

Florence-Lauderdale Multi-Hazard Mitigation Plan

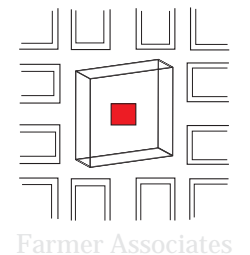
March 10, 2010

DRAFT

Text in italics and/or in red color are meant for the finally adopted plan and act only in draft form for plan developers, participants and reviewers. This text will be modified upon approval by Alabama EMA, FEMA, Florence-Lauderdale EMA and the planning jurisdictions.



Funding for this mitigation process is provided through the FEMA Hazard Mitigation Grant Program by:
Alabama Emergency Management Agency (AEMA)
&
The Florence-Lauderdale Emergency Management Agency



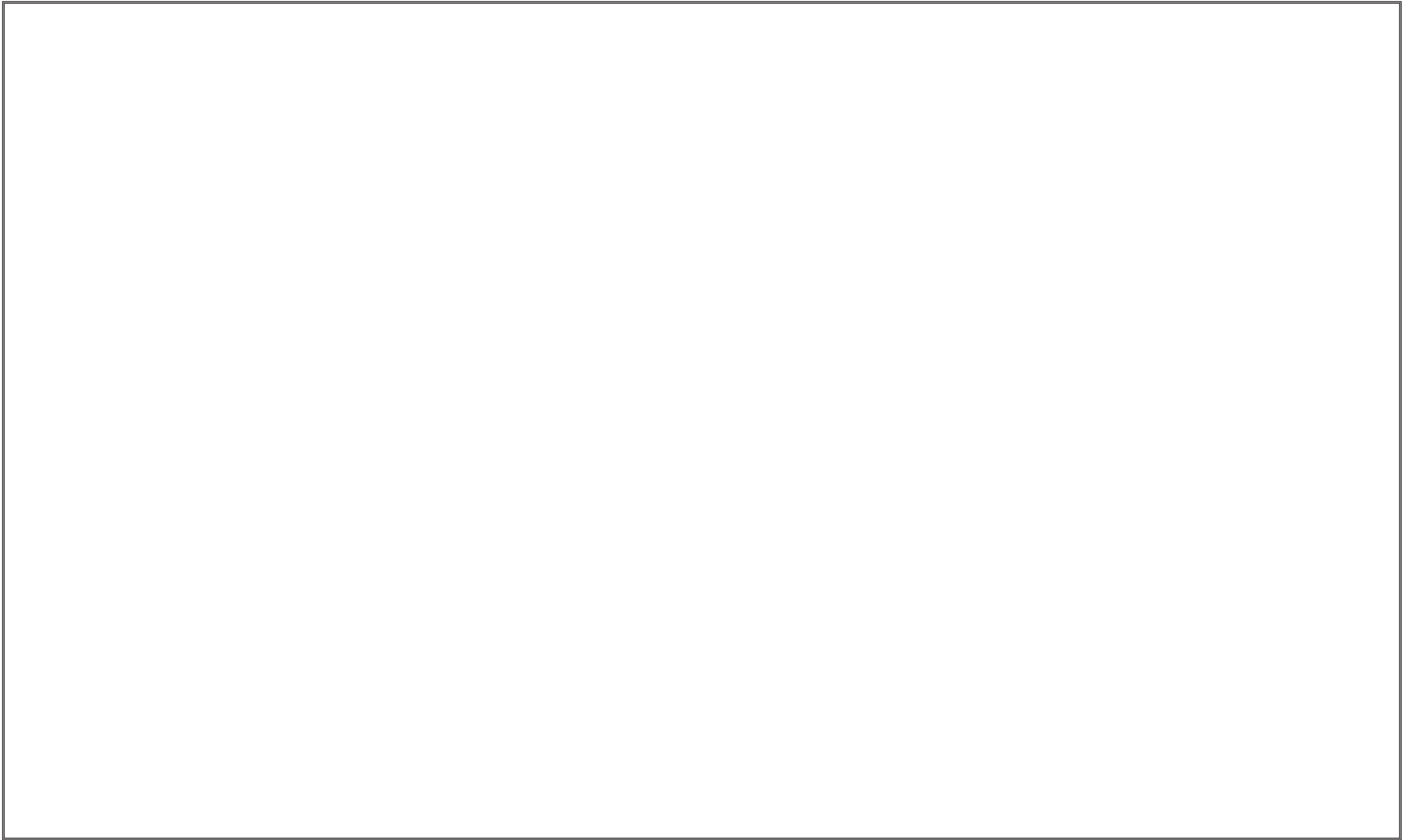


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Authority

This document is created under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U.S. C. 5165. Hazard Mitigation Planning to mitigate natural disasters is a requirement of the Stafford Act in order for local jurisdictions to receive disaster mitigation funds. Natural Hazard Mitigation Planning is the process of reducing or eliminating the loss of life and property damage resulting from natural hazards such as floods, tornadoes, earthquakes and other events. Man Made Hazard Mitigation is the process of reducing or eliminating the loss of life and property damage resulting from man made hazards.

Funding

Funding for the preparation and development of this plan was provided in part by the Federal Emergency Management Agency (FEMA) through a grant awarded by the Alabama Emergency Management Agency (AEMA) to the Florence-Lauderdale Emergency Management Agency (F-L EMA) and the Lauderdale County Commission.

Background

Preparation and development of this document began in early 2009 with planning and document content development with the Hazard Mitigation Planning Team. The team is composed of George M. Grabryan Jr., Director Florence-Lauderdale EMA • Melissa Bailey, Director, Florence Planning Department • Mark Senf, Florence-Lauderdale EMA • Ben Smith, Florence Planning Department • Tina Irons, Florence Planning Department • Benjamin Farmer, Farmer Associates • Randall Morgan, Farmer Associates.

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Introduction & Executive Summary

- I.1 Purpose of This Plan
- I.2 Planning Process
- I.3 Grant Assistance Eligibility
- I.4 2010 Mitigation Plan Update
- I.5 Executive Summary
- I.6 Planning Study Area
- I.7 Modifications to Plan Update 2004 to 2010

I.1 Purpose of This Plan

This plan is designed to identify the potential natural disaster risks within Lauderdale County (Planning Study Area) and then propose mitigation strategies for reducing their impact. The plan contains six chapters which contain valuable information for mitigating risks within the study area. Chapter 4 is the Risk Assessment which covers each identified hazard that may affect Lauderdale County and its incorporated jurisdictions. Chapter 5 contains the mitigation strategies for reducing the affects of the identified hazards. The mitigation strategies are the crucial part of reducing risk of natural and technical hazards within the county. Identifying and then mitigating the identified natural and technical hazards is the sole purpose of this document. Heavy emphasis is placed on reducing the affect of risks associated with hazards through the mitigation strategies selected by each jurisdiction.

I.2 Planning Process

The Florence-Lauderdale Multi-Hazard Mitigation Plan has been developed through citizen envisioned goals and objectives. The goals and objectives were obtained through public meetings that were held throughout the summer and fall of 2009. In addition, the development of this document has been directed by the Hazard Mitigation Policy Committee for Lauderdale County. Additional participants to the 2010 plan include the University of North Alabama, The Lauderdale County School System, and the

City of Florence School System. Each of these entities was not a participating jurisdiction in the 2004 plan but is a participating jurisdiction in the 2010 plan.

I.3 Grant Assistance Eligibility

Development and adoption by all participating jurisdictions continues eligibility of the local EMA and each of the jurisdictions to apply and receive grant assistance for mitigation and response to natural disasters. The following federal technical assistance and funding will be available for application:

Emergency Management Performance Grants: To encourage the development of comprehensive emergency management including for terrorism consequence management at the State and local level and to improve emergency management planning, preparedness, mitigation, response, and recovery capabilities.

Flood Mitigation Assistance Program: To help States and communities plan and carry out activities designed to reduce the risk of flood damage to structures insurable under the NFIP.

Hazard Mitigation Grant Program (HMGP): To prevent future losses of lives and property due to disasters to implement State or local hazard mitigation plans to enable mitigation measures to be implemented during immediate recovery for a disaster and to provide funding for previously identified mitigation measures to benefit the disaster area.

The Pre-Disaster Mitigation Grant Program (PDM): The Pre-Disaster Mitigation (PDM) program provides funds 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.

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.

The Repetitive Flood Claims (RFC) Program: The Repetitive Flood Claims (RFC) grant program has \$10 million annually to assist States and communities in reducing flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).

The Severe Repetitive Loss Program (SRL): The Severe Repetitive Loss (SRL) grant program was authorized 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).

I.3 2010 Mitigation Plan Update

The F-L EMA convened the Hazard Mitigation Policy Committee in the Spring 2009 to initiate the 2004 Multi-Jurisdictional Pre-Natural Disaster Hazard Mitigation Plan. This 2004 plan began its development in March 2003 and was completed in the Summer 2004. The plan addressed natural disasters identified by the planning committee and those determined to have impact in Lauderdale County.

The Hazard Mitigation Planning Committee of the 2004 plan was revised to establish the Hazard Mitigation Policy Committee consisting of those representatives of incorporated jurisdictions. These jurisdictions and private sector entities have the ability to create and enforce policy that implements identified mitigation strategies. In this manner, it is believed that hazard mitigation

within Lauderdale County can be enforced through daily operations and planning of each local government.

I.5 Executive Summary

Chapter 1: Document Prerequisites

The prerequisites chapter reviews the adoption procedures for grant eligibility. In addition, the participating communities of the planning study area are outlined and consist of: Lauderdale County, Town of Anderson, City of Florence, Town of Killen, Town of Lexington, Town of Rogersville, Town of St. Florian, Town of Waterloo.. The none jurisdictional entities consisting of school systems and local universities are identified. Plan adoption will occur after the draft version has been reviewed by the Alabama Emergency Management Agency (AEMA) and the Federal Emergency Management Agency (FEMA).

Chapter 2: Jurisdictional Context

This chapter provides a narrative description of the planning study area as well as the compositional makeup of the county and each incorporated jurisdiction. The Lauderdale County median household income is \$37,981.00 in comparison to the State estimate of \$40,596.00. Lauderdale County is served by the Northwest Alabama Regional Airport and contains U.S. Highway 72 and U.S. Highway 43. Caucasians compose 88% of the racial demographic within the county. Total population in the county is estimated to be 89,128 in 2008. There are 16% of the persons above the age of 25 with a bachelors degree and 8% receiving graduate or professional degrees.

Chapter 3: Planning Process

The planning process chapter describes the plan involvement from local entities, adjacent communities and

EMA jurisdictions. Opportunities for public comment occurred on the following dates: 6-22-09, 6-24-09, 6-30-09, 7-9-09, 7-23-09, 10-14-09, and 10-15,09. Visual preference surveys, hazard mitigation surveys and worksheets were also used to receive input. The policy committee is designed to implement the identified mitigation strategies for reducing or preventing natural and technical hazards.

Chapter 4: Risk Assessment

The Risk Assessment section contains the identification of jurisdictional hazards. Each identified hazard contains a description and profile of the natural or technical hazard. The description and profile is generally contained to one page with the exception of flooding. Flooding has the greatest frequency and economic impact of any hazard affecting Lauderdale County. In addition, the chapter addresses repetitive loss properties that occur within the study area. Furthermore, each jurisdiction identified critical facilities in conjunction with the HAZUS-MH MR-4 analysis for building occupancy type. Potential losses were estimated for each identified hazard. This estimation was completed through the use of annualized data (discussed in the hazard profile) and disaster scenarios run through storm models using HAZUS-MH. The HAZUS-MH MR-4 Flood/Riverine scenario required a total time of 182 hours, 58 minutes, 40 seconds. The flood analysis model was completed in 1 hour, and 21 seconds. Finally, local and regional development trends were reviewed for each jurisdiction and within Lauderdale County. It is recommended by the planning team that each jurisdiction focus development within its existing urban boundary. This recommendation is done to increase density and reduce costly infrastructure improvements to undeveloped areas.

Chapter 5: Mitigation Planning

Chapter 5 contains mitigation strategies that match the goals and objectives for the planning study area. The mitigation strategies are listed by the hazard that they

mitigate. Descriptions for each mitigation strategy are categorized within each the disaster type that is mitigated. It is important to note that there are no silver bullets for mitigating a potential disaster. Most disasters require multiple mitigation strategies for the reduction or prevention of casualties and/or economic loss.

Chapter 6: Plan Maintenance

This chapter outlines the policy committees intentions for plan maintenance in conjunction with the planning team and the participating jurisdictions. The planning process for hazard mitigation is a continuous cycle for monitoring, evaluating, and updating the multi-hazard mitigation plan. It is intended for the policy committee to meet four times a year to evaluate each jurisdiction accomplishments in mitigating natural disasters within their jurisdiction. The plan maintenance section defines a general agenda for these meetings and how to proceed with implementation over the next five years.

Appendices

The appendices contain documentation of community and public meetings including sign-in sheets, policy committee presentations and the sample worksheets, surveys and exercises.

I.6 Planning Study Area

The planning study area is contained within Lauderdale County located in Northwest Alabama. Lauderdale County has seven incorporated jurisdictions. The population is estimated at 89,128 for 2008 and has a land area of 688 square miles. The Florence-Lauderdale EMA is the lead mitigation planning agency within the county and assists the entire planning study area in implementing hazard mitigation planning strategies.

I.7 Modifications to Plan Update 2004 to 2010

Chapter 1: Document Prerequisites

The document prerequisites chapter is new to the Lauderdale County hazard mitigation planning process and document. This section outlines the defined requirements for plan development and adoption as described within the FEMA Hazard Mitigation Planning Guidance. This section does contain some elements of the 2004 plan that include grant eligibility and plan adoption requirements.

Chapter 2: Jurisdictional Context

The jurisdictional context section is recommended within the planning guidance. This section describes the demographic and geographic conditions of the planning study area. Within the 2004 plan, the jurisdictional description is placed when needed within the document and does not offer a dedicated chapter for this information.

Chapter 3: Planning Process

Updates to the planning process section include modifications to the Hazard Mitigation Steering Committee

formation. The planning committee is now the Hazard Mitigation Policy Committee composed of representatives from incorporated jurisdictions and non-governmental entities. The public involvement process expanded the type and amount of public involvement meetings for receiving plan input. In addition, the scope and breadth of plans for precedent study and plan integration were expanded. The use of visual preference surveys for receiving general public input enabled the planning team to gauge the political will of citizens in using specific mitigation strategies.

Chapter 4: Risk Assessment

The 2004 risk assessment separated the hazard profile and hazard description portions. The plan update combines the hazard description and hazard profile within each hazard and dedicates a single page for each hazard identified to affect Lauderdale County.

The probability assessment in the 2004 plan is called estimating potential losses in the plan update. The estimating potential losses section evaluates critical facility losses and general economic damages using HAZUS-MH MR-4. The HAZUS storm models were applied to flooding, hurricanes and earthquakes. Previous potential losses were gauged using annual data assessments and local property information. This method is described within the hazard profile. However, the HAZUS analysis is used here to provide further information to gauge possible impacts from particular disasters. The HAZUS storm modeling process for the plan update has identified particular data sets that need to be gathered for future planning analysis. Additional data will allow for continued refinement of the hazard mitigation risk assessment.

Critical facilities were updated through policy committee members. These updates are reflected in the critical facilities maps and tables located on pages 40 through 49.

The land use development trends section is revised in the plan update. This revision changes the 2004 estimated growth boundary expansion to refocus municipal growth on redevelopment of under utilized and abandoned properties.

Chapter 5: Mitigation Planning

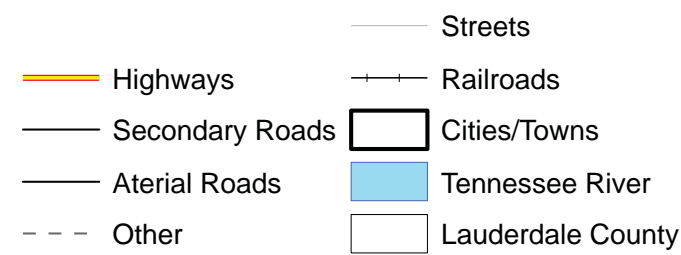
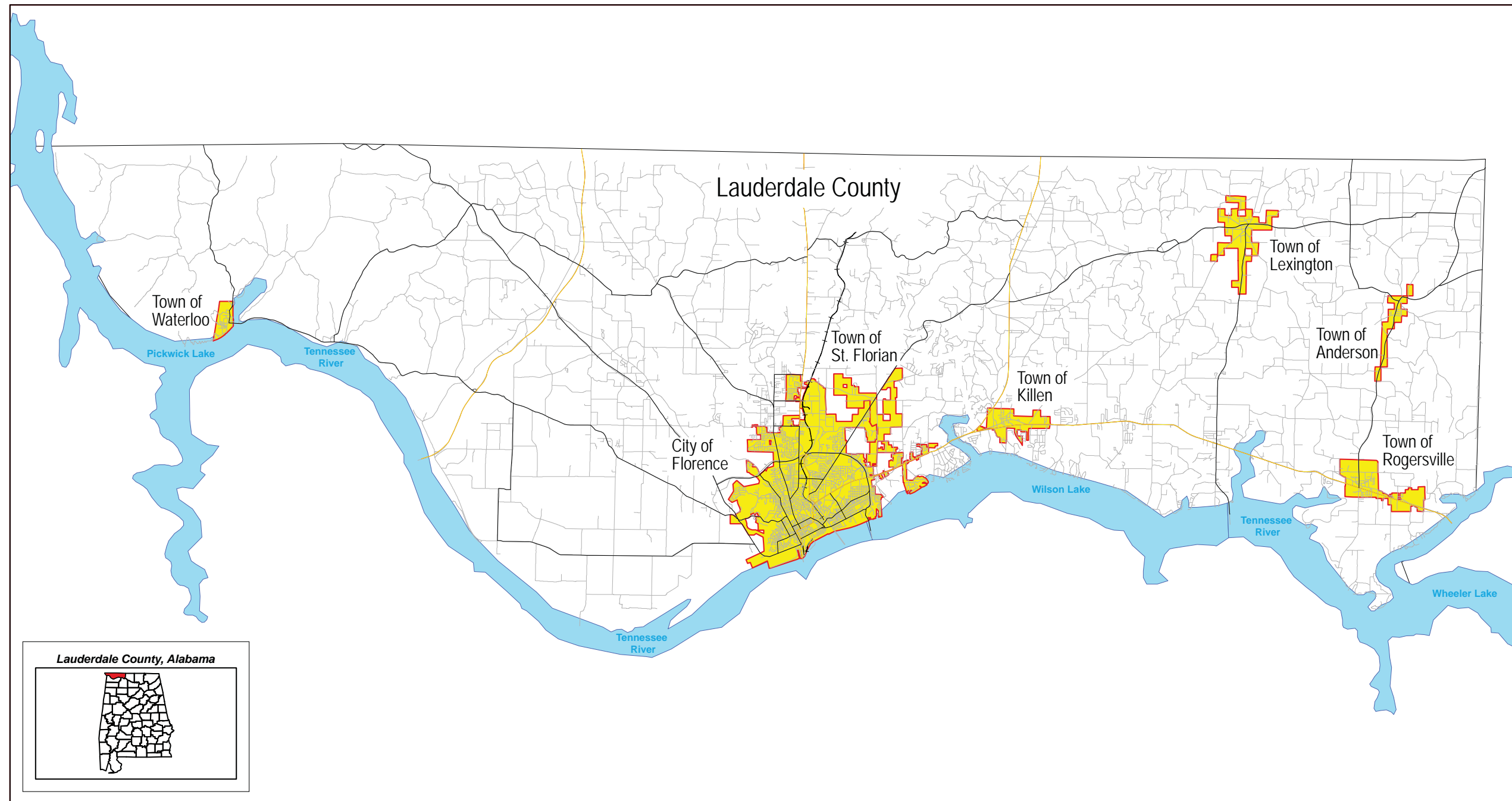
The mitigation strategies chapter has been modified to include blocks of text accompanied by graphic representations. The listed mitigation strategies were presented to the policy committee. Each member selected mitigation strategies that they felt were achievable within their community, entity, or jurisdiction. The mitigation strategies are listed under each of the identified hazards that they will mitigate. In addition, the mitigation strategies that individual jurisdictions are capable of implementing or pursuing are organized by jurisdiction.

The listed mitigation strategies in the 2004 plan were included in the expansion of the mitigation strategy choices in the 2010 plan.

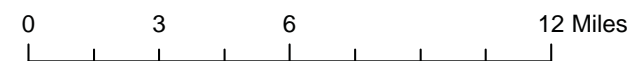
Finally, the evaluation of previous actions taken is shown in the mitigation strategies chapter for the plan update.

Chapter 6: Plan Maintenance

The plan maintenance section for the plan update continues the 2004 planning cycle with one exception. The planning committee in the 2004 plan was scheduled to meet twice within a one year period. The plan update recommends the policy committee meet quarterly so that members can be familiar with ongoing mitigation strategies. This change is important due to many of the mitigation strategies taking years to implement. It is also recommended that the policy committee celebrate its accomplishments over a prior year. This celebration is done in order to acknowledge the work that has been completed and to look ahead to the work yet to be undertaken.



Multi-Jurisdictional Mitigation Planning Study Area



Document Prerequisites:

- DP.1 Jurisdictional Adoption for Grant Eligibility
- DP.2 Multi-Jurisdictional Planning Participation
- DP.3 Multi-Jurisdictional Plan Adoption

DP.1 Jurisdictional Adoption for Grant Eligibility

Approval of the Florence-Lauderdale Multi-Jurisdictional Hazard Mitigation Plan (F-L MJHMP) is the first step in continuing eligibility for grant assistance to be available to the participating jurisdictions.

Grant assistance requiring hazard mitigation planning to be undertaken include:

1. Hazard Mitigation Grant Program (HMGP)
2. Pre-Disaster Mitigation (PDM)
3. Flood-Mitigation Assistance (FMA)
4. Severe Repetitive Loss (SRL)

The hazard mitigation plan must receive approval by the Federal Emergency Management Agency (FEMA) prior to being adopted by the participating jurisdictions. Each local jurisdictions must then adopt the approved plan and submit the adoption resolutions to FEMA. The Alabama Emergency Management Agency (AEMA) acts as the representative for FEMA in the State of Alabama. AEMA acts as the planning recipient and receives the adoption resolutions.

- Adoption resolution process must take place within 12 months of formal FEMA/ AEMA approval.
- Without approval by FEMA/ AEMA the local jurisdiction or academic institution cannot apply for or receive grants under the FEMA hazard mitigation programs.

DP.2 Multi-Jurisdictional Planning Participation

The Florence-Lauderdale Emergency Management Agency (F-L EMA) is the coordinating agency for mitigation planning in Lauderdale County. The F-L EMA has established the EMA Policy Committee to guide the direction of the planning team and its development of this document. In addition, the policy committee directs and measures implementation of the adopted 2010 Florence-Lauderdale Multi-Jurisdictional Hazard Mitigation Plan (F-L MJHMP). The policy committee has worked in all the jurisdictions in Lauderdale County to implement the 2004 Lauderdale County Multi-Jurisdictional Pre-Natural Disaster Hazard Mitigation Plan. All eight jurisdictions in the 2004 plan have continued to participate in development of the 2010 plan.

The participating jurisdictions are:

- | | |
|-------------------------------------|---------------------------------------|
| • Lauderdale County
256-760-5750 | • Town of Waterloo
256-764-3237 |
| • City of Florence
256-760-6400 | • Town of St. Florian
256-767-3690 |
| • Town of Killen
256-757-1246 | • Town of Lexington
256-229-5221 |
| • Town of Anderson
256-247-3350 | • Town of Rogersville
256-247-0861 |

The participating jurisdictions contain non-jurisdictional entities that include public sector agencies, academia, non-profits, as well as private sector business interests. Each of these interests has been involved in the development and input of the 2010 plan. Academic institutions for this plan include universities as well as local school systems. Participating academic institutions include:

- University of North Alabama
 - a. President's Office 256-765-4211
- Lauderdale County School System: 256-760-1300
 - a. Allen Thornton Career Technical Center (256-757-2101)
 - b. Anderson Junior High (256-247-5673)
 - c. Brooks Elementary School (256-757-2171)
 - d. Books High School (256-757-2115)

- e. Central School (256-764-4816)
- f. Cloverdale Junior High School (256-764-4816)
- g. Lauderdale County High School (256-247-3414)
- h. Lexington High School (256-229-6622)
- i. Rogers High School (256-757-3106)
- j. Underwood Elementary School (256-764-8939)
- k. Waterloo High School (256-766-3100)
- l. Wilson School (256-764-8470)

- City of Florence School System: 256-768-3000
 - a. Florence High School (256-768-2200)
 - b. Florence Freshman Center (256-768-2400)
 - c. Florence Middle School (256-768-3100)
 - d. Hibbett Middle School (256-768-2800)
 - e. Forest Hills Elementary School (256-768-2500)
 - f. Harlan Elementary School (256-768-2700)
 - g. Weeden Elementary School (256-768-2900)
 - h. Handy Head Start (256-768-3400)

44 CFR § 201.2 Definition of Local Government:

Definitions

Local government is any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.

The hazard mitigation policy committee and the planning team developed a comprehensive strategy for citizen participation to guide future mitigation strategies in Lauderdale County and the participating jurisdictions. The following activities occurred within the plan development period. Detailed information is provided in the appendix

- Hazard mitigation planning team review and plan development preparation team meeting. 06-22-09
- Hazard mitigation policy committee review and plan contents workshop. 06-24-09
- Hazard mitigation citizen and stakeholder involvement meeting in west Lauderdale County. Meeting hosted by the Town of Rogersville at the Rogersville Senior Center. 06-30-09
- Hazard mitigation citizen and stakeholder involvement

meeting in east Lauderdale County. Meeting hosted by the Town of Waterloo at the Waterloo Community Center. 07-9-09.

- Hazard mitigation citizen and stakeholder involvement meeting in central Lauderdale County. Meetings hosted by the City of Florence at the Florence Municipal Auditorium at 11:00 a.m. and 6:00 p.m. 07-23-09
- Prioritization of hazard mitigation issues & identification of mitigation strategies with policy committee members. 09-30-09
- On site follow up of mitigation strategies with the local jurisdiction of Town of Waterloo, Town of Killen, and City of Florence. 10-14-09
- On site follow up of mitigation strategies with the local jurisdictions of Town of Lexington, Town of Killen, Town of Anderson, Town of Rogersville. 10-15-09
- Visual preference survey of potential natural hazards & technical hazards. Visual preference survey of potential mitigation strategies for mitigating the identified hazards. Visual preference survey provides a series of images that represent the hazard or mitigation strategy. Participating citizens are then able to prioritize the potential hazards as well as present a preference of mitigation strategies to be used within the planning jurisdiction 11-10-09.
- Distribution for comment of the draft plan for citizen participants and stakeholders. Copies of the plan were distributed to each participating jurisdiction within Lauderdale County the week of January 4, 2010

DP.3 Multi-Jurisdictional Plan Adoption

The governing jurisdictions identified as participating in multi-jurisdictional hazard mitigation plan *will adopt* by resolution after FEMA/AEMA conditional plan approval. Adoption of this document will follow public notice and public hearing procedures. Adoption by each jurisdiction *will occur* within the twelve month period of notification by FEMA/AEMA of conditional approval. Final approval *will occur* after the certified plan for each participating jurisdiction have been received by FEMA/AEMA. This date initiates the formal adoption of the planning document. The Lauderdale County School System and the City of Florence School System have participated in plan development and *will adopt* the final FEMA/AEMA approved plan. *Copies of adoption resolutions are located in the appendix.*

44 CFR § 201.6 Local Mitigation Plans:

Federal Prerequisites

(a) Plan requirements.

(1) A local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants. The Administrator may, at his discretion, require a local mitigation plan for the Repetitive Flood Claims Program. 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. State-wide plans will not be accepted as multi-jurisdictional plans.

(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.



Citizens participating in the Mitigation Strategy Visual Preference Survey

Jurisdictional Context:

- JC.1 Narrative Description of Jurisdictions
- JC.2 Climate
- JC.3 Economic Data
- JC.4 Transportation
- JC.5 Demographic Data
- JC.6 Communications
- JC.7 Utilities

JD.1 Narrative Description of Jurisdictions

Lauderdale County

Lauderdale County was created on February 6, 1818 by the Alabama Territories Legislation. The county is named after Colonel James Lauderdale who died at the battle of Talladega in 1814. The county seat is The City of Florence with six other municipalities in the county. The U.S. Census Bureau population estimates for 2008 place Lauderdale County at 89,128 people. Lauderdale County is located in extreme northwestern Alabama. Lauderdale County is bounded on the west by Tishomingo County, Mississippi; on the north by Hardin, Wayne, Lawrence, and Giles Counties in Tennessee; on the east by Limestone County, Alabama, and to the south by Colbert and Lawrence Counties.

Lauderdale County covers 688 square miles of land and 31 square miles of water making a total of 719 square miles. The Key Cave National Wildlife Refuge and a portion of the Natchez Trace Parkway are contained within the county. The county seat is located approximately 120 miles north of Birmingham and approximately 65 miles west of Huntsville.

The Lauderdale County Commission is a five-member body four elected commissioners from two districts and the Probate Judge serving as chairman. The chairman only votes in the event of a tie vote. The county is divided into two districts with two commissioners being elected from each district.

The commission establishes policies and appoints a County

Administrator to implement the policies and manage the operation of the County.

The Commission adopts the millage rate annually and approves the budget, which determines the expenditures and revenue necessary to operate all Lauderdale County Departments.

Town of Anderson (2008 population: 354)

The Town of Anderson is situated along Anderson Creek. The Creek and Town are named for Samuel Anderson who operated a grist mill along the creek in the 1800's. Anderson incorporated as a town in 1973. The Town is located in northeastern Lauderdale County and is 1.3 square miles. Anderson is home to Anderson Junior High School, which is part of the Lauderdale County School System.

City of Florence (2008 population: 37,877)

Florence is the largest city in the Shoals area MSA. The MSA is composed of Muscle Shoals, Tuscumbia and Sheffield as well as other incorporated areas of Colbert and Lauderdale County. Florence was established by the Cypress Land Company in 1818 and was incorporated in 1826. The City is named after the Tuscan capital Florence, Italy. Florence is the birth place of W.C. Handy, the "Father of the Blues and the pioneering record producer Sam Phillips. The city is located in the south central part of Lauderdale County and borders the Tennessee River. Florence is 25 square miles and sits at an elevation of 548 feet above sea level. The City of Florence has a population density of 1,450 persons per square mile.

Town of Killen (2008 population: 1,142)

The Town of Killen was founded in 1896 and is located in south central Lauderdale County. The town has a total area of 1.9 square miles and is 610 feet above sea level. The town

has 435 households with a population density of 588 persons per square mile.

Town of Lexington (2008 population: 843)

The Town of Lexington is located in northeastern Lauderdale County. The town is 3.2 square miles with an elevation of 768 feet above sea level. There are 395 housing units in Lexington with an average density of 122 units per square mile.

Town of Rogersville (2008 population: 1,204)

Rogersville is located in Lauderdale County in Northwest Alabama. Rogersville is home to Joe Wheeler State Park located on the beautiful Tennessee River just south of the Rogersville business district. Outdoor recreational activities are a predominate lifestyle in Rogersville with sailing, hunting and fishing occurring along the Tennessee River. Rogersville is located in the eastern most part of Lauderdale County. Rogersville is 3.1 square miles at an elevation of 640 feet above sea level.

Town of St. Florian (2008 population: 139)

44 CFR § 201.6 Local Mitigation Plans:

Plan Content

Planning Process Special Considerations

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 socioeconomic, historic, and geographic profile to provide a context for understanding the mitigation actions that will be implemented to reduce the jurisdiction's vulnerability (Local Multi-Hazard Mitigation Planning Guidance, July, 1, 2008, p. 27).

German farmers settled St. Florian, a small agricultural town, around 1872. Father A.J. Heuser of the German Catholic Homestead Society of Cincinnati purchased the old Wilson Plantation and by the end of the decade he had recruited a colony of Germans from the Midwest and Northeast to settle in the area of rolling farmland. Since 1873 St. Michael’s Catholic Church has continued to serve the community. Today, St. Florian is 3 square miles with 129 households.

Town of Waterloo (2008 population: 210)

Waterloo, Alabama was the final point for Native Americans forcibly leaving Alabama via the Water Route on the infamous Trail of Tears. An historic marker honors the Native Americans who were forcibly removed from their homes, suffered and died on the way to Oklahoma. Waterloo is the last destination on the designated Alabama Trail of Tears Corridor. Waterloo is also the last stop on the annual Trail of Tears Commemorative Motorcycle Ride, one of the largest organized motorcycle rides in the U.S. Waterloo hosts an all-weekend Native American Pow Wow in conjunction with the motorcycle ride each year. The Town of Waterloo is located in the western most part of Lauderdale County and is adjacent to the Lauderdale Wildlife Management Area. Waterloo is .8 square miles and sets 466 feet above sea level.

JC.2 Climate

The mean annual temperature is 60.7 degrees. Average annual rainfall is 51.58 inches, and the average snowfall is 5 inches.

JC.3 Economic Data

Weather Variant	Degree F° Inches
Average Winter Temperature	42.6° F
Average Winter Minimum Temperature	31.7° F
Lowest Temperature Recorded	-13° F
Average Summer Temperature	78° F
Average Summer Maximum Temperature	90° F
Highest Temperature Recorded	108° F (1914 year)
Total Annual Precipitation	52.5 “
Heaviest One Day Rainfall	6.22” (1955 year)
Average Season Snowfall	5.0”

Source: Southeast Regional Climate Center

Industry Summary

The total number of employees located in Lauderdale County in the end of 2008 was 30,625. The largest major industry sector was Retail Trade (44 & 45) (with 17 percent of the employment) followed by Health Care and Social Assistance (with 15 percent) and Manufacturing (31-33) (with 12 percent).

Population Economics

The U.S. Census Bureau median household income estimated for Lauderdale County as of 2007 was \$37,981.00. This is in comparison to the State of Alabama median household income in 2007 estimate was \$40,596.00. The average weekly wage for Lauderdale County at the end of 2008 was \$587. This would be equivalent to \$14.68 per hour or \$30,524 per year assuming a 40-hour week worked year around. The average weekly wage for the State of Alabama was \$791.00. (Source: Alabama Department of Industrial Relations. ES202 Wage Unit, Summarized ES202 File).

- In 1999, 13.5% of Lauderdale County families lived below poverty level compared to 12.5% in Alabama and 9.6 % in the U.S. (Source: U.S. Census Bureau)

Major Employer Groups

Industry Group	Establishments	Employees
Retail Trade (44 & 45)	444	5,299
Health Care and Social Assistance	242	4,462
Manufacturing (31-33)	98	3,635
Accommodation and Food Services	158	3,334
Education Services	39	2,978
Admin., Support, Waste Mgmt, Remediation	77	1,817
Wholesale Trade	98	1,571
Public Administration	34	1,373
Construction	176	1,359
Professional Scientific & Technical Svc	197	889
Finance and Insurance	140	860
Other Services (except Public Admin.)	165	783
Transportation and Warehousing (48 & 49)	45	489
Information	27	487
Real Estate and Rental and Leasing	96	468
Utilities	9	341
Arts, Entertainment, and Recreation	22	263
Agriculture, Forestry, Fishing & Hunting	25	166
Management of Companies and Enterprises	12	51

Source: ES202 Wage Unit, Summarized ES202 File, Fourth Quarter 2008

- Median home value in Lauderdale County in 2008 was \$104,800 compared to \$114,700.00 in Alabama and \$192,400.00 in the U.S. (Source: U.S. Census Bureau)

JC.4 Transportation

Major Transportation Routes

Lauderdale County provides road and highway access by the following transportation routes:

- U.S. Highway 43
- U.S. Highway 72
- AL State Route 17
- AL State Route 20
- AL State Route 101
- AL State Route 157
- AL State Route 64
- AL State Route 207

- AL State Route 99
- AL State Route 133

Industrial Rail Lines: Tennessee Southern Railroad
Air Transportation:

Lauderdale County is served by the the Northwest Alabama Regional Airport which provides the Shoals with direct commuter service to Atlanta International Airport (ATL) via Delta. In addition, Huntsville International Airport (HSV), Nashville International Airport (BNA), and Birmingham International Airport (BHM) provide the air traveler with many choices for convenient air travel to anywhere in the world. Cargo by air is received at the inter-modal Center at the Huntsville International Airport and at the Memphis International Airport the world’s busiest airport for air cargo.

Waterways:

The Tennessee River bounds Lauderdale County to the south and contains Wheeler, Wilson and Pickwick Lakes. Smaller tributaries of the Tennessee River in Lauderdale County include:

- Cypress Creek
- Shoal Creek
- Elk River
- Second Creek
- First Creek
- Second Creek
- Anderson Creek
- Colbert Creek
- Panther Creek

JC.5 Demographic Data

Population Growth

Lauderdale County has seen increases in population growth over the previous census periods. Growth between 1990 and 2000 exceeded the current 2008 estimates. Current growth is estimated to be a 1% rate with a gain of 1,162 persons over the last eight years. The population change table above shows the populations changes for Lauderdale

Population Changes

Jurisdiction	1990	2000	Population Change	Percent Change	2008 Estimate	Population Change	Percent Change
Lauderdale County	79,661	87,966	8,305	9%	89,128	1,162	1%
Anderson	339	354	15	4%	354	0	0%
Florence	36,426	36,264	-162	-.25%	37,877	1,613	4%
Killen	1,047	1,119	72	6%	1,142	23	2%
Lexington	821	840	19	2%	843	3	.25%
Rogersville	1,125	1199	74	6%	1,204	5	.25%
St. Florian	388	335	-53	-16%	474	139	29%
Waterloo	250	208	-42	-20%	210	2	1%

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

County and the jurisdictions within the planning study area.

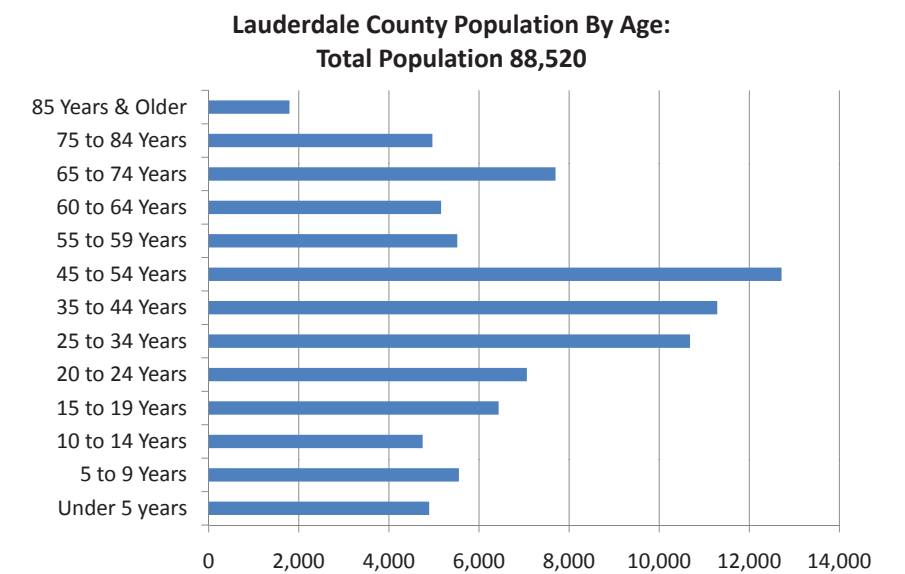
Population by Age

Census data for 2008 indicates that 69% of Lauderdale County citizens are over the age of 25. With 31% of the age group being under the age of 25, there will be future strains on resources within each jurisdiction within this and future planning periods. It is recommended that this plan and future mitigation efforts take strides to develop mitigation strategies to strengthen health care and elderly assistance programs. Age distribution is shown on the population census track maps.

Race & Gender Composition

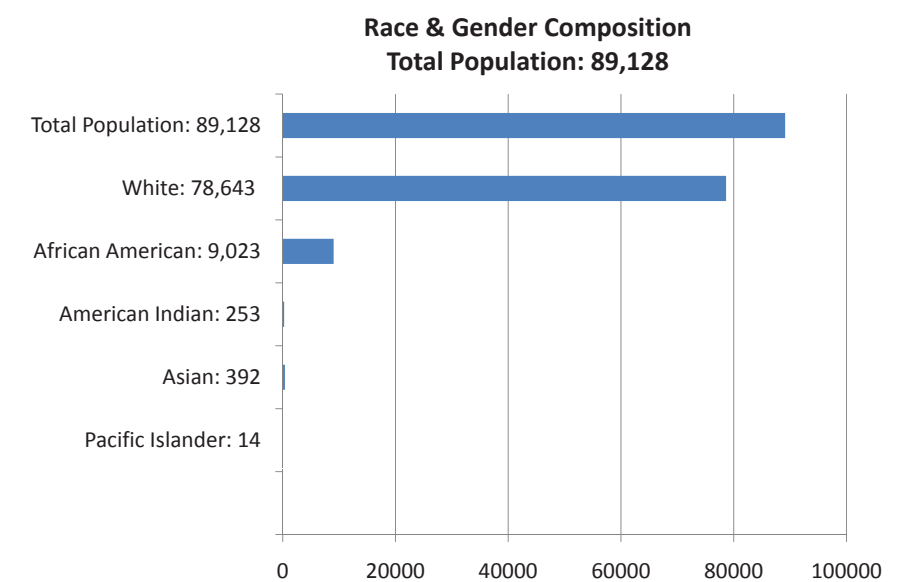
Whites compose 88% of the racial demographic in Lauderdale County. African-Americans compose 10% of the county racial makeup. The remaining 2% is outlined in the Race & Gender Composition chart below. The U.S. Census Bureau has a self designated classification for persons identifying an origin with Spanish or Hispanic heritage. There is not a separate designation for a Latino race.

Population Cohorts



Source: U.S. Census Bureau, 2006-2008 American Community Survey

Racial Composition



Source: U.S. Census Bureau, 2006-2008 American Community Survey

Education

The 19,453 persons with high school diplomas in Lauderdale County compose 32% of the 25 year and older population. There is 11% of the population without a high school diploma while 16% have received bachelor’s degrees with 8% receiving graduate or professional degrees.

JC.6 Communications

Television

The following providers have cable and satellite television capabilities within Lauderdale County.

- Comcast Communications
- AT&T
- Direct TV
- Dish Network
- Charter Cable

Newspaper

Times Daily of Florence, Alabama, is the main newspaper in Lauderdale County. In addition, citizens have daily access to the Huntsville Times and the Birmingham News. Furthermore, the East Courier Journal is available.

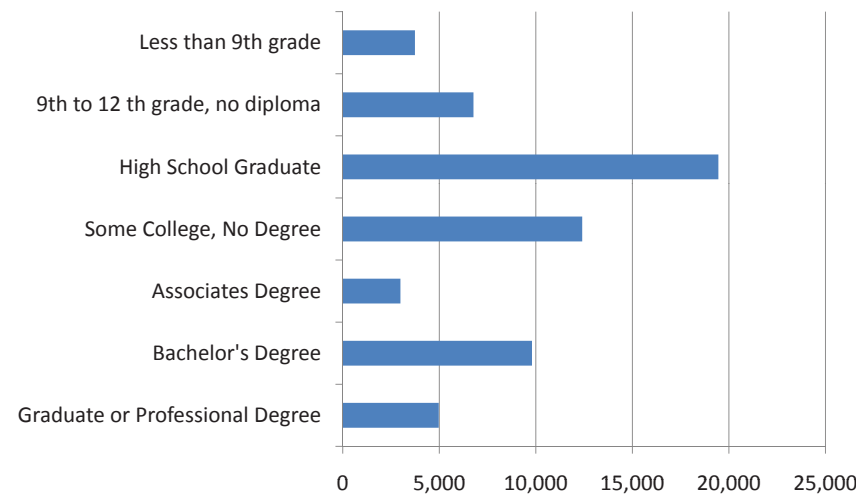
Telecommunications

- AT&T
- Comcast Communications.

Local Radio Stations

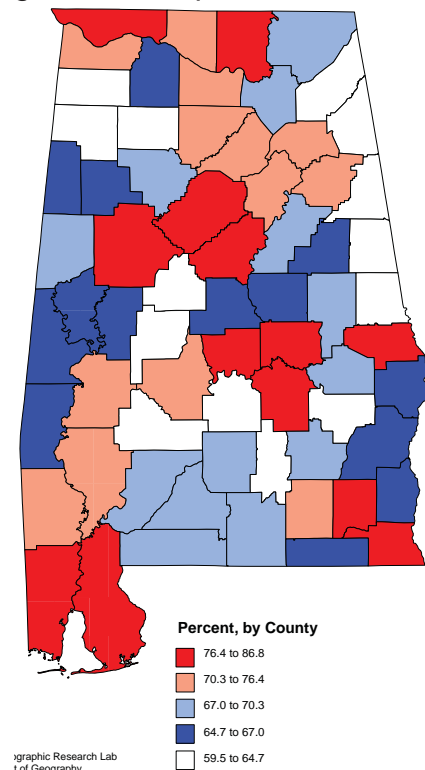
- WBCF
- WBTG-FM 106.3
- WGOL Radio Station
- WLAY FM 100.3

Educational Attainment
Educational Attainment
Attainment For 25 Years & Older: 60,124



Source: U.S. Census Bureau, 2006-2008 American Community Survey

High School Diplomas in Alabama



Source: Univ. of AL Cartographic Research Lab

- WSBM
- WYTK 93.9
- WZZA Radio
- WFIX Radio
- WQLT 107.3

JC.7 Utilities

Electrical Power

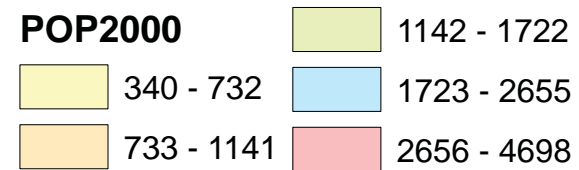
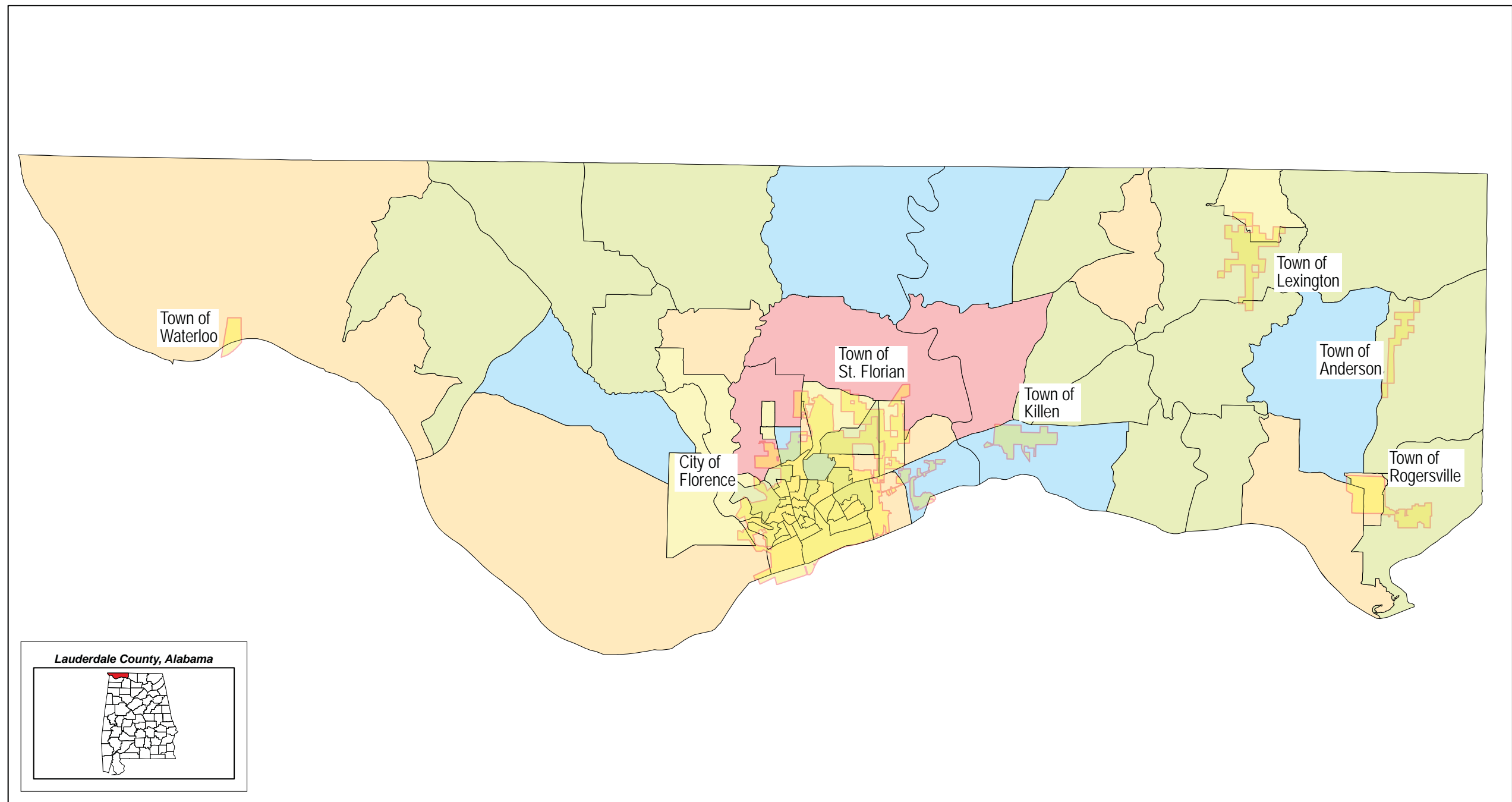
Electrical utilities are provided throughout the entire planning jurisdiction by the Florence Utility and the Florence Electricity Department. The Tennessee Valley Authority manages power generation and grid distribution for the region.

Natural Gas

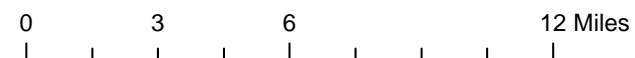
Natural gas providers in Lauderdale County are the Alabama-Tennessee Natural Gas Company and Florence Utilities. The Tennessee Gas Pipeline is the wholesale provider for these entities.

Water & Sewer

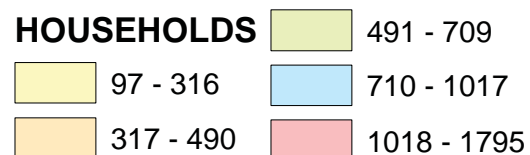
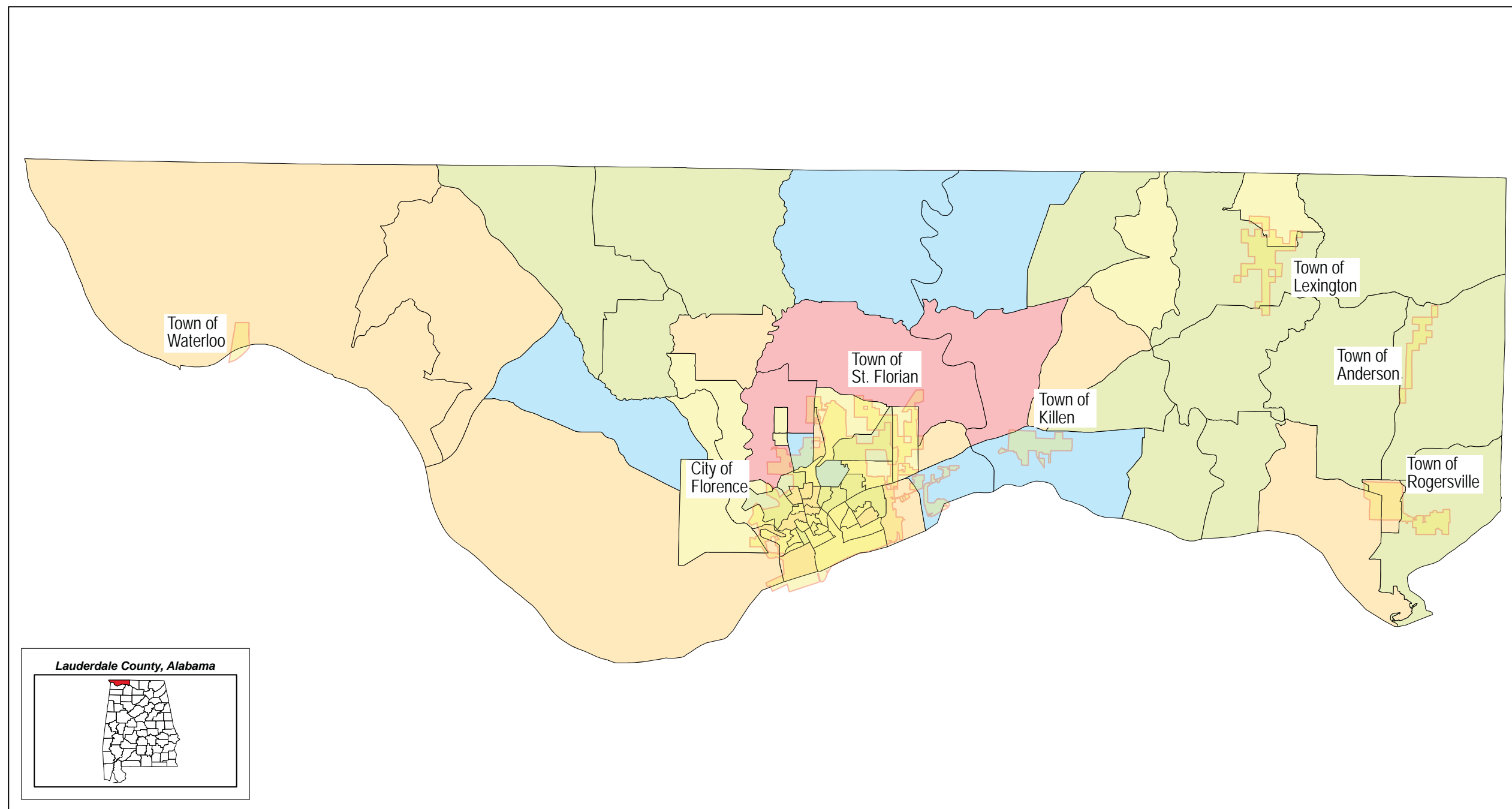
The City of Florence provides water and sewer services within their municipal boundary. The Town of Killen and St. Florian receive municipal water from the City of Florence. The Town of Anderson provides water to their citizens from the East Lauderdale Water District. The Rogersville Water and Sewer Board provides water and sewer to the citizens of Rogersville. The Town of Lexington receives water from the Springfield Water System. The Town of Waterloo provides water from the Central Heights Water District and receives water from the West Lauderdale Water Authority.



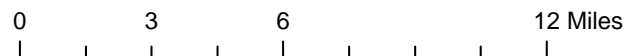
Lauderdale County, AL Population of 2000 Census



* Population Data are shown using US Census Block Groups



Lauderdale County, AL Households per Blockgroup



* Household Data are shown using US Census Block Groups

Planning Process:

- PP.1 Documentation of Planning Process
- PP.2 Opportunities for Public Comment
- PP.3 Opportunities for Stakeholder Involvement
- PP.4 Public & Policy Committee Participation
- PP.5 Precedent & Plan Study Integration
- PP.6 Plan Preparation
- PP.7 Implementation Period Public Involvement

PP.1 Documentation of Planning Process

Plan Involvement

The Florence-Lauderdale Hazard Mitigation Planning Committee (F-L HMPC) established a public involvement planning process during the initial plan development meetings in June, 2009. The public involvement methodology ran congruently with the policy committee goals and objectives within their planning jurisdictions. The methodology identified four mitigation planning groups defined as the Florence-Lauderdale Hazard Mitigation Policy Committee, the Florence-Lauderdale Hazard Mitigation Planning Team, the Florence-Lauderdale Stake Holders and the Planning Jurisdiction Citizen Participants.

The Policy Committee is composed of elected and appointed officials that will oversee implementation of the hazard mitigation strategies. Examples of policy committee members include mayors, school superintendents, hospital executives and university policy makers. A full list of members is identified later in this chapter. The stake holders are individuals representing federal agencies, state agencies, local and regional agencies, volunteer fire departments, first responders, police departments, and neighboring counties, major employers and non-profits. Citizen participants are composed of citizens of the planning study area of Lauderdale County as well as interested parties from adjacent jurisdictions. Each group has played a key role in the development and identification of potential hazards as well as mitigation strategies to prevent them.

Public meetings were held throughout the months of June and July, 2009. The June and July meetings focused on educating the planning team about existing conditions within the planning study area as well as educating stakeholder and citizen participants about mitigating natural disasters. In addition, stake holders participating in the planning process meetings learned about existing disasters as well as potential mitigation strategies to reduce or prevent their occurrence. The month of August allowed for clarification with policy committee and stake holder members on existing mitigation strategies.

Access to the planning team was given directly to each of the planning groups through mail, phone, e-mail and on site reviews and plan involvement meetings. In addition, policy committee members were encouraged to discuss identified hazards and mitigation strategies within the jurisdictions they administrate. Furthermore, stakeholder groups received direct communications via e-mail from the planning team as well as participating in planning involvement meetings and survey requests.

A public hearing to receive comments was jointly held by each jurisdiction within the planning study area. After each jurisdictional meeting the individual participating jurisdiction adopted this document by resolution. The original resolutions are kept on file at the Florence-Lauderdale Emergency Management Office.

Neighboring Communities

Adjacent jurisdictions include the EMA Offices of Colbert, Lawrence, and Limestone Counties of Alabama as well as the Tennessee Counties of Giles, Hardin, Lawrence and Wayne. In addition, the EMA representative of Tishomongo County has been invited to comment on the Florence-Lauderdale Multi-Hazard Mitigation Plan. Furthermore, representatives of the Tennessee Valley Authority have acted as stakeholders in the planning process and have been able to participate in plan development. Communities of

interest but not directly adjoining the planning study area were contacted through the Northwest Alabama Council of Local Governments (NACOLG). NACOLG serves as the regional planning agency for five counties in Northwest Alabama. Lauderdale County and the planning study jurisdictions participate in regional planning with the regional council.

44 CFR § 201.6 Local Mitigation Plans:

Local Mitigation Plans

(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.

(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.

(d) Plan review. (1) Plans must be submitted to the State Hazard Mitigation Officer (SHMO) for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval. Where the State point of contact for the FMA program is different from the SHMO, the SHMO will be responsible for coordinating the local plan reviews between the FMA point of contact and FEMA.

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.

PP.2 Opportunities for Public Comment

The Florence-Lauderdale Hazard Mitigation Planning Team established public involvement meetings for citizen participants throughout the planning process. In addition, stakeholders acting as representatives for federal agencies, state agencies, local and regional agencies, volunteer fire departments, first responders, police departments, neighboring jurisdictions, major employers and non-profits were contacted. Specific information to be gathered at these meetings included the identification of multiple hazards to be mitigated as well as providing general information about hazard event prevention. Public involvement continued beyond public discussions to include a citizen participant and stakeholder hazard identification survey as well as the visual preference survey conducted on November 10, 2009.

The planning participation meeting schedule is shown below. Detailed information is contained in the appendix

- Hazard mitigation planning team review and plan development preparation team meeting. 06-22-09
- Hazard mitigation policy committee hazard mitigation planing review and plan contents workshop. 06-24-09
- Hazard mitigation citizen and stakeholder involvement meeting in west Lauderdale County. Meeting hosted by the Town of Rogersville at the Rogersville Senior Center. 06-30-09
- Hazard mitigation citizen and stakeholder involvement meeting in east Lauderdale County. Meeting hosted by the Town of Waterloo at the Waterloo Community Center. 07-9-09.
- Hazard mitigation planning & public involvement meeting in central Lauderdale County. Meetings hosted by the City of Florence at the Florence Municipal Auditorium at 11:00 a.m. and 6:00 p.m.. 07-23-09
- Prioritization of hazard mitigation issues & identification of mitigation strategies with policy committee members. 09-

30-09

- On site follow up of mitigation strategies with the local jurisdiction of Town of Waterloo, Town of Killen, City of Florence. 10-14-09
- On site follow up of mitigation strategies with the local jurisdictions of Town of Lexington, Town of St. Florian, Town of Anderson, Town of Rogersville. 10-15-09
- Visual preference survey of potential natural hazards & technical hazards. Visual preference survey of potential mitigation strategies for mitigating the identified hazards. Visual preference survey provides a series of images that represent the hazard or mitigation strategy. Participating citizens are then able to prioritize the potential hazards as well as present a preference of mitigation strategies to be used within the planning jurisdiction 11-10-09.
- Distribution for comment of the draft plan for citizen participants and stakeholders. Copies of the plan were distributed to each participating jurisdiction within Lauderdale County the week of January 4, 2010.

The visual preference survey meeting was conducted in the City of Florence with an invitation for participants throughout the planning study area. The survey consisted of over forty images identifying potential disasters as well as mitigation strategies for preventing or reducing the impact of those disasters. Participants that included citizen participants, stakeholders and policy committee members were asked to place four stickers on the most likely to occur disasters as well as their favorite mitigation strategies to be used in the planning study area. The visual preference survey had over fifty participants providing feedback on potential natural and technical hazards that might occur.

PP.3 Opportunities for Stakeholder Involvement

The Florence-Lauderdale Hazard Mitigation Planning Team encouraged participation by identified stakeholders through e-mail and survey response request. In addition, various meetings and phone call discussions took place.

Furthermore, e-mails were sent to federal, state and regional agencies requesting their input and cooperation. The identified agencies helped to provide a wealth of information in regards to the hazard profiles, vulnerability assessment, potential losses, land use and development trends, existing plans, and data mapping. The identified stakeholders list is contained in the appendix and covers the following local, regional, federal agencies.

Federal Agencies

- National Weather Service-Huntsville
- United States Geological Survey, Alabama District
- Tennessee Valley Authority
- United States Army Corps of Engineers
- Federal Emergency Management Agency

State Agencies

- Alabama Emergency Management Agency
- Alabama Forestry Commission



Hazard Mitigation Policy Committee meeting and project review

Regional Agencies

- Lauderdale County Revenue Commissioner’s Office
- Florence-Lauderdale EMA
- Northwest Alabama Council of Local Governments

Local Agencies:

- City of Florence Utility District
- West Lauderdale Water Board
- Rogersville Water and Sewer Board
- Lauderdale County E-911

Business, Academia, & Non-Profit Agencies

- University of North Alabama
- Lauderdale County School System
- North Alabama Industrial Development Agency
- Shoals Economic Development Authority
- Shoals Chamber of Commerce
- Eliza Coffee Memorial Hospital
- Florence City School System
- River Bend Center for Mental Health

PP.4 Policy Committee Participation

Policy Committee Composition

The Lauderdale County Hazard Mitigation Policy Committee, is composed of elected leaders or their appointees from the county or municipalities within the planning study area. In addition, specific entity leaders also serve on the policy committee. The members of the policy committee are listed below:

- B.J. Tulley, Mayor, Town of Anderson
- Bobby J. Irons, Mayor, City of Florence
- Jerry Mitchell, Mayor, Town of Killen
- Bobby McGuire, Mayor, Town of Lexington
- Richard Herston, Mayor, Town of Rogersville
- Louis Stumpe, Mayor, Town of St. Florian
- Joan Farneman, Mayor, Town of Waterloo

- Judge, Dewey D. Mitchell, Chairman, Lauderdale County Commission
- George M. Grabryan Jr., EMA Director, Florence-Lauderdale EMA
- Hal Greer, Port Director, Florence Port Authority
- William Valentine, School Superintendent, Lauderdale County Schools
- Kendy Behrends, School Superintendent, Florence City Schools
- Dr. William G. Cale, President, University of North Alabama
- Danny Clark, Sergeant, UNA Police Department
- Kevin Bowling, Director of Emergency Services, Eliza Coffee Memorial Hospital



Citizen participating in the Hazard Mitigation Visual Preference Survey

Hazard Mitigation Plan Update

This plan update was prepared under the direction of the Hazard Mitigation Planning Team. This team consists of members from the Florence-Lauderdale EMA, City of Florence Planning Department and Farmer Associates. The 2010 plan format has been revised and the material and information going into the plan has been updated. Benjamin Farmer, AICP principal of Farmer Associates, has served as the planning consultant and will continue to provide planning consulting to the planning team and the Florence-Lauderdale EMA with revisions, amendments and updates to the Florence-Lauderdale Multi-Hazard Mitigation Plan.

PP.5 Precedent & Plan Integration

Each jurisdiction within the planning study area of Lauderdale County has provided existing studies, reports, ordinances, comprehensive plans and technical information. Many of these documents came from the Northwest Alabama Council of Local Governments (NACOLG). This information and the library archive at NACOLG are an invaluable resource for the region. Members of the planning team reviewed planning documents related to land use planning and hazard mitigation. Representatives from each jurisdiction were contacted to discuss active planning and development strategies underway to mitigate natural and technical hazards.

Planning documents completed since the 2004 Hazard Mitigation Plan include the City of Florence Comprehensive Plan, The Town of Killen Comprehensive Plan and The West Florence Specific Plan.

The Lauderdale County Emergency Operations Plan (LCEOP) has integrated strategies from the 2004 Lauderdale County Multi-Jurisdictional Pre-Natural Disaster Hazard Mitigation Plan. The 2004 Mitigation Plan strategies are evident within the Florence Comprehensive Plan and the Town of Killen Comprehensive Plan. Each of the participating jurisdictions intends to incorporate the mitigation plan update strategies into other planning mechanisms when appropriate. These updates will be assisted by the

Florence Planning Department in the City of Florence and by the Northwest Alabama Council of Local Governments (NACOLG) within the other participating jurisdictions. No formal memorandum of understanding has been established with each municipality. The planning team feels that a formal statement is not necessary in part to each planning entities involvement in this document.

The following documents have been reviewed by the planning team for preparation of this plan.

- The Lauderdale County Transportation Plan for Hazardous Incident Response
- The Wildfire Prevention Plan
- The Wildfire Readiness Plan
- The TVA Dam Safety Emergency Action Plan
- The Lauderdale County Emergency Operations Plan
- The City of Florence Comprehensive Plan
- The Town of Killen Comprehensive Plan
- City of Florence Zoning Ordinance
- Town of Killen Zoning Ordinance
- City of Florence Building Code
- Town of Killen Building Code
- City of Florence Subdivision Regulations
- Town of Killen Subdivision Regulations
- Flood Insurance Study Lauderdale County, Alabama

- Town of St. Florian Comprehensive Sketch Plan
- The West Florence Specific Plan
- Tennessee Valley Authority Wheeler Watershed Plan
- Tennessee Valley Authority Dam Safety Emergency Action Plan
- Lauderdale County Solid Waste Management Plan
- Lauderdale County Subdivision Regulations
- Multi-hazard Loss Estimation Methodology-*Hurricane Model User Manual for HAZUS - MH MR-4*
- Multi-hazard Loss Estimation Methodology-*Earthquake Model User Manual for HAZUS - MH MR-4*
- Multi-hazard Loss Estimation Methodology-*Flood Model User Manual for HAZUS - MH MR-4*
- State Hazard Mitigation Plan Update 2007 (Alabama)

PP.6 Plan Preparation

The June 24, 2009, Florence-Lauderdale Hazard Mitigation Policy Committee meeting served as the first in our series of meetings to reinvigorate hazard mitigation planning in Lauderdale County. Since the 2004 plan, there have been changes in elected officials within the planning study area as well as new initiatives. Between June 1, 2009, and December 30, 2009, the Hazard Mitigation Planning Team organized the policy committee, the public involvement process, the data collection for project analysis and the document development.

The data collected from the policy committee occurred over two policy committee workshops held in June and September 2009. In addition, four citizen involvement and stakeholder meetings were held in the months of June and July 2009. Documentation of each meeting is contained in the appendix. Meeting dates and times were distributed by e-mail and placed as a public

notice in the regional newspaper. Policy Committee and stakeholder members who were unable to attend the citizen involvement meetings were provided with material discussed at the event.

At each Policy Committee Workshop, members were asked to participate in hazard risk and mitigation exercises. When unable to attend the policy member would receive the distributed exercise with one of the planning team members assisting with its completion. In addition, on site visits were made to each policy committee jurisdiction to review recommended mitigation projects and potential mitigation strategies.

The first policy committee meeting (June 24, 2009) introduced each member to mitigation planning and their role in guiding the planning, development and implementation of the hazard mitigation plan. In addition, copies of the 2004 plan were redistributed with specific components of the document discussed. A hazard mitigation survey was distributed to identify potential hazard risks most prevalent for future occurrence. Finally, critical facilities surveys were distributed for evaluation and updating from the 2004 plan. Each jurisdiction evaluated the previous list of critical facilities and modified it according to the current needs and assessment of the



Hazard Mitigation Policy Committee meeting and project review

jurisdiction.

The first citizen involvement meeting was held on June 30, 2009. Subsequent meetings were held on July 9, 2009, and July 23, 2009. The July 23 meeting contained two meetings with one held at mid-day and the other in the evening. This meeting structure allowed for greater participation from stakeholders who often worked for the agency as a stakeholder in the mitigation planning process.

The second policy committee meeting was held on September 30, 2009, to review current efforts and completion dates for the hazard mitigation plan. In addition, mitigation strategies were evaluated for each municipal jurisdiction. The five mitigation action groups were evaluated for potential strategies for mitigating disasters.

The public planning meeting on November 10, 2009, combined citizen involvement, stakeholder involvement and policy committee efforts. This focused effort capitalized on the use of visual preferences. A visual preference survey was constructed with over forty images representing potential hazard risks and their mitigation strategies. Participants were asked to identify through images the most concerning hazards as well as the preferred mitigation strategies. Each participant could only select four potential risks as well as four mitigation strategies. This was done by the use of color coded stickers for each visual survey. Over fifty participants completed the visual preference survey.

The week of January 4, 2010, the Planning Team and Policy Committee reviewed the draft plan with distribution being made available to the public within each planning jurisdiction. Afterwards, the planning team assembled the final draft for submission to FEMA/ALEMA.

PP.7 Implementation Period & Public Involvement

Over the previous planning implementation period from 2004 to 2009, the community was kept involved through implementation by each local jurisdiction. In retrospect, this method for plan implementation was not successful and needs improvement. Lauderdale County is not setup to provide physical land use planning and code regulations. However, many mitigation

strategies can still be undertaken while assisting each local jurisdiction in completing its identified goals, objectives and strategies for mitigating natural and technical hazards.

In the future the planning team has recognized the need for quarterly evaluations for implementing mitigation strategies within the planning study area. It is the goal of the planning team to assist in implementing mitigation strategies.



Hazard Mitigation Visual Preference Survey Board

Mitigation Strategies Visual Preference Survey	
Mitigation Identification Results	
Open Space Preservation	17
Ground Stabilization	1
Sea Wall Construction	10
Comprehensive Planning	16
Water Conservation	6
Mitigation Kiosk	2
Subdivision Regulations	8
Community Safe Rooms	23
Floodway Building Acquisition	20
Erosion Control	11
Storm Water Management	14
Geographic Information Systems	6
Watershed Management	13
Urban Forestry Programs	14
Floodplain Management	15
Flood Map Information	6
Stream Corridor Restoration	4
Land Use Planning	12
Forestry Management	13
Emergency Power Generation	9



Hazard Mitigation Visual Preference Survey Board

Hazard Identification Visual Preference Survey	
Hazard Identification Results	
Water Freeze	19
Thunder Storm	30
Flooding	25
Erosion	5
Expansive Soils	1
Severe Winter Storm	7
Built Environment Fire	7
Earthquake	5
Dam Failure	12
Tornado	50
Winter Storm	15
Drought	22
Wildfire	10
Landslide	2
Hurricane	4
Extreme Heat	6
Land Subsidence	6
Nuclear Accident	11
Hazardous Materials	13
Hail Storm	11

Risk Assessment:

- RA.1 Identification of Jurisdictional Hazards
- RA.2 Hazard Descriptions & Hazard Profiles
- RA.3 Assessing Vulnerability Overview
- RA.4 Addressing Repetitive Loss Properties
- RA.5 Identifying Structures
- RA.6 Estimating Potential Losses
- RA.7 Analyzing Development Trends

RA.1 Identification of Jurisdictional Hazards

Identification Methodology

The Florence-Lauderdale Hazard Mitigation Planning Team used policy committee surveys, citizen involvement meetings, stakeholder input, State of Alabama Hazard Mitigation Plan Update of 2007, local knowledge, expertise of the Florence-Lauderdale EMA, National Weather Service and NOAA Storm Events Database as well as newspaper and internet sources. The identified hazard types were quantified by level of concern through the completed Hazard Identification Visual Preference Survey. The visual preference survey received over fifty participants. The survey assisted the planning team in clarifying the perceptions of the public in what identified hazards are most likely to occur in Lauderdale County.

For each hazard there is one to two pages dedicated for the hazard description, profile, estimated probability occurrence, and estimated annual damage expectations. In order to calculate the annual estimates, the following formulas were used.

Probability of Annual Occurrence Formula:

Number of historical events in that time period / Number of years from first and last incidents occurred = Average Number of event per year

Annual Damage Expectations Formula:

Total dollar amount of damages for each event / Number of damage causing events within the time period = Average Annual Damages of event per year

Lauderdale County Identified Hazards

Hazard Type	Associated Hazards	Lauderdale County	Anderson	Florence	Killen	Lexington	Rogersville	St. Florian	Waterloo
Earthquake	Landslides	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Extreme Heat	Wildfires	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dam/Levee Failure	Floods	Yes	No	Yes	Yes	No	Yes	Yes	Yes
Drought	Wildfires Sinks	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Flood	Landslides	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazardous Materials		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hurricanes/ Coastal Storms	Tropical Storms Severe Storms High Winds Floods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Landslides		Yes	No	No	No	No	No	No	No
Nuclear Accidents		Yes	No	No	No	No	Yes	No	No
Sinkholes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Severe Storms Hail, High Wind	Thunderstorms Hail Lightening High Winds Tornadoes Floods	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tornado	High Winds Severe Storms	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wild Fires		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Winter Storm Freezes	Snow Storms Hail Extreme Cold	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Hazard Mitigation Planning Team Surveys

44 CFR § 201.6 Local Mitigation Plans:

Local Mitigation Plans

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

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

(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(ii)(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.

RA.2 Hazard Descriptions & Hazard Profiles

Earthquakes Description & Profile

An earthquake is the sudden and violent shaking and vibration at the earth's surface. The quake results from the release of energy in the earth's crust. Earthquakes are common along the west coast of California and can be fairly common in the eastern half of the United States. This includes the State of Alabama in particular the North Alabama region. Earthquakes can affect thousands of square miles and cause billions of dollars in damages.

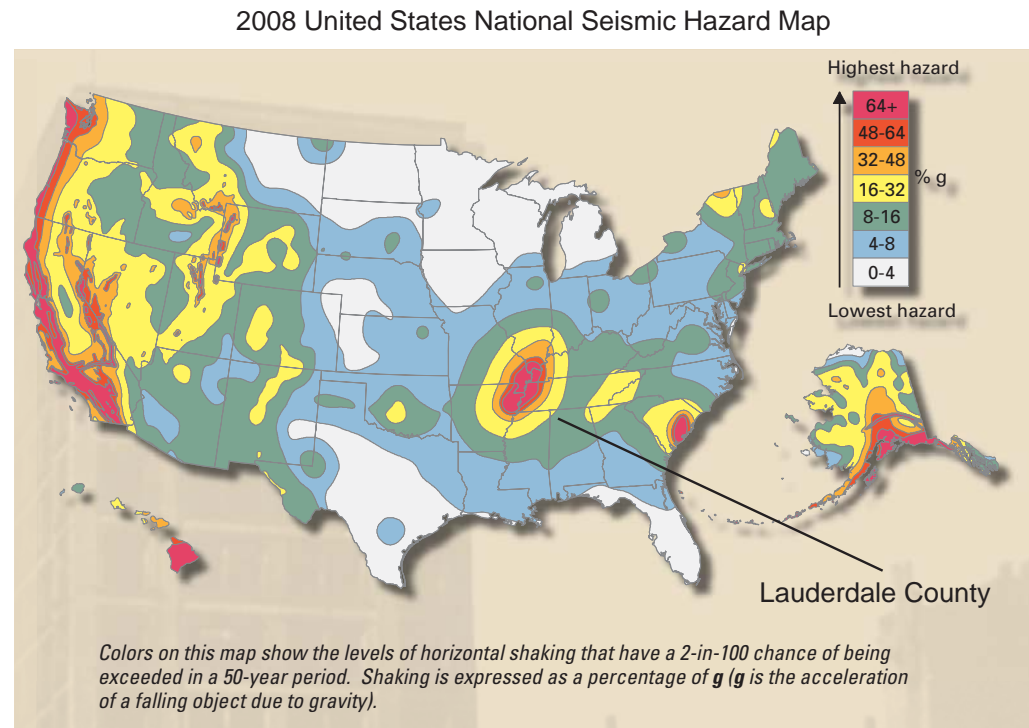
Two zones of frequent activity affecting Lauderdale County are the New Madrid Seismic Zone (NMSZ) and the Southern Appalachian Seismic Zone (SASZ). Upon review of the U.S. Geological Survey determined that Lauderdale County is located in an area with 4% g (peak acceleration), which necessitates a profile and mitigation plan for this natural hazard.

The 1996 U.S. Geological Survey shaking-hazard map for the United States is based on information about the rate at which earthquakes occur and the distance shaking extends from quake sources. Colors show the levels of horizontal shaking that have a 1-in-10 chance of being exceeded in a 50-year period. Shaking is expressed as a percentage of g (g is the gravitational acceleration of a falling object). Geographic extent of earthquakes for the planning jurisdiction of Lauderdale County were assessed as a threat for the County and each participating jurisdiction. This threat is based on an 8% to 16% g.

The extent of the potential hazard event for the participating jurisdictions is defined by 11 occurrences within Lauderdale County since 1883. The hazard has a low probability of occurring and has not been reported to cause damage within the planning study area.



Earthquake damage



Historical Earthquakes of Alabama 1888-2007

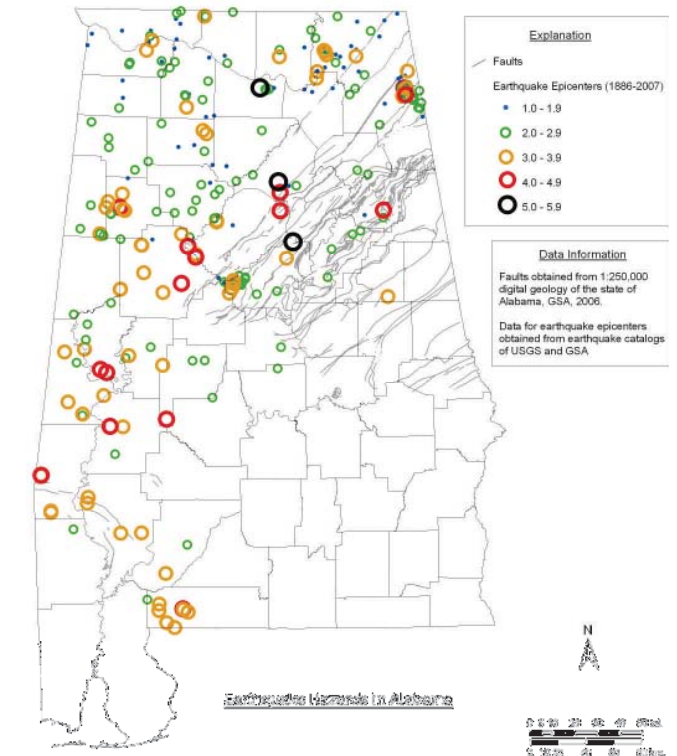


Figure 5.2-11
Historical Earthquakes of Alabama (1886-2007)
Source: Geological Survey of Alabama, 2007

Source: Geological Survey of Alabama, 2007

Earthquake Probability Assessment & Extent of Disaster 1983-2009			
Extent of Jurisdictional Affect: All Jurisdictions	Historical Occurrences: Total 11	Percent Probability of Future Annual Occurrence: Low Probability Damaging Earthquakes are unlikely to occur	Damage Expectations of Event: Low Earthquakes have not been reported to cause damage in Lauderdale County. A severe earthquake is possible and would cause widespread damages
Lauderdale County	11	42%	0
Town of Anderson	0	0	0
City of Florence	5	19%	0
Town of Killen	1	4%	0
Town of Lexington	1	4%	0
Town of Rogersville	0	0	0
Town of St. Florian	0	0	0
Town of Waterloo	1	4%	0

Source: Hazard Mitigation Planning Team

Earthquakes In Lauderdale County 1886-2009

Date	County	Community	Magnitude	Description
1886	N/A	N/A	N/A	N/A
9-28-1983	Lauderdale	Florence	2.7	Not Felt
1-25-1986	Lauderdale	Green Hill	1.9	Not Felt
4-1-1988	Lauderdale	Florence	1.9	Not Felt
9-20-1989	Lauderdale	Killen	3.9	VI Near Florence
3-26-1990	Lauderdale	Florence	2	Not Felt
12-2-1990	Lauderdale	Florence	1.8	Not Felt
10-19-1993	Lauderdale	Florence	1.1	Not Felt
5-18-1997	Lauderdale	Florence	1.7	unavailable
4-20-2002	Lauderdale	Cedar Cove	1.8	Near Rogersville
3-27-2005	Lauderdale	Waterloo	2.5	unavailable
12-3-2005	Lauderdale	Lexington	2.4	unavailable
2009	N/A	N/A	N/A	N/A

Source: Geologic Survey of Alabama

Dam/Levee Failure Description & Profile

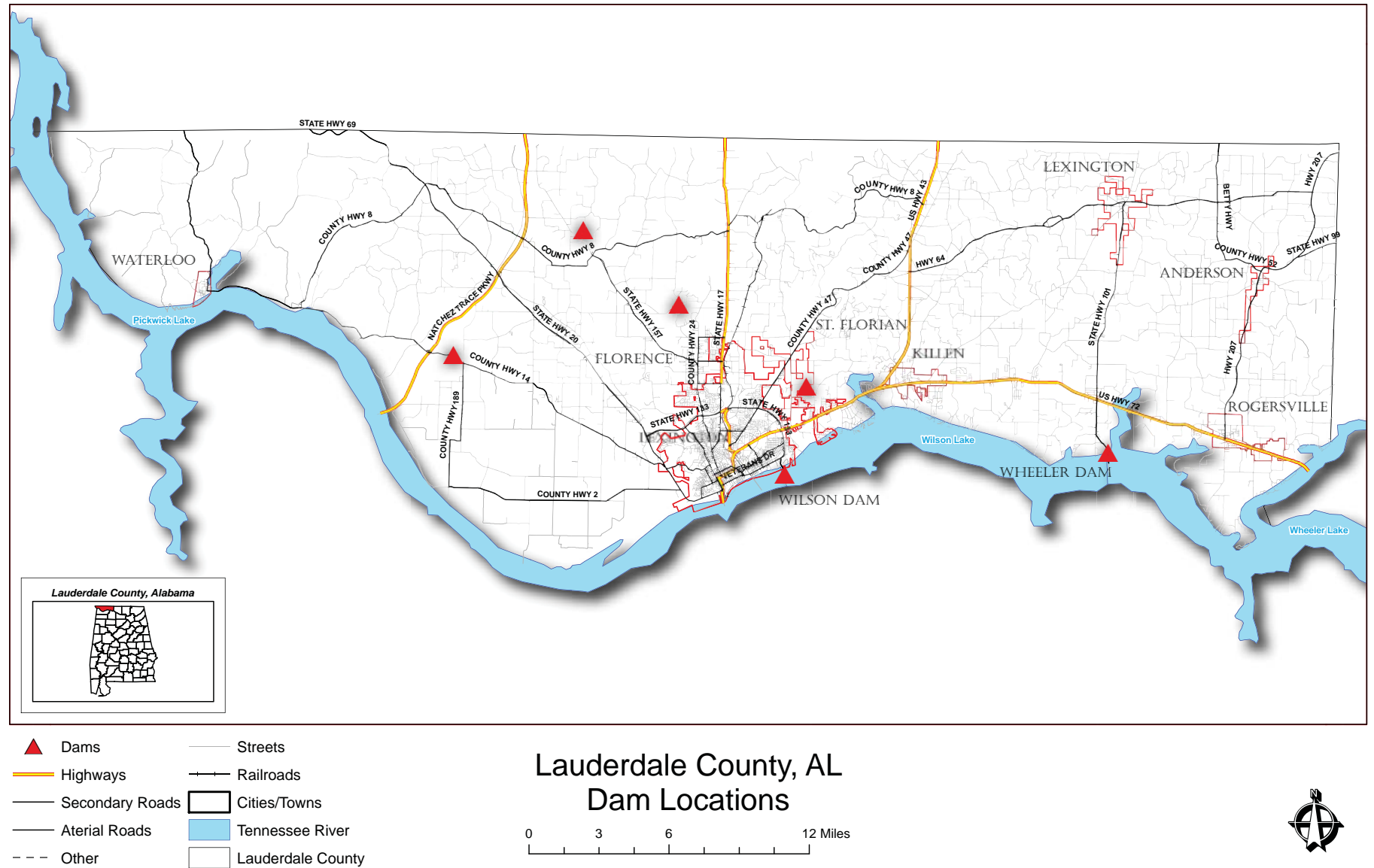
Dam or levee hazards are defined as technological hazards that can affect localized or widespread areas. Technological hazards are often unpredictable and can cause serious loss of life and property damage. FEMA has documented the need for addressing dam and levee failures and defines a dam failure as collapse or failures of impoundment structures that cause downstream flooding.

There are over 74,053 dams in the United States. There are an estimated 2,000 dams of sufficient size in the State of Alabama that can pose a significant threat to life and property. Approximately 32 of these dams are federally regulated with no state legislation in place to regulate dam inspection in Alabama. Lauderdale County has six known dams or levees within the county.

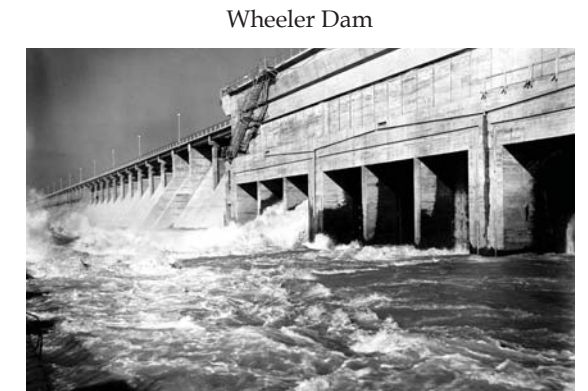
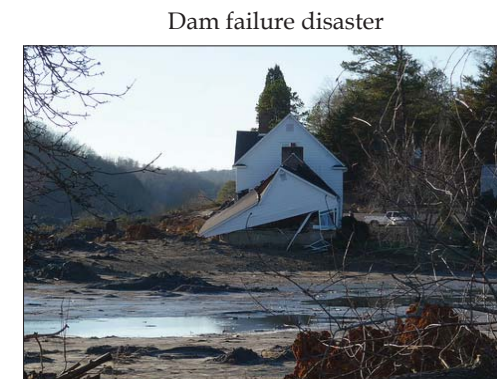
Any natural event or situation that has the potential to compromise the integrity of the water barrier (dam) is considered a dam safety emergency. In the event of a flood or significant earthquake in the Lauderdale County area, the possibility for an emergency situation could exist at Wilson Dam and Wheeler Dam, as well as various smaller dams throughout the county. Wilson Dam is located along the Tennessee River in the south-central portion of Lauderdale County. Wheeler Dam is located in Lawrence County up stream from Lauderdale County on the Tennessee River.

The Tennessee Valley Authority has Dam Safety Emergency Action Plans in place in the event of failure at both of these dams. The Lauderdale County EMA has a copy of this plan and is prepared to coordinate efforts if the need arises. In the event of failure from a natural hazard, both major dams have the potential to create emergency situations for Lauderdale County, which necessitates the need for a profile and mitigation for this event.

There have been no occurrences of dam failures within the planning jurisdiction. However, the extent of the potential hazard event for the participating jurisdictions would be severe and cause wide spread damage. Dam failures within the participating jurisdictions are unlikely to occur by are possible.



Dam Failure Probability Assessment & Extent of Disaster 1940-2009			
Extent of Jurisdictional Affect: Listed Below	Historical Occurrences: Total: 0	Percent Probability of Future Annual Occurrence: Low Probability Dam Failures are unlikely to occur but possible	Damage Expectations of Event: High Dam failures have not been reported in Lauderdale County. A dam failure would be severe and cause widespread damages
Lauderdale County	0	0	0
City of Florence	0	0	0
Town of Killen	0	0	0
Town of Rogersville	0	0	0
Town of St. Florian	0	0	0
Town of Waterloo	0	0	0



Source: Hazard Mitigation Planning Team

Drought Description & Profile

Drought occurs throughout the United States and is caused by deficiency of precipitation. Drought is defined as a water shortage caused by a deficiency of rain fall. Drought is difficult to predict when it may occur and when they may end.

Lauderdale County occasionally experiences short droughts and extreme heat in the summer months. However, there are no records that indicate either crop or property damage nor have there been any declared disasters for Lauderdale County with regards to drought. This may be in part to the ready supply of water from the Tennessee River and its surrounding watershed.

Drought was assessed as a threat by all the jurisdictions within the planning study area of Lauderdale County. Recent drought events include the 2007 droughts, which were the driest time in over a century.

Even though drought has not been reported as causing property damage or natural disaster, there is a likelihood of drought causing damages to property and crops. In addition, water supplies within the planning jurisdiction can be affected. Damages from drought within the planning jurisdiction are likely be high in regards to the severity of the drought. Severity of the drought would require a tremendous amount of pressure be placed on water supplies and a reduction in the annual anticipated precipitation.

The extent of the potential hazard event for the participating jurisdictions would be moderate to severe. The greater depletion of the surface water resources the higher the severity for each jurisdiction.

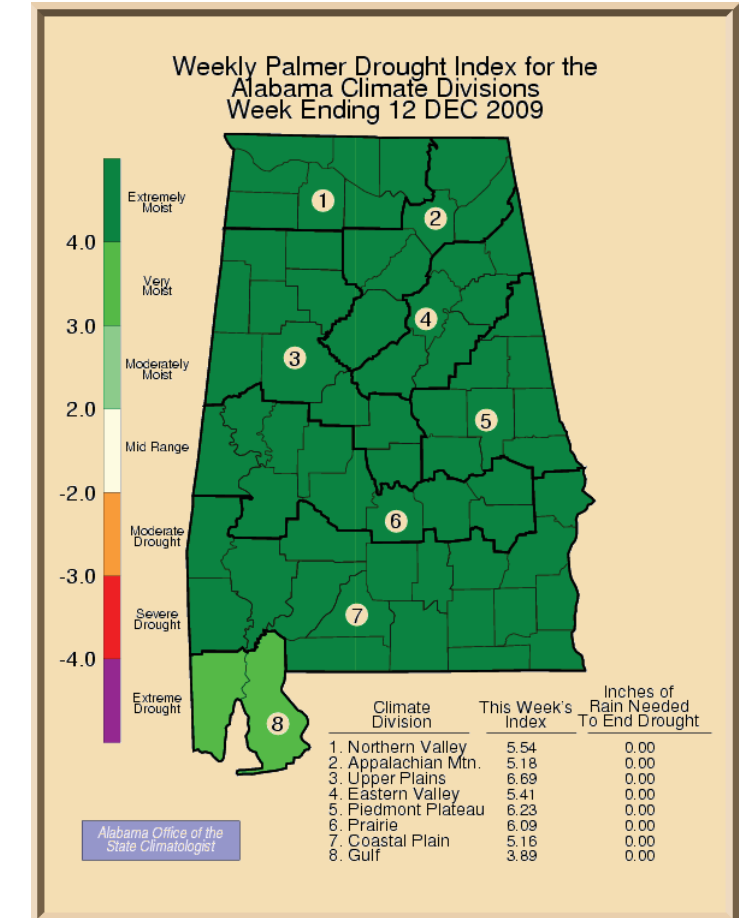


Drought damage to crops

Individual Incidents of Drought

County Location	Date	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale	3-27-2007	0	0	\$0.00	\$0.00
Lauderdale	4-01-2007	0	0	\$0.00	\$0.00
Lauderdale	5-01-2007	0	0	\$0.00	\$0.00
Lauderdale	6-01-2007	0	0	\$0.00	\$0.00
Lauderdale	7-01-2007	0	0	\$0.00	\$0.00
Lauderdale	8-01-2007	0	0	\$0.00	\$0.00
Lauderdale	9-01-2007	0	0	\$0.00	\$0.00
Lauderdale	10-01-2007	0	0	\$0.00	\$0.00
Lauderdale	11-01-2007	0	0	\$0.00	\$0.00
Lauderdale	12-01-2007	0	0	\$0.00	\$0.00
Lauderdale	01-01-2008	0	0	\$0.00	\$0.00
Lauderdale	02-01-2008	0	0	\$0.00	\$0.00
Lauderdale	3-01-2008	0	0	\$0.00	\$0.00
Lauderdale	4-01-2008	0	0	\$0.00	\$0.00
Lauderdale	5-01-2008	0	0	\$0.00	\$0.00

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms#TOP>



Drought Events for Lauderdale County

January 1950 – August 31, 2009			
Total Number of Reported Extreme Heat Temperature Events	Total Deaths	Total Injuries	Total Property & Crop Damage
Zero	Zero	Zero	Zero
15 Individual Drought Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms#TOP>

Drought Probability Assessment & Extent of Disaster 1950-2009

Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Damage Expectations of Event:
All Jurisdictions	15	Low Probability Drought event not likely	Moderate Damage from drought events would be moderate to severe. Longevity of the occurrence for depletion of surface water resources would have to occur.
Lauderdale County	15	25%	0
Town of Anderson	15	25%	0
City of Florence	15	25%	0
Town of Killen	15	25%	0
Town of Lexington	15	25%	0
Town of Rogersville	15	25%	0
Town of St. Florian	15	25%	0
Town of Waterloo	15	25%	0

Source: Hazard Mitigation Planning Team

Extreme Temperatures Description & Profile

The planning study area has extreme temperatures consisting of hot summers and cold winters within each of the participating jurisdictions. Extreme heat is most prevalent in the State of Alabama, residents are accustomed to the temperatures and are not generally impacted. However, extreme heat of 90 degrees and above has been known to cause stroke and death. Furthermore, extreme cold temperatures that sustain below freezing weather over several days also has devastating affects.

Lauderdale County and the planning jurisdictions have experienced extreme heat and extreme cold. However, there is one disaster recognition related to extreme cold in Lauderdale County. This occurred on March 3, 1996 and caused 2 million dollars in crop damage.

There are nine weather stations within the planning jurisdiction as identified at the NOAA web site (<http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwDI~SelectStation~USA~AL>). The stations are located in the following areas: Anderson, Center Star, Florence One, Florence Two, Florence at Lock, New Wilson Lock, Smithsonia, Waterloo, Youngs Store. From 1980 until 2008, the State of Alabama experienced extreme temperatures ranging from 108°F to 104°F. Of these extreme temperatures, none were documented of occurring in Lauderdale County. However, there were a total of seven hot and cold extreme temperature events recorded from 1950 to 2009.

Lauderdale County is susceptible to extreme temperatures. Historical records indicate that extreme temperatures have occurred. When comparing the 1980 to 2008 extreme temperatures, the high temperature did not exceed 108 °F. This high temperature was reached in the planning jurisdiction in 1914, 1925, and 1930.

Although extreme heat conditions have been recently high, the historic record does not indicate an extreme heat event to be likely. However, this hazard was discussed and ranked high by plan participants. This may be in part to the recent 2007 drought and the excessive heat of June 2009.

The extent of the potential hazard event would cause millions of dollars in damages to the agricultural sectors within the participating jurisdictions. There is a high probability of an extreme temperature event occurring.

Extreme Temperature Events for Lauderdale County

1950 –2009			
Total Number of Recorded Extreme Heat Temperature Events	Total Deaths	Total Injuries	Total Property & Crop Damage
Seven	Zero	12	Property: Zero Crop Damage: \$2 Million Dollars
Seven Individual Extreme Temperature Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Individual Extreme Temperature Events for Lauderdale County

Event Type	Date	Deaths	Injuries	Total Property Damage	Total Crop Damage
Extreme Cold	2-03-1996	0	0	0	0
Extreme Cold	2-23-1996	0	0	0	0
Extreme Cold	3-07-1996	0	0	0	\$ 2 Million
Extreme Heat	8-01-2007	0	0	OK	OK
Cold / Wind Chill	1-16-2009	0	0	OK	OK
Excessive Heat	6-19-2009	0	12	OK	OK
Excessive Heat	6-27-2009	0	0	OK	OK

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Extreme Temperature Probability Assessment & Extent of Disaster 1996-2009

Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Damage Expectations of Event:
All Jurisdictions	7	High Probability Extreme temperature event likely Recent events have occurred	High Damage from extreme temperature event would cause millions of dollars of damage in the agricultural sector
Lauderdale County	7	54%	\$1,000,000.00
Town of Anderson	7	54%	\$1,000,000.00
City of Florence	7	54%	\$1,000,000.00
Town of Killen	7	54%	\$1,000,000.00
Town of Lexington	7	54%	\$1,000,000.00
Town of Rogersville	7	54%	\$1,000,000.00
Town of St. Florian	7	54%	\$1,000,000.00
Town of Waterloo	7	54%	\$1,000,000.00

Source: Hazard Mitigation Planning Team



Extreme heat

Lauderdale County Historical Daily Extreme Temperatures 1893 to 1977

Date	Low Degrees Fahrenheit	Date	High Degrees Fahrenheit
3-07-1899	7	11-02-1902	97
9-30-1901	35	10-04-1908	99
12-15-1901	0	6-26-1914	108
1-14-1905	-13	5-10-1916	32
6-16-1907	35	9-08-1925	109
5-02-1909	32	3-25-1929	92
8-26-1917	47	7-13-1930	108
10-31-1917	23	08-08-1930	108
1-26-1940	-9	12-05-1933	78
11-24-1970	5	1-17-1936	84
7-26-1972	48	04-15-1936	97
4-11-1973	22	2-13-1962	84

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi?wwevent~storms>



Extreme cold

Flood Description & Profile

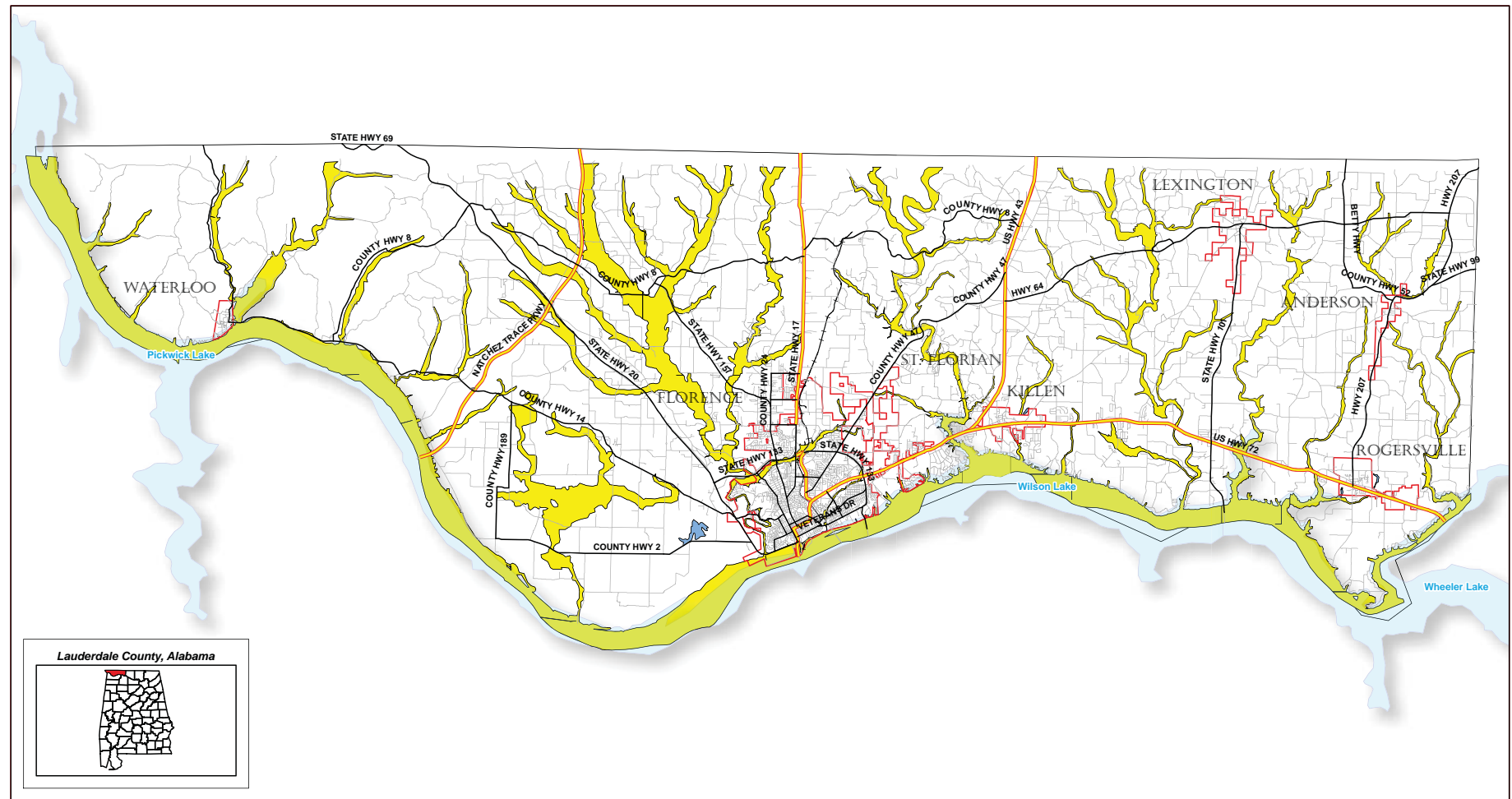
Flooding is defined as the accumulation of water within a water body and the overflow of excess water onto adjacent floodplain lands. The standard for floodplain management is the 100 year flood or the 1% annual chance of a flood occurring. The National Flood Insurance Program (NFIP) was authorized by Congress with the enactment of the National Flood Insurance Act of 1968. Under the NFIP, flood insurance is made available at rates that are intended to be affordable in return for community adoption of ordinances to regulate development in mapped flood hazard areas. The Department of Housing and Development administers the program with Alabama through a state NFIP coordinator.

Lauderdale County has seven of the eight jurisdictions within the planning study area participating in the NFIP Program as of the date of this plan. Those seven are: Town of Anderson, City of Florence, Town of Killen, Lauderdale County, Town of Rogersville, Town of St. Florian and the Town of Lexington. The Town of Lexington entered the NFIP program on January 19, 2010. The nonparticipating jurisdictions is the Town of Waterloo. The nonparticipating municipality is greatly aware of the need for NFIP participation and is working diligently within the community for adoption.

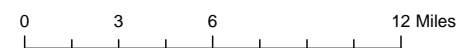
Hundreds of floods occur throughout the United States each year. In the planning study area, there were 75 floods from 1950 until 2009 with a total monetary damage assessment of property totaling 51 million dollars and crop damage totalling over 5 million dollars. Of these 75 events one event is calculated for Southeast Alabama. This event occurred in July 1994 and accounts for 50 million dollars in property and 5 million dollars in crop damage.

Frequency of floods vary from jurisdiction to jurisdiction within the planning study area. However, flooding remains a likely source of annual damage to communities within Lauderdale County. If the magnitude of a five hundred year flood were to occur, there would be damages within the millions of dollars.

The extent of the potential hazard event is low within the participating jurisdictions. However, damage from flood events will cause thousands of dollars in property and agricultural damage.



Lauderdale County, AL
Flood Zones



Flood Events for Lauderdale County

1950 - 2009			
Total Number of Recorded Flood Events	Total Deaths	Total Injuries	Total Property & Crop Damage
Seventy-five	Three	Four	Property: 51.46 Million Crop Damage: 5.01 Million
Seventy-Five Individual Flood Event Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Flood Probability Assessment & Extent of Disaster
1994-2009

Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Damage Expectations of Event:
All Jurisdictions	75	High Probability Flood hazard event likely Recent events have occurred	Low Damage from flood event will cause thousands of dollars in property and agricultural damage
Lauderdale County	39	260%	\$89,000.00
Town of Anderson	6	40%	\$0.00
City of Florence	18	120%	\$53,000.00
Town of Killen	1	7%	\$2,666.67
Town of Lexington	3	20%	\$0.00
Town of Rogersville	5	33%	\$400.00
Town of St. Florian	0	0%	\$0.00
Town of Waterloo	2	13%	\$0.00

Source: Hazard Mitigation Planning Team

Individual Flood Incident Events for Lauderdale County

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale	2-09-1994	Ice Storm/Flash Flood	0	2	0	0
Lauderdale	6-09-1994	Flash Flood Thunderstorm	0	0	\$500,000	0
Southeast,AL	7-03-1994	Flooding	2	0	50 Million	5 Million
Florence	3-06-1996	Flash Flood	0	0	\$25,000.00	0
Florence	6-23-1996	Flash Flood	0	0	\$10,000	0
Florence	8-08-1996	Flash Flood	0	0	\$10,000	0
Lauderdale	1-07-1998	Flash Flood	0	0	\$25,000	\$5,000
Killen	7-14-1998	Flash Flood	0	2	\$30,000	\$10,000
Green Hill	6-28-1999	Flash Flood	0	0	\$20,000	0
Lauderdale	4-03-2000	Flash Flood	0	0	\$10,000	0
Lauderdale	1-23-2002	Flash Flood	0	0	\$400,000	0
Lauderdale	1-24-2002	Flash Flood	0	0	\$50,000	0
Florence	2-15-2003	Flash Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Anderson	2-21-2003	Flash Flood	0	0	0	0
Lexington	2-21-2003	Flash Flood	0	0	0	0
Rogersville	2-21-2003	Flash Flood	0	0	0	0
Lauderdale	2-22-2003	Flash Flood	0	0	0	0
Lauderdale	2-22-2003	Flash Flood	0	0	0	0
Florence	2-22-2003	Flash Flood	0	0	0	0
Anderson	5-06-2003	Flash Flood	0	0	0	0
Florence	5-06-2003	Flash Flood	0	0	0	0
Rogersville	5-6-2003	Flash Flood	0	0	0	0
Lauderdale	5-6-2003	Flash Flood	0	0	\$350,000	0
Florence	5-11-2003	Flash Flood	0	0	0	0
Lauderdale	6-18-2003	Flash Flood	0	0	0	0
Green Hill	7-16-2003	Flash Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Green Hill	7-22-2003	Flash Flood	0	0	0	0
Lexington	7-22-2003	Flash Flood	0	0	0	0
Florence	8-06-2003	Flash Flood	0	0	0	0
Center Star	8-06-2003	Flash Flood	0	0	0	0
Lauderdale	2-05-2004	Flash Flood	0	0	0	0
Lauderdale	2-06-2005	Flood	0	0	0	0
Florence	3-05-2004	Flash Flood	0	0	0	0
Florence	7-14-2004	Flash Flood	0	0	0	0
Florence	7-25-2004	Flash Flood	0	0	0	0
Florence	9-12-2004	Flash Flood	0	0	0	0
Lauderdale	9-16-2004	Flash Flood	0	0	0	0
Florence	10-19-2004	Flash Flood	0	0	0	0
Waterloo	10-19-2004	Flash Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Florence	11-23-2004	Flash Flood	0	0	0	0
Lauderdale	11-30-2004	Flash Flood	0	0	0	0
Florence	12-06-2004	Flash Flood	0	0	0	0
Lauderdale	12-09-2004	Flash Flood	0	0	0	0
Lauderdale	2-21-2005	Flash Flood	0	0	0	0
Lauderdale	2-21-2005	Flash Flood	0	0	0	0
Lauderdale	4-06-2005	Flash Flood	0	0	0	0
Florence	1-22-2006	Flash Flood	0	0	0	0
Murphy	3-01-2007	Flash Flood	0	0	0	0
Florence	7-06-2007	Flash Flood	0	0	0	0
Rogersville	4-04-2008	Flash Flood	0	0	\$1,000	0
Zip City	5-27-2008	Flash Flood	0	0	0	0
Oliver	5-27-2008	Flash Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Rogersville	5-27-2008	Flash Flood	0	0	\$5,000	0
Elgin	5-27-2008	Flash Flood	0	0	0	0
Threet	5-27-2008	Flash Flood	1	0	30,000	0
Weeden Hgts	12-09-2008	Flash Flood	0	0	0	0
Anderson	12-11-2008	Flood	0	0	0	0
Anderson	12-11-2008	Flood	0	0	0	0
Lexington	12-11-2008	Flood	0	0	0	0
Pritton	12-11-2008	Flood	0	0	0	0
Whitehead	1-06-2009	Flood	0	0	0	0
Rogersville	1-06-2009	Flash Flood	0	0	0	0
Anderson	1-06-2009	Flash Flood	0	0	0	0
Green Hill	1-06-2009	Flash Flood	0	0	0	0
Anderson	3-26-2009	Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Toonersville	3-26-2009	Flood	0	0	0	0
Green Hill	3-26-2009	Flood	0	0	0	0
Green Hill	3-26-2009	Flood	0	0	0	0
Whitehead	5-01-2009	Flash Flood	0	0	0	0
Waterloo	5-01-2009	Flood	0	0	0	0
Pritton	5-06-2009	Flash Flood	0	0	0	0
Powell	7-05-2009	Flash Flood	0	0	0	0
Powell	7-5-2009	Flood	0	0	0	0
Florence	7-16-2009	Flash Flood	0	0	0	0
Sullivan	8-11-2009	Flash Flood	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Hazardous Materials Description & Profile

Hazardous materials (HAZMAT) are part of the technological hazards category that originate from human activities. Over 6,744 HAZMAT events occur on average each year with 5,517 of those events being on highways and 991 are related to railroads. The other 266 are due to other types of human activities. HAZMAT releases pose short and long term toxicological threats to people and to terrestrial and aquatic plants and wildlife.

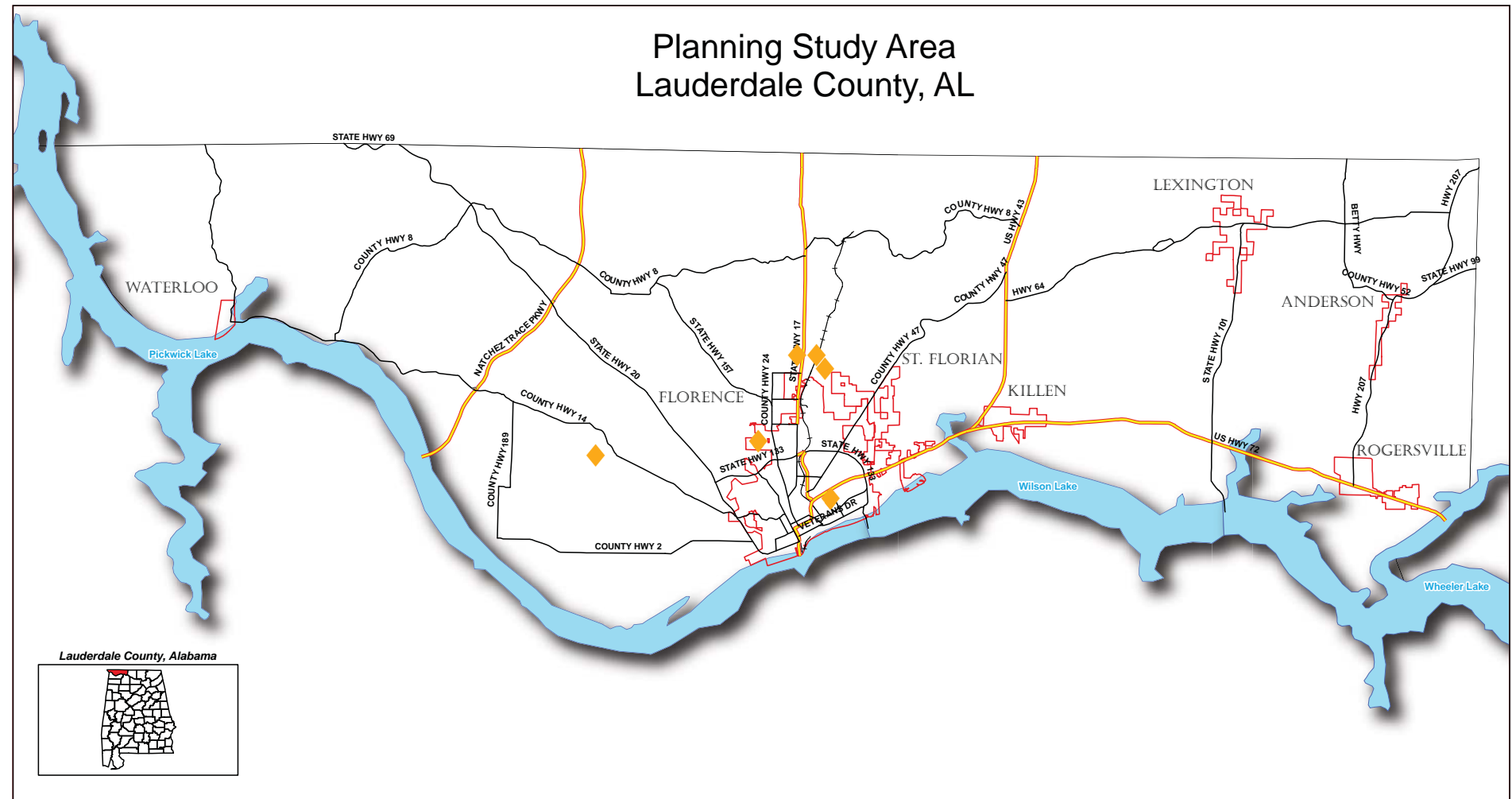
In identifying the extent of hazardous materials, the planning team evaluated types of materials that are stored, handled or processed and transported throughout the planning jurisdiction.

In 2009, the State of Alabama had over 102 HAZMAT incidents with no fatalities and no injuries. Total damages from hazardous materials incidents was just over \$148,499 according to the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration.

At the time and formation of this document, the Florence-Lauderdale EMA has undertaken a Hazardous Materials Probability and Frequency Study. This analysis is not complete and will be further updated during the planning period.



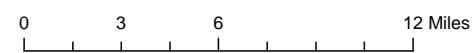
Hazardous materials



Legend

- ◆ Hazardous Materials
- Highways
- Secondary Roads
- Aterial Roads
- Other
- Streets
- Railroads
- Cities/Towns
- Tennessee River
- Lauderdale County

Risk Assessment HAZUS-MH Identified Hazardous Materials



Probability & Extent of Disaster

Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Hazardous Materials	Low Probability	High	Lauderdale County
HAZMAT	Events of occurrence are infrequent and have been minor in damages and exposure	Damage from HAZMAT exposure event would cause millions of dollars in property damage and potential loss of life.	Town of Anderson
			City of Florence
			Town of Killen
			Town of Lexington
			Town of Rogersville
	With river barges and local port the event is probable		Town of St. Florian
			Town of Waterloo

Source: Hazard Mitigation Planning Team

Hurricanes & Tropical Cyclones Description & Profile

Hurricanes, tropical storms, and typhoons are collectively called tropical cyclones. These storms are the most devastating natural hazards in the U.S. and occur on average of five hurricanes per year in the Atlantic Region. The distinguishing feature of tropical cyclones is the eye around which winds rotate.

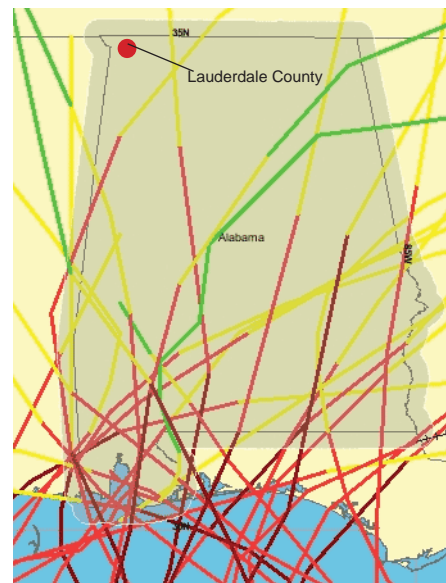
The Saffir/Simpson Hurricane Scale is used to classify tropical cyclones by an assigned number. The category is numbered 1 to 5 based on central pressure, wind speed, storm surge height, and damage potential. Associated hazards with hurricanes include: severe winds, storm surge flooding, high waves, coastal erosion, extreme rainfall, thunderstorms, lightning and possibly tornadoes.

Hurricanes and tropical cyclones have not directly affected Lauderdale County. However, the indirect effects are numerous in damages with the associated high winds, flooding, and tornadoes. Query results from the NOAA Satellite and Information Service confirm three hurricane associated events have occurred in the planning study area. In addition, hurricanes and tropical cyclones were surveyed as disaster threats by all the jurisdictions of the planning study area.

Lauderdale County and the planning study area have a 16% likelihood of being affected when hurricanes are within one hundred mile radius. Lauderdale County lies within a 2% to 0% risk zone when a hurricane is within a 30 to 60 mile radius of the county. When the hurricane arrives within the planning study area it is downgraded to a tropical depression with thunderstorms. Damaged buildings, power lines and fallen trees are a few of the potential disaster occurrences.



Satellite image of hurricane formation



Legend

- ↖ Category 3-5 storm track
- ↖ Tropical storm track
- ↖ Subtropical storm track
- ↖ Extratropical storm track
- ↖ Tropical wave track
- ↖ Category 1-2 storm track
- ↖ Tropical depression track
- ↖ Subtropical depression track
- ↖ Tropical low track
- ↖ Tropical disturbance track

Source: NOAA Coastal Service Center



Hurricane wind damage

Hurricane & Tropical Cyclone Probability Assessment & Extent of Disaster 1995-2009

Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Damage Expectations of Event:
All Jurisdictions	3	Medium Probability Event likely to occur on a five year cycle	High Damage will exceed the crop damage estimate of 10 million. This amount is spread across the State of AL
Lauderdale County	3	21%	\$714,285.71
Town of Anderson	3	21%	\$714,285.71
City of Florence	3	21%	\$714,285.71
Town of Killen	3	21%	\$714,285.71
Town of Lexington	3	21%	\$714,285.71
Town of Rogersville	3	21%	\$714,285.71
Town of St. Florian	3	21%	\$714,285.71
Town of Waterloo	3	21%	\$714,285.71

Source: Hazard Mitigation Planning Team

Hurricane & Tropical Storm Events

1950 - 2009			
Total Number of Recorded Hurricane & Tropical Storm Events	Total Deaths	Total Injuries	Total Property & Crop Damage
Three	2	0	Property: 100 Million Crop Damage: 10 Million
Three Hurricane & Tropical Storm Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Hurricane & Tropical Storm Individual Incidence Events

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale	10-04-1995	Hurricane Opal/High Winds	2	0	100 Million	10 Million
Lauderdale	7-10-2005	Tropical Storm	0	0	0	0
Lauderdale	8-29-2005	Tropical Storm	0	0	0	0

Source: <http://http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Landslide Description & Profile

Landslides constitute a major geologic hazard because they are widespread and occur in all U.S. states. Damage in the U.S. equals over \$1-2 billion in damages and includes more than 25 fatalities on average each year. In Alabama, damages over a million dollars every year. The State of Alabama reports 50 out of the 66 counties find themselves as being vulnerable to landslides. However, in Lauderdale County, there are no records of landslide events, and Lauderdale County is ranked with moderate susceptibility with a low incidence by the Alabama Geologic Survey.

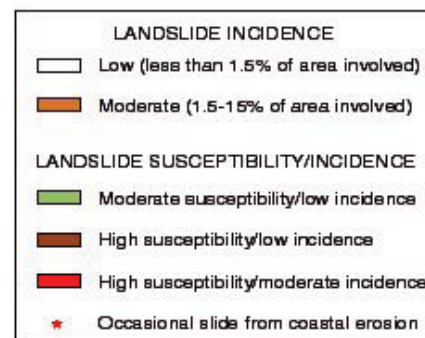
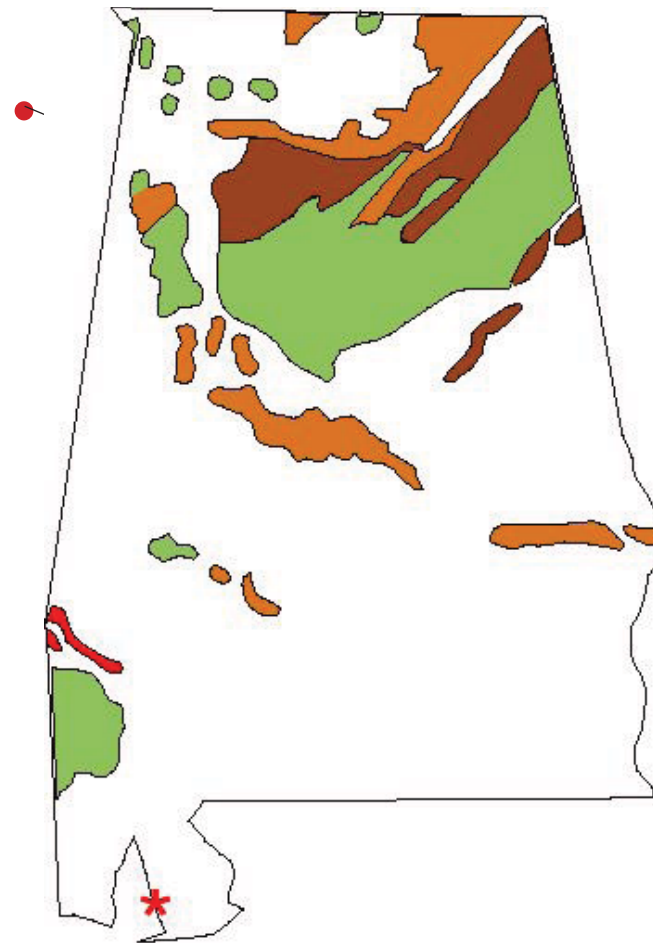
The increased development of urban and recreational areas within steep slopes has led to increased threats, deaths and property damage by landslides. This development trend must be taken into account in Lauderdale County as growth within the planning study area continues. Lauderdale County has not been susceptible to landslides. However, inventory of landslides into the identified susceptible areas may not be closely documented.

Damage from landslides is estimated to be moderate to low. With changes in development patterns and densities occurring, there is a greater chance of future landslide activity that are unanticipated at present due to unforeseen construction of buildings, highways, railroads and/or mining activities. Monitoring and land use planning activities must continue during the planning implementation period to continue the absence of landslides.

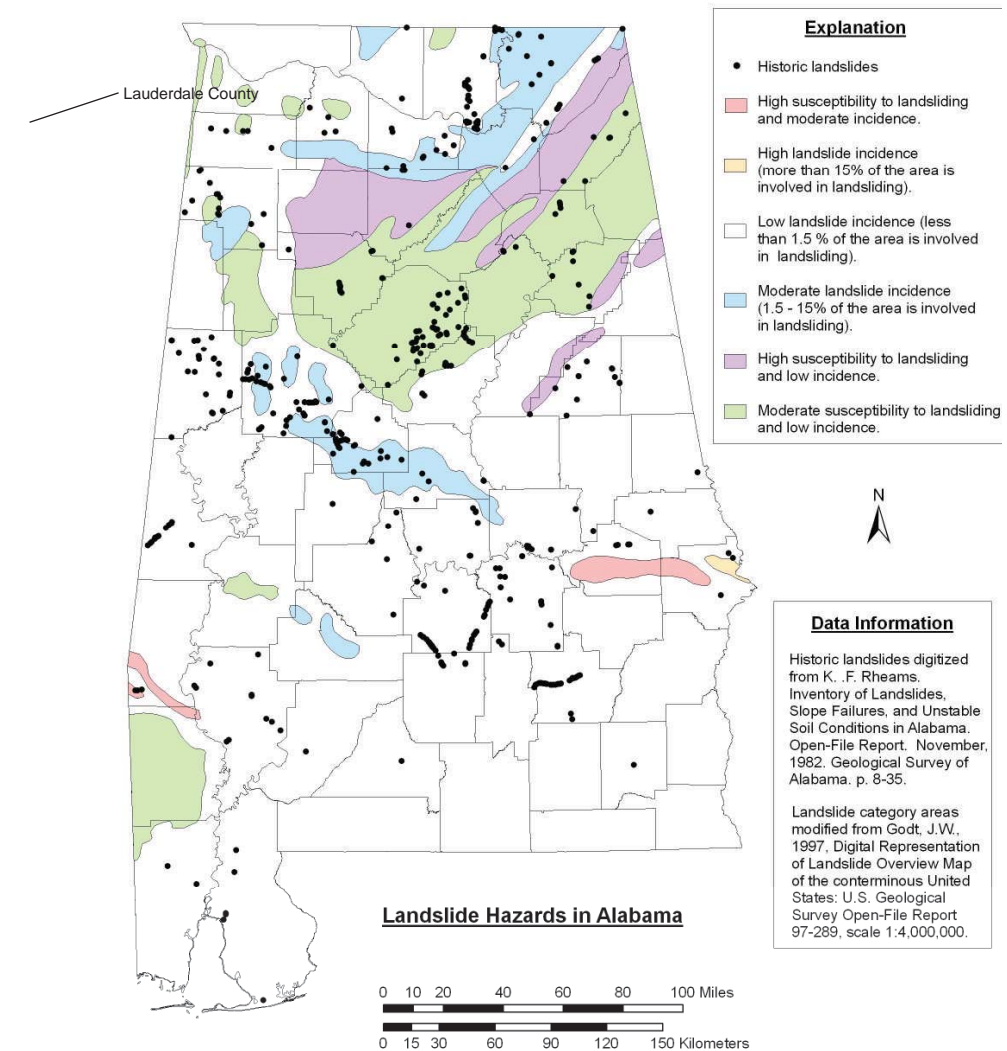
The extent of the potential hazard event is within the participating jurisdictions located on the western end of Lauderdale County. The potential damage of the event is low with no historic landslides occurring.



Road damage created by landslide



Source: U.S. Geological Survey
Source: Alabama Geological Survey



Source: AL State Hazard Mitigation Plan Update 2007

Probability & Extent of Disaster

Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Landslides	Low Probability There have been no recent events of landslides in the study area and there is a moderate susceptibility on the western side of Lauderdale County Event not likely to occur	Low No historic landslides are recorded by the Geological Survey of Alabama	Perceived extent of affect is within Lauderdale County on the western end as indicated on the landslide incidence and susceptibility map

Source: Hazard Mitigation Planning Team

Nuclear Accidents Description & Profile

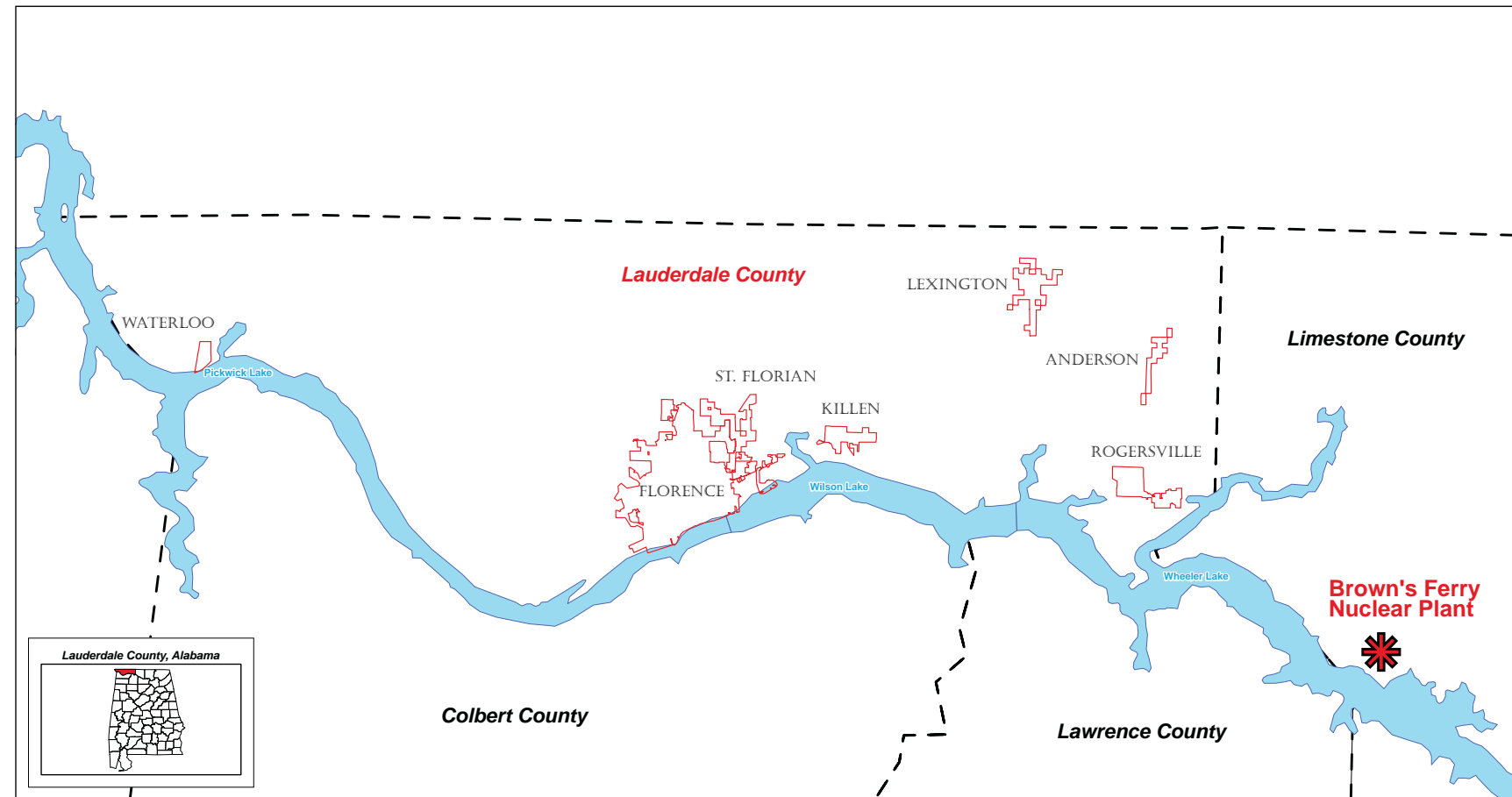
According to FEMA, the definition for nuclear accidents involves events with release of significant levels of radioactivity and/or exposure of the activity to humans. Nuclear facilities are designed to withstand aircraft attacks and are expected to withstand incidents of natural disasters. FEMA, TVA and local jurisdictions have developed Federal Radiological Emergency Response Plans (FRERP).

Nuclear accidents were not recognized in the 2004 Multi-Jurisdictional Pre-Natural Disaster Hazard Mitigation Plan for Lauderdale County. Furthermore, the State of Alabama Hazard Mitigation Update of 2007 does not address nuclear accidents. Nuclear accidents were not placed on the public involvement surveys for the planning study area. However, participants of the visual preference survey identified nuclear accidents as a concern and survey participants wrote comments for nuclear accidents being of concern.

Lauderdale County is not a host disaster event county for Limestone County which contains the Tennessee Valley Authority Brown's Ferry Nuclear facility. Browns Ferry is located on 840 acres beside Wheeler Reservoir near Athens, Alabama, and is within the 10 mile Emergency Planning Zone (EPZ). This facility raises concerns for a potential disaster occurrence although the planning team rated the possibility as low. There is not documentation for a widespread nuclear disaster for the Browns Ferry facility.



Nuclear cooling towers



* Brown's Ferry
 □ Alabama Counties

Lauderdale County, AL
 Brown's Ferry Nuclear Plant

0 3.5 7 14 Miles



Probability & Extent of Disaster

Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Nuclear Accident	Low Probability There have been no recent events of widespread nuclear accidents in the study area although there is a moderate susceptibility on the eastern side of Lauderdale County. Browns Ferry is a 30 minute commute from Rogersville.	High If a nuclear accident were to occur the damage would be devastating. In part to the hydrological connection to Lauderdale County and adjacent Limestone County.	Lauderdale County Town of Anderson City of Florence Town of Killen Town of Lexington Town of Rogersville Town of St. Florian Town of Waterloo

Source: Hazard Mitigation Planning Team

Sinkholes/Land Subsidence Description & Profile

Limestone or carbonate rock formations are contained throughout Lauderdale County and the planning study area. Limestone rocks interact with the acidity of rainwater and begins an underground erosion process called the carbon dioxide cascade. The process creates underground tunnels that eventually implode causing sinks or what is also called land subsidence. Damage from sinks can occur throughout Lauderdale County as is illustrated by the areas of active sinks in Alabama.

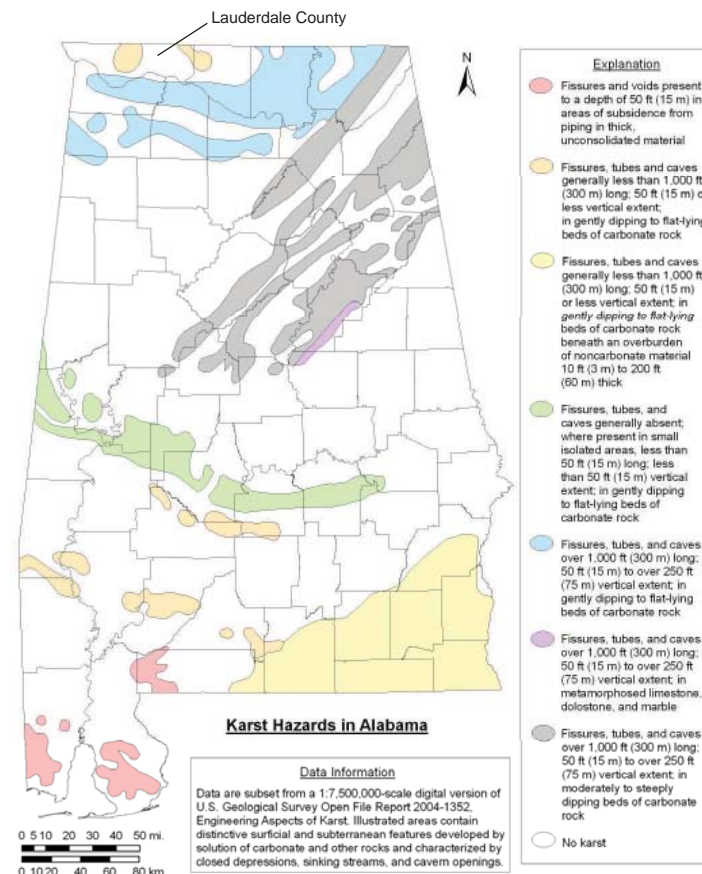
Karst formations are most likely to contain potential for land subsidence within Alabama. This natural disaster is generally localized in Alabama as well as Lauderdale County. A majority of land subsidence activities occur after the undertaking of mining activities or construction undertakings. Sinks were not perceived as a direct threat to the citizens and communities of the planning study area. However, sinkholes were recognized as possible but not necessarily likely to create impact or damage within the county. This in part may be due to a lack of data on localized damages as well as development density within the county jurisdiction.

Land subsidence was assessed as a threat by all areas of Lauderdale County and the planning study area. In addition, sinks will require adequate mitigation planning to mitigate potential damages. More contemporary data is needed to assess and appropriately mitigate disasters.

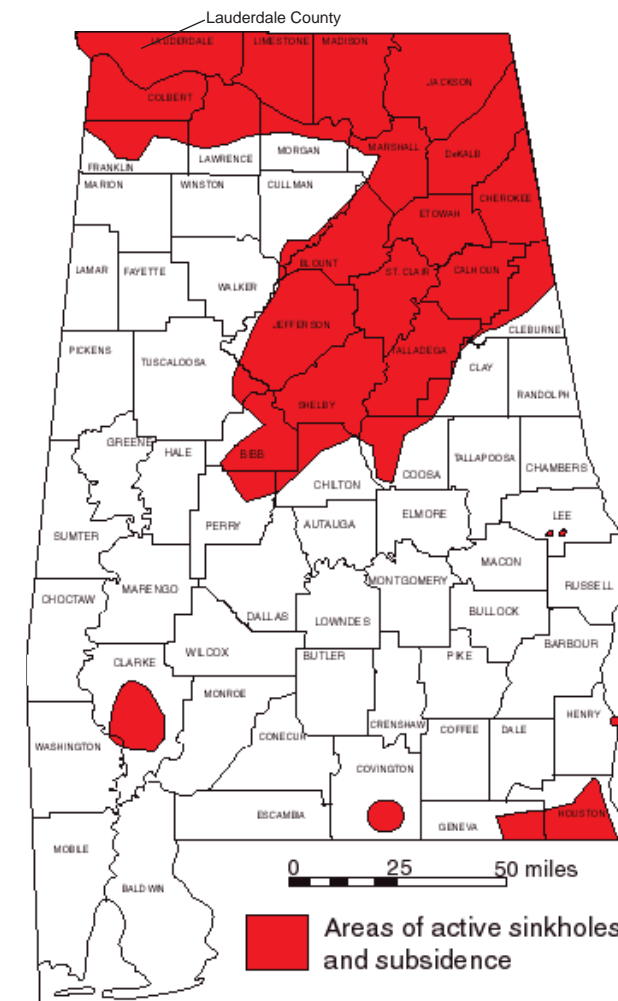
The extent of the potential hazard event for the participating jurisdictions is within all jurisdictions. There is expected to be moderate damage when the event occurs.



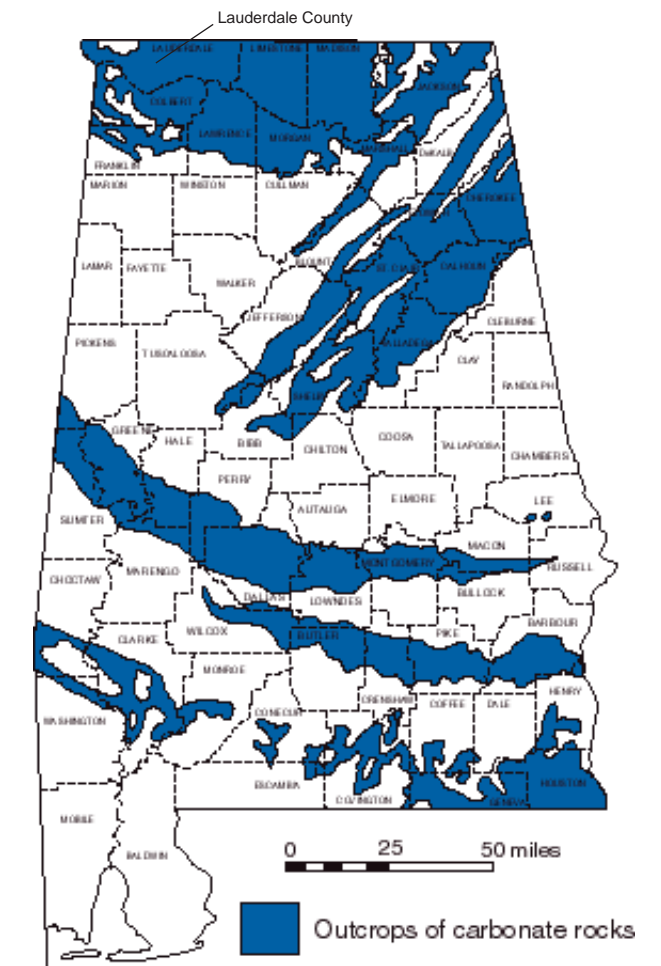
Large sinkhole in wooded area



Source: Alabama Geological Survey



Source: Alabama Geological Survey



Source: Alabama Geological Survey

Probability & Extent of Disaster

Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Sinkholes & Land Subsidence	Low Probability	Moderate	Lauderdale County
	There have been no recent events of sinks in the study area although there is a high susceptibility throughout the planning study area. Event likely to occur, more data needed	No recent sinks are recorded by the Geological Survey of Alabama Since 1977	City of Florence Town of Killen Town of Lexington Town of Rogersville Town of St. Florian Town of Waterloo

Source: Hazard Mitigation Planning Team

Severe Storms Description & Profile

Severe storm events for this planning document include hail, lightening and thunderstorms with high winds. The combination of these events or as individual occurrences has been deadly within the participating jurisdictions. According to the National Weather Service (NWS), Lauderdale County and the planning study area have experienced each of the collective severe storm events. These events have resulted in deaths, injuries, property damage and crop damage throughout the planning jurisdiction. The Planning Team and Policy Committee expect further occurrences of severe storms.

- Lightning Strikes (18): Average Damage = \$10,722.00 per strike.
- Hail Storms (138): Average Damage = \$2,536.00 per incident
- Thunderstorms (269): Average Damage = \$429,368.00 per incident not considering the loss of life and injury sustained

The extent of the potential hazard event for can occur in each of the participating jurisdictions. Damages can be in excess of 1 million dollars. One million dollars in damages has occurred in the jurisdiction of Lexington.

Severe Storms Probability Assessment & Extent of Disaster 1961-2009			
Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Average Annual Damage Expectations of Event:
All Jurisdictions	425 Severe Storms	High Probability Event very likely to occur yearly in county	High Damage has the potential to exceed damage estimates of 1 million. This amount has occurred in Lexington
Lauderdale County	239	498%	\$79,000.00
Town of Anderson	17	35%	\$1,229.17
City of Florence	77	160%	\$8,083.33
Town of Killen	23	48%	\$1,937.50
Town of Lexington	23	48%	\$24,854.17
Town of Rogersville	22	46%	\$7,062.50
Town of St. Florian	1	2%	\$104.17
Town of Waterloo	23	48%	\$2,937.50

Source: Hazard Mitigation Planning Team

Lightning Strike Storm Events

1994 –2009			
Total Number of Recorded Lightning Strike Events	Total Deaths: 1	Total Injuries: 6	Total Property & Crop Damage
18			Property: \$193,000.00 Crop Damage: \$0.00
18 Individual Lightning Strike Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Hail Storm Events

1969 –2009			
Total Number of Recorded Hail Storm Events	Total Deaths: 0	Total Injuries: 0	Total Property & Crop Damage
138			Property: \$273,000.00 Crop Damage: \$77,000.00
138 Individual Hail Storm Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Thunderstorm and High Wind Events

1962 –2009			
Total Number of Recorded Thunderstorm & High Wind Events	Total Deaths: 4	Total Injuries: 7	Total Property & Crop Damage
269	1992 = 1 1995 = 2 2004 = 1	1992 = 1 1993 = 2 2000 = 1 2004 = 3	Property: 105 Million Crop Damage: 10.5 Million
269 Individual Thunderstorms & Highwind Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>



Severe storm with lightning strike



Severe storm with hail



Tree damage from storm event

Tornado Description & Profile

Tornadoes are formed from a horizontal change in wind speed and direction that is then uplifted into a vertical formation. The vertical mass can be greater than six miles wide in rotation. From this larger mass results a the damaging winds and storms of a spinning tornado.

The planning study area is located in a Zone IV Wind Zone, according to the U.S. Wind Zone Map. This map shows frequency and strength of extreme windstorms in the U.S. Lauderdale County is at the highest risk of damage from these events. Tornadoes were assessed as a threat by the entire planning study area and every jurisdiction of Lauderdale County. There were over 29 tornadoes within Lauderdale County for the study period. Furthermore, there were two deaths and seventeen injuries resulting from tornado events. In addition, each event averaged \$96,551.00 in damages per event. The Fujita Scale is used to rate the intensity of a tornado by examining the damage caused by the tornado after it has passed over a man-made structure. The scale ranges from F0 to F6 with F6 is often described as inconceivable from an engineering stand point.

The extent of the potential hazard event is within each participating jurisdiction. Previous damage has been moderate to low but as increased density occurs within the planning study area so will increased damages.



Tornado image

Tornado Probability Assessment & Extent of Disaster 1951-2009			
Extent of Jurisdictional Affect:	Historical Occurrences:	Percent Probability of Future Annual Occurrence:	Average Annual Damage Expectations of Event:
All Jurisdictions	29	Medium Probability Event likely to occur on a two year cycle	High Previous damages have been moderate to low but increased density will increase potential damages
Lauderdale County	20	34%	\$34,379.31
Town of Anderson	1	2%	\$689.66
City of Florence	3	5%	\$8,958.33
Town of Killen	2	3%	\$3,017.24
Town of Lexington	1	2%	\$86.21
Town of Rogersville	1	2%	\$4,310.34
Town of St. Florian	1	2%	\$0.00
Town of Waterloo	0	0%	\$0.00

Source: Hazard Mitigation Planning Team

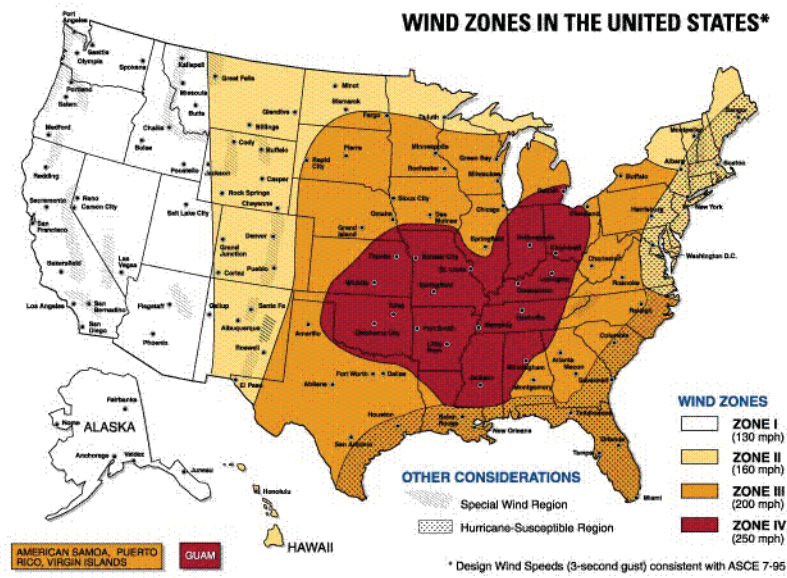


Figure 1.2 Wind zones in the United States

Wind Zones in the United States

NUMBER OF TORNADOES PER 1,000 SQUARE MILES (See Figure 1.1)	WIND ZONE (See Figure 1.2)			
	I	II	III	IV
<1	LOW RISK	LOW RISK	LOW RISK	MODERATE RISK
1 - 5	LOW RISK	MODERATE RISK	HIGH RISK	HIGH RISK
6 - 10	LOW RISK	MODERATE RISK	HIGH RISK	HIGH RISK
11 - 15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK
>15	HIGH RISK	HIGH RISK	HIGH RISK	HIGH RISK

LOW RISK: Need for high-wind shelter is a matter of homeowner preference
 MODERATE RISK: Shelter should be considered for protection from high winds
 HIGH RISK: Shelter is preferred method of protection from high winds
 ★ Shelter is preferred method of protection from high winds if house is in hurricane-susceptible region

Wind Zones Risk Chart

Tornado Storm Events

1950 - 2009			
Total Number of Recorded Tornado Events	Total Deaths	Total Injuries	Total Property & Crop Damage
29	2	17	Property: 2.8 Million Crop Damage: Zero

Twenty-Nine Individual Tornado Incidents in Lauderdale County

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Tornado Individual Incidence Events

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale	11-15-1951	Tornado	0	6	\$3,000.00	0
Lauderdale	3-22-1953	Tornado	0	0	\$3,000.00	0
Lauderdale	9-20-1958	Tornado	0	0	\$25,000.00	0
Lauderdale	3-09-1964	Tornado	2	2	\$250,000.00	0
Lauderdale	3-17-1965	Tornado	0	0	\$250,000.00	0
Lauderdale	10-24-1967	Tornado	0	1	\$250,000.00	0
Lauderdale	3-20-1976	Tornado	0	2	\$25,000	0
Lauderdale	4-11-1979	Tornado	0	1	0	0
Lauderdale	4-17-1982	Tornado	0	0	\$250,000.00	0
Lauderdale	8-16-1985	Tornado	0	0	0	0
Lauderdale	6-11-1986	Tornado	0	0	\$3,000.00	0
Lauderdale	11-4-1988	Tornado	0	0	0	0
Lauderdale	5-03-1993	Tornado	0	0	0	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Tornado Individual Incidence Events

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale	5-03-1993	Tornado	0	0	0	0
Lauderdale	6-26-1994	Tornado	0	3	\$500,000.00	0
Florence	5-18-1995	Tornado	0	0	\$200,000.00	0
Killen	2-27-1999	Tornado	0	0	\$145,000.00	0
Florence	5-06-2003	Tornado	0	0	\$200,000.00	0
Rogersville	5-17-2003	Tornado	0	0	\$250,000.00	0
Murphy Crossroads	5-30-2004	Tornado	0	0	\$5,000.00	0
Florence	5-30-2004	Tornado	0	0	\$30,000.00	0
Killen	5-30-2004	Tornado	0	0	\$30,000.00	0
Anderson	5-30-2004	Tornado	0	0	\$40,000.00	0
Petersville	10-18-2004	Tornado	0	0	\$20,000.00	0
Lexington	10-18-2004	Tornado	0	0	\$5,000.00	0
St. Florian	4-07-2006	Tornado	0	0	0	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Tornado Individual Incidence Events

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Rhodesville	5-08-2008	Tornado	0	2	\$300,000.00	0
Thorton Town	5-08-2008	Tornado	0	0	\$5,000.00	0
Gravelly Springs	5-10-2008	Tornado	0	0	\$100,000.00	0
Powell	5-10-2008	Tornado	0	0	\$5,000.00	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Wildfires Description & Profile

There are two major factors that contribute to wildfire behavior in Alabama, fuel and weather. As with most natural hazards, wildfires are strongly influenced by weather phenomena and the number of structures in the vicinity. In conjunction with fuel and weather is the wildland urban interface. This area establishes the opportunity for wildfires to begin within developed areas. The wildland urban interface is the point at which development meets forested areas within Alabama.

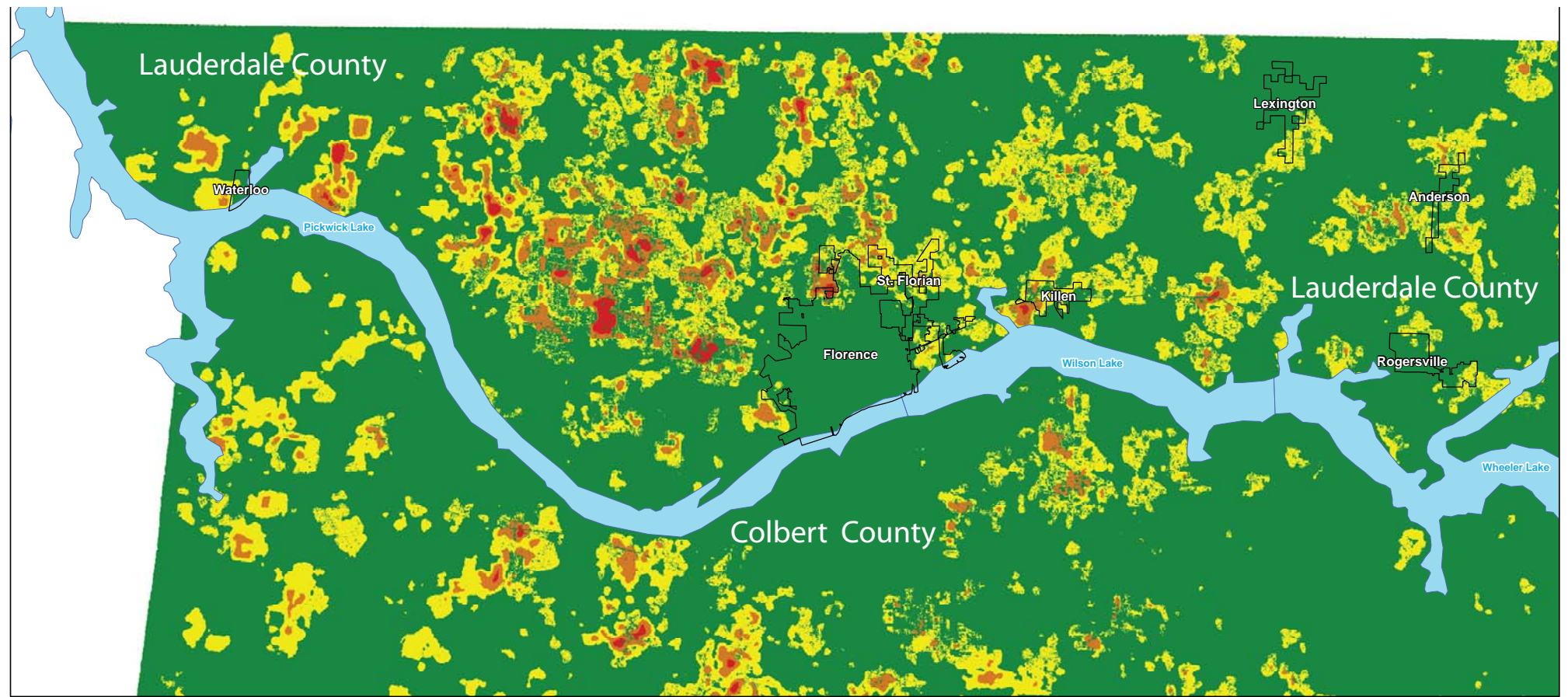
There are no recorded wildfires within the planning study area according to the NOAA Satellite and Information Service. This is clearly an indication of an absence of data for recognized sources. However, the 2007 State of Alabama Hazard Mitigation Plan Update documents 980 wildfires in Lauderdale County from 1995 to 2006. The total acres burned in this period was 6,354. The average fire size was 6.5 acres.

Wildfires will continue to be an ongoing threat for the planning study area. The threat will be the greatest in areas where the interface and rural development patterns meet. The planning jurisdictions felt that wildfires would have their greatest impact within the county and in and around isolated towns and communities.

The adjacent chart references the extent of the potential hazards event for the affected participating jurisdictions. The magnitude of damage is low with previous damages being low.



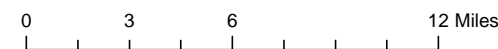
Wildfire



- Cities/Towns
- Tennessee River
- 1 - Low Risk
- 2 - Medium Risk
- 3 - High Risk
- 4 - Extreme Risk



Lauderdale County, AL Wildfire Risk Per Acre



Probability & Extent of Disaster

Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Wildfires	Low Probability	Low	Lauderdale County
	Recent events have not occurred	Previous damages have not occurred or go undocumented do to scale of fire.	Town of Anderson Town of Lexington Town of Waterloo
	Event not likely to occur based on historical data. However, extreme fuel loads exist in the planning jurisdictions.	Damages will occur in low density areas. Occupied structures may result in injury or death and property and crop damages are likely.	

Source: Hazard Mitigation Planning Team

Wildfire Event Occurrence

1950 –2009			
Total Number of Recorded Wildfire Events	Total Deaths	Total Injuries	Total Property & Crop Damage
0	0	0	Property: Zero Crop Damage: Zero
Zero Individual Wildfire Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Winter Storm Description & Profile

Winter storm events consist of snow and ice as well as freezing rain with resulting flash floods. Within Alabama and Lauderdale County, winter storms often create ice conditions, which disrupt local commerce and transportation. Furthermore, winter storms cause loss of life and damage as did the event of 1993 and 1998. Additional winter storms caused severe damages of property and crops throughout the planning study area.

Winter storms were identified as a potential threat for the entire study area by planning participants. This occurred during the visual preference survey as well as the hazard identification surveys. Finally, winter storms tend to be wide spread across North Alabama and carry a significant impact of damage. On average, winter storms cause a significant amount of property and crop damage. However, it is difficult to assess the damage due to the process for gathering data. Winter Storm event data is often consolidated across counties and therefore individual data is difficult to acquire.

The extent of the potential hazard event for the participating jurisdictions affects all the jurisdictions. There is potential for at least one event every year with low to moderate damages.



People in winter storm

Probability & Extent of Disaster

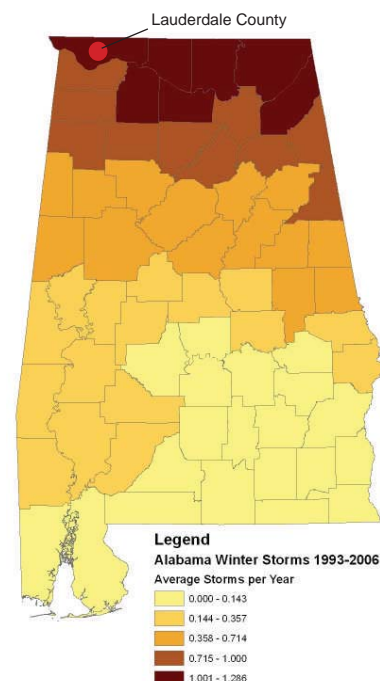
Natural Hazard	Probability of Event	Damage or Magnitude of Event	Extent of Affect
Winter Storms	High	Low	Lauderdale County
	Recent events have occurred In 2008 and 2009	Previous damages have been low with specific cases of high damages occurring state wide	Town of Anderson
			City of Florence
	Event likely to occur once every year		Town of Killen
			Town of Lexington
			Town of Rogersville
			Town of St. Florian
		Town of Waterloo	

Source: Hazard Mitigation Planning Team

Probability & Extent of Disaster

1950 –2009			
Total Number of Recorded Winter Storm Events	Total Deaths	Total Injuries	Total Property & Crop Damage
23	5	2	Property: \$5 Billion Crop Damage: \$38,000.00
23 Individual Winter Storm Incidents in Lauderdale County			

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>



Source: 2007 AL State Hazard Mitigation Plan



Extreme winter freeze conditions

Winter Storm Individual Incidence Events

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale & Multiple Counties	3-12-1993	Winter Storm	4	0	5 Billion	0
Lauderdale & Multiple Counties	2-09-1994	Ice Storm/Flash Flood	0	2	0	0
Lauderdale & Multiple Counties	1-06-1995	Freezing Rain	0	0	0	0
Lauderdale & Multiple Counties	1-22-1995	Snow	0	0	0	0
Lauderdale & Multiple Counties	2-06-1995	Snow/Ice	0	0	0	0
Lauderdale & Multiple Counties	2-11-1995	Snow/Ice	0	0	0	0
Lauderdale & Multiple Counties	1-06-1996	Winter Storm	0	0	\$380,000.00	\$38,000.00
Lauderdale & Multiple Counties	2-01-1996	Winter Storm	0	0	\$595,000.00	0
Lauderdale & Multiple Counties	1-10-1997	Winter Storm	0	0	\$64,000.00	0
Lauderdale & Multiple Counties	12-23-1998	Ice Storm	1	0	\$14.4 Million	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale & Multiple Counties	1-06-1999	Winter Storm	0	0	0	0
Lauderdale & Multiple Counties	12-21-1999	Ice Storm	0	0	0	0
Lauderdale & Multiple Counties	1-27-2000	Ice Storm	0	0	0	0
Lauderdale & Multiple Counties	2-05-2002	Winter Storm	0	0	\$170,000.00	0
Lauderdale & Multiple Counties	3-15-2005	Winter Weather/Mix	0	0	\$30,000.00	0
Lauderdale & Multiple Counties	2-1-2007	Heavy Snow	0	0	0	0
Lauderdale & Multiple Counties	3-07-2008	Winter Storm	0	0	0	0
Lauderdale & Multiple Counties	12-01-2008	Winter Weather	0	0	0	0
Lauderdale & Multiple Counties	12-11-2008	Heavy Snow	0	0	0	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

Location Or County	Date	Event Type	Deaths	Injuries	Total Property Damage	Total Crop Damage
Lauderdale & Multiple Counties	12-23-2008	Winter Weather	0	0	0	0
Lauderdale & Multiple Counties	3-01-2009	Heavy Snow	0	0	0	0
Lauderdale & Multiple Counties	3-01-2009	Winter Weather	0	0	0	0

Source: <http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwevent~storms>

RA.3 Assessing Vulnerability Overview

Overview

The planning study area is equally susceptible to all the identified hazards described and profiled with the exception of two hazards. The hazards of landslides and floods are localized within the planning study area.

Non-localized hazard risks have been reviewed for historical impact as well as estimated annual damages within the hazard profile and description page where appropriate. Data limitations for county wide vulnerable structures exist. It is recommended that a land use and structural survey assessment be completed prior to the 2015 plan review.

The adjacent tables describe the population distribution within Lauderdale County as well as population projections for the year 2025. A linear projection methodology was used to show that Lauderdale County would grow in population to 116,334 persons. Furthermore, the projection indicates that the City of Florence may continue a trend of increased growth with overall growth of the county taking place in the unincorporated area.

The current population estimates indicate that Lauderdale County grew 9,467 persons from 1990 to 2008. The City of Florence expanded by 1,451 persons during the same period with all other incorporated areas gaining population with the exception of Waterloo.

Population Distribution & Population Projection by Jurisdiction

Jurisdiction	2008 Population Estimate	Percent of Total County Population	Average Annual Absolute Change	Projected 2025 Population	Percent of Total County Population
Lauderdale County	89,128	100%	1,135	116,334	100%
Anderson	354	.4%	1.5	392	.3%
Florence	37,877	42%	81	38,279	33%
Killen	1,142	1%	7.2	1,299	1%
Lexington	843	1%	1.9	888	1%
Rogersville	1,204	1%	7.4	1,384	1%
St. Florian	474	1%	4.78	555	.5%
Waterloo	210	.2%	.25	214	.2%

Source: Planning Team Linear Population Projections

Growth Projections & Multipliers

Jurisdiction	Percent Growth Allocation	Projected 2025 Population	2008–2025 Growth Rate Percentage	2025 Growth Multiplier
Lauderdale County	82%	116,334	63%	1.63
Anderson	.2%	392	.3%	1.003
Florence	15%	38,279	33%	1.33
Killen	1%	1,299	1%	1.01
Lexington	.2%	888	1%	1.01
Rogersville	.2%	1,384	1%	1.01
St. Florian	1%	555	.5%	1.005
Waterloo	-.04%	214	.2%	1.002

Source: Planning Team Growth Projections

Growth Allocation by Jurisdiction

Jurisdiction	1990	2000	Projected 2008	1990 – 2008 Growth	Percent of Growth Allocation
Lauderdale County	79,661	87,966	89,128	9,467	100%
Anderson	339	354	354	15	.2%
Florence	36,426	36,264	37,877	1,451	15%
Killen	1,047	1,119	1,142	95	1%
Lexington	821	840	843	22	.2%
Rogersville	1,125	1,199	1,204	22	.2%
St. Florian	388	335	474	86	1%
Waterloo	250	208	210	-40	-.4%

Source: Hazard Mitigation Planning Team

Natural & Technical Hazard Generalized Occurrence Rates Per Jurisdiction

Identified Hazards	Lauderdale County	Anderson	Florence	Killen	Lexington	Rogersville	St. Florian	Waterloo
Dam/Levee Failure	1%<	0%	1%<	1%<	0%	1%<	1%<	1%<
Drought	100%	100%	100%	100%	100%	100%	100%	100%
Earthquake	100%	100%	100%	100%	100%	100%	100%	100%
Extreme Temperatures	100%	100%	100%	100%	100%	100%	100%	100%
Flood	100%	100%	100%	100%	100%	100%	100%	100%
Hazardous Materials	100%	100%	100%	100%	100%	100%	100%	100%
Hurricane	100%	100%	100%	100%	100%	100%	100%	100%
Landslides	1%<	1%<	1%<	1%<	1%<	1%<	1%<	1%<
Nuclear Accidents	1%<	1%<	1%<	1%<	1%<	1%<	1%<	1%<
Sinkholes	1%<	1%<	1%<	1%<	1%<	1%<	1%<	1%<
Severe Storms	100%	100%	100%	100%	100%	100%	100%	100%
Tornado	100%	100%	100%	100%	100%	100%	100%	100%
Wildfires	100%	100%	100%	100%	100%	100%	100%	100%
Windstorms	100%	100%	100%	100%	100%	100%	100%	100%



Road floods



Tornado



Earthquake damage



Wildfire



Expanded Soils

RA.4 Addressing Repetitive Loss Properties

Overview

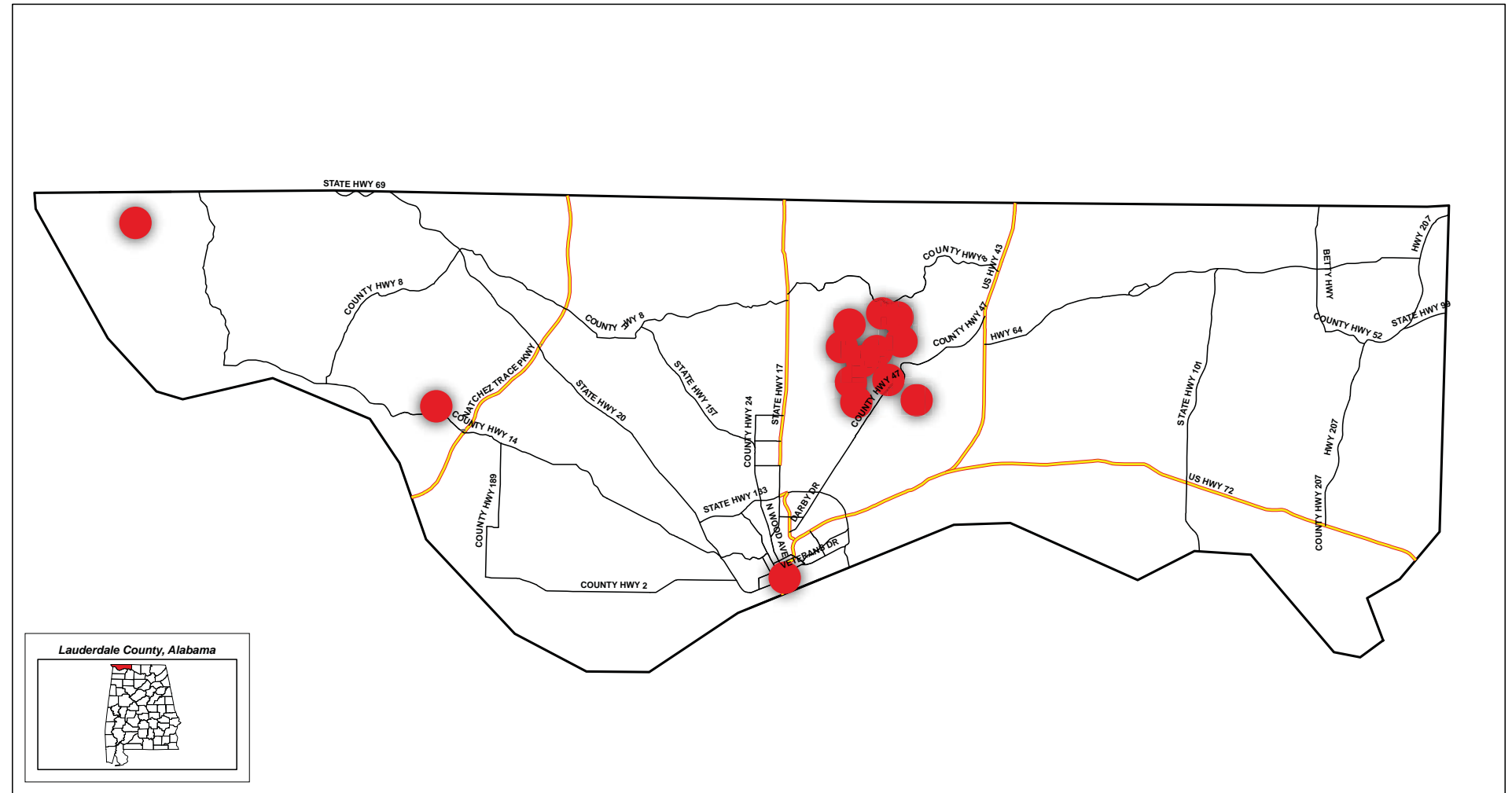
Repetitive loss properties are those for which two or more losses of at least \$1,000.00 each have been paid under the National Flood Insurance Program (NFIP) within any 10 year period since 1978.

The Florence-Lauderdale EMA continues to encourage all jurisdictions within the planning study area to comply with the NFIP standards and join the NFIP program. All jurisdictions are in compliance with the exception of the Town of Waterloo. Waterloo is actively pursuing compliance in it's community. The Town of Lexington entered the NFIP program on January 19, 2010.

Within the mapped flood plain there are no unusual or unique features. Land uses within the repetitive loss properties are primarily residential with low density development.

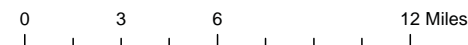
NFIP Losses from 1978 to October 2009		
Jurisdiction	Total Losses	Total Payments
Florence	22	\$281,446.00
Killen	0	0.00
St. Florian	0	0.00
Lauderdale County	106	\$506,698.00

Source: <http://bsa.nfipstat.com/reports/w2rhudrp.htm>



● Areas Prone to Flooding

Lauderdale County, AL
Flood Prone Areas



NFIP Policies as of 10-01-2009			
Jurisdiction	Policies In Force	Insurance In Force	Written Premium In Force
Florence	36	\$6,233,000.00	23,903.00
Killen	1	\$140,000.00	\$287.00
St. Florian	1	\$140,000.00	\$287.00
Lauderdale County	148	\$22,620,000.00	\$102,466.00

Source: <http://bsa.nfipstat.com/reports/w2rhudrp.htm>

Repetitive Loss Property Payment Types					
Jurisdictional Name	Building Payments	Contents Payments	Total Payments	Average Payments Per Loss	Losses
Lauderdale County	0	0	0	0	0
Anderson	0	0	0	0	0
Florence	\$292,023.03	\$98,595.07	\$390,618.10	\$8,680.40	45
Killen	0	0	0	0	0
Lexington	0	0	0	0	0
Rogersville	0	0	0	0	0
St. Florian	0	0	0	0	0
Waterloo	\$13,238.23	\$2,745.49	\$15,983.72	\$5,327.91	3

Source: State of Alabama NFIP Coordinator File

Repetitive Loss Properties Structure Types		
Jurisdictional Name	Number of Properties	Type of Structure
Lauderdale County	0	0
Anderson	0	0
Florence	13/2	Single Family(13) / Commercial(2)
Killen	0	0
Lexington	0	0
Rogersville	0	0
St. Florian	0	0
Waterloo	1	Single Family Residential

Source: State of Alabama NFIP Coordinator

RA.5 Identifying Structures

Critical Facilities

The delineation of facilities as critical is based on the HAZUS standards of critical facility definitions, as follows:

- **Essential Facilities** - These facilities are critical to the health and welfare of the entire county population and are essential following hazard events. They include emergency response facilities, medical care facilities, schools, and shelters for evacuation.
- **Lifeline Utility Systems** - These facilities are essential lifelines that include potable water, wastewater, natural gas, electric, and communication systems.
- **Transportation Systems** - These facilities include highways, bridges, railways, and waterways.
- **High Potential Loss Facilities** - These facilities include military installations and high potential loss dams.
- **Hazardous Materials Facilities** - These facilities may pose a threat if disrupted by natural hazards and include hazardous chemicals, explosives, flammables, toxins, and radioactive materials.

Critical facilities are delineated by category on the following pages and include law enforcement stations, fire stations, national guard locations, hospital locations, school buildings warning siren locations, and transportation facilities. Hazardous material locations are identified within the hazard profile and hazard description section of this document.

In addition, each jurisdiction within the planning study area has identified critical facility structures within their community. The structure type and estimated value have been placed by jurisdiction within this section. To further verify the amount of building types and material

values contained within the planning study area, the planning team applied a level one HAZUS-MH analysis to receive building material types and the amount of structures within those material types. That information along with building types by use are described with the overall estimated replacement value. Readers should be reminded that these numbers are estimates and further local data should be gathered to increase the estimates accuracy.

Local data was gathered in regards to each participating jurisdictions select critical facilities as they are perceived by that jurisdiction. In addition, vulnerability of critical facilities was discussed in relation to future buildings, infrastructure and critical facilities within the planning study area. Each participating jurisdiction indicated that no new significant infrastructure was expected to be undertaken within the foreseeable future. These statements are indicative of current and future economic trends for the planning study area and the five year planning period.

Building Material Types	
Material Type	Amount of Buildings
Wood	\$3,729,957
Steel	\$216,156
Masonry	\$679,983
Concrete	\$754,584
Manufactured	\$166,410
Total Structures	\$5,547,090

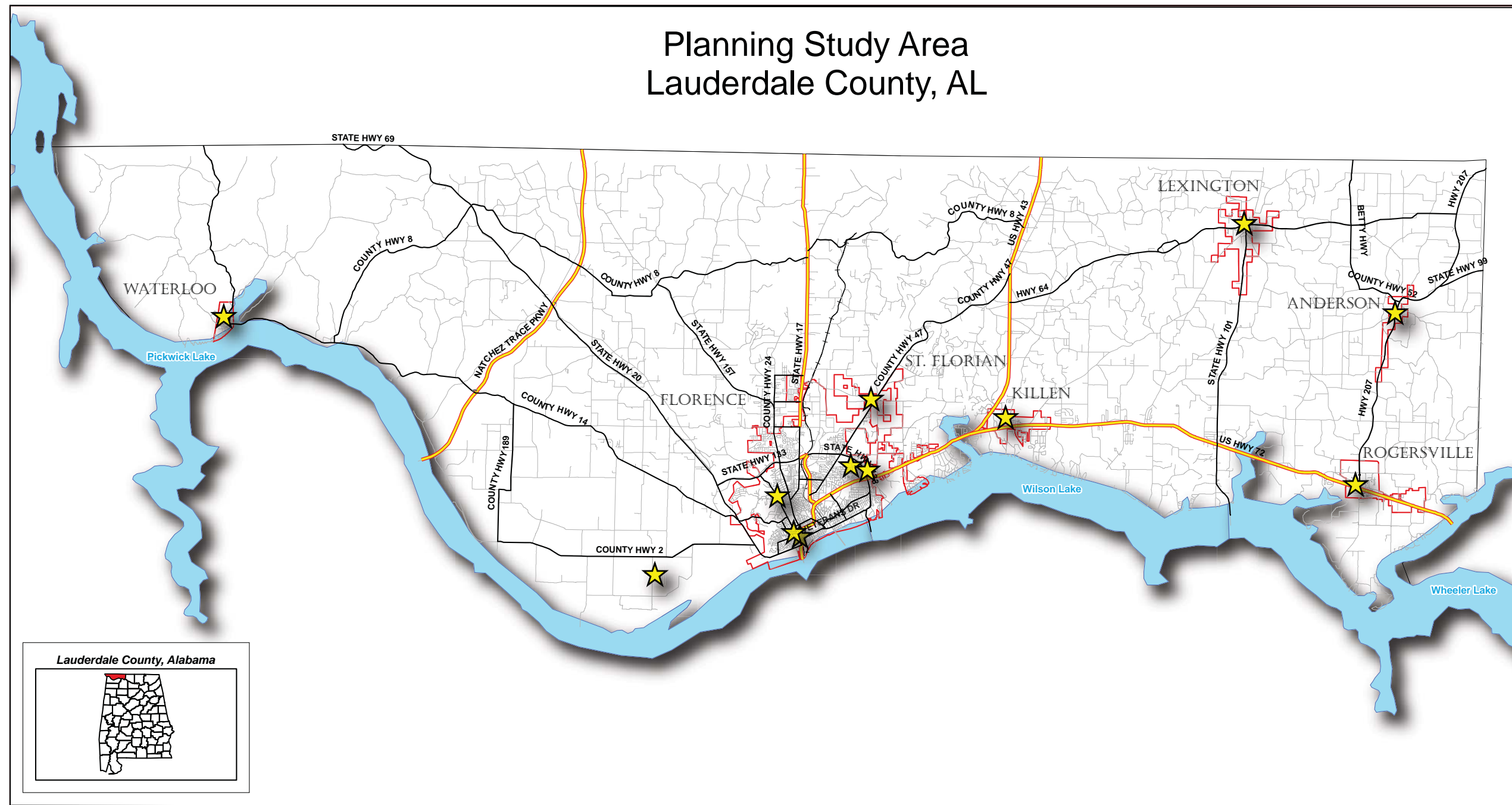
Source: HAZUS-MH

Building Asset Values		
Building Types	Amount of Buildings	Replacement Value
Residential	40,401	\$4,089,309,000.00
Commercial	1,905	\$917,053,000.00
Industrial	461	\$292,556,000.00
Agriculture	131	\$15,535,000.00
Religious	216	\$136,653,000.00
Government	59	\$34,394,000.00
Education	52	\$61,683,000.00
Total Structures	43,225	\$5,547,183,000.00

Source: HAZUS-MH

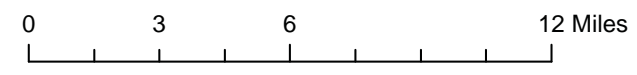
HAZUS –MH MR-4 Building Inventory by Material Type		
Material Type	Building Amount	Percent of Total
Wood	32,764	76%
Steel	228	1%
Masonry	1,314	3%
Concrete	4,129	10%
Manufactured Housing	4,462	10%
Total Buildings	43,225	100%

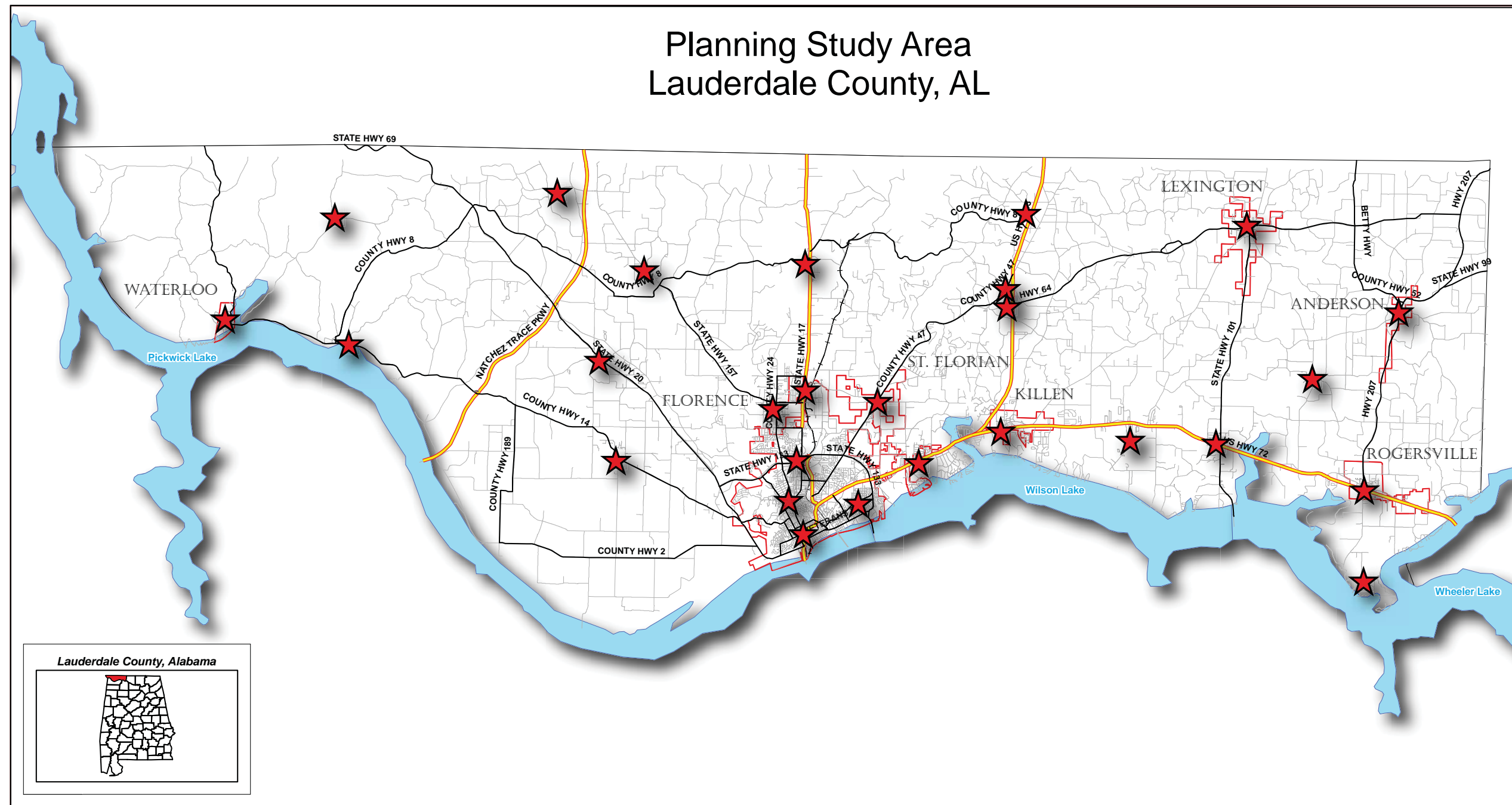
HAZUS –MH MR-4 Building Inventory by Occupancy		
Occupancy Type	Building Amount	Percent of Total
Residential	40,401	93%
Commercial	1,905	4%
Industrial	461	1%
Agriculture	131	.3%
Religion	216	.5%
Government	59	.1%
Education	52	.1%
Total Buildings	43,225	100%



- | | |
|-------------------|---------------------|
| ★ Law Enforcement | — Streets |
| — Highways | — Railroads |
| — Secondary Roads | ▭ Cities/Towns |
| — Aterial Roads | ▭ Tennessee River |
| - - - Other | ▭ Lauderdale County |

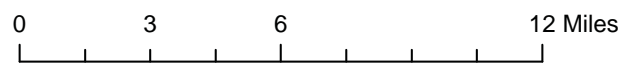
Essential Facilities Law Enforcement Locations

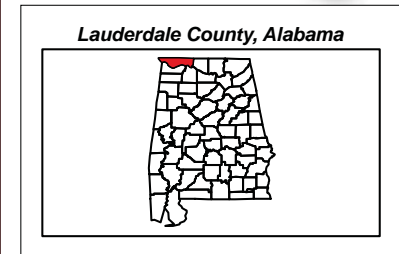
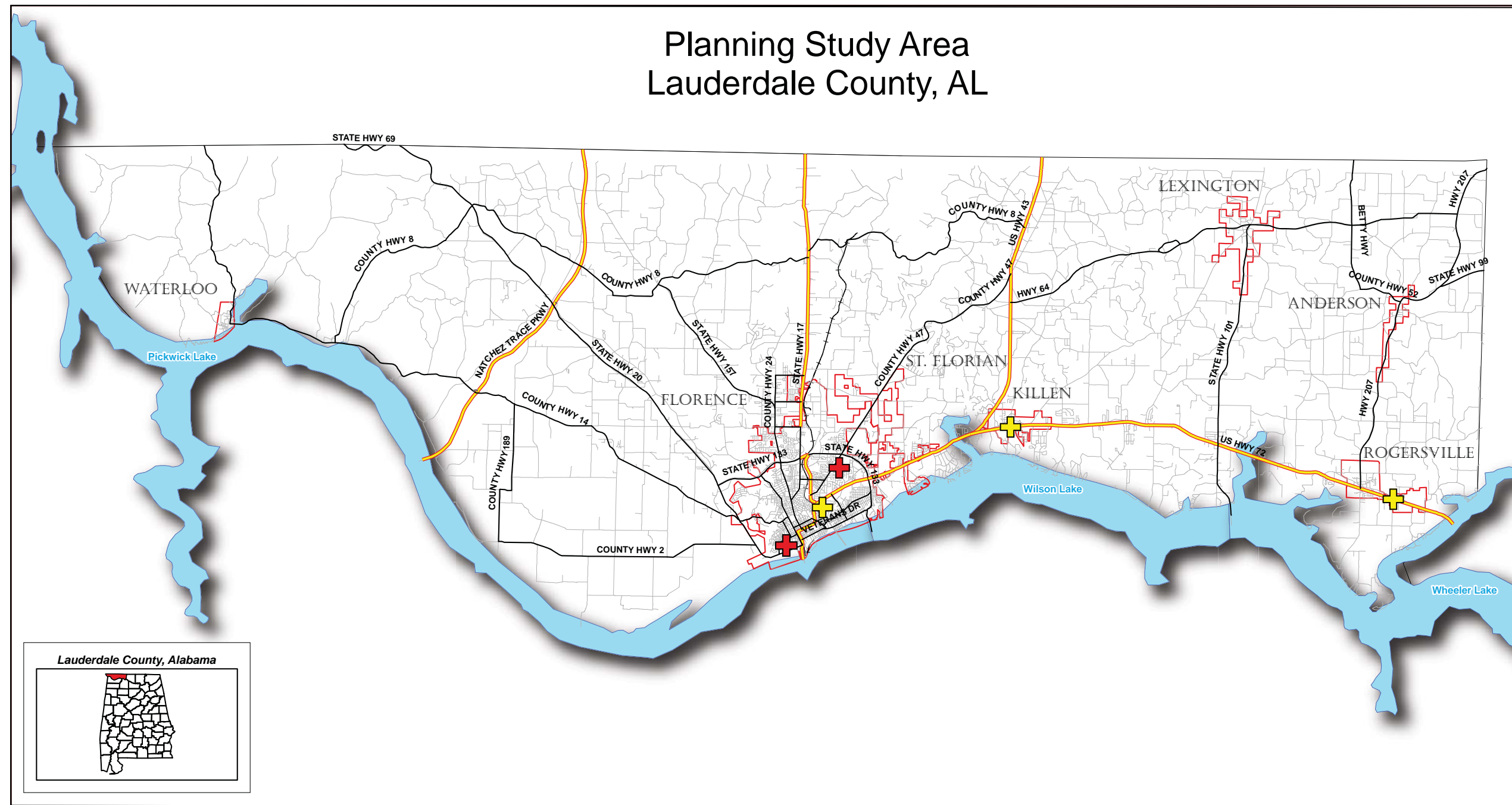




- Fire Stations
- Highways
- Secondary Roads
- Aterial Roads
- Other
- Streets
- Railroads
- Cities/Towns
- Tennessee River
- Lauderdale County

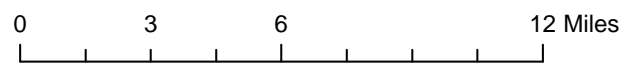
Essential Facilities Fire Station Locations

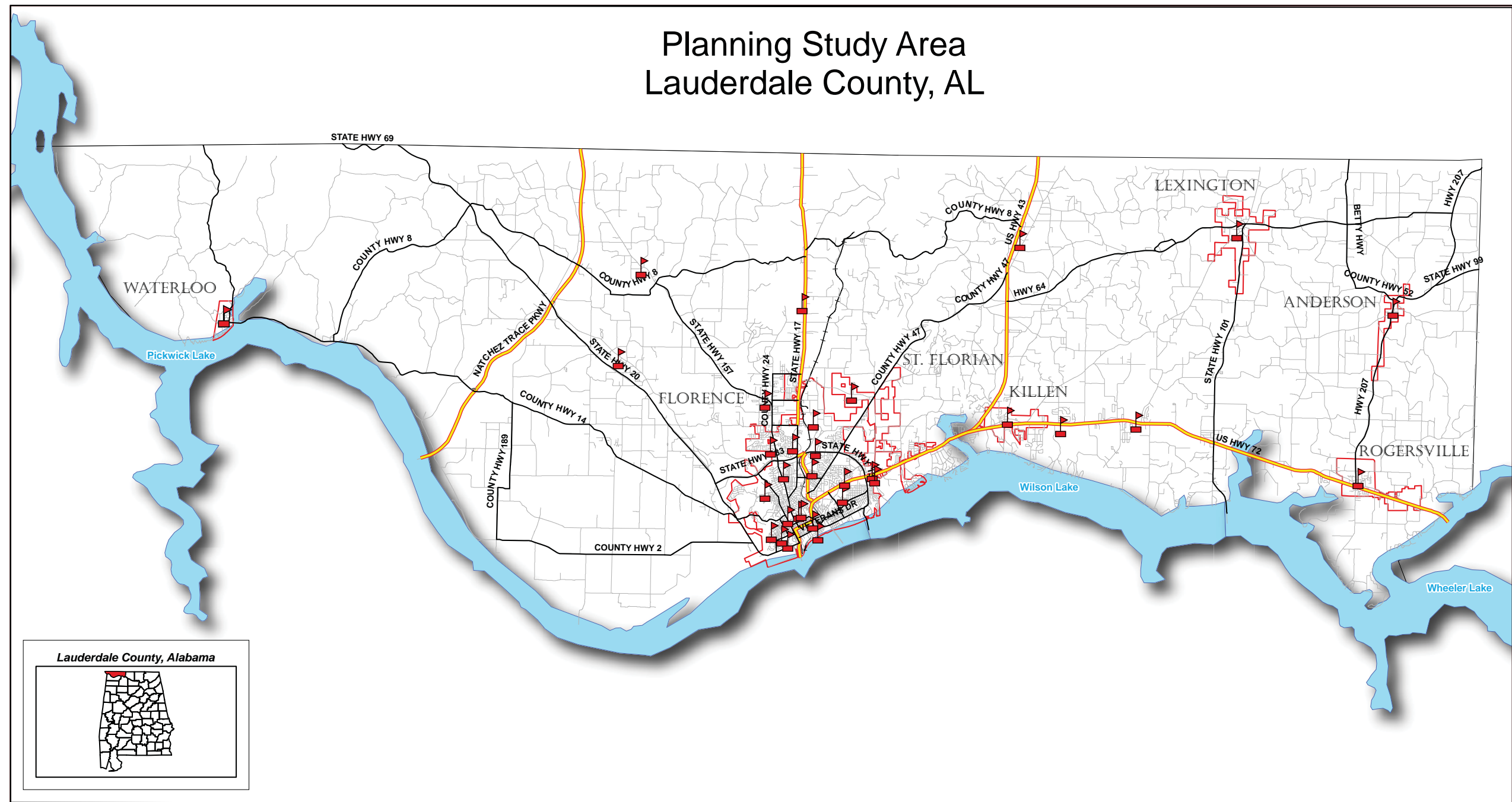




- | | |
|-----------------|--------------------|
| Hospitals | Ambulance Stations |
| Highways | Railroads |
| Secondary Roads | Cities/Towns |
| Aterial Roads | Tennessee River |
| Other | Lauderdale County |

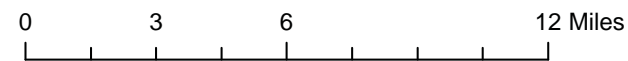
Essential Facilities Hospital Locations

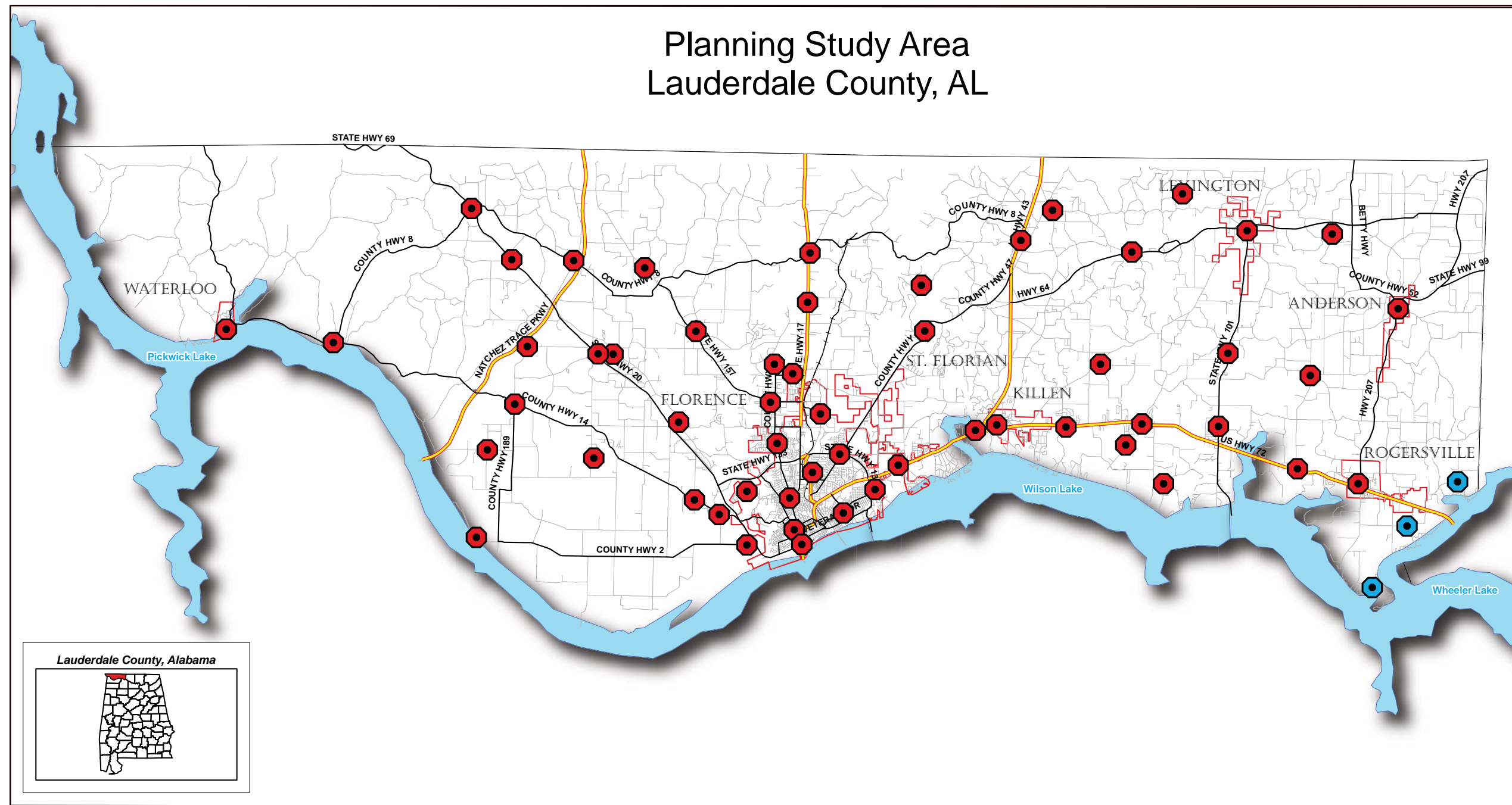




- Schools
- Highways
- Secondary Roads
- Aterial Roads
- Other
- Railroads
- Cities/Towns
- Tennessee River
- Lauderdale County

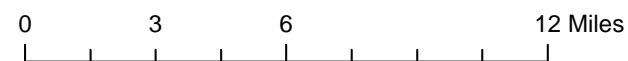
Essential Facilities School Locations

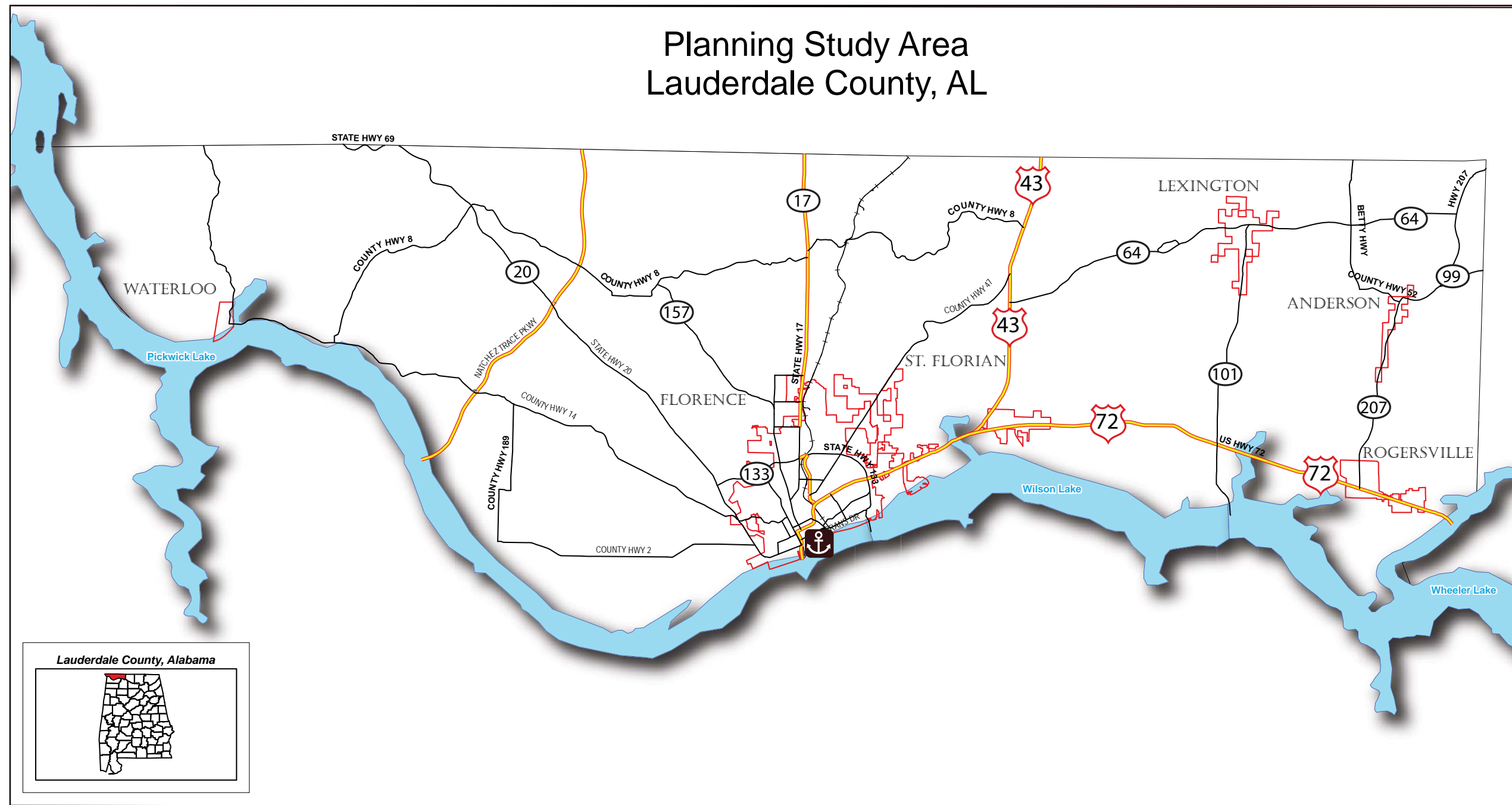




- Warning Siren
- TVA Warning Siren
- Highways
- Secondary Roads
- Aterial Roads
- - - Other
- +— Railroads
- Cities/Towns
- Tennessee River
- Lauderdale County

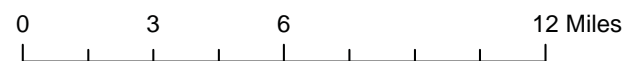
Essential Facilities Warning Siren Locations





- | | | | |
|--|--|--|-------------------------------|
| | | | Transportation Routes & Ports |
| | | | Railroads |
| | | | Cities/Towns |
| | | | Tennessee River |
| | | | Lauderdale County |
| | | | Aterial Roads |
| | | | Secondary Roads |
| | | | Other |

Essential Facilities Transportation Route Locations



Select Critical Facility Values By Municipality

Selected Critical Facility Values Jurisdiction: Lauderdale County	
Facility Type	Facility Value
Courthouse, Sheriff's Office	\$7,065,150.00
Cloverdale Rd. Transfer Station	\$105,000.00
Court Street Commodities Building	\$147,000.00
State Street Office Building	\$94,500.00
State Street Shop Building	\$225,750.00
State Street Gas House	\$10,000.00
State Street Pump Shed	\$945.00
State Street Storage Shed	\$73,500.00
State Street Warehouse	\$42,000.00
Seminary Street Warehouse	\$8,400.00
Highway 57 Solid Waste Office & Warehouse	\$367,500.00
Highway 57 Solid Waste Equipment Shed	\$105,000.00
Chisholm Road Health Department	\$1,835,265.60
Central School	\$15,815.30
Cloverdale Jr. High School	3,929,033.85

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: Lauderdale County	
Facility Type	Facility Value
Rogers School	\$758,288.05
Underwood Elementary School	\$2,409,010.80
Wilson School	\$17,805,370.90
System Wide	\$27,306,133.05
School Board Complex	\$121,219.20
Anderson Volunteer Fire Department	\$235,305.00
Center Star Volunteer Fire Department	\$414,776.25
Central Volunteer Fire Department	\$525,000.00
Cloverdale Volunteer Fire Department	\$641,827.20
Elgin Volunteer Fire Department	\$524,576.85
Greenhill Volunteer Fire Department	\$1,417,500.00
Killen Volunteer Fire Department	\$1,575,000.00
Lexington Volunteer Fire Department	\$574,595.70
Mid-Lauderdale Volunteer Fire Department	\$687,761.55
Oakland Volunteer Fire Department	\$876,750.00

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: Lauderdale County	
Facility Type	Facility Value
Rogersville Volunteer Fire Department	\$787,500.00
Underwood / Pertersville Volunteer Fire Department	\$1,575,000.00
Waterloo Volunteer Fire Department	\$9,940.95
Zip City Volunteer Fire Department	\$18,439.00
Total Critical Facilities Amount:	\$111,601,740.60

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: City of Florence	
Facility Type	Facility Value
ECM Hospital	\$388,500,000.00
ECM Hospital East	\$28,182,000.00
East Mo B	\$3,616,830.00
Cox Creek Mo B	\$3,648,330.00
Collins Mo B	\$7,124,250.00
Port of Florence & Lauderdale County	\$26,250,000.00
Police Department Headquarters	\$4,725,000.00
Police Department Wal-Mart Substation	\$15,750.00
Police Department Mall Substation	\$15,750.00
Police Department Huntsville Road Substation	\$15,750.00
Police Department Court View Sub-Station	\$15,750.00
Fire Department Station One	\$4,200,000.00
Fire Department Station Two	\$2,100,000.00
Fire Department Station Three	\$1,470,000.00
Fire Department Station Four	\$1,470,000.00

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: Lauderdale County	
Facility Type	Facility Value
Fire Department Station Five	\$1,470,000.00
Florence Housing Authority Administration Building	\$385,087.50
Florence Housing Authority Maintenance Building	\$611,310.00
City of Florence Municipal Building	\$13,358,035.95
Florence-Lauderdale EMA Office	\$115,500.00
Gas Administration Office	\$1,260,000.00
Gas Warehouse & Storage Building	\$945,000.00
Gates Regulator Stations, Sub-Stations	\$45,045,000.00
Water Treatment Plans One & Two	\$63,000,000.00
Waste Water Treatment Plant	\$78,750,000.00
Water Storage Tanks One Through Eight	\$9,450,000.00
Water Booster Stations One Through Four	\$2,100,000.00
Sewer Lift Stations One Through Four	\$210,000.00
Construction Warehouse & Equipment	\$1,575,000.00
Electricity Transformer Office	\$1,365,000.00

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: Lauderdale County	
Facility Type	Facility Value
Florence Electrical Department Building A	\$133,350.00
Florence Electrical Department Meter Lab, Crew Room	\$207,900.00
Florence Electrical Department Building C	\$173,250.00
Florence Electrical Department Building D	\$357,000.00
Florence Electrical Department Pump Island Canopy	\$3,150.00
Florence Electrical Department Building E	\$57,750.00
Florence Electrical Department Building Storage Barn	\$37,800.00
Florence Electrical Department Building & Antenna	\$94,500.00
Florence Electrical Department 706 College Street	\$36,750.00
Florence Electrical Department 708 College Street	\$16,800.00
Florence Electrical Department Administration Office	\$630,000.00
Florence Electrical Department 1 through 48 Substations	38,430,000.00
Total Critical Facilities Amount:	\$731,166,543.45

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Select Critical Facility Values By Municipality

Selected Critical Facility Values Jurisdiction: Town of Killen	
Facility Type	Facility Value
Town Hall	\$1,000,000.00
Fire Department	\$1,000,000.00
Emergency Service Building	\$500,000.00
Police Department	\$400,000.00
Killen Senior Center	1,000,000.00
Killen Public Library	1,000,000.00
Killen Park	\$400,000.00
Killen Church of Christ Storm Shelter	\$10,000,000.00
Killen Methodist Church Storm Shelter	\$12,000,000.00
Killen Baptist Church Storm Shelter	\$15,000,000.00
Brooks Elementary School	\$7,000,000.00
Brooks High School	\$10,000,000.00
Total Critical Facilities:	\$59,300,000.00

Source: Policy Committee Critical Facility Sheets

Selected Critical Facility Values Jurisdiction: Town of Rogersville	
Facility Type	Facility Value
Town Hall	\$1,500,000.00
Fire Department / Police Department	\$787,500.00
Lauderdale County High School	\$12,722,549.70
Rogersville Water Department	\$525,000.00
Alagasco	\$525,000.00
Clark Gas Company	\$262,500.00
Rogersville Funeral Home	\$262,500.00
Rogersville Church of Christ	\$787,500.00
Rogersville Baptist Church	\$787,500.00
Rogersville United Methodist Church	\$1,050,000.00
Total Critical Facilities:	\$17,710,049.70

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values Jurisdiction: Town of Lexington	
Facility Type	Facility Value
Town Hall	\$750,000.00
Police Department	\$300,000.00
Fire Department	\$150,000.00
Medical Clinic	\$136,333.00
Lexington School	\$11,190,015.90
Senior Citizen Center	\$367,500.00
Colonial Bank (Storm Shelter)	\$500,000.00
Fire Substation	\$200,000.00
Total Critical Facilities:	\$13,593,848.90

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values by Jurisdiction: Town of Waterloo	
Facility Type	Facility Value
Waterloo School	\$5,782,000.00
Waterloo Fire Station One	\$105,000.00
Waterloo Fire Station Two	\$80,000.00
Waterloo Fire Station Three	\$80,000.00
Waterloo Community Center	\$180,000.00
Waterloo Town Hall & Police Station	\$80,000.00
Waterloo Post Office	\$255,000.00
Waterloo Museum	\$541,000.00
Total Critical Facilities:	\$7,103,000.00

Source: Policy Committee Critical Facility Sheets

Selected Critical Facility Values by Jurisdiction: Town of Anderson	
Facility Type	Facility Value
Anderson Town Hall	\$183,750.00
Fire Department	\$262,500.00
First Baptist Church of Anderson	\$420,000.00
Water Storage Tank	\$472,500.00
Anderson Junior High	\$3,383,229.15
Total Critical Facilities:	\$4,721,979.15

Source: Policy Committee Critical Facility Sheets & 2004 Estimates with 1% value increase per year

Selected Critical Facility Values by Jurisdiction: Town of St. Florian	
Facility Type	Facility Value
Town Hall	\$150,000.00
Senior Center	\$300,000.00
Buffer House	\$300,000.00
Total Critical Facilities:	\$750,000.00

Source: Policy Committee Critical Facility Sheets

RA.6 Estimating Potential Losses

The monetary estimate for each identified hazard is completed on an average annual basis by jurisdiction within the hazard profile section of this document. Information describing localized hazards of dam and levee failure, landslides and flooding are described in this section in conjunction with HAZUS-MH damage estimates for disasters. Data describing potential losses other than the HAZUS-MH scenarios assumes impact to the entire planning jurisdiction.

Economic losses by jurisdiction were calculated by applying the 2008 population of each jurisdiction in relation to the overall county population. This apportionment allows for a generalized estimate of the economic losses by jurisdiction for non-localized disasters. For this study, localized disasters consist of landslides and floods. Flood economic losses were calculated by HAZUS-MH MR-4. Furthermore, the Value of Buildings Exposed to Hazards table deducts a percentage of economic value if the hazard was not perceived to affect the particular jurisdiction. An example of this is dam/levee failure and the jurisdictions of Lexington and Anderson having a total apportionment of .014 % of the building value. However, they are not affected by dam and levee failure in the planning study area. Therefore, an apportionment was deducted from each category of building value in regards to dam and levee failure.

The following quotations are taken from the Multi-hazard Loss Estimation Methodology Flood Model, Users Manual for HAZUS-MH MR-4 on page 3-118. The loss estimates produced from HAZUS-MH are “crude estimates of losses based on a minimum of local input.” It is recommended that users of the HAZUS software develop “a local inventory that best reflects the characteristics of their region such as building types and demographics.” Furthermore, the “quality and uncertainty of the results are affected by the detail and accuracy of the community-specific data provided.” HAZUS program developers have intended the

default data sets to be used as initial estimates to determine where more detailed data collection is needed.

Data limitations for the planning study area include building structure specific data. Structural specific data collection may not have a high cost benefit to the overall mitigation process. However, completing a structural survey for Lauderdale County with an accompanying land use data would benefit future mitigation planning.

Population Vulnerable To Hazards		
Hazard Type	Estimated Population	Estimated Households
Dam/Levee Failure	86,772	87,454
Drought	87,966	36,088
Earthquake	87,966	36,088
Extreme Temperatures	87,966	36,088
Flood <small>(HAZUS – MH 100 Year Flood Shelter Requirements)</small>	1,481	1,002
Hazardous Materials	87,966	36,088
Hurricane	87,966	36,088
Landslides	96	44
Nuclear Accidents	87,966	36,088
Sinkholes	87,966	36,088
Severe Storms	87,966	36,088
Tornado	87,966	36,088
Wildfires	87,966	36,088
Windstorms	87,966	36,088

Source: Planning Team Analysis & HAZUS-MH Data

Population By Jurisdiction

Jurisdiction	2008 Population Estimate
Lauderdale County	89,128
Anderson	354
Florence	37,877
Killen	1,142
Lexington	843
Rogersville	1,204
St. Florian	474
Waterloo	210

Source: Planning Team Analysis

Value of Buildings Exposed To Hazards in Lauderdale County

Hazards	Residential	Commercial	Industrial	Agricultural	Religious	Government	Education	County Total
Dam/Levee Failure	\$4,032,058,674.00	\$904,214,258.00	\$288,460,216.00	\$15,317,510.00	\$134,739,858.00	\$33,912,484.00	\$60,819,438.00	\$5,469,522,438.00
Drought	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Earthquake	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Extreme Temperatures	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Flood 100 year	\$102,132,000.00	19,650,000.00	\$23,121,000.00	\$314,000.00	\$1,598,000.00	\$2,103,000.00	\$843,000.00	\$149,761,000.00
Hazardous Materials	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Hurricane	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Landslides	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Nuclear Accidents	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Sinkholes	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Severe Storms	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Tornado	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Wildfires	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00
Windstorms	\$4,089,309,000.00	\$917,053,000.00	\$292,556,000.00	\$15,535,000.00	\$136,653,000.00	\$34,394,000.00	\$61,683,000.00	\$5,547,183,000.00

Source: HAZUS-MH MR-4 Building Stock Exposure & 100 Year Flood Building Stock Damage

Flooding

Flooding within the planning study area is the predominate natural hazard. Planning Team annual occurrence estimates place a 260% chance of flooding to occur within the county. The City of Florence has the second highest annual occurrence with 120% chance of occurring. The Town of Anderson is third with a 40% chance of having a flood occur within a year.

The adjacent tables show the total economic losses, value of buildings exposed to floods and a quick assessment of the 100 year and 500 year flood events. The apportionment table takes the percent of each jurisdictions population and extrapolates the county wide economic loss of a 100 year flood. This table indicates that the larger population centers within the county will be the hardest hit from a major flood event.

The second table evaluates the value of buildings exposed to a 100 year flood. The FEMA HAZUS-MH software places structures into eight categories and assigns an overall dollar value to each category. Of the dollar value for each building type, the HAZUS flood model estimates residential buildings to be the hardest hit from a 100 year flood event with \$102,132,000.00 in exposure.

The Quick Assessment Report states there are 40,401 residential structures within the study area. The assessment also expects there to be 1,002 households displaced from a 100 year flood event.

On the following pages, there are maps showing the total residential and building damage within the study area. In addition, there are census maps overlaid with the 100 year floodplain. These maps show the specific areas of concern for flooding within the study area as well as the housing density and population distribution

Total Property Losses by Jurisdictional Apportionment for 100 Year Flood

Jurisdiction	2008 Population Estimate	Percent of Total County Population	Amount of Total Economic Losses
Lauderdale County	89,128	100%	\$152,089,000.00
Anderson	354	.4%	\$608,356.00
Florence	37,877	42%	\$63,877,380
Killen	1,142	1%	\$1,520,890.00
Lexington	843	1%	\$1,520,890.00
Rogersville	1,204	1%	\$1,520,890.00
St. Florian	474	1%	\$1,520,890.00
Waterloo	210	.2%	\$304,178.00

Source: HAZUS-MH Data with Planning Team Analysis

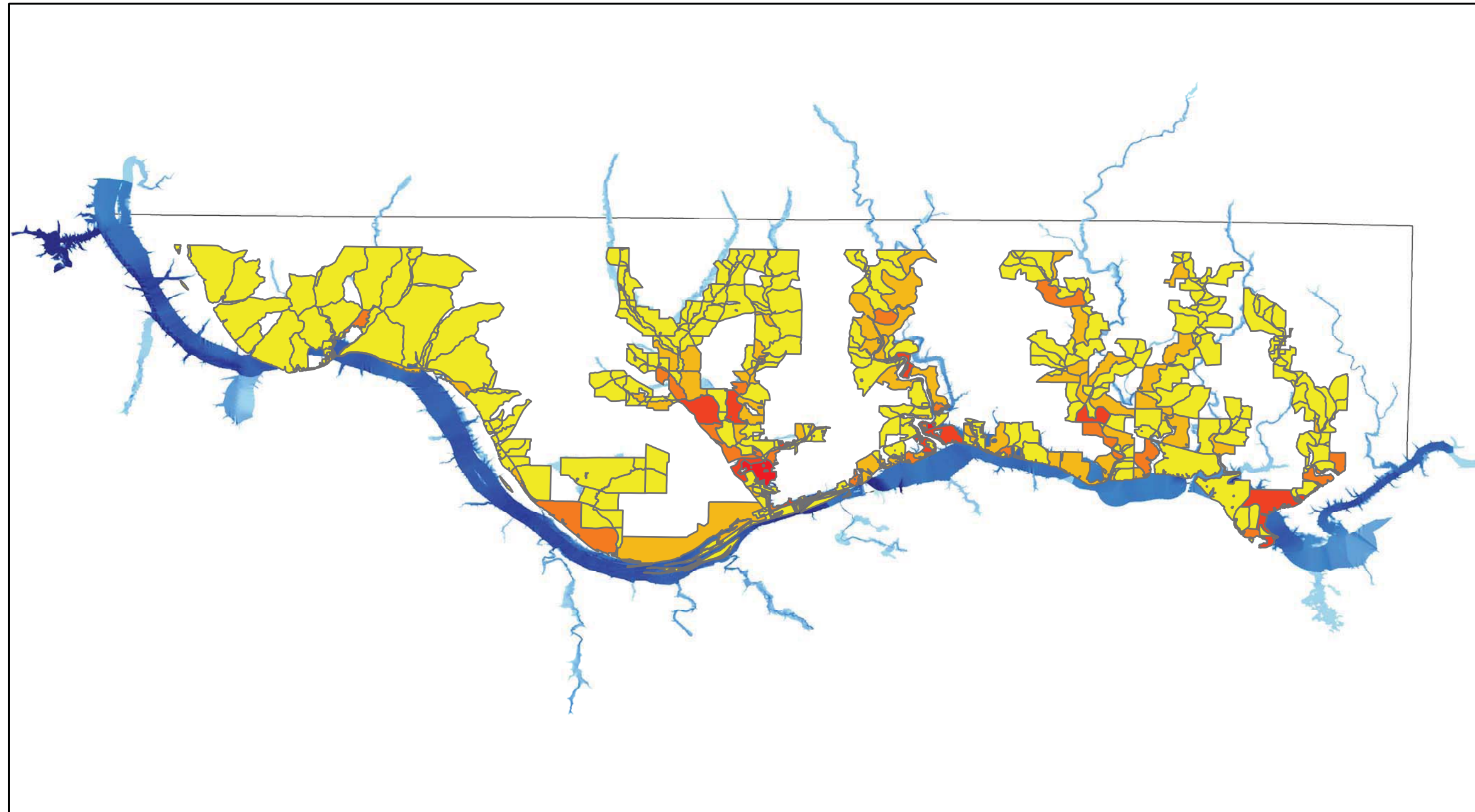
Number of Buildings Exposed to 100 Year Flood

Building Type	Value of Buildings	Flood Exposure	Flood Exposure % of Total Value of Buildings
Residential	\$4,089,309,000.00	\$102,132,000.00	2%
Commercial	\$917,053,000.00	\$19,650,000.00	2%
Industrial	\$292,556,000.00	\$23,121,000.00	8%
Agriculture	\$15,535,000.00	\$314,000.00	2%
Religious	136,653,000.00	\$1,598,000.00	1%
Government	\$34,394,000.00	\$2,103,000.00	6%
Education	\$61,683,000.00	\$843,000.00	1%
Total Value	\$5,547,183,000.00	\$149,761,000.00	3%

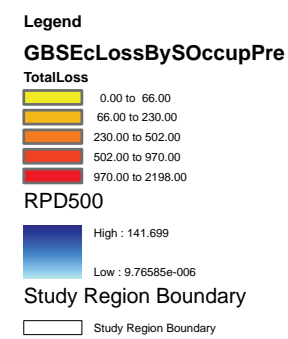
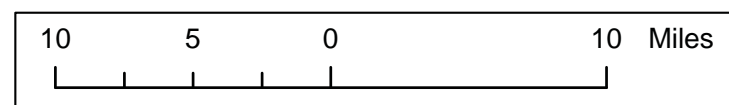
Source: HAZUS-MH MR-4

Quick Assessment Report Lauderdale County	100 Year Flood	500 Year Flood
Area(square miles)	669	669
Number of Census Blocks	3,185	3,185
Number of Residential Buildings	40,401	40,401
Number of Building Total	43,225	43,225
Number of People in Region	88,000	88,000
Building Exposure - Residential	\$4,089,000.00	\$4,089,000.00
Building Exposure - Total	\$5,547,000.00	\$5,547,000.00
Displaced Households	1,002	1,001
People Needing Short Term Shelter	1,481	1,688
Residential Property Losses	\$89,790,000.00	\$104,170,000.00
Total Property Losses	\$152,890,000.00	\$173,740,000.00
Business Interruption Losses	\$740,000.00	\$820,000.00
Total Estimated Economic Loss	\$243,420,000.00	\$278,730,000.00

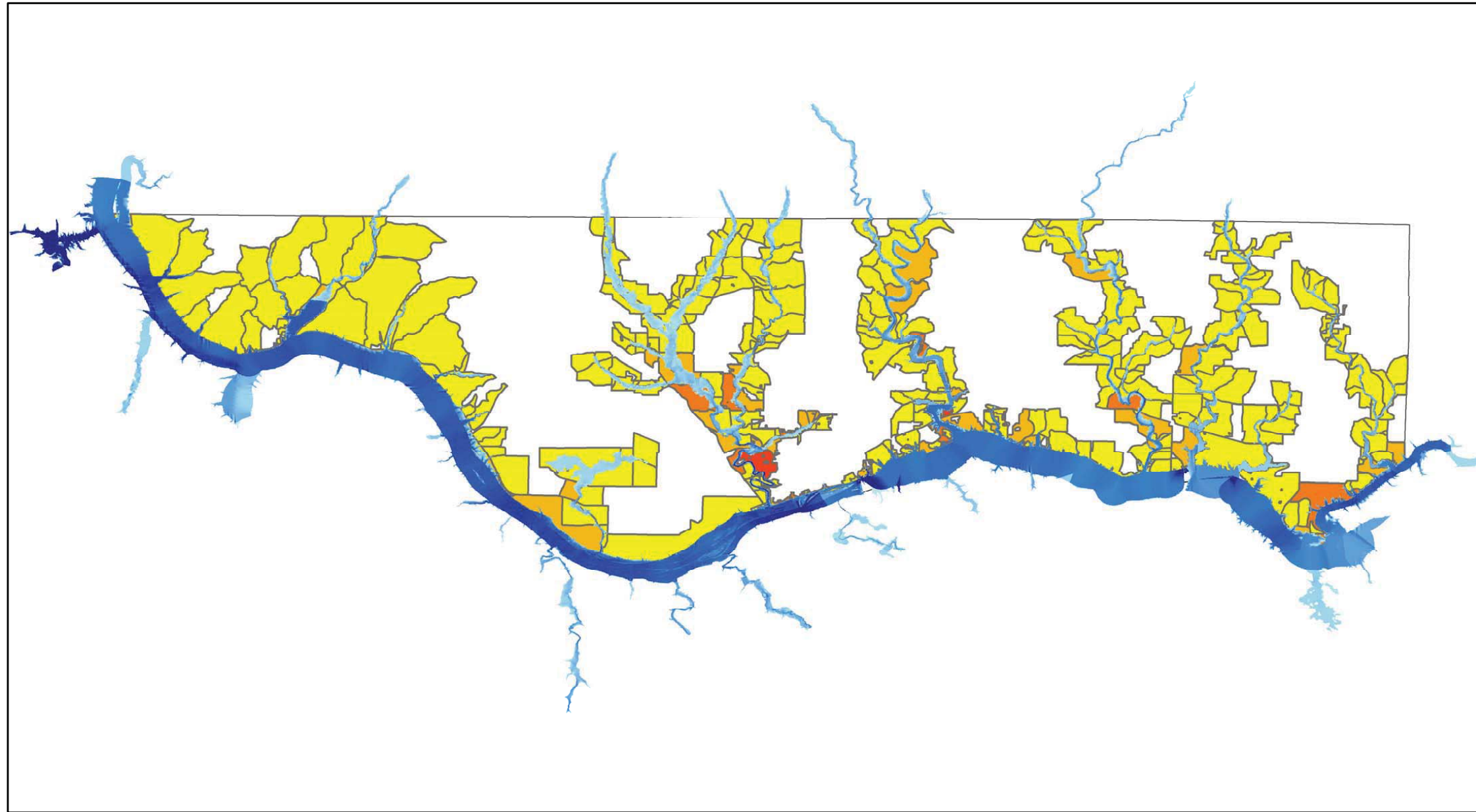
Source: HAZUS-MH MR-4 Quick Assessment Flood Data



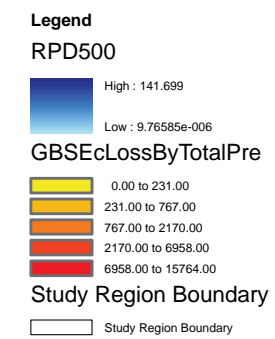
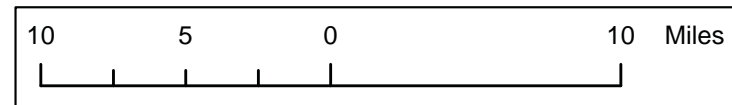
Scenario: Lauderdale Flood 100 Year Total Residential Damage



(c) 1997-2003 FEMA.

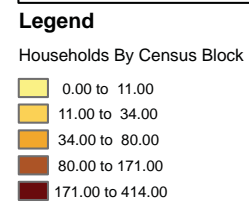
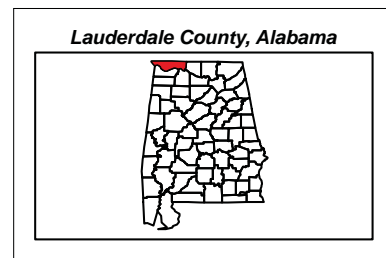
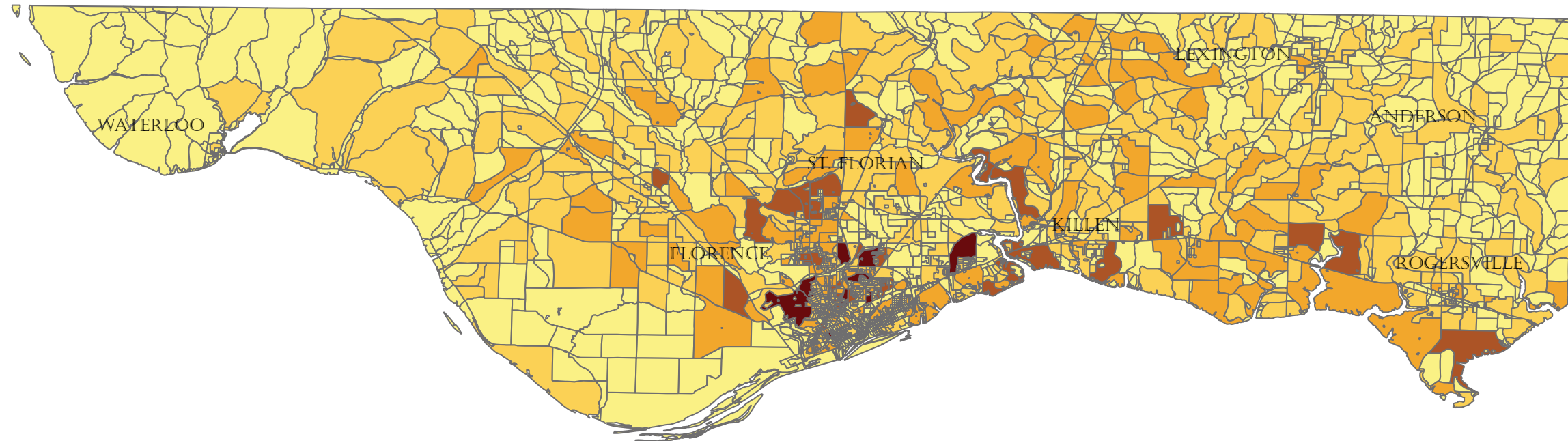


Scenario: Lauderdale Flood 100 Year Total Building Damage

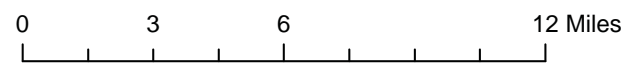


(c) 1997-2003 FEMA.

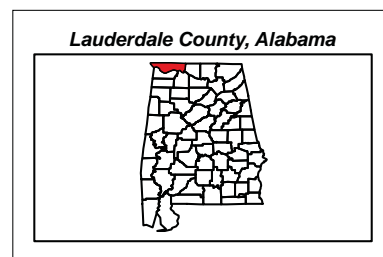
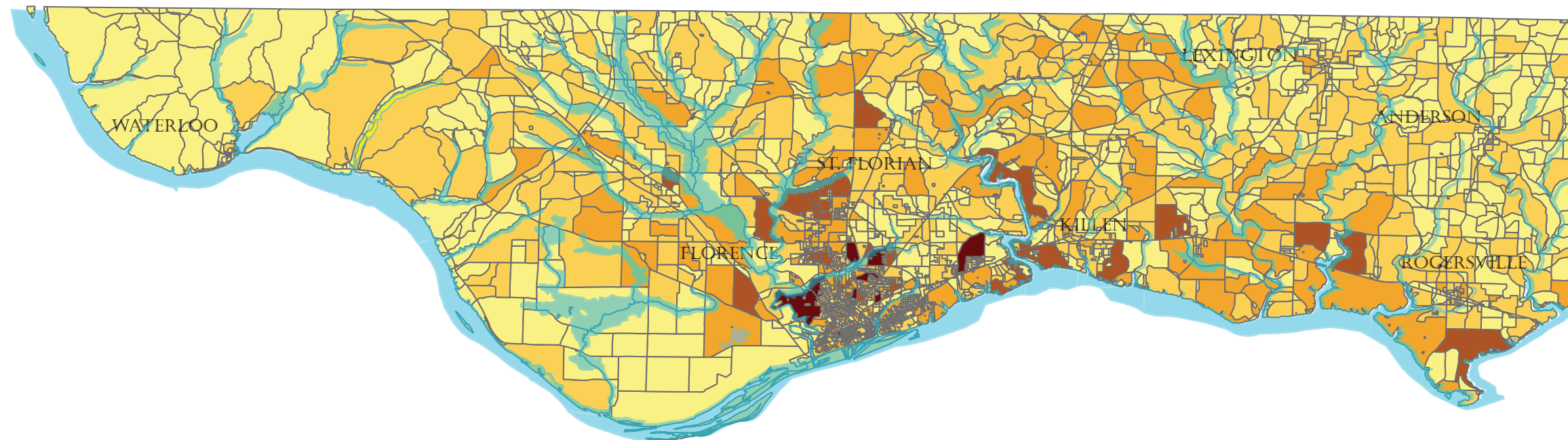
Planning Study Area Lauderdale County, AL



Estimating Potential Losses Households By Census Block



Planning Study Area Lauderdale County, AL

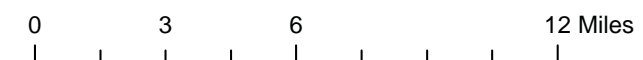


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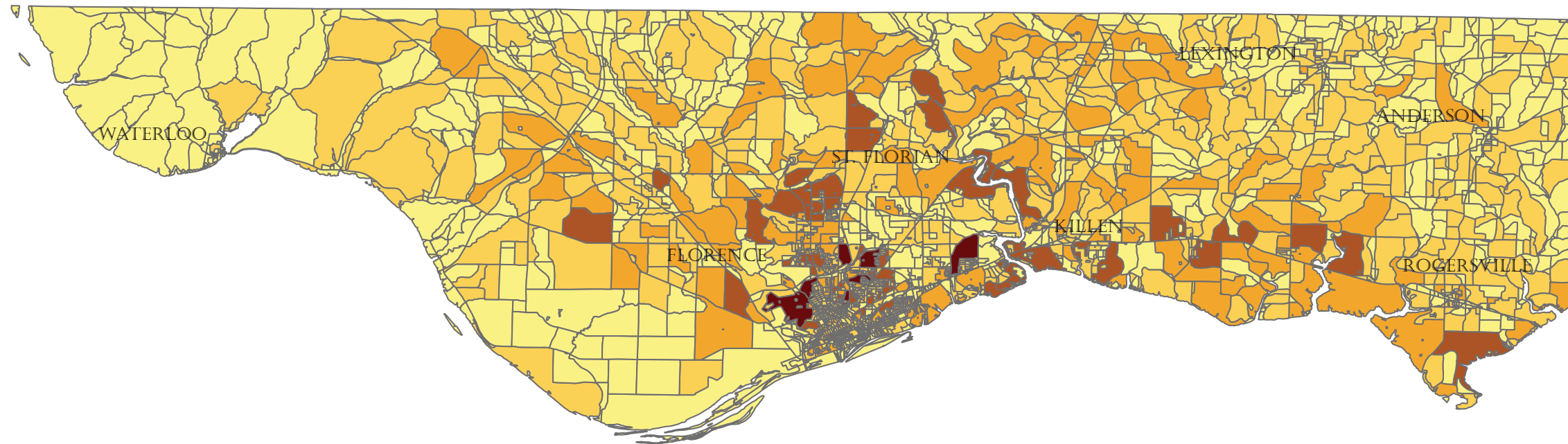
Households By Census Block

- 0.00 to 11.00
- 11.00 to 34.00
- 34.00 to 80.00
- 80.00 to 171.00
- 171.00 to 414.00

Estimating Potential Losses 100 Year Flood Impact On Households By Census Block

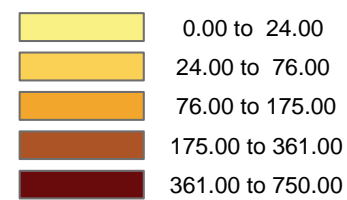


Planning Study Area Lauderdale County, AL

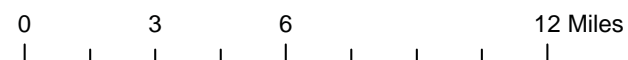


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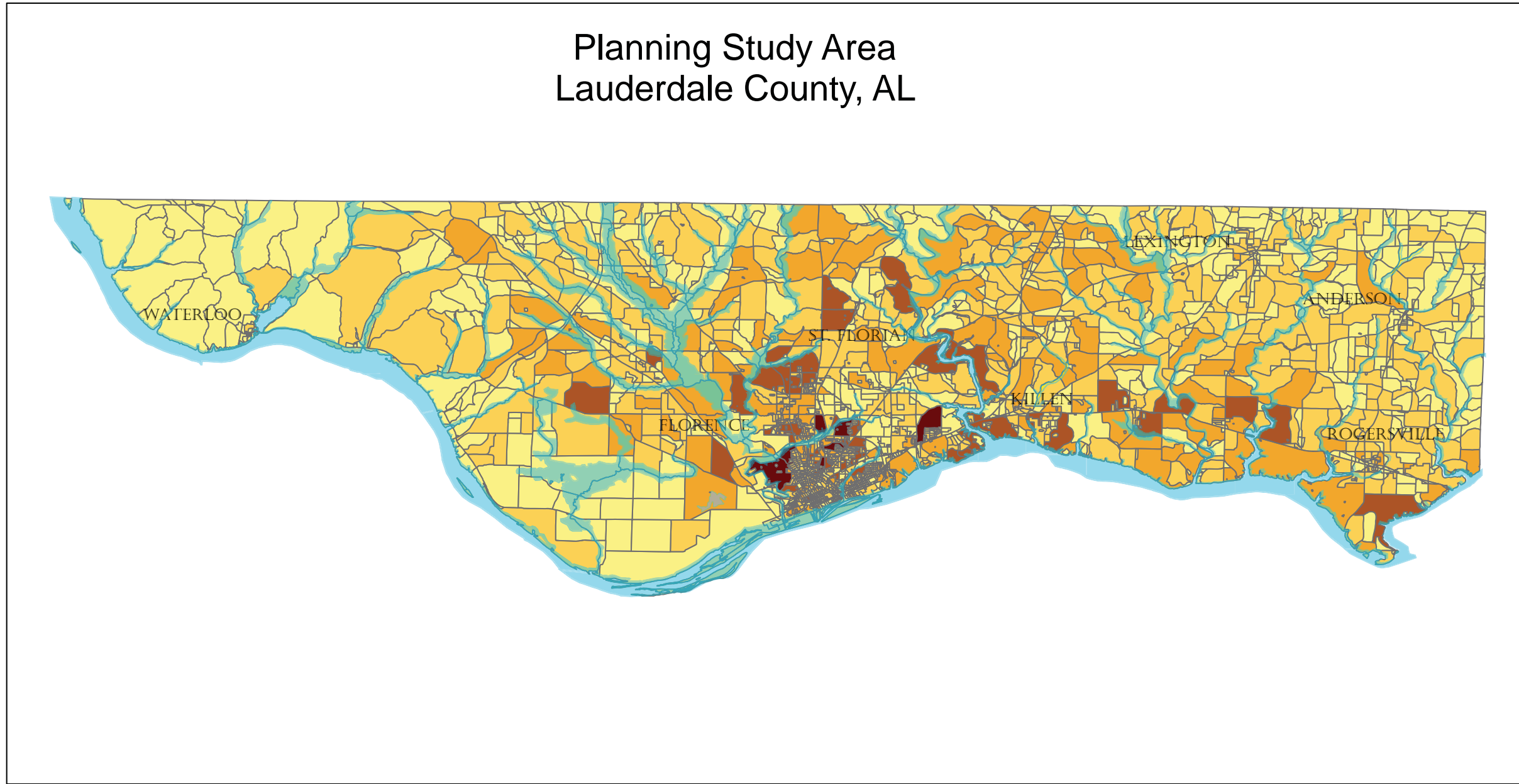
Population By Census Block



Estimating Potential Losses Population By Census Block

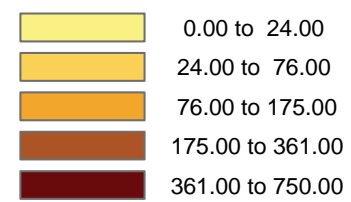


Planning Study Area Lauderdale County, AL

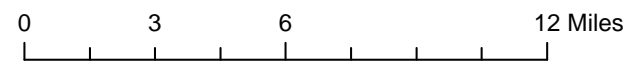


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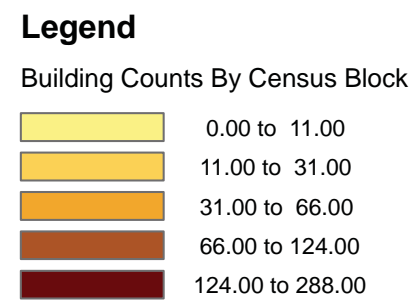
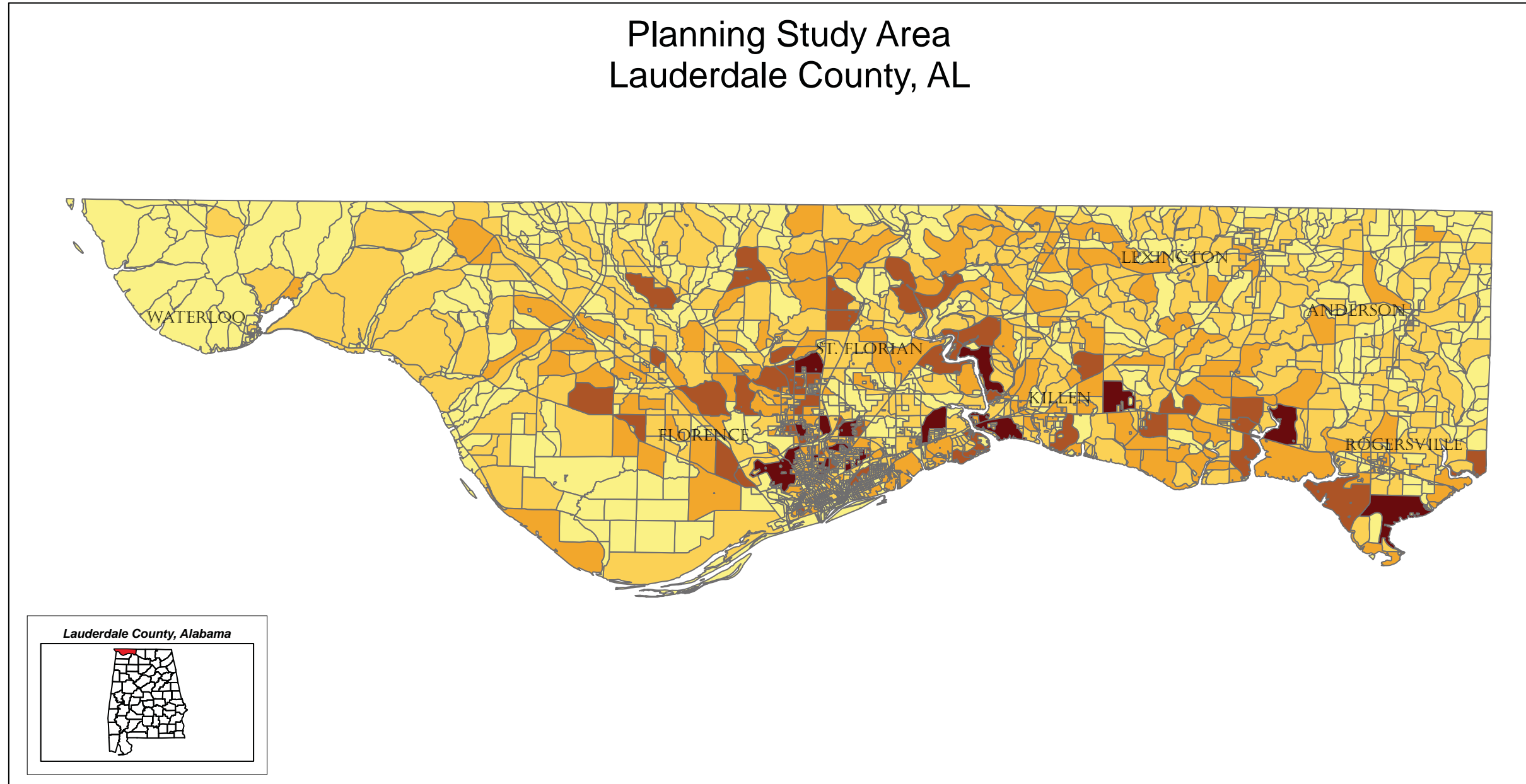
Population By Census Block



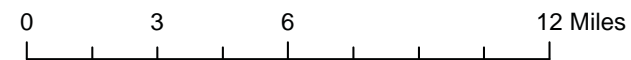
Estimating Potential Losses 100 Year Flood Impact On Population By Census Block



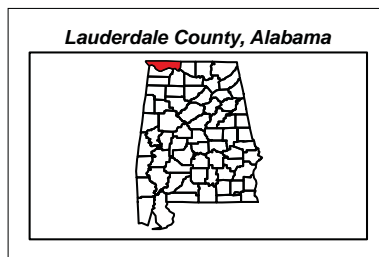
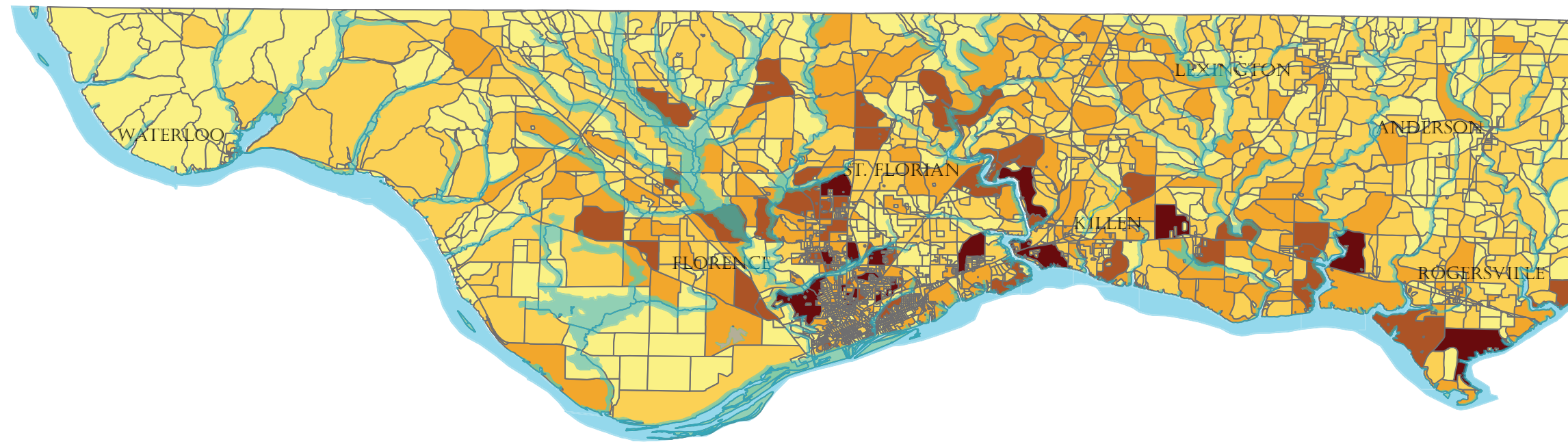
Planning Study Area Lauderdale County, AL



Estimating Potential Losses Building & Structure Counts

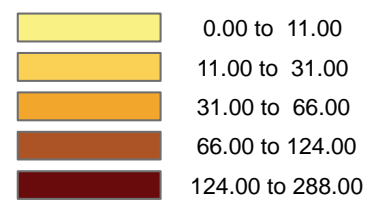


Planning Study Area Lauderdale County, AL

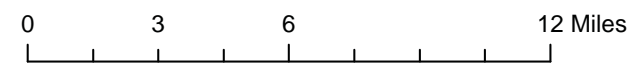


Legend

Building Counts By Census Block



Estimating Potential Losses 100 Year Flood Impact On Building & Structure Counts

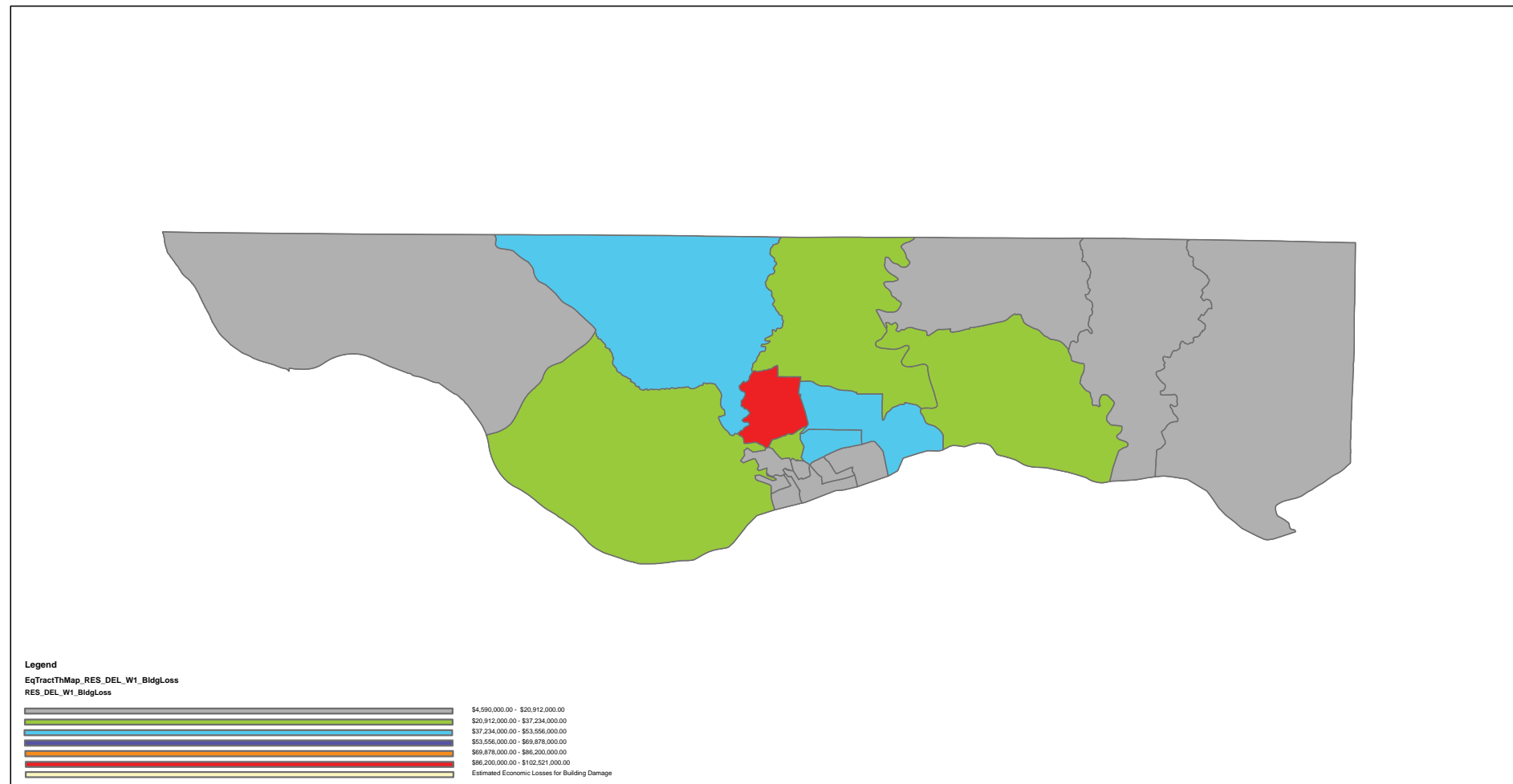


Magnitude Earthquake 5.0 Probabilistic Loss Estimates

The planning team evaluated the impact of a 5.0 magnitude earthquake with the HAZUS-MH MR-4 software. The 5.0 earthquake model indicates minimal damage in the planning study area. Estimated buildings to be damaged are between 1,000 and 7,000 buildings with no casualties expected. There is expected to be less than one household seeking shelter due to damage from a 5.0 magnitude earthquake.

The adjacent map indicates where potential economic losses might occur. The tables below summarize the 5.0 probabilistic scenario and carry slightly different values of damage than are shown in the Direct Economic Losses map.

The 6.5 magnitude earthquake scenario is documented on the adjacent page and predicts much greater casualties and direct economic losses.



Study Region new : Lauderdale County Earthquake 5.0 Scenario, Direct Economic Losses, Building Damage

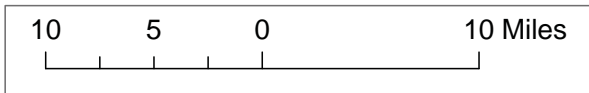


(c) 1997-2003 FEMA.

Estimated Shelter Needs

Type	Households	People
Displaced Households	< 1.0	n.a
Public Shelter	n.a	n.a

HAZUS-MH MR-4



Estimated Casualties : Commute Time

Severity Level	Description	# Persons
Level 1	Medical Aid	n.a
Level 2	Hospital Care	n.a
Level 3	Life-threatening	n.a
Level 4	Fatalities	n.a

HAZUS-MH MR-4

Estimated Economic Loss (\$ Billions)

Category	Description	Range
General Building Stock	Building Damage	0.00 - 0.20
	Building Contents	< 0.1
	Business Interruption	< 0.1
Infrastructure	Lifelines Damage	
Total		0.10 - 0.30

HAZUS-MH MR-4

Estimated Building Damage(Thousands of Buildings)

Description	Residential	Commercial	Other	Total
Minor	1 - 6	< 1.0	< 1.0	1 - 7
Major	< 1.0	< 1.0	< 1.0	< 1.0
Total	1 - 7	< 1.0	< 1.0	1 - 7

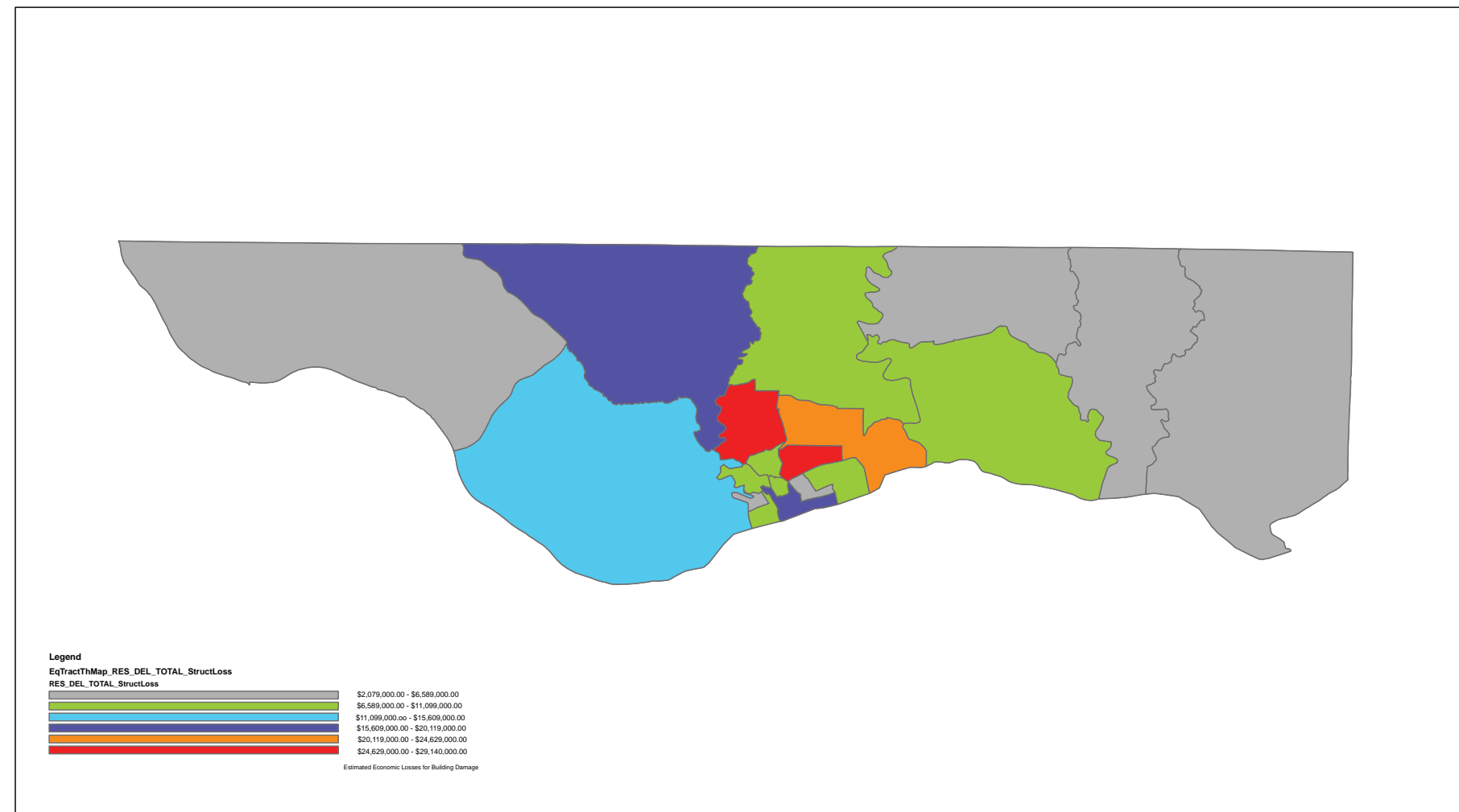
HAZUS-MH MR-4

Magnitude Earthquake 6.5 Probabilistic Loss Estimates

A 6.5 magnitude earthquake causes significant damage to the structures within the planning study area. There are expected to be 30 to 100 fatalities with almost 1,200 people seeking medical assistance. Furthermore, the estimated economic losses reach into the billions as shown in the Estimated Economic Losses chart. In comparison to the 5.0 magnitude earthquake, the 6.5 earthquake is expected to cause significant damage within the heavily developed areas in and around the City of Florence.

The adjacent map shows the expected impact of the 6.5 earthquake. In addition, the charts below indicated that there may be 4,000 households seeking shelter if such an earthquake occurs. Lastly, there may be 60,000 individual structures with major damage.

Preparation and mitigation strategies for such an earthquake must be weighed with the probability of occurrence as well as the public safety and welfare from not taking action. The most significant mitigation strategy for earthquakes is appropriate design and enforcement of local building codes.



Study Region new : Lauderdale County Earthquake
Hazard Scenario : 6.5 Scenario, Direct Economic Loss



Estimated Shelter Needs

Type	Households	People
Displaced Households	1,100 - 4,000	n.a
Public Shelter	n.a	n.a

HAZUS-MH MR-4

Estimated Casualties : Commute Time

Severity Level	Description	# Persons
Level 1	Medical Aid	300 - 1,200
Level 2	Hospital Care	90 - 400
Level 3	Life-threatening	30 - 110
Level 4	Fatalities	30 - 100

HAZUS-MH MR-4

Estimated Economic Loss (\$ Billions)

Category	Description	Range
General Building Stock	Building Damage	0.50 - 2.00
	Building Contents	0.00 - 0.10
	Business Interruption	0.20 - 0.80
Infrastructure	Lifelines Damage	n.a
Total		0.80 - 3.30

HAZUS-MH MR-4

Estimated Building Damage(Thousands of Buildings)

Description	Residential	Commercial	Other	Total
Minor	11 - 50	0 - 1	< 1.0	11 - 50
Major	3 - 13	0 - 1	< 1.0	4 - 16
Total	14 - 60	0 - 3	0 - 1	15 - 60

HAZUS-MH MR-4

Hurricane Loss Estimates

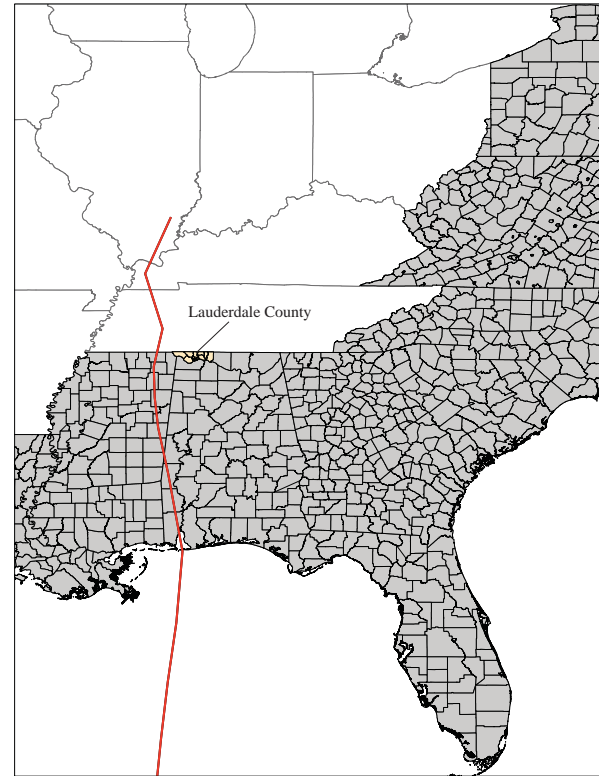
Hurricane disaster scenarios were completed through the HAZUS-MH MR-4 analysis. A total of seven storm event periods were analyzed. Storm tracks for the 50, 100, 500 and 1000 year hurricane storms are shown to the right.

Historically, hurricanes lose storm strength and are downgraded to a tropical storm by the time they reach Lauderdale County. However, with Hurricane Katrina, there were some economic damages within the study area.

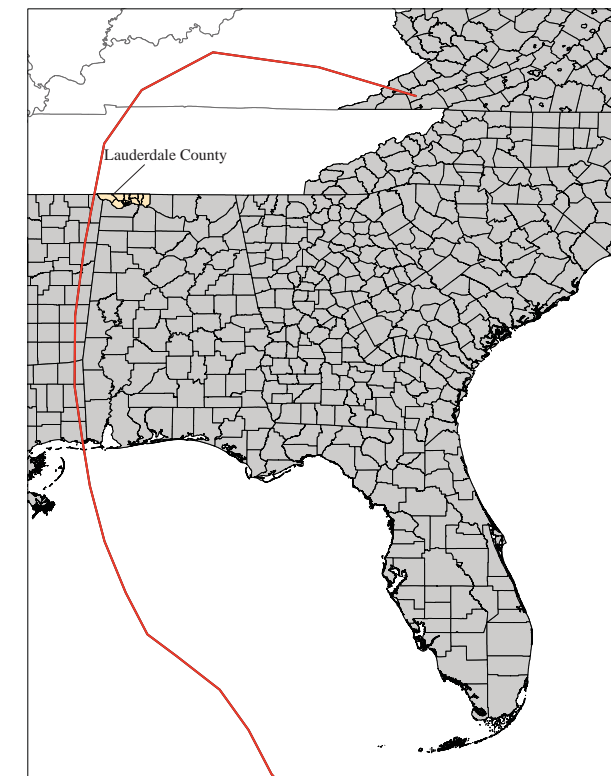
Damages from the probabilistic scenarios began to occur during the 50 year storm and accelerated greatly from a 1000 year hurricane. The 50 year storm is expected to have approximately 15 damaged structures and \$7,0000.00 in damage. In comparison, the 1000 year storm has a direct storm track to Lauderdale County and could cause devastating losses with over 1,220 buildings damaged for an economic loss exceeding 14 million dollars. The Probabilistic Hurricane Economic Losses table below shows the expected economic damages from storms of different strength.

Hurricane Period	Total Number of Residential Buildings Damaged	Total Number of Buildings Damaged	Shelter Requirements	Total Economic Losses For Property
1 Year Storm	0	0	0	\$0.00
2 Year Storm	0	0	0	\$0.00
5 Year Storm	9	15	0	\$7,000.00
10 Year Storm	18	27	0	\$757,000.00
25 Year Storm	74	90	0	\$3,099,000.00
50 Year Storm	470	507	0	\$8,268,000.00
100 Year Storm	1,148	1,220	0	\$14,702,000.00

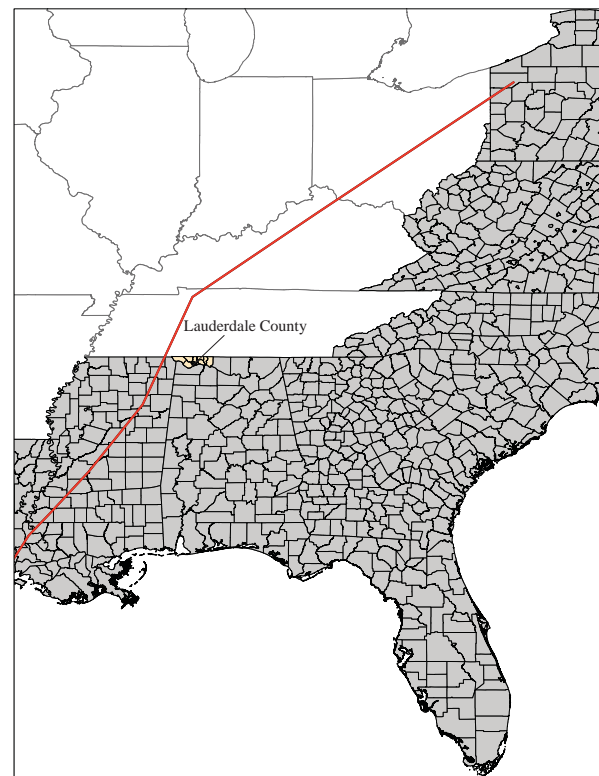
Source: HAZUS-MH MR-4 Probabilistic Hurricane Model



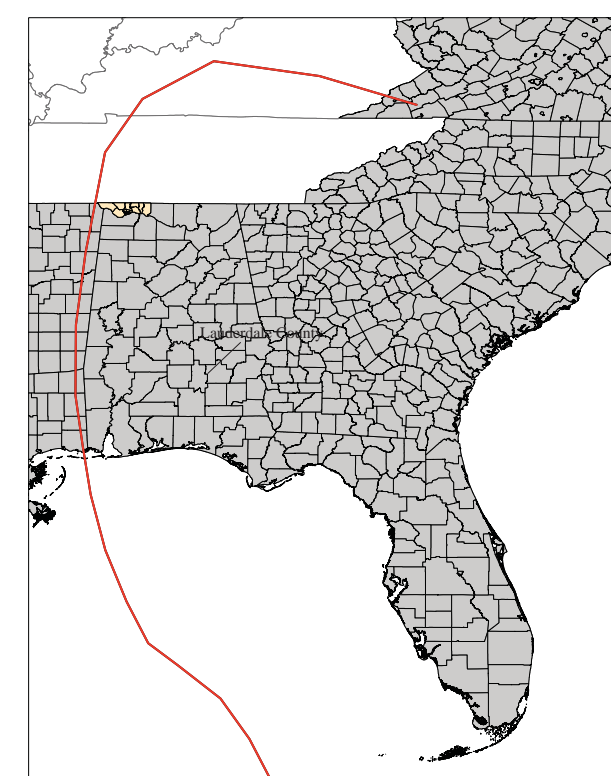
50 Year Probabilistic Hurricane Storm Track
Source: HAZUS-MH MR-4



100 Year Probabilistic Hurricane Storm Track
Source: HAZUS-MH MR-4



500 Year Probabilistic Hurricane Storm Track
Source: HAZUS-MH MR-4



1000 Year Probabilistic Hurricane Storm Track
Source: HAZUS-MH MR-4

RA.7 Analyzing Development Trends

Lauderdale County is the most populous county in northwest Alabama and contains the region’s largest municipality of Florence. The City of Florence is the hub of the regional retail, health care, entertainment and educational opportunities. The county contains a number of industrial employers with a majority of residential density contained in the City of Florence.

The current land use pattern is quite distinct. The urban cluster that makes up Florence and its suburban counterparts of Killen and St. Florian are located along the Tennessee River.

To the west of Florence lies a largely agricultural area, made up of a number of large farms. The small town of Waterloo is located near the western end of the county and is the only incorporated settlement in the area.

To the east of Florence, the settlement density is much greater than in the west. Access to jobs at International Paper, Browns Ferry Nuclear Power Plant as well as employers in Decatur, Huntsville and Athens have supported expanding residential and commercial growth along the Highway 72 Corridor.

The existing and future land use maps are contained on the following pages. Future growth for all the municipalities consists of increasing density within the existing municipal boundary as defined on the future land use map.

Population Distribution & Population Projection by Jurisdiction

Jurisdiction	2008 Population Estimate	Percent of Total County Population	Average Annual Absolute Change	Projected 2025 Population	Percent of Total County Population
Lauderdale County	89,128	100%	1,135	116,334	100%
Anderson	354	.4%	1.5	392	.3%
Florence	37,877	42%	81	38,279	33%
Killen	1,142	1%	7.2	1,299	1%
Lexington	843	1%	1.9	888	1%
Rogersville	1,204	1%	7.4	1,384	1%
St. Florian	474	1%	4.78	555	.5%
Waterloo	210	.2%	.25	214	.2%

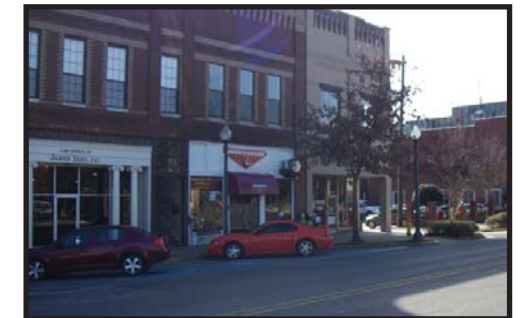
Source: Planning Team Linear Population Projections

Growth Allocation by Jurisdiction

Jurisdiction	1990	2000	Projected 2008	1990 – 2008 Growth	Percent of Growth Allocation
Lauderdale County	79,661	87,966	89,128	9,467	100%
Anderson	339	354	354	15	.2%
Florence	36,426	36,264	37,877	1,451	15%
Killen	1,047	1,119	1,142	95	1%
Lexington	821	840	843	22	.2%
Rogersville	1,125	1,199	1,204	22	.2%
St. Florian	388	335	474	86	1%
Waterloo	250	208	210	-40	-.4%



Lauderdale County



City of Florence



City of Florence

Town of Waterloo



Town of St. Florian



Town of Killen



Town of Lexington

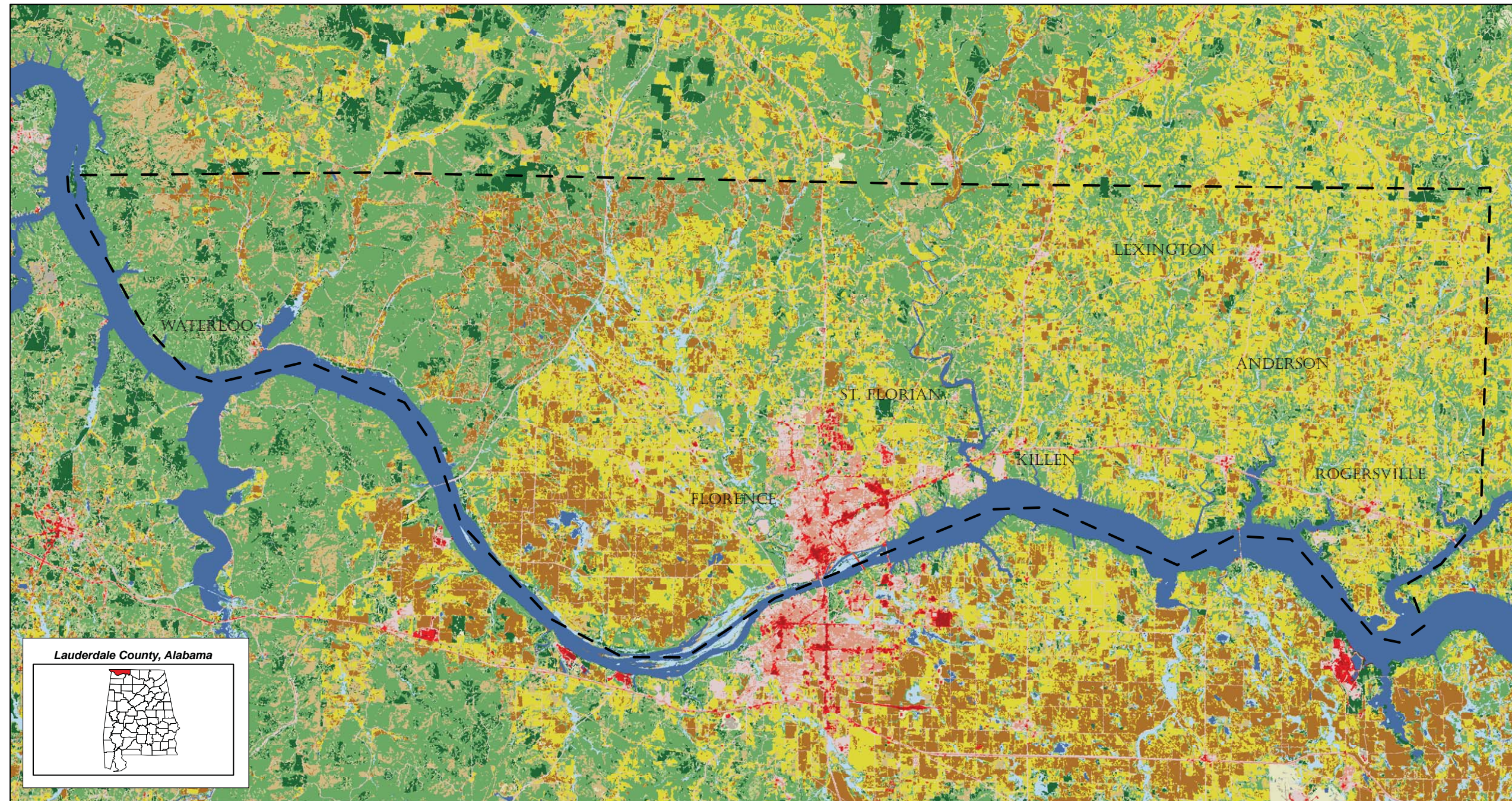


Town of Anderson



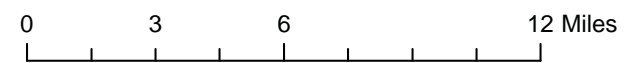
Town of Rogersville

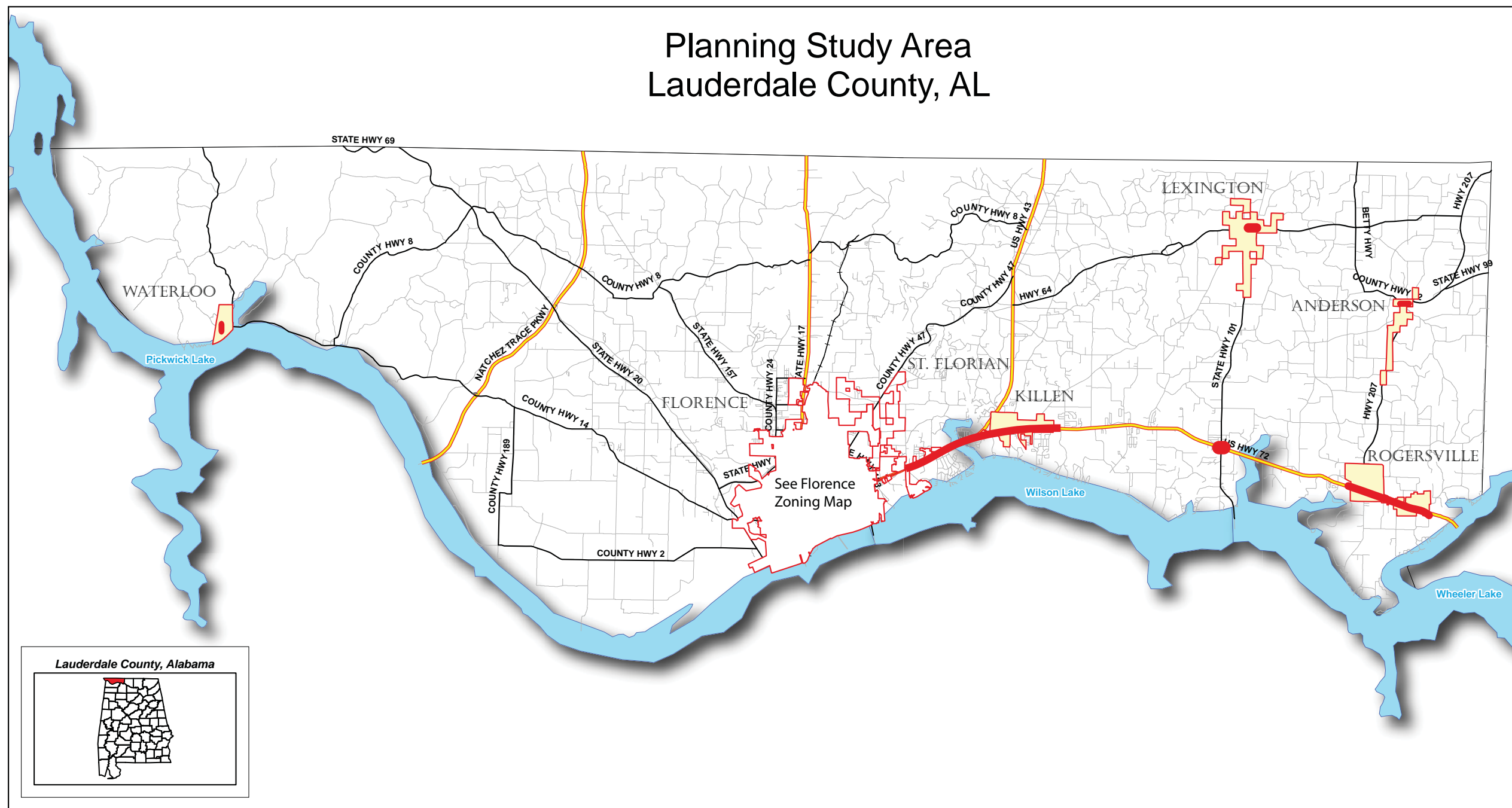




Landcover			
	Developed, High Intensity		Evergreen Forest
	Developed, Low Intensity		Hay/Pasture
	Developed, Medium Intensity		Herbaceous
	Developed, Open Space		Mixed Forest
	Emergent Herbaceous Wetlands		Open Water
	Barren Land		Perennial Snow/Ice
	Cultivated Crops		Shrub/Scrub
	Deciduous Forest		Woody Wetlands

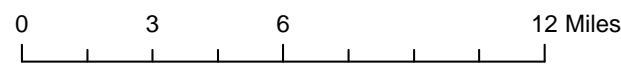
Lauderdale County, AL Land Use Land Cover Map



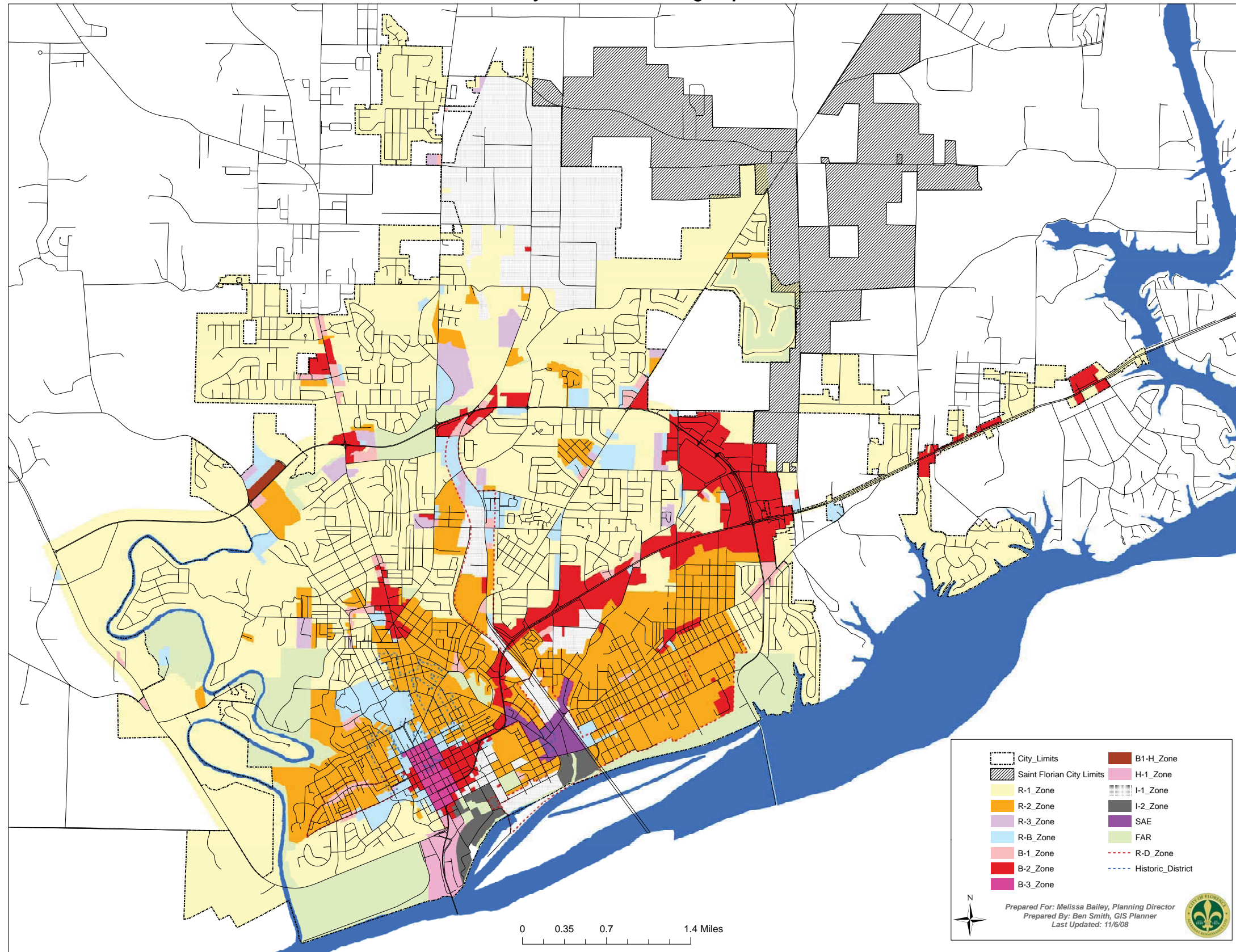


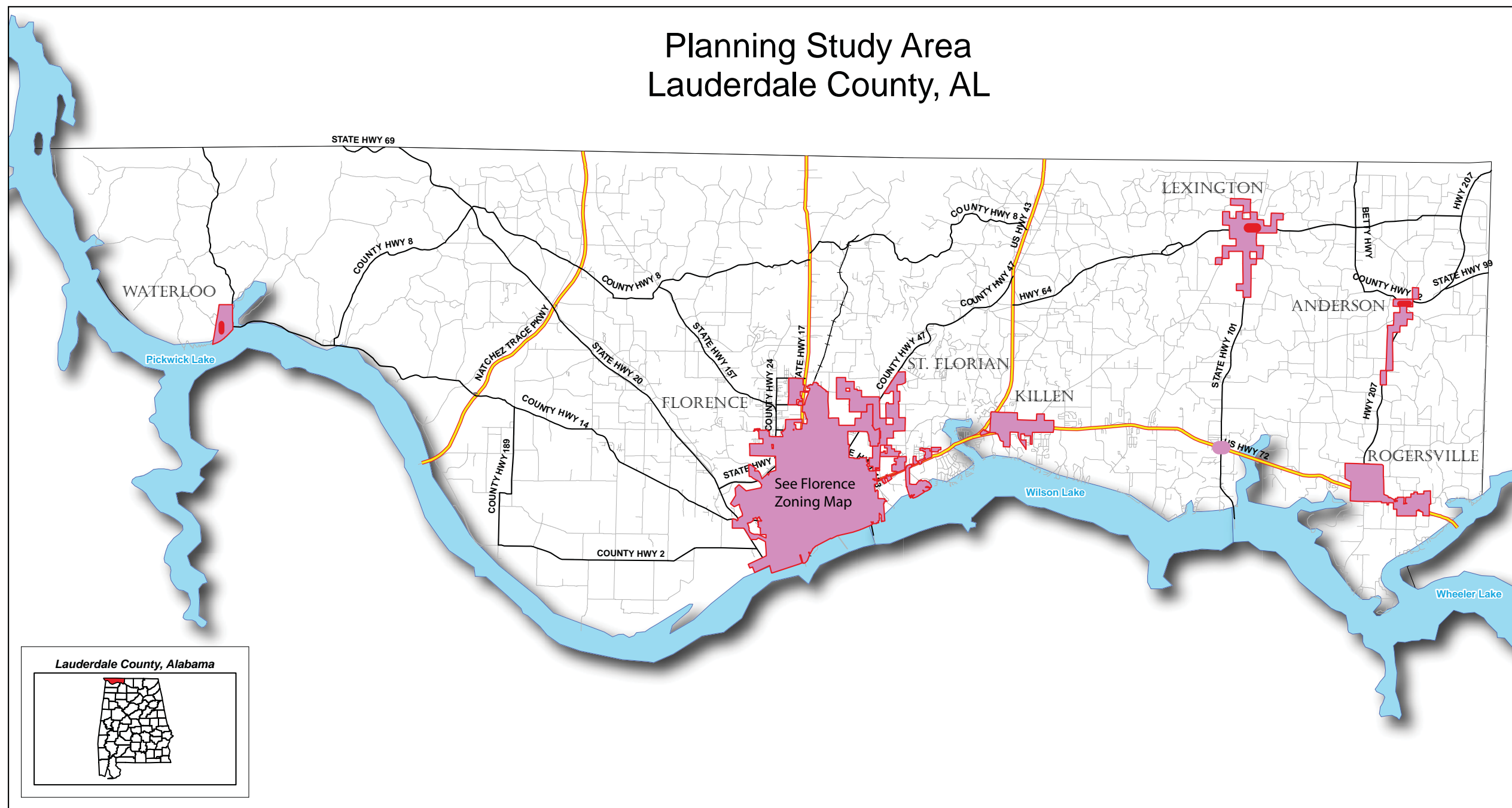
- Commercial Dev.
- Residential Dev.
- Highways
- Secondary Roads
- Aterial Roads
- Railroads
- Cities/Towns
- Tennessee River
- Lauderdale County

Land Use Development Trends Existing Development Patterns



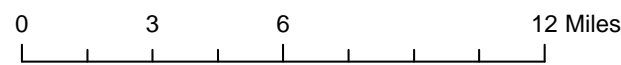
City of Florence Zoning Map





- Commercial Dev.
- Increased Density Area.
- Highways
- Secondary Roads
- Aterial Roads
- Cities/Towns
- Tennessee River
- Lauderdale County

Land Use Development Trends Future Development Patterns



Mitigation Strategies:

- MS.1 Local Hazard Mitigation Goals
- MS.2 Identification & Analysis of Mitigation Actions
- MS.3 NFIP Implementation Strategy
- MS.4 Mitigation Action Implementation

MS.1 Local Hazard Mitigation Goals**Description of Hazard Mitigation Goal Development**

The previously identified goals of the 2004 plan have been updated based on an evaluation with each jurisdictional representative from the planning study area. The policy committee members have reviewed the existing goals and objectives in the 2004 plan and believed that each goal and objective will continue to steer mitigation efforts over the next five years. The policy committee and planning team reviewed additional mitigation strategies with the 2010 plan in order to implement that 2004 identified goals and objectives. The updated mitigation strategies were placed under mitigation action group categories for further discussion. A copy of each jurisdiction's completed mitigation action group type is on file with the EMA and the exercise is contained in Appendix A.6 Alternative Mitigation Measures.

Mitigation planning serves to lessen a community's vulnerability to the hardship and costs of disasters. The implementation of mitigation programs is a key component to achieving a sustainable community. A sustainable community for the planning jurisdiction is one in which the economic and social needs of people, businesses, critical facilities, and institutions coexist with the natural environment. Hazard mitigation planning must be integrated with a community's overall planning and development efforts. The most effective way for a community to initiate this objective is through consistent and comprehensive mitigation program within the planning jurisdiction. Continued efforts in planning to mitigate

natural and technical hazards in Lauderdale County will establish the region as a safe, healthy and prosperous place to live, work and play.

44 CFR § 201.6 Local Mitigation Plans:

Local Mitigation Plans

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

(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.*

Planning Jurisdiction Goals and Objectives

The mission of the Lauderdale County Mitigation Plan is to promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards. This can be achieved by increasing public awareness, documenting resources for risk reduction, lessening vulnerability, enhancing loss-prevention, and identifying activities to guide the county towards building a safer, more sustainable community. The plan goals describe the overall direction that Lauderdale County and its agencies, organizations, municipalities, and citizens can take to work towards mitigating risks from natural hazards. The overall goals in the implementation of Lauderdale County's Mitigation Plan are:

Protect Life & Property

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from natural hazards.
- Increase community awareness of and preparedness for natural hazards that the county is vulnerable to.
- Reduce losses and repetitive damages for chronic hazard events.
- Improve hazard assessment information to make recommendations for discouraging new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards, especially those that are area specific.

Public Awareness

- Develop, implement, and expand current education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources for municipalities and the community as a whole to assist in implementing mitigation activities.

Natural Systems

- Balance planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve as natural hazard mitigation functions.

Partnership & Information

- Strengthen communication and coordinate participation among and within public agencies,

municipalities, citizens, non-profit organizations, business, and industry to gain a unified interest in plan implementation and maintenance.

- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

Emergency Services

- Establish policies to ensure mitigation projects for critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies, municipalities, non-profit organizations, businesses, and industry.
- Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operation plans and procedures.

Compatibility with the State of Alabama 2007 Plan Update

The 2010 Florence-Lauderdale Multi-Hazard Mitigation Plan vision, goals, and objectives are reflective of the goals adopted in the 2007 State of Alabama Hazard Mitigation Plan Update.

1. Establish a 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. Establish interagency hazard mitigation cooperation.

MS.2 Identification & Analysis of Mitigation Actions

Review of Potential Hazard Mitigation Measures.

The following pages cover the hazard mitigation measures that were presented to the hazard mitigation policy committee as well as to citizens and stakeholders within the planning study area. Each mitigation measure is organized by identified hazard and the possible mitigation strategies to reduce or eliminate the hazard from causing damage. The mitigation action group types policy committee exercise is enclosed within the appendix and the completed exercises are on file with the Lauderdale County EMA.

The steering committee has determined that ideally the mitigation measures should be prioritized by the overall impact on life, property, and environment in the communities participating in the plan according to the following criteria.

1. Property affected by project is a repetitive loss property
2. Environmental consideration
3. Property owners are in agreement with project
4. Jurisdiction is in agreement with the proposed project
5. Project is technically feasible
6. Current and proposed use and occupancy
7. Historic nature of the property
8. Geographic distribution of proposed projects
9. Nature of structure or project to be constructed
10. Ability of property owners to afford mitigation measures
11. Ability to recover expenditures

12. FEMA cost benefit analysis methodology and software should be used to evaluate benefit of project.

13. Need for assistance, area growth rate, available funds, regulatory requirements

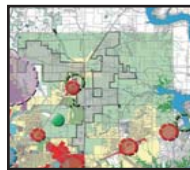
Prioritization of mitigation strategies are not hazard specific and will consequently apply to all identified hazards. Furthermore, the mitigation measures would be administered, implemented, and funded through the local jurisdictions, the state and local EMA, and FEMA. The policy committee recognizes that in most instances, priority is relative to funding availability.

Each of the reviewed mitigation strategies was placed into five categories for discussion with planning team members, stakeholders and the policy committee. The five categories are defined as follows:

1. **Prevention** - are "government administrative or regulatory actions or processes that influence the way land and buildings are developed and built."
2. **Property Protection** - are actions "that involve the modification of existing buildings or infrastructure to protect them from hazard, or removal from hazard areas."
3. **Public Education & Awareness** - are "actions to inform and educate citizens, elected officials, and property owners about potential risks from hazards and potential ways to mitigate them."
4. **Natural Resource Protection** - are "actions that, in addition to minimizing hazard losses also preserve or restore the functions of natural systems."
5. **Structural Projects** - are "actions that involve the construction of structures to reduce the impact of a hazard."

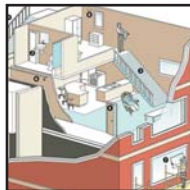


Earthquake Mitigation Actions:



Prevention: Comprehensive Planning

Comprehensive planning sets forth goals; analyzes existing conditions and trends; describes and illustrates a vision for the physical, social, and economic characteristics of the community in years ahead; and outlines policies and guidelines intended to implement that vision.



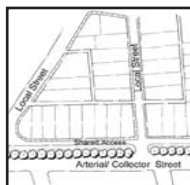
Prevention: Building Codes & Construction Requirements

A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



Prevention: Capital Improvements Programs

The capital improvement program (CIP) is a five to six year schedule of capital projects. Capital planning involves the purchase or construction, major repair, reconstruction, or replacement of capital items, such as bridges, buildings, utility systems, parks and landfills.



Prevention: Subdivision Regulations

A subdivision ordinance controls the division of a tract of land for building and development purposes. Subdivision regulations determine the layout and design standards that must be met by the proposed subdivision. These standards help to insure that future owners get safe neighborhoods and sound construction .



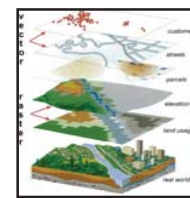
Prevention: Safe Shelter Site Planning

Planning and development of safe shelters should take in depth analysis of community planning and development strategies for placement and function of the facility. In addition, the coordination of the facility with other facilities within the jurisdiction should be taken into account. Safe shelters “ensure the protection of people from dangerous incidents caused by tornadoes, severe storms, and hurricanes through special regulatory standards for safe rooms.



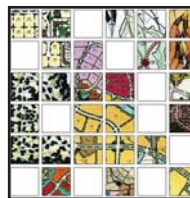
Prevention: Critical Facility Assessments

Critical facility minimum standards should be set for Lauderdale County and the municipal jurisdictions. These standards should be drafted and approved by the policy committee for performing assessments of critical facilities including hospitals, schools, fire and police stations, emergency operation centers, special needs housing etc. . . The assessments should address building and site vulnerabilities to hazards.



Prevention: Geographic Information Systems

Geographic information system (GIS) is a tool that connects databases to maps. It combines layers of information about where things are located with descriptive data about those things and their surroundings. Information such as where a point is located on a map, the length of a road, the size of a parcel of property . . . can all be stored in digital format in layers, also called themes of the GIS.



Prevention: Planning & Land Use Studies

A plan is an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future. A plan provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community.



Prevention: Mitigation Planning Technology Support

Mitigation technologies come in a variety of forms that include warning sirens, flood warning systems, automatic icing indicators on critical bridges, telephone based flood warning system, 911 service back up site, communication re-routing in emergency response.



Property Protection: Building Retrofitting

Redesigning and modification of structures to allow a building to remain in the floodplain where necessary. Although long term plans should be to remove the building from the floodplain.



Earthquake Mitigation Actions Continued:



Property Protection: Critical Facilities Protection
 Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief if the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for "maximum protection from all hazards."



Property Protection: Emergency Power Generation
 Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



Property Protection: Installation of Shatter Resistant Glass
 Retrofitting of existing buildings to safeguard against damages from identified natural hazards in the jurisdiction. As well as requiring shatter resistant glass in new construction involving critical facilities and public buildings.



Public Education & Awareness: Outreach Projects
 Identification of outreach and community projects that provide publicity and support in achieving hazard mitigation goals identified in the plan. Projects should be identified in each of the participating jurisdictions and promoted in achieving hazard mitigation goals and objectives.



Public Education & Awareness: Hazard Information Kiosk
 Promoting the Florence-Lauderdale Hazard Mitigation Policy Committee agenda throughout Lauderdale County. This can be done through providing lectures, speakers and information for county and municipal events that discuss existing mitigation and planning efforts within Lauderdale County.



Public Education & Awareness: School Age Education Programs
 Provide a methodology and curriculum to introduce students to mitigation strategies and land planning efforts within the planning jurisdiction. The program should be promoted by the Florence-Lauderdale Hazard Mitigation Policy Committee and developed in conjunction with school systems within the mitigation planning jurisdictions.



Public Education & Awareness: Adult & Community Education Programs
 Mitigation and land use workshops can be conducted to inform individuals of different hazards within the planning jurisdictions and methods of mitigation those hazards.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution
 Publish and distribute the adopted Florence-Lauderdale Hazard Mitigation Plan in full. In addition there should be distribution of specific mitigation efforts taking place within Lauderdale County and its municipal jurisdictions.



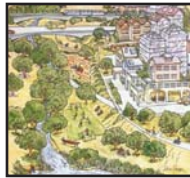
Public Education & Awareness: NOAA Weather Radio Programs
 Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



Public Education & Awareness: Press & Media Mitigation Releases
 Utilization of mass media outlets like newspapers, television, cable access, internet blogs, podcasts, video sharing, and online social networking to increase public awareness of hazard mitigation efforts.



Earthquake Mitigation Actions Continued:



Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



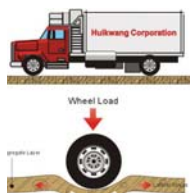
Natural Resource Protection Group: Media Mitigation Training Sessions

Informing media representatives about mitigation efforts allows for accurate information to be distributed on long term mitigation projects. This training begins with a sound understanding of the overall mitigation plan and the mitigation efforts underway within the community. Targeted representatives include newspapers, television reporters and radio correspondents.



Structural Projects: Neighborhood & Community Safe Rooms

Neighborhood and community safe rooms are freestanding, single purpose community storm shelters or safe rooms within buildings used for other purposes to provide temporary shelter from hurricanes, earthquakes, tornadoes, and severe storms.

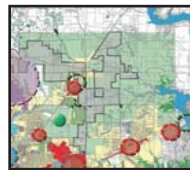


Structural Projects: Ground Stabilization

Ground stabilization techniques mitigate hazards of undesirable soils that are not good for road construction or development. These soils and their underlying geologic formations require stabilization techniques ranging from large stone placement, asphalt reclamation geo-technical pavers and concrete additives.

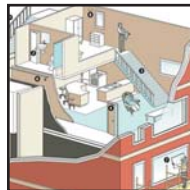


Dam & Levee Failure Mitigation Actions:



Prevention: Comprehensive Planning

Comprehensive planning sets forth goals; analyzes existing conditions and trends; describes and illustrates a vision for the physical, social, and economic characteristics of the community in years ahead; and outlines policies and guidelines intended to implement that vision.



Prevention: Building Codes & Construction Requirements

A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



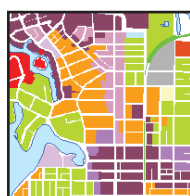
Prevention: Capital Improvements Programs

The capital improvement program (CIP) is a five to six year schedule of capital projects. Capital planning involves the purchase or construction, major repair, reconstruction, or replacement of capital items, such as bridges, buildings, utility systems, parks and landfills.



Prevention: Storm Water Management

Storm water management is the methodology for drainage and flood controls based on natural systems, where runoff is retained or infiltrated at the source. The flow of the retained storm water is within a more naturalized channel and flood control is provided by protection and maintenance of floodplains.



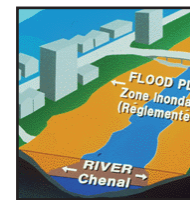
Prevention: Land Use Development Regulations

Land use or zoning ordinance divides a local government's jurisdiction into districts or zones. For each district or zone, the zoning ordinance can regulate land uses, density of development patterns and the amount of parking." A zoning map usually accompanies the ordinance to identify the different districts and the property's for which it applies.



Prevention: Subdivision Regulations

A subdivision ordinance controls the division of a tract of land for building and development purposes. Subdivision regulations determine the layout and design standards that must be met by the proposed subdivision. These standards help to insure that future owners get safe neighborhoods and sound construction.



Prevention: Flood Plain Management Programs

Flood plain management begins with active participation in the National Flood Insurance Program (NFIP). The mapping functions of the NFIP provide an effective basis for establishing floodplain management regulations through zoning, subdivision controls, and other measures within clearly defined areas. Existing structures should be relocated or elevated above the floodplain.



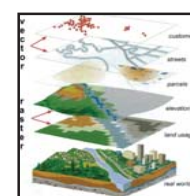
Prevention: Levee & Dam Management

Dams either store water, control river flow or can be used to generate hydroelectric power. A levee is built to prevent river water from flowing into a floodplain or floodway. Levees and dams may suffer catastrophic failure if they are not maintained routinely and on a scheduled basis. Dam management puts in place practices for maintaining existing dams that are in the local jurisdictions control.



Prevention: Critical Facility Assessments

Critical facility minimum standards should be set for Lauderdale County and the municipal jurisdictions. These standards should be drafted and approved by the policy committee for performing assessments of critical facilities including hospitals, schools, fire and police stations, emergency operation centers, special needs housing etc. . . The assessments should address building and site vulnerabilities to hazards.



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Dam & Levee Failure Mitigation Actions Continued:



Prevention: Planning & Land Use Studies

A plan is an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future. A plan provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community.



Prevention: Mitigation Planning Technology Support

Mitigation technologies come in a variety of forms that include warning sirens, flood warning systems, automatic icing indicators on critical bridges, telephone based flood warning system, 911 service back up site, communication re-routing in emergency response.



Property Protection: Critical Facilities Protection

Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief of the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for maximum protection from all hazards.



Property Protection: Freeboard Requirements for Building Elevations

The freeboard is any additional height above a flood elevation on a building is called the freeboard. A community may use this elevation calculation to determine the required level of elevation for a structure's lowest floor in accordance with floodplain management regulations. Standard is the Base Flood Elevation (BFE) plus 1 foot of rise.



Public Education & Awareness: Outreach Projects

Identification of outreach and community projects that provide publicity and support in achieving hazard mitigation goals identified in the plan. Projects should be identified in each of the participating jurisdictions and promoted in achieving hazard mitigation goals and objectives.



Public Education & Awareness: Hazard Information Kiosk

Promoting the Florence-Lauderdale Hazard Mitigation Policy Committee agenda throughout Lauderdale County. This can be done through providing lectures, speakers and information for county and municipal events that discuss existing mitigation and planning efforts within Lauderdale County.



Public Education & Awareness: School Age Education Programs

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Public Education & Awareness: Adult & Community Education Programs

Mitigation and land use workshops can be conducted to inform individuals of different hazards within the planning jurisdictions and methods of mitigation those hazards.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Publish and distribute the adopted Florence-Lauderdale Hazard Mitigation Plan in full. In addition there should be distribution of specific mitigation efforts taking place within Lauderdale County and its municipal jurisdictions.

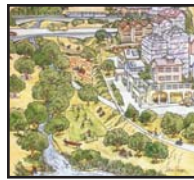


Public Education & Awareness: Press & Media Mitigation Releases

Utilization of mass media outlets like newspapers, television, cable access, internet blogs, podcasts, video sharing, and online social networking to increase public awareness of hazard mitigation efforts.



Dam & Levee Failure Mitigation Actions Continued:



Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



Natural Resource Protection Group: Media Mitigation Training Sessions

Informing media representatives about mitigation efforts allows for accurate information to be distributed on long term mitigation projects. This training begins with a sound understanding of the overall mitigation plan and the mitigation efforts underway within the community. Targeted representatives include newspapers, television reporters and radio correspondents.



Natural Resource Protection: Water Resource Conservation Programs

Water resource programs protect water quantity and quality through water conservation programs to mitigate the effects of droughts and assure uninterrupted potable water supplies. Water conservation is defined as activities designed to reduce the demand for water, improve efficiency in use, and reduce losses and waste of water.



Structural Projects: Neighborhood & Community Safe Rooms

Neighborhood and community safe rooms are freestanding, single purpose community storm shelters or safe rooms within buildings used for other purposes to provide temporary shelter from hurricanes, earthquakes, tornadoes, and severe storms.

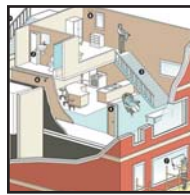


Natural Resource Protection: Dam Modifications

Dam modifications allow for safe and effective operation of existing structures that contain large volumes of water within a reservoir. Modifications can enable the structure to function more efficiently as well as continue the life span of the dam itself.



Drought Mitigation Actions:



Prevention: Building Codes & Construction Requirements

A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



Prevention: Capital Improvements Programs

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Prevention: Subdivision Regulations

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Prevention: Safe Shelter Site Planning

Planning and development of safe shelters should take in depth analysis of community planning and development strategies for placement and function of the facility. In addition, the coordination of the facility with other facilities within the jurisdiction should be taken into account. Safe shelters ensure the protection of people from dangerous incidents caused by tornadoes, severe storms, and hurricanes through special regulatory standards for safe rooms.



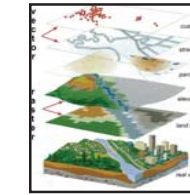
Prevention: Critical Facility Assessments

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Structural Projects: Neighborhood & Community Safe Rooms

Neighborhood and community safe rooms are freestanding, single purpose community storm shelters or safe rooms within buildings used for other purposes to provide temporary shelter from hurricanes, earthquakes, tornadoes, and severe storms.



Prevention: Geographic Information Systems

Geographic information system (GIS) is a tool that connects databases to maps. It combines layers of information about where things are located with descriptive data about those things and their surroundings. Information such as where a point is located on a map, the length of a road, the size of a parcel of property can all be stored in digital format in layers, also called themes of the GIS.



Prevention: Planning & Land Use Studies

A plan is an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future. A plan provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community.



Prevention: Mitigation Planning Technology Support

Mitigation technologies come in a variety of forms that include warning sirens, flood warning systems, automatic icing indicators on critical bridges, telephone based flood warning system, 911 service back up site, communication re-routing in emergency response.



Property Protection: Critical Facilities Protection

Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief of the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for maximum protection from all hazards.



Property Protection: Building Retrofitting

Redesigning and modification of structures to allow a building to remain in the floodplain where necessary. Although long term plans should be to remove the building from the floodplain.



Drought Mitigation Actions Continued:



Public Education & Awareness: Outreach Projects

Identification of outreach and community projects that provide publicity and support in achieving hazard mitigation goals identified in the plan. Projects should be identified in each of the participating jurisdictions and promoted in achieving hazard mitigation goals and objectives.



Public Education & Awareness: Hazard Information Kiosk

Promoting the Florence-Lauderdale Hazard Mitigation Policy Committee agenda throughout Lauderdale County. This can be done through providing lectures, speakers and information for county and municipal events that discuss existing mitigation and planning efforts within Lauderdale County.



Public Education & Awareness: School Age Education Programs

Provide a methodology and curriculum to introduce students to mitigation strategies and land planning efforts within the planning jurisdiction. The program should be promoted by the Florence-Lauderdale Hazard Mitigation Policy Committee and developed in conjunction with school systems within the mitigation planning jurisdictions.



Public Education & Awareness: Adult & Community Education Programs

Mitigation and land use workshops can be conducted to inform individuals of different hazards within the planning jurisdictions and methods of mitigation those hazards.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Publish and distribute the adopted Florence-Lauderdale Hazard Mitigation Plan in full. In addition there should be distribution of specific mitigation efforts taking place within Lauderdale County and its municipal jurisdictions.



Natural Resource Protection: Water Resource Conservation Programs

Water resource programs protect water quantity and quality through water conservation programs to mitigate the effects of droughts and assure uninterrupted potable water supplies." Water conservation is defined as "activities designed to reduce the demand for water, improve efficiency in use, and reduce losses and waste of water."



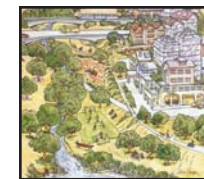
Public Education & Awareness: NOAA Weather Radio Programs

Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



Public Education & Awareness: Press & Media Mitigation Releases

Utilization of mass media outlets like newspapers, television, cable access, internet blogs, podcasts, video sharing, and online social networking to increase public awareness of hazard mitigation efforts.



Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



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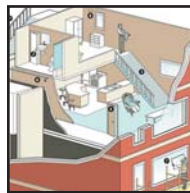


Natural Resource Protection Group: Media Mitigation Training Sessions

Informing media representatives about mitigation efforts allows for accurate information to be distributed on long term mitigation projects. This training begins with a sound understanding of the overall mitigation plan and the mitigation efforts underway within the community. Targeted representatives include newspapers, television reporters and radio correspondents.



Extreme Temperature Mitigation Actions :



Prevention: Building Codes & Construction Requirements

A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



Prevention: Capital Improvements Programs

The capital improvement program (CIP) is a five to six year schedule of capital projects. Capital planning involves the purchase or construction, major repair, reconstruction, or replacement of capital items, such as bridges, buildings, utility systems, parks and landfills.



Prevention: Subdivision Regulations

A subdivision ordinance controls the division of a tract of land for building and development purposes. Subdivision regulations determine the layout and design standards that must be met by the proposed subdivision. These standards help to insure that future owners get safe neighborhoods and sound construction .



Prevention: Safe Shelter Site Planning

Planning and development of safe shelters should take in depth analysis of community planning and development strategies for placement and function of the facility. In addition, the coordination of the facility with other facilities within the jurisdiction should be taken into account. Safe shelters "ensure the protection of people from dangerous incidents caused by tornadoes, severe storms, and hurricanes through special regulatory standards for safe rooms.



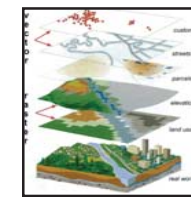
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Structural Projects: Ground Stabilization

Ground stabilization techniques mitigate hazards of undesirable soils that are not good for road construction or development. These soils and their underlying geologic formations require stabilization techniques ranging from large stone placement, asphalt reclamation geo-technical pavers and concrete additives.



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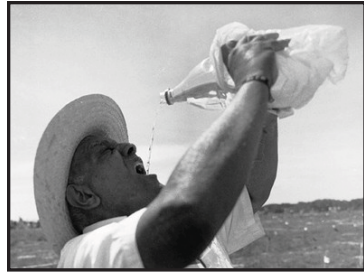
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Extreme Temperature Mitigation Actions Continued :



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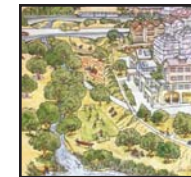
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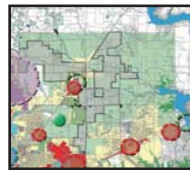


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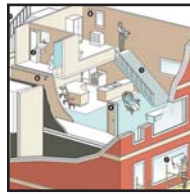


Flood Mitigation Actions:



Prevention: Comprehensive Planning

Comprehensive planning sets forth goals; analyzes existing conditions and trends; describes and illustrates a vision for the physical, social, and economic characteristics of the community in years ahead; and outlines policies and guidelines intended to implement that vision.



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A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



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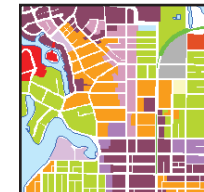
Prevention: Open Space Preservation

The preservation of open space is a voluntary process involving a landowner who is donating or selling land to a government agency or a qualified private organization. Open space broadly includes woodlands, fields, wetlands, stream banks, floodplains, and unique geologic formations.



Prevention: Storm Water Management

Storm water management is the methodology for drainage and flood controls based on natural systems, where runoff is retained or infiltrated at the source. The flow of the retained storm water is within a more naturalized channel and flood control is provided by protection and maintenance of floodplains.



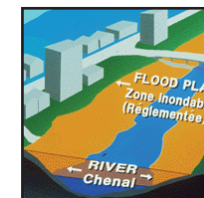
Prevention: Land Use Development Regulations

Land use or zoning ordinance divides a local government's jurisdiction into districts or zones. For each district or zone, the zoning ordinance can regulate land uses, density of development patterns and the amount of parking. A zoning map usually accompanies the ordinance to identify the different districts and the property's for which it applies.



Prevention: Subdivision Regulations

A subdivision ordinance controls the division of a tract of land for building and development purposes. Subdivision regulations determine the layout and design standards that must be met by the proposed subdivision. These standards help to insure that future owners get safe neighborhoods and sound construction.



Prevention: Flood Plain Management Programs

Flood plain management begins with active participation in the National Flood Insurance Program (NFIP). The mapping functions of the NFIP provide an effective basis for establishing floodplain management regulations through zoning, subdivision controls, and other measures within clearly defined areas. Existing structures should be relocated or elevated above the floodplain.



Prevention: Levee & Dam Management

Dams either store water, control river flow or can be used to generate hydroelectric power. A levee is built to prevent river water from flowing into a floodplain or floodway. Levees and dams may suffer catastrophic failure if they are not maintained routinely and on a scheduled basis. Dam management puts in place practices for maintaining existing dams that are in the local jurisdictions control.



Prevention: Public Right-of-Way Maintenance Regulations

Clarification of public right-of-way maintenance requirements through mapping and policy committee discussion increases awareness of responsibility. In addition, jurisdictions should enforce dumping and littering in the public right-of-way and encourage maintenance to be shared with adjoining property owners.

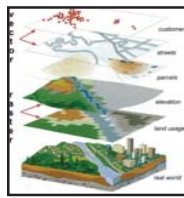


Flood Mitigation Actions Continued:



Prevention: Critical Facility Assessments

Critical facility minimum standards should be set for Lauderdale County and the municipal jurisdictions. These standards should be drafted and approved by the policy committee for performing assessments of critical facilities including hospitals, schools, fire and police stations, emergency operation centers, special needs housing etc. The assessments should address building and site vulnerabilities to hazards.



Prevention: Geographic Information Systems

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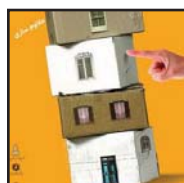
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Prevention: Mitigation Planning Technology Support

Mitigation technologies come in a variety of forms that include warning sirens, flood warning systems, automatic icing indicators on critical bridges, telephone based flood warning system, 911 service back up site, communication re-routing in emergency response.



Property Protection: Building Retrofitting

Redesigning and modification of structures to allow a building to remain in the floodplain where necessary. Although long term plans should be to remove the building from the floodplain.



Property Protection: Real-Estate Flood Prone Property Acquisition

Establish a county and local jurisdiction program through the Florence-Lauderdale EMA that acquires recurring flood properties and other natural hazard areas that contain existing buildings. The buildings should then be demolished and the establishment of open space for recreation and wildlife should occur.



Property Protection: Critical Facilities Protection

Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief of the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for maximum protection from all hazards.



Property Protection: Freeboard Requirements for Building Elevations

The freeboard is any additional height above a flood elevation on a building is called the freeboard. A community may use this elevation calculation to determine the required level of elevation for a structure's lowest floor in accordance with floodplain management regulations. Standard is the Base Flood Elevation (BFE) plus 1 foot of rise.



Property Protection: Emergency Power Generation

Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



Property Protection: Separate Sewer System Collection & Protection

Sewer systems come in two major types of either combined with storm water collection or separate sewer system from storm water collection. A combined system is one in which both wastewater and storm water are conveyed through the same set of pipes. This combined type can overflow and often does during heavy rainfall and flooding. Separate systems tend to reduce untreated sewage from entering rivers and streams.



Flood Mitigation Actions Continued:



Property Protection: Storm Shutter Programs & Installation

Storm shutter programs provide protection of existing structures that may not meet modern standards for storm readiness.



Structural Projects: Neighborhood & Community Safe Rooms

Neighborhood and community safe rooms are freestanding, single purpose community storm shelters or safe rooms within buildings used for other purposes to provide temporary shelter from hurricanes, earthquakes, tornadoes, and severe storms.



Public Education & Awareness: Outreach Projects

Identification of outreach and community projects that provide publicity and support in achieving hazard mitigation goals identified in the plan. Projects should be identified in each of the participating jurisdictions and promoted in achieving hazard mitigation goals and objectives.



Public Education & Awareness: Real-Estate Disclosure Requirements

Encourage and or require the disclosure of flood plain locations within a real estate transaction. This includes the location of floodplains within the property being sold as well as adjoining properties.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Publish and distribute the adopted Florence-Lauderdale Hazard Mitigation Plan in full. In addition there should be distribution of specific mitigation efforts taking place within Lauderdale County and its municipal jurisdictions.



Public Education & Awareness: Hazard Information Kiosk

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Public Education & Awareness: Adult & Community Education Programs

Mitigation and land use workshops can be conducted to inform individuals of different hazards within the planning jurisdictions and methods of mitigation those hazards.



Public Education & Awareness: Flood Map Information Distribution

Distribute to media and public a simplified flood map as a general information guide. The guide should discuss the importance of floodplains to local economies and the regional environment. Graphic material should be used to communicate this information.



Public Education & Awareness: NOAA Weather Radio Programs

Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



Flood Mitigation Actions Continued:



Public Education & Awareness: Press & Media Mitigation Releases

Utilization of mass media outlets like newspapers, television, cable access, internet blogs, pod casts, video sharing, and online social networking to increase public awareness of hazard mitigation efforts.



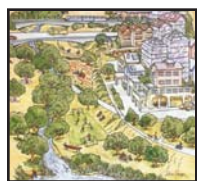
Natural Resource Protection: Sediment & Erosion Control

Erosion is any process by which sediment is entrained (eroded) and moved away from its original location by gradational agents, which include gravity, water, wind, ice, and humans. The best approach is avoidance of the eroding area by identifying the area affected by the hazard and enforce plans not to develop such identified areas. Other options include using landscape architects to engineer the construction of the natural system.



Natural Resource Protection: Stream Corridor Restoration

A wide range of efforts fall under stream restoration, including cleaning local creeks, day lighting small urban creeks (taking them out of concrete culverts), and rebuilding entire river channels and restoring flow regimes" back to the water body. Restoration goals should respond to human needs and be realistic in terms of physical and ecological processes.



Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



Natural Resource Protection: Wetland Restoration & Preservation

Wetlands provide wildlife habitat, serve as filters of groundwater, and aid in flood control. Restoration and preservation begins with the national wetlands inventory map. Section 404 of the federal clean water act requires permits from the Army Corps of Engineers when dredging or filling waters within the United States. Regulations now include wetlands.



Natural Resource Protection: Open Space Easements & Acquisition

The preservation of open space has been a major focus of land trusts and a number of government programs. Some of these strategies include: Fee-Simple Acquisition, Land Trust, Land & Water Conversation Fund, State Programs, Conversation Easements on agricultural and woodland properties



Natural Resource Protection Group: Urban Forestry Planning Programs

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Structural Projects: Storm Water Diversion Culverts

Diversion culverts act as a constructed system to divert storm water away from undesirable areas. Diversion culverts simple move storm water into piped systems that can be day lighted into appropriate locations. However, improperly used culverts can create storm water systems that introduce increased volumes of water into rivers and streams thus causing erosion and sedimentation.



Flood Mitigation Actions Continued:



Structural Projects: Storm Water Flood Walls

Storm water flood walls divert storm water away from undesirable areas and into constructed via ducts and culverts.



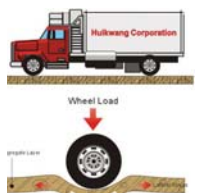
Structural Projects: Dam Modifications

Dam modifications allow for safe and effective operation of existing structures that contain large volumes of water within a reservoir. Modifications can enable the structure to function more efficiently as well as continue the life span of the dam itself.



Structural Projects: Storm Sewer System Construction

Storm sewer systems involve the efficient conveyance of water from one point to another and the control of increased peak rates of runoff associated with land use alteration. There are two approaches to storm water systems. The directly connected system involves efficient collection of runoff at the source and then conveyance to a detention area. The Natural Systems Approach works to mimic the natural conditions of a site.



Structural Projects: Ground Stabilization

Ground stabilization techniques mitigate hazards of undesirable soils that are not good for road construction or development. These soils and their underlying geologic formations require stabilization techniques ranging from large stone placement, asphalt reclamation geo-technical pavers and concrete additives.



Structural Projects: Reservoir Construction

Construction of reservoirs and dams for flood control where deemed cost effective and feasible can assist in mitigating potential disasters. However, when creating the reservoir a man made technical hazard is created and must be maintained and evaluated on a consistent basis.



Hazardous Materials Mitigation Actions:



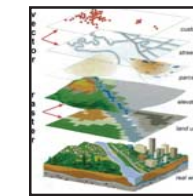
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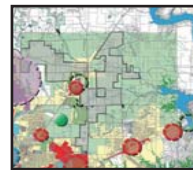
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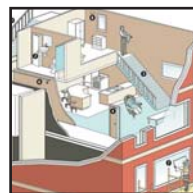
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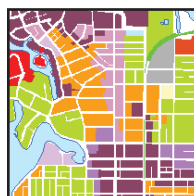
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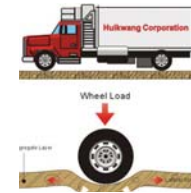
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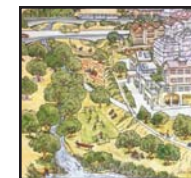
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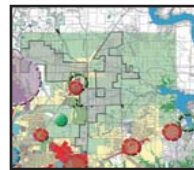


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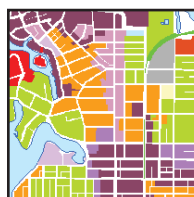
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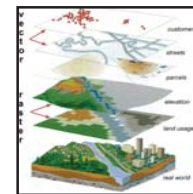
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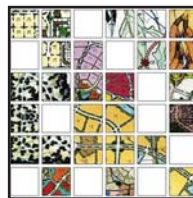
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Property Protection: Freeboard Requirements for Building Elevations

The freeboard is any additional height above a flood elevation on a building is called the freeboard. A community may use this elevation calculation to determine the required level of elevation for a structure’s lowest floor in accordance with floodplain management regulations. Standard is the Base Flood Elevation (BFE) plus 1 foot of rise.



Property Protection: Emergency Power Generation

Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



Property Protection: Storm Shutter Programs & Installation

Storm shutter programs provide protection of existing structures that may not meet modern standards for storm readiness.



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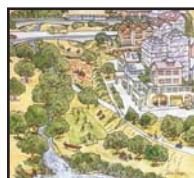
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Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



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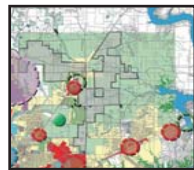


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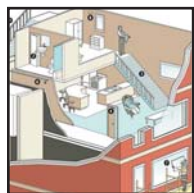


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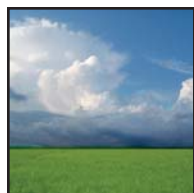
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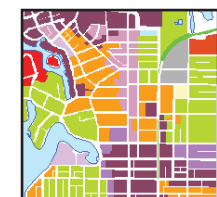
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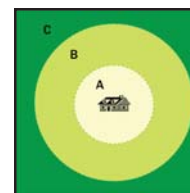
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Prevention: Establishing Defensible Space Within The Wildland Urban Interface

Higher density development into forests are called inholdings. These are private lands or homes within a forest boundary. To mitigate the danger of forest fires there should be defensible space within the Wildland Urban Interface (WUI). The defensible space is 30 feet of reduced vegetation around homes in the WUI.



Prevention: Burn Permits

Burn permits establish controls and guidelines that allow for the appropriate timing and safety of debris burning within the jurisdiction. Through an expensive permit the jurisdiction can safely guide citizens into the best times to burn debris and the best methods of doing so.



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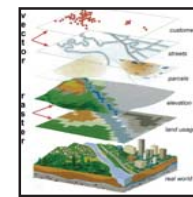


Structural Projects: Retaining Walls

Retaining walls provide stabilization to slopes allowing urbanization and development to occur. Retaining walls are used along interstates, within residential neighborhoods and urban centers. Retaining walls allow for safe habitation and movement of goods and services in areas that contain poor soil conditions and steep slopes that may be undesirable for development.



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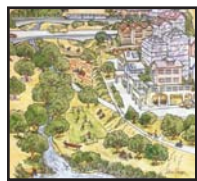


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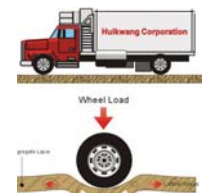
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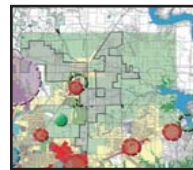


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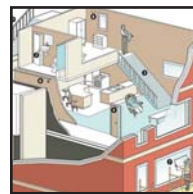


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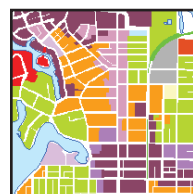
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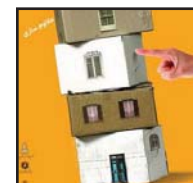
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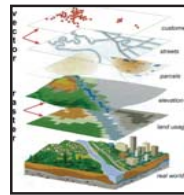


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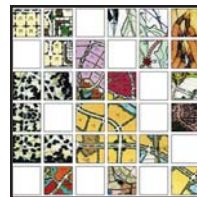


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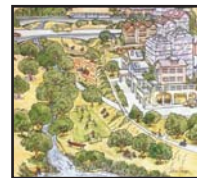


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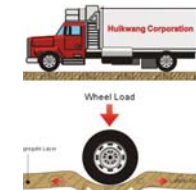
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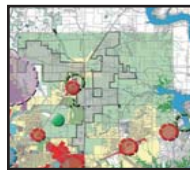


Structural Projects: Storm Sewer System Construction

Storm sewer systems involve the efficient conveyance of water from one point to another and the control of increased peak rates of runoff associated with land use alteration. There are two approaches to storm water systems. The directly connected system involves efficient collection of runoff at the source and then conveyance to a detention area. The Natural Systems Approach works to mimic the natural conditions of a site.

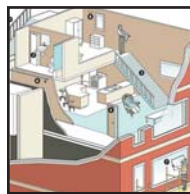


Severe Storm Mitigation Actions:



Prevention: Comprehensive Planning

Comprehensive planning sets forth goals; analyzes existing conditions and trends; describes and illustrates a vision for the physical, social, and economic characteristics of the community in years ahead; and outlines policies and guidelines intended to implement that vision.



Prevention: Building Codes & Construction Requirements

A building code is a set of rules that specify the minimum acceptable level of safety for constructed objects. The main purpose of the building code is to protect public health, safety and general welfare as they relate to the construction and occupancy of buildings and structures. The building code becomes law of a particular jurisdiction when formally enacted by the appropriate authority.



Prevention: Capital Improvements Programs

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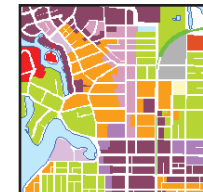
Prevention: Open Space Preservation

The preservation of open space is a voluntary process involving a landowner who is donating or selling land to a government agency or a qualified private organization. "Open space broadly includes woodlands, fields, wetlands, stream banks, floodplains, and unique geologic formations.



Prevention: Storm Water Management

Storm water management is the methodology for drainage and flood controls based on natural systems, where runoff is retained or infiltrated at the source. The flow of the retained storm water is within a more naturalized channel and flood control is provided by protection and maintenance of floodplains.



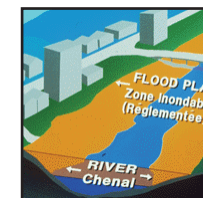
Prevention: Land Use Development Regulations

Land use or zoning ordinance divides a local government's jurisdiction into districts or zones. For each district or zone, the zoning ordinance can regulate land uses, density of development patterns and the amount of parking. A zoning map usually accompanies the ordinance to identify the different districts and the property's for which it applies.



Prevention: Subdivision Regulations

A subdivision ordinance controls the division of a tract of land for building and development purposes. Subdivision regulations determine the layout and design standards that must be met by the proposed subdivision. These standards help to insure that future owners get safe neighborhoods and sound construction.



Prevention: Flood Plain Management Programs

Flood plain management begins with active participation in the National Flood Insurance Program (NFIP) "The mapping functions of the NFIP provide an effective basis for establishing floodplain management regulations through zoning, subdivision controls, and other measures within clearly defined areas. Existing structures should be relocated or elevated above the floodplain.



Prevention: Safe Shelter Site Planning

Planning and development of safe shelters should take in depth analysis of community planning and development strategies for placement and function of the facility. In addition, the coordination of the facility with other facilities within the jurisdiction should be taken into account. Safe shelters "ensure the protection of people from dangerous incidents caused by tornadoes, severe storms, and hurricanes through special regulatory standards for safe rooms.

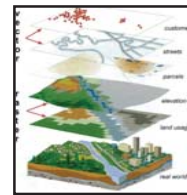


Prevention: Critical Facility Assessments

Critical facility minimum standards should be set for Lauderdale County and the municipal jurisdictions. These standards should be drafted and approved by the policy committee for performing assessments of critical facilities including hospitals, schools, fire and police stations, emergency operation centers, special needs housing etc. . . The assessments should address building and site vulnerabilities to hazards.



Severe Storm Mitigation Actions Continued:



Prevention: Geographic Information Systems

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Prevention: Planning & Land Use Studies

A plan is an adopted statement of policy, in the form of text, maps, and graphics, used to guide public and private actions that affect the future. A plan provides decision makers with the information they need to make informed decisions affecting the long-range social, economic, and physical growth of a community.



Prevention: Mitigation Planning Technology Support

Mitigation technologies come in a variety of forms that include warning sirens, flood warning systems, automatic icing indicators on critical bridges, telephone based flood warning system, 911 service back up site, communication re-routing in emergency response.



Property Protection: Critical Facilities Protection

Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief if the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for maximum protection from all hazards.



Property Protection: Building Retrofitting

Redesigning and modification of structures to allow a building to remain in the floodplain where necessary. Although long term plans should be to remove the building from the floodplain.



Property Protection: Real-Estate Flood Prone Property Acquisition

Establish a county and local jurisdiction program through the Florence-Lauderdale EMA that acquires recurring flood properties and other natural hazard areas that contain existing buildings. The buildings should then be demolished and the establishment of open space for recreation and wildlife should occur.



Property Protection: Freeboard Requirements for Building Elevations

The freeboard is any additional height above a flood elevation on a building is called the freeboard. A community may use this elevation calculation to determine the required level of elevation for a structure's lowest floor in accordance with floodplain management regulations. Standard is the Base Flood Elevation (BFE) plus 1 foot of rise.



Property Protection: Emergency Power Generation

Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



Property Protection: Storm Shutter Programs & Installation

Storm shutter programs provide protection of existing structures that may not meet modern standards for storm readiness.



Public Education & Awareness: Outreach Projects

Identification of outreach and community projects that provide publicity and support in achieving hazard mitigation goals identified in the plan. Projects should be identified in each of the participating jurisdictions and promoted in achieving hazard mitigation goals and objectives.



Severe Storm Mitigation Actions Continued:



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

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Public Education & Awareness: Adult & Community Education Programs

Mitigation and land use workshops can be conducted to inform individuals of different hazards within the planning jurisdictions and methods of mitigation those hazards.



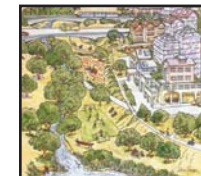
Public Education & Awareness: NOAA Weather Radio Programs

Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



Public Education & Awareness: Press & Media Mitigation Releases

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Natural Resource Protection Group: Local Watershed Management Programs

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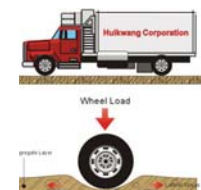
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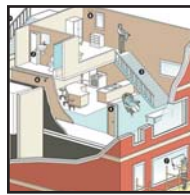


Structural Projects: Ground Stabilization

Ground stabilization techniques mitigate hazards of undesirable soils that are not good for road construction or development. These soils and their underlying geologic formations require stabilization techniques ranging from large stone placement, asphalt reclamation geotechnical pavers and concrete additives.



Tornado Mitigation Actions:



Prevention: Building Codes & Construction Requirements

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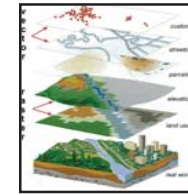
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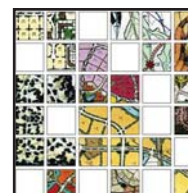
Property Protection: Emergency Power Generation

Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



Prevention: Geographic Information Systems

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Redesigning and modification of existing critical facilities to protect them during a disaster so they may remain viable for disaster relief of the hazard has occurred. New structures should be sited in such a manner as to be away from high risk zones and designed and constructed for maximum protection from all hazards.



Property Protection: Building Retrofitting

Redesigning and modification of structures to allow a building to remain in the floodplain where necessary. Although long term plans should be to remove the building from the floodplain.



Tornado Mitigation Actions Continued:



Property Protection: Storm Shutter Programs & Installation

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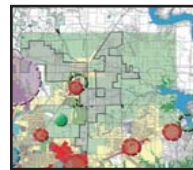


Public Education & Awareness: NOAA Weather Radio Programs

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Wildfire Mitigation Actions:



Prevention: Comprehensive Planning

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Prevention: Building Codes & Construction Requirements

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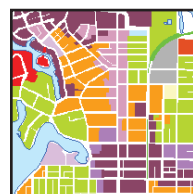
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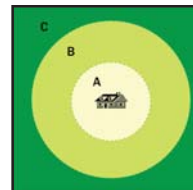
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Prevention: Subdivision Regulations

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Prevention: Establishing Defensible Space Within The Wildland Urban Interface

Higher density development into forests are called inholdings. These are private lands or homes within a forest boundary. To mitigate the danger of forest fires there should be defensible space within the Wildland Urban Interface (WUI). The defensible space is 30 feet of reduced vegetation around homes in the WUI.



Prevention: Burn Permits

Burn permits establish controls and guidelines that allow for the appropriate timing and safety of debris burning within the jurisdiction. Through an expensive permit the jurisdiction can safely guide citizens into the best times to burn debris and the best methods of doing so.



Prevention: Safe Shelter Site Planning

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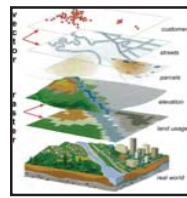


Wildfire Mitigation Actions Continued:



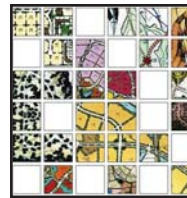
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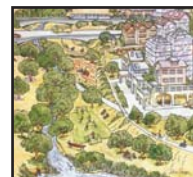
Property Protection: Critical Facilities Protection

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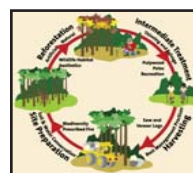
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Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



Natural Resource Protection Group: Forest & Vegetation Management

Forest management focuses on best management practices (BMP) established for silviculture activities related to timber harvesting by each state. BMP include establishing defensible space in forested areas and wildfire fuel reduction.



Natural Resource Protection: Open Space Easements & Acquisition

The preservation of open space has been a major focus of land trusts and a number of government programs. Some of these strategies include: Fee-Simple Acquisition, Land Trust, Land & Water Conservation Fund, State Programs, Conservation Easements on agricultural and woodland properties



Natural Resource Protection Group: Urban Forestry Planning Programs

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Natural Resource Protection: Water Resource Conservation Programs

Water resource programs protect water quantity and quality through water conservation programs to mitigate the effects of droughts and assure uninterrupted potable water supplies. Water conservation is defined as activities designed to reduce the demand for water, improve efficiency in use, and reduce losses and waste of water.



Structural Projects: Neighborhood & Community Safe Rooms

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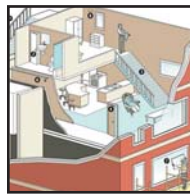


Structural Projects: Ground Stabilization

Ground stabilization techniques mitigate hazards of undesirable soils that are not good for road construction or development. These soils and their underlying geologic formations require stabilization techniques ranging from large stone placement, asphalt reclamation geotechnical pavers and concrete additives.



Winter Storm Mitigation Actions:



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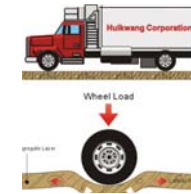
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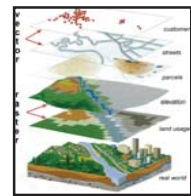
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Property Protection: Emergency Power Generation

Establishment of back up emergency power for critical facilities in order to maintain the electric power during an emergency situation involving loss of power during severe storms and other natural disasters.



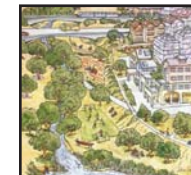
Public Education & Awareness: NOAA Weather Radio Programs

Promote the use of weather radios in critical facilities, institutions, businesses, and homes as a means for advance warning to implement mitigation measures and to increase public awareness of hazard risks.



Public Education & Awareness: Press & Media Mitigation Releases

Utilization of mass media outlets like newspapers, television, cable access, internet blogs, pod casts, video sharing, and online social networking to increase public awareness of hazard mitigation efforts.



Natural Resource Protection Group: Local Watershed Management Programs

Watershed management is broadly defined as a suite of zoning and land-use management techniques applied to help align compatible land uses with resource quality. The management style is based on basins, sub-basins, watersheds, sub-watersheds, and catchments.



Natural Resource Protection Group: Media Mitigation Training Sessions

Informing media representatives about mitigation efforts allows for accurate information to be distributed on long term mitigation projects. This training begins with a sound understanding of the overall mitigation plan and the mitigation efforts underway within the community. Targeted representatives include newspapers, television reporters and radio correspondents.

MS.3 NFIP Implementation Strategy

The jurisdictions within the planning study area have been mapped, and the digital flood maps are available as of September 11, 2009. FEMA completed an updated the Flood Insurance Study for Lauderdale County and its incorporated areas.

Lauderdale County and the incorporated areas of Anderson, Florence, Killen, Rogersville, and St. Florian are in good standing with the NFIP program as of September 11, 2009. The jurisdictions of Lexington and Waterloo have not adopted the model flood plain management ordinance for entering the NFIP program. However, these two jurisdictions are working on completing the NFIP participation requirements.

All of the participating jurisdictions have continued to enforce and maintain updated floodplain ordinances since entering the flood insurance program. The participating jurisdictions in the NFIP are implementing the following strategy for the program:

- Maintaining enforcement records of floodplain ordinances
- Educational assistance to local floodplain administrators
- Outreach and public education to construction managers and property owners about the floodplain management requirements
- Maintain and update FIRM data in the planning jurisdictions GIS data system
- Document and monitor flood event occurrence through local EMA
- Discussion and future planning to enter the Community Rating System (CRS) standards through the hazard mitigation planning process.
- Florence- Lauderdale EMA to maintain NFIP publications in support of local floodplain administrators within each participating jurisdiction.

NFIP Community Status for Lauderdale County Jurisdictions			
Community ID	Jurisdiction	Current Effective Map	Status
010323	Lauderdale County	9-11-09	Participating
010407	Anderson	9-11-09	Participating
010140	Florence	9-11-09	Participating
010338	Killen	9-11-09	Participating
010358	Lexington	1-19-10	Participating
010339	Rogersville	9-11-09	Participating
010505	St. Florian	9-11-09	Participating
010340	Waterloo	9-11-09	Not Participating

Source: <http://www.fema.gov/cis/AL.html>; Community Status Source Book Report

MS.4 Mitigation Action Implementation

The local jurisdictions within the planning study area are responsible for implementing the identified mitigation strategies for that jurisdiction. The responsibility for implementing the identified strategies for that jurisdiction are often shared with academic institutions, utility systems and health care facilities. Policy committee representatives from each of the incorporated jurisdictions as well as Lauderdale County have recommended mitigation strategies that they would like to pursue over the five year planning implementation period.

Each jurisdiction has defined the mitigation actions they adopted and would like to pursue. The identified strategies are described by the participating jurisdiction. Due to local differences in mitigating natural disasters, each jurisdiction selected mitigation strategies that it felt it had the capacity and political will to implement. The listed strategies were selected from the previous list of mitigation actions shown on the mitigation action policy committee exercise in the appendices.

Within each jurisdictions selected mitigation strategies, there are identified partners, priority ranking, lead responsibility, estimated cost, potential funding sources, and the hazards that may be mitigated.

The implementation time line for each of the listed mitigation strategies is within the planning study period. Mitigation measures reference prior and future actions as well as on-going efforts. All references are for this planning period only.

The 2004 Lauderdale County Hazard Mitigation Plan mitigation measures were deleted from the 2010 plan. This deletion was done in consultation with the planning team and the participating jurisdictions in order to eliminate mitigation actions that were not consistent with overall hazard mitigation planning objectives. Furthermore, the planning team felt that the opportunity to coordinate hazard mitigation actions throughout the planning study area exceeded the need to evaluate non-conforming mitigation actions that did not achieve mitigation objectives.



Lauderdale County Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: F-L EMA, AEMA, County Engineer, Co. Commissioners

Priority: Low

Lead Responsibility: County Engineer

Estimated Cost: \$80,000.00 to \$100,000.00

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA)

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: County reviewed and continues preliminary discussion for a county comprehensive plan.

Future Actions: Continue to seek support for county wide planning through mitigation planning awareness.



Prevention: Safe Shelter Site Planning

Partners: F-L EMA, County Engineer, County Commissioners, Incorporated Areas

Priority: Low

Lead Responsibility: F-L EMA

Estimated Cost: \$20,000.00 to \$50,000.00

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Identify funding sources to complete an existing needs assessment and site selection process for safe shelters in the county and incorporated areas.



Prevention: Establishing Defensible Space Within The Wildland Urban Interface

Partners: F-L EMA, County Engineer, County Commissioners, Fire Departments

Priority: Low

Lead Responsibility: Alabama Forestry Commission

Estimated Cost: Not known

Funding Sources: ADECA, PDM, AFC

Mitigating Hazards: Wildfires & Landslides

Prior Actions: No previous action taken

Future Actions: Evaluate existing codes being applied in Lauderdale County and review for additional action.

Prevention: Building Codes & Construction Requirements

Partners: County Engineer, Co. Commissioners

Priority: Medium

Lead Responsibility: F-L EMA

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous action taken

Future Actions: Evaluate existing codes being applied in Lauderdale County and review for additional action.



Prevention: Land Use Development Regulations

Partners: Commissioners, State Legislative Delegation

Priority: Low

Lead Responsibility: Not Determined

Estimated Cost: Not determined at this time

Funding Sources: ADECA, Local Match, PDM

Mitigating Hazards: Flooding, Hurricanes, Wildfires, Dam/Levee Failures, Landslides, Sinkholes, Man Mad Hazards

Prior Actions: No previous action taken

Future Actions: Lauderdale County does not have home rule authority to regulate land use development on a county wide scale. This authority would need to be received by state legislative authority.



Prevention: Burn Permits

Partners: County Commissioners, F-L EMA, County Engineer

Priority: High

Lead Responsibility: Alabama Forestry Commission

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Wildfires, Landslides

Prior Actions: Fires smaller than 1/4 size in acres are exempt from the Alabama Forestry Commission (AFC) burn permit requirements. Permits are obtained from county AFC.

Future Actions: Further evaluate the need for any future action or need in evaluating further restriction of burn permits.

Prevention: Capital Improvements Programs

Partners: County Engineer, County Commissioners

Priority: Medium

Lead Responsibility: County Engineer

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous action taken

Future Actions: Seek county wide support for establishing a five year improvements plan to include capital projects that are identified in the hazard mitigation planning process.



Prevention: Subdivision Regulations

Partners: F-L EMA, County Engineer, County Commissioners

Priority: Low

Lead Responsibility: County Engineer

Estimated Cost: No Additional Cost

Funding Sources: ADECA, Local Match, PDM

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous action taken

Future Actions: Further discussion about regulating subdivisions within the county should occur. Currently this prevention method is not viable and needs community support through community education and information distribution.



Prevention: Public Right-of-Way Maintenance Regulations

Partners: County Engineer, County Commission, F-L EMA, ALDOT

Priority: High

Lead Responsibility: County Engineer, ALDOT

Estimated Cost: Not determined at this time

Funding Sources: ALDOT, HMGP, PDM

Mitigating Hazards: Flooding

Prior Actions: Previous actions include ongoing maintenance

Future Actions: Continue to monitor and document needed right-of-way maintenance and sharing information to the correct and corresponding entities.



Lauderdale County Mitigation Strategies Continued:

Prevention: Open Space Preservation

Partners: County Commission, AL Land Conservancy, Landowners,
Priority: Low
Lead Responsibility: County Commission
Estimated Cost: \$10,000.00 to \$20,000.00 per donation
Funding Sources: AL Land Conservancy, Local Match, ALEMA, ADECA
Mitigating Hazards: Flooding, Hurricanes, Wildfires, Landslides, Sinkholes
Prior Actions: No previous action taken
Future Actions: Identify potential funding sources, partners and prioritize areas of needed open space within the county.



Prevention: Storm Water Management

Partners: ADEM, F-L EMA, AEMA, ADECA, County Eng.
Priority: Low
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: ADEM, Local Match, HMGP, PDM, ADECA
Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failure
Prior Actions: No previous action taken
Future Actions: F-L EMA evaluation of storm water management actions to be taken. Projects to be identified.



Prevention: Critical Facility Assessments

Partners: AEMA, F-L EMA, Co. Commission, Hospitals, School Districts.
Priority: Low
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: Not determined at this time
Mitigating Hazards: Assists in mitigating all hazards
Prior Actions: No previous action taken
Future Actions: Establish critical facility minimum standards for Lauderdale County. The assessment should address building and site vulnerabilities to hazards.



Prevention: Flood Plain Management Programs

Partners: F-L EMA, County Engineer, TVA, Co. Commission
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: ADECA, ADEM, PDM, AEMA
Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures
Prior Actions: Previous actions consist of NFIP local administration guidance and working with state NFIP coordinator.
Future Actions: Evaluate methodologies for strengthening the NFIP program through flood plain management.



Prevention: Levee & Dam Management

Partners: TVA, County Engineer
Priority: High
Lead Responsibility: County Engineer
Estimated Cost: No additional cost
Funding Sources: n/a
Mitigating Hazards: Flooding & Dam/Levee Failures
Prior Actions: No previous action taken
Future Actions: Establish a dam safety inspection program for Lauderdale County through the State of Alabama.



Property Protection: Critical Facilities Protection

Partners: County Commissioners, F-L EMA, County Engineer
Priority: Medium
Lead Responsibility: County Engineer
Estimated Cost: Undetermined
Funding Sources: ALDOT, County Match, HMGP
Mitigating Hazards: All hazards are mitigated
Prior Actions: No previous action taken
Future Actions: Perform infrastructure assessments of public schools and universities for hazard retrofitting. Identify critical facilities that need additional retrofitting for mitigating identified natural disasters. Review bridges that are vulnerable to flood damage and complete infrastructure retrofitting for them.



Natural Resource Protection Group: Media Mitigation Training Sessions

Partners: Media Outlets, F-L EMA
Priority: Low
Lead Responsibility: County Engineer
Estimated Cost: Not determined at this time
Funding Sources: PDM, ALEMA
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Scheduled media interview after hazard occurrence
Future Actions: Develop in conjunction with media entities a workshop program for staff to learn about mitigation efforts.



Natural Resource Protection Group: Local Watershed Management Programs

Partners: County Engineer, ADEM, TVA, EMA, NFIP.
Priority: Low
Lead Responsibility: F-L EMA
Estimated Cost: Not determined at this time
Funding Sources: ADEM, Local Match, HMGP, PDM, ADECA
Mitigating Hazards: Flooding, Severe Storms, Dam Failure
Prior Actions: No previous action taken
Future Actions: Work with local developers to manage development impacts on storm water drainage systems in the county. Management is usually through ordinance or BMP's



Public Education & Awareness: School Age Education Programs

Partners: F-L EMA, ALEMA, PDM, School Districts
Priority: Moderate
Lead Responsibility: County School District
Estimated Cost: Not determined at this time
Funding Sources: ADEM, ALEMA, PDM, ADECA
Mitigating Hazards: Mitigates all identified hazards
Prior Actions: Public input and mitigation discussions
Future Actions: Develop annual strategies and prioritize hazards to be mitigated that need focus on public education and awareness. The policy committee indicated that floods are a very important hazard that can be mitigated through education and awareness over time.





Lauderdale County Mitigation Strategies Continued:

Prevention: Geographic Information Systems

Partners: Florence Planning Dept., F-L EMA, Jurisdictions
Priority: Medium
Lead Responsibility: Florence Planning Department
Estimated Cost: \$15,000.00 annually
Funding Sources: local match, ADEM, ADECA
Mitigating Hazards: All hazards are mitigated
Prior Actions: GIS data has been gathered through a collective agreement of participating jurisdictions.
Future Actions: Ongoing data gathering that is added to the county wide GIS system.



Prevention: Planning & Land Use Studies

Partners: F-L EMA, County Engineer, Co. Commissioners
Priority: Low
Lead Responsibility: Not Determined
Estimated Cost: Undetermined
Funding Sources: ADECA, HUD, ALEMA, ADEM
Mitigating Hazards: All hazards are mitigated
Prior Actions: 2004 Hazard Mitigation Plan
Future Actions: Identify needed plans and studies within the county such as the Hazard Mitigation Plan, watershed management plans, fire hydrant inventory, and flood prone roadways.



Prevention: Mitigation Planning Technology Support

Partners: Co. Engineer, Co. Commission, Local jurisdictions
Priority: High
Lead Responsibility: F-L EMA
Estimated Cost: Undetermined
Funding Sources: ALEMA, ADECA, ADEM, local match
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Previous actions include installing warning sirens throughout the county.
Future Actions: Continue implementation of warning sirens as requested by local jurisdictions and update existing ones. Evaluation of installing a telephone based warning system.



Property Protection: Freeboard Requirements for Building Elevations

Partners: F-L EMA, Co. Commission, Local jurisdictions
Priority: High
Lead Responsibility: County Engineer
Estimated Cost: Undetermined
Funding Sources: ALEMA, PDM, HMGP, ADECA
Mitigating Hazards: Flooding
Prior Actions: Evaluation of need for freeboard requirements
Future Actions: Identify freeboard requirements in conjunction with the FIRM maps and then establish a voluntary flood protection program for landowners in relation to freeboard requirements.



Property Protection: Emergency Power Generation

Partners: Co. Engineer, Co. Commission, Local jurisdictions
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: Undetermined
Funding Sources: HMGP, ALAEMA, PDM
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Assisting entities with critical facilities in receiving power within the planning study area.
Future Actions: Establish emergency generator power to all critical facilities that do not have emergency systems. Annual evaluation should document critical facility needs.



Property Protection: Separate Sewer System Collection & Protection

Partners: Local Jurisdictions, Co. Engineer
Priority: Low
Lead Responsibility: Local Jurisdictions
Estimated Cost: Undetermined
Funding Sources: ADECA
Mitigating Hazards: All hazards may be mitigated
Prior Actions: previously not identified mitigation strategy
Future Actions: Encourage local jurisdictions and private sewer and storm water collection entities to upgrade or redesign dual collection systems to separate out storm water and sewer collection.



Public Education & Awareness: Adult & Community Education Programs

Partners: ALEMA, Co. Commissioners, Academic Institutions
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: \$5,000.00 annually
Funding Sources: ALEMA, Local Match
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Previous actions include citizen & stakeholder hazard mitigation meetings and local workshops.
Future Actions: Conduct public hazard mitigation education booths in conjunction with civic celebrations. Complete annual mitigation education awareness workshops that are interesting, fun and well attended.



Public Education & Awareness: Flood Map Information Distribution

Partners: NFIP Coordinator, Co. Engineer, AEMA
Priority: Medium
Lead Responsibility: F-L EMA
Estimated Cost: Undetermined
Funding Sources: no additional cost
Mitigating Hazards: Floods
Prior Actions: Assisting and encouraging jurisdictions to participate in the NFIP program.
Future Actions: Establish an annual education & awareness strategy for that also discusses flood map information in Lauderdale County.



Public Education & Awareness: NOAA Weather Radio Programs

Partners: Critical Facility Entities, School Districts, Local Jurisdictions, County Commissioners
Priority: High
Lead Responsibility: F-L EMA
Estimated Cost: Undetermined
Funding Sources: ALEMA, ADECA, ADEM, local match
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Ongoing weather radio use is actively promoted.
Future Actions: Continue placement of NOAA weather radios within the community. Use local sponsorship to place radios in areas of consistent hazard danger. Placement should continue to focus on distribution to critical facilities as a priority.





Lauderdale County Mitigation Strategies Continued:

Property Protection: Real-Estate Flood Prone Property Acquisition



Partners: Co. Engineer, NFIP Coordinator, ADEM
Priority: High
Lead Responsibility: F-L EMA
Estimated Cost: Undetermined
Funding Sources: PDM, HMGP, ADEM, Local Match
Mitigating Hazards: Flood
Prior Actions: Acquisition of flood prone properties is ongoing.
Future Actions: Evaluate flood prone properties for property acquisition in conjunction with land owners.

Natural Resource Protection: Wetland Restoration & Preservation



Partners: Co. Engineer, Local jurisdictions
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: n/a
Funding Sources: No additional funds needed
Mitigating Hazards: Flooding
Prior Actions: Ongoing wetlands information efforts
Future Actions: Provide information to general contractors and land developers on existing wetlands requirements from the Nashville Office of the Army Corps of Engineers.

Natural Resource Protection: Stream Corridor Restoration



Partners: F-L EMA, County Engineer, TVA, Co. Commission
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: ADECA, ADEM, PDM, AEMA
Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures
Prior Actions:
Future Actions: Evaluate methodologies for strengthening the NFIP program through flood plain management.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Partners: School Dist., Academic Institutions, Local Jurisdictions
Priority: Low
Lead Responsibility: F-L EMA
Estimated Cost: \$3,000.00 annually
Funding Sources: HMGP, PDM, ADECA, Local Match
Mitigating Hazards: All hazards potentially mitigated
Prior Actions: Distribution of the 2004 Hazard Mitigation Plan
Future Actions: Develop a hazard mitigation pamphlet that covers the most common hazard of flooding. This should be distributed based on population and be image driven to achieve the desired message.

Natural Resource Protection: Water Resource Conservation Programs



Partners: County Engineer, ADEM, TVA, AEMA
Priority: Medium
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: PDM, Local Match
Mitigating Hazards: Flooding, Droughts, Wildfires, Landslides
Prior Actions: No previous action taken
Future Actions: Support water conservation through installation of rain barrels and water cisterns within residential properties. Develop child education programs around rain barrel development and rain barrel workshops held in local hardware stores.

Structural Projects: Neighborhood & Community Safe Rooms



Partners: Co. Engineer, Co. Commission, Church & Community Centers.
Priority: High
Lead Responsibility: F-L EMA
Estimated Cost: Not determined at this time
Funding Sources: ALEMA, PDM, ADECA, Local Funds
Mitigating Hazards: All hazards may be mitigated
Prior Actions: No previous action taken
Future Actions: Continue to support development of and seek funds for community safe rooms within Lauderdale County.



Public Education & Awareness: Press & Media Mitigation Releases

Partners: Co. Engineer, Co. Commission, local jurisdictions
Priority: Medium
Lead Responsibility: F-L EMA
Estimated Cost: No additional cost
Funding Sources: n/a
Mitigating Hazards: All hazards may be mitigated
Prior Actions: Previous actions include ongoing briefings with local media outlets
Future Actions: Establish advertising or communication campaigns that are image driven and share methods for mitigating natural hazards within Lauderdale County.

Structural Projects: Storm Water Diversion Culverts



Partners: County Engineer, ALDOT
Priority: High
Lead Responsibility: Not Determined
Estimated Cost: Not determined at this time
Funding Sources: Local Funds, ALDOT
Mitigating Hazards: Floods
Future Actions: Identify in conjunction with the county engineer specific sites for storm water diversion projects. Identification should take place in conjunction with community participants and local leadership.

Natural Resource Protection Group: Forest & Vegetation Management



Partners: Alabama Forest Commission (AFC), AL Cooperative Extension Service
Priority: Low
Lead Responsibility: Lauderdale Cooperative Extension Serv.
Estimated Cost: Not determined
Funding Sources: Not determined
Mitigating Hazards: Wildfires, Landslides, Sinkholes
Prior Actions: Ongoing support of the AFC
Future Actions: Continue to develop and promote best management practices for Lauderdale County forests in conjunction with the AFC. This information needs to be further disseminated to local landowners by extension service providers.



Town of Anderson Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: F-L EMA, AEMA, NACOLG

Priority: Low

Lead Responsibility: Mayor

Estimated Cost: \$15,000.00 to \$25,000.00

Funding Sources: Local Match, ADECA, PDM

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No prior actions taken

Future Actions: Seek support for comprehensive planning in the Town of Anderson through community discussions. Evaluate political will and available funding sources.



Prevention: Mitigation Planning Technology Support

Partners: F-L EMA, FEMA, ALEMA

Priority: High

Lead Responsibility: Mayor and Council

Estimated Cost: Undetermined

Funding Sources: PDM, Local Funds, County Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Pursuing installation of six warning sirens

Future Actions: Continuing to oversee future installation of five additional warning sirens in the community of Anderson.



Public Education & Awareness: School Age Education Programs

Partners: F-L EMA, ALEMA, PDM, County School System

Priority: Moderate

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ADEM, ALEMA, PDM, ADECA

Mitigating Hazards: Mitigates all identified hazards

Prior Actions: Identify opportunities to have speakers and displays about hazard mitigation priorities within local schools.

Prevention: Flood Plain Management Programs

Partners: F-L EMA, County Engineer, TVA, Co. Commission

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ADECA, ADEM, PDM, AEMA

Mitigating Hazards: Flooding, Severe Storms

Prior Actions: No previous actions taken

Future Actions: Evaluate regional support for a watershed management plan with supporting ordinances from each jurisdiction in the planning study area.



Property Protection: Emergency Power Generation

Partners: Co. Engineer, F-L EMA, AEMA, ADECA

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: HMGP, ALEMA, PDM

Mitigating Hazards: All hazards may be mitigated

Prior Actions: No previous actions taken.

Future Actions: Identify critical facilities in Anderson that do not have emergency power and pursue funds within the planning period to provide emergency power..



Public Education & Awareness: Adult & Community Education Programs

Partners: ALEMA, Co. Commissioners, Academic Institutions

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: \$500.00 (combine with F-L EMA)

Funding Sources: ALEMA, Local Match

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Previous actions include citizen & stakeholder hazard mitigation meetings and local workshops.

Future Actions: Conduct public workshops that involve citizens and municipal leaders of the Town of Anderson

Prevention: Safe Shelter Site Planning

Partners: F-L EMA, County Engineer, County Commission

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: \$8,000.00

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Evaluate a scope of work and funding sources to identify current safe shelters and future needs for safe shelters. Planning should identify appropriate sites for appropriately locating the safe shelter.



Public Education & Awareness: Hazard Information Kiosk

Partners: F-L EMA, AEMA

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: F-L EMA, ALEMA, PDM

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Public meetings on the existing hazard mitigation plan.

Future Actions: Establish opportunities for a portable EMA kiosk to be placed at events within the Town of Anderson. Anderson to notify EMA when events are to occur.



Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Partners: ALEMA, F-L EMA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: \$800.00 annually

Funding Sources: Local Match

Mitigating Hazards: All hazards potentially mitigated

Prior Actions: Distribution of the 2004 Hazard Mitigation Plan

Future Actions: Identify local interest in hazard mitigation and develop publications in conjunction with the F-L EMA hazard mitigation publications.



City of Florence Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: F-L EMA, AEMA, Utilities Department, ALDOT, Florence Port Authority, Univ of North Alabama (UNA)

Priority: Low

Lead Responsibility: Florence Planning Department

Estimated Cost: \$80,000.00 to \$120,000.00

Funding Sources: ADECA, PDM, Local Match, HUD

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: City of Florence completed an update to the comprehensive plan in 2007.

Future Actions: Continue implementation of the existing comprehensive plan while documenting needs for future updates.



Prevention: Building Codes & Construction Requirements

Partners: F-L EMA, Florence Planning Department

Priority: Medium

Lead Responsibility: Florence Building Department

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Yearly review and evaluation of updates

Future Actions: Evaluate future needs to meet identified hazard risks and any identified mitigation strategies related to updating local building codes within the city.



Prevention: Capital Improvements Programs

Partners: Mayor/Council, City Engineer, Florence Planning, Parks and Recreation, General Fund Accounting

Priority: Medium

Lead Responsibility: Mayor/Council

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Previous actions include updating the five year capital improvements program.

Future Actions: Evaluate the existing capital improvements program for additions to complete identified hazard mitigation strategies within the city.



Prevention: Open Space Preservation

Partners: F-L EMA, AEMA, City Engineer, Parks and Recreation, Florence Planning Department

Priority: Low

Lead Responsibility: Parks and Recreation

Estimated Cost: Undetermined

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA), AL Land Trusts

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Continued efforts to establish passive recreational facilities

Future Actions: Map and prioritize needed open space lands within the City of Florence. Once generalized areas have been identified there should be selection of potential properties and cost estimates assigned to each.



Prevention: Storm Water Management

Partners: F-L EMA, ADEM, AEMA, Florence Planning Dept. Florence Building Dept.

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: Not estimated

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance. (FMA), ADEM

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: City has storm water management ordinance and permits in place.

Future Actions: Seek contemporary methods to mitigate storm water runoff through constructed wetlands and road side containment methods.



Prevention: Land Use Development Regulations

Partners: ADECA, HUD, NACOLG, Florence Building Dept., City Engineer, Florence Planning Commission

Priority: Low

Lead Responsibility: Florence Planning Department

Estimated Cost: No additional cost at this time

Funding Sources: Local Match

Mitigating Hazards: Flooding, Hurricanes, Wildfires, Dam/Levee Failures, Technical Hazards

Prior Actions: Land use development regulations are in place for the City of Florence. The city continues to evaluate and implement the development regulations daily.



Prevention: Subdivision Regulations

Partners: City Engineer, Florence Utilities, Florence Building Department, Florence Planning Department

Priority: Low

Lead Responsibility: City Engineer/Florence Planning Dept.

Estimated Cost: No additional cost

Funding Sources: Not applicable

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: City of Florence has subdivision regulations in place and are implementing the existing comprehensive plan

Future Actions: Continue to monitor the current subdivision regulations for potential updates and opportunities to mitigate identified hazard risks.

Prevention: Flood Plain Management Programs

Partners: F-L EMA, ADEM, TVA, Florence Port Authority, City Engineer

Priority: Low

Lead Responsibility: Florence Engineering Dept., Florence Building Dept.

Estimated Cost: \$20,000.00

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA)

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: City of Florence currently relies on TVA and their storm water management program to implement flood plan management.

Future Actions: Continue support for existing programs and identify two to three improvements that need to be made.

Prevention: Levee & Dam Management

Partners: F-L EMA, AEMA, TVA, City Engineer

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: No additional cost

Funding Sources: Not applicable

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Ongoing coordination with TVA and its dam management program. This includes coordinating road closing within the city with the department of transportation.

Future Actions: Continue municipal coordination with TVA and F-L EMA. The city has no municipal dams or levees to manage within its jurisdiction.



City of Florence Mitigation Strategies Continued:

Prevention: Safe Shelter Site Planning

Partners: F-L EMA, City Engineer, AEMA, ADECA, Florence Planning Dept.

Priority: High

Lead Responsibility: Florence-Lauderdale EMA

Estimated Cost: \$20,000.00 to \$35,000.00

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Initiate planning study for sectors within the city that are in need of safe shelters. Criteria for this study should be established that include use of existing or multifunctional structures like churches.



Prevention: Establishing Defensible Space Within The Wildland Urban Interface

Partners: Alabama Forestry Commission (AFC), Florence Urban Forestry Department

Priority: Low

Lead Responsibility: Florence Fire Department

Estimated Cost: No additional cost

Funding Sources: Undetermined

Mitigating Hazards: Wildfires & Landslides

Prior Actions: No previous actions taken

Future Actions: Identify defensible space areas in conjunction with the open space preservation and parks and recreation assessments. After defensible space analysis establish defensible space ordinances and citizen discussions.



Prevention: Burn Permits

Partners: Florence Police Dept., Florence Urban Forestry Dept., Florence Building Department

Priority: High

Lead Responsibility: Florence Building Department

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Wildfires, Landslides

Prior Actions: Burn permits are in place and enforced

Future Actions: Continue public awareness through public outreach programs.



Prevention: Public Right-of-Way Maintenance Regulations

Partners: County Engineer, F-L EMA, ALDOT

Priority: High

Lead Responsibility: City Engineer, ALDOT

Estimated Cost: Not determined at this time

Funding Sources: ALDOT, HMGP, PDM, Local Match

Mitigating Hazards: Flooding

Prior Actions: Previous actions include ongoing maintenance

Future Actions: Continue to monitor and document needed right-of-way maintenance and sharing information to the correct entities.



Prevention: Critical Facility Assessments

Partners: F-L EMA, City Schools, Florence Planning Dept., Building Department.

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: Not determined at this time

Funding Sources: Not determined at this time

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous action taken

Future Actions: Establish critical facility minimum standards for the City of Florence and its school system. The assessment should address building and site vulnerabilities to hazards.



Prevention: Geographic Information Systems

Partners: Florence Planning Dept., F-L EMA, Jurisdictions

Priority: Medium

Lead Responsibility: Florence Planning Department

Estimated Cost: No additional cost

Funding Sources: Not applicable

Mitigating Hazards: All hazards may be mitigated

Prior Actions: GIS data has been gathered through a collective agreement of participating jurisdictions.

Future Actions: Completion of the current land use update for the City of Florence.



Prevention: Planning & Land Use Studies

Partners: F-L EMA, City Engineer, Municipal Departments

Priority: Low

Lead Responsibility: Florence Planning Department

Estimated Cost: Undetermined

Funding Sources: ADECA, HUD, ALEMA, ADEM, USDA

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Florence Comprehensive Plan, East Florence Plan, West Florence Plan,

Future Actions: Evaluate plans for update to include hazard mitigation components. Identify two to three mitigation land use components to include in the next municipal planning document.



Prevention: Mitigation Planning Technology Support

Partners: F-L EMA, AEMA, FEMA, UNA

Priority: High

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: ALEMA, ADECA, ADEM, local match

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Previous actions include installing warning sirens within identified points in the city.

Future Actions: Continue implementation of warning sirens as requested by communities and update existing ones.

Evaluation of installing a telephone based warning system.



Property Protection: Building Retrofitting

Partners: F-L EMA, Building Department, Mayor/Council

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: Not known

Funding Sources: Undetermined until clarity of project

Mitigating Hazards: Flooding, Severe Storms, Hurricanes, Drought, Wild Fires, Sink Holes

Prior Actions: No previous action taken

Future Actions: Review necessary retrofitting needs from the critical assessments completed for essential facilities within the city.





City of Florence Mitigation Strategies Continued:

Property Protection: Real-Estate Flood Prone Property Acquisition

Partners: F-L EMA, Florence Planning Department, AEMA, ADECA

Priority: High

Lead Responsibility: City Engineer

Estimated Cost: Not determined

Funding Sources: AEMA, ADECA, HMGP, PDM, NFIP, Local Funds

Mitigating Hazards: Floods

Prior Actions: Property purchases have occurred in previous years.

Future Actions: Continue public education and discussions with potential property owners in need of purchase. Specifically evaluate repetitive loss properties in the City of Florence.



Property Protection: Separate Sewer System Collection & Protection

Partners: Florence Planning Department

Areas

Priority: Low

Lead Responsibility: Florence Utility Department

Estimated Cost: Undetermined

Funding Sources: Determined upon project clarification

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Evaluation and cost estimates have been reviewed for specific projects.

Future Actions: Clarify time table and funding sources for completing separate sewer and storm water collection.



Public Education & Awareness: Real-Estate Disclosure Requirements

Partners: F-L EMA, Local and regional legislative delegation, Municipal Attorney.

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not estimated

Funding Sources: n/a

Mitigating Hazards: Flooding

Prior Actions: No previous actions taken

Future Actions: Initiate discussions within the council to decide whether further real-estate disclosure is necessary to prevent repetitive loss properties from continued development

Public Education & Awareness: Hazard Mitigation Plan & Pamphlet Distribution

Partners: F-L EMA, AEMA, ADEM

Priority: High

Lead Responsibility: City Engineer

Estimated Cost: \$3,000.00 to \$5,000.00

Funding Sources: AEMA, ADECA, HMGP, PDM

Mitigating Hazards: Assists in mitigating hazards discussed

Prior Actions: Publication of the 2004 Mitigation Plan

Future Actions: Clarify funding sources and specify hazard to be discussed in the pamphlet and its strategy for mitigating the specific hazard. This hazard can occur heavily within the city or be part of a broad county wide initiative with other jurisdictions



Property Protection: Critical Facilities Protection

Partners: F-L EMA, County Engineer, County Commissioners, Incorporated Areas

Priority: High

Lead Responsibility: City Engineer/Florence Building Department

Estimated Cost: Undetermined

Funding Sources: AEMA, ADECA, HMGP, PDM, FEMA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Target funding sources to complete redesign of critical facilities if identified in the critical facility analysis.



Property Protection: Installation of Shatter Resistant Glass

Partners: City Engineer

Priority: Low

Lead Responsibility: Building Department

Estimated Cost: Determined on project by project basis

Funding Sources: Undetermined

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Clarify that shatter resistant glass is required within municipal building codes within the city for all commercial properties. Evaluate further implementation of the requirement on a cost benefit analysis.



Property Protection: Emergency Power Generation

Partners: F-L EMA, City Engineer, Building Department

Priority: High

Lead Responsibility: Florence Utilities Department

Estimated Cost: \$Undetermined

Funding Sources: Funding determined on a project by project basis

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: On going emergency power generation efforts

Future Actions: Clarify specific entities that need emergency power generation and document them. Then complete the power generation projects once funds have been identified.



Public Education & Awareness: Outreach Projects

Partners: F-L EMA, City Engineer, Florence Planning Department

Priority: High

Lead Responsibility: Florence-Lauderdale EMA

Estimated Cost: \$5,000.00 to \$7,000.00 annually

Funding Sources: AEMA, PDM, Local Funds

Mitigating Hazards: May assist in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Select the greatest impacting hazard to the City of Florence and initiate an educational program to mitigate that hazard. Quantitative data indicates that floods are the most costly hazard in Florence and the region.



Public Education & Awareness: Hazard Information Kiosk

Partners: Florence Planning Dept., County Engineer, City Engineer, Commissioners, Mayor & Council

Priority: Low

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: May assist in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Establish with department representatives the type and location for a hazard mitigation kiosk. The kiosk should be developed in a way to encourage interactive learning.



City of Florence Mitigation Strategies Continued:

Public Education & Awareness: School Age Education Programs

Partners: F-L EMA, Mayor & Council
Priority: Medium
Lead Responsibility: Florence City Schools
Estimated Cost: \$10,000.0 to 15,000.00
Funding Sources: AEMA, ADECA, HMGP, PDM, FMA
Mitigating Hazards: Assists is mitigating all hazards
Prior Actions: No previous actions taken
Future Actions: Clarify partners and scope of educational program to be implemented within the school system. FEMA should be able to recommend specific school age programs for the Florence School District.



Public Education & Awareness: NOAA Weather Radio Programs

Partners: F-L EMA, Mayor & Council
Priority: Low
Lead Responsibility: F-L EMA
Estimated Cost: Undetermined
Funding Sources: AEMA, FMA, PDM Local Non-Profits
Mitigating Hazards: Tornadoes, Flooding, Severe, Storms, Hurricanes, Winter Freezes, Earthquakes, Drought
Prior Actions: Distribution of weather radios to critical facilities
Future Actions: Develop NOAA weather radio public and private partners. Local companies can contribute to a fund to distribute NOAA weather radio's to low income and identified families and entities.



Natural Resource Protection Group: Local Watershed Management Programs

Partners: F-L EMA, Mayor & Council, City Engineer, TVA
Priority: Low
Lead Responsibility:
Estimated Cost: Undetermined
Funding Sources: TVA
Mitigating Hazards: Flooding, Severe Storms, Hurricanes, Sinkholes, Landslides, Drought, Technical Hazards
Prior Actions: See Comprehensive Planning Document
Future Actions: Clarify need for expansion of local watershed management in Florence and potential for cooperating with a county wide initiative.

Public Education & Awareness: Adult & Community Education Programs

Partners: University of North Alabama, GED Programs, Mayor & Council
Priority: High
Lead Responsibility: F-L EMA
Estimated Cost: \$10,000.00 to \$15,000.00
Funding Sources: AEMA, ADECA, HMGP, PDM, FMA
Mitigating Hazards: Assists is mitigating all hazards
Prior Actions: No previous actions taken
Future Actions: Educational program should be clarified for types of hazards to be discussed as well as method for reaching the desired audience. This program could come as a public service announcement with a second component of discussing hazards with to local civic clubs and groups.



Public Education & Awareness: Press & Media Mitigation Releases

Partners: F-L EMA, Mayor & Council, Municipal Departments
Priority: Low
Lead Responsibility: Florence City Clerk, Florence-Lauderdale EMA
Estimated Cost: No additional cost
Funding Sources: n/a
Mitigating Hazards: Assists is mitigating all hazards
Prior Actions: No previous actions taken
Future Actions: Identify funding sources to complete an existing needs assessment and site selection process for safe shelters in the county and incorporated areas.



Public Education & Awareness: Flood Map Information Distribution

Partners: F-L EMA, Mayor & Council, FEMA, NFIP State Coordinator
Priority: High
Lead Responsibility: Florence Building Dept., Florence Engineering Dept.
Estimated Cost: Undetermined
Funding Sources: AEMA, ADECA, HUD
Mitigating Hazards: Floods
Prior Actions: No previous actions taken
Future Actions: Initiate discussion with NFIP Coordinator and AEMA to acquire current methods of distributing flood map information to the general public. These methods should be evaluated for use in the City of Florence and modified accordingly.



Natural Resource Protection: Sediment & Erosion Control

Partners: Mayor & Council
Priority: High
Lead Responsibility: City Engineer
Estimated Cost: No additional Cost
Funding Sources: n/a
Mitigating Hazards: Flooding & Landslides
Prior Actions: Ordinance for Erosion Control and Sediments is in place
Future Actions: Clarify that additional erosion control methods should be put in place that go beyond the erosion caused by new construction.



Natural Resource Protection: Wetland Restoration & Preservation

Partners: Mayor & Council, City Engineer, Building Dep.
Priority: Low
Lead Responsibility: Florence Engineering Dept.
Estimated Cost: No additional cost
Funding Sources: AEMA, ADECA, HMGP, PDM, FMA
Mitigating Hazards: Flooding
Prior Actions: Ordinances protecting existing wetlands
Future Actions: Section 404 Permitting requires a permit from the Army Corps of Engineers when modifying a wetland area. Evaluation of existing wetlands within the city should be reevaluated and determined whether further action should be taken.

Natural Resource Protection: Open Space Easements & Acquisition

Partners: Mayor & Council, Urban Forestry, Planning Dept.
Priority: Low
Lead Responsibility: Recreation Department
Estimated Cost: Undetermined
Funding Sources: Local and Regional Land Trusts
Mitigating Hazards: Flooding, Hurricanes, Wildfires, Landslides, Sinkholes
Prior Actions: No previous actions taken
Future Actions: Establish open space and passive recreation as a priority within recreational planning as a hazard mitigation strategy. This strategy should be weighted against the available density requirements within the city.



City of Florence Mitigation Strategies Continued:

Natural Resource Protection: Stream Corridor Restoration



Partners: Mayor & Council, F-L EMA, Recreational Dept. Florence Planning Dept., Urban Forestry Dept.

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: Not determined at this time

Funding Sources: ADEM, AEMA, Local Funds, HUD, EPA

Mitigating Hazards: Flooding

Prior Actions: Municipal cleanup programs have been under taken

Future Actions: Evaluation of current contained streams and tributaries for daylighting, development setbacks and restoration for recreational use.



Natural Resource Protection Group: Urban Forestry Planning Programs



Partners: Mayor & Council, City Engineer, Utility Department, Planning Dept. Recreational Dept.

Priority: Medium

Lead Responsibility: Urban Forestry Department

Estimated Cost: Not determined at this time

Funding Sources: need to be clarified

Mitigating Hazards: Flooding, Drought, Heat and Wildfires

Prior Actions: Ongoing urban forestry efforts include analysis and daily installation and maintenance programs

Future Actions: Clarification for future actions for mitigating specific natural hazards needs to be completed.



Natural Resource Protection Group: Media Mitigation Training Sessions



Partners: City Engineer, Mayor & Council, Planning Department

Priority: High

Lead Responsibility: F-L EMA

Estimated Cost: No additional cost

Funding Sources: n/a

Mitigating Hazards: May mitigate all hazards

Prior Actions: No prior actions taken

Future Actions: Establish biannual training sessions for local and regional media to be briefed on hazard mitigation and natural disasters. Combining this event with other training sessions or adjacent EMA entities may be of benefit.



Natural Resource Protection: Water Resource Conservation Programs

Partners: TVA, National Resource Conservation Service (NRCS),

Priority: Low

Lead Responsibility: Florence-Lauderdale EMA, Florence Utilities

Estimated Cost: Not determined at this time

Funding Sources: NRCS, EPA, ADEM, FEMA

Mitigating Hazards: Flooding, Drought, Heat, Wildfires, Dam/Levee Failure, Landslides, Sinkholes, Technical Hazards.

Prior Actions: Land use and land planning strategies

Future Actions: Host a roundtable discussion involving sustainable methods of development for the jurisdiction. This should include a breakout session on water resource protection headed by the NRCS.



Structural Projects: Storm Water Flood Walls

Partners: Mayor & Council, F-L EMA, Florence Planning Department

Priority: Low

Lead Responsibility: Street Department/City Engineer

Estimated Cost: Not determined at this time

Funding Sources: Not determined use on an emergency basis

Mitigating Hazards: Flooding

Prior Actions: On going efforts to mitigate flooding have been underway

Future Actions: Evaluate and identify specific areas that need storm water flood walls that will redirect storm water from undesirable areas until long term mitigation projects can be undertaken.



Structural Projects: Storm Water Diversion Culverts

Partners: ALDOT, Mayor & Council

Priority: High

Lead Responsibility: Street Department

Estimated Cost: Not determined at this time

Funding Sources: Local Match, ADEM, AEMA, FEMA

Mitigating Hazards: Flooding

Prior Actions:

Future Actions: Identify and document specific areas needing storm water diversion culverts and those that are in need of repair. Each should be mapped for planning purposes and placed in a long range implementation list.



Structural Projects: Retaining Walls

Partners: Mayor & Council

Priority: Low

Lead Responsibility: City Engineer

Estimated Cost: Not determined at this time

Funding Sources: Local Funds

Mitigating Hazards: Landslides, Technical Hazards

Prior Actions: On going efforts to construct any needed retaining walls along municipal rights-of-way continues.

Future Actions: Continue to identify maintenance areas and needed retaining walls as they arise.

Structural Projects: Neighborhood & Community Safe Rooms

Partners: Mayor & Council, F-L EMA, Local Churches and Community Centers.

Priority: High

Lead Responsibility: F-L EMA

Estimated Cost: Not determined at this time

Funding Sources: ALEMA, PDM, ADECA, Local Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: No previous action taken

Future Actions: Clarify any future needs for additional safe centers within the city and update existing safe centers. Attempt to use multi-use facilities that are occupied at other times than during storm periods.

Structural Projects: Storm Sewer System Construction

Partners: Mayor & Council, City Engineer,

Priority: High

Lead Responsibility: Utility Department

Estimated Cost: Not determined at this time

Funding Sources: ADECA, ADEM, PDM, AEMA

Mitigating Hazards: Flooding, Landslides, Sinkhole, Technical Hazards

Prior Actions: Ongoing improvements to the storm sewer system within the city.

Future Actions: Evaluate current repetitive flood areas and determine whether storm sewer improvements will assist in reducing the flood damage. This should be evaluated in conjunction with real-estate purchase programs as a cost benefit analysis.



Town of Killen Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: Mayor & Council, F-L EMA, NACOLG

Priority: Low

Lead Responsibility: Killen Planning Commission

Estimated Cost: \$15,000.00 to \$30,000.00

Funding Sources: Local Funds

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Completion of Killen Comprehensive Plan updated 2008.

Future Actions: On going implementation of current plan with evaluation for inclusion of identified hazard mitigation principles. Preparation for future planning updates in three to five years from prior plan completion date.



Prevention: Building Codes & Construction Requirements

Partners: Mayor & Council, F-L EMA

Priority: Medium

Lead Responsibility: Codes Enforcement, Town Hall

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Yearly review and evaluation of updates

Future Actions: Evaluate current building code for achieving identified mitigation strategies and identified risks within the risk assessment of this document.



Prevention: Capital Improvements Programs

Partners: Municipal Departments

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Evaluate the use of a capital improvements program within the upcoming two year period for the Town of Killen. Implementation should include funding for specific mitigation strategies for reducing overall risk in the community.



Prevention: Storm Water Management

Partners: F-L EMA, TVA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not estimated

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster

Mitigation (PDM), Flood Mitigation Assistance. (FMA), ADEM

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: Town has storm water management ordinance and permits in place.

Future Actions: Increase attention to storm water management issues. Clarification needed on how to move storm water management forward within the community.



Prevention: Land Use Development Regulations

Partners: ADECA, NACOLG

Priority: Low

Lead Responsibility: Killen Planning Commission

Estimated Cost: No additional cost at this time

Funding Sources: Local Funds

Mitigating Hazards: Flooding, Hurricanes, Wildfires, Dam/Levee Failures, Technical Hazards

Prior Actions: The town currently uses land use development regulations.

Future Actions: Evaluate the existing regulations for mitigating risk in relation to identified hazards within the town. Prepare to update the regulations in three to five year time periods.



Prevention: Subdivision Regulations

Partners: Local Developers, NACOLG, ADECA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: No additional cost

Funding Sources: Not applicable

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Town currently uses subdivision regulations to reduce risk to citizens of the community.

Future Actions: Evaluate the need for updates to the subdivision regulations in regards to the risk assessment and the updated comprehensive plan.



Prevention: Flood Plain Management Programs

Partners: F-L EMA, ADEM, TVA, County Engineer

Priority: Low

Lead Responsibility: Killen Planning Commission

Estimated Cost: Not determined

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA)

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: Participating in the NFIP Program

Future Actions: Continue to participate in the NFIP and evaluate expansion of the program into other mitigation planning elements.



Prevention: Safe Shelter Site Planning

Partners: F-L EMA, AEMA, ADECA

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: No additional cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Evaluated current shelters during mitigation planning efforts.

Future Actions: Continue to evaluate the need for additional shelters and analyze the appropriate site placement prior to seeking property.



Prevention: Critical Facility Assessments

Partners: F-L EMA, County School System, Police Dept.

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: Not determined at this time

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Evaluated critical facilities in conjunction with the F-L EMA assisting.

Future Actions: Continue to evaluate our critical facilities through an annual assessment.





Town of Killen Mitigation Strategies:

Prevention: Planning & Land Use Studies

Partners: F-L EMA, County Engineer,

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: ADECA, HUD, ALEMA, ADEM, USDA

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Town of Killen has undertaken multiple planning studies for the town over the past decade.

Future Actions: Continue to evaluate opportunities to include mitigation strategies for reducing the identified hazard risks contained in the risk assessment.



Prevention: Mitigation Planning Technology Support

Partners: F-L EMA, AEMA, FEMA,

Priority: High

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: ALEMA, ADECA, ADEM, local match

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Town of Killen continues to work with the county EMA to implement mitigation technologies.

Future Actions: Continue implementation of warning sirens as identified and update existing ones. Evaluate the need for installing a telephone based warning system.



Property Protection: Emergency Power Generation

Partners: F-L EMA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: \$Undetermined

Funding Sources: Funding determined on a project by project basis

Mitigating Hazards: Assists is mitigating all hazards

Prior Actions: On going emergency power generation efforts in conjunction with the county EMA.

Future Actions: Evaluate further emergency power generation needs within the town in conjunction with the County EMA.



Property Protection: Separate Sewer System Collection & Protection

Partners: ADEM

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: Determined upon project clarification

Mitigating Hazards: Assists is mitigating all hazards

Prior Actions: The town is in the process of creating a sewer system totally enclosed with no connections to storm water.

Future Actions: Evaluate the need for a storm water system to allow for greater density within the city as well as continue development of the proposed sewer system.



Public Education & Awareness: Outreach Projects

Partners: F-L EMA,

Priority: High

Lead Responsibility: Florence City Clerk

Estimated Cost: \$5,000.00 to \$7,000.00 annually

Funding Sources: AEMA, PDM, Local Funds

Mitigating Hazards: May assists is mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Select the greatest impacting hazard to the Town of Killen and initiate an educational program to mitigate that hazard. A review of the risk assessment will assist in determining the appropriate outreach projects.



Public Education & Awareness: Real-Estate Disclosure Requirements

Partners: F-L EMA, Local and regional legislative delegation. Municipal Attorney.

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not estimated

Funding Sources: n/a

Mitigating Hazards: Floods

Prior Actions: No previous actions taken

Future Actions: Initiate discussions within the council to decide whether further real-estate disclosure is necessary to prevent repetitive loss properties from continued development



Public Education & Awareness: Hazard Information Kiosk

Partners: Mayor & Council

Priority: Low

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: May assists is mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: In conjunction with the F-L EMA there should be a kiosk type and location selected to promote hazard mitigation within the Town of Killen as well as within the County.

Public Education & Awareness: NOAA Weather Radio Programs

Partners: F-L EMA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: AEMA, FMA, PDM Local Non-Profits

Mitigating Hazards: Tornadoes, Flooding, Severe, Storms, Hurricanes, Winter Freezes, Earthquakes, Drought

Prior Actions: Distribution of weather radios to critical facilities in Killen

Future Actions: Develop NOAA weather radio public and private partners. Continue to distribute weather radios to local entities in need.

Natural Resource Protection: Open Space Easements & Acquisition

Partners: F-L EMA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: Local and Regional Land Trusts

Mitigating Hazards: Flooding, Hurricanes, Wildfires, Landslides, Sinkholes

Prior Actions: No previous actions taken

Future Actions: Establish open space and passive recreation as a priority within recreational planning as a hazard mitigation strategy.



Town of Lexington Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: Mayor & Council, F-L EMA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: \$15,000.00 to \$30,000.00

Funding Sources: Local Funds

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No action taken

Future Actions: Evaluate structure of five to seven citizens to form a planning commission to direct economic and land planning goals. Once formed this commission should oversee the development of the first comprehensive plan for Lexington. Thought should be given to how the adopted plan will be implemented.

Prevention: Flood Plain Management Programs

Partners: F-L EMA, ADEM, TVA, County Engineer

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA)

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: No prior actions taken

Future Actions: Evaluate participation in the National Flood Insurance Program and contact the State Coordinator Ken Meredith (334-353-0853; ken.meredith@adeca.alabama.gov) to initiate participation in the NFIP program.

Prevention: Safe Shelter Site Planning

Partners: F-L EMA, AEMA, ADECA

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: \$3,000.00 to \$5,000.00

Funding Sources: Local Funds, AEMA, FEMA, ADECA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Evaluated current shelters during mitigation planning efforts.

Future Actions: Continue to evaluate the need for additional shelters and analyze the appropriate site placement prior to seeking property.

Prevention: Public Right-of-Way Maintenance Regulations

Partners: County Engineer, County Commission, F-L EMA, ALDOT

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ALDOT, HMGP, PDM

Mitigating Hazards: Flooding

Prior Actions: Previous actions include ongoing maintenance

Future Actions: Continue to monitor and document needed right-of-way maintenance and sharing information to the correct and corresponding entities.

Prevention: Mitigation Planning Technology Support

Partners: Mayor & Council, AEMA, FEMA,

Priority: High

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: ALEMA, ADECA, ADEM, local match

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Town of Lexington continues to work with the county EMA to implement mitigation technologies.

Future Actions: Continue implementation of warning sirens as identified and update existing ones. Evaluate the need for installing a telephone based warning system.

Property Protection: Emergency Power Generation

Partners: F-L EMA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: Funding determined on a project by project basis

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: On going emergency power generation efforts in conjunction with the county EMA.

Future Actions: Evaluate further emergency power generation needs within the town in conjunction with the County EMA.

Public Education & Awareness: Hazard Information Kiosk

Partners: Mayor & Council

Priority: Low

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: May assist in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: In conjunction with the F-L EMA there should be a kiosk type and location selected to promote hazard mitigation within the Town of Lexington. In addition, the town supports all outreach and media development projects.

Structural Projects: Neighborhood & Community Safe Rooms

Partners: F-L EMA, Local Churches and Community Centers.

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ALEMA, PDM, ADECA, Local Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Reviewed and applied for shelter design and construction.

Future Actions: Clarify any future needs for additional safe centers within the city and update existing safe center facilities. Attempt to use multi-use facilities that are occupied at other times than only during storm periods.

Structural Projects: Storm Water Flood Walls

Partners: F-L EMA, County Engineer

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: Not determined will do so as used on an emergency basis

Mitigating Hazards: Flooding

Prior Actions: On going efforts to mitigate flooding have been underway

Future Actions: Evaluate and identify specific areas that need storm water flood walls that will redirect storm water from undesirable areas until long term mitigation projects can be undertaken.





Town of Rogersville Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: F-L EMA, AEMA, NACOLG

Priority: Low

Lead Responsibility: Mayor

Estimated Cost: \$15,000.00 to \$25,000.00

Funding Sources: Local Match, ADECA, PDM

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: existing land use regulations and zoning map have been implemented. However, the town has recognized the need to regulate from a unified planning document.

Future Actions: Seek support for continued comprehensive planning in the Town of Rogersville through community discussions. Evaluate political will and available funding sources.



Prevention: Mitigation Planning Technology Support

Partners: F-L EMA, FEMA, ALEMA

Priority: High

Lead Responsibility: Mayor and Council

Estimated Cost: Undetermined

Funding Sources: PDM, Local Funds, County Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Installed five warning sirens within the geographical area of Rogersville.

Future Actions: Continuing to oversee future installation of additional warning sirens in the community.



Public Education & Awareness: School Age Education Programs

Partners: F-L EMA, ALEMA, PDM, County School System

Priority: Moderate

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ADEM, ALEMA, PDM, ADECA

Mitigating Hazards: Mitigates all identified hazards

Prior Actions: Identify opportunities to have speakers and displays about hazard mitigation priorities within local schools.

Prevention: Flood Plain Management Programs

Partners: F-L EMA, County Engineer, TVA,

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ADECA, ADEM, PDM, AEMA

Mitigating Hazards: Flooding, Severe Storms

Prior Actions: No previous actions taken

Future Actions: Evaluate regional support for a watershed management plan with supporting ordinances from each jurisdiction in the planning study area.



Property Protection: Emergency Power Generation

Partners: Co. Engineer, F-L EMA, AEMA, ADECA

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: HMGP, ALEMA, PDM

Mitigating Hazards: All hazards may be mitigated

Prior Actions: No previous actions taken.

Future Actions: Identify critical facilities in Rogersville that do not have emergency power and pursue funds within the planning period to provide emergency power..



Public Education & Awareness: Adult & Community Education Programs

Partners: ALEMA, Co. Commissioners, Academic Institutions

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: \$500.00 (combine with F-L EMA)

Funding Sources: ALEMA, Local Match

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Previous actions include citizen & stakeholder hazard mitigation meetings and local workshops.

Future Actions: Conduct public workshops that involve citizens and municipal leaders of the Town of Rogersville.

Prevention: Safe Shelter Site Planning

Partners: F-L EMA, County Engineer, NACOLG

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: \$8,000.00

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Evaluate a scope of work and funding sources to identify current safe shelters and future needs for safe shelters. Planning should identify appropriate sites for locating safe shelters that are multi-use facilities.



Public Education & Awareness: Hazard Information Kiosk

Partners: F-L EMA, AEMA

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: F-L EMA, ALEMA, PDM

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Public meetings on the existing hazard mitigation plan.

Future Actions: Establish opportunities for a portable EMA kiosk to be placed at events within the Town of Rogersville. The town will support all methods of public awareness for hazard mitigation and natural disasters such as outreach projects and media training.



Structural Projects: Neighborhood & Community Safe Rooms

Partners: F-L EMA, Local Churches and Community Centers.

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ALEMA, PDM, ADECA, Local Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Reviewed and applied for shelter design and construction.

Future Actions: Clarify any future needs for additional safe centers within the city and update existing safe center facilities. Attempt to use multi-use facilities that are occupied at other times than only during storm periods.



Town of St. Florian Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: Mayor & Council, F-L EMA, NACOLG

Priority: Low

Lead Responsibility: St. Florian Planning Commission

Estimated Cost: \$15,000.00 to \$30,000.00

Funding Sources: ADECA, Local Match

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Completion of St. Florian Sketch Plan

Future Actions: On going implementation of current plan with evaluation for inclusion of identified hazard mitigation principles. Preparation for future planning updates in three to five years from prior plan completion date. Prior planning is nearing update and needs a strong citizen involvement component



Prevention: Building Codes & Construction Requirements

Partners: Mayor & Council, F-L EMA

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined, need inspector or a shared inspector with other municipalities.

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Yearly review and evaluation of updates

Future Actions: Evaluate future of building code requirements for achieving identified mitigation strategies and identified risks within the risk assessment of this document.



Structural Projects: Storm Water Diversion Culverts

Partners: ALDOT, Mayor & Council

Priority: High

Lead Responsibility: County Engineer

Estimated Cost: Not determined at this time

Funding Sources: Local Match, ADEM, AEMA, FEMA

Mitigating Hazards: Flooding

Prior Actions:

Future Actions: Identify and document specific areas needing storm water diversion culverts and those that are in need of repair. Each should be mapped for planning purposes and placed in a long range implementation list.



Prevention: Storm Water Management

Partners: F-L EMA, TVA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not estimated

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster

Mitigation (PDM), Flood Mitigation Assistance. (FMA), ADEM

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: Town has storm water management ordinance and permits in place.

Future Actions: Increase attention to storm water management issues. Clarification needed on how to move storm water management forward within the community.



Prevention: Land Use Development Regulations

Partners: ADECA, NACOLG

Priority: Low

Lead Responsibility: St. Florian Planning Commission

Estimated Cost: No additional cost at this time

Funding Sources: Local Funds

Mitigating Hazards: Flooding, Hurricanes, Wildfires, Dam/Levee Failures, Technical Hazards

Prior Actions: The town currently uses land use development regulations.

Future Actions: Evaluate the existing regulations for mitigating risk in relation to identified hazards within the town. Prepare to update the regulations in three to five year time periods.



Prevention: Subdivision Regulations

Partners: Local Developers, NACOLG, ADECA

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: No additional cost

Funding Sources: Not applicable

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Town currently uses subdivision regulations to reduce risk to citizens of the community.

Future Actions: Evaluate the need for updates to the subdivision regulations in regards to the risk assessment and the updated comprehensive plan.



Prevention: Safe Shelter Site Planning

Partners: F-L EMA, AEMA, ADECA

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: No additional cost

Funding Sources: n/a

Mitigating Hazards: Assists in mitigating all hazards

Prior Actions: Evaluated current shelters during mitigation planning efforts.

Future Actions: Continue to evaluate the need for additional shelters and analyze the appropriate site placement prior to seeking property.

Natural Resource Protection: Stream Corridor Restoration

Partners: F-L EMA, County Engineer, TVA,

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ADECA, ADEM, PDM, AEMA

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: No prior actions taken

Future Actions: Evaluate methodologies for strengthening the NFIP program through stream corridor restoration.

Structural Projects: Neighborhood & Community Safe Rooms

Partners: F-L EMA, Local Churches and Community Centers.

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ALEMA, PDM, ADECA, Local Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Reviewed and applied for shelter design and construction.

Future Actions: Clarify any future needs for additional safe centers within the city and update existing safe center facilities. Attempt to use multi-use facilities that are occupied at other times than only during storm periods.



Town of Waterloo Mitigation Strategies:

Prevention: Comprehensive Planning

Partners: F-L EMA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: \$15,000.00 to \$30,000.00

Funding Sources: Local Funds

Mitigating Hazards: Assists is mitigating all hazards

Prior Actions: No prior actions completed

Future Actions: Evaluate future establishment of a planning commission consisting of five to seven citizens. Once established the commission should direct the completion of the first Town of Waterloo Comprehensive Plan to direct future growth and economic development.

Prevention: Storm Water Management

Partners: F-L EMA, TVA, NACOLG

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not estimated

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Assistance. (FMA), ADEM

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: No prior actions taken

Future Actions: Evaluate the need for storm water management and the use of basic storm water principles within the community. Principles should be graphically presented and then encouraged for implementation by local citizens.

Prevention: Capital Improvements Programs

Partners: Citizens of Waterloo

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: No Additional Cost

Funding Sources: n/a

Mitigating Hazards: Assists is mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: Evaluate the use of a capital improvements program within the upcoming two year period for the Town of Waterloo. Implementation should include funding for specific mitigation strategies for reducing overall risk in the community. Example projects of small dollars can be undertaken.

Prevention: Flood Plain Management Programs

Partners: F-L EMA, ADEM, TVA, County Engineer

Priority: Low

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined

Funding Sources: AEMA, Local Match, ADECA, HMGP, Pre-Disaster Mitigation (PDM), Flood Mitigation Ass. (FMA)

Mitigating Hazards: Flooding, Severe Storms, Dam/Levee Failures

Prior Actions: No previous actions taken

Future Actions: Evaluate participation in the National Flood Insurance Program and contact the State Coordinator Ken Meredith (334-353-0853; ken.meredith@adeca.alabama.gov) to initiate participate in the NFIP program.

Prevention: Safe Shelter Site Planning

Partners: F-L EMA, AEMA, ADECA, NACOLG

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: No additional cost

Funding Sources: n/a

Mitigating Hazards: Assists is mitigating all hazards

Prior Actions: Evaluated current shelters during mitigation planning efforts.

Future Actions: Continue to evaluate the need for additional shelters and analyze the appropriate site placement prior to seeking property.

Prevention: Mitigation Planning Technology Support

Partners: F-L EMA, FEMA, ALEMA

Priority: High

Lead Responsibility: Mayor and Council

Estimated Cost: Undetermined

Funding Sources: PDM, Local Funds, County Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Installed warning sirens within the geographic area of Waterloo

Future Actions: Repair and install damaged warning siren in Waterloo. Evaluate further use of technology to support mitigating disasters in this technologically isolated community.

Property Protection: Emergency Power Generation

Partners: Co. Engineer, F-L EMA, AEMA, ADECA

Priority: Medium

Lead Responsibility: Mayor & Council

Estimated Cost: Undetermined

Funding Sources: HMGP, ALEMA, PDM

Mitigating Hazards: All hazards may be mitigated

Prior Actions: No previous actions taken.

Future Actions: Identify critical facilities in Waterloo that do not have emergency power and pursue funds within the planning period to provide emergency power. This strategy has been identified as a priority for the community.

Public Education & Awareness: Hazard Information Kiosk

Partners: Mayor & Council

Priority: Low

Lead Responsibility: F-L EMA

Estimated Cost: Undetermined

Funding Sources: AEMA, ADECA, HMGP, PDM, FMA

Mitigating Hazards: May assists is mitigating all hazards

Prior Actions: No previous actions taken

Future Actions: In conjunction with the F-L EMA there should be a kiosk type and location selected to promote hazard mitigation within the Town of Waterloo. In addition, the town supports all outreach and media development projects.

Structural Projects: Neighborhood & Community Safe Rooms

Partners: F-L EMA, Local Churches and Community Centers.

Priority: High

Lead Responsibility: Mayor & Council

Estimated Cost: Not determined at this time

Funding Sources: ALEMA, PDM, ADECA, Local Funds

Mitigating Hazards: All hazards may be mitigated

Prior Actions: Reviewed need for safe shelter.

Future Actions: Clarify any future needs for additional safe centers within the town and update existing safe center facilities. Attempt to use multi-use facilities that are occupied at other times than only during storm periods.



Planning Maintenance Process:

PM.1 Plan Monitoring & Implementation
 PM.2 Active Planning & Mitigation Incorporation
 PM.3 Multi-Jurisdictional Public Involvement

PM.1 Plan Monitoring & Implementation

This chapter presents a continuous cycle for monitoring, evaluating and updating the Multi-Hazard Mitigation Plan, the process for incorporating mitigation strategies into other, ongoing planning activities, and methods for continuing public involvement. This methodology ensures an active and relevant hazard mitigation planning process.

The Hazard Mitigation Policy Committee will oversee plan maintenance during the five year framework. The Florence-Lauderdale EMA staff will continue to serve as the plan facilitator. The Florence-Lauderdale EMA is responsible for hosting quarterly scheduled meetings, assigning specific project tasks for implementing mitigation strategies and for monitoring and updating the mitigation efforts put forth by the policy committee members. The local EMA also serves as the policy committee's liaison to entities assigned implementation responsibilities. Additional policy committee members may be nominated by the Florence-Lauderdale EMA Director and then approved by the entire committee.

After the initial plan is finalized and adopted the Policy Committee will meet four times on an annual basis. The following elements will be addressed at these meetings:

- Policy Committee members will be contacted thirty days in advance for meeting notification. If unable to attend a meeting, committee members will be contacted by phone calls and personal visits necessary.
- In the event of an unexpected disaster emergency, the mitigation plan will be updated to include measures to

address the event. Updates are the responsibility of the Florence-Lauderdale EMA.

- A list of active and completed mitigation projects will be reviewed at each meeting.
- Previous implemented mitigation actions will be evaluated for effectiveness.
- Any modifications and changes in land use patterns and new development trends will be addressed at the meeting and then updated in the planning document.
- Modifications to the risk assessment and/or the risk vulnerability will be identified and updated in the plan.
- Future mitigation activities should be discussed and any new projects will be adopted and signed by resolution by the policy committee.

The Florence-Lauderdale EMA will schedule all policy committee meetings at a time and location convenient for its members. In the event that the quarterly reviews require modifications to the plan, the policy committee will oversee and approve all revisions to the planning document. The Policy Committee will then submit all revisions for adoption by each participating jurisdiction. A copy of the plan revisions will be posted on the EMA web site as well as distributed to all participating jurisdictions for insertion into their mitigation document.

At the end of the five year planning cycle, the Policy Committee will oversee the update to the plan. This update must follow the local mitigation plan guidelines as defined in this document and within the Code of Federal Regulations. The updated document will then be submitted for review and approval by the AEMA and FEMA.

44 CFR § 201.6 Local Mitigation Plans:

Local Mitigation Plans

(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.

PM.2 Active Planning & Mitigation Incorporation

This plan is adopted as a separate but equal document to the Lauderdale County Emergency Operations Plan. This plan is administered through the local EMA. Upon approval by AEMA and FEMA, the plan will be adopted by each of the participating jurisdictions within the planning study area.

This plan supplements the Lauderdale County Emergency Operations Plan as well as the Lauderdale County Transportation Plan for Hazardous Incident Response. Each governmental entity is responsible for implementing the identified mitigation strategies identified in the previous chapter. Implementation will be based on community priorities, available funding, staff capabilities and technical expertise.

PM.3 Multi-Jurisdictional Public Involvement

A critical part of maintaining an effective and relevant hazard mitigation plan is ongoing public review and comment. Consequently, there will be ongoing public outreach and comment periods within the five year planning cycle. A hard copy of the plan will be available at appropriate entities as well as via individual request and on the web.

Public meetings will be held when significant modifications to the plan are required or requested by the Policy Committee.

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of Anderson, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of Anderson supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF ANDERSON, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the City of Florence, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the City of Florence supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE CITY OF FLORENCE, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of Killen, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of Killen supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF KILLEN, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of Lexington, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of Lexington supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF LEXINGTON, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of Rogersville, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of Rogersville supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF ROGERSVILLE, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of St. Florian, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of St. Florian supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF ST. FLORIAN, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Town of Waterloo, along with other officials in Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the Town Council of the Town of Waterloo supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF WATERLOO, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Resolution No. _____
 MULTI-HAZARD MITIGATION PLAN

Whereas, the Lauderdale County along with other officials within Lauderdale County, have been involved in the planning of a Lauderdale County Multi-Hazard Mitigation Plan, and;

Whereas, the County Commission of Lauderdale County supports the enhancement and refinement of the Plan in accordance with guidance from the Florence-Lauderdale Emergency Management Agency, the Alabama Emergency Management Agency and the Federal Emergency Management Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COMMISSION OF LAUDERDALE COUNTY, ALABAMA that the Florence-Lauderdale Multi-Hazard Mitigation Plan that was advertised at a public meeting on _____, February _____, 2010 and _____, February _____, 2010 is hereby adopted as the Town's plan with the long term goal of implementation.

Duly Passes and Adopted this _____.

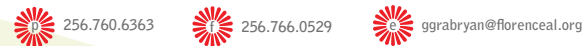
MAYOR: _____ COUNCIL: _____
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member
 _____ Council Member

ATTEST: _____

Florence - Lauderdale Emergency Management Agency

Your attendance and participation is requested for the Florence - Lauderdale Hazard Mitigation Policy Committee meeting. This meeting is to initiate the planning and update efforts by the Florence - Lauderdale EMA to the Lauderdale County Hazard Mitigation Plan. The policy committee directs and reviews the plan update and content of the adopted plan.

Who: Florence Lauderdale County EMA Policy Committee
 What: Policy Committee Planning Update Preparation
 When: June 24, 2009 11:00 a.m.
 Where: EMA Headquarters, Florence City Hall Basement



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 108 North High Street
 Tuscumbia, AL 35674
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AGENDA

Florence- Lauderdale Hazard Mitigation Planning Policy Committee

June 24, 2009
 10:00 a.m. – 11:15 a.m.

Meeting called by Florence-Lauderdale EMA

Attendees: Policy committee members consist of mayors and administrators within Lauderdale County
Please read: The 2004 Multi-Jurisdictional Hazard Mitigation Plan
Please bring: Policy member copy of the 2004 Multi-Jurisdictional Hazard Mitigation Plan

11:00 a.m. – 11:05 a.m.	Introduction & Review of Role of the Policy Committee. Welcome <i>George Grabryan, F-L EMA</i> Farmer Associates: EMA Board Room *Review of hazard Mitigation Policy Committee Role *Previously identified hazards in the community 2004 * Hazard identification worksheet *Priority of hazard mitigation issues
11:05 a.m. – 11:20 a.m.	Review of Florence-Lauderdale Multi-Hazard Mitigation Planning Farmer Associates: EMA Board Room *Components and requirements of plan update
11:20 – 11:50 a.m.	Review of Planning Components for the 2004 Plan Farmer Associates/All Participants: EMA Board Room *Tables and chapters included in the 2004 plan * Additional critical facilities within Lauderdale County
11:50 p.m. – 12:15 a.m.	Schedule of Plan Development and Citizen Input Meetings Farmer Associates / All Participants: EMA Board Room *Identification of projects for mitigating disasters

Additional Instructions:
 Identified hazards include: Dam/Levee Failure, Drought, Earthquake, Expansive Soils, Extreme Heat, Flood, Hailstorm, Hurricane, Land Subsidence (sink hole), Severe Winter Storm Freeze, Tornado, Severe Storm, Wildfire, Windstorms and Manmade Hazards.



Farmer Associates

Policy Committee Hazard Mitigation Plan Update

MINUTES JUNE 24, 2009 11:00 A.M. FLORENCE-LAUDERDALE EMA BOARD ROOM

MEETING CALLED BY	Florence-Lauderdale EMA
TYPE OF MEETING	Policy Committee plan update preparation
FACILITATOR	Farmer Associates, Benjamin Farmer
NOTE TAKER	Tina Irons, Florence Planning Department
TIMEKEEPER	N/A
ATTENDEES	Policy Committee Members, Planning Team Members, General Public, F-L EMA

Agenda topics

FIVE MINUTES REVIEW OF POLICY COMMITTEE ROLE FARMER ASSOCIATES

DISCUSSION Ben Farmer discussed the modification of the planning committee to a policy committee with a focus on core decision makers within the incorporated jurisdictions.
 Planning Committee members will now act as stake holders within the hazard mitigation planning process. Citizens will serve as advisory role to stake holders and policy committee members.

CONCLUSIONS The move to policy committee is to rejuvenate the action oriented planning and place decision makers in the center of the hazard mitigation planning process

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
None taken	n/a	n/a

15 MINUTES REVIEW OF THE FLORENCE-LAUDERDALE HAZARD MITIGATION PLAN UPDATE FARMER ASSOCIATES

DISCUSSION Components and requirements of the plan update as defined in the hazard mitigation planning guidance

CONCLUSIONS Contents of the plan update will assist in informing the 2004 plan and will provide clarity through reformatting existing data while providing strength to the mitigation strategies section.

ACTION ITEMS	PERSON RESPONSIBLE	DEADLINE
N/A	N/A	N/A

Name	Entity/Agency	Phone	E-Mail
Ben Smith	Florence Planning	256-740-8804	ben.smith@florenceal.org
Tina Irons	Florence Planning	256-740-6453	tirons@florenceal.org
Melissa Bailey	Florence Planning	256-740-8809	m.bailey@florenceal.org
Stroganba Jenkins	UNA POLICE	256-765-4357	s.lackison@una.edu
Mike Thompson	UNA Facilities Dept.	256-765-4871	mthompson@una.edu
Randy Pettus	Florence City Schools	256-768-3033	rpettus@fcs.k12.fl.us
Rhea Palmer	Lauderdale County Commission	256-257-4100	rpalmer@lccol.com
Jean Farmer	Mayor's Office	764-5237	Jean.Farmer@ccf.com
Kevin Bowling	ECM Hospital	256-766-8072	kbowling@ehgroup.org

Florence - Lauderdale Emergency Management Agency

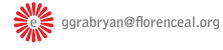
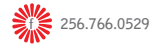
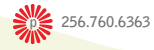
Your attendance and participation is requested for the Florence - Lauderdale Hazard Mitigation Stake Holder involvement meeting. This meeting is to initiate the planning and update efforts by the Florence - Lauderdale EMA to the Florence-Lauderdale Hazard Mitigation Plan. Stake holders provide insight and direction into the content and implementation methods to mitigate identified hazards. Please join us to review local mitigation efforts within your community.

Who: Florence Lauderdale County EMA Stake Holder Involvement

What: Review of Local Mitigation Efforts and Existing Hazards

When: June 30, 2009 6:00 p.m. to 7:00 p.m.

Where: Rogersville Senior Center



Public Notice

This is a notice of Public Hearing for input into the Florence-Lauderdale Multi-Hazard Mitigation Plan for Lauderdale County. This plan is required by the Disaster Mitigation Act of 2000. The plan includes the identification of natural hazards, the probability of occurrence, the potential impact both economically and/or the potential for the loss of life, the methods to eliminate or reduce the impact, and methods to warn and respond to the incidents. The plan address the following natural hazards: flooding, severe storms, tornadoes, winter storms, wildfires, earthquakes, landslides, drought, and dam/levee failure. The public may provide input on June 30, 2009, between the hours of 6:00 to 8:00 p.m. at the Rogersville Senior Center.

Farmer Associates
108 North High Street
Tuscumbia, AL 35674
Tele: 334-444-2893
Fax: 480-393-5718

Urban Planning • Municipal Development • Project Administration

AGENDA

Florence- Lauderdale Hazard Mitigation Citizens & Stakeholders

June 30, 2009
6:00 p.m. – 7:15 p.m.

Meeting called by Florence-Lauderdale EMA

Attendees: Lauderdale County Citizens and Hazard Mitigation Stake Holders
Please read: N/A
Please bring: N/A

6:00 a.m. – 6:05 p.m.	Introduction of the Planning Team Welcome Benjamin Farmer, Farmer Associates Farmer Associates: *Review of hazard Mitigation Policy Committee Role *Previously identified hazards in the community 2004 * Hazard identification worksheet *Priority of hazard mitigation issues	Rogersville Senior Center
6:05 a.m. – 6:20 p.m.	Role of the Planning Team, Who is the Policy Committee Farmer Associates: *Who is the policy committee	Rogersville Senior Center
6:20 – 6:50 p.m.	Review of 2004 Plan/Hazard Mitigation Survey Questionnaire Farmer Associates/All Participants: *Discuss the 2004 plan and the current update * Hazard identification survey questionnaire	Rogersville Senior Center
6:50 p.m. – 7:15 p.m.	Additional Critical Facilities /Schedule of Citizen Input Meetings Farmer Associates / All Participants: *Discussion and identification of critical facilities	Rogersville Senior Center

Additional Instructions:
Previously Identified hazards include: Dam/Levee Failure, Drought, Earthquake, Expansive Soils, Extreme Heat, Flood, Hailstorm, Hurricane, Land Subsidence (sink hole), Severe Winter Storm Freeze, Tornado, Severe Storm, Wildfire, Windstorms and Manmade Hazards.



Farmer Associates

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Benjamin Farmer	108 North High St. Tuscumbia, AL 35674	334-444-2893	bfarmer@farmerassociates.us
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Florence - Lauderdale Emergency Management Agency

Your attendance and participation is requested for the Florence - Lauderdale Hazard Mitigation Stake Holder involvement meeting. This meeting is to initiate the planning and update efforts by the Florence - Lauderdale EMA to the Florence-Lauderdale Hazard Mitigation Plan. Stake holders provide insight and direction into the content and implementation methods to mitigate identified hazards. Please join us to review local mitigation efforts within your community.

Who: Florence Lauderdale County EMA Stake Holder Involvement
 What: Review of Local Mitigation Efforts and Existing Hazards
 When: July 9, 2009 6:00 p.m. to 7:00 p.m.
 Where: Waterloo Senior Center

256.760.6363 256.766.0529 ggrabryan@florenceal.org

Public Notice

This is a notice of Public Hearing for input into the Florence-Lauderdale Multi-Hazard Mitigation Plan for Lauderdale County. This plan is required by the Disaster Mitigation Act of 2000. The plan includes the identification of natural hazards, the probability of occurrence, the potential impact both economically and/or the potential for the loss of life, the methods to eliminate or reduce the impact, and methods to warn and respond to the incidents. The plan address the following natural hazards: flooding, severe storms, tornadoes, winter storms, wildfires, earthquakes, landslides, drought, and dam/levee failure. The public may provide input on July 9, 2009, between the hours of 6:00 to 8:00 p.m. at the Waterloo Senior Center.

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Urban Planning • Municipal Development • Project Administration

AGENDA

Florence- Lauderdale Hazard Mitigation Citizens & Stakeholders
 July 9, 2009
 6:00 p.m. – 7:15 p.m.

Meeting called by Florence-Lauderdale EMA

Attendees: Lauderdale County Citizens and Hazard Mitigation Stake Holders
 Please read: N/A
 Please bring: N/A

6:00 a.m. – 6:05 p.m.	Introduction of the Planning Team Welcome Benjamin Farmer, Farmer Associates Farmer Associates: *Review of hazard Mitigation Policy Committee Role *Previously identified hazards in the community 2004 *Hazard identification worksheet *Priority of hazard mitigation issues	Waterloo Senior Center
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