. Reduce the State of Alabama's risk from natural hazards.
3. Reduce vulnerability of new and future development.
4. Reduce the State of Alabama's vulnerability to natural hazards.
5. Foster public support and acceptance of hazard mitigation.
6. Expand and Promote interagency hazard mitigation cooperation.

Alabama local governments, Chambers County communities included, are the fundamental building blocks of the "comprehensive statewide hazard mitigation system." The underlying principles and purposes of the 2011 Chambers County goals, listed in Subsection 6.3.3, complement the remaining five State goals, as follows: (a) to reduce

or eliminate risks from natural 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.

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

Chambers County and its municipal jurisdictions, with the exception of Waverly and Cusseta, have been mapped and the floodplain identified. Most NFIP communities in Chambers County have continued to effectively enforce and keep their floodplain ordinances current since their original entry into the program. Five Points is currently sanctioned through the NFIP and is working towards compliance. 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 Waverly and Cusseta (which has no areas of special flood hazards mapped by FEMA), have developed five-year action programs to improve local flood plain management programs (see specific action items for each community in Community Action Plans, Goal 1 Prevention, Objective 1.6 Flood Plain Management Program). 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 Chambers 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 Chambers County EMA as technical support resources to local flood plain administrators and as public education information for the general public.

The following Table 6-2 provides information on the NFIP participation status of Chambers County jurisdictions:

Table 6-2. NFIP Community Status, Chambers County Jurisdictions

Community ID	Jurisdiction	Current Effective Map Date	Status
010026	Chambers County *	02/18/2011	Participating
---	Cusseta	---	Not Mapped
010027A	Five Points	02/18/2011	Sanctioned
010028A	LaFayette	02/18/2011	Participating
010029	Lanett	02/18/2011	Participating
010424	Valley	02/18/2011	Participating
---	Waverly	---	Not Mapped

Source: NFIP Community Status Book, 05/12/2011

Since the 2006 plan, all jurisdictions with the exception of Waverly and Cusseta have updated and digitized their flood maps. All maps were updated effective February 18, 2011.

6.5 Implementation of Mitigation Actions

The range of measures described in Section 6.3 “Goals for Hazard Mitigation” was the source for all actions and projects selected by the Hazard Mitigation Planning Committee (HMPC) and the planning team for inclusion in the five-year Community Mitigation Action Programs for each jurisdiction (see Volume II). Each jurisdiction assigned a priority to selected measures, established a general completion schedule, assigned administrative responsibility for carrying out the measures, estimated costs, where possible, and identified potential funding sources, including potential eligibility for FEMA Hazard Mitigation Assistance Programs.

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 the Hazard Mitigation Planning Committee (HMPC) and its final recommended action programs for each participating jurisdictions. The STAPLEE method addressed the following areas of concern and responded to many of the questions presented here:

1. 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?
2. 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?
3. 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?
4. 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?
5. 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?
6. 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?

7. 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 goals, objectives, and mitigation measures presented in Table 6.3 “2011-2016 Chambers County Multi-Jurisdictional Mitigation Action Program” and Volume II “Community Action Programs,” which supplements Table 6.3.

Table 6-3. 2011-2016 Chambers County Multi-Jurisdictional Mitigation Action Program

	Goals, Objectives and Mitigation Measures	Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
1	Goal for Prevention. Manage the development of land and buildings to minimize risks of loss due to natural hazards.					
1.1	Comprehensive Plans and Smart Growth. Establish an active comprehensive planning program that is consistent with Smart Growth principles of sustainable community development.					
1.1.1	Maintain up-to-date comprehensive plans for all jurisdictions. Each plan should address natural hazards exposure and include long-term disaster resistance measures. The vulnerability and environmental suitability of lands for future development should be clearly addressed. Local plans should assess the vulnerability of designated hazard areas and encourage open space planning to create amenities for recreation and conservation of fragile resources.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
1.1.2	Integrate the findings and recommendations of this plan into comprehensive plan amendments for jurisdictions with active comprehensive planning programs.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
1.1.3	Prepare a five-year capital improvements plan (CIP) to include capital projects that implement the natural hazards element of the community's comprehensive plan or projects identified in the Community Mitigation Action Program of this multi-hazard mitigation plan.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
1.2	Geographic Information Systems (GIS). Maintain a comprehensive database of hazards locations, socio economic data, infrastructure, and critical facilities inventories.					
1.2.1	Maintain a centralized, countywide natural hazards and risk assessment database in GIS that is accessible to local planners and emergency management personnel, including such data as, flood zones, geohazards, major drainages structures, dams/levees, hurricane surge areas, tornado tracks, disaster events and their extents, and a comprehensive inventory of critical facilities within all jurisdictions.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	HMA
1.2.2	Integrate FEMA HAZUS-MH applications for hazard loss estimations within local GIS programs. Maintain up-to-date data within GIS to apply the full loss estimation capabilities of	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	HMA

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
	HAZUS.					
1.2.3	Mark depths of flooding and storm surge immediately after each event. Enter and maintain these historical records in GIS.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.3	<u>Planning Studies.</u> Conduct special studies, as needed, to identify hazard risks and mitigation measures.					
1.3.1	Carry out detailed planning and engineering studies for sub-basins in critical flood hazard areas to determine watershed-wide solutions to flooding.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	HMA
1.3.2	Identify existing culturally or socially significant structures and critical facilities within the jurisdictions that have the most potential for losses from natural hazard events and identify needed structural upgrades.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Existing	Action	TBD
1.3.3	Evaluate elevation and culvert sizing of existing roadways in flash flood-prone areas to ensure compliance with current standards for design year floods, and develop a program for construction upgrades as appropriate.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Action	TBD
1.3.4	Inventory and map existing fire hydrants throughout the jurisdiction, and identify areas in need of new fire hydrants.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Wildfires	Existing	Action	TBD
1.3.5	Identify problem drainage areas, conduct engineering studies, evaluate feasibility, and construct drainage improvements to reduce or eliminate localized flooding.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	HMA
1.4	<u>Zoning.</u> Establish effective zoning controls, where applicable, to vulnerable land areas to discourage environmentally incompatible land use and development.					
1.4.1	Consider large lot size restrictions within flood prone areas designated on Flood Insurance Rate Maps.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.4.2	Evaluate additional land use restrictions within designated flood zones, such as prohibition of storage of buoyant materials, storage of hazardous materials, restrictive development of flood ways, among others.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
1.4.3	Require delineation of flood plain fringe, floodways, and wetlands on all plans submitted with a permit for development within a flood plain.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.4.4	Enact local ordinance that requires community storm shelters within sizeable residential developments, such as, mobile home and parks, apartment complexes, planned residential communities, and campgrounds/RV parks.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Hurricanes, Severe Storms	New	Action	Existing
1.5	Open Space Preservation. Minimize disturbances of natural land features and increased storm water runoff through regulations that maintain critical natural features such as open space for parks, conservation areas, landscaping, and drainage.					
1.5.1	Examine regulatory options and feasibility of requiring open space areas for recreation, landscaping, and drainage control.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	New	Action	Existing
1.6	Flood Plain Management Regulations. Effectively administer and enforce local floodplain management regulations.					
1.6.1	Train local flood plain managers through programs offered by the State Flood Plain Coordinator and FEMA's training center in Emmitsburg, Maryland.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.6.2	Maintain a library of technical assistance and guidance materials to support the local floodplain manager.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.6.3	Promote the adoption of uniform flood hazard prevention ordinance among all NFIP communities. The ordinance standards should encourage flood plain management that maintains the natural and beneficial functions of flood plains by maximizing the credits that could be obtained for "Higher Regulatory Standards" under the Community Rating System (CRS) Program.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.6.4	Maintain membership for locally designated flood plain managers in the Association of State Flood Plain Managers and the Alabama Association of Flood Plain Managers and encourage active participation.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.6.5	Participate in the "Turn Around Don't Drown" program by purchasing and installing signs in known flash flood bridge overpass locations.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	Other
1.7	Building and Technical Codes. Review local codes for effectiveness of standards to protect buildings and infrastructure from natural hazard damages.					

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
1.7.1	Promote good construction practices and proper code enforcement to mitigate structural failures during natural hazard events.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	All	New	Action	Existing
1.7.2	Evaluate and revise as appropriate, building codes for roof construction to maximize protection against wind damage from hurricanes, tornadoes, and windstorms; encourage installation of "hurricane clips."	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Hurricanes, Severe Storms	New	Action	Existing
1.7.3	Relocate existing utility lines underground, where feasible and cost effective, and require, through local subdivision and land development regulations, the placement of all new utility lines underground for large residential subdivisions and commercial developments.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Severe Storms, Winter Storms/Freezes, Hurricanes	Both	Action	HMA
1.7.4	Ensure fire safety ordinances properly regulate open burning, the use of liquid fuel and electric space heaters.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Wildfires	Both	Action	Existing
1.7.5	Establish and enforce minimum property maintenance standards that reduce or eliminate unsafe structures.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	All	Existing	Action	Existing
1.7.6	Require the construction of safe rooms within new public buildings, such as new schools, libraries, community centers, and other public buildings where feasible.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Hurricanes, Severe Storms	New	Project	HMA
1.8	<u>Landscape Ordinances.</u> Establish minimum standards for planting areas for trees and vegetation to reduce storm water runoff and improve urban aesthetics.					
1.8.1	Review and revise as necessary, landscaping standards for parking lots that reduce the size of impervious surfaces and encourage natural infiltration of rainwater.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	New	Action	Existing
1.9	<u>Storm Water Management.</u> Manage the impacts of land development on storm water runoff rates and to natural drainage systems.					
1.9.1	Promote the adoption/enforcement of storm water management regulations that maintain pre-development runoff rates.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Action	Existing
1.9.2	Develop, adopt and implement subdivision regulations that require proper storm water infrastructure design and construction.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Action	Existing

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
1.10	<u>Dam Safety Management.</u> Establish a comprehensive dam safety program.					
1.10.1	Support legislation to establish a State dam safety program.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Dam/Levee Failure	Both	Action	Existing
1.11	<u>Community Rating System Program (CRS).</u> Increase participation of NFIP member communities in the CRS Program.					
1.11.1	Apply for/maintain membership in the CRS Program; continue to upgrade rating.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
1.12	<u>Critical Facilities Assessments.</u> Perform assessments of critical facilities (hospitals, schools, fire and police stations, emergency operation centers, special needs housing, and others) to address building and site vulnerabilities to hazards, identify damage control and retrofit measures to reduce vulnerability to damage and disruption of operations during severe weather and disaster events.					
1.12.1	Perform vulnerability assessments of critical facilities to identify retrofit projects to improve the safety of occupants and mitigate damages from hazards.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding, Tornadoes, Hurricanes, Severe Storms and Earthquakes	Existing	Action	HMA
1.12.2	Conduct wildfire vulnerability assessments, including the vulnerability of critical facilities and number of residential properties in these risk areas, and prepare a comprehensive inventory to identify high and moderate wildfire risk areas.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Wildfire	Both	Project	HMA
2	<u>Goal for Property Protection:</u> Protect structures and their occupants and contents from the damaging effects of natural hazards.					
2.1	<u>Building Relocation.</u> Relocate buildings out of hazardous flood areas to safeguard against damages and establish permanent open space.					
2.1.1	Relocate buildings out of hazardous flood areas, with emphasis on pre-FIRM residential buildings, where deemed more cost effective than property acquisition or building elevation.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.2	<u>Acquisition.</u> Acquire flood prone buildings and properties and establish permanent open space.					

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
2.2.1	Acquire and demolish flood prone or substantially damaged structures and replace with permanent open space.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.2.2	Utilize the most recent NFIP repetitive loss property list, and other appropriate sources, to create and maintain a prioritized list of acquisition mitigation projects based on claims paid.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.3	<u>Building Elevation.</u> Elevate buildings in hazardous flood areas to safeguard against damages.					
2.3.1	Elevate certain buildings in flood prone areas where acquisition or relocation is not feasible, with emphasis on Pre-FIRM buildings; where feasible, elevation is preferable to flood proofing.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.3.2	Repair, elevate and weatherize existing homes for low- to moderate-income families.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.4	<u>Flood Proofing.</u> Encourage flood proofing of buildings in hazardous flood areas to safeguard against damages.					
2.4.1	Flood proof pre-FIRM non-residential buildings, where feasible.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
2.5	<u>Building Retrofits.</u> Retrofit vulnerable buildings to protect against natural hazards damages, including flooding, high winds, tornadoes, hurricanes, severe storms, and earthquakes.					
2.5.1	Retrofit existing buildings, critical facilities, and infrastructure against potential damages from natural and manmade hazards.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding, Tornadoes, Hurricanes, Severe Storms and Earthquakes	Existing	Action	HMA
2.5.2	Provide technical advisory assistance to building owners on available building retrofits to protect against natural hazards damages.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding, Tornadoes, Hurricanes, Severe Storms and Earthquakes	Existing	Action	Existing

Goals, Objectives and Mitigation Measures	Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source	
2.6 <u>Hazard Insurance Awareness.</u> Increase public awareness of flood insurance and special riders that may be required for earthquake, landslide, sinkhole, and other damages typically not covered by standard property protection policies.						
2.6.1	Promote the purchase of insurance coverage by property owners and renters for flood damages in high-risk areas.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Existing	Action	Existing
2.7 <u>Critical Facilities Protection.</u> Protect critical facilities from potential damages and occupants from harm in the event of hazards through retrofits or relocations of existing facilities located in high-risk zones or construction of new facilities for maximum protection from all hazards.						
2.7.1	Install lightning and/or surge protection on existing critical facilities.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Severe Storms	Existing	Project	TBD
2.7.2	Conduct ongoing tree trimming programs along power lines	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Hurricanes, Tornadoes, Severe Storms	Existing	Project	TBD
2.8 <u>Back Up Power:</u> Assure uninterrupted power supplies during emergency events.						
2.8.1	Install backup power generators for critical facilities.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Hurricanes, Tornadoes, Severe Storms	Existing	Project	HMA
3 <u>Goal for Public Education and Outreach.</u> Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property.						
3.1 <u>Map Information.</u> Increase public access to Flood Insurance Rate Map (FIRM) information.						
3.1.1	Publicize the availability of FIRM information to real estate agents, builders, developers, and homeowners through local trade publications and newspaper announcements.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.2 <u>Outreach Projects.</u> Conduct regular public events to inform the public of hazards and mitigation measures.						

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
3.2.1	Continue to participate in environmental awareness events to provide the public information on hazard exposure and mitigation measures, such as City/County Day, Hurricane Awareness Week, and Severe Weather Week.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.2.2	Conduct materials distribution, via the internet and other media, and other outreach activities and workshops to encourage families and individuals to implement hazard mitigation measures in their homes.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Existing	Action	Existing
3.2.3	Promote disaster resilience within the business community through workshops, educational materials and planning guides, intended to assist business owners in recovering from a disaster event in a timely manner.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.2.4	Distribute outreach materials to citizens, builders and business owners inquiring about a flood problem, a building permit or other natural hazard related questions.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
3.4	<u>Library.</u> Use local library resources to educate the public on hazard risks and mitigation alternatives.					
3.4.1	Through local libraries, maintain and distribute free and current publications from FEMA, NWS, USGS, and other federal and state agencies.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.5	<u>Education Programs.</u> Use schools and other community education resources to conduct programs on topics related to hazard risks and mitigation measures.					
3.5.1	Distribute hazard mitigation brochures to students through area schools.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.6	<u>Community Hazard Mitigation Plan Distribution.</u> Distribute the hazard mitigation plan to elected officials, interested agencies and organizations, businesses, and residents, using all available means of publication and distribution.					
3.6.1	Distribute the 2010 plan to local officials, stakeholders, and interested individuals through internet download.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.7	<u>Technical Assistance.</u> Make qualified local government staff available to advise property owners on various hazard risks and mitigation alternatives.					

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
3.7.1	Provide technical assistance to homeowners, builders, and developers on flood protection alternatives.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
3.8	<u>Mass Media Relations.</u> Utilize all available mass media, such as, newspapers, radio, TV, cable access, internet blogs, podcasts, video sharing, and on-line social networking to increase public awareness and distribute public information on hazard mitigation topics.					
3.8.1	Maintain appropriate media relationships to ensure the public is informed of hazard threats and means to mitigate property damages and loss of life.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.9	<u>Weather Radios.</u> Improve public access to weather alerts.					
3.9.1	Promote the use of weather radios in households and businesses.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.9.2	Require the installation of weather radios in all public buildings and places of public assembly.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.9.3	Distribute weather radios and emergency response instructions to municipal residents.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Action	Existing
3.10	<u>Disaster Warning.</u> Improve public warning systems.					
3.10.1	Upgrade siren-warning systems to provide complete coverage to all jurisdictions.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Project	HMA
3.10.2	Upgrade critical communications infrastructure.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	All	Both	Project	HMA

	Goals, Objectives and Mitigation Measures	Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
4	Goal for Natural Resources 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.					
4.1	Open Space Easements and Acquisitions. Acquire easements and fee-simple ownership of environmentally beneficial lands, such as hillsides, flood plains, and wetlands to assure permanent protection of these natural resources.					
4.1.1	Increase open space acquisitions through the FEMA HMA Grant Programs and other flood plain acquisition efforts.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Project	HMA
4.2	River/Stream Corridor Restoration and Protection. Restore and protect river and stream corridors within areas.					
4.2.1	Keep builders and developers informed of Federal wetlands permitting requirements of the Corps of Engineers.	Chambers County, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Other
4.2.2	Adopt and/or enforce regulations prohibiting dumping and littering within river and stream corridors.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Existing	Action	Existing
4.3	Urban Forestry Programs. Maintain a healthy forest that can help mitigate the damaging impacts of flooding, erosion, landslides, and wild fires within urban areas.					
4.3.1	Utilize technical assistance available from the Alabama Cooperative Extension System with Best Management Practices (BMP).	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding, Wildfires, Landslides	Existing	Action	Existing
4.4	Water Resources Conservation Programs. Protect water quantity and quality through water conservation programs to mitigate the effects of droughts and assure uninterrupted potable water supplies.					
4.4.1	Enforce water use restrictions during periods of drought to conserve existing water supplies.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Droughts/heat waves, wildfires	Both	Action	Existing
5	Goal for Structural Projects. Construct projects and apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where feasible, cost effective, and environmentally suitable.					

Goals, Objectives and Mitigation Measures		Communities	Hazards Addressed	Affects New or Existing Buildings or Infrastructure	Action or Project	Funding Source
5.1	<u>Drainage System Maintenance.</u> Improve maintenance programs for streams and drainage ways.					
5.1.1	Prepare and implement standard operating procedures and guidelines for drainage system maintenance.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Action	Existing
5.2	<u>Reservoirs and Drainage System Improvements.</u> Control flooding through reservoirs and other structural improvements, where deemed cost effective and feasible, such as levees/floodwalls, diversions, channel modifications, dredging, drainage modifications, and storm sewers.					
5.2.1	Construct drainage improvements to reduce or eliminate localized flooding in identified problem drainage areas.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Flooding	Both	Project	HMA
5.3	<u>Community Shelters and Safe Rooms:</u> Provide shelters from natural hazards for the safety of community residents.					
5.3.1	Construct new community safe rooms in accessible locations and add safe rooms within new and existing public and institutional buildings, such as schools, colleges and universities, senior centers, community centers, hospitals, and government buildings.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Hurricanes, Tornadoes, Severe Storms	New	Project	HMA
5.3.2	Establish a program for subsidizing safe room and storm shelter construction in appropriate locations and facilities.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Hurricanes, Severe Storms	Existing	Project	HMA
5.3.3	Encourage the construction of safe rooms in new and existing homes and buildings.	Chambers County, Cusseta, Five Points, LaFayette, Lanett, Valley, Waverly	Tornadoes, Hurricanes, Severe Storms	Both	Project	HMA

Chapter 7 – Plan Maintenance Process

- 7.1 Federal Requirements for the Plan Maintenance Process
- 7.2 Summary of Plan Updates
- 7.3 Monitoring, Evaluating and Updating the Mitigation Plan
- 7.4 Incorporation of the Mitigation Plan into Other Planning Mechanisms
- 7.5 Continuing Public Participation in the Plan Maintenance Process

7.1 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:

(4) *A plan maintenance process that includes:*

- (i) *A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.*
- (ii) *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.*
- (iii) *Discussion on how the community will continue public participation in the plan maintenance process.*

7.2 Summary of Plan Updates

Table 7-1 summarizes changes made to the plan as a result of the 2011 plan update:

Table 7-1. Summary of Plan Updates

Section		Change
7.3	Monitoring, Evaluating, and Updating the Mitigation Plan	More active monitoring and streamlined plan amendment process; revised guidance for annual evaluation of plan status; refined and updated process.
7.4	Incorporation of the Mitigation Plan into Other Planning Mechanisms	Five-year compilation and review of all local planning mechanisms.

Section		Change
7.5	Continuing Public Participation in the Plan Maintenance Process	New public participation opportunities to be continuously monitored and annually evaluated.

7.3 Monitoring, Evaluating, and Updating the Mitigation Plan

7.3.1 Ongoing Monitoring of the Plan

The Hazard Mitigation Planning Committee’s (HMPC) ongoing review process throughout the year should continually monitor the current status of the mitigation measures scheduled for implementation. Ongoing status reports of each jurisdiction’s progress will be reviewed by the EMA Deputy Director and representatives from the HMPC and should include 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 review process may require adjustments to the selection of mitigation measures, priorities, timelines, lead responsibilities, and funding sources scheduled in the “Community Action Programs.” 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 by majority vote of a quorum of HMPC members. Conditions that might warrant amendments to this plan would include, but not be limited to, special opportunities for funding and response to a natural disaster. A copy of the plan amendments will be submitted by the Chambers County EMA to all jurisdictions in a timely manner and filed with the Alabama EMA.

7.3.2 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 Chambers 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 the 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.

The HMPC will oversee an annual evaluation of progress towards implementation of the Mitigation Strategy. Any discussions and reports by the HMPC should be documented. When the plan is next revised, the evaluation findings can clearly justify and explain any revisions. In its annual review, the HMPC should discuss the following topics to determine the effectiveness of the implementation actions and the need for revisions to the Mitigation Strategy:

- 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?

The HMPC may create subcommittees to oversee and evaluate plan implementation. This will be done at the Committee's discretion.

7.3.3 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 in Section 7.3.2, 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.

The Chambers County EMA 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. The EMA will then convene the HMPC and, with the assistance of EMA staff or a consultant, as deemed necessary, carry out the steps necessary to update the plan.

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

- Step 1. Review of the most recent FEMA local mitigation planning requirements and guidance.
- Step 2. Evaluation of the existing planning process and recommendations for improvements.
- Step 3. Examination and revision of 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. Evaluation of existing plan maintenance procedures and recommendations for 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 the Alabama EMA 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.

7.4 Incorporation of the Mitigation Plan into Other Planning Mechanisms

This plan supplements the most recent edition of the Chambers County Emergency Operations Plan, which is administered through the Chambers County Emergency Management Agency. Further, each governmental entity will be responsible for implementation of their individual Community Mitigation Action Programs based on priorities, funding availability, capabilities, and other considerations described in Chapter 6 – “Mitigation Strategy.” Because the 2011 Chambers County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan, the mechanisms for implementation of the various mitigation measures through existing programs may vary by jurisdiction. Each

jurisdiction's unique needs and capacities for implementation are reflected in its respective mitigation action program.

The Hazard Mitigation Planning Committee 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 Chambers County Emergency Operations 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. This type of evaluation was performed in the 2011 update and should follow in the next update cycle.

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 Chambers County EMA's commitment to full integration of multi-hazard mitigation planning into its comprehensive emergency operations planning program and associated public emergency management activities, to the furthest possible extent.

7.5 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 Hazard Mitigation Planning Committee 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, copies of this 2011 Chambers County Multi-Hazard Mitigation Plan will be maintained in the offices of the Chambers County EMA and the principal offices of all of the jurisdictions that participated in the planning process. After adoption, a public information notice will inform the public that the plan may be viewed at these

offices or on the Web. The Chambers County EMA website at <http://www.chamberscounty911.com> contains a link to download an on-line copy of the plan. Public comments can be received by the Chambers County EMA by telephone, mail, or e-mail.

Public meetings will be held when significant modifications to the plan are required or when otherwise deemed necessary by the Hazard Mitigation Planning Committee. The public will be able to express their concerns, ideas, and opinions at the meetings. At a minimum, public hearings will be held during the annual and five-year plan updates and to present the final plan and amendments to the plan to the public before adoption. Public opinion surveys are conducted during the community meetings and public involvement activities required for the five-year update and may be periodically administered by the Chambers County EMA.

Extensive public involvement activities initiated by the 2011 planning process are well documented in Appendix H - "Community Involvement Documentation." Many of these activities will continue throughout the five-year implementation cycle and be evaluated for effectiveness at least annually by the Hazard Mitigation Planning Committee. Moreover, the public outreach goal of this plan and the associated objectives and mitigation measures commit each locality 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.