

Hazard Mitigation Plan

Gwinnett County, Georgia

Serving Gwinnett County and the cities and towns of:
Auburn, Berkeley Lake, Braselton, Buford, Dacula, Duluth, Grayson,
Lawrenceville, Lilburn, Loganville, Mulberry, Norcross,
Peachtree Corners, Snellville, Sugar Hill, Suwanee

2025 Update



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EXECUTIVE SUMMARY

Plan Mission

The key purposes of the Gwinnett County Multi-Jurisdictional Hazard Mitigation Plan (HMP) include the following:

- Involve members of the county, cities, townships, public, and other agencies to draft and adopt a multi-jurisdictional mitigation plan that serves as the blueprint for future development and preparedness activities across the county.
- Identify risks and hazards that may affect Gwinnett County through a systematic hazard identification and risk assessment process.
- Prioritize loss reduction and emergency preparedness activities for disasters.
- Identify areas within Gwinnett County that may be vulnerable to various hazards.
- Develop strategies and best practices to avoid and mitigate the impact of identified hazards.

Plan Organization

The scope of the HMP encompasses all areas of Gwinnett County, including all cities and townships. The HMP will identify all natural and technological hazards that could threaten life and property in these communities. The scope of this HMP includes both short-term and long-term mitigation strategies, implementation, and possible sources of project funding.

In addition, the HMP contains the following information:

- The vision of mitigation in the community
- A profile of Gwinnett County, its geography, history, physical features, and other community indicators
- The planning process and the involvement of all cities, townships, state and federal governments, the public, industry, and other community players
- Documentation of Gwinnett County's past and predicted exposure to natural hazards, including risks with the potential to impact critical infrastructure and anticipated losses resulting from such an event
- An overview of Gwinnett County's capabilities to implement hazard mitigation goals, objectives, and policies that will effectively mitigate risks to the community
- Procedures for maintaining an effective, long-range HMP and the strategy to implement it

- An assessment of Gwinnett County’s current policies, goals, and regulations about hazard mitigation
- Critical facilities information
- Documentation of the process

Plan Financing

The Gwinnett County Office of Emergency Management sponsored the development of this HMP with the support of the Gwinnett County Board of Commissioners. This HMP was prepared under the direction of the Gwinnett County Multi-Jurisdictional Hazard Mitigation Steering Committee (HMSC), a group representing a diverse cross-section of departments and agencies, to fulfill the requirements of the Federal Disaster Mitigation Act of 2000. Gwinnett County utilized grant funding through the Hazard Mitigation Grant Program (HMPG) to help develop and guide the HMSC and participating jurisdictions through the planning process. For additional information, please contact the Gwinnett County Office of Emergency Management.

Plan Participation

This HMP will be updated and maintained by Gwinnett County Emergency Management to continually address hazards determined to be of high and moderate risk, as detailed in the vulnerability assessment for Gwinnett County. Other hazards that pose a low or negligible risk will continue to be evaluated for future updates to the HMP; however, they may not be fully addressed until they are determined to be of high or moderate risk. The geographic scope for the HMP includes all incorporated and unincorporated areas of Gwinnett County.

All communities were invited to formally participate on the committee, but not all attended specific meetings. All communities were provided with information and draft materials throughout the process and requested to comment and ask questions along the way, offering their input and participation by proxy, email, and/or phone conversation.

*The term “all” refers to and includes the City of Auburn, City of Berkeley Lake, City of Buford, City of Dacula, City of Duluth, City of Grayson, City of Lawrenceville, City of Lilburn, City of Mulberry, City of Norcross, City of Peachtree Corners, City of Snellville, City of Sugar Hill, City of Suwanee, City of Loganville, Town of Braselton, and Gwinnett County.

The table below contains a list of Gwinnett County Multi-Jurisdictional HMSC members:

Table 1: Gwinnett County Multi-Jurisdictional HMSC Members

Name	Title	Organization
Chris Hodge	Police Chief	City of Auburn
Iris Akridge	Public Works Director	City of Auburn
Leigh Threadgill	City Administrator	City of Berkeley Lake
Marty Bozeman	Deputy City Marshall	City of Berkeley Lake
Rob Hiller	City Marshal	City of Berkeley Lake
Jennifer Scott	Town Manager	Town of Braselton
Sandy Weinel	Public Works Director	Town of Braselton
Dan Branch	Public Safety Director	City of Buford
Gentry Wade	Safety/Liaison EMA	City of Buford
Amy White	City Marshal	City of Dacula
Brittni Nix	City Planner	City of Dacula
Amy Bingham	Planning Manager	City of Duluth
Margie Pozin	City Engineer	City of Duluth
Dan Pruehs	City Administrator	City of Grayson
Gary Andrews	Risk Manager	City of Lawrenceville
Barry Mock	Assistant City Manager	City of Lawrenceville
Huston Gillis	Public Works Director	City of Lawrenceville
Madison Smith	Stormwater Coordinator	City of Lawrenceville
Scott Bennett	Captain, Police Department	City of Lilburn
Mike Helton	Public Works Director	City of Lilburn
Tim Johnson	Fire Chief	Loganville
Taylor Johnson	Communications & Records Supervisor	City of Norcross
Steve Cousineau	Captain, Police Department	City of Norcross
Arlene Beckles	Councilmember	City of Norcross
Antonio Harris	City Engineer/Interim Community Dev. Dir	City of Norcross
Eric Johnson	City Manager	City of Norcross
Bill Grogan	Chief of Police	City of Norcross
Matthew Zaki	Public Works Director	City of Norcross
John Davis	Public Works Superintendent	City of Norcross
Matthew Pepper	Assistant City Manager	City of Snellville
Melisa Arnold	City Clerk/Administrative Manager	City of Snellville
John McKinney	Lieutenant, Police Department	City of Snellville

Name	Title	Organization
Diane King	City Marshal	City of Sugar Hill
Joe Appling	Street Department Manager	City of Sugar Hill
Amir Mahfoozpour	Public Works	City of Suwanee
Bill Barns	Assistant to the Director/Public Works	City of Suwanee
Furneka Dirton	Public Works, Program Coordinator	City of Peachtree Corners
Chief Tim Johnson	Chief, Fire Department	City of Loganville
Wayne Rikard	School Safety Coordinator	GC Public Schools
Chris Hayward	Deputy Director	Gwinnett County Planning & Development
Joel Rodriguez	Inspections Manager	Gwinnett County Planning & Development
Matthew Elder	Division Director	Gwinnett County Housing and Community Development
Miller Brown	Fire Planning Manager	Gwinnett County Planning & Development
Todd Herget	Division Director	Gwinnett County Planning & Development
Katherine Gurd	Stormwater	Gwinnett County Dept. Water Resources
Brandon Harris	County Dams	Gwinnett County Dept. Water Resources
Kevin Middlebrooks	Stormwater Section Manager	Gwinnett County Dept. Water Resources
Rachel Jones	Engineer V	Gwinnett County Dept. Water Resources
Chris Long	Assistant Chief	Gwinnett County Police
Joel Whitt	Chief of Staff	Gwinnett County Police
Clint Hughes	Division Director	Gwinnett County Fire & Emergency Services
Jekerry Weaver	FF District Commander	Gwinnett County Fire & Emergency Services
James Smith	Deputy Director- Infrastructure	Information Technology
Jack Matos	IT Manager- Security Compliance	Information Technology
Matthew Puckett	Deputy Director- Cybersecurity	Information Technology
Edgardo Aponte	Deputy Director	Dept. Of Transportation
Britton Lockhart	Division Director	Dept. Of Transportation

Name	Title	Organization
Jerry Oberholtzer	Manager of Transportation Planning	Dept. Of Transportation
Darrell Prince	Superintendent over Roadway Maintenance	Dept. Of Transportation
Joshua Harris	Community Services Manager	Parks & Rec
Olivia Gunn	Res. & Marketing Coordinator	Gwinnett County Communications
Tiffany Sherrod	Section Manager	Gwinnett County Communications
LaQuina Thomas	Program Analyst I	GC Fiscal
Marcia Ford	Director of Environmental Health and Safety	Georgia Gwinnett College
Carlos Llorens	Deputy Chief of Police	Georgia Gwinnett College
Mark Reiswig	Director of Emergency Preparedness	GNR Public Health
Devon Proctor	Strategic Operations Coordinator	GNR Public Health
Regina Miller	Deputy Director	Gwinnett County Community Service
Tim Twilley	GCSO Corporal / GC Emergency Management Liaison	Gwinnett County Sheriff's Office
Bryant Harris	GCSO Major	Gwinnett County Sheriff's Office
Sherwin Levinson	Director of Medical Reserve Corps	Medical Reserve Corps
Rorie Scurlock	Associate VP, Economic Stability	Home First Gwinnett
Lucy Herring	HMP Specialist	Georgia Emergency Management Agency
Lisa Danner	Contracted	Tetra Tech
Penny Clack	Director of EMA	Barrow County EMA
William Daughtry	Deputy Director of Homeland Security	Henry County EMA/HS
Michael Coker	Mayor	City of Mulberry
Greg Swanson	Director of EMA (retired)	Gwinnett County OEM
Michael Shaw	Director of EMA	Gwinnett County OEM
Kevin Hill	Deputy Director EMA	Gwinnett County OEM
Kimberly Walker	EM Specialist	Gwinnett County OEM

Interagency and Intergovernmental Coordination

The geographic scope for the HMP includes the following list of all incorporated and unincorporated areas of Gwinnett County:

- City of Auburn
- City of Berkeley Lake
- City of Buford
- City of Dacula
- City of Duluth
- City of Grayson
- City of Lawrenceville
- City of Lilburn
- City of Loganville
- City of Mulberry
- City of Norcross
- City of Peachtree Corners
- City of Snellville
- City of Sugar Hill
- City of Suwanee
- Town of Braselton

Hazards Identified

The following hazards have been identified as having the potential to significantly impact Gwinnett County. Hazards are listed according to their likelihood of occurrence and the local hazard rating. Detailed information regarding each hazard can be found in Section 3, Risk and Vulnerability Assessment.

Natural Hazards

- Dam Failure
- Severe Thunderstorms/Windstorms
- Lightning
- Tornadoes
- Flooding
- Severe Winter Storms
- Drought
- Tropical Storms/Hurricanes
- Wildfires
- Earthquakes

Technological Hazards

- Hazardous Materials Releases
- Pandemics/Epidemic
- Terrorism
- Cyber Security

Major Disaster Declarations

Table 2: Gwinnett County Major Disaster Declarations 2005-2025

Major Disaster Declaration	Individual Assistance (IA)	Public Assistance (PA)
Georgia Covid-19 Pandemic (DR-4501-GA)	YES	Category B only
Georgia Hurricane Irma (DR-4338-GA)	NO	Category A-G
Georgia Severe Storms and Flooding (DR-1858-GA)	YES	Category A-G

Plan Goals

The following goals and objectives form the basis of this plan and summarize what the Gwinnett County HMSC will accomplish as a result of implementing this plan.

- Maximize the use of all resources by promoting intergovernmental coordination and partnerships in the public and private sectors.
- Harden the communities against the impacts of disasters through the development of new mitigation strategies and strict enforcement of current regulations that have proven effective.
- Reduce and, where possible, eliminate repetitive damage and loss of life and property caused by disasters.
- Raise community awareness about potential hazards and the need for community preparedness.

Mitigation Goals, Objectives, and Strategy Organization

This plan serves as our communities' outline for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing mitigation measures to eliminate or reduce future damage from those hazards to protect the health, safety, and welfare of residents in our community.

Mitigation forms, or should form, the very foundation of every emergency management agency. The prevention of disasters in communities, as well as emergency management agencies that adopt mitigation practices to reduce, minimize, or eliminate hazards in their community, have found the vision for the future of emergency management. The Federal Disaster Mitigation Act of 2000 has set the benchmark and outlines the criteria for communities with the vision to implement hazard mitigation practices in their communities. Gwinnett County and its cities and townships realize the benefits of developing and implementing mitigation plans and strategies in the county.

Gwinnett County elected officials, public safety organizations, planners and many others have proven that by working together toward the development and implementation of this plan, they have the vision to implement mitigation practices, thereby reducing the loss of life and property in their communities.

Plan Implementation

The Gwinnett County HMSC process is managed by the Gwinnett County Office of Emergency Management. Upon completion, the HMP will be submitted to the Georgia Emergency Management and Homeland Security Agency (GEMA/HS) and then to the Federal Emergency Management Agency (FEMA) for approval. Once FEMA has approved the HMP, the Gwinnett County Board of Commissioners and all incorporated cities will formally adopt the plan by resolution, per the Federal Disaster Mitigation Act of 2000.

Each jurisdiction participating in this HMP is responsible for implementing specific mitigation actions through their jurisdiction mitigation action plans, located in Section 6, and as prescribed in the mitigation strategies. In each mitigation strategy, every proposed action is assigned to a specific local department and/or agency to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed and without altering the broader focus of the countywide HMP. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process.

The Gwinnett County Office of Emergency Management will monitor the progress of mitigation activities. Activities identified by responsible jurisdiction for possible implementation during the next calendar year will be included in the Strategic Plan and staff will make regular contact with responsible jurisdictions to receive any updates on the progress. Additionally, during yearly Hazard Mitigation Steering Committee meetings members will be asked to share any updates on mitigation activities.

In addition to the assignment of a local lead department or agency, an implementation period or a specific implementation date has been assigned to assess whether actions are being implemented in a timely fashion. As necessary, Gwinnett County and its participating jurisdictions will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified for proposed actions listed in the mitigation strategies.

SECTION 1: INTRODUCTION

1.1 Hazard Mitigation

Disaster Mitigation Act of 2000: To support the expanded role of emergency management, Congress passed the Disaster Mitigation Act of 2000 (DMA2K) to amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Section 322 requires governments to take a proactive approach to mitigation planning by developing local HMPs. DMA2K was signed into law on October 30, 2000 (Public Law 106-390). The Interim Final Rule for planning provisions in 44 CFR Part 201 was published in the Federal Register in February 2002, and again in October 2002. Local hazard mitigation planning requirements are implemented in 44 CFR Part 201.6. The purpose of DMA2K is to amend the Stafford Act to establish a national program for pre-disaster mitigation, streamline the administration of disaster relief, and control federal disaster assistance costs. Congress envisioned that implementation of these new requirements would result in the following key benefits:

- Reduction of loss of life and property, human suffering, economic disruption and disaster costs
- Prioritization of hazard mitigation planning at the local level, with an increased emphasis placed on planning and public involvement, assessing risks, implementing loss reduction measures, and ensuring critical services/facilities survive a disaster
- Establishment of economic incentives, awareness, and education to state, tribal, and local governments that result in forming community-based partnerships, implementing effective hazard mitigation measures, leveraging additional non-federal resources, and establishing commitments to long-term hazard mitigation efforts

The DMA2K legislation requires all local, county, and tribal governments to develop an HMP for their respective communities to be eligible for FEMA Hazard Mitigation Assistance Program funds. Each community's HMP must be submitted to, and approved by, their respective state and FEMA. DMA2K requires that each plan must, at minimum, address or include the following general items:

- Plan adoption by all jurisdictions
- Planning process including public involvement
- Hazard identification and risk assessment
- Mitigation strategy
- Plan implementation and maintenance procedures
- Any specific state requirements

Hazard Mitigation Grant Program: In 1988, Congress established the Hazard Mitigation Grant Program (HMGP) by enactment of Section 404 of the Stafford Act. In 2002, regulations on the HMGP to reflect the DMA2K of 2000 were changed by 44 CFR Part 206, Subpart N. An Interim Final Rule was issued in October 2002, wherein the final compliance date was set to November 1, 2004. The HMGP assists states and local communities in implementing long-term hazard mitigation measures by providing federal funding after a major disaster declaration. Eligible applicants include state and local agencies, tribal organizations, and certain non-profit organizations. Examples of typical HMGP projects include the following:

- Establish school shelter-in-place programs
- Structural retrofitting to minimize damages from high winds, earthquakes, floods, wildfires or other natural hazards
- Elevation of flood-prone structures
- Outfitting critical facilities with generators

Pre-Disaster Mitigation Program: The Pre-Disaster Mitigation Program (PDM) was authorized by Section 203 of the 2000 Stafford Act, 42 USC (Public Law 106-390). Funding for the program is provided through the National Pre-Disaster Mitigation Fund to assist state, local, and tribal governments in implementing cost-effective hazard mitigation activities that complement a comprehensive mitigation program. The following two types of grants are offered under the PDM Program:

- Planning Grants – Allocated funds to be used for HMP development.
- Competitive Grants – Distributed funds using a competitive application process wherein all state, local, and tribal governments interested in obtaining grant funds can submit applications to be reviewed and ranked by FEMA using pre-determined criteria.

The minimum eligibility requirements for jurisdictions receiving competitive PDM funds include the following:

- Participation in the National Flood Insurance Program (NFIP)
- Must not be suspended or on probation from the NFIP
- Must have a FEMA-approved HMP

Flood Mitigation Assistance Program: The Flood Mitigation Assistance Program (FMA) was created as part of the National Flood Insurance Reform Act (NFIRA) of 1994 (42 U.S.C. 4101) to reduce or eliminate claims under the NFIP. Funding for the program is provided through the National Flood Insurance Fund. FMA provides funding to assist states and communities in implementing measures to:

- Reduce the number of repetitively or substantially damaged structures and the associated claims on the National Flood Insurance Fund.
- Encourage long-term, comprehensive mitigation planning.

- Respond to the needs of communities participating in the NFIP to expand their mitigation activities beyond floodplain development review and permitting.
- Complement other federal, state, and local mitigation programs with similar long-term mitigation goals.

The following three types of grants are available under FMA:

- FMA Planning Grants are available to states and communities to prepare Flood Mitigation Plans. NFIP-participating communities with approved Flood Mitigation Plans can apply for FMA Project Grants.
- FMA Project Grants are available to states and NFIP participating communities to implement measures to reduce flood losses.
- Technical Assistance Grants are a part of Project Grants. Up to 10 percent of the Project Grants funding is made available to the states for technical assistance. These funds may be used by the state to help administer the program.

The NFIRA stipulates that to be eligible to receive an FMA grant, a community must have a FEMA-approved mitigation plan and must be participating in the NFIP. Examples of eligible FMA projects include the following:

- Acquisition of NFIP-insured structures and underlying real property.
- Demolition of NFIP-insured structures on acquired or restricted real property.
- Minor physical flood mitigation projects that do not duplicate flood-prevention activities of other federal agencies lessen the frequency or severity of flooding and decrease predicted flood damage in local flood areas. These include modification of existing culverts and bridges, installation or modification of floodgates, stabilization of stream banks, and creation of small debris or flood/storm water retention basins. Construction or improvement of major structural flood-control structures such as dikes, levees, dams, seawalls, groins, and jetties, and projects consisting of channel widening or stream alignment are not eligible, as indicated in Section 1366.
- Other activities that bring an NFIP-insured structure into compliance with the authorized statutory floodplain management requirements of 44 CFR Part 60.3.
- Relocation of NFIP-insured structures from acquired or restricted real property to sites not prone to flood hazards.
- Elevation of NFIP-insured residential structures, and elevation or dry flood proofing of NFIP-insured non-residential structures, in accordance with 44 CFR Part 60.3.

1.2 Incorporating Mitigation into Existing Planning Mechanisms

Data (maps/charts) and other information from the Gwinnett County 2045 Unified Plan were incorporated into the updated hazard mitigation plan. Graphics from the 2045 Unified plan can be found throughout Section 2. The principles embodied in this plan have been incorporated to the extent possible in other countywide planning initiatives. Capital improvement plans include additional capabilities such as additional fire stations, first responder training facilities, and money for additional support services. Each participating jurisdiction will determine additional implementation procedures when appropriate. This includes integrating the requirements of the HMP into other local planning documents, processes, or mechanisms such as the following:

- Gwinnett County 2045 Unified Plan adopted February 20, 2024
- Gwinnett County Capital Improvement Plans 2020-2025
- Growth Management Plans Gwinnett County and Local Municipalities Planning and Development
- Comprehensive Housing Study
- Land Use Plans Gwinnett County Planning and Development to include flood mapping
- Ordinances, Resolutions, and Regulations to include Gwinnett County and Local Municipalities
- Continuity of Operations Plans from Gwinnett County and Local Municipalities

Opportunities to integrate the requirements of this HMP into other local planning mechanisms will continue to be identified through future meetings of the HMSC and the five-year review process.

The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update, and implementation of each jurisdiction's action plans that require specific planning and administrative tasks (e.g., plan amendments, ordinance revisions, and capital improvement projects).

The members of the HMSC will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions and/or agencies are consistent with the goals and actions of the HMP and will not contribute to increased hazard vulnerability in Gwinnett County or its participating municipalities.

During the planning process for new and updated local planning documents—such as a comprehensive plan, capital improvements plan, or emergency management plan—Gwinnett County will provide a copy of the HMP to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents be consistent with, and support the goals of, the HMP and will not contribute to increased hazards in the affected jurisdiction(s).

Although it is recognized that there are many possible benefits to integrating components of this plan into other local planning mechanisms, the development and maintenance of this stand-alone HMP is deemed by the Gwinnett County HMSC to be the most effective and appropriate method to ensure the implementation of local hazard mitigation actions at this time.

1.3 Mitigation Planning Process

Local hazard mitigation planning is a process of organizing community resources, identifying and assessing hazard risks, and determining how to minimize or manage those risks. This process results in an HMP that identifies specific mitigation actions, each designed to achieve both short-term objectives and a long-term community vision. To ensure the functionality of mitigation actions, responsibility is assigned to a specific agency, department, or individual, along with an implementation schedule. Plan maintenance procedures are established to monitor implementation progress and the evaluation and enhancement of the plan. The plan maintenance procedures ensure that Gwinnett County's HMP remains a current, dynamic, and effective planning document over time and offers the following benefits:

- Saving lives and property
- Saving money
- Facilitating recovery following disasters
- Reducing future vulnerability through wise development and post-disaster recovery and reconstruction
- Expediting the receipt of pre- and post-disaster grant funding
- Demonstrating a commitment to improve community health and safety

Typically, mitigation planning has the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. A core assumption of hazard mitigation is that pre-disaster investments will significantly reduce the demand for post-disaster assistance by lessening the need for emergency response, repair, recovery, and reconstruction. Mitigation practices will enable residents, businesses, and industries to recover in the wake of a disaster to ensure the community economy is re-established quicker and with less interruption.

The benefits of mitigation planning go beyond reducing hazard vulnerability. Measures such as land acquisition or regulation in known hazard areas can help achieve community goals, such as preserving open space, maintaining environmental health, and enhancing recreational opportunities. It is vitally important that mitigation planning be integrated with other planning efforts, and that mitigation strategies are congruent with other community goals or initiatives.

In preparing this HMP, Gwinnett County utilized a multi-jurisdictional planning process consistent with the one recommended by FEMA. A local mitigation plan review tool,

found in **Appendix D**, demonstrates how the HMP meets the regulation in 44 CFR §201.6 and offers GEMA/HS and FEMA Mitigation Planners an opportunity to provide feedback to the community. Through the use of the local mitigation plan review tool, a summary of compliance with FEMA’s current minimum standards of acceptability with the Disaster Mitigation Act of 2000 is provided and notes the location where each requirement is met within the plan. These standards are based upon FEMA’s Interim Final Rule, as published in the Federal Register on August 25, 2024, in Part 201 of the Code of Federal Regulations (CFR). A detailed review of the 2024 Georgia Hazard Mitigation Plan was conducted as part of this update. This was done to ensure consistency between this plan and the State-level document. Where appropriate, there are cross-references to the State HMP, and in some cases, material is integrated into the County Plan. Technical data, neighboring Counties’ Hazard Mitigation Plans, and hazard studies as well as reports from authorities were used to build this plan.

Following the approval of the 2020 HMP, the HMSC collaborated to develop and implement an annual process for collecting and analyzing information pertinent to the five-year update of the HMP. This annual data collection has helped to streamline the HMP update process, while also keeping HMSC members and all participating jurisdictions actively engaged throughout the year. All jurisdictions and county departments are asked to submit relevant hazard data to the Gwinnett County Office of Emergency Management between June and July each year.

All cities were notified in March 2023 of the requirement concerning the five-year update of the HMP and process. The Cities of Auburn, Berkeley Lake, Buford, Dacula, Duluth, Grayson, Lawrenceville, Lilburn, Loganville, Mulberry, Norcross, Peachtree Corners, Snellville, Sugar Hill, and Suwanee; the Town of Braselton; and Gwinnett County all have a documented commitment to the planning process and have been active participants throughout the planning update process. Georgia Gwinnett College, Gwinnett County Public Schools, Barrow County Emergency Management, and Henry County Emergency Management have also been an active participant in the update process.

The HMSC and Gwinnett County OEM participated in the general session kickoff meeting that was open and attended by the public on April 5, 2023, at the Gwinnett Emergency Operations Center.¹ and have worked collectively over the past year to gather data that included known hazards, flood-prone areas, areas of vulnerability, existing mitigation plans and projects, and technical information for the plan. Outreach to each jurisdiction was conducted over the entire update timeframe.

To allow surrounding jurisdictions to review and provide input into the updated plan, Gwinnett County solicited input from the surrounding counties that border Gwinnett County. Directors from Forsyth County, Hall County, Jackson County, Barrow County, Walton County, Rockdale County, Dekalb County, and Atlanta-Fulton County were all

¹ The Gwinnett County EOC is an ADA facility and falls within an area of disadvantaged community as identified by CEJST.

invited to participate. Barrow County Director Penny Clack attended the initial meeting and offered feedback for plan development. Subsequent meetings have been held to ensure that all information is correct and that all agencies, organizations, and the public's input is included as presented.

The first public outreach meeting was held on November 7, 2023, at the Gwinnett Justice and Administration Center, located at 75 Langley Drive in Lawrenceville. This location was chosen for its central position within the county and its designation as a high-vulnerability area according to the USDA Social Vulnerability Index mapping software (see **Appendix B**). A second public outreach meeting was held at the Lilburn Activity Center, located at 788 Hillcrest Road in Lilburn.

The second meeting was held after traditional business hours (6 pm-8 pm) in a county facility. This location is also designated as a high-vulnerability area according to the USDA Social Vulnerability Index mapping software (see **Appendix B**).

The final two meetings were open to the public for review and comment and were advertised across multiple platforms and with the assistance of multiple county partners. No public comments were made at these meetings. All county libraries had the meeting notice posted with the approval of the Gwinnett County Library System. A coordinated effort with Gwinnett, Newton, and Rockdale Health Department had the notice posted within all county health facilities and clinics around the county. Public Information Officers from multiple departments, as well as county communications, facilitated posting the meeting notice on multiple social media platforms and county fliers and public notices.

In addition to the meetings, an electronic survey was created and distributed throughout Gwinnett County via the same methods listed above. The outcome of the survey revealed a low participation rate of 90 people. However, the HMSC utilized any viable responses for prioritizing hazards and identifying protentional project activities. Survey questions and results are available in **Appendix B**.

Resolutions documenting each jurisdiction's support for the HMP are included in this plan. In all, the plan update process was conducted over eighteen months, from March of 2023 to Dec 2024. Listed below is a chronology of meetings and events conducted during that timeframe.

Table 3: Calendar of Events

Date	Task
March-November 2023	2023 data collection process critical facilities
April 4, 2023	Kickoff meeting with the HMSC to begin mitigation update process at Gwinnett County Office of Emergency Management.
April 27, 2023	One-on-one Meeting with the City of Auburn
April 27, 2023	One-on-one Meeting with the City of Grayson
May 5, 2023	One-on-one Meeting with the City of Duluth
May 9, 2023	One-on-one Meeting with the City of Snellville
May 11, 2023	One-on-one Meeting with the City of Lilburn
May 16, 2023	One-on-one Meeting with the City of Loganville
May 24, 2023	One-on-one Meeting with the City of Suwanee
May 31, 2023	One-on-one Meeting with the Town of Braselton
May 31, 2023	One-on-one Meeting with the City of Norcross
June 2, 2023	One-on-one Meeting with the City of Dacula
March-November, 2023	Multijurisdictional outreach via phone calls and electronic surveys to discuss mitigation action plans for each jurisdiction
July 19, 2023	HMSC Meeting #2 at Gwinnett County Office of Emergency Management Identify and update county actions
November 13, 2023	Public Meeting #1 at Gwinnett Justice and Administration Center at 75 Langly Dr. Lawrenceville 30046 at 10 am
March-November, 2023	Updated base list of hazards and hazard profiles
December 2023 - May 2024	Update specific hazards to include Dams, Cyber, and Public Health
May 29, 2024	Public Meeting #2 at Lilburn Activity Center at 788 Hilcrest Rd. Lilburn 30047 was held after business hours between 6 pm and 8 pm to discuss identified county hazards and mitigation actions for public comment.
June 25, 2024	HMSC Meeting held virtually to discuss the current update timeline and take comments from Steering Committee members.
November 6, 2024	Correspondence with Mulberry about Hazard Mitigation and steps for the city to complete update for 2025 plan.
December 30, 2024	Present HMG information to the City of Mulberry at their City Council meeting.

Throughout the planning update process, the HMSC reviewed and analyzed each section of the plan. The table below documents and summarizes how each section was updated and revised by the HMSC.

Table 4: Summaries of Plan Updates and Revisions

Section	Description
Section 1, Introduction	Revised to reflect the planning update process, including revisions to the plan and multi-jurisdictional participation.
Section 2, Planning Area Profile	The HMSC updated this section by researching available historical records incorporating the County’s background and history of the establishment. The HMSC also analyzed topographical data, recent census data, as well as environmental and geological data in order to display the County’s overall composition and provide a basis for later sections of the plan to identify hazards and assess risks.
Section 3, Hazard Vulnerability Assessment	<p>The HMSC conducted a hazard vulnerability assessment for the County beginning with hazard identification. Hazard identification procedures completed by the HMSC include:</p> <ul style="list-style-type: none"> • Reviews of the State Hazard Mitigation Plan, local and regional hazard reports and plans, flood ordinances, and land use regulations • Discussions with experts from Federal, State, and local agencies • Reviews of collected data from past events and declared disasters • Searching the internet and newspapers for hazard data and statistics <p>The HMSC profiled the identified hazards by assessing locations or geographical areas that may be affected by each hazard. The HMSC also analyzed and documented the extent of each hazard including the potential magnitude and severity, as well as the probability of occurrence utilizing HAZUS-MH Version 2.2 SP1.</p> <p>To estimate potential losses, the Gwinnett County Tax Assessor’s Office was asked by the HMSC to provide the monetary values of common structure types within the County (residential, commercial, industrial, agricultural /conservation, religious non-profit, government, education, utilities, and historic) and to calculate the loss for unincorporated and</p>

Section	Description
	<p>incorporated areas. These results can be found in Appendix A titled Hazard Data.</p> <p>HMSC asked Gwinnett County Planning and Development to review land use and development trends, authorities, and ordinances for inclusion in the plan.</p> <p>The HMSC also compiled a list of critical facilities by category, determined their total square footage, and calculated total structural values to determine overall risk.</p>
<p>Section 4, Community Capability Assessment</p>	<p>The HMSC examined legal documents, authorities, ordinances, and plans to determine the overall capability of Gwinnett County in terms of local government and how it affects the ability to conduct mitigation-related activities. The HMSC collaborated with the Tax Assessor’s Office, Planning and Development, and County Commissioners to collect and analyze data related to the National Flood Insurance Program (NFIP) and the Community Rating System (CRS), stormwater management, floodway regulations, and the like.</p> <p>The HMSC also coordinated with all County departments, including Gwinnett County Public Schools and Buford City Schools, to assess their institutional and fiscal capabilities. The County Commissioners also provided data showcasing the County’s overall fiscal and political capabilities.</p>
<p>Section 5, Mitigation Strategies</p>	<p>To update the County’s mitigation strategies, the HMSC conducted a meeting focused entirely on reviewing and updating the goals, objectives, and actions outlined in the original publication of this plan. Each strategy was assessed on its current relevance, status (completed, deleted, or deferred), cost, and timeframe. The HMSC also addressed the following criteria questions in updating the mitigation strategies:</p> <ul style="list-style-type: none"> • Do the goals and objectives identified in the previously approved plan reflect the updated risk assessment? • Did the goals and objectives identified in the previously approved plan lead to mitigation projects and/or policy changes that helped the jurisdiction(s) to reduce vulnerability? • Do the goals and objectives identified in the previously approved plan support any changes in mitigation priorities? • Are goals identified in the updated plan reflective of current State goals?

Section	Description
Section 6, Individual Jurisdictions	This section was developed to give each jurisdiction participating in the planning update process the opportunity to take an in-depth look at their capabilities and characteristics as they relate to mitigation and reducing the impact of disasters on their communities. Each jurisdiction was responsible for collecting census data and municipal records related to economics, demographics, and legal and regulatory capabilities. Jurisdictions were also asked to assess their critical infrastructure and values, land usage trends, and administrative and technical capabilities. This data was compiled in one-on-one meetings with the municipalities and presented to the HMSC. The HMSC then collaborated with each jurisdiction to review their capabilities and needs and developed mitigation strategies unique to each jurisdiction to reduce vulnerabilities.
Appendix A, Hazard Data	Includes HAZUS, Wildfire Risk Assessment Summary Report by Southern Wildfire,
Appendix B, Supporting Documentation	Includes all 2020-2025 supporting documents in the updating of this HMP.
Appendix C, Adoption Resolutions	Contains the 2024/2025 Adoption Resolutions for all municipalities and the County of Gwinnett.
Appendix D, FEMA Local Plan Review Tool	Includes the 2025 FEMA Toolkit that provides a roadmap of all updated HMP information in the plan.
Appendix E, Dam Inundation Mapping	Updated the Gwinnett County Flood Inundation Mapping.
Appendix F, Repetitive Loss Property Maps	Added Repetitive Loss Property Maps
Appendix G, River Gauges in Gwinnett County	Added river gauge maps & data denoting flood stage

The HMSC completed an individual review of the final Draft HMP for their respective subject matter before submittal to GEMA/HS and FEMA. The table below illustrates each jurisdiction's level of participation and specific activities where each contributed throughout the plan update process.

Table 5: Multi-Jurisdictional Participation

Jurisdiction	Task		
	Jurisdictional Surveys ²	One-on-one Meetings and Conference Calls ³	Final Draft Review ⁴
City of Auburn	X	X	X
City of Berkeley Lake	X	X	X
City of Buford	X	X	X
City of Dacula	X	X	X
City of Duluth	X	X	X
City of Grayson	X	X	X
City of Lawrenceville	X	X	X
City of Lilburn	X	X	X
City of Loganville	X	X	X
City of Mulberry*			X
City of Norcross	X	X	X
City of Peachtree Corners	X	X	X
City of Snellville	X	X	X
City of Sugar Hill	X	X	X
City of Suwanee	X	X	X
Town of Braselton	X	X	X

*The City of Mulberry was incorporated in late 2024 and therefore did not participate in the early portions of the HMP update process.

² Focused on hazard identification, event history, and mitigation strategies

³ Followed up on collected information via email to ensure the accuracy of mitigation strategies

⁴ Included provision of comments and suggestions via email and phone discussions

Gwinnett County Emergency Management is responsible for coordinating the HMSC, as well as coordinating and monitoring the plan update process. The HMSC has selected the following activities to guide its section. The table below lists these activities, and the timeframe associated with each one.

Table 6: Plan Maintenance Strategy

Activity	Timeframe	Responsible Department(s)
HMSC meetings	Annually	Gwinnett County Emergency Management; HMSC Participants
Plan review, revise, and update (including but not limited to new hazard identification, additions/revisions to the risk assessment, and status updates to mitigation strategies, tracking implementation, and assessing effectiveness)	Annually	Gwinnett County Emergency Management; HMSC Participants
Data collection pertinent to identified or new hazards and submittal to the Office of Emergency Management	Annually	Gwinnett County Emergency Management; HMSC Participants; Participating Municipalities
Mitigation strategy status update meetings for participating municipalities	Annually	Gwinnett County Emergency Management; HMSC Participants; Participating Municipalities
Submit the updated plan to GEMA/FEMA for review and approval	Every five years	Gwinnett County Emergency Management
Continue to provide opportunities for public involvement in plan preparation and implementation through community events, area-specific meetings, the county website, and social media.	Annually	Gwinnett County Emergency Management; HMSC Participants; Participating Municipalities

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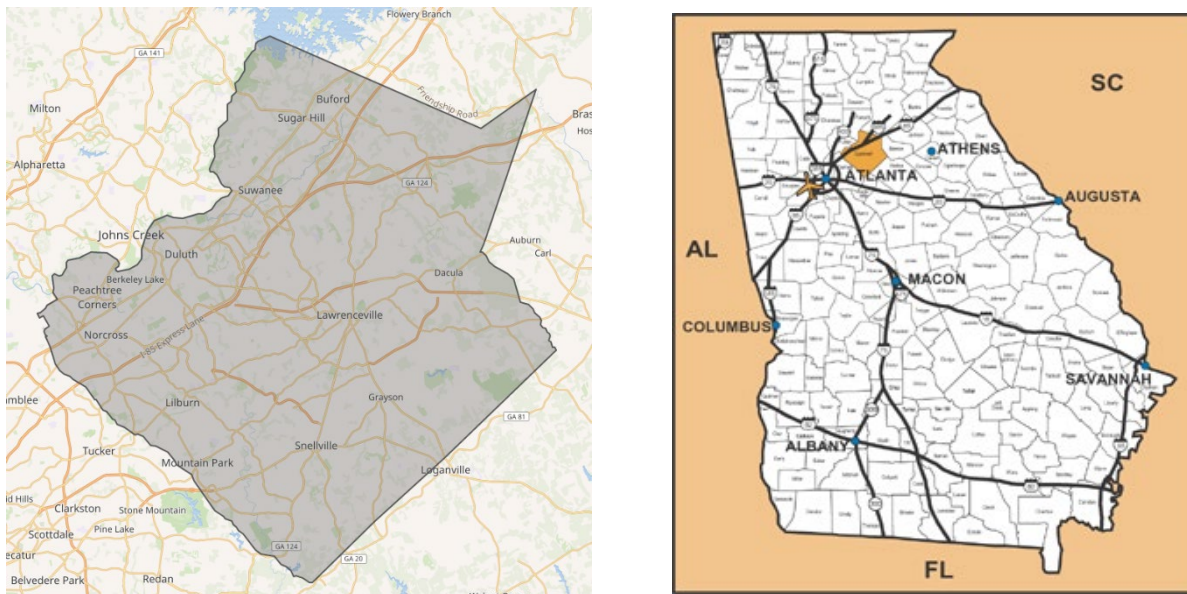
SECTION 2: PLANNING AREA PROFILE

2.1 History

Gwinnett County is located in the northeastern part of the State of Georgia and was created on December 15, 1818, by the state legislature. The County is named after Button Gwinnett, the Georgia representative who signed the United States Declaration of Independence. The county is part of the Atlanta Metropolitan Area containing many suburbs of the City of Atlanta, located approximately 30 miles north of the city. Over the past 20 years, the county has been one of the fastest-growing counties in America (based on population). The county seat is Lawrenceville, but Gwinnett County is home to 16 municipalities.

Source: <https://www.gwinnettcountry.com/web/gwinnett/aboutgwinnett/fastfacts>

Figure 1: Map of Gwinnett County

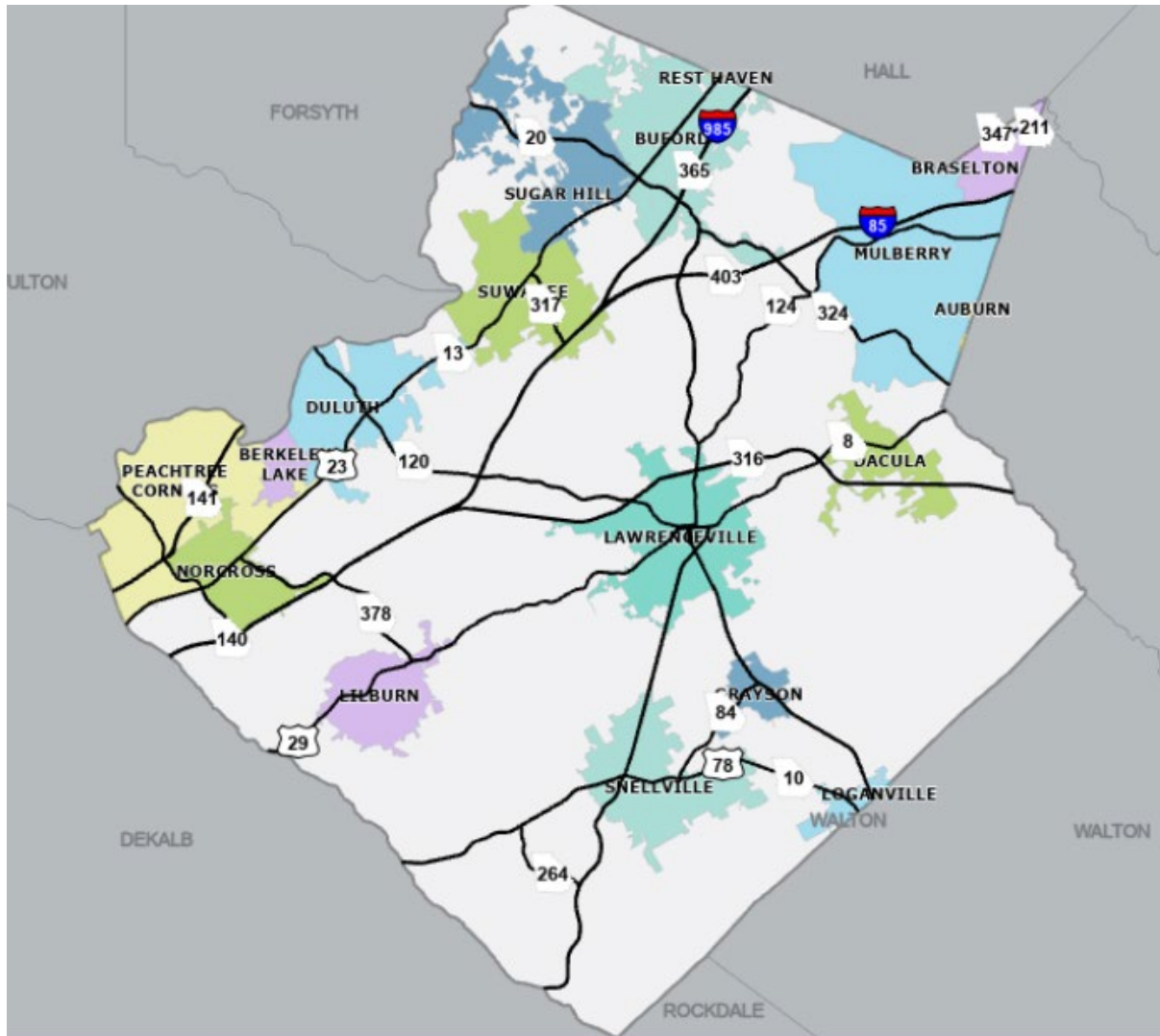


2.2 Topography

According to the U.S. Census Bureau, the county has a total area of 437 square miles, of which 430 square miles is land and 6.4 square miles is water. Adjacent counties include Forsyth, Hall, Jackson, Barrow, Walton, DeKalb, Rockdale, and Fulton, all of which are also located in Georgia. The county includes part of the Chattahoochee River National Recreation Area, which is a National Protected Area. Lake Sidney Lanier is partially located within Gwinnett County and is the primary water source for the county.

Source: <https://www.gwinnettcountry.com/web/gwinnett/aboutgwinnett/fastfacts>

Figure 2: Gwinnett County Cities and Town



2.2.1 Cities and Town located within the county include the following:

- City of Auburn
- City of Berkeley Lake
- City of Buford
- City of Dacula
- City of Duluth
- City of Grayson
- City of Lawrenceville
- City of Lilburn
- City of Loganville
- City of Mulberry
- City of Norcross
- City of Peachtree Corners
- City of Snellville
- City of Sugar Hill
- City of Suwanee
- Town of Braselton

2.2.2 Major highways intersecting the county include the following:

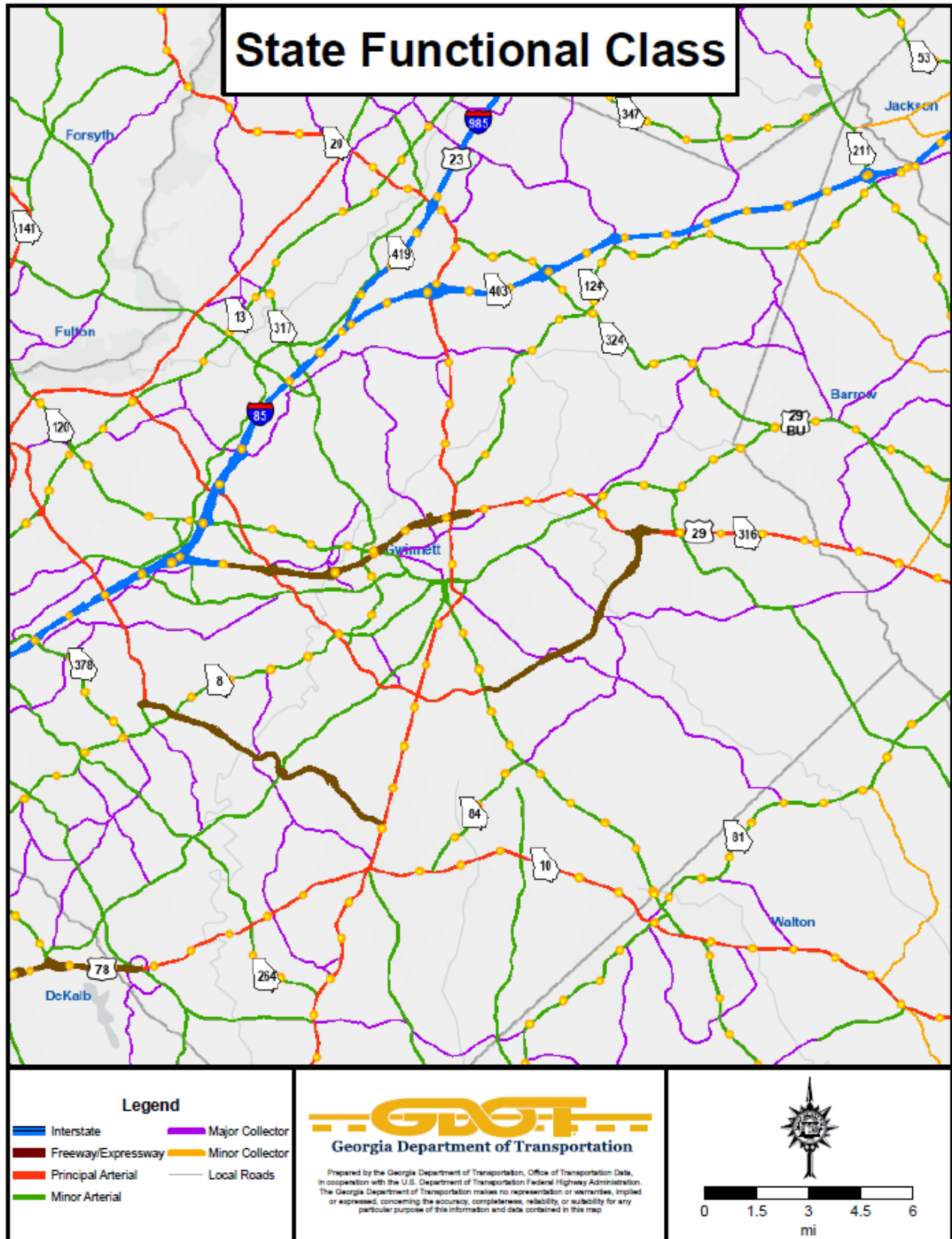
- Interstate 85
- Interstate 985
- U.S. Routes – 23, 29, 78
- State Routes – 8, 10, 13, 20, 84, 120, 124, 140, 141, 264, 316, 317, 324, 347, 365, 378,
- 403, 419

Source: Georgia Department of Transportation (GDOT), Wikipedia/Gwinnett County

2.2.3 Secondary highways intersecting the county include the following:

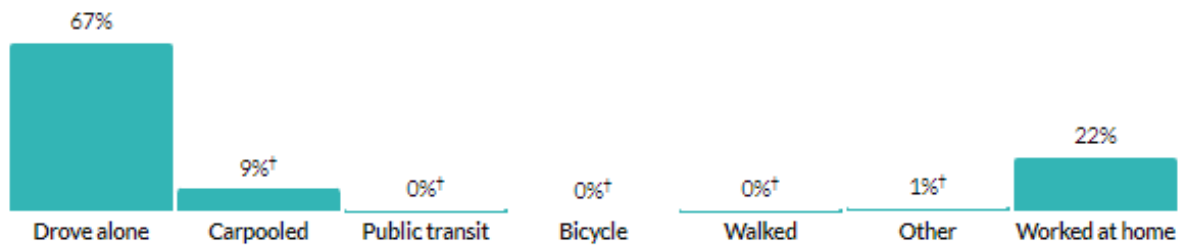
- Arcado Road
- Beaver Ruin Road (S.R. 378)
- Bethany Church Road (S.R. 264)
- Braselton Highway (S.R. 124)
- Buford Drive (S.R. 20)
- Buford Highway (U.S. 23/S.R. 13)
- Duluth Highway (S.R. 120)
- Indian Trail-Lilburn Road
- Jimmy Carter Boulevard
- Jones Mill Road
- Lawrenceville Highway (U.S. 29/S.R. 8)
- Pleasantdale Road
- Pleasant Hill Road
- Ronald Reagan Parkway
- Scenic Highway (S.R. 124)
- Singleton Road
- Steve Reynolds Boulevard
- Stone Mountain Freeway (U.S. 78/S.R. 10)
- Sugarloaf Parkway
- University Parkway (U.S. 29/S.R. 316)

Figure 3: Gwinnett County Major Highways



2.2.4 Transportation: Rail, Air, and Public Transit

Figure 4: Means of Transportation to Work in Gwinnett County

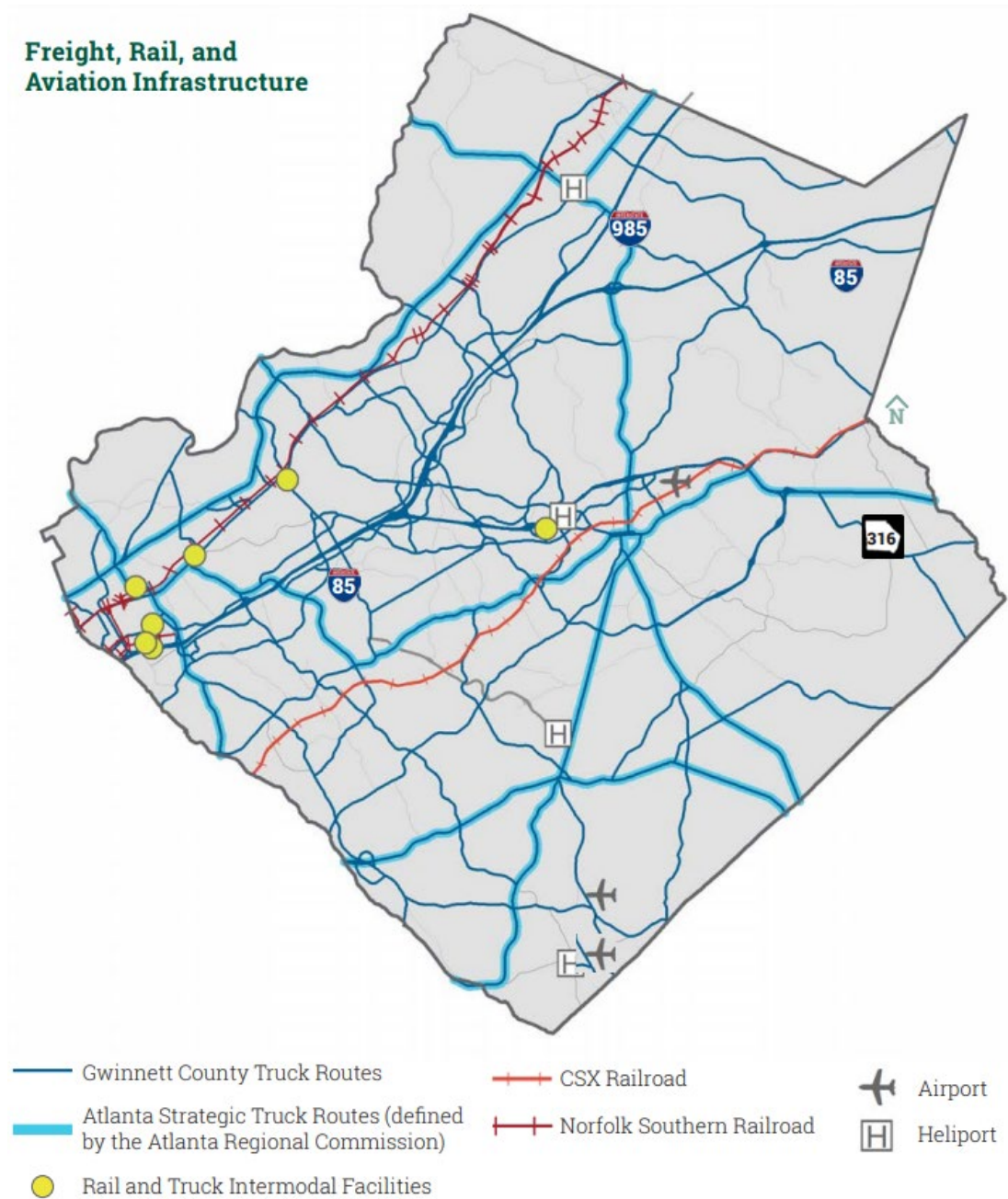


Means of transportation to work:

- Drove a car alone: 304,503 (67.1 percent)
- Carpooled: 41,324 (9.1 percent)
- Public Transit: 1,924 (0.4 percent)
- Other: 5,553 (1.2 percent)
- Bicycle: 77 (0.1 percent)
- Walked: 1,924 (0.4 percent)
- Worked at home: 98,692 (21.7 percent)

Source: <https://censusreporter.org/profiles/05000US13135-gwinnett-county-ga/>

Figure 5: Gwinnett County Railroad System



Gwinnett County is served by both CSX (22 rail miles in the County) and Norfolk Southern (33 rail miles). Amtrak has track rights to approximately 28 miles along the Norfolk Southern line that runs parallel to Buford Highway/US 23.

Source: <https://www.gwinnettcountry.com/web/gwinnett/departments/planningdevelopment/services/landuseplanning/2045unifiedplan>

Travel by air is primarily serviced by Atlanta Hartsfield-Jackson International Airport, which is located approximately 45 miles south of Gwinnett County in Atlanta, GA.

The county has an airport called Gwinnett County Briscoe Field. The airport is near Lawrenceville, accessible by GA Route 316. Gwinnett County Airport is located on approximately 500 acres just one-mile northeast of the city of Lawrenceville. Briscoe Field is surrounded by industrial areas to the south and west, the Gwinnett Progress Center to the north, and the Alcovy River to the east. The airport consists of a single 6,021-foot-long by 100-foot-wide runway capable of handling all light general aviation and most corporate jet aircraft in operation today. Gwinnett County Airport is serviced by two Fixed Base Operators (FBOs). Gwinnett Aero is located on the north side of the field and Aircraft Specialists Jet Center is located on the south side. The airport has an Air Traffic Control Tower that is in operation from 7:00 am to 9:00 pm year-round. At the airport, there are more than 50 aviation-related tenants, almost 200 hangars, and about 300 aircraft that are based there. Gwinnett County Airport is governed by a five-member board called the Airport Authority.

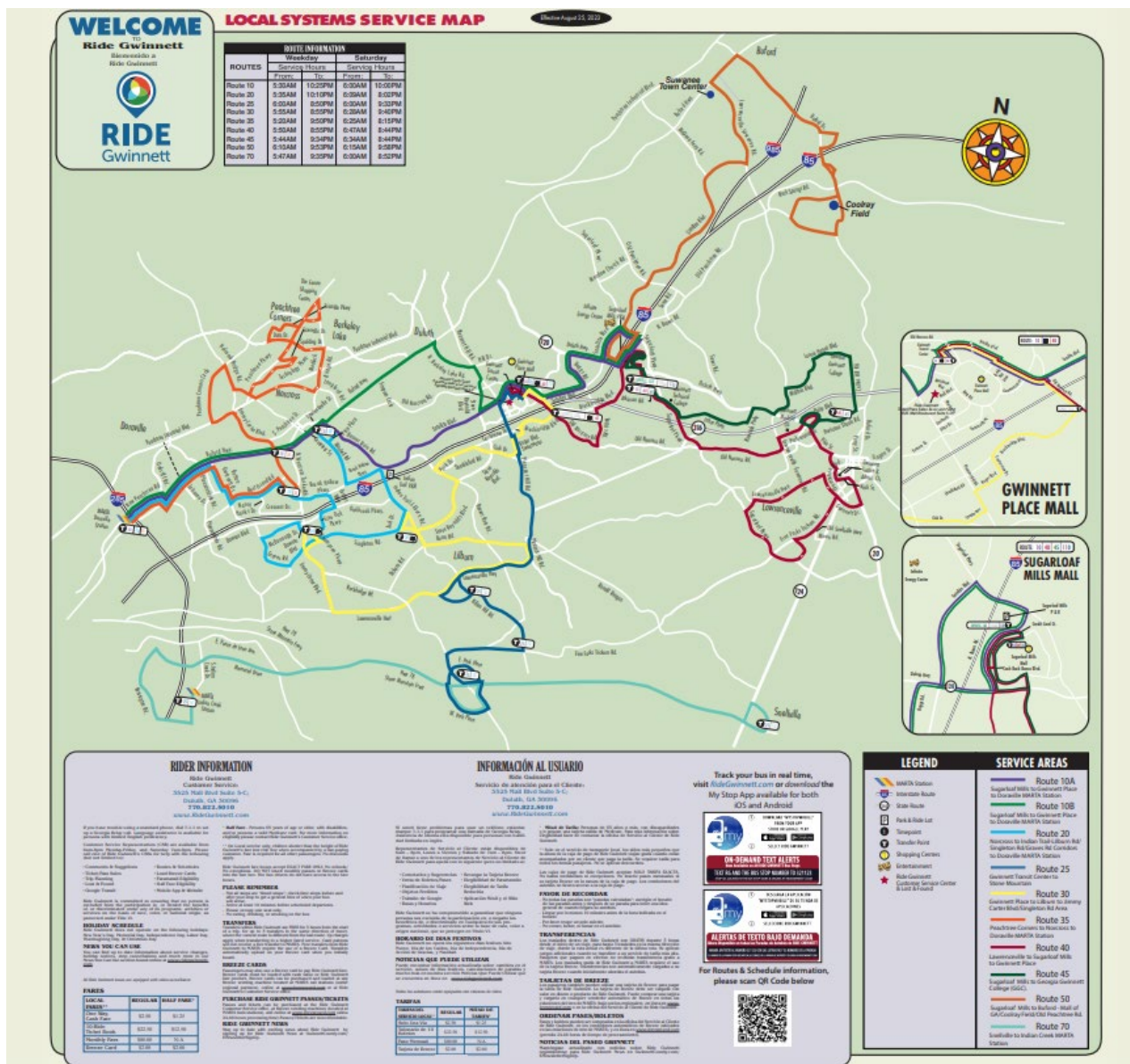
The County operates its public transportation called “Ride Gwinnett”. Formally known as Gwinnett County Transit, the Ride Gwinnett Brand was introduced in 2023. Gwinnett County Transit was formed in 2000 to provide express, local, and paratransit services for the people of Gwinnett County. Express bus service operates Monday through Friday and includes five routes using the high-occupancy vehicle lanes on I-85. Park and ride lots at I-985, Discover Mills, and Indian Trail have been built or upgraded to provide free and convenient parking for bus riders. Local bus service operates six routes, Monday through Saturday, connecting neighborhoods and businesses to Gwinnett County's many cultural, shopping, and educational opportunities. Paratransit service for qualifying persons with disabilities operates in conjunction with the local bus service.

The Gwinnett County 2045 Unified Plan outlines the “Connect Gwinnett Transit Plan” which provides a framework for future transit expansion and improvement in Gwinnett County, including rail and bus services to ease congestion. Major initiatives include high-capacity transit and enhanced bus service. The Plan also calls for several major roadway improvements, among other projects, that enhance and preserve mobility throughout the county and to other parts of the region.

Source: <https://www.exploreghwinnett.org/listing/briscoe-field-airport-gwinnett-county/252/>

<https://www.gwinnettcounty.com/web/gwinnett/departments/transportation/gwinnettcountytransit/routesandschedules>

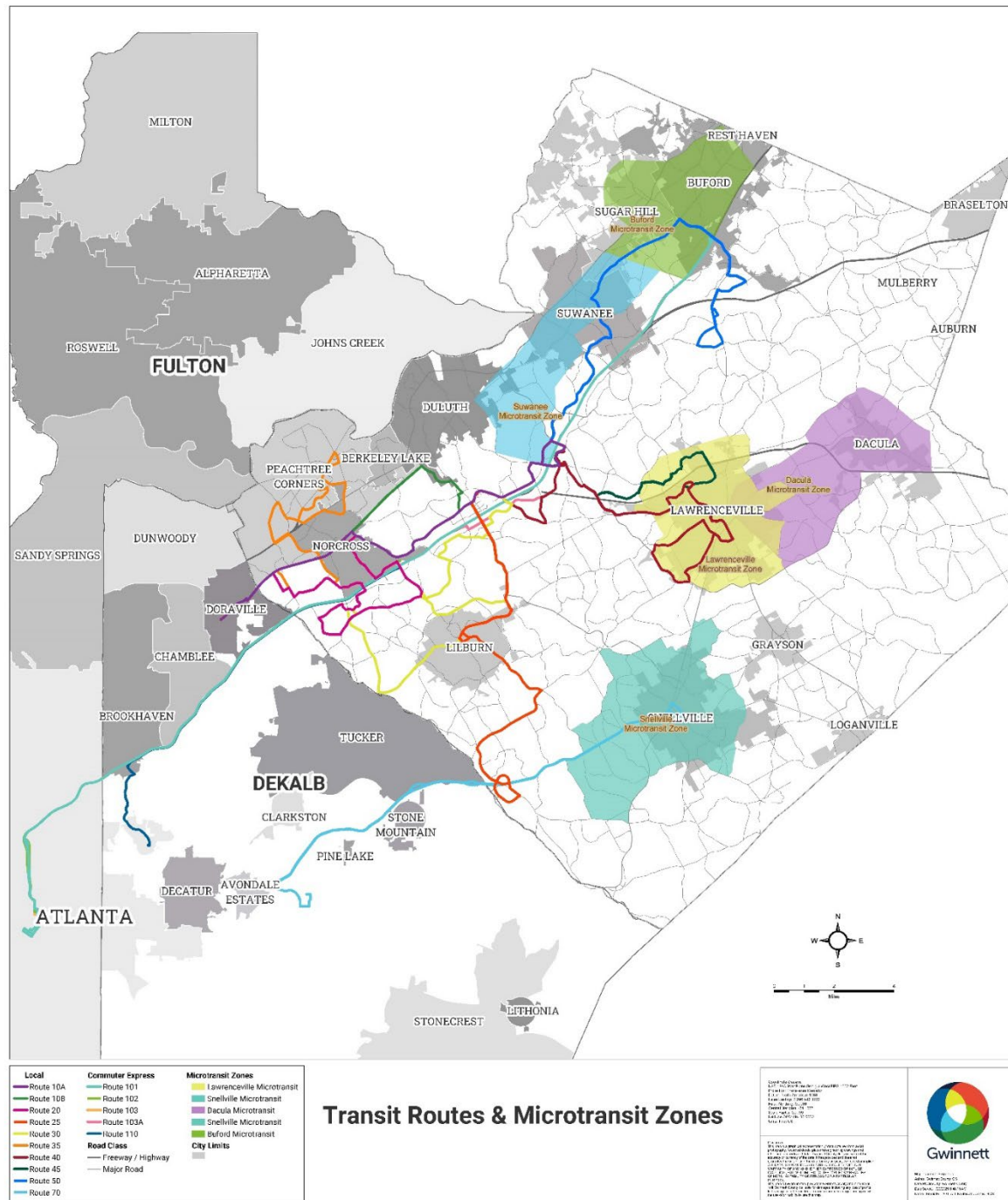
Figure 6: Gwinnett County Local Bus Service



In August of 2023, Ride Gwinnett created a “microtransit” route within the Snellville and Lawrenceville zones. The Ride Gwinnett micro transit is an on-demand shared-ride service that one can order from their phone and allows riders to make shorter, more convenient trips within the zones.

<https://www.gwinnettcountry.com/web/gwinnett/departments/transportation/gwinnettcountrytransit/microtransit>

Figure 7: Transit Routes and Microtransit Zones



2.3 Climate

Gwinnett County gets 53 inches of rain per year; the U.S. average is 38. Snowfall for the county is one inch per year, while the average U.S. city gets 28 inches of snow annually. The number of days with any measurable precipitation is 104. On average, there are 217 sunny days per year in Gwinnett County. The July high is around 89-92 degrees. The January low is 30-35 degrees. The comfort index, which is based on humidity during the hot months, is 7.6 out of 10, where higher is more comfortable. The U.S. average on the comfort index is 7. Climate trends highlighted below indicate the need for Gwinnett County to consider climate change impacts in its planning and response strategies, including infrastructure resilience, public health preparedness, and environmental conservation efforts.

- **Temperature Trends:**

Rising Temperatures: The average high temperatures during summer, particularly in July, have shown an upward trend, consistent with broader global warming patterns.

Warmer Winters: The average low temperatures in January have also increased slightly, indicating milder winters compared to historical averages.

- **Precipitation Patterns:**

Increased Rainfall: There has been an increase in the average annual rainfall, which aligns with projections that suggest wetter conditions for the Southeastern United States due to climate change.

Heavy Rain Events: There has been a noticeable increase in the frequency and intensity of heavy rain events, leading to more instances of localized flooding.

- **Snowfall:**

Decreased Snowfall: Average snowfall in Gwinnett County has remained low, which is typical for the region, but the number of snow events has decreased, reflecting a trend towards milder winter conditions.

- **Extreme Weather Events:**

Heatwaves: The county has experienced more frequent and prolonged heatwaves, impacting public health, agriculture, and energy consumption.

Storms: There has been an increase in the intensity of thunderstorms and occasional severe weather events, including tornadoes and tropical storm remnants, which bring heavy rain and strong winds.

- **Ecological Impact:**

Changes in Vegetation: Shifts in the growing season and changes in local ecosystems have been observed, with some plant species blooming earlier and shifts in wildlife patterns.

Increased Pests and Diseases: Warmer temperatures and wetter conditions have contributed to the proliferation of pests and diseases affecting local agriculture and forestry.

- **Public Health:**

Heat-Related Illnesses: There has been an increase in heat-related illnesses and hospital visits during the hotter months.

Air Quality: Warmer temperatures can exacerbate air quality issues, leading to higher levels of ground-level ozone and associated respiratory problems.

- **Environmental Sustainability:**

Monitoring Greenhouse Gasses: Gwinnett monitors the greenhouse gas emission rates to verify environmental sustainability related to climate mitigation. Gwinnett current records on average 1.7 metric tons of greenhouse gas emissions per year

Source: <https://www.bestplaces.net/climate/county/georgia/gwinnett>

<https://www.epa.gov/sites/default/files/2016-09/documents/climate-change-ga.pdf>

2.4 Water Resources

The county includes part of the Chattahoochee River National Recreation Area, which is a National Protected Area. Protection of water resources in Gwinnett County is of the utmost importance and beneficial for the entire County. To protect these valuable resources, Gwinnett County has a Water and Sewerage Authority that was established in 1970 by law. The Authority consists of five members who are residents of Gwinnett County and are appointed by the Board of Commissioners. The Authority appoints a chairman, vice-chairman, secretary, and treasurer from its members.

Part of Lake Lanier is in Gwinnett County. Lake Lanier was created in the 1950s when the U.S. Army Corps of Engineers built Buford Dam to provide flood control, power generation, and recreation. It is the primary source of water for Gwinnett County. The lake has 692 miles of shoreline and is 26 miles long, covering almost 47 miles of the original riverbed. At the dam, the lake is more than 200 feet deep.

Source:

<https://www.gwinnettcountry.com/web/gwinnett/departments/countyclerk/boardsandauthorities/-bacs/committee/33>

<https://www.gwinnettcountry.com/web/gwinnett/aboutgwinnett/fastfacts/lakelanier>

2.5 Soils

The soils in Gwinnett County consist of well-drained sandy clay loams with moderate infiltration rates. Gwinnett County is in a region of moderate- to high-grade metamorphic rocks, such as schists, amphibolite, gneisses, and migmatite, and igneous

rocks like granite. Overlying the bedrock is a variable zone of sand, silt, and clay resulting from partial to complete chemical weathering. The unconsolidated sediment in this zone, referred to as saprolite, largely retains the physical structure of its parent bedrock. Near the top of the saprolite zone, the material gradually grades into soil. Gwinnett County soils consist of kaolinite and halloysite (1:1 aluminosilicate clay minerals) and iron oxides. They result from the intense weathering of feldspar-rich igneous and metamorphic rocks. This intense weathering dissolves or alters nearly all minerals and leaves behind a residue of aluminum-bearing clays and iron-bearing iron oxides because of the low solubility of aluminum and iron at earth-surface conditions. Those iron oxides give the red color to the clay-rich soil, yielding the red clay that has come to be almost synonymous with Gwinnett County and the State of Georgia.

2.6 Natural Resources

Gwinnett County is filled with natural resources and recreational opportunities for the public. There is a parks system with 50 plus sites County-wide with over 10,000 acres that is owned and operated by the County as well as several historic sites in both incorporated and unincorporated jurisdictions.

Figure 8: Gwinnett County Park Locations

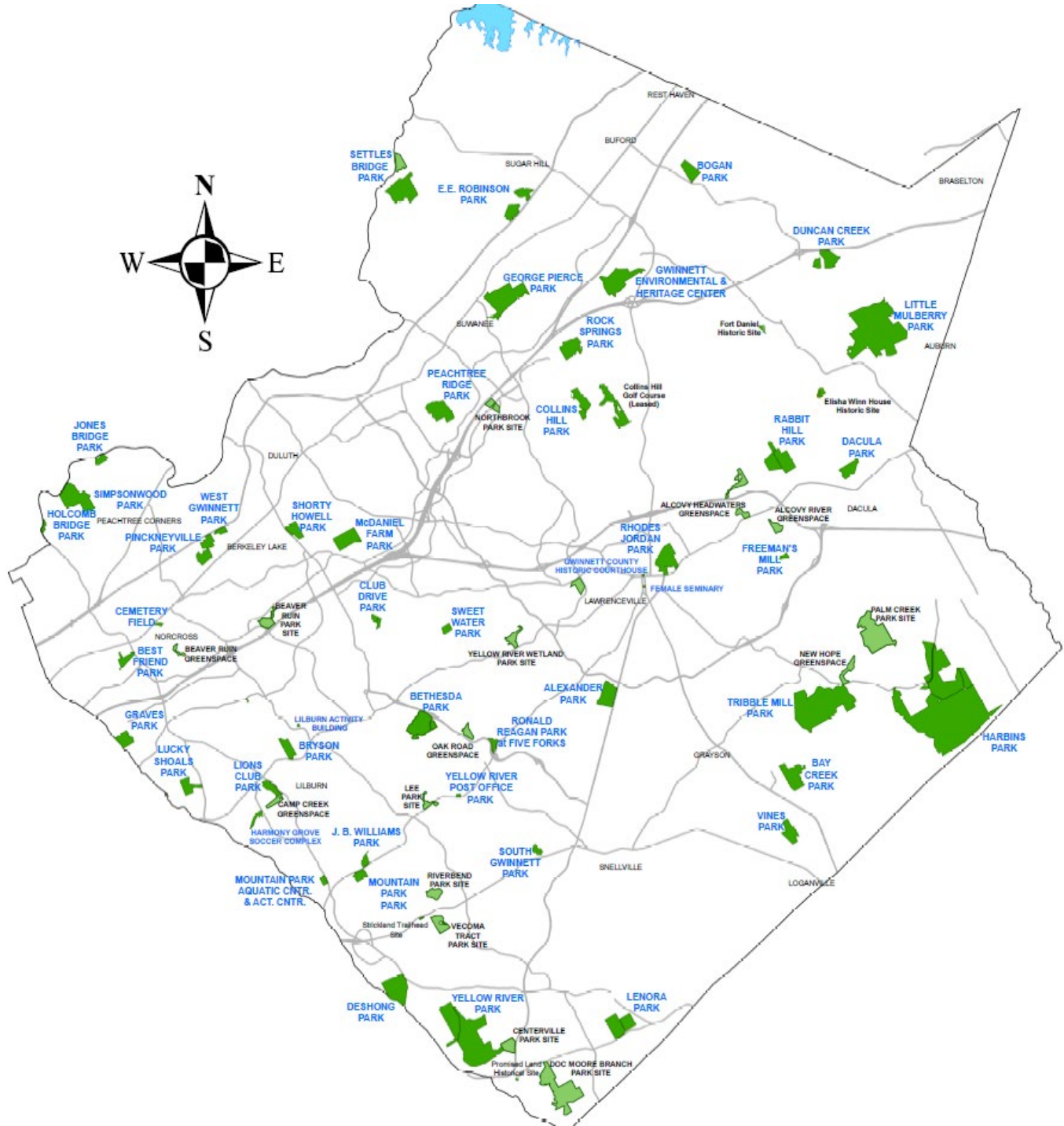


Table 7: Gwinnett County's Park Locations

Park Name	Address	Area (acres)
Alexander Park	800 Old Snellville Hwy, Lawrenceville 30044	131.07
Bay Creek Park	175 Ozora Rd, Loganville 30052	154.61
George Pierce Park	55 Buford Hwy, Suwanee 30024	303.4
Freeman's Mill Park	1401 Alcovy Rd, Lawrenceville 30045	11.91
Duncan Creek Park	3700 Braselton Hwy, Dacula 30019	114.26
DeShong Park	2859 North DeShong Rd, Stone Mountain 30087	209.34
Dacula Park	205 Dacula Rd, Dacula 30019	75.53
Collins Hill Park	2225 Collins Hill Rd, Lawrenceville 30043	95.07
Collins Hill Golf Course	585 Camp Perrin Rd, Lawrenceville 30043	139.92
Club Drive Park	3330 Club Dr., Lawrenceville 30043	25.55
Cemetery Field	211 Cemetery St, Norcross 30071	5.67
Bryson Park	5075 Lawrenceville Hwy, Lilburn 30047	67.93
Bogan Park	2723 North Bogan Rd, Buford 30519	83.31
Bethesda Park	225 Bethesda Church Rd, Lawrenceville 30044	159.95
Best Friend Park	6224 Jimmy Carter Blvd, Norcross 30071	43.1
Mountain Park	5050 Five Forks Trickum Rd, Lilburn 30047	61.63
McDaniel Farm Park	3251 McDaniel Rd, Duluth 30096	132.83
Lucky Shoals Park	4651 Britt Rd, Norcross 30093	69.96
Little Mulberry Park	3855 Fence Rd, Auburn 30011	892.45

Lions Club Park	5500 Rockbridge Circle, Lilburn 30047	51.38
Lenora Park	4515 Lenora Church Rd, Snellville 30039	178.53
Law. Female Seminary & Isaac Adair House	455 South Perry St, Lawrenceville 30046	1.845
Jones Bridge Park	4901 East Jones Bridge Rd, Peachtree Corners 30092	29.98
Holcomb Bridge Park	4300 Holcomb Bridge Rd, Peachtree Corners 30092	11.04
Harmony Grove Soccer Complex	119 Harmony Grove Rd, Lilburn 30047	21.13
Harbins Park	2995 Luke Edwards Rd, Dacula 30019	1960.17
Gwinnett Historic Courthouse	185 Crogan St, Lawrenceville 30046	1.98
Environmental and Heritage Ctr	2020 Clean Water Drive, Buford, GA 30519	224.47
Graves Park	1540 Graves Rd, Norcross 30093	71.34
Yellow River Park	3232 Juhan Rd, Stone Mountain 30087	690.7
West Gwinnett Park	4488 Peachtree Industrial Blvd, Berkeley Lake 30071	22.45
Vines Park	3500 Oak Grove Rd, Loganville 30052	89.34
Tribble Mill Park	2125 Tribble Mill Pkwy, Lawrenceville 30045	713.07
Sweet Water Park	800 Bethesda School Rd, Lawrenceville 30044	25.44
South Gwinnett Park	2115 McGee Rd, Snellville 30078	22.87
Singleton Road Activity Building	5220 Singleton Rd, Norcross 30092	1.89
Simpsonwood Park	4511 Jones Bridge Circle, Peachtree Corners 30092	222.39

Shorty Howell Park	2750 Pleasant Hill Rd, Duluth 30096	66.46
Settles Bridge Park	380 Johnson Rd, Suwanee 30024	215.71
Ronald Reagan Park	2777 Five Forks Trickum Rd, Lawrenceville 30044	27.11
Rock Springs Park	550 Rock Springs Rd, Lawrenceville 30043	120.35
Rhodes Jordan Park	100 East Crogan St, Lawrenceville 30046	163.74
Rabbit Hill Park	400 Rabbit Hill Rd, Dacula 30019	199.63
Pinckneyville Park	4707 South Old Peachtree Rd, Norcross 30071	109.72
Peachtree Ridge Park	3170 Suwanee Creek Rd, Suwanee 30024	153.81
Yellow River Post Office	3519 Five Forks Trickum Rd, Lilburn 30047	5.1
J.B. Williams Park	4935 Five Forks Trickum Rd, Lilburn 30047	25.92
E.E. Robinson Park	885 Level Creek Rd, Sugar Hill 30518	115.02
Harbins Park	2995 Luke Edwards Rd, Dacula 30019	1960.17
Alcovy River Green Space	Hwy 29, Dacula	36.55
Beaver Ruin Green Space	Mitchell St, Norcross	17.18
Beaver Ruin Park	Satellite Blvd, Duluth	55.95
Camp Creek Green Space	Seaboard Railroad in Lilburn	30.68
Centerville Park	Centerville Hwy, Snellville	59.68
Doc Moore Branch Park	Lee Rd, Snellville	350.81
Lee Park	Five Forks Trickum Rd, Lilburn	31.76
New Hope Green Space	New Hope Rd, Lawrenceville	54.58
Northbrook Park	Northbrook Pkwy, Suwanee	36.38
Oak Road Green	Oak Rd, Lawrenceville	35.50
Palm Creek Park	Ewing Chapel Rd, Dacula	325.47

Riverbend Park	Riverside Dr, Lilburn	50.55
Settles Bridge Park (State of GA DNR Owned)	Settle Bridge Rd, Buford	52.82
Vecoma Tract Park	Ross Rd, Lilburn	71.97
Yellow River Wetland	Lawrenceville Hwy, Lawrenceville	51.22
Strickland Trailhead	Stone Mountain Hwy, Lilburn	2.05
Alcovy Headwaters Green Space	Winder Hwy & Hurricane Shoals Rd, Lawrenceville	89.44
Lilburn Activity Building	788 Hillcrest Rd, Lilburn 30047	2.06
Collins Hill Aquatic	2200 Collins Hill Road, Lawrenceville 30043	18.19
Mountain Park Aquatic	1063 Rockbridge Road, Stone Mountain 30087	18.2
Fort Daniel Site	2505 Braselton Hwy, Buford	9.98
Elisha Winn House	908 Dacula Rd, Dacula	19.30
Promised Land Site	4530 Anderson-Livsey Ln, Snellville	4.42

2.7 Demographic Profile

This section includes various tables and maps that were created using data from the 2020 census. The City of Mulberry completed their municipal incorporation after the latest census and therefore is not represented on some of the maps that use this data.

Table 8: Demographic Quick Facts

Demographic Quick Facts	Gwinnett County	Georgia
Population, 2024 estimate	990,879	10,912,876
Population, percent change, April 2020 to July 2024	3.4%	1.9%
Population, 2020	957,027	10,711,937
Persons under 5 years old, percent	6.0%	5.8%
Persons under 18 years old, percent	25.7%	23.0%
Persons 65 years old and over, percent	11.5%	13.5%
Female persons, percent	50.9%	51.2%
Caucasian, percent	50.8%	59.0%
African American persons, percent	31.3%	33.1%
American Indian and Alaska Native persons, percent	0.8%	0.6%
Asian persons, percent	13.8%	4.8%
Native Hawaiian and Other Pacific Islander, percent	0.1%	0.1%
Persons reporting two or more races, percent	3.0%	2.4%
Persons of Hispanic or Latino origin, percent	22.3%	10.5%
Caucasian, not of Hispanic/Latino origin, percent	32.0%	50.4%
Living in same house 1 year and over, percent, 2017-2021	88.4%	86.0%
Foreign-born persons, percent, 2017-2021	25.8%	10.3%
Language other than English spoken at home, percent, age 5+, 2017-2021	35.4%	14.3%
High school graduates, percent of persons age 25+, 2017-2021	87.9%	88.2%

Demographic Quick Facts	Gwinnett County	Georgia
Bachelor's degree or higher, percent of persons age 25+, 2017-2021	38.5%	33.0%
Veterans, 2017-2023	39,908	613,810
Mean travel time to work (minutes), workers age 16+, 2017-2021	33.8	28.6
Housing units, July 1, 2022	340,513	4,539,156
Owner-occupied housing unit rate, 2017-2021	66.9%	64.5%
Median value of owner-occupied housing units, 2017-2021	\$256,700	\$206,700
Households, 2017-2021	313,172	3,885,371
Persons per household, 2017-2021	3.01	2.67
Median household income, 2017-2021	\$75,853	\$65,030
Per capita income, 2017-2021	\$33,870	\$34,516
Persons below poverty, percent (2017 Estimate)	10.8%	14.0%

Table 9: Business Quick Facts

Business Quick Facts	Gwinnett County	Georgia
Total annual payroll, 2021 (\$1,000)	19,542,003	238,831,077
Total employment, percent change, 2020-2021	-2.7%	-1.8%
Total non-employer establishments, 2020	130,822	1,035,889
All firms, 2022	19,894	171,986
Men-owned firms, 2022	12,246	106,316
Women-owned firms, 2022	4,007	35,855
Minority-owned firms, 2022	6,214	34,980
Nonminority-owned firms, 2022	11,788	125,364
Veteran-owned firms, 2022	1,197	12,988
Nonveteran-owned firms, 2022	16,662	144,508

Table 10: Geography Quick Facts

Geography Quick Facts	Gwinnett County	Georgia
Land area, 2020 (square miles)	430.76	57,513.49
Persons per square mile, 2020	2,221.8	168.4
Metropolitan Area	GA Metro Area (6 th largest in the Nation)	
Federal Information Processing Standards (FIPS) Code	13135	13

Source: [Census.gov/quickfacts/fact/table/gwinnettcountry,GA/BZA210221#BZA210221](https://www.census.gov/quickfacts/fact/table/gwinnettcountry,GA/BZA210221#BZA210221)

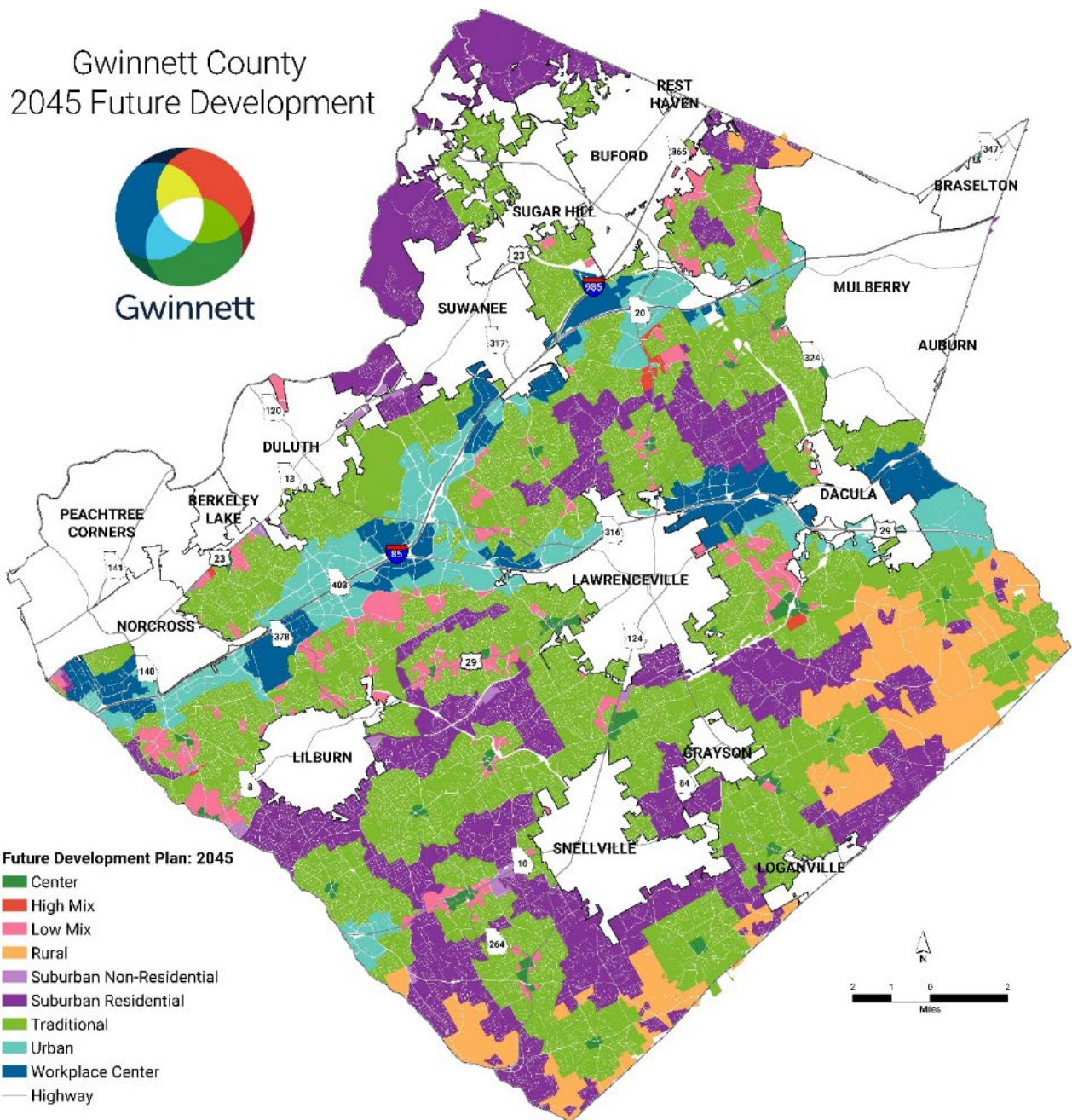
2.8 Residential Development

According to the Gwinnett County 2045 Unified Plan, Gwinnett County's growth in population is expected to slow somewhat over the next 25 years as its supply of land is developed. This development can have a direct impact on all Cities and the County in relation to vulnerability. Currently, all Cities and the County are implementing strict NFIP standards therefore development does not make the population any more vulnerable to flooding. In relation to other hazards, it isn't uncommon for increased growth and development to increase vulnerability to other hazards such as tornados or severe weather events as an increase in population drives an increase in vulnerability.

2.8.1 General Housing Characteristics

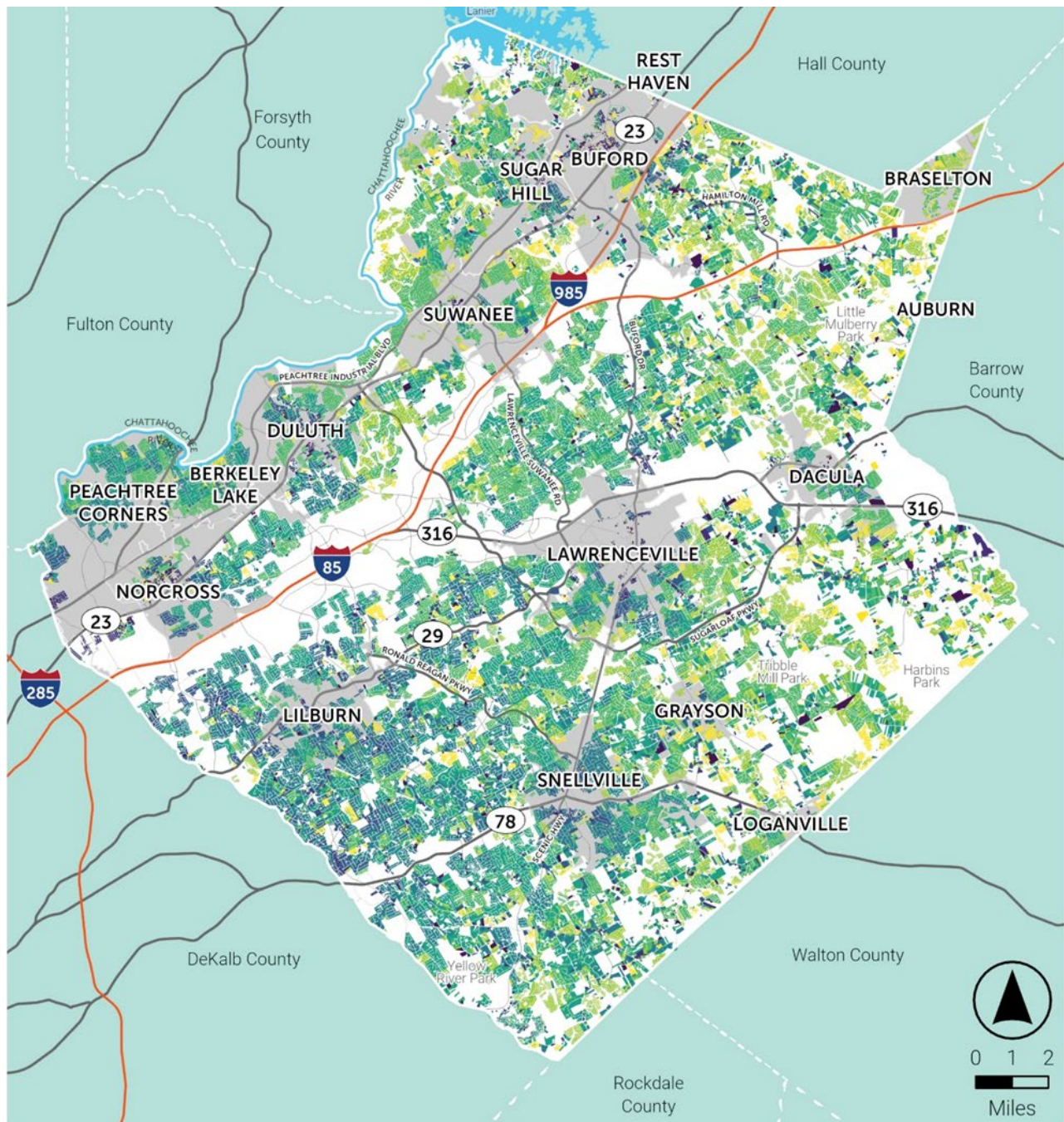
According to the Gwinnett County 2045 Unified Plan, low-density residential is the dominant single land use in Gwinnett County, with more than one-third of the county's total acreage. Initial waves of growth were largely driven by families seeking a traditional suburban lifestyle. As a result, nearly three-fourths of our housing units are single-family homes, but our diversity of family sizes, types, and ethnicities means that there is likely a significant demand for more housing types. On the opposite end of the spectrum, this includes smaller housing for single-person households and housing with more bedrooms for larger families. This should be considered relative to the origins of broad national trends that indicate the number of single-person households (currently 19 percent of Gwinnett households) and multi-generational households are likely to increase. A more in-depth look at housing and trends and challenges can be found in the Gwinnett County 2045 Unified Plan.

Figure 9: Gwinnett County Future Development Map



Source: Gwinnett County GIS/Data Services

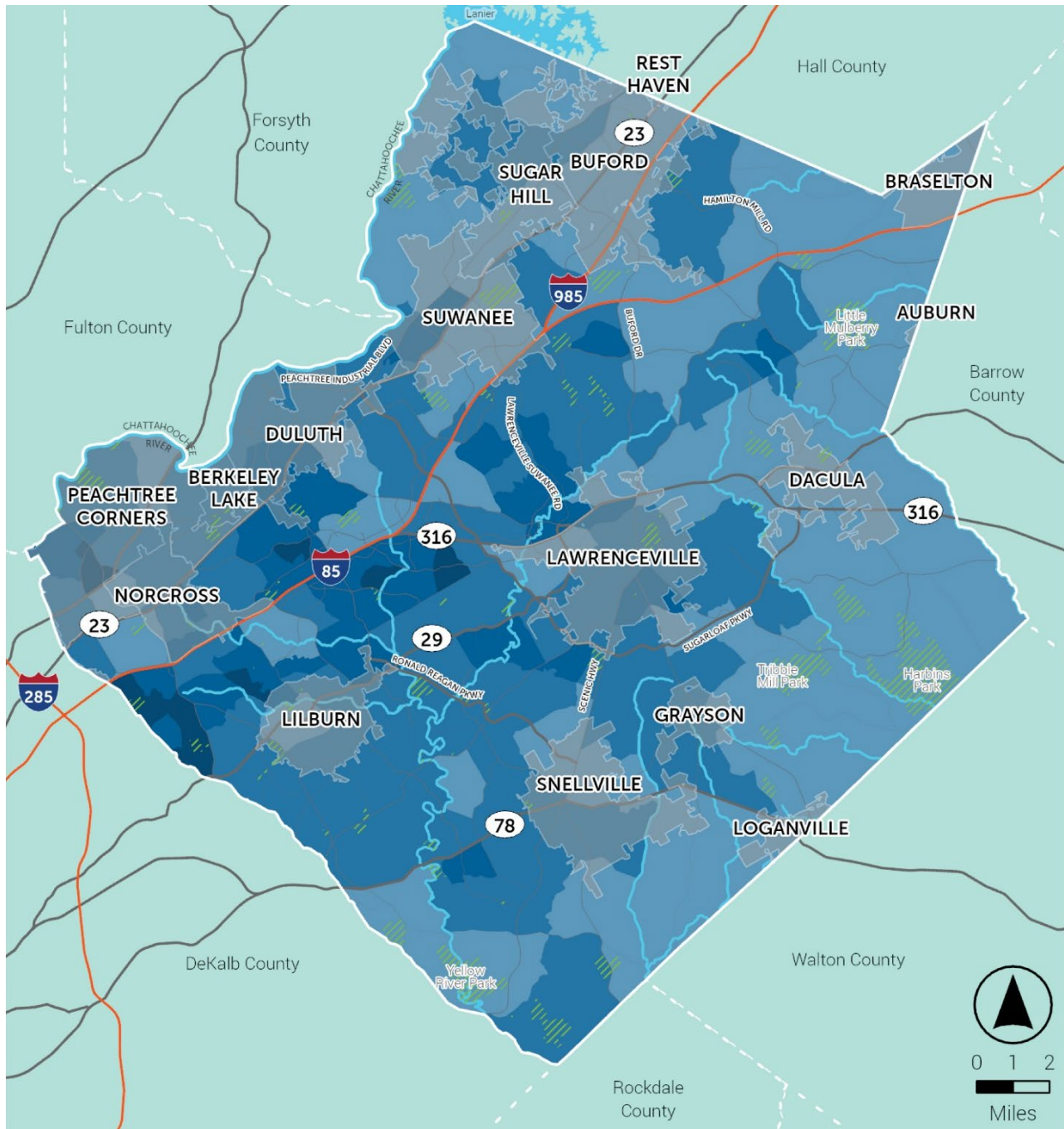
Figure 10: 2023 Housing Units



Legend

1889 - 1950	1981 - 1990
1951 - 1960	1991 - 2000
1961 - 1970	2001 - 2010
1971 - 1980	2011 - 2020

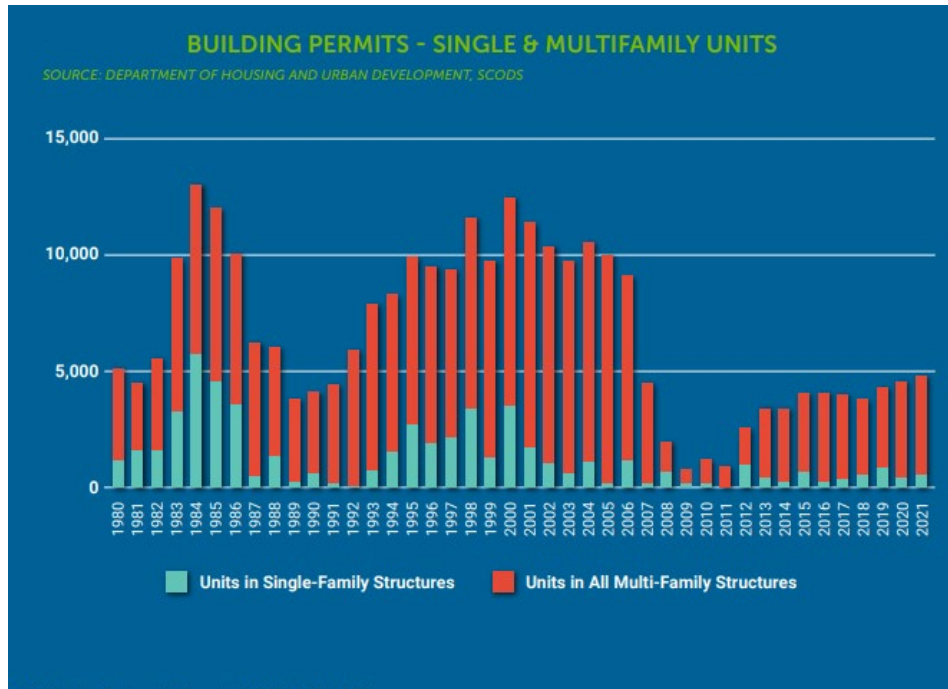
Figure 11: Housing Density by Census Tract



Legend

- 0 - 1.0 units/acre
- 1.1 - 2.0 units/acre
- 2.1 - 4.0 units/acre
- 4.1 units/acre or more

Figure 12: Annual Development Permit Activity 1980-2021



2.9 Commercial Development

Today's economic picture is evolving from the economy that drove the County's growth in the 1970s through the 1990s. Service industries are replacing goods-producing industries as the dominant employment sector. In 1990, there were 137,877 people employed in Gwinnett County, with the largest sectors being retail trade, manufacturing, wholesale trade, and accommodation and food services. By 2000, Gwinnett's employment more than doubled to over 283,000 employees. In 2017, Gwinnett had approximately 350,000 workers. Since 1990, the manufacturing sector and the wholesale sector, both of which are dominant in the County's economy, have both declined significantly. This is consistent with global shifts towards offshore production. Looking to the future, employment in Gwinnett County is expected to grow rapidly over the coming decades. Job growth, particularly in the service and administration sectors, is closely linked to population growth and is thus inextricably linked to the provision of adequate housing that is accessible to a wide range of households in terms of household size, building type, tenure type, and affordability. Continued transportation accessibility will also be critical to supporting job growth, as will land development policies that encourage more integration and mix of uses. As there are numerous possibilities of how our community might continue to grow and depending on how well these different factors interface with each other, County employment in 2045 is estimated to be somewhere between 520,000 and 630,000 jobs.

Source:

<https://www.gwinnettcountry.com/web/gwinnett/departments/planningdevelopment/services/landuseplanning/2045unifiedplan>

Workforce and Employment:

Approximately 450,000 residents of Gwinnett County, or 93.7 of the total labor force, were employed in 2020. Employers located in the county employ approximately 345,000 workers, including more than 49,000 with these 10 major employers:

Table 11: Major Employers

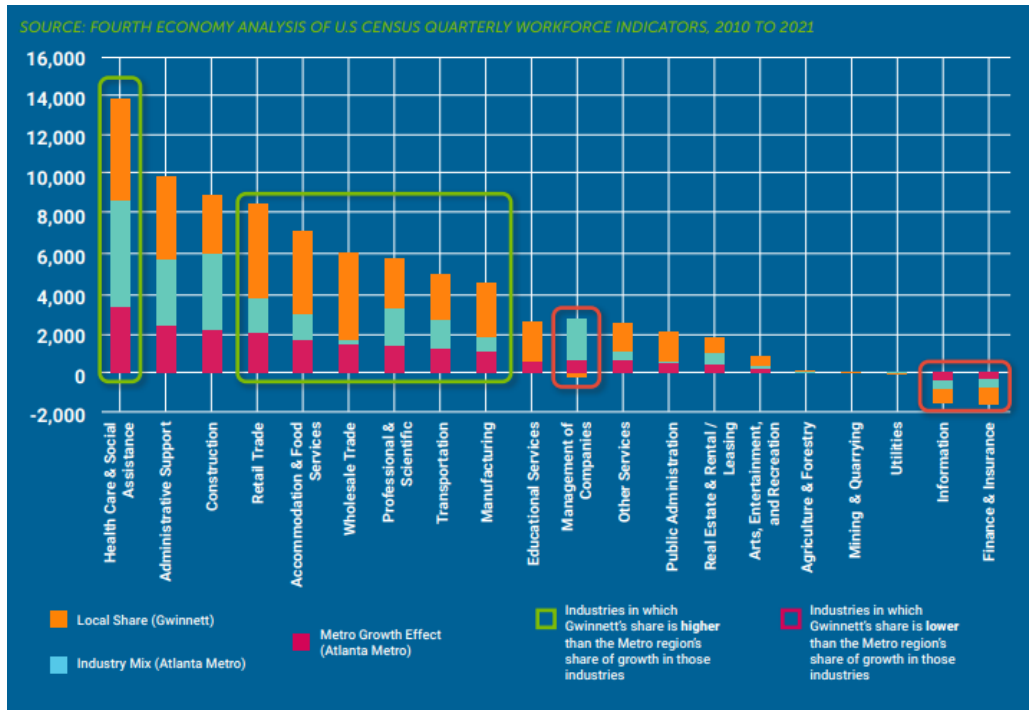
Employer	# of Employees
Gwinnett County Public School	29,523
Publix**	6,377
Gwinnett County Government*	6,157
Northside Hospital**	5,971
Walmart**	3400 – 3500
State of Georgia (includes Georgia Gwinnett College)	2,569
U.S. Postal Service	2,223
Kroger**	1,849
Primerica**	1,800
Home Depot**	1,080

*Based on total authorized positions as of December 31, 2023

**Full-time equivalent employees

Sources: Gwinnett County Office Economic Development survey of companies, Q1 2024. Total county employment from the United States Department of Labor and the U.S. Bureau of Labor Statistics' labor force data for the annual average of 2023.

Figure 13: Workforce and Employment by Industry



Source: Gwinnett County Unified Plan

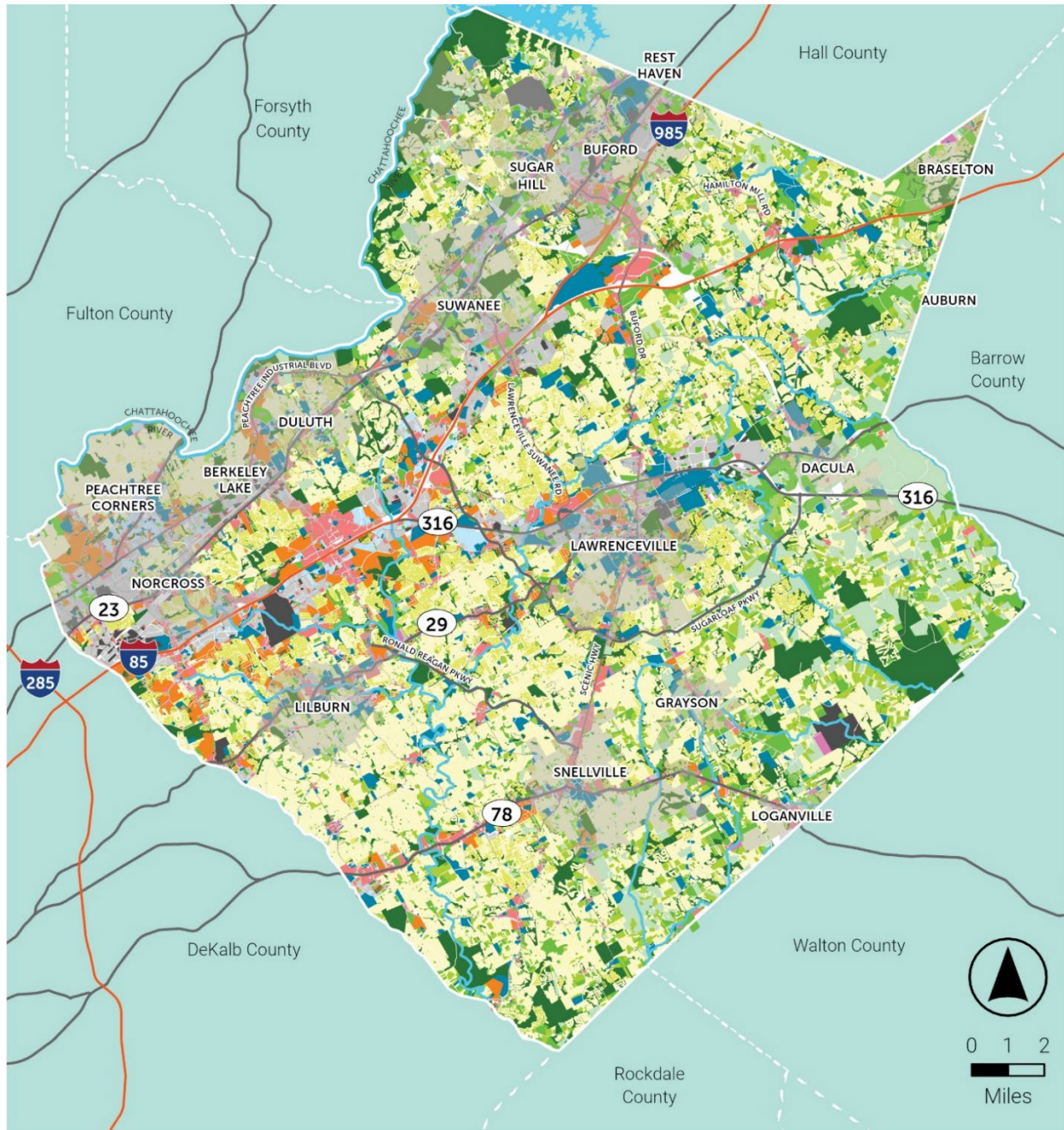
A new project in Gwinnett County that could produce over 100,000 jobs and contribute between \$8-10 billion annually toward the state's economy broke ground in December of 2022. The mixed-use development, called Rowen, is being designed to build dense housing in a village-like setting, alongside retail, lab, and office spaces, to bring together researchers, entrepreneurs, and other innovators in a bucolic setting, alongside more than 50 research and educational institutions across Georgia.

Figure 14: Conceptual Land Use Map



Source: <https://atlant.urbanize.city/post/rowen-project-gwinnett-county-dacula-breaks-ground-athens-image>

Figure 15: Workforce and Employment Map



Legend

- | | | | |
|--------------------------------------|-------------------------|----------------------------|------------------------------|
| Agriculture | Light Industrial | Medium Density Residential | Park/Recreation/Conservation |
| Commercial/Retail | Heavy Industrial | High Density Residential | Undeveloped |
| Office/Professional | Institutional/Public | Mixed Use | |
| Transportation/Communication/Utility | Estate | Multifamily | |
| | Low Density Residential | | |

Source: Gwinnett County Unified Plan

2.10 County Government

2.10.1 Government Administration

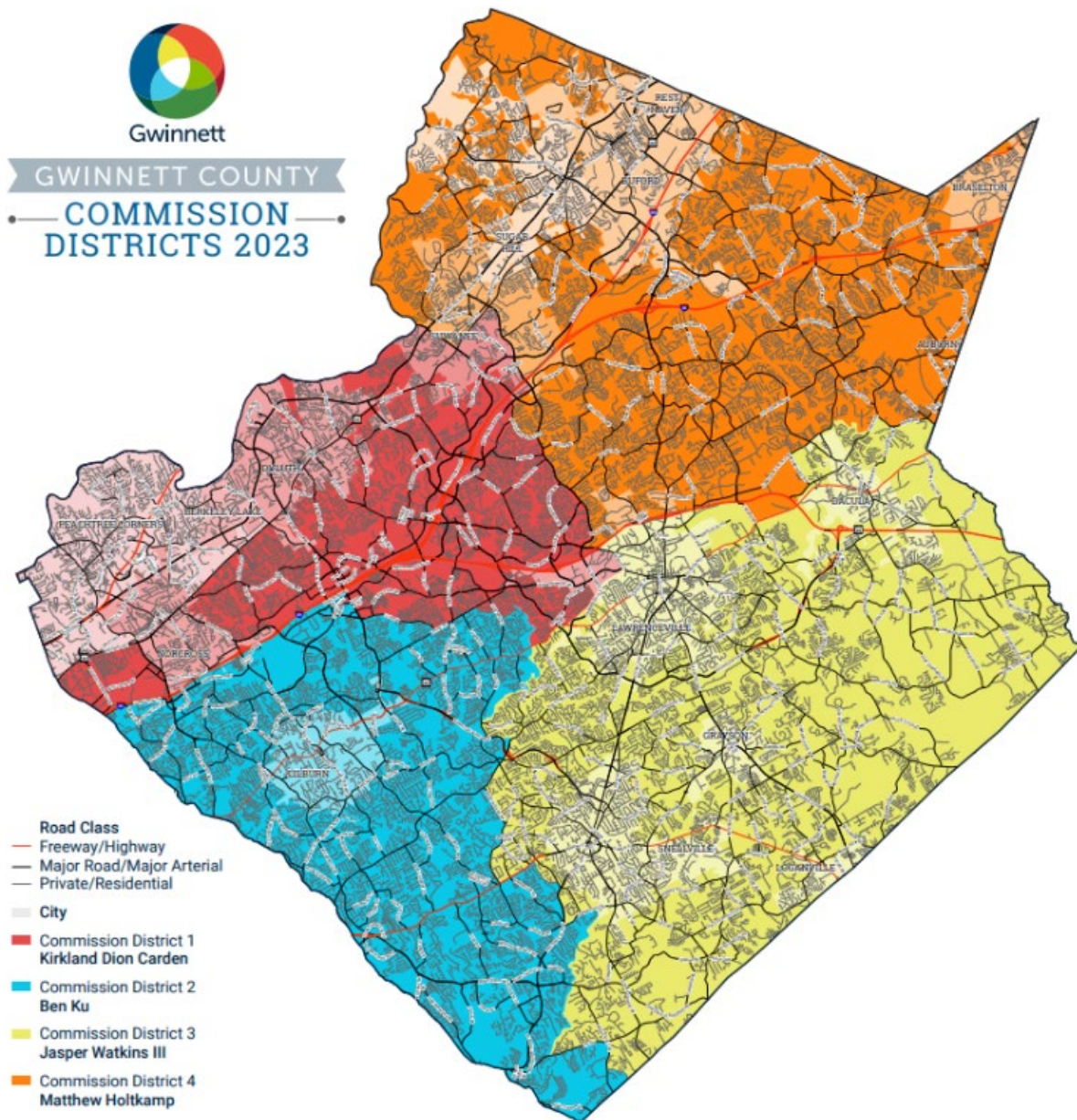
Gwinnett County government provides high-quality essential services for Gwinnett residents and as many other services as tax revenues allow; spends and accounts for tax dollars responsibly; responds to the needs and concerns of the citizens; and conducts business openly and professionally without favoritism.

The Board of Commissioners sets direction and formulates policies for the county government, adopts the budget, authorizes expenditures, and approves or disapproves specific actions, such as rezoning of private property.

Voters in each of the four districts elect a part-time District Commissioner. The full-time Commission Chairman is elected countywide. Terms last for four years but are staggered so the chairman and two commissioners are elected during one election cycle, and the other two commissioners are elected two years later.

The Board of Commissioners holds official business meetings on the first and third Tuesdays of each month at 2:00 p.m. On those days, the Board conducts work sessions at 10:00 a.m. The Board also holds a public hearing to consider zoning requests on the fourth Tuesday of each month at 7:00 p.m. These meetings are held in the auditorium of the Gwinnett Justice and Administration Center. On many Tuesdays, the Board conducts informal discussions with county departments and community groups. These meetings are held in the conference room of the Board of Commissioners suite. Informal discussions as well as official meetings are always open to the public and many are streamed live on social media sites as well as cable access channels.

Figure 16: Commission Districts



Source: <https://www.gwinnettcounty.com/web/gwinnett/departments/boardofcommissioners>

2.10.2 Law Enforcement

The Gwinnett County Sheriff's Office is a multi-faceted law enforcement organization charged with numerous constitutional and legal responsibilities. The department is split into two main divisions that have several sections that fall under it. The Administrative Services Bureau consists of the Administrative Services Division, the Support Operations Division, and the Jail Operations Division. The Operations Bureau is composed of the Field Operations Division and the Court Operations Division. The department is headed by the Sheriff, an elected constitutional officer. The Sheriff's Office is responsible for the following:

- Operation of the detention facility.
- Service of arrest warrants.
- Service of civil papers.
- Service of Family Violence orders.
- Provide court security to all state and county courts in Gwinnett County
- Provide security for the Gwinnett Justice and Administration Center, which is visited by more than a million citizens each year, as well as the Juvenile/Recorder's Court building

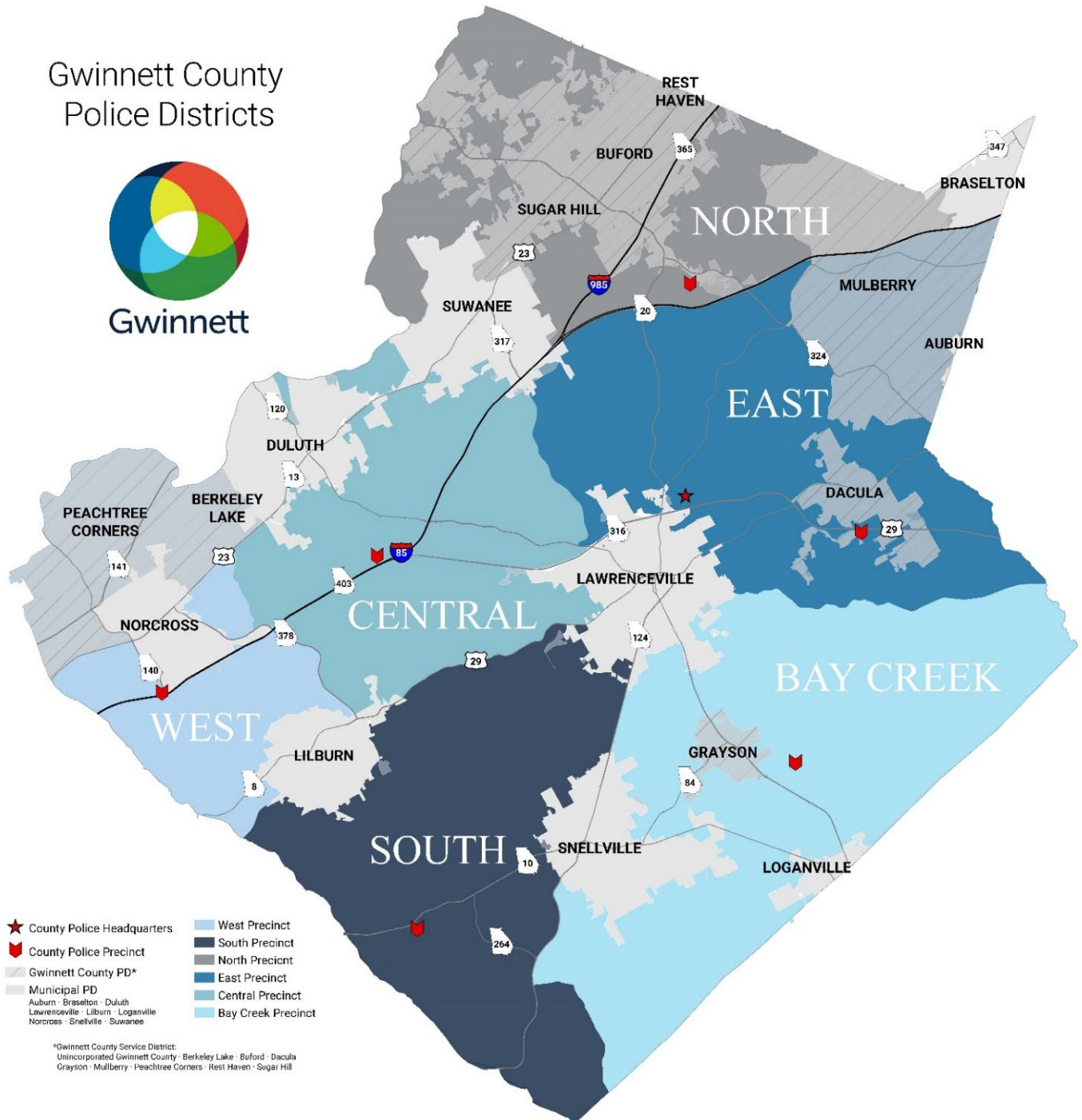
The Gwinnett County Police Department is a nationally accredited and rapidly growing police agency located in the Northeastern quadrant of the Atlanta metropolitan area. The Department is organized into the Office of the Chief and two Bureaus. The Administrative Bureau is responsible for the Training Division, Communications Division, Support Operations Division, and the Office of Emergency Management. The Operations Bureau is responsible for the Criminal Investigations Division and the Uniform Division.

The Police Headquarters building is in Lawrenceville, Georgia, with six precincts spread across the county. Because of the rapid growth of the county, plans are currently being prepared for the construction of a new headquarters building beginning in 2025. The Department also has a \$22 million, state-of-the-art training facility that consists of a driving track, 25 and 100-yard indoor firing range, a shoot-house, and an academic building with 6 classrooms, a library, a weight room, a defensive tactics room, and shooting and driving simulators. The 911 Call Center is located next to the headquarters as well as an alternate fully operantly center located at the Bay Creek Precinct.

Source: <https://www.gwinnettcountry.com/web/gwinnett/departments/gwinnettcountrysheriff>

<https://www.gwinnettcountry.com/web/gwinnett/departments/police>

Figure 17: Police Precincts



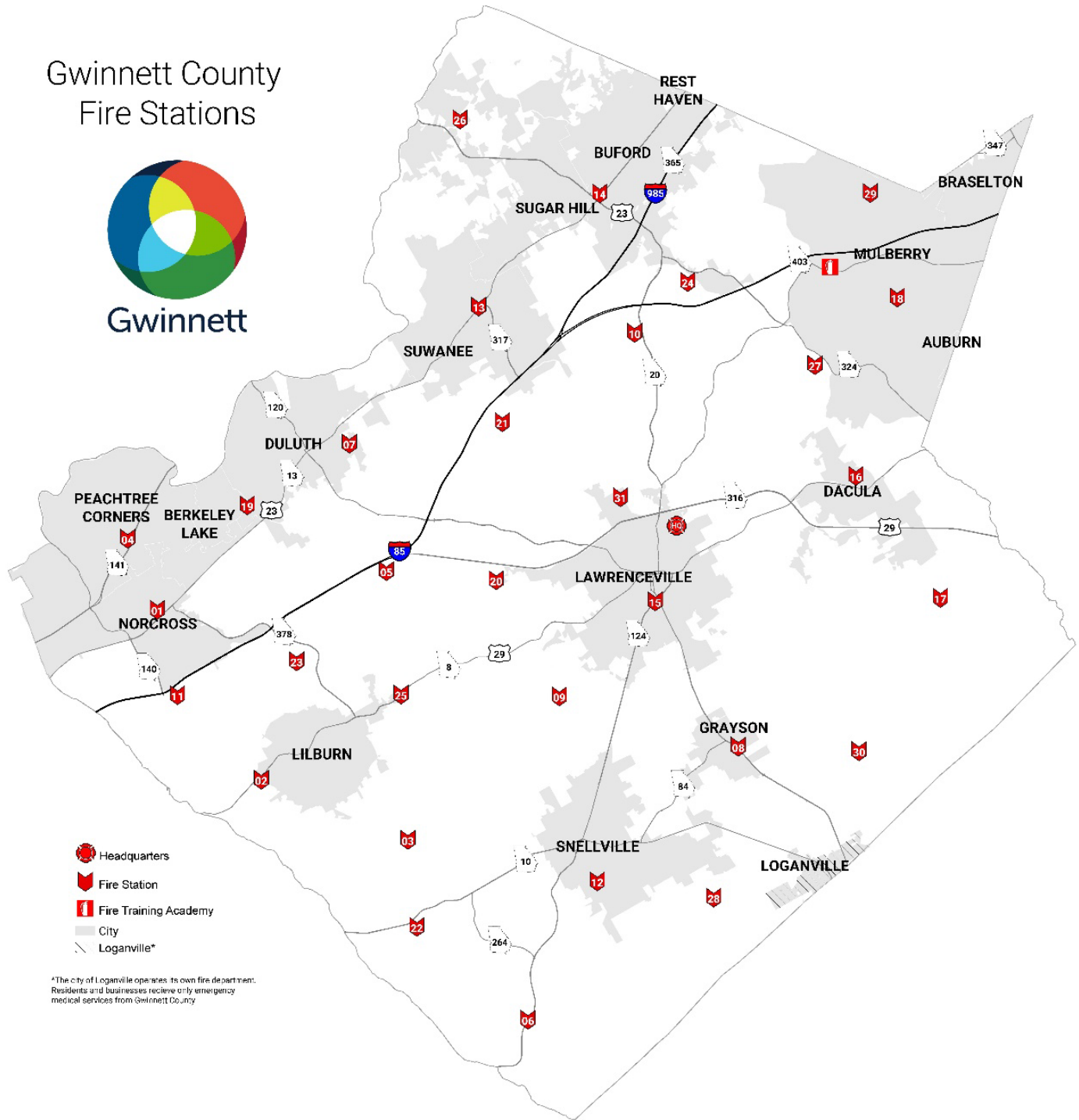
2.10.3 Fire and Emergency Services

Gwinnett County Fire & Emergency Services responds to over 96,000 requests for aid annually. The department delivers service to the Gwinnett community through strategically located fire stations with 31 engine companies, 12 ladder trucks, 33 ambulances, and 3 rescues. All emergency response vehicles are staffed with EMT's and paramedics. All response vehicles are equipped to deliver advanced life support. The department's service delivery also includes specially trained personnel in areas of technical rescue, hazardous materials, swift water, and mass casualty. The department also has various support teams including a bike medic team, an Honor Guard, and a Critical Incident Stress Management (CISM) team.

The award-winning training academy provides superior training in all disciplines of emergency services. The department is actively engaged through the Community Risk Reduction Division in educating and preparing the public for fire, medical emergencies, and natural disasters. In other prevention measures, the department reviews building plans to address potential fire hazards and inspects fire protection systems in buildings.

Source: <https://gwinnettcountry.com/web/gwinnett/departments/fireandemergencyservices>

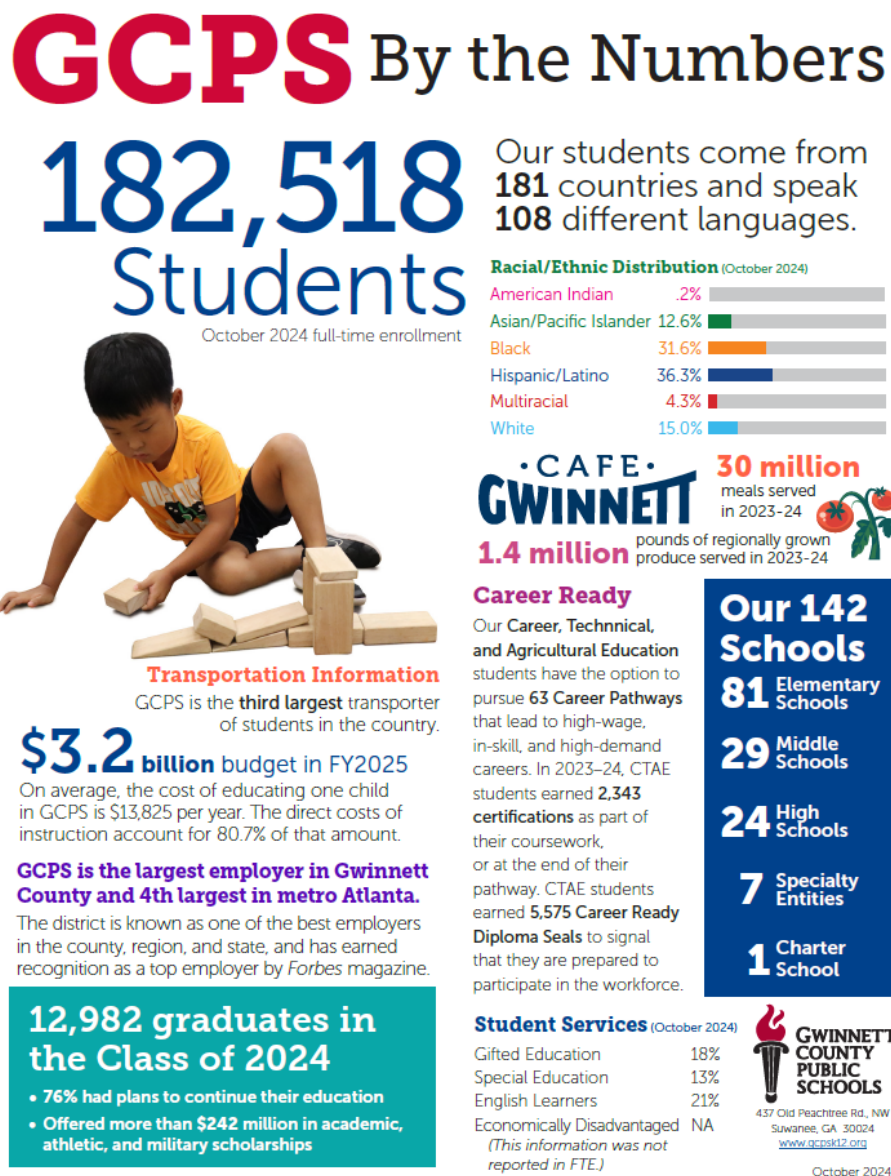
Figure 18: Fire Station Locations



2.10.4 Education

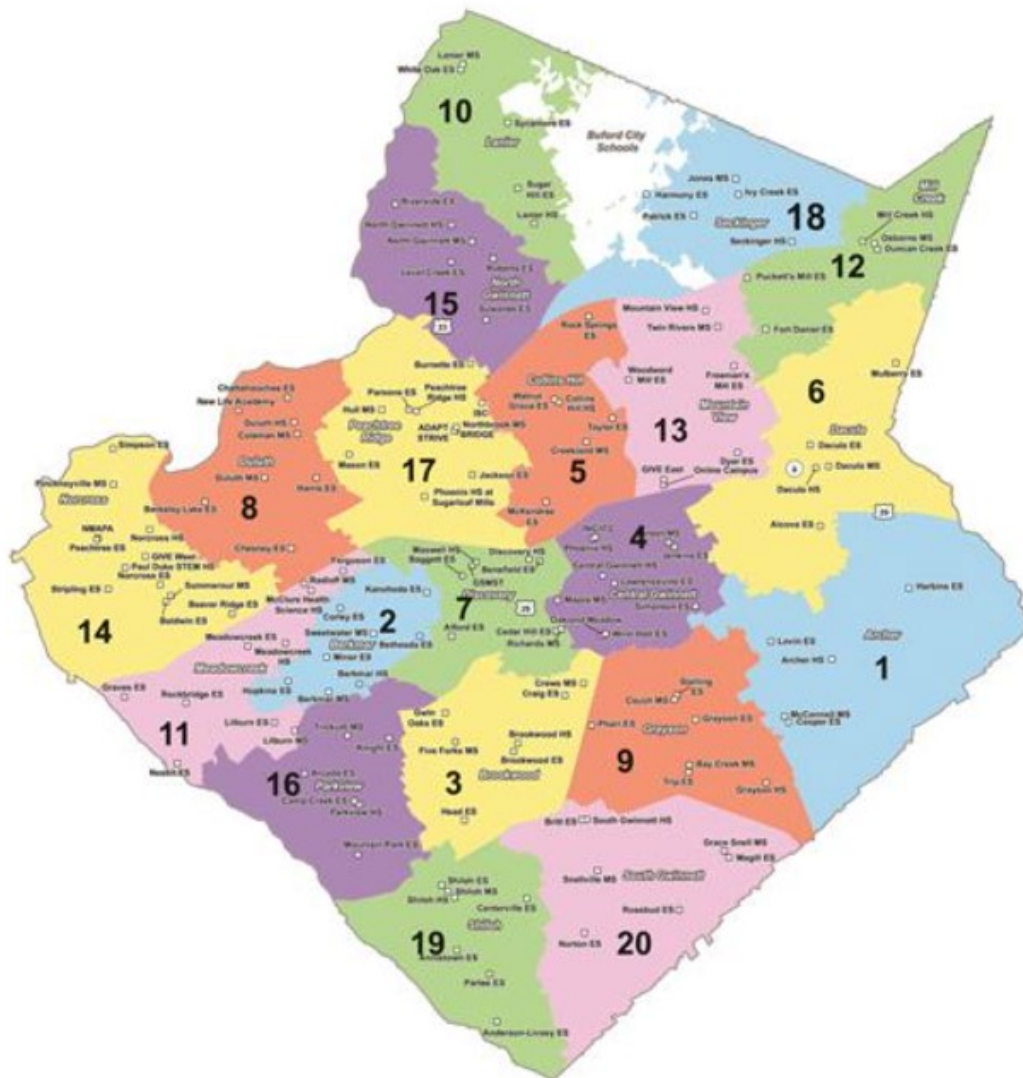
Gwinnett County Public Schools (GCPS) is the largest school system in Georgia. In the 2023-2024 school year, the school district has an enrollment count of over 182,000 students. One of every five Gwinnett County residents is a GCPS student. GCPS and its 142 schools and other educational facilities are split into 20 different geographical groups, called clusters. Within each cluster, there are three to six elementary schools, one or two middle schools, and one high school. There are 81 elementary schools, 29 middle schools, 24 high schools, 7 special schools, and one charter school. A listing of the schools can be found in Section 4 of this HMP. As of October 2024, students came from 181 different countries and spoke 108 different languages.

Figure 19: GCPS by the Numbers



Source: <https://www.gcpsk12.org/about-us/gcps-by-the-numbers>

Figure 20: Gwinnett County Public School Cluster Boundaries



- | | |
|-----------------------------|-----------------------------|
| 1. Archer Schools | 11. Meadowcreek Schools |
| 2. Berkmar Schools | 12. Mill Creek Schools |
| 3. Brookwood Schools | 13. Mountain View Schools |
| 4. Central Gwinnett Schools | 14. Norcross Schools |
| 5. Collins Hill Schools | 15. North Gwinnett Schools |
| 6. Dacula Schools | 16. Parkview Schools |
| 7. Discovery Schools | 17. Peachtree Ridge Schools |
| 8. Duluth Schools | 18. Seckinger Schools |
| 9. Grayson Schools | 19. Shiloh Schools |
| 10. Lanier Schools | 20. South Gwinnett Schools |

2.10.5 Hospitals

Gwinnett has four major hospital providers located throughout the county: Piedmont Eastside, Northside Hospital, Northeast Georgia Medical Center, and Emory. There are also numerous Urgent Care centers and quick service doctor's offices.

Piedmont Eastside Medical is a 310-bed, multi-campus system of care offering comprehensive medical and surgical programs including cardiovascular, neurosciences, oncology, orthopedics, robotic surgery, rehabilitation, maternity with neonatal intensive care, behavioral health, bariatric, urgent care, and 24-hour emergency care at two locations. The medical staff consists of 500 board-certified physicians, 1,200 employees, and 400 volunteers.

Northside Hospital Gwinnett is a Level II Trauma Center that offers nationally recognized and renowned healthcare services. This 388-bed hospital includes the Strickland Heart Center's cardiovascular specialties, the Gwinnett Women's Pavilion, cancer genetic testing, 1,200 physicians, and more than 5,000 employees. Northside Hospital Gwinnett is currently working on expanding their campus which will add more than 300 beds; split between intensive care, intermediate, and acute care. Northside Hospital also has a second location within Gwinnett located in the city of Duluth.

Source: <https://www.piedmont.org/locations/piedmont-eastside/medical/about>

<https://www.northside.com/locations/northside-hospital-gwinnett>

<https://www.northside.com/about/news-articles/2023/2/27/gwinnett-daily-post-northside-gwinnett-tower-on-track>

SECTION 3: RISK AND VULNERABILITY ASSESSMENT

3.1 Risk and Vulnerability Assessment Process

Figure 21: FEMA Requirements

The Gwinnett County Hazard Mitigation Steering Committee (HMSC) conducted a comprehensive hazard, risk, and vulnerability assessment of Gwinnett County.

For the 2025 update, the HMSC determined that 14 natural hazards pose a direct, measurable threat to the County. Severe thunderstorms/windstorms, Lightning, Tornadoes, Flooding, Winter Storms, Drought, Tropical storms/hurricanes, Hazardous material releases, Pandemic/epidemic, Terrorism, Wildfires, Dam/levee failure, Cyber-crime and Earthquakes. Each of these potential hazards is addressed individually with relevant supporting data. To develop effective hazard mitigation strategies, it is first necessary to identify and profile all hazards facing the community.

The HMSC conducted a risk assessment of the hazards faced in the community. A risk assessment measures the potential loss of life, personal injury, economic injury, property damage, environmental damage, and operational vulnerabilities resulting from natural and technological hazards by assessing the vulnerability of people, structures, and infrastructure to natural and technological disasters. Multiple methods and sources were used to identify hazards, vulnerabilities, and risks to the community. These methods and sources included evaluating historical data from scientific and news media sources, soliciting opinions and experiences from participating jurisdictions and Gwinnett County residents, and surveying risks identified in the State of Georgia Hazard Mitigation Plan that were pertinent to Gwinnett County.

Each hazard profile also includes an additional subsection that discusses the effect of climate change on vulnerability.

The Gwinnett County HMSC also conducted a vulnerability assessment. The vulnerability assessment predicted consequences and extent of damage that could result from a hazard of a given intensity in a given area on the existing and future built environment. Determining the community's vulnerability involves identifying threats posed to people, property, the environment, and operations. This also included

FEMA Requirement 44 CFR 201.6(c) (2) (ii)

The risk assessment shall include 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.

FEMA Requirement 44 CFR 201.6(c) (2) (i)

The risk assessment shall include 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.

identifying critical facilities that could be affected by each hazard. The table below lists the natural and technological hazards included in the risk and vulnerability assessments.

It is important to note the determinations presented in this section regarding vulnerability are developed using the best available data, and the methods applied have resulted in an approximation of risk. These estimates should be used to understand relative risk from hazards and potential losses that may be incurred; however, uncertainties are inherent in any loss estimation method, arising in part from incomplete scientific knowledge concerning natural hazards and their effects on the built environment and from approximations and simplifications that are necessary in order to provide a comprehensive analysis.

Table 12: Hazards Included in the Risk and Vulnerability Assessments

Hazard	Justification for Inclusion	Likelihood of Occurrence	Hazard Rating
Severe thunderstorms/windstorms	Frequency, previous incidents, countywide hazard	Highly likely	Moderate
Lightning	Frequency, countywide hazard	Highly likely	Minor
Tornadoes	Frequency, previous incidents, countywide hazard	Occasionally	Moderate
Flooding	Frequency, previous incidents	Likely	Moderate
Winter storms	Frequency, previous incidents, countywide hazard	Likely	Moderate
Drought	Previous incidents, countywide hazard	Likely	Minor
Tropical storms/hurricanes	Previous incidents, countywide hazard	Likely	Moderate
Wildfires	Frequency, potential adverse impact	Highly Likely	Negligible
Earthquakes	Low occurrence, low vulnerability	Unlikely	Negligible
Hazardous material releases	Frequency, potential adverse impact	Highly Likely	Minor
Pandemic/epidemic	Previous incidents, potential adverse impact	Likely	Major
Dam/levee failure	Potential adverse impact	Occasionally	Negligible – Major
Terrorism	Potential adverse impact	Likely	Negligible – Major
Cybercrime	Potential adverse impact	Highly Likely	Major

The following information was included in each hazard profile:

- **Hazard Identification.** The definition of the hazard will include a description of the hazard and the general threats it poses. All hazards were identified using statistical data and records from a variety of sources, including presidential disaster declarations, National Weather Service (NWS) data, maps, and hazardous materials response data. The lists of hazards are based on frequency, severity, probability, potential loss, vulnerability, and large-scale effects on Gwinnett County.
- **Hazard Profile.** Each hazard will be profiled to explain how it will affect or has affected Gwinnett County. This will include areas prone to specific hazards and the effects they have had on Gwinnett County infrastructure. It also includes previous incidents that have affected Gwinnett County.
- **Assets Exposed to Hazard.** The risk and vulnerability analysis compares identified hazards with the inventory of affected critical facilities and the effects on the population exposed to each hazard. This section will also include a vulnerability assessment for future development, such as schools, water, and waste treatment facilities, and other critical infrastructure.
- **Vulnerability.** Gwinnett County's vulnerability to each hazard will be summarized based on a common set of definitions and classifications used to estimate vulnerability and rank hazards. Each profile was analyzed by the following criteria: frequency of occurrence, amount of warning time prior to the hazard occurring, size of the area potentially affected by the hazard, and severity of impact should the hazard occur.
- **Climate Change.** This component of the hazard profile discusses the effects of climate change on vulnerability.
- **Land Use and Development Trends.** This component of the risk and vulnerability analysis identifies land use trends and Gwinnett County land use and development plans and references current plans and regulations that could prevent the impact of the disaster.
- **Hazard Summary.** A summary of the hazard profile will be provided.

Table 13: Hazard Identifications/Classifications

Frequency of Occurrence		
Probability of Occurrence		
Score	Probability	Definitions
1	Unlikely	<1% probability of occurrence in the next 100 years
2	Occasionally	1–10% probability of occurrence per year or at least one chance in the next 100 years
3	Likely	>10% but <100% probability per year, at least 1 chance in the next 10 years
4	Highly Likely	100% probable in a year
Warning Time		
Amount of time generally given to alert people to a hazard		
Score	Warning Time	
1	More than 12 hours	
2	6 to 12 hours	
3	3 to 6 hours	
4	None to minimal	
Geographic Extent		
How large an area would likely be affected?		
Score	Area	
1	Localized	
2	Community-wide	
3	Countywide	
Potential Impact		
Severity and extent of damage and disruption		
Score	Impact	Definitions
1	Negligible	Isolated occurrences of minor property damage, minor disruption of critical facilities and infrastructure, and potential for minor injuries
2	Minor	Isolated occurrences of moderate to severe property damage, brief disruption of critical facilities and infrastructure, and potential for injuries
3	Moderate	Severe property damage on a neighborhood scale, temporary shutdown of critical facilities, and/or injuries or fatalities
4	Major	Severe property damage on a metropolitan or regional scale, shutdown of critical facilities, and/or multiple injuries or fatalities

3.2 Natural Hazards

Natural hazards such as floods, tornadoes, winter storms, and the like are enduring conditions. Natural hazards become disasters when they intersect with the human environment. In Georgia, natural disasters have had devastating effects on human lives, property, the economy, and the community. While most processes present little danger to human well-being, some develop into hazardous situations that place life, property, economy, and community at higher risk. The following hazards have been determined to have a possible impact on Gwinnett County and its Municipalities.

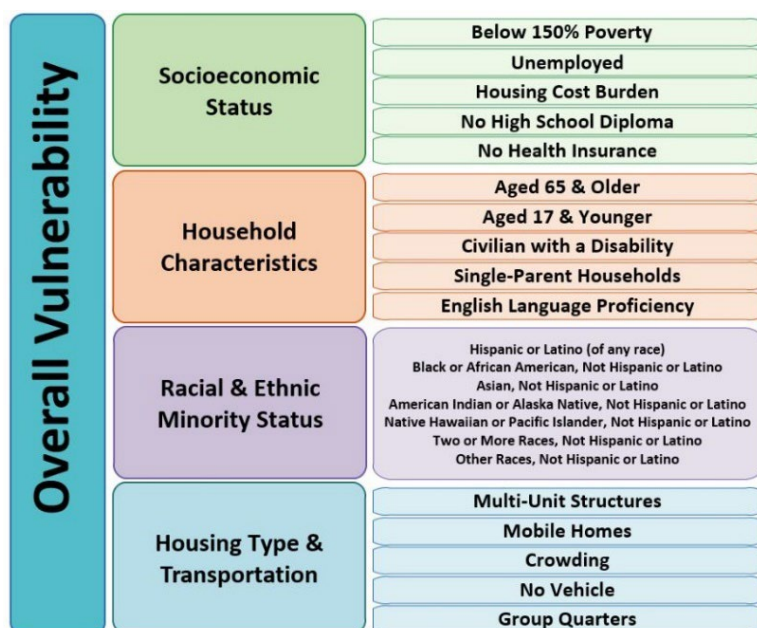
3.2.1 Dam Failure

Hazard Identification

A dam failure is defined as a systematic failure of the dam structure resulting in the uncontrolled release of water, often resulting in floods that could exceed the 100-year floodplain boundaries. A dam failure could create mass fatalities, mass structural damage, and/or a cascading potential if a populated area is located below the dam structure. Dam hazard rankings are based on the National Inventory of Dams (NID) classification. The NID ranks dams according to the potential loss of life as well as the potential impacts on economic, environmental, and important community lifelines. According to NID, Gwinnett County has a total of 104 dams with the average dam age of 57 years old. 90 percent of the dams are high-hazard potential dams with an EAP, one percent of dams have hydropower, two percent are federally regulated, and 29 percent are state-regulated. Source: Nid.sec.usace.army.mil

Figure 22: CDC SVI Vulnerability and Themes

The Centers for Disease Control and Prevention (CDC) Social Vulnerability Index (SVI) measures the vulnerability of different communities in the United States to natural and human-caused disasters. It is a tool that uses 15 social factors, such as poverty, lack of vehicle access, and crowded housing, to help public health officials and emergency response planners identify communities that will likely need support in preparing for, responding to, and recovering from disasters. These factors are grouped into four main themes: Socioeconomic Status, Household Composition & Disability, Minority Status & Language, and Housing Type & Transportation.



The four themes of the CDC SVI are: 1) Socioeconomic Status, which includes factors like poverty, unemployment, and lack of health insurance; 2) Household Characteristics, which considers age groups (elderly and children), disabilities, and language proficiency; 3) Racial & Ethnic Minority Status, focused on the vulnerability of minority populations and those with language barriers; and 4) Housing Type & Transportation, which highlights vulnerabilities based on housing conditions, vehicle access, and the presence of mobile homes.

The Gwinnett County Social Vulnerability Index: Socioeconomic Vulnerability Map can be found in **Appendix E: Dam Inundation Mapping** and it highlights socioeconomic vulnerability in Gwinnett County versus known dam breach zones. Communities indicated as most vulnerable on this map may lack financial resources, access to health insurance, and employment opportunities. These factors contribute to increased difficulty in disaster recovery and preparedness.

The Gwinnett County Social Vulnerability Index: Racial and Ethnic Minority Vulnerability Map can be found in **Appendix E: Dam Inundation Mapping** and it illustrates racial and ethnic minority vulnerability versus known dam breach zones. Communities indicated as having higher concentrations of racial and ethnic minorities that may face language barriers and systemic disadvantages that make them more vulnerable during disasters.

The Gwinnett County Social Vulnerability Index: Housing Type and Transportation Vulnerability Map can be found in **Appendix E: Dam Inundation Mapping** and it shows household vulnerability versus known dam breach zones. The map focuses on household characteristics, identifying areas with higher concentrations of vulnerable individuals such as children, elderly adults, and persons with disabilities, all of whom may require additional assistance during an evacuation.

From an emergency management department perspective, these maps provide essential data for developing disaster response and recovery plans. By overlaying the dam breach zones with the CDC SVI, officials can identify which communities will likely need the most immediate support during a flood or dam failure. These insights allow for more efficient use of resources, such as deploying emergency shelters in locations accessible to vulnerable populations or ensuring that evacuation routes are designed with communities lacking vehicle access in mind. Furthermore, the data can inform long-term mitigation efforts, such as reinforcing infrastructure in socially vulnerable areas to reduce risk and improve disaster resilience. This approach helps safeguard the most at-risk populations, ensuring that no community is left behind in the event of a disaster.

Hazard Mitigation and the Impact of Dam Breaches on Critical Infrastructure and Vulnerable Populations in Gwinnett County, Georgia

In successful hazard mitigation, understanding how critical infrastructure and vulnerable populations are affected by dam breach zones is essential for Gwinnett County, Georgia. The ability to mitigate risks posed by dam breaches requires proactive planning to protect key infrastructure such as hospitals, fire stations, police stations, and schools. These facilities are crucial for maintaining public safety and responding effectively during emergencies, especially when considering the potential for floods and widespread infrastructure damage resulting from dam breaches.

Vulnerable populations, including residents in nursing homes, schools, or hospitals, are at heightened risk during dam breaches due to their dependency on assistance for evacuation. This highlights the need for comprehensive mitigation strategies that incorporate early warnings, coordinate evacuation plans, and strengthen emergency services in the proximity of high-risk areas. Effective hazard mitigation planning ensures that these populations are prioritized during emergencies, minimizing potential casualties and disruptions.

Table 14: Critical Infrastructure POI(s) Displayed on Maps vs Dam Breach Zones

Infrastructure Type	
Privately Maintained Dams	Government Buildings
GC Maintained Dams	Public Parks
Police Stations	Community Service Buildings
Hospitals	Power Stations
Fire Stations	Freeways & Highways
City Halls	Railways
Schools	Oil Pipelines
Nursing Homes	

The Critical Infrastructure Map (South-East Quadrant) Map, Critical Infrastructure Map (South-West Quadrant), Critical Infrastructure Map (North-East Quadrant), and Critical Infrastructure Map (North-West Quadrant) Map can be found in **Appendix E: Dam Inundation Mapping** and shows critical infrastructure in relation to dam breach zones in Gwinnett County, aiding in identifying the most vulnerable areas. These maps provide essential information for hazard mitigation planners, allowing for the development of

targeted strategies that reinforce key infrastructure, enhance evacuation routes, and reduce the overall risk to both people and property in Gwinnett County.

Dam classification by GSDP (Georgia Safe Dams Program)

The three main classifications of dams described in the Act and Rules are “Category I”, “Category II”, and “Exempt”. To be considered a Category I dam, the improper operation or failure would result in a probable loss of human life. The Georgia Safe Dams Act requires permits for these projects. Dams that meet the height and/or storage criteria but would not cause probable loss of life are classified as Category II. Exempt structures include any dam that is licensed by the Federal Energy Regulatory Commission, structures constructed as part of EPD-approved surface mining, any dam owned by the United States Government, any structure that is not greater than 25 feet in height and impounds less than 100 acre-feet of water, any structure that is not greater than 6 feet in height regardless of storage volume, and any structure that impounds less than 15 acre-feet regardless of height. Gwinnett County contains dams in every category making the impact higher if multiple failures were to occur during an event.

Figure 23: National Inventory of Dams Classifications

DAM HAZARD POTENTIAL CLASSIFICATION	LOW HAZARD POTENTIAL	SIGNIFICANT HAZARD POTENTIAL	HIGH HAZARD POTENTIAL
LOSS OF HUMAN LIFE	None Expected	None Expected	Probable
ECONOMIC LOSSES	Low and generally limited to owner	Yes	Yes (but not necessary for this classification)
ENVIRONMENTAL DAMAGES	Low and generally limited to owner	Yes	Yes (but not necessary for this classification)
LIFELINE INTERESTS IMPACTED	No	Yes	Yes (but not necessary for this classification)

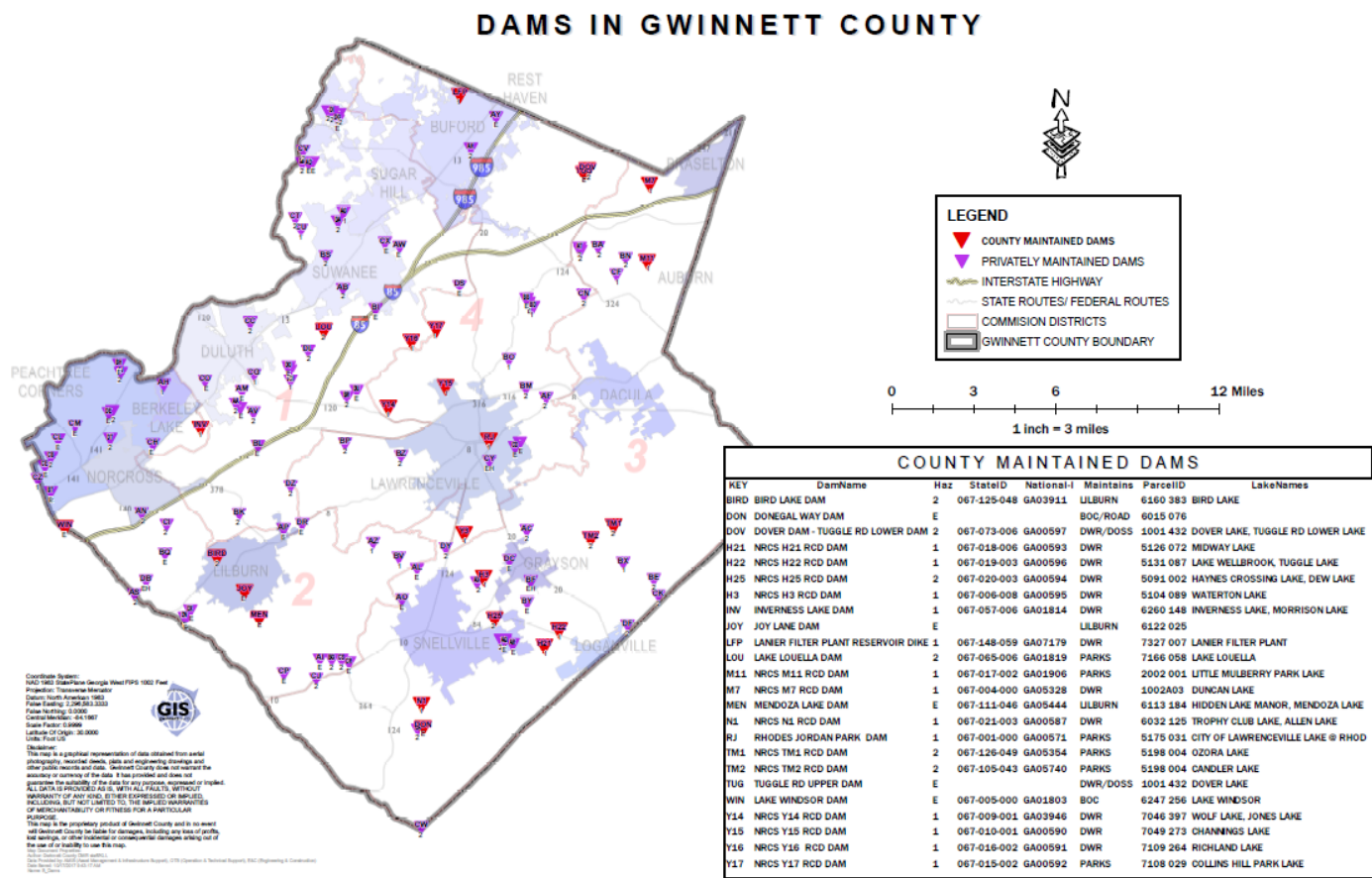
Source: nid.sec.usace.army.mil/#/learn/manage-dams

Hazard Profile

The location of dams in and around Gwinnett County in relation to population density is documented in this hazard mitigation plan. Whereas this may not support any conclusive correlation between dam breaches and/or failures and affected populations, it does aid the planning process by visually placing all known state-regulated dams in direct relationship to population distribution. According to the Georgia Safe Dams Program, a dam in the Cardinal Lake Subdivision had a near failure when a hole was created in the downstream slope. Gwinnett County quickly took action to help in the repair of the dam, and it is reported as a non-failure on the Dam Safety website.

Source: Damsafety.org/incidents/ga00581-3343

Figure 24: Dams Location Map

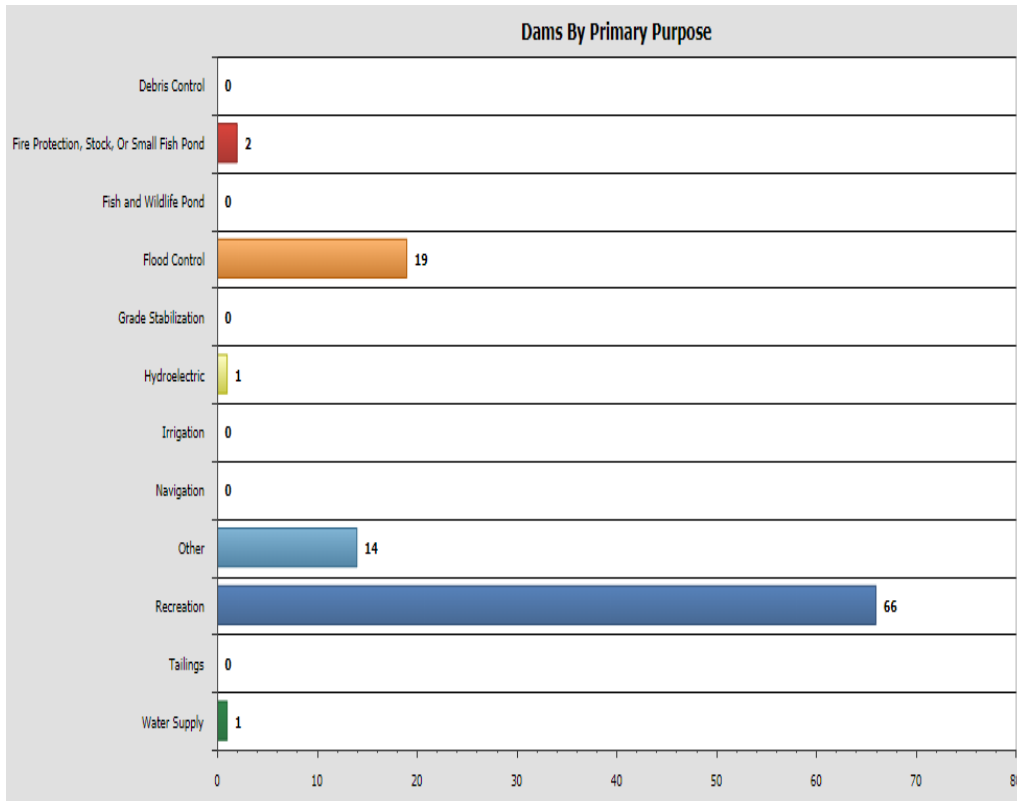


See full size image in **Appendix E Dam Inundation Mapping**

Non-County Operated Dams

- Burns Lake Dam
- Byrnes Lake Dam
- Canary Lake Dam
- Cardinal Lake Dam
- Chelton Lake Dam
- Commonwealth Industrial Park
- Cooper's Pond
- River Club Golf South Lake Dam (Fka Crescent River Pond A)
- River Club Golf North Lake Dam (Fka Crescent River Pond R)
- Rowe Lakes Dam No. 1
- Crowe Lakes Dam No. 2
- Crowe Lakes Dam No. 3
- Crystal Lake Dam
- Dove Lake Dam
- Edwards Cove Lake West Dam
- Executive Enterprise Inc. Lake Dam
- Falcon Lake Dam
- Fontaine - Stembler Dam
- Freeman Lake Dam
- Gwinnett Progress Center #1 Dam
- Gwinnett Place (Mall) Retention Dam
- Hamilton Mill Lake Dam
- Hogans Lake Dam
- Hughes Lake Dam
- Jackson Pond Lake
- Longlake At Riverbrooke Dam
- Lake At Stoneridge Dam
- Lake Colony Dam (Ne)
- Lake Colony Dam (Sw)
- Lake Matthews Dam
- Lakeview Plantation Dam
- Lazy C Lake Dam
- Lionel Lake Dam
- Lock Ridge Forest Lake Dam
- Lake Park Dam No. 2
- Sugarloaf (Upper) Lake Dam
- Sugarloaf Tpc Lake Dam #3 B
- Tetterton Lake Dam
- Sugar Hill Golf Club Pond Dam No. 1
- Sugar Hill Golf Club Pond Dam No. 2
- Sugar Hill Golf Club Pond Dam No. 4
- Pylant Lake Dam
- Rivergreen At Sugar Hill Lake Dam No. 2
- Robinson Lake Dam
- Ruby Forest Lake Dam
- Sandlewood Lake Dam
- Scott Candler Reservoir No. 3
- Sims Lake Park Dam
- Bayswater Common Subdiv Dam (Fka Sims Lake Dam)
- Smoketree Lake Dam
- Sosebee Lake Dam
- Spalding Triangle Lake Dam B (Lower)
- Spalding Triangle Lake Dam A (Upper)
- Pounds Lake (Fka Stillwood Lake Dam)
- Sturdivant Lake Dam
- Sugarloaf Tpc Lake Dam #2 B
- Sugarloaf Tpc Lake Dam #1 (Fka Sugarloaf Lake Dam)
- Summit Chase No. 1 Dam (Upstream)
- Summit Chase No. 2 Dam
- Sweetwater Lake Dam
- Technology Park Lake Dam
- Villa Chase Subdiv Lake Dam (Fka Tucker Mobile Home Park at Nw Lake)
- Tucker Mobile Home Park Azalea Drive Lake Dam
- Tucker Mobile Home Polishing Pond Dam
- Ashmore Lake #2 Dam (Upper #2) (Fka Walt's Folly Lake Dam No. 2)
- Ashmore Lake #3 Dam (Upper #3) (Fka Walt's Folly Lake Dam No. 3)
- Sugar Hill Golf Club Pond Dam No. 5 (Fka Waste Treatment Pond Dam No. 5)
- Sugar Hill Golf Club Pond Dam No. 6 (Fka Waste Treatment Pond Dam No. 6)
- Webb Ginn Farms Dam
- Willowrun Lake Dam
- Pylant Lake-2
- Johnson Lake Dam
- Casteel Lake Dam
- Technology Center of Georgia - Regional Pond Dam

Figure 25: Dams by Primary Purpose



Assets Exposed to Hazard

- Property Risk/Vulnerability.** It was determined that critical facilities as well as public, private, and commercial properties are vulnerable to being affected by a dam failure if they are located in the inundation area. Major roadways are of concern in many areas. A dam failure could endanger motorists during the breach and possibly damage or remove portions of the roadway causing extended impact.
- People Risk/Vulnerability.** It was determined that risk/vulnerability includes the majority of the population in Gwinnett County, given that there are several dams located throughout Gwinnett County. People are vulnerable to the effects of dam failure through power outages, effects on transportation routes, establishment of shelters, flooding, etc. Many of these dams are in private subdivisions and located in areas that would block residents from exiting the subdivision causing emergency personnel to extract residents from their neighborhood and in turn activate sheltering plans.
- Environment Risk/Vulnerability.** Risks to the environment are high should a dam failure occur, but the frequency of dam failures in Gwinnett County is low. Environmental concerns are interruption of water supply, water contamination, and loss of properties.

Vulnerability

Table 15: Dam Failure

Frequency of Occurrence	Occasionally
Warning Time	3–6 Hours
Geographic Extent	Localized
Potential Impact	Negligible - Major

Effects of Climate Change on Vulnerability

Climate change is a significant factor increasing the probability and risk of dam failure in Gwinnett County as well as other areas in nation. As part of the Hazard Mitigation Plan, it is essential to acknowledge how these changing climate patterns affect dams and increase the vulnerability of dam-related disasters to be better prepared. Key climate trends such as intensified rainfall, extended drought periods, and extreme weather events are contributing to a heightened risk of dam failure.

In Gwinnett County, recent data shows an increase in the frequency and intensity of extreme rainfall events. Projections for the southeastern U.S. suggest continued increases in heavy precipitation due to climate change. This exacerbates the risk of dam overtopping, where excessive rainfall leads to water levels exceeding a dam's capacity. As dams face more frequent extreme weather, the probability of catastrophic failure due to overtopping increases significantly.

Shifting weather patterns driven by climate change have also resulted in hydrological extremes, including alternating periods of drought and intense flooding. Aging dams from Gwinnett's agricultural era as well as others subject to greater stress due to these extremes. Drought conditions can weaken dam infrastructure, while subsequent flooding can quickly overwhelm the weakened structures, increasing failure risk.

The combination of aging infrastructure and intensified weather events puts dams withing Gwinnett County at higher risk of failure. More than half of private dams constructed decades ago were not designed to withstand the current levels of extreme weather. Emergency spillways and other flood management mechanisms may be inadequate to handle the increased water volumes resulting from climate-induced precipitation changes.

Given these factors, incorporating climate projections into the risk assessment, maintenance schedule, and planned rehabilitation of public and privately maintained dams in Gwinnett County is very important. Hazard mitigation efforts could include the following to increase resilience:

- **Updated flood models** that account for increased precipitation and hydrological shifts.

- **Prioritized inspections and retrofitting** of aging dams to ensure they meet modern safety standards for extreme weather conditions.
- **Emergency preparedness plans** which include enhanced early warning systems and clear evacuation protocols for populations downstream of high-hazard dams.

By integrating climate change considerations into the county's hazard mitigation plan, Gwinnett and its citizens can reduce the risk of dam failures and better protect the population and infrastructure from the impacts of these events.

Land Use and Development Trends

When a dam is built, the surrounding area is vulnerable to dam failure. The safety and permitting of dams are monitored by the Georgia Department of Natural Resources. Whenever a dam is to be built, it must be approved by the State Dam Safety Engineer and comply with the Permit Guidelines for Dams. If a dam is considered a high hazard, its owners are required by the State of Georgia to develop an emergency action plan in response to possible failure.

Hazard Summary

Based on available records, Gwinnett County has not experienced any instances of a true dam failure. There have been instances of dams identified as needing repairs before damage from a failure could occur. Although none of the dams have failed in the past, susceptible areas surrounding the area located within Gwinnett County will continue to be monitored by the Gwinnett County HMSC for the identification of the need for new mitigation actions.

3.2.2 Severe Thunderstorms/Windstorms

Hazard Identification

The Gwinnett County HMSC used data from the NOAA Climate Data Online (CDO) and NWS in researching windstorms and their impact on Gwinnett County. Windstorms are defined as storms marked by high winds with little or no precipitation. Extreme windstorm events are associated with tropical cyclones, severe thunderstorms, and downbursts. Tropical storms and hurricanes bring the threat of winds, heavy rains, and flooding that may have similar preparedness, response, recovery, and mitigation actions in Gwinnett County and its Municipalities. Winds can vary from zero mph at ground level to 200 mph in the upper atmospheric jet stream. Windstorms tend to affect areas of Gwinnett County with significant tree stands as well as areas with exposed property and infrastructure and aboveground utilities. Windstorms can cause power outages, transportation and economic disruptions, and significant property damage and pose a

high risk for injuries and loss of life. Windstorms are measured according to the Beaufort Wind Scale shown in the table below. Source: [Weather.gov/mfl/beaufort](https://www.weather.gov/mfl/beaufort)

Table 16: Beaufort Wind Scale

Beaufort	Average miles per hour	Knots	Surroundings
0 (calm)	0-1	0-1	Calm. Smoke rises vertically.
1 (light air)	1-3	1-3	Smoke drift indicates wind direction. Leaves and wind vanes are stationary.
2 (light breeze)	4-7	4-6	Wind felt on exposed skin. Leaves rustle. Wind vanes begin to move.
3 (gentle breeze)	8-12	7-10	Leaves and small twigs constantly moving, light flags extended.
4 (moderate breeze)	13-18	11-16	Dust and loose paper raised. Small branches begin to move.
5 (fresh breeze)	19-24	17-21	Branches of a moderate size move. Small trees with leaves begin to sway.
6 (strong breeze)	25-31	22-27	Large branches in motion. Whistling is heard in overhead wires. Umbrella use becomes difficult. Empty plastic bins tip over.
7 (near gale)	32-38	28-33	Whole trees are in motion. Effort is needed to walk against the wind.
8 (gale)	39-46	34-40	Some twigs broken from trees. Cars veer on the road. Progress on foot is seriously impeded.
9 (severe gale)	47-54	41-47	Some branches break off trees, and some small trees blow over. Construction/temporary signs and barricades blow over.
10 (storm)	55-63	48-55	Trees are broken off or uprooted, and structural damage is likely.
11 (violent storm)	64-72	56-63	Widespread vegetation and structural damage are likely.
12 (hurricane)	72+	64+	Severe widespread damage to vegetation and structures. Debris and unsecured objects are hurled about.

Hazard Profile

One of the most prevalent natural hazard events occurring in Gwinnett County is thunderstorm wind. During the spring and summer months, Gwinnett County typically experiences numerous thunderstorms, some packing significant winds. On average, at least two thunderstorms each year produce winds strong enough to inflict significant property damage. While many of these thunderstorm wind events have been recorded within the past 20 years, this is primarily due to more accurate record keeping. Since 1950, there have been 272 events in Gwinnett County that have contributed to one death, 14 injuries, and \$6.413 million in property damage. A review of historical weather data indicates there is a very significant chance of thunderstorm winds impacting Gwinnett County each year. Thunderstorm winds occur more frequently than any other natural hazard event within Gwinnett County. As noted in the table below, there have been 122 events between 2017-2024 with \$1,818,500 in damage.

Table 17: Severe Thunderstorms/Windstorms 2017-2024

Location	Date	Magnitude (kts)	Injuries	Property Damage
SUGAR HILL	29-Dec-24	52	0	\$1,000
CENTERVILLE	29-Dec-24	52	0	\$1,000
SNELLVILLE	29-Dec-24	52	0	\$1,000
BERKELEY LAKE	29-Dec-24	52	0	\$1,000
ROSEBUD	29-Dec-24	52	0	\$1,000
NORCROSS	17-Aug-24	43	0	\$1,000
LILBURN	17-Aug-24	43	0	\$1,000
LAWRENCEVILLE	17-Aug-24	52	0	\$1,000
CENTERVILLE	17-Aug-24	52	0	\$0
BERKELEY LAKE	15-Jul-24	43	0	\$1,000
GLOSTER	15-Jul-25	43	0	\$1,000
MECHANICSVILLE	28-Feb-24	52	0	\$1,000
MECHANICSVILLE	28-Feb-24	52	0	\$1,000
LILBURN	28-Feb-24	52	0	\$1,000
LILBURN	28-Feb-24	52	0	\$1,000
PITTMAN	28-Feb-24	52	0	\$1,000
SUGAR HILL	28-Feb-24	52	0	\$1,000

Location	Date	Magnitude (kts)	Injuries	Property Damage
LILBURN	28-Feb-24	52	0	\$1,000
BERKELEY LAKE	28-Feb-24	52	0	\$1,000
HOG MTN	28-Feb-24	52	0	\$1,000
LAWRENCEVILLE ARPT	28-Feb-24	52	0	\$1,000
HOG MTN	28-Feb-24	52	0	\$0
TRICKEM	28-Feb-24	52	0	\$1000
CENTERVILLE	28-Feb-24	52	0	\$1000
SUWANEE	29-Aug-23	40	1	\$0
LILBURN	29-Aug-23	50	0	\$0
DULUTH	29-Aug-23	40	0	\$50,000
BERKELEY LAKE	27-Aug-23	52	0	\$1000
CENTERVILLE	12-Aug-23	52	0	\$0
BUFORD	7-Aug-23	56	0	\$0
NORCROSS	7-Aug-23	52	0	\$0
SNELLVILLE	7-Aug-23	52	0	\$1,000
GRAYSON	7-Aug-23	52	0	\$0
LUXOMNI	7-Aug-23	52	0	\$1,000
MECHANICSVILLE	7-Aug-23	52	0	\$1,000
MECHANICSVILLE	7-Aug-23	52	0	\$1,000
CENTERVILLE	7-Aug-23	52	0	\$1,000
LAWRENCEVILLE	7-Aug-23	52	0	\$1,000
SNELLVILLE	7-Aug-23	52	0	\$1,000
DACULA	6-Aug-23	52	0	\$1,000
HOG MTN	3-Aug-23	39	0	\$1,000
LAWRENCEVILLE	3-Aug-23	43	0	\$1,000

Location	Date	Magnitude (kts)	Injuries	Property Damage
CENTERVILLE	3-Aug-23	39	0	\$1,000
HOG MTN	20-Jul-23	43	0	\$1,000
BERKSHIRE	25-Jun-23	52	0	\$0
LUXOMNI	11-Jun-23	52	0	\$1,000
HOG MTN	11-Jun-23	52	0	\$1,000
LAWRENCEVILLE	12-Jan-23	52	0	\$0
PITTMAN	12-Jan-23	52	0	\$0
GLOSTER	12-Jan-23	52	0	\$0
BERKSHIRE	12-Jan-23	52	0	\$0
BERKSHIRE	12-Jan-23	52	0	\$0
FIVE FORKS	12-Jan-23	52	0	\$0
LUXOMNI	12-Jan-23	52	0	\$0
FIVE FORKS	12-Jan-23	52	0	\$0
GRAYSON	12-Jan-23	52	0	\$0
LUXOMNI	12-Jan-23	52	0	\$0
LUXOMNI	12-Jan-23	52	0	\$0
LAWRENCEVILLE	12-Jan-23	52	0	\$0
HOG MOUNTAIN	7-July-22	50	0	\$0
HOG MOUNTAIN	7-July-22	50	0	\$0
NORCROSS	17-Jun-22	52	0	\$0
SUGAR HILL	17-Jun-22	52	0	\$0
MECHANICSVILLE	17-Jun-22	52	0	\$0
GWINNETT(ZONE)	16-Jan-22	39	0	\$0
DACULA	30-Dec-21	40	0	\$3,000
HOG MOUNTAIN	29-Dec-21	50	0	\$0
SUWANEE	29-Dec-21	40	0	\$2,000
GLOSTER	10-Aug-21	50	0	\$30,000
GRAYSON	3-May-21	50	0	\$10,000

Location	Date	Magnitude (kts)	Injuries	Property Damage
NORCROSS	3-May-21	50	0	\$40,000
CENTERVILLE	24-April-21	50	0	\$5,000
LUXOMNI	28-Mar-21	50	1	\$12,000
HOG MOUNTAIN	11-Nov-20	50	0	\$3,000
SNELLVILLE	10-Oct-20	50	0	\$25,000
GWINNETT(ZONE)	17-Sep-20	25	1	\$0
LAWRENCEVILLE	26-Ag-20	50	0	\$5,000
SUGAR HILL	13-Aug-20	45	0	\$10,000
TRICKEM	10-Aug-20	45	0	\$3,000
HOG MOUNTAIN	3-Aug-20	50	0	\$5,000
LUXOMNI	25July-20	45	0	\$1,000
LUXOMNI	9-July-20	50	0	\$5,000
BUFORD	8-July-20	50	0	\$15,000
NORCROSS	27-Jun-20	50	0	\$20,000
GRAYSON	15-Jun-20	50	0	\$10,000
SUGAR HILL	4-Jun-20	45	0	\$1,000
PITTMAN	12-Apr-20	50	0	\$4,000
LUXOMNI	6-Feb-20	50	0	\$20,000
SUGAR HILL	11-Jan-20	50	0	\$10,000
NORCROSS	3-Aug-19	45	0	\$4,000
CENTERVILLE	19-July-19	40	0	\$2,000
CENTERVILLE	17-July-19	50	0	\$8,000
LILBURN	24-Jun-19	55	0	\$25,000
GRAYSON	23-Jun-19	45	0	\$500
LILBURN	22-Jun-19	50	0	\$2,000
CAROLINA	22-Jun-19	50	0	\$5,000
MECHANICSVILLE	19-April-19	50	0	\$6,000
LILBURN	14-April-2019	55	0	\$250,000

Location	Date	Magnitude (kts)	Injuries	Property Damage
BERKSHIRE	9-Aug-18	45	0	\$1,000
SUGAR HILL	21-July-18	50	0	\$100,000
GLOSTER	13-July-18	45	0	\$3,000
GLOSTER	28-Jun-18	50	0	\$50,000
LUXOMNI	28-Jun-18	45	1	\$100,000
TRICKEM	16-Jun-18	50	0	\$50,000
GLOSTER	9-Jun-18	50	0	\$4,000
LILBURN	1-Jun-18	78	0	\$500,000
HOG MTN	28-May-18	50	0	\$3,000
PITTMAN	20-May-18	50	0	\$15,000
NORCROSS	11-Jul-17	50	0	\$12,000
GLOSTER	7-Jul-17	50	0	\$15,000
HOG MTN	7-Jul-17	50	0	\$6,000
LILBURN	7-Jul-17	50	0	\$8,000
PITTMAN	4-Jul-17	50	0	\$100,000
DUNLAP	4-Jul-17	50	0	\$15,000
PITTMAN	15-Jun-17	60	0	\$30,000
FIVE FORKS	15-Jun-17	50	0	\$18,000
DULUTH	4-May-17	50	0	\$5,000
TRICKEM	30-Mar-17	60	0	\$50,000
TRICKEM	30-Mar-17	60	0	\$50,000
DULUTH	21-Mar-17	50	0	\$30,000
HOG MTN	21-Mar-17	50	0	\$5,000
NORCROSS	1-Mar-17	50	0	\$20,000
Totals:			4	\$1,818,500

Source: <https://www.ncdc.noaa.gov/stormevents/>

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** In evaluating assets that are vulnerable to severe thunderstorms/ windstorms, it was determined that all critical facilities, as well as all public, private, and commercial properties, are vulnerable to severe thunderstorms. Major roadways such as Interstate 85 and 985 or State Route 20 and 316 are equally affected and are major roads in and out of the County into Metro Atlanta and the University of Georgia which if impacted could cause significant delays to travelers during an event. Infrastructures located in severe thunderstorm/windstorm-vulnerable areas include:
 - Heavy concentration of commercial and industrial land
 - Heavy concentration of residential land use in vulnerable areas
 - All county and private schools located throughout the county.
- **People Risk/Vulnerability.** Risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a windstorm and no way to predict where a storm will occur. People are vulnerable to severe windstorms through power outages, effects on transportation routes, establishment of shelters, roofs blown off structures, etc. Windstorms occur frequently within Gwinnett County.
- **Environment Risk/Vulnerability.** Risks to the environment are high for severe windstorms. High winds can destroy trees and flooding from severe thunderstorms may destroy forestry and re-direct river flow.

Vulnerability

Table 18: Severe Thunderstorms/Windstorms

Frequency of Occurrence	Highly Likely
Warning Time	3–6 hours
Geographic Extent	Community-wide
Potential Impact	Moderate

Effect of Climate Change on Vulnerability

According to the NOAA National Centers for Environmental Information for State Climate Summaries 2022 - Thunderstorms are common in Georgia, particularly in the spring and summer months. An increase in storms will produce more wind events and may increase severe thunderstorm activity. All of the county's assets are at risk of losses as a result of severe thunderstorms and extreme wind events.

Source: <https://statesummaries.ncics.org/chapter/ga/>

Land Use and Development Trends

New technology allows for high wind-resistant windows, either by directly installing windows capable of withstanding high winds or applying a film that protects the window. This reduces property damage by reducing the number of broken windows and reduces injuries and deaths by reducing the amount of broken glass. Although Gwinnett County currently has no regulatory capabilities regarding this technology, it is advised that new developments include high wind-resistant windows.

Hazard Summary

Overall, severe thunderstorms and high winds pose one of the greatest threats to Gwinnett County in terms of property damage and the potential for injuries and loss of life. Severe thunderstorms and high winds are some of the most frequently occurring natural hazards in Gwinnett County and have a high chance of affecting Gwinnett County each year. Based on the frequency of this hazard, and its ability to negatively affect Gwinnett County, the mitigation measures identified in this plan should be aggressively pursued.

3.2.3 Lightning

Hazard Identification

The Gwinnett County HMSC researched historical data from the NCDC and the NWS as well as information from past newspaper articles relating to lightning strikes in Gwinnett County. Thunderstorms have already been identified as a major hazard for Gwinnett County, and lightning is what causes thunder. Thunder starts as a shockwave from the explosively expanding lightning channel when a large current causes rapid heating. Essentially, thunder is the noise caused by the lightning. The electrical charge from lightning can potentially be as much as 100 million to one billion volts. Lightning strikes proceed from cloud to cloud, cloud to ground, or from ground to cloud.

Lightning strikes in Gwinnett County are most prevalent in August, with April being the next month of highest occurrence. In a 2020 report, Georgia had a total of 13,016,803 lightning pulses. A pulse is a surge of electric current in lightning usually accompanied by a burst of light. These pulses are classified as in-cloud or cloud-to-ground. Of the over 13 million pulses recorded, 93.29 percent of the pulses were in-cloud lightning, while only 6.71 percent were cloud-to-ground lightning.

Source: [Nssl.noaa.gov/education/svrwv101/lightning](https://nssl.noaa.gov/education/svrwv101/lightning)

[https://get.earthnetworks.com/hubfs/2021%20State%20Lightning%20Reports/Lightning_Report_Georgia%20\(1\).pdf](https://get.earthnetworks.com/hubfs/2021%20State%20Lightning%20Reports/Lightning_Report_Georgia%20(1).pdf)

Hazard Profile

Lightning, as with many natural hazards, can strike anywhere and at any time. One lightning strike in Suwanee on July 22, 2017, caused over \$100,000 in damage when it struck a house. The earliest recording of lightning strikes available from NOAA only goes back to 1997. However, since 1997, 129 lightning events have occurred that resulted in 5 deaths, 14 injuries, and 15.041 million in property damage. Gwinnett County has purchased a WeatherBug Station that is used daily for lightning detection. The WeatherBug Station is equipped with a lightning sensor to detect both cloud-to-ground and cloud-to-cloud strikes. It identifies positive and negatively charged strikes, the approximate location, and frequency of strikes which help in determining the severity of an approaching storm. Information is updated and recorded in an archive database that is accessible through WeatherBug. This information can then be used to assist fire investigators in determining the cause of local fires and to gather other details about the impact of lightning on the community.

Source: https://www.gwinnettdailyreport.com/local/lightning-strike-causes-house-fire-near-suwanee/article_2b53b0f2-6fa8-11e7-a326-631f71c8584a.html

Table 19: Lightning Strikes 2017-2024

Location	Date	Death	Injuries	Property Damage
NO DATA	2023 & 2024	NA	NA	NA
CENTERVILLE	13-JUL-22	0	0	\$50,000
NO DATA	2020 & 2021	NA	NA	NA
GRAYSON	05-AUG-19	0	0	\$15,000
SUGAR HILL	16-JUL-18	0	0	\$1,000
SUGAR HILL	16-JUN-18	0	0	\$5,000
DACULA	20-MAY-18	0	0	\$1,000
SUWANEE	22-JUL-17	0	0	\$100,000
NORCROSS	14-JUL-17	0	0	\$1,000
MECHANICSVILLE	14-JUL-17	0	0	\$10,000
HOG MOUNTAIN	4-JUL-17	0	0	\$200
Totals:		0	0	\$183,200

Source: <https://www.ncdc.noaa.gov/stormevents/>

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** In evaluating assets that are vulnerable to lightning incidents, the Gwinnett County HMSC determined that all critical facilities, as well as all public, private, and commercial properties, are vulnerable to lightning incidents. The cause of home fires is contributed yearly to being struck by lightning. Community awareness programs are a big asset in mitigating loss of life and property damage.
- **People Risk/Vulnerability.** It was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact or magnitude of a lightning incident and no way to predict where a lightning incident will occur. People are vulnerable to lightning incidents through power outages, effects on transportation routes, establishment of shelters, being struck by lightning, etc. A significant chance of a lightning incident exists in any given year in Gwinnett County. With recent developments, many Municipalities have installed or are in the process of installing open green areas for public gatherings. Many municipalities are also looking at installing lightning detection and notification systems to notify the public during an event to protect life and property.
- **Environment Risk/Vulnerability.** While lightning affects all regions of the U.S., the Southeastern states pose a higher risk. Lightning generally decreases from the southeast to the northwest, except for a few places such as the Rocky Mountains, where topography causes regular thunderstorms during the summer. Lightning is a major cause of damage to trees and forests, either by directly killing trees on strike or by igniting fires and burning large numbers of trees when conditions are conducive to the spread of wildfires.

Vulnerability

Table 20: Lightning

Frequency of Occurrence	Highly Likely
Warning Time	None–Minimal
Geographic Extent	Localized
Potential Impact	Minor

Effect of Climate Change on Vulnerability

An increase in temperature will provide more energy to produce storms that generate lightning. With an increased likelihood of severe storms and lightning events, all of the

county's assets are at risk for losses as a result of lightning events. Climate change is contributing to more extreme weather patterns, which include increased frequency and intensity of thunderstorms. These storms are often accompanied by heightened lightning activity. Scientific research indicates that for every degree Celsius increase in temperature, lightning activity could increase by approximately 12 percent. This trend suggests that Gwinnett County may experience more frequent and intense lightning storms in the coming years. As climate change continues to influence weather patterns, Gwinnett County recognizes the increased risk posed by lightning storms and takes proactive measures to protect all residents, with a particular focus on the most vulnerable. Through targeted mitigation efforts and comprehensive emergency planning, the county aims to reduce the adverse impacts of lightning and enhance overall community resilience.

Source: <https://www.climatecentral.org/climate-matters/changing-thunderstorm-potential>

Effects on the General Population

The increase in lightning events poses several risks to the general population which include:

- **Injury and Fatalities:** Higher frequency of lightning increases the chances of lightning strikes, leading to potential injuries and fatalities.
- **Property Damage:** More frequent lightning strikes can result in increased property damage, including fires, structural damage, and electrical system failures.
- **Infrastructure Strain:** Increased lightning can disrupt power systems, communication networks, and transportation infrastructure, leading to broader societal impacts.

Disproportionate Impact on Vulnerable Populations

Vulnerable populations, including low-income families, the elderly, people with disabilities, and those without adequate housing, are more susceptible to the effects of increased lightning activity:

- **Low-income families:** Often reside in housing that lacks adequate lightning protection systems, making them more prone to property damage and personal injury during lightning events.
- **Elderly and Disabled Individuals:** May have mobility issues that prevent them from quickly seeking shelter during a storm, increasing their risk of injury from lightning strikes.
- **Homeless Population:** The homeless are particularly vulnerable as they often lack any form of shelter, exposing them directly to the elements during lightning storms.

- Access to Resources: Vulnerable populations may have less access to emergency services, healthcare, and financial resources to recover from lightning-related incidents.

Land Use and Development Trends

Gwinnett County does not currently have land use or development trends related to lightning.

Hazard Summary

Lightning strikes, although rare in occurrence, have a high danger potential associated with them. Lightning, as with some of the other natural hazards typical to Gwinnett County, can strike anywhere and at any time. Its unpredictability along with its deadly and destructive potential is even more reason to explore mitigation actions. The Gwinnett County HMSC identified specific mitigation goals, objectives, and action items related to lightning strikes.

3.2.4 Tornadoes

Hazard Identification

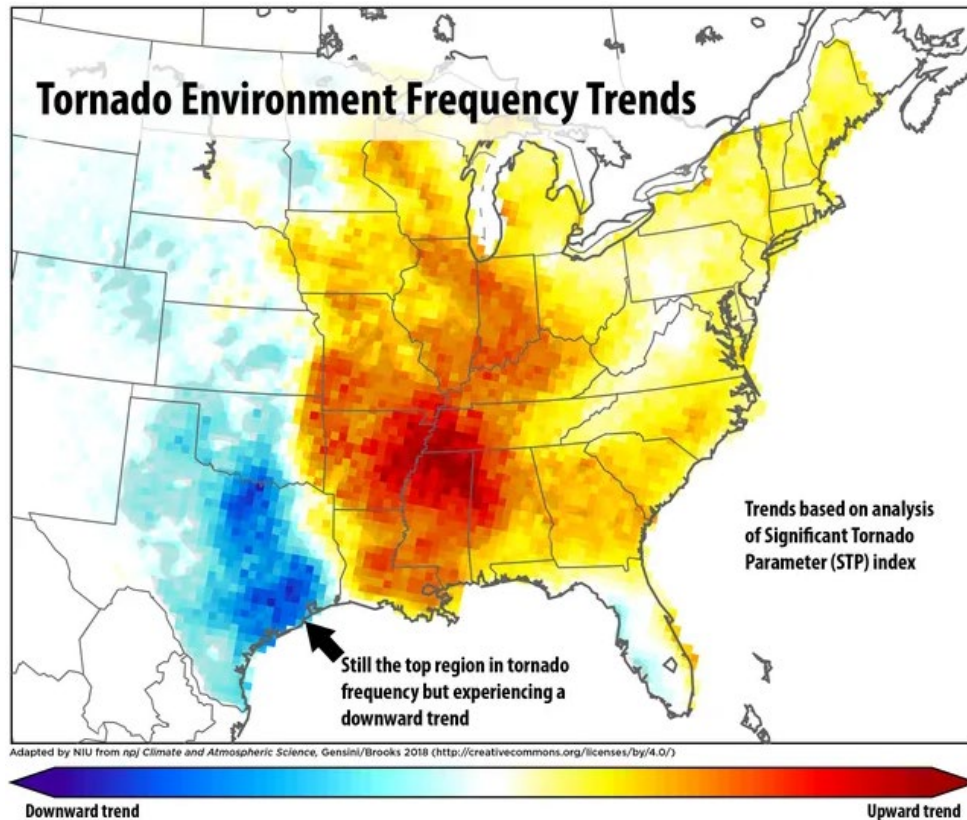
The HMSC reviewed historical data from both SHELDUS and NCDC in researching the past events and effects of tornadoes in Gwinnett County. A tornado is a violently rotating column of air extending from a thunderstorm to the ground. The most violent tornadoes are capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be in excess of one mile wide and 50 miles long. Tornado season in Georgia runs from March through August; however, tornadoes can strike at any time of the year if the essential conditions are present.

In terms of extent, Gwinnett County may experience tornadoes ranging from EF0 (65–85 mph) to EF4 (166–200 mph). Tornado environment frequency trends are shown in Figure 26. The Fujita Scale used to rate the severity of tornadoes and associated wind speed categories was updated in 2007 and is now the Enhanced Fujita (EF) Scale. The Enhanced Fujita Scale still is a set of wind estimates (not measurements) based on damage. It uses 3-second gusts estimated at the point of damage based on a judgment of levels of damage to various indicators. These estimates vary with height and exposure. The 3-second gust is not the same wind as in standard surface observations. Standard measurements are taken by weather stations in open exposures using a directly measured "1-minute mile" speed.

Source:

https://www.weather.gov/ffc/swaw_tor#:~:text=The%20average%20number%20of%20days,of%20the%20day%20or%20night

Figure 26: Tornado Environment Frequency Trends



Source: <https://www.usatoday.com/story/weather/2018/10/17/tornado-alley-shifting-east/1660803002/>

Table 21: Enhanced Fujita Scale

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

Source: <https://www.spc.noaa.gov/faq/tornado/ef-scale.html>

Hazard Profile

All of Gwinnett County is vulnerable to the threat of a tornado because it cannot be predicted exactly when or where a tornado might occur. Gwinnett County has experienced 12 tornadoes since 1961: the first recorded one since 1950. In addition, numerous tornado watches have been recorded during this period. Trend analysis indicates that a tornado will touch down in Gwinnett County every five years. Tornadoes tend to strike randomly, making the task of reliably calculating a recurrence interval extremely difficult. The damage potential associated with a tornado is extremely high. In 2010, an EF2 tornado (Significant Tornado, 113-157 mph) touched down near Holland Park Drive in east central Gwinnett County, about 5 miles northwest of Dacula. The tornado was determined to have a path width of 300 yards and 2.11 miles long, with maximum wind gusts of 130 mph. A total of 56 homes and one business along the path of the tornado sustained at least minor damage. Of these, 15 to 20 homes sustained major damage or were destroyed. One of these homes collapsed. Damage to homes and property was estimated at approximately \$5 million. There has only been one recorded event since the 2020 HMP update. An EF0 tornado was recorded on 10/10/2020 and caused 100.0K in damage.

Source: https://www.weather.gov/ffc/swaw_tor#:~:text=The%20average%20number%20of%20days,of%20the%20day%20or%20night

Table 22: Tornadoes, 1961-2024

Location	Date	Magnitude	Injuries	Fatalities	Property Damage
NO DATA	2021-2024	NA	NA	NA	NA
LILBURN	10-Oct-20	EF0	0	0	\$100,00
HOG MTN	30-Nov-10	EF2	0	0	\$5,000,000
LAWRENCEVILLE	03-Apr-00	F1	0	0	\$1,500,000
NORCROSS	08-Apr-98	F2	10	0	\$50,000,000
GRAYSON	27-Jim-94	F2	0	1	\$5,000,000
GWINNETT COUNTY	10-Feb-90	F1	0	0	\$2,500,000
GWINNETT COUNTY	10-Nov-84	F2	8	0	\$2,500,000
GWINNETT COUNTY	28-May-76	F2	0	0	\$25,000
GWINNETT COUNTY	23-Apr-71	F1	0	0	\$2,500
GWINNETT COUNTY	29-Jan-70	F2	0	0	\$25,000
GWINNETT COUNTY	16-May-69	F1	0	0	\$2,500
GWINNETT COUNTY	25-May-61	F1	0	0	\$2,500
Totals:			18	1	\$66,567,500

Source: Source: <https://www.ncdc.noaa.gov/stormevents/>

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** It can be assumed that all structures and facilities within Gwinnett County could be damaged by a tornado because tornadoes are among the most unpredictable of weather phenomena and are indiscriminate as to when or where they strike.
- **People Risk/Vulnerability.** It was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a tornado and no way to predict when or where a tornado will occur. People are vulnerable to the effects of tornadoes, including power outages, disruption to transportation routes, damage to shelter, flying debris, etc. For example, power outages at any of the multiple nursing homes in the county or one of the three main hospitals could result in the shutdown of essential life-supporting equipment resulting in loss of life. Though there is a 0.3 percent chance of a tornado occurring any given year in Gwinnett County, the expected annual loss could reach over \$21 million in damages.
- **Environment Risk/Vulnerability.** Risks to the environment can be significant. Environmental risks can include flying debris and destruction of critical infrastructure that damage and affect the water supply and contaminate potable water for public consumption.

Vulnerability

Table 23: Tornadoes

Frequency of Occurrence	Occasionally
Warning Time	None–Minimal
Geographic Extent	Community-wide
Potential Impact	Moderate

Effect of Climate Change on Vulnerability

An increase in storms will produce more wind events and may increase tornado activity. Additionally, an increase in temperature will provide more energy to produce storms that generate tornadoes (Climate Central 2016). With an increased likelihood of tornado events, all of the county's assets are at risk for losses as a result of tornado events. Climate change is contributing to more extreme weather patterns, including the frequency and intensity of tornadoes. While the relationship between climate change and tornado activity is complex and still being studied, some research suggests that warmer temperatures and increased atmospheric moisture can create conditions that

are more conducive to the development of severe thunderstorms and tornadoes. As climate change continues to influence weather patterns, Gwinnett County recognizes the increased risk posed by tornadoes and is taking proactive measures to protect all residents, with a particular focus on the most vulnerable. Through targeted mitigation efforts, comprehensive emergency planning, and community support programs, the county is committed to reducing the adverse impacts of tornadoes and enhancing overall community resilience.

Source: <https://www.climatecentral.org/climate-matters/tornadoes-climate-change>

Effects on the General Population

The increased risk of tornadoes poses significant challenges for the general population in Gwinnett County:

- **Injury and Fatalities:** More frequent and intense tornadoes increase the likelihood of injuries and fatalities.
- **Property Damage:** Tornadoes can cause extensive damage to homes, businesses, and infrastructure, leading to substantial economic losses.
- **Disruption of Services:** Tornadoes can disrupt essential services such as electricity, water supply, and communication networks, affecting the entire community.

Disproportionate Impact on Vulnerable Populations

Vulnerable populations, including low-income families, the elderly, people with disabilities, and those without adequate housing, face heightened risks from tornadoes:

- **Low-income families:** Often live in older, less resilient housing that is more susceptible to damage from tornadoes. Limited financial resources can hinder their ability to recover from such events.
- **Elderly and Disabled Individuals:** May have difficulty receiving timely warnings, evacuating, or finding adequate shelter during a tornado, increasing their risk of injury or death.
- **Homeless Population:** Lack of access to any form of shelter, making them extremely vulnerable during tornado events.
- **Children:** Especially those in schools or daycare centers, may be at risk if proper safety measures and emergency plans are not in place.

Land Use and Development Trends

Continued development in Gwinnett County will result in an increase in the potential for damage from tornadoes. Gwinnett County has a land use plan that identifies future

development. Gwinnett County enforces the Georgia State Building Code, which requires structures to be designed and constructed for wind loads. Using and enforcing these codes will provide reasonable protection from most natural hazards, including tornadoes. Updating building codes and adopting these codes will reduce vulnerability and damage from tornadoes. New technology allows for high wind-resistant windows, either by directly installing windows capable of withstanding high winds or applying a film coating that protects the window. This reduces property damage by reducing the number of broken windows and reduces injuries and deaths by reducing broken glass. Although Gwinnett County currently has no regulatory capabilities regarding this technology, it is advised that new developments include high wind-resistant windows.

Hazard Summary

Overall, Gwinnett County has high exposure to potential damage from tornadoes. Should a tornado hit certain portions of Gwinnett County that are highly concentrated with homes or any of the critical facilities identified, depending upon the strength and duration of the event, significant damage could occur. Due to the destructive nature of tornadoes, it is imperative that pre-disaster mitigation measures be identified. The obstacle to accurate location identification is the fact that tornadoes may hop from one location to another creating virtually no measurable impact estimate. When identifying this hazard, we must take into consideration intensity and duration. When estimating losses related to tornado events, it can be assumed that structures or facilities with the greatest replacement value will be those that sustain the most monetary damage. Some of the more vulnerable facilities from a monetary standpoint are County and City facilities, utilities, Tier II chemical facilities, facilities that focus on vulnerable populations, and critical infrastructure sites. To best determine loss HAZUS-MH version 2.2 software was utilized to determine the tornado risk which can be found in **Appendix A**.

3.2.5 Flooding

Hazard Identification

Flooding occurs when rivers and streams overflow due to high precipitation events. Another cause of flooding could be a dam failure. Different variables impact flooding, including topography, ground saturation, previous rainfall, soil types, drainage, basin size, drainage patterns of streams, and vegetative cover. Riverine flooding may occur slowly or rapidly peak also called “flash” flooding. The Gwinnett County HMSC researched historical data from NCDC, NWS, FEMA, and the National Flood Insurance Program (NFIP) as well as information from past newspaper articles relating to flooding in Gwinnett County.

Hazard Profile

Gwinnett County has approximately 24,000 acres of floodplain. Flooding occurs most frequently in the low-lying areas and the occurrence of flooding in Gwinnett County is likely with the potential to wreak havoc on the community. The Yellow River is considered the principal flooding source for Gwinnett County. Other sources of flooding include the Alcovy River, Apalachee River, Bay Creek, Beaver Ruin Creek, Bell Creek, Camp Creek, Drowning Creek, Duncan Creek, Garner Creek, Chattahoochee River, and many others. Since 2020 only two reported flooding incidents have occurred which resulted in minor property damage. In addition, Hurricane Helene caused minor flooding throughout the county in September 2024.

Historically the largest impact to Gwinnett County from flooding occurred from the September 2009 flood which caused rainfall approximately equal to the 24-hour 1-percent-annual-chance rainfall depth for the county. Six USGS gauges in the Upper Yellow River watershed recorded the flood and were used for flood frequency analysis. Three of the gauges recorded flood discharges between 2- and 1-percent-annual-chance flood frequency, one between 1- and 0.2- percent-annual-chance flood frequency, and one between 10- and 2-percent-annual-chance flood frequencies.

The NOAA (National Oceanic and Atmospheric Administration) database records major storm events starting in 1950. Since the data recordings began, Gwinnett County recorded 31 flash flood events and 14 flood events. The first flood event being in 1998. Between 1998 and 2024, 28 years, there have been a total of 45 events that exceeded \$25 million in damages and one death. Seven of the 45 events were recorded in just a few days throughout the county in September 2009. Though multiple events were recorded in some of those years, it averages out to approximately two per year.

Gwinnett County has previously acquired 11 flood-prone properties through the Hazard Mitigation Grant Program after major flooding in 2009. Additionally, drainage improvement projects are ongoing all over the county including several Municipalities adopting new floodplain ordinances as the City of Lilburn did in 2019.

Table 24: Flood Incidents, 2009-2024

Location	Date	Type of Flood	Injuries	Fatalities	Property Damage
DULUTH	29-Aug-23	Flash Food	0	0	\$0
BERKELEY LAKE	29-Aug-23	Flash Food	0	0	\$10,000
DULUTH	29-Aug-23	Flash Food	0	0	\$40,000
MECHANICSVILLE	29-Aug-23	Flash Food	0	0	\$30,000
NORCROSS	17-Aug-21	Flash Food	0	0	\$0
GRAYSON	13-Jul-18	Flash Flood	0	0	\$0

Location	Date	Type of Flood	Injuries	Fatalities	Property Damage
CAROLINA	17-Jul-17	Flash Flood	0	0	\$0
LUXOMNI	20-Jun-17	Flash Flood	0	0	\$5,000
MECHANICSVILLE	20-Jun-17	Flash Flood	0	0	\$12,000
LAWRENCEVILLE	23-Apr-17	Flash Flood	0	0	\$0
GRAYSON	24-Dec-15	Flash Flood	0	0	\$3,000
DULUTH	24-Jun-15	Flash Flood	0	0	\$3,000
DULUTH	12-Jul-13	Flash Flood	0	0	\$3,000
CAROLINA	19-May-13	Flash Flood	0	0	\$15,000
SUGAR HILL	19-May-13	Flash Flood	0	0	\$10,000
REST HAVEN	01-Oct-12	Flash Flood	0	0	\$5,000
NORCROSS	26-Jul-10	Flash Flood	0	0	\$3,000
SUWANEE	03-May-10	Flash Flood	0	0	\$10,000
CAROLINA	24-Jan-10	Flash Flood	0	0	\$3,000
MECHANICSVILLE	12-Oct-19	Flood	0	0	\$5,000
MECHANICSVILLE	12-Oct-19	Flash Flood	0	0	\$5,000
MECHANICSVILLE	21-Sep-09	Flood	0	0	\$5,000,000
REST HAVEN	21-Sep-09	Flood	0	0	\$630,000
BUFORD	21-Sep-09	Flood	0	0	\$5,630,000
BUFORD	21-Sep-09	Flood	0	0	\$12,500,000
SUGAR HILL	21-Sep-09	Flash Flood	0	0	\$630,000
NORCROSS	21-Sep-09	Flash Flood	0	1	\$630,000
DACULA	16-Sep-09	Flood	0	0	\$1,000
MECHANICSVILLE	28-Aug-09	Flash Flood	0	0	\$1,000
DACULA	27-Mar-09	Flash Flood	0	0	\$1,000
Totals			0	1	\$25,185,000

Source: <https://www.ncdc.noaa.gov/stormevents>

Flood Risk Results Information

In 2023, the Georgia Department of Emergency Management partnered with the Carl Vinson Institute of Government at the University of Georgia to develop a detailed risk assessment focused on defining hurricane, riverine flood, and tornado risks in Gwinnett County, Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much the community could be affected by the disaster, and the impact on community assists. Hazus-MH Version 2.2 SP1 was used to perform the analyses for Gwinnett County. It uses a combination of national sources and Gwinnett County provided building inventory information from the county's property tax assessment system. The assessment analyzed at risk structures in the Special Flood Hazard Area (SFHA) of a 1% annual change riverine flood event (100-Year Flood).

The report titled Hazard Risk Analyses Supplement to the Gwinnett County Joint Hazard Mitigation Plan, includes data and maps of potential flood-related building damage by jurisdiction, essential facility losses, flood shelter requirements, and flood debris. The complete assessment is in **Appendix A**.

The source of the table below is directly from the report on page 21. The report states it "provides a summary of the potential flood-related building damage in Gwinnett County by jurisdiction that might be experienced from the 1% flood."

Table 25: Gwinnett County Riverine 1% Building Losses

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damage in the Jurisdiction	Total Buildings Exposure in the Jurisdiction	Total Losses to Buildings to Damage Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Berkeley Lake					
Residential	498	9	\$221,071,650	\$2,882,088	1.30%
Buford					
Residential	2,413	21	\$856,429,950	\$1,867,794	0.22%
Industrial	137	4	\$617,747,830	\$576,710	0.09%
Commercial	321	2	\$957,944,575	\$1,515	0.00%
Dacula					
Residential	1,475	5	\$345,213,825	\$323,202	0.09%
Duluth					

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damage in the Jurisdiction	Total Buildings Exposure in the Jurisdiction	Total Losses to Buildings to Damage Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Residential	5,115	45	\$1,958,368,330	\$24,478,899	1.25%
Commercial	261	9	\$541,774,239	\$4,260,284	0.79%
Grayson					
Residential	1,035	9	\$343,030,785	\$602,629	0.18%
Lawrenceville					
Industrial	122	1	\$341,247,909	\$853,098	0.25%
Commercial	523	4	\$1,517,640,376	\$144,492	0.01%
Residential	4,296	67	\$1,408,486,645	\$4,079,404	0.29%
Lilburn					
Industrial	49	1	\$50,564,310	\$156,628	0.31%
Residential	2,659	31	\$643,600,260	\$8,505,075	1.32%
Commercial	201	3	\$251,830,734	\$253,211	0.10%
Norcross					
Commercial	215	4	\$530,995,691	\$251,445	0.05%
Residential	2,548	14	\$821,851,180	\$770,830	0.09%
Industrial	103	1	\$433,727,043	\$38,983	0.01%
Peachtree Corners					
Residential	5,794	79	\$2,121,332,275	\$8,007,425	0.38%
Commercial	281	5	\$881,423,853	\$2,076,934	0.24%
Industrial	137	1	\$429,658,070	\$187,353	0.04%
Snellville					
Residential	4,539	54	\$1,048,741,590	\$2,675,587	0.26%
Sugar Hill					

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damage in the Jurisdiction	Total Buildings Exposure in the Jurisdiction	Total Losses to Buildings to Damage Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Government	2	1	\$6,160,775	\$27,615	0.45%
Residential	4,690	9	\$1,396,780,379	\$829,524	0.06%
Commercial	186	2	\$155,238,547	\$10,179	0.01%
Suwanee					
Commercial	175	1	\$504,032,558	\$394	0.00%
Industrial	78	2	\$256,299,895	\$253,638	0.10%
Residential	3,841	53	\$1,866,877,403	\$4,842,411	0.26%
Unincorporated					
Industrial	618	9	\$2,744,026,427	\$728,388	0.03%
Residential	123,709	1,419	\$38,597,711,429	\$111,592,973	0.29%
Commercial	2,240	65	\$6,011,803,545	\$8,395,411	0.14%
Religious	184	4	\$723,190,445	\$3,545,590	0.49%
County Total					
	168,445	1,934	\$68,604,802,523	\$193,219,709	

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** Gwinnett County has identified flood zones within the jurisdiction. All properties within a floodplain have an increased chance of flooding. The vulnerability of these structures is very high, depending on the probability of that area flooding within a 10-year or 100-year period. Many assets previously exposed to flooding have been mitigated through the FEMA Hazard Mitigation Grant Program buyouts or by implementing infrastructure changes such as widening culverts to better direct floodwaters.
- **People Risk/Vulnerability.** People living in and around identified floodplain areas are more vulnerable to a flooding incident than those who live/work outside of

floodplain areas, but these areas can still be affected depending on the severity of the flooding incident. Flooded roadways present dangers for commuters. This is particularly true due to a significant chance of a flood occurring in any given year. In addition, critical life safety facilities such as Fire/EMS stations in or near the floodplain are susceptible to having their facilities and equipment damaged by flooding, impeding their life safety missions and operations.

- **Environment Risk/Vulnerability.** Risks to the environment are high if a flooding incident occurs. Examples of common environmental risks include limited public access to water and the effects floodwater has on public water supply. Flooding can affect and contaminate potable water for public consumption, creating a health risk for the public.

Vulnerability

Table 26: Flooding

Frequency of Occurrence	Likely
Warning Time	3–6 Hours
Geographic Extent	Community-wide
Potential Impact	Moderate

Effects of Climate Change on Vulnerability

Climate is defined not simply as average temperature and precipitation but also by type, frequency, and intensity of weather events. Both globally and at the local scale, climate change can alter the prevalence and severity of extremes such as flood events. While predicting changes in flood events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society, and the environment (U.S. Environmental Protection Agency [EPA] 2006). For Georgia, the risk for all flooding types – flash floods, river floods, and urban floods, all potentially leading to dam failure – will theoretically increase if precipitation occurs more frequently or falls more efficiently.

Thunderstorms are common in Georgia, particularly in the spring and summer months, and often bring heavy rains that can cause severe flooding. Although Georgia rarely experiences direct landfall of hurricanes, tropical storm system remnants can bring heavy rains and strong winds to the state. Precipitation projections for Georgia are uncertain. Even if annual precipitation remains constant, higher temperatures will increase evaporation rates and decrease soil moisture during dry spells, leading to greater drought intensity.

Climate change is contributing to more extreme weather patterns, including heavier and more frequent rainfall events, which increase the risk of flooding. In Gwinnett County, these changes are expected to exacerbate existing flood risks and create new challenges for flood management and mitigation.

Effects on the General Population

The increased risk of flooding poses significant challenges for the general population in Gwinnett County:

- **Property Damage:** Floods can cause extensive damage to homes, businesses, and infrastructure, leading to substantial economic losses and increased insurance costs.
- **Health Risks:** Floodwaters can carry contaminants, leading to waterborne diseases and health issues related to mold and mildew in water-damaged buildings.
- **Disruption of Services:** Flooding can disrupt essential services such as transportation, electricity, water supply, and communication networks, affecting the entire community.
- **Economic Impact:** Recovery from flood damage can be costly, affecting the local economy and potentially leading to job losses and reduced economic activity.

Disproportionate Impact on Vulnerable Populations

Vulnerable populations, including low-income families, the elderly, people with disabilities, and those without adequate housing, face heightened risks from flooding:

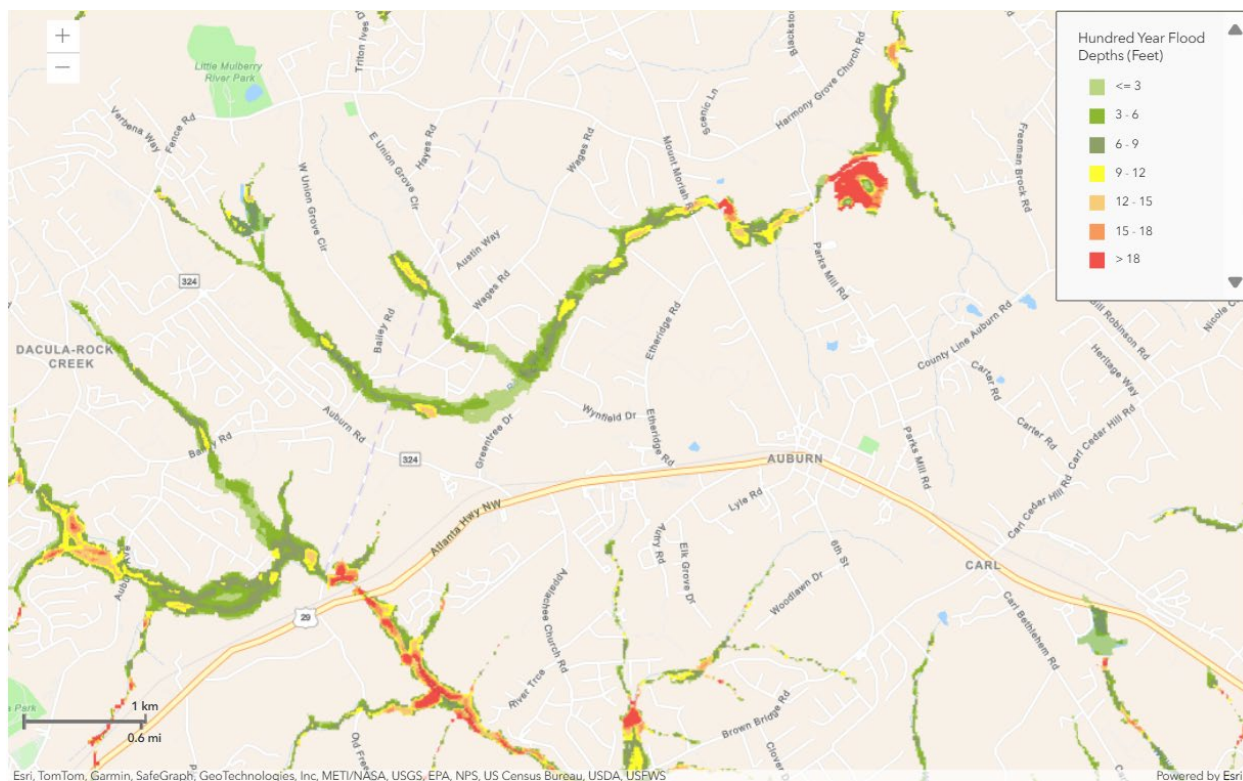
- **Low-income families:** Often live in flood-prone areas and lack the resources to repair or rebuild after a flood. Limited financial means can also restrict their ability to relocate to safer areas.
- **Elderly and Disabled Individuals:** May have difficulty evacuating quickly or accessing emergency services during a flood, increasing their risk of injury or death.
- **Homeless Population:** Lack of access to any form of shelter, making them extremely vulnerable during flood events and at risk of exposure to the elements and health hazards.

Inland Flooding Extent by Jurisdiction

The flood depth maps in this section were gathered using GEMA/HS Georgia Mitigation Information System (GMIS). GMIS is an on-line mapping tool developed by the Information Technology Outreach Services (ITOS) a Division of the Carl Vinson Institute of Government at the University of Georgia and the Hazard Mitigation Division of GEMHSA. GMIS supports the documentation and implementation of mitigation activities through the State of Georgia through mapping and reporting of Critical Facilities, Mitigated Properties, and National Flood Insurance Program (NFIP) Properties.

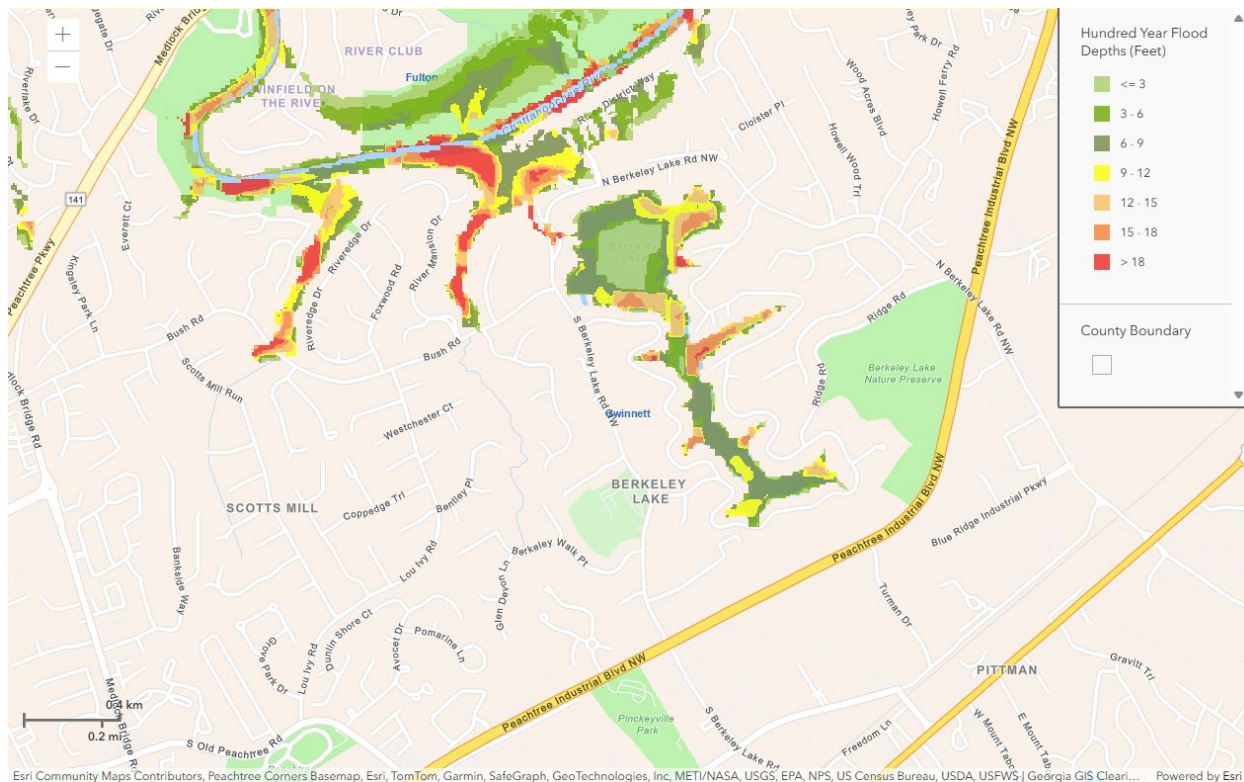
City of Auburn – Majority of city is in Barrow County leaving a small portion of the city within Gwinnett County. The Apalachee River is located nearby in unincorporated Gwinnett. To the north is Rock Creek. There have been no significant events reported in the last five years.

Figure 27: Hundred Year Flood Depth in Auburn



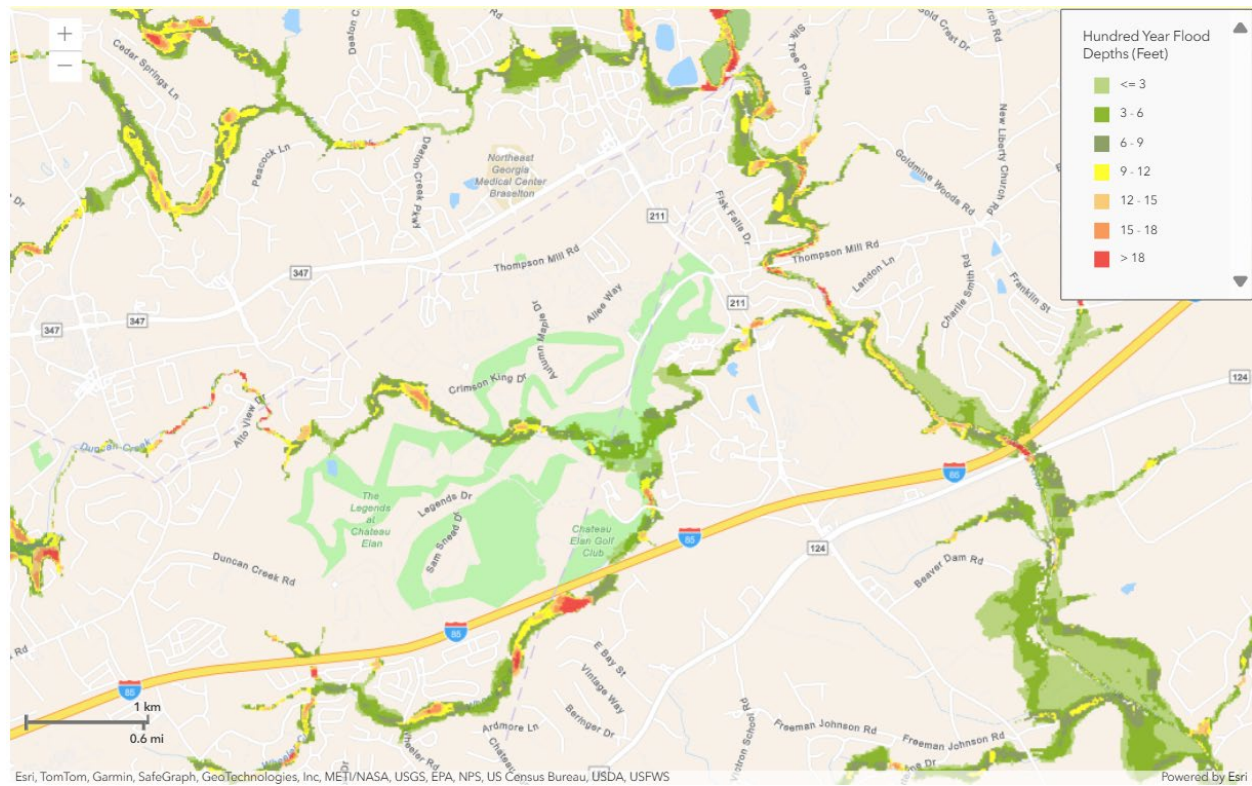
City of Berkeley Lake – The City of Berkeley Lake is geographically small and sandwiched between the City of Peachtree Corners and the City of Duluth. The city borders the Chattahoochee River to the north which flows via the Mill Creek Tributary into Berkeley Lake in the center of the city. The River District, a residential community, is in a High Risk Flood Zone AE or Shaded Zone X. The 2009 floods caused damage to Berkeley Lake Dam with repairs over \$3 million. When the dam was rebuilt, safeguards were installed to prevent flooding in the future.

Figure 28: Hundred Year Flood Depth in Berkeley Lake



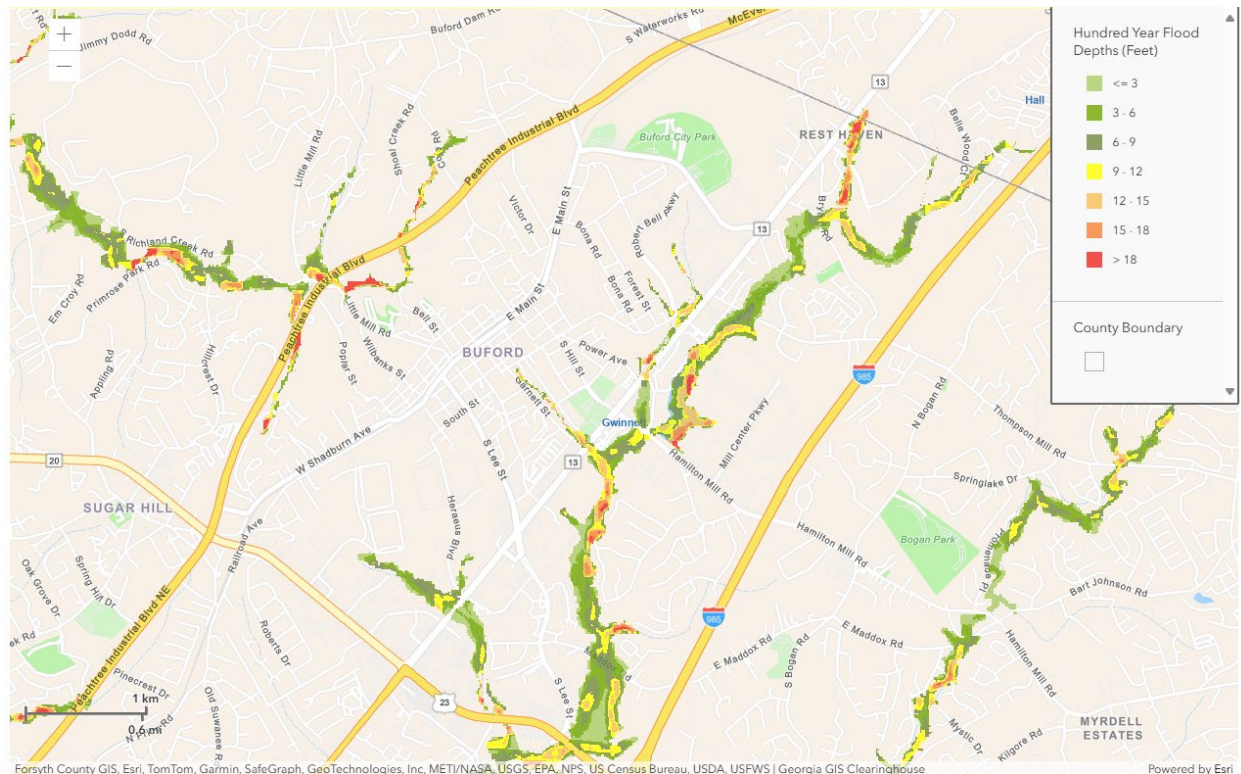
Town of Braselton – Braselton is a town in Barrow, Gwinnett, Hall, and Jackson counties. Duncan Creek and Wheeler Creek runs through the portion of the town within Gwinnett County. Wheeler Creek last crested in July of 2022 at 6.44ft which is categorized as minor flooding stage. The Braselton-Hoschton area appears to have navigated the inclement weather from Hurricane Helene (September 2024) without serious issues, though the storms did cause power outages, downed trees and overnight work for some public works employees.

Figure 29: Hundred Year Flood Depth in Braselton



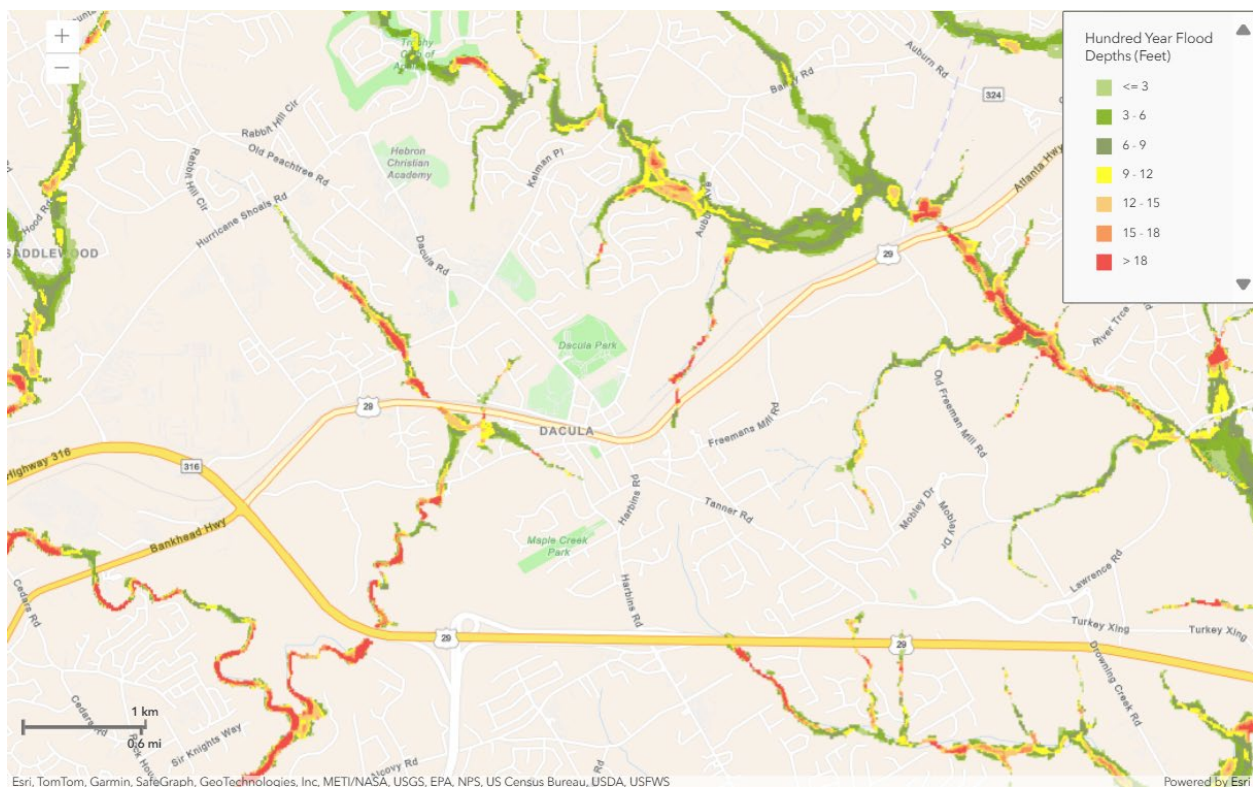
City of Buford – The City of Buford is less than 10 miles southeast of Buford Dam and Lake Sidney Lanier, a reservoir. This reservoir flows into the Chattahoochee River which follows the western county line. Southeast of the city runs the Suwanee Creek which flows mostly by commercial property, near Buford Highschool facility, and a few residential properties.

Figure 30: Hundred Year Flood Depth in Buford



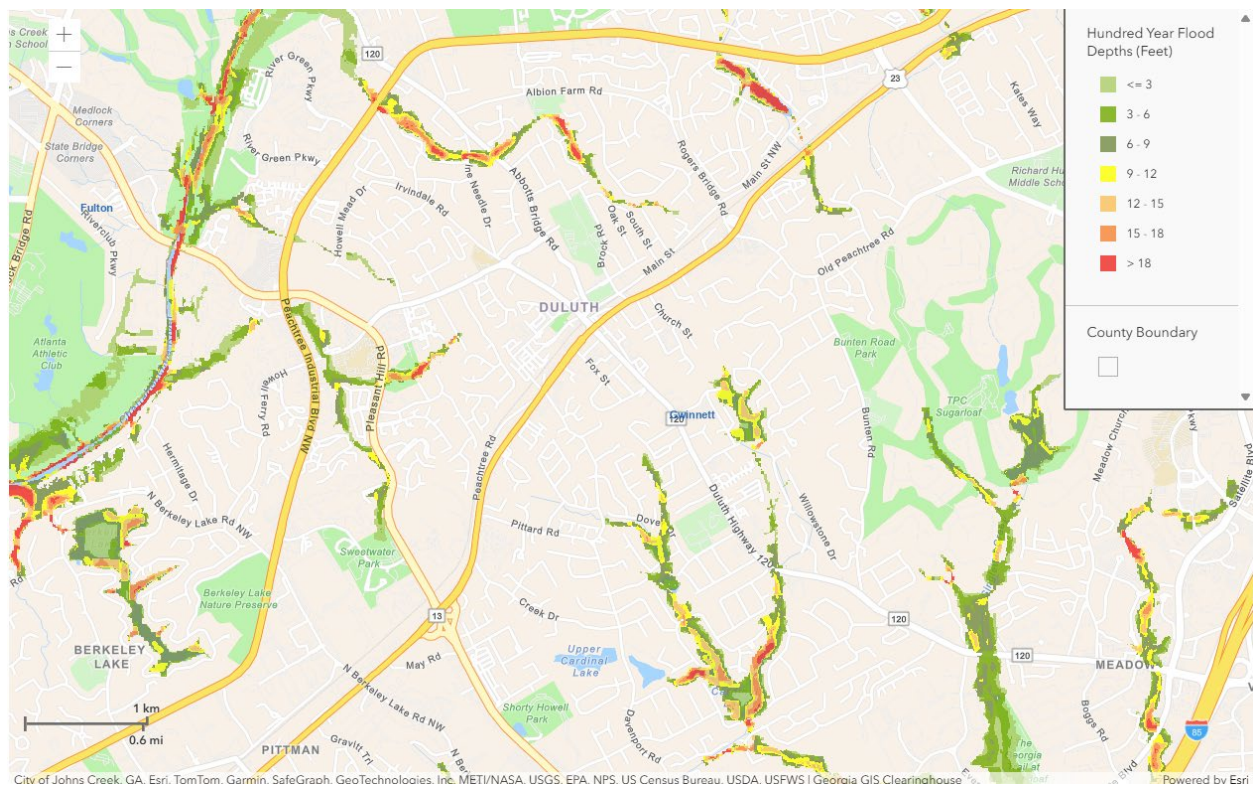
City of Dacula – The Apalachee River is located north of the city and the Hopkins Creek is west of the city. Apalachee River historic flood stage occurred in September of 2009 cresting at 8.56 FT or minor flooding stage. The most recent occurrence of flooding was 15 years ago in January of 2010 at 6.26ft or action stage. In 2023 the City of Dacula completed storm water improvements on McMillan Road between Winder Highway and Stanley Road/Church Street. This area experienced a historic routine flooding during heavy rains. The city utilized funding from the American Rescue Plan Act (ARPA). Sourced from City of Dacula website press release titled McMillan Road Stormwater Project Complete, Tuesday, August 8, 2023.

Figure 31: Hundred Year Flood Depth in Dacula



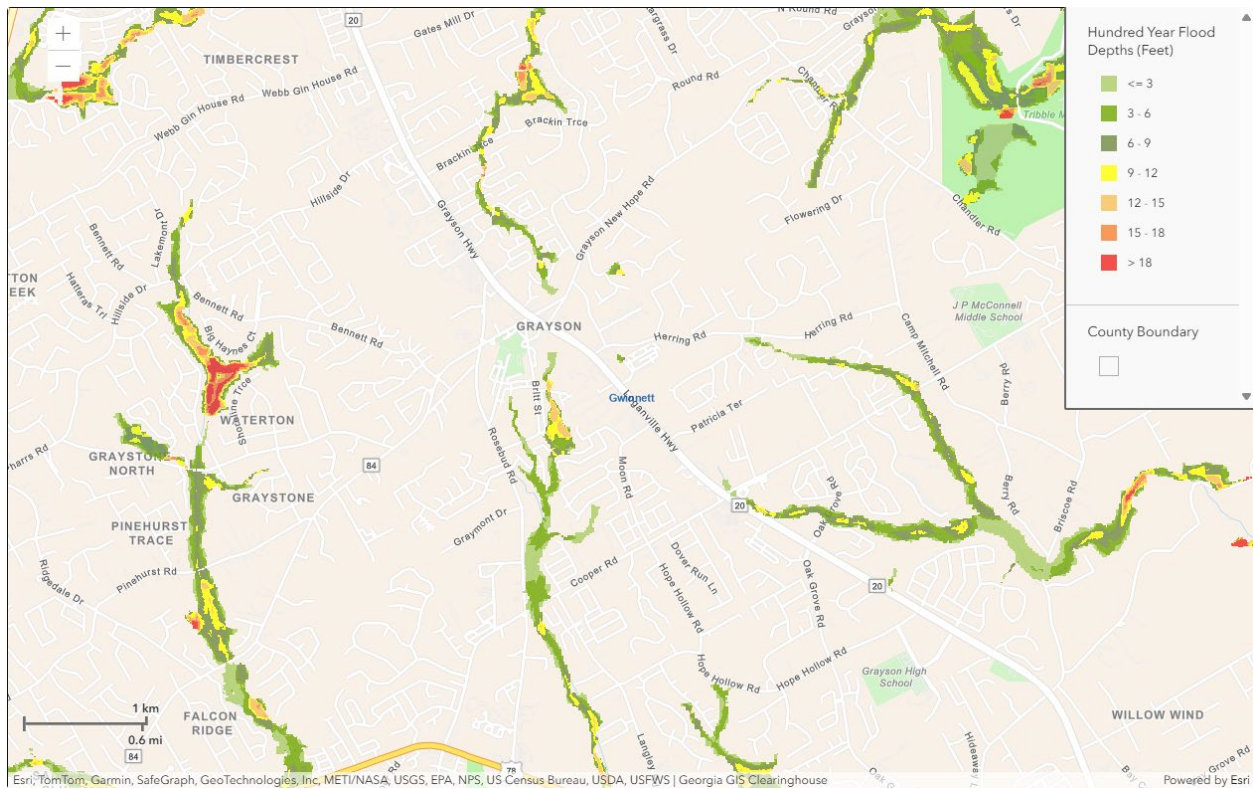
City of Duluth – The City of Duluth sits approximately 2 miles east of the Chattahoochee River. April 2024, just outside of Duluth city limits, Gwinnett County Water Resources and Gwinnett Parks and Recreation broke ground on a new park called Beaver Ruin Wetland Park. This is one of the largest wetland areas of its kind in Gwinnett County and they naturally clean and filter the water before returning to Sweetwater Creek and the Yellow River. Stormwater from 4.5 square miles collects here including run off from Peachtree Industrial Blvd, Beaver Ruin Rd, Buford Hwy, and Old Norcross Rd.

Figure 32: Hundred Year Flood Depth in Duluth



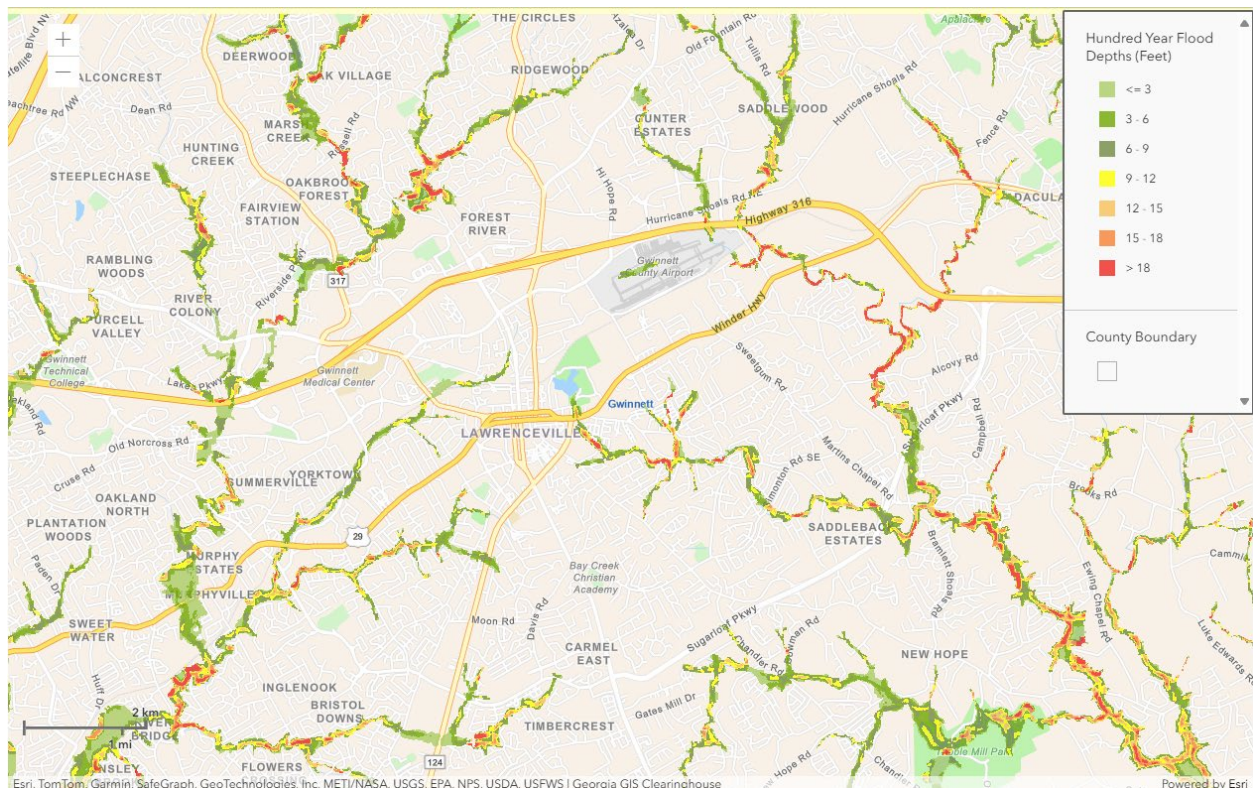
City of Grayson – The Alcovy River and Yellow River in Grayson were reported to be at or above flood stage levels due to Hurricane Helene in 2024.

Figure 33: Hundred Year Flood Depth in Grayson



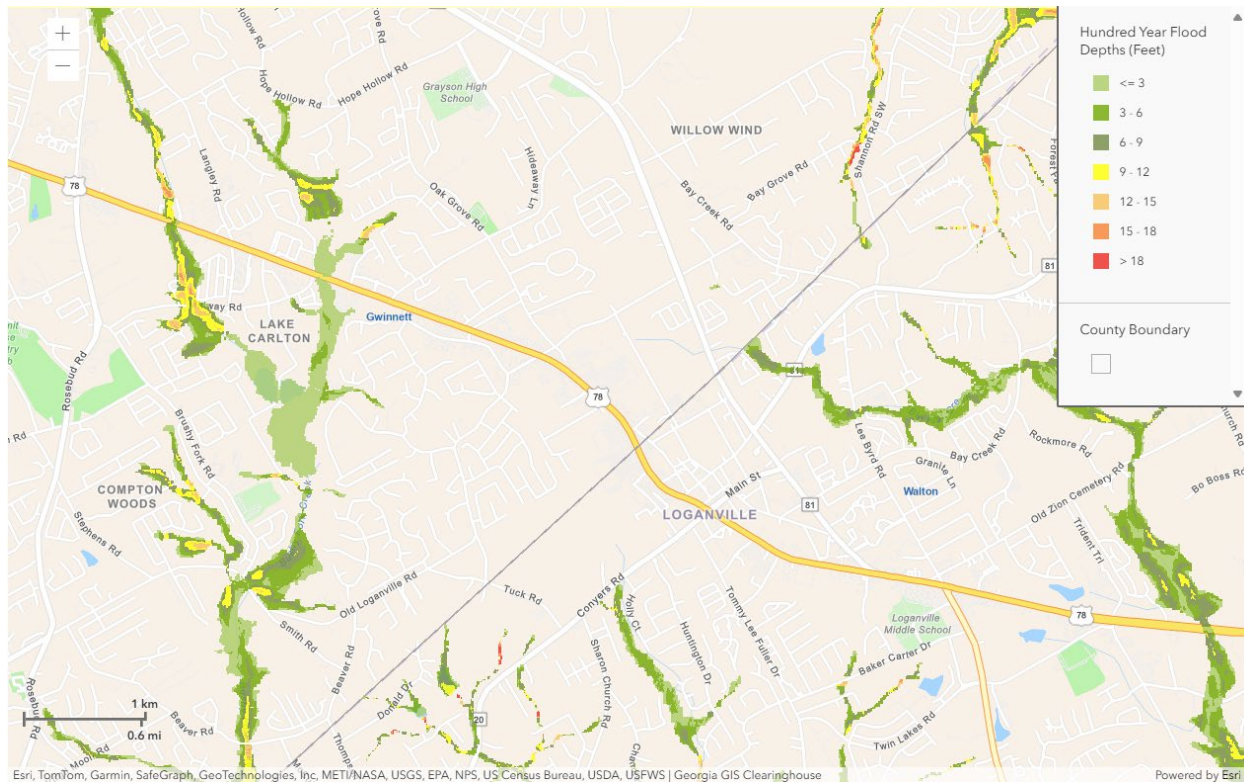
City of Lawrenceville – The City of Lawrenceville is surrounded by the Yellow River and Pew Creek on the west, Shoal Creek and Alcovy River on the east. In March 2024 and February 2025, a heavy rain system threatened flooding of the Pew Creek at Patterson Road. In 2024 Hurricane Helene dumped rain in Gwinnett County causing Pew Creek to flood, cresting at 12.26ft. Briscoe Field Airport in Lawrenceville showed accumulation of 7.9 inches of rain according to NWS. Shoal Creek, Alcovy River, and Pew Creek’s highest historic crest was September of 2009 cresting at 13.12ft, 13.87ft, and 16.69ft respectively.

Figure 34: Hundred Year Flood Depth in Lawrenceville



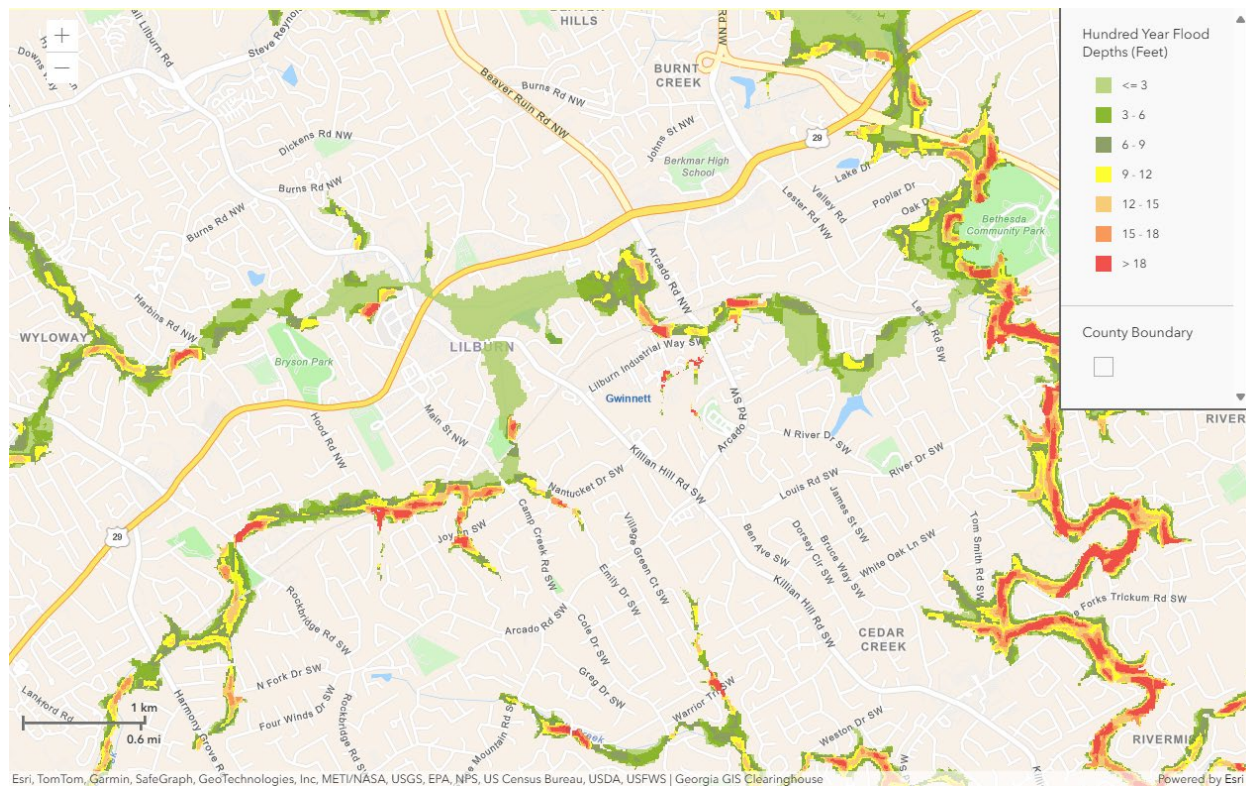
City of Loganville – The City of Loganville is mostly located in Walton County. However, a small portion is in Gwinnett County. Within Gwinnett County Bushy Fork Creek and Lake Carlton are southwest of the City of Loganville. There have been no significant events reported in the last five years.

Figure 35: Hundred Year Flood Depth in Loganville



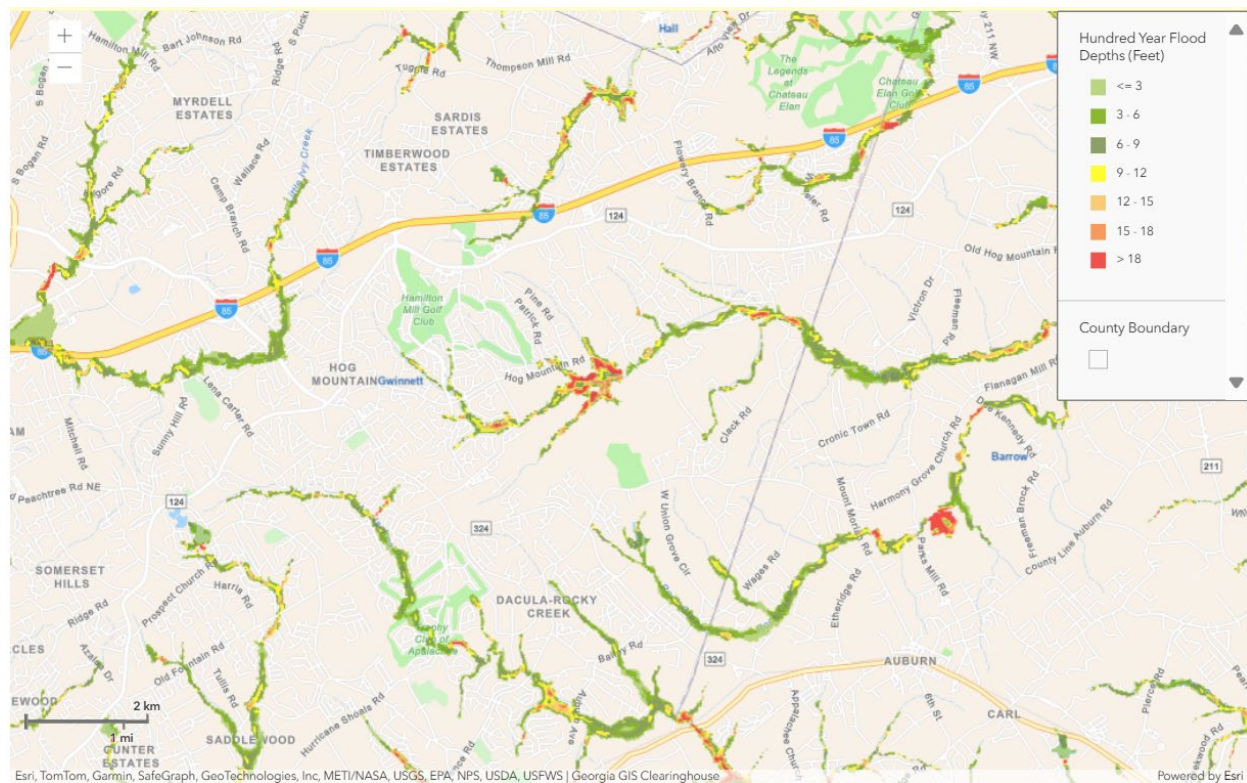
City of Lilburn – The City of Lilburn is interested by Jackson Creek and Camp Creek. Sweetwater Creek and the Yellow River are east of the city. Hurricane Helene in September 2024 threatened flooding of Sweetwater Creek at Club Drive and the Yellow River cut off access to approximately 100 homes in the Connemara Crossing Subdivision (east of Lilburn) where it crosses River Drive SW. In March 2024 and February 2025, heavy rain systems threatened flooding of Sweetwater Creek at Club Drive.

Figure 36: Hundred Year Flood Depth in Lilburn



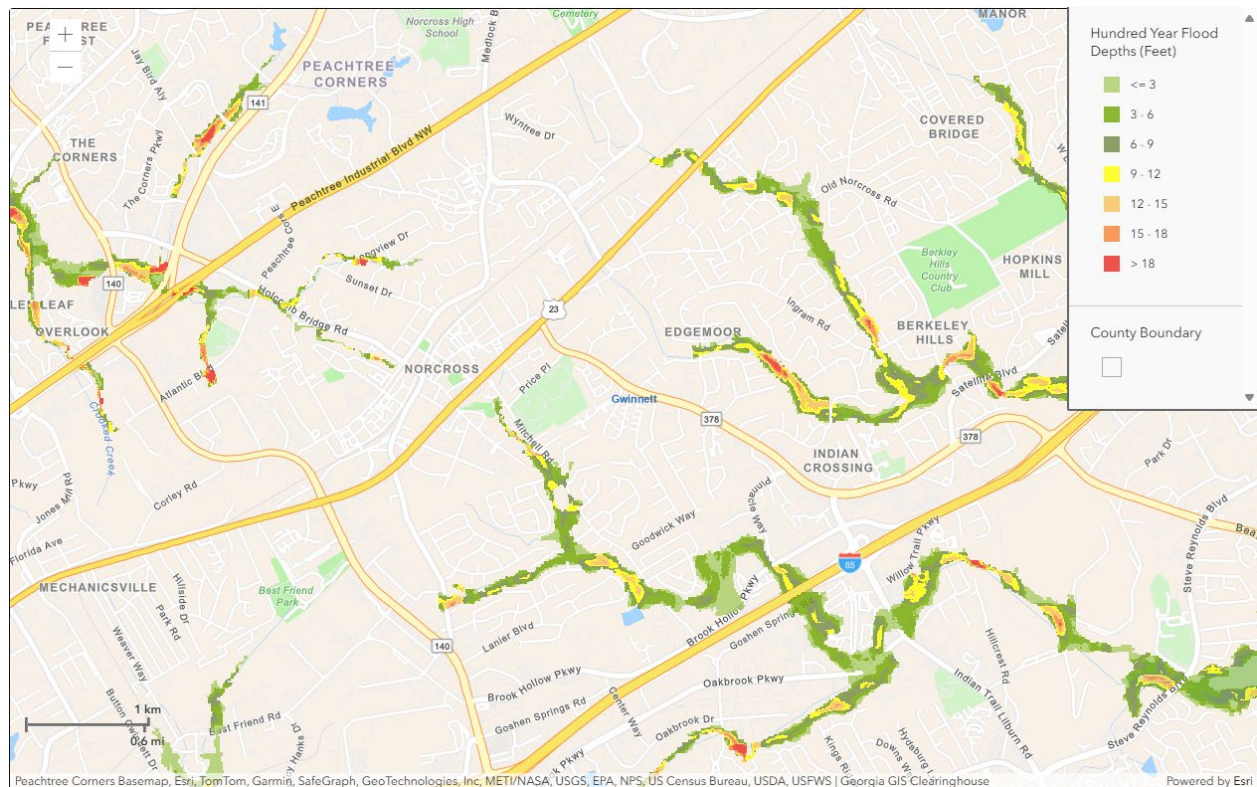
City of Mulberry – The City of Mulberry was incorporated in 2025 and will now be responsible for stormwater management. The Little Mulberry River runs through the middle of the City of Mulberry. The river is managed by multiple flood control structures, and a significant amount of the High Risk Zone AE is located in Little Mulberry Park. Other notable sources of flooding are Duncan Creek, Wheeler Creek, and the Apalachee River.

Figure 37: Hundred Year Flood Depth in Mulberry



City of Norcross – In the City of Norcross Crooked Creek runs under Peachtree Industrial Boulevard and Beaver Run Creek runs under I-85. Bromelow Creek Tributary No. 1 runs just outside of the city limits to the east. In 2024 Hurricane Helene caused flooding near I-85 and Indian Trail Road. Crooked Creek historic flood stage was in September 2009 cresting at 14.59ft.

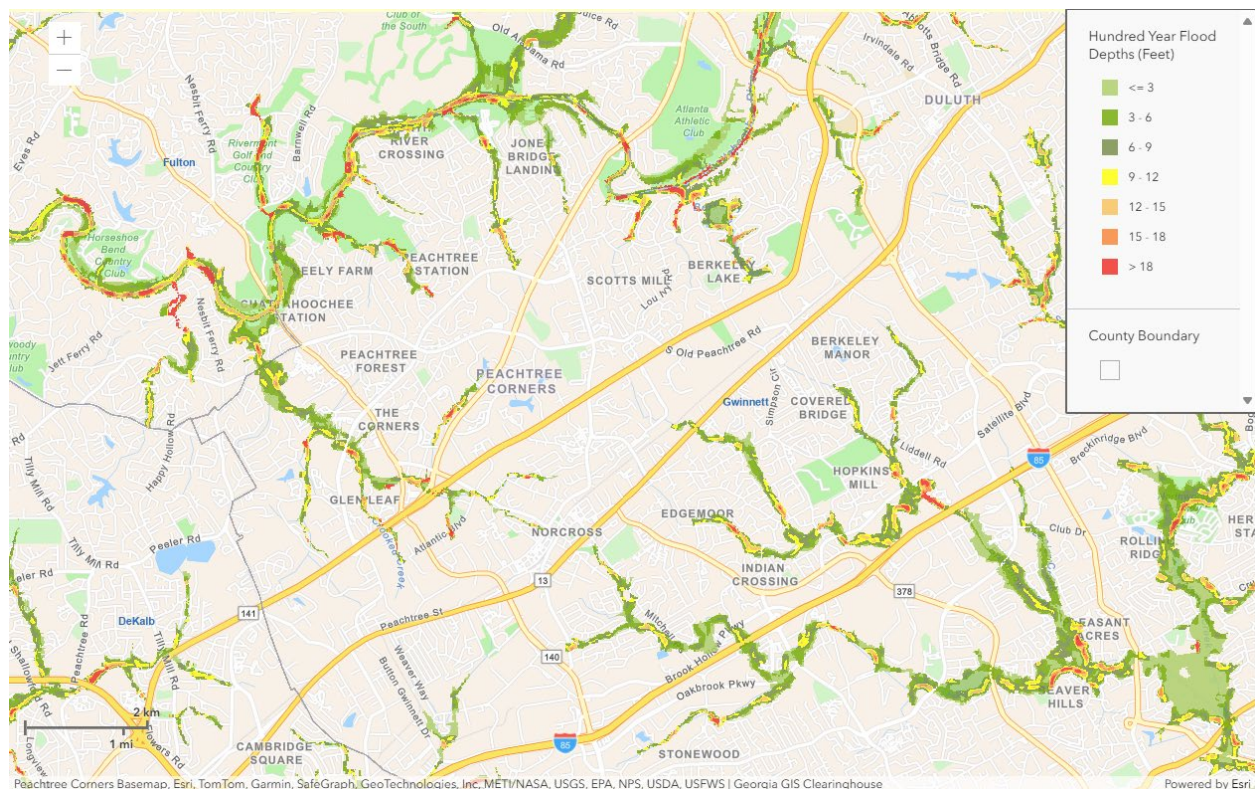
Figure 38: Hundred Year Flood Depth in Norcross



City of Peachtree Corners – The Chattahoochee River runs along the city’s north and west jurisdiction boundaries. Crooked Creek, North Fork Peachtree Creek, Beaver Ruin Creek, and Bromolow Creek run through or near the city. On the city’s web page (<https://www.peachtreecornersga.gov/222/Floodplain-Management>) there is information for floodplain management. The page’s purpose is “to bring awareness to the City’s ability to provide floodplain information on your property. As a public outreach effort, the page contains many useful tips regarding flood insurance, flood safety, floodplain protection, and flood damage mitigation.”

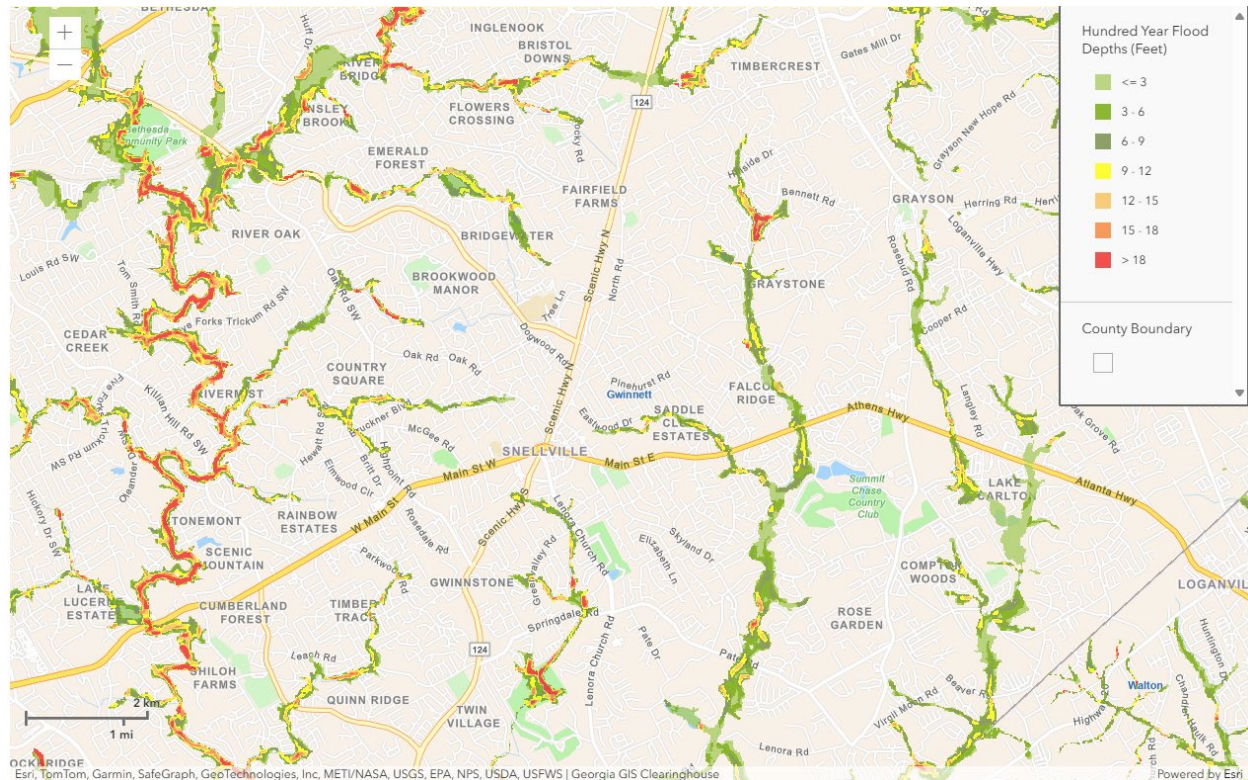


Figure 39: Hundred Year Flood Depth in Peachtree Corners



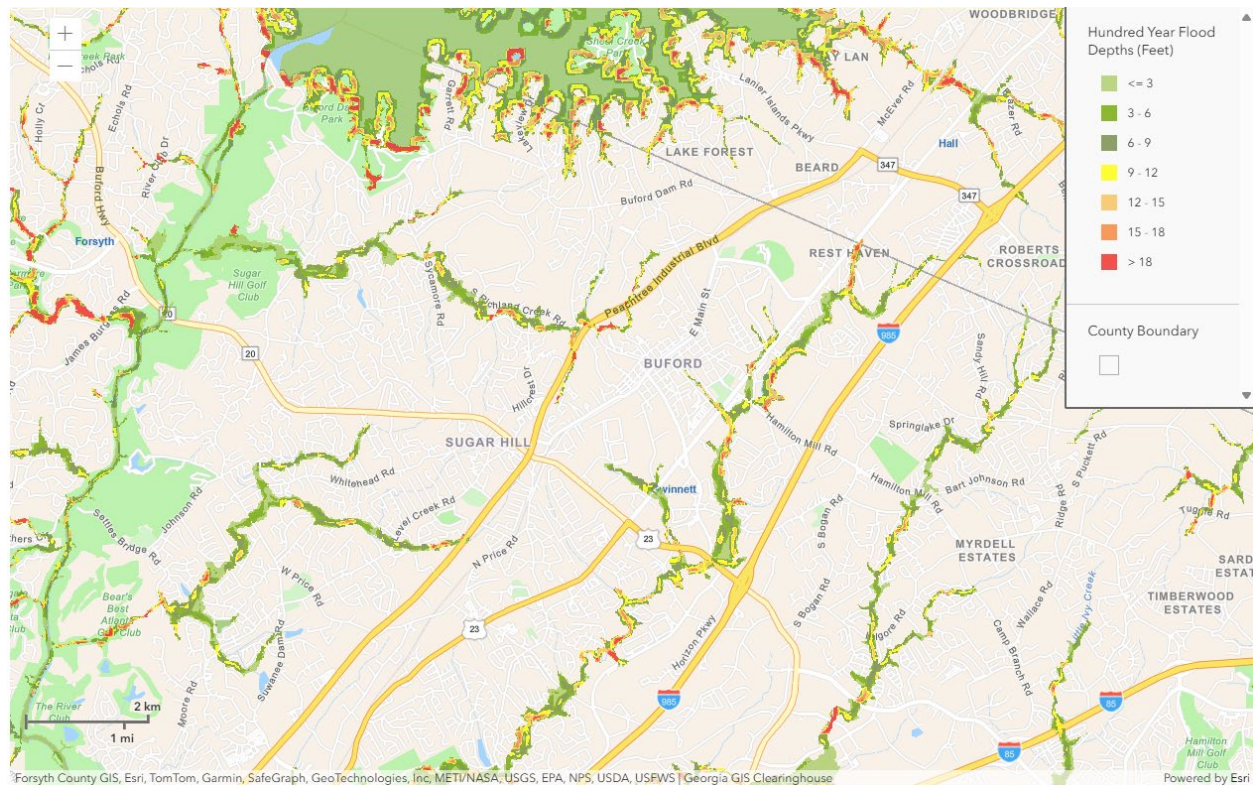
City of Snellville – The City of Snellville is surrounded by the Yellow River and Jacks Creek to the west, Big Haynes Creek to the east, No Business Creek to the south, and other smaller creeks. Flooding occurs along the Yellow River upstream and downstream where it passes under Killian Hill Road. In September 2024, Hurricane Helene threatened flooding of the Yellow River at GA-124, Big Hayes Creek at Lenora Road, and No Business Creek at Lee Road. In February 2025, a storm system passed through threatening flooding of Big Haynes Creek at Lenora Road.

Figure 40: Hundred Year Flood Depth in Snellville



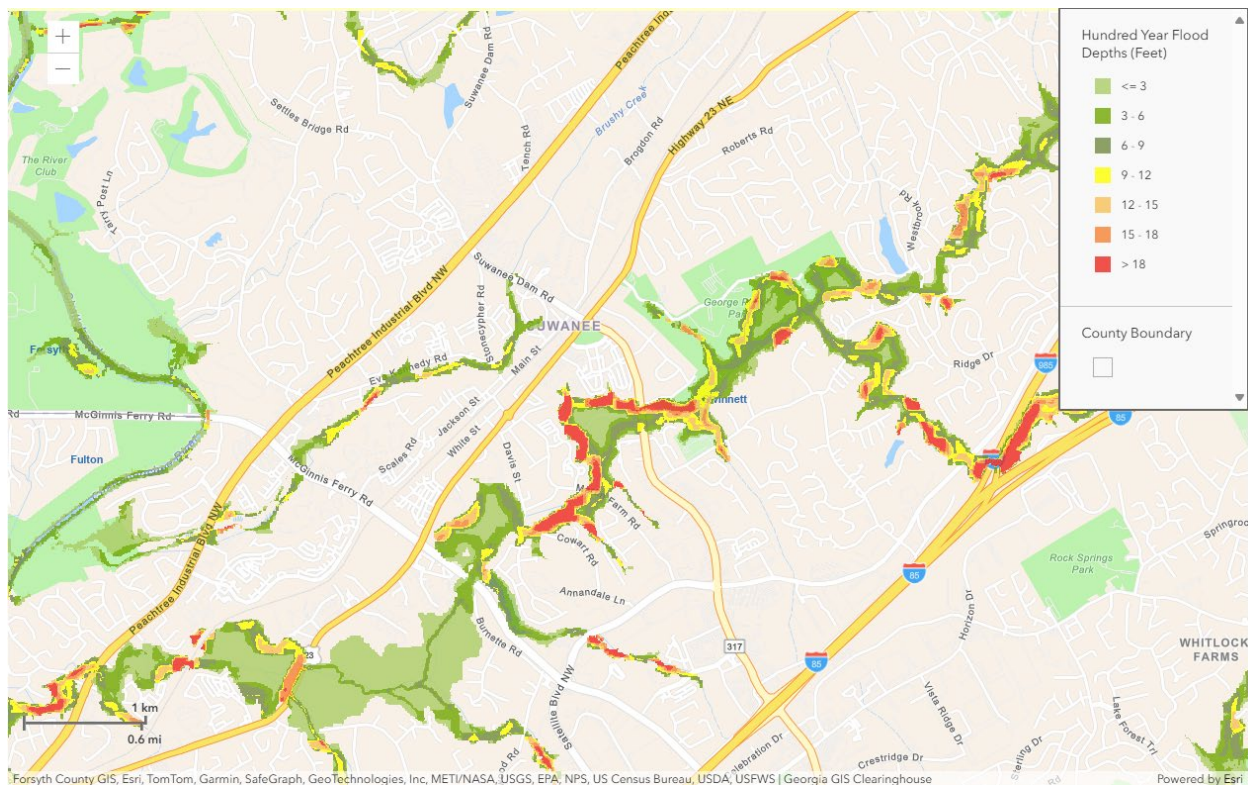
City of Sugar Hill – The City of Sugar Hill is surrounded by Richland Creek to the north, Level Creek to the southwest, and Suwanee Creek to the east. The Chattahoochee River just below Buford Dam follows the western boundary of the city. The City of Sugar Hill is in the process of applying for grant funds to address some areas of Richland Creek that are eroded by stormwater surges.

Figure 41: Hundred Year Flood Depth in Sugar Hill



City of Suwanee – The Suwanee Creek, a tributary of the Chattahoochee River runs through the city. The Suwanee Creek is known for frequent flooding. The National Water Prediction Center has 25 crest records within the last five years. The Suwanee Creek Greenway follows the creek’s path connecting pedestrian paths and parks for recreational opportunities. In February 2025, a storm system passed through threatening flooding of the Suwanee Creek. In 2024 Hurricane Helene brought flooding that closed Martin Farm Road. Level Creek, Suwanee Creek, and Dick Creek historic flood stage was in September 2009 cresting at 11.60ft, 14.30ft, and 11.72 ft respectively.

Figure 42: Hundred Year Flood Depth in Suwanee



Source: <https://www.ncei.noaa.gov/products/severe-weather>

<https://www.ajc.com/news/local/gwinnett-buy-homes-damaged-floods/N1EAX6P6cGp2o7uVibk9QI/>

https://www.gwinnettdailyreport.com/local/helene-brings-flooding-and-power-outages-to-gwinnett/article_6a84067c-7c5d-11ef-aede-e74af974a0b0.html

The United States Geological Survey (USGS) and Gwinnett County manage and monitor 33 river gauges throughout Gwinnett County rivers and creeks. The National Water Prediction Service provides observation and forecast mapping utilizing the data from the gauges as well as from other national models. Reference **Appendix G: River Gauges** in Gwinnett County for maps and additional information.

Table 27: River Gauges in Gwinnett County

River/Creek	Station ID	Location	Flood Stage (ft)	Nearest City
Wheeler Creek	WLRG1	Wheeler Creek at Bill Cheek Road near Auburn	6	Auburn
Ivy Creek	IVYG1	Ivy Creek at Thompson Mill Road near Buford	-	Buford
Chattahoochee River	CMMG1	Chattahoochee River at Lake Sidney Lanier near Buford	15	Buford
Chattahoochee River	BUFG1	Chattahoochee River at Buford Dam near Buford	12	Buford
Richland Creek	RLCG1	Richland Creek at Suwanee Dam Road near Buford	10	Buford
Apalachee River	DACG1	Apalachee River at Fence Road near Dacula	8	Dacula
Alcovy River	ALCG1	Alcovy River at New Hope Road near Grayson	9	Grayson
Alcovy River	LWRG1	Alcovy River near Lawrenceville	15	Lawrenceville
Shoal Creek	LAVG1	Shoal Creek at Paper Mill Road near Lawrenceville	11	Lawrenceville
Yellow River Tributary	YETG1	Yellow River Trib at Plantation near Lawrenceville	-	Lawrenceville
Pew Creek	LAWG1	Pew Creek at Patterson Road near Lawrenceville	11	Lawrenceville
Wildcat Creek	WLDG1	Wildcat Creek near Lawrenceville	-	Lawrenceville
Sweetwater Creek	STWG1	Sweetwater Creek at Club Drive near Lilburn	11	Lilburn
Jackson Creek	JAAG1	Jackson Creek at Angels Lane near Lilburn	-	Lilburn
Jackson Creek Tributary	JAWG1	Jackson Creek Tributary at Williams Road near Lilburn	-	Lilburn

River/Creek	Station ID	Location	Flood Stage (ft)	Nearest City
Yellow River	YELG1	Yellow River at GA 124 near Lithonia	15	Lithonia ⁵
Stone Mountain Creek	SOCG1	Stone Mountain Creek at GA 124 near Lithonia	12	Lithonia ⁷
Brushy Fork Creek	LOGG1	Brushy Fork Creek at Beaver Road Loganville	9	Loganville
Chattahoochee River	NCRG1	Chattahoochee River at Highway 141 near Norcross	12	Norcross
Crooked Creek	CRKG1	Crooked Creek near Norcross	11	Norcross
Bromolow Creek Tributary	BRMG1	Bromolow Creek Tributary at Pond Road near Norcross	-	Norcross
Beaver Ruin Creek	BVRG1	Beaver Ruin Creek at Mitchell Road near Norcross	-	Norcross
North Fork Peachtree Creek	NFPG1	North Fork Peachtree Creek at Graves Road near Norcross	12	Norcross
Big Haynes Creek	BIGG1	Big Haynes Creek at Lenora Road near Snellville	10	Snellville
No Business Creek	NOBG1	No Business Creek at Lee Road near Snellville	9	Snellville
Watson Creek Tributary	WATG1	Watson Creek Trib at Tanglewood near Snellville	-	Snellville
Yellow River	YESG1	Yellow River near Snellville	23	Snellville
Garner Creek	GARG1	Garner Creek near Snellville	-	Snellville
Wolf Creek Tributary	WLFG1	Wolf Creek Tributary at Dean Road Suwanee	-	Suwanee
Level Creek	SWAG1	Level Creek at Suwanee Dam Road near Suwanee	9	Suwanee
Dick Creek	DICG1	Dick Creek at Old Atlanta Road near Suwanee	10	Suwanee
Chattahoochee River	WSWG1	Chattahoochee River upstream McGinnis Ferry, Suwanee	22	Suwanee
Suwanee Creek	SWEG1	Suwanee Creek at Suwanee	8	Suwanee

⁵ The following gauges are in Dekalb County along the Gwinnett County line.

Risk Mapping, Assessment, and Planning (Risk MAP)

The Federal Emergency Management Agency's (FEMA) Risk Mapping, Assessment, and Planning (Risk MAP) program provided Gwinnett County with a flood risk report (FRR) that contained information and tools that can be used to increase their resilience to flooding and better protect their citizens. A Flood Risk Report (FRR) and a Flood Risk Map were published for only Gwinnett County in January 2013 (City of Auburn and City of Loganville were not studied). In June of 2014 A FRR was completed for the "Upper Ocmulgee Watershed" which includes the City of Loganville. In November of 2017 a FRR was completed for the "Upper Chattahoochee Watershed, Georgia" which includes the City of Buford.

Risk MAP is an integrated process of identifying, assessing, communicating, planning for, and mitigating flood-related risks by pairing accurate floodplain maps with risk assessment tools and planning and outreach support.

Through Risk MAP, FEMA provided Gwinnett County with updated Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FISs) that focus on the probability of floods and that show where flooding may occur as well as the calculated one percent annual chance flood elevation. The one percent annual chance flood, also known as the base flood, has a one percent chance of being equaled or exceeded in any given year. Structures in Gwinnett are required to be three feet over the 100-year flood elevation or base flood elevation (BFE). Since flood risk is inherently dynamic FEMA also provides Gwinnett County with the following flood risk products:

- Flood Risk Report (FRR): The FRR presents key risk analysis data for the Flood Risk Project.
- Flood Risk Map (FRM): The FRM shows a variety of flood risk information for the in the areas included in the project.
- Flood Risk Database (FRD): The FRD is in GIS format and houses the flood risk data developed during the course of the flood risk analysis that can be used and updated by the community.

The FRR, FRM, and FRD contain a variety of flood risk analysis information to help describe and visualize flood risk within the project area including the following elements:

- Changes Since Last FIRM
- Water Surface, Flood Depth, and Analysis Grids
- Flood Risk Assessment Information
- Areas of Mitigation Interest

Products are available for download through the FEMA Map Service Portal (<https://msc.fema.gov/portal>) and local flood risk information can also be accessed through the Georgia Flood M.A.P. website (<http://map.georgiadfirm.com>).

Gwinnett County is featured on the FEMA website as a Risk Map success story:
<https://www.fema.gov/risk-map-success-story-gwinnett-county-georgia-revamps-stormwater-infrastructure-improvement-plans>

The Flood Risk Map offers a graphical overview of the Flood Risk Project which highlights areas of risk that should be noted, based on potential losses, exposed facilities, etc., and is based on data found in the FRD. Areas of potential flood risk are identified as very low, low, medium, high, and very high and are calculated according to the building level per Census-Block.

Figure 43: Flood Risk Map

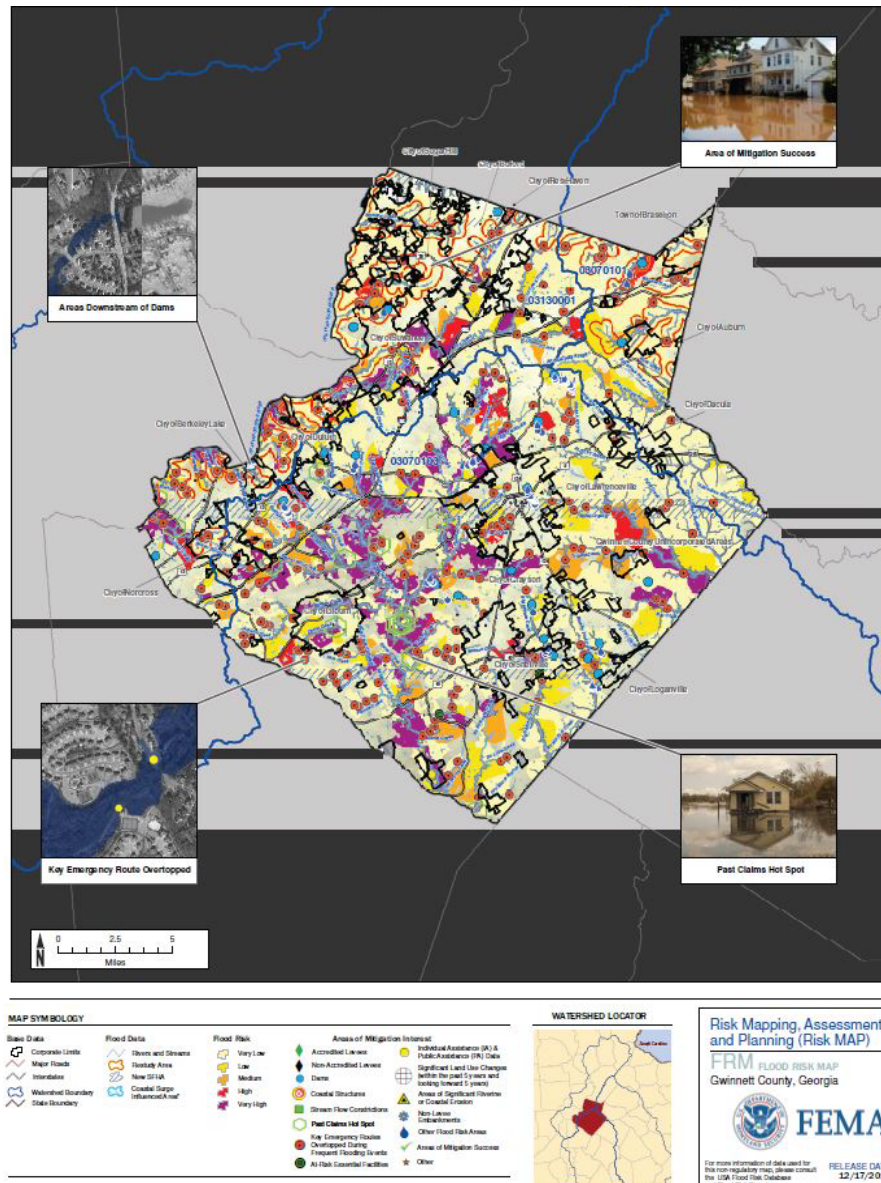
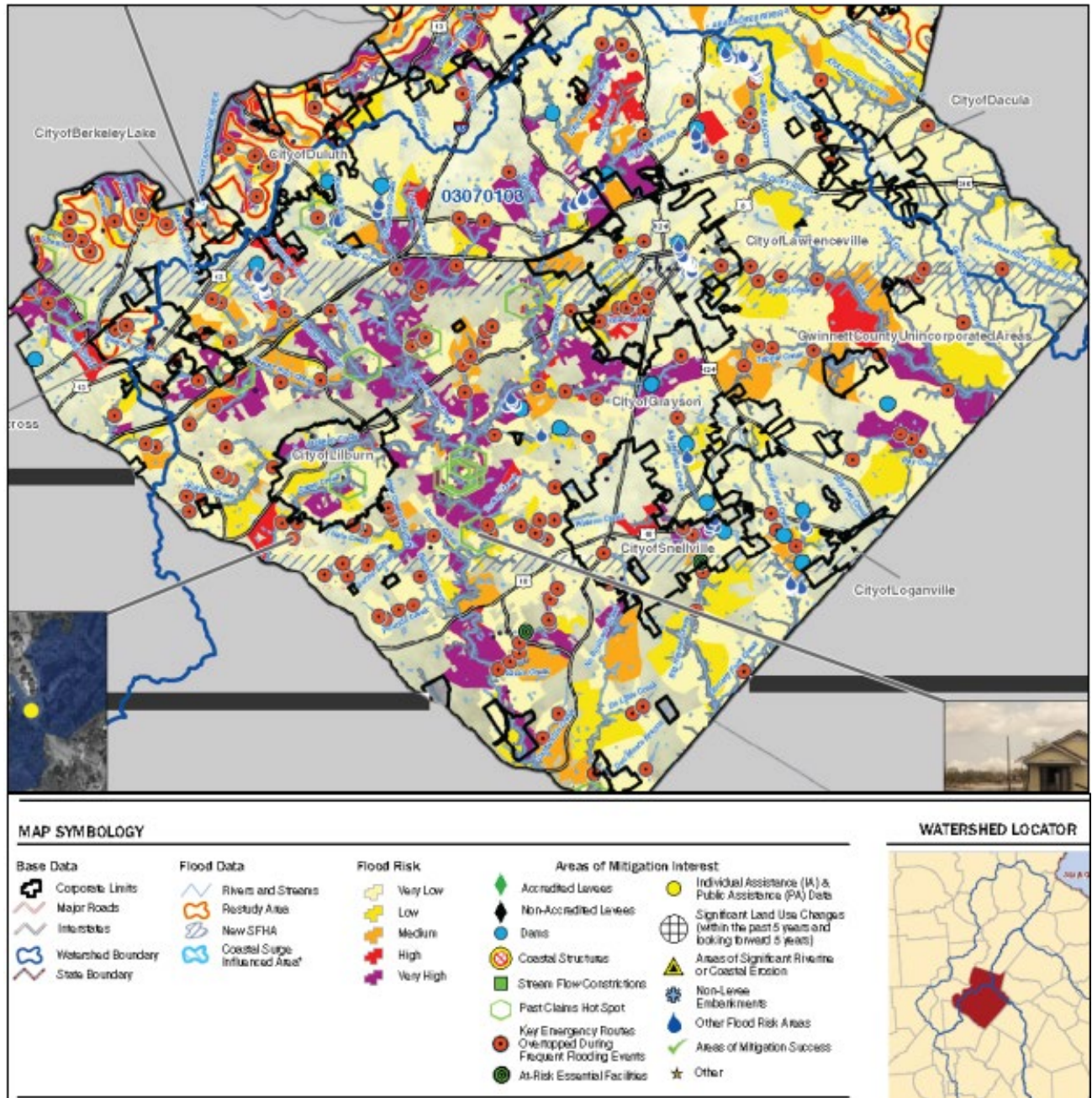


Figure 44: Flood Risk Map (up close)



National Flood Insurance Program

To provide a sense of the flood risk in a community, it is beneficial to summarize the policies in force and claim statistics from the NFIP. The U.S. Congress established the NFIP with the passage of the National Flood Insurance Act of 1968. The NFIP is a federal program that enables property owners in participating communities to purchase insurance as protection against flood losses in exchange for state and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the federal government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the federal government will make flood insurance available within the community as a financial protection against flood losses. Gwinnett County has been a member of the NFIP since 1974. All communities participate in NFIP and the newest city in Gwinnett County, Mulberry, is in the process of establishing an NFIP-compliant program.

Gwinnett County has approximately 24,000 Acres of floodplain. Floodplain is very beneficial to our overall ecosystem; water quality is improved through the wetlands' ability to filter nutrients and impurities from runoff and process organic wastes. Our Floodplain Management Ordinance prohibits construction within the floodplain. A home built on a floodplain lot is required to be elevated three feet above the 100-year Base Flood Elevation (BFE). There are numerous entities within the county that have purchased flood insurance through the National Flood Insurance Program (NFIP). Each of these policyholders is eligible for a 15 percent discount on their flood insurance based on Gwinnett County being an active and participating member of the Community Rating System (CRS).

Source: <https://www.gwinnettcountry.com/web/gwinnett/departments/water/whatwedo/stormwater/floodriskmanagement>; https://www.fema.gov/sites/default/files/documents/fema_crs-eligible-communities_042023.pdf

Table 28: Gwinnett County NFIP Member Detail

SevereCID	Community Name	County	Current Effective Map Date
130498B	City of Auburn	Gwinnett County/Barrow County	April 2024
130450#	City of Berkeley Lake	Gwinnett County	March 2013
130343A	Town of Braselton	Gwinnett County/Hall County/Barrow County/Jackson County	April 2024
130323H	City of Buford	Gwinnett County	April 2018
130324#	City of Dacula	Gwinnett County	April 2024
130098#	City of Duluth	Gwinnett County	March 2013

SevereCID	Community Name	County	Current Effective Map Date
130325#	City of Grayson	Gwinnett County	September 2006
130322#	County of Gwinnett	Gwinnett County	April 2024
130099#	City of Lawrenceville	Gwinnett County	September 2006
130100#	City of Lilburn	Gwinnett County	September 2006
130326C	City of Loganville	Gwinnett County/Walton County	December 2016
130101#	City of Norcross	Gwinnett County	March 2013
135176C#	City of Peachtree Corners	Gwinnett County	March 2013
130120#	City of Snellville	Gwinnett County	September 2006
130474#	City of Sugar Hill	Gwinnett County	March 2013
130328#	City of Suwanee	Gwinnett County	March 2013

Source: <https://nfipservices.floodsmart.gov/reports-flood-insurance-data>

Repetitive Loss Properties

Repetitive loss properties are a serious concern from a mitigation standpoint. A repetitive loss property is a property that has two or more flood insurance claims exceeding \$1,000 for each loss within any rolling ten-year period. Currently, no other hazard, other than flooding, has resulted in any repetitive loss properties that meet the same criteria. The National Flood Insurance Reform Act of 2004 also recognized repetitive loss as a significant problem and defined severe repetitive loss as: “a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which four or more separate claims have been paid under flood insurance coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claims payments exceeding \$20,000; or for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

There are approximately 28 residential properties, and four non-residential properties throughout the county identified as repetitive lost properties. Three of the 28 residential properties are identified as severe repetitive lost properties. Repetitive loss property (redacted) maps can be found in **Appendix F**.

Source: <https://www.fema.gov/>

3.2.6. Severe Winter Storm

Hazard Identification

The Gwinnett County HMSC researched historical data from the National Climatic Data Center (NCDC) and the NWS as well as information from past newspaper articles

relating to severe winter storms in Gwinnett County. Severe winter storms bring the threat of snow, freezing rain, and ice storms. Generally, the winter storm season in Georgia runs from late November to mid-March, although severe winter weather has occurred as early as October and as late as May in some locations. A heavy accumulation of ice, especially when accompanied by high winds, devastates trees and power lines. Sidewalks, streets, and highways become extremely hazardous to pedestrians and motorists. Severe winter storms originate as mid-latitude depressions of cyclonic weather systems and can cause snowstorms and ice storms. Winter storms can shut down normal day-to-day operations and can produce an accumulation of snow and ice on trees and utility lines resulting in loss of electricity and blocked transportation routes.

Source: <https://www.weather.gov/ffc/clisumlst>

Extreme Cold

Gwinnett County typically does not experience extreme cold, but history has shown Gwinnett County is not immune to this event. Extreme cold temperatures are caused by the passage of a cold front dramatically dropping temperatures, which heralds the arrival of a cold wave. A cold wave can last days, weeks, and in some cases, months. Extreme cold can lead to frozen water pipes, which when they erupt can lead to extensive property damage and the depletion of a natural resource. When cities/communities have long-term loss of utilities, elderly and extremely young populations become more vulnerable to the effects of the extreme cold temperatures.

Hazard Profile

Research from the NCDC and NOAA indicates there have been 41 winter events recorded for Gwinnett County in the past 20 years. Although winter storms occur infrequently, they have the potential to wreak havoc on the community when they strike. Statistically, Gwinnett County can expect a winter storm about every two years; the most frequent occurrences were in 2014. This equates to a 55 percent chance of a winter storm occurring in any given year. On January 28–29, 2014, a significant winter storm impacted north and central Georgia, beginning with snow and sleet and accumulating to widespread amounts of one to three inches of snow. Across the Metro Atlanta area, thousands of motorists were trapped on icy roads for several hours. A similar event occurred in January 2011, in which Gwinnett County experienced temperatures below zero for three days. This event caused approximately two inches of ice accumulation and numerous traffic issues.

Table 29: Severe Winter Storms 2005-2024

Location	Date	Type of severe winter weather	Injuries	Fatalities	Property Damage
GWINNETT (ZONE)	16-Jan-22	Winter Weather	0	0	\$0
GWINNETT (ZONE)	16-Jan-22	Winter Storm	0	0	\$0
GWINNETT (ZONE)	6-Feb-21	Winter Weather	0	0	\$0
GWINNETT (ZONE)	8-Feb-20	Winter Storm	0	0	\$0
GWINNETT (ZONE)	4-Feb-18	Winter Weather	0	0	\$0
GWINNETT (ZONE)	16-Jan-18	Winter Storm	0	0	\$0
GWINNETT (ZONE)	8-Dec-17	Winter Storm	0	0	\$0
GWINNETT (ZONE)	6-Jan-2017	Winter Weather	0	0	\$0
GWINNETT (ZONE)	15-Feb-16	Winter Weather	0	0	\$0
GWINNETT (ZONE)	22-Jan-16	Winter Weather	0	0	\$0
GWINNETT (ZONE)	20-Jan-16	Winter Weather	0	0	\$0
GWINNETT (ZONE)	24-Feb-15	Winter Weather	0	0	\$0
GWINNETT (ZONE)	20-Feb-15	Winter Weather	0	0	\$0
GWINNETT (ZONE)	16-Feb-15	Ice Storm	0	0	\$0
GWINNETT (ZONE)	11-Feb-14	Winter Storm	0	0	\$0
GWINNETT (ZONE)	28-Jan-14	Winter Storm	0	0	\$0
GWINNETT (ZONE)	25-Jan-13	Winter Weather	0	0	\$0
GWINNETT (ZONE)	9-Feb-11	Winter Weather	0	0	\$0
GWINNETT (ZONE)	9-Jan-11	Heavy Snow	0	0	\$0
GWINNETT (ZONE)	25-Dec-10	Heavy Snow	0	0	\$0
GWINNETT (ZONE)	15-Dec-10	Winter Weather	0	0	\$0
GWINNETT (ZONE)	3-Mar-10	Heavy Snow	0	0	\$0
GWINNETT (ZONE)	12-Feb-10	Heavy Snow	0	0	\$0
GWINNETT (ZONE)	7-Jan-10	Winter Weather	0	0	\$0

Location	Date	Type of severe winter weather	Injuries	Fatalities	Property Damage
GWINNETT (ZONE)	1-Mar-09	Heavy Snow	0	0	\$50,000
GWINNETT (ZONE)	19-Jan-08	Winter Weather	0	0	\$0
GWINNETT (ZONE)	7-Apr-07	Frost/Freeze	0	0	\$0
GWINNETT (ZONE)	6-Feb-06	Winter Weather	0	0	\$0
GWINNETT (ZONE)	16-Dec-05	Freezing Fog	0	0	\$0
GWINNETT (ZONE)	15-Dec-05	Ice Storm	0	0	\$250,000
GWINNETT (ZONE)	2-Apr-05	Winter Weather	0	0	\$0
GWINNETT (ZONE)	28-Jan-05	Winter Storm	0	0	\$350,000
Total			0	0	\$650,000

Source: <https://www.ncdc.noaa.gov/stormevents>

Assets Exposed to Hazard

Infrastructure located in severe winter storm vulnerable areas include:

- Heavy Concentration of commercial and industrial land
- Heavy concentration of residential land use in vulnerable areas
- All schools located throughout the county

In evaluating assets that may potentially be impacted by the effects of severe winter storms, it was determined that all critical facilities, as well as all public, private, and commercial properties, are vulnerable.

- **Property Risk/Vulnerability.** In evaluating assets that may potentially be impacted by the effects of severe winter storms, all critical facilities as well as all public, private, and commercial properties are vulnerable to the effects of a winter storm. Gwinnett County has several major transportation routes throughout the county, Interstate Highway 85, 78, and 316 as well as Jimmy Carter Blvd and Peachtree Industrial Blvd could be significantly impacted by stranded drivers on the highway and become vulnerable to severe weather. The critical infrastructures that can be impacted are 148 schools, nursing homes, and multiple hospitals. These are all vulnerable because the power lines to these structures are above ground and these structures are not all equipped with backup generators, except for some nursing homes and hospitals. Loss of life, injury, and property damage can occur to these structures and special populations.

- **People Risk/Vulnerability.** It was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a winter storm and no way to predict where a storm will occur. People are vulnerable to winter storms through power outages, effects on transportation routes, establishment of shelters, water freezing, etc. The impact of a winter storm is larger in mild climates, such as in Gwinnett County, due to inexperience driving in and handling snow and ice
- **Environment Risk/Vulnerability.** Risks to the environment are low for a winter storm. Winter thaw can cause flooding, impacting the environment and possibly creating contamination of potable water for public consumption.

Vulnerability

Table 30: Severe Winter Storms

Frequency of Occurrence	Likely
Warning Time	More than 12 hours
Geographic Extent	Countywide
Potential Impact	Moderate

Effects of Climate Change on Vulnerability

Climate is defined not just as average temperature and precipitation, but also by type, frequency, and intensity of weather events. Both globally and at the local level, climate change potentially can alter the prevalence and severity of weather extremes such as winter storms. While predicting changes in winter storm events under a changing climate is difficult, understanding vulnerabilities to potential changes is a critical part of estimating future climate change impacts on human health, society, and the environment.

Winter storms have increased in frequency and intensity since the 1950s, and their tracks have shifted northward over the United States. This trend will likely continue over the United States but given the northward shift in the tracks of these systems, impacts to Gwinnett County may remain unchanged. In other words, the increase in intensity may be offset in Gwinnett County by the northward shift of the storm tracks. The entire county will continue to be exposed and vulnerable to winter storm events.

Land Use and Development Trends

Per Gwinnett County Planning and Development, Gwinnett County has construction and conservation codes that cover and address piping insulation for climate conditions.

Hazard Summary

Severe winter storms, unlike other natural hazards, typically afford communities some advance warning. The NWS issues winter storm watches, warnings, and advisories as these storms make their way through Gwinnett County. Due to the frequency of winter storms in Gwinnett County, most buildings and infrastructure are typically designed to sustain severe winter conditions. However, aging facilities and particularly heavy snowfalls bring the possibility of building collapse and infrastructure damage. Additionally, winter weather always brings a possibility for dangerous driving conditions, particularly in a community such as Gwinnett County where winter weather is not a regular occurrence. These impacts have led many critical facilities to identify the need for alternate power sources and have identified improvements to ensure critical facilities remain with power during events. Gwinnett County has a list of different winter weather alerts, and their definitions, on the county website.

Source: <https://www.gwinnettcountry.com/web/gwinnett/departments/police/emergencymanagement/beprep/prepareb/warningsandnotifications/nationalweatherservicealerts#wwa>

3.2.7 Drought

Hazard Identification

The Gwinnett County HMSC reviewed historical data from the NCDC and the Natural Resources Conservation Service (NRCS) while researching drought conditions in Gwinnett County. By definition, a drought is a prolonged period of moisture deficiency. Drought conditions affect the cultivation of crops as well as water availability and water quality. Drought is also a key factor in wildfire development. Drought conditions make natural fuels (grass, brush, trees, dead vegetation, etc.) more fire prone.

The Palmer Drought Severity Index is used to gauge long-term drought. A zero is considered normal conditions, and drought is indicated by negative numbers. Excessive moisture is indicated by positive numbers.

Table 31: Palmer Drought Severity Index

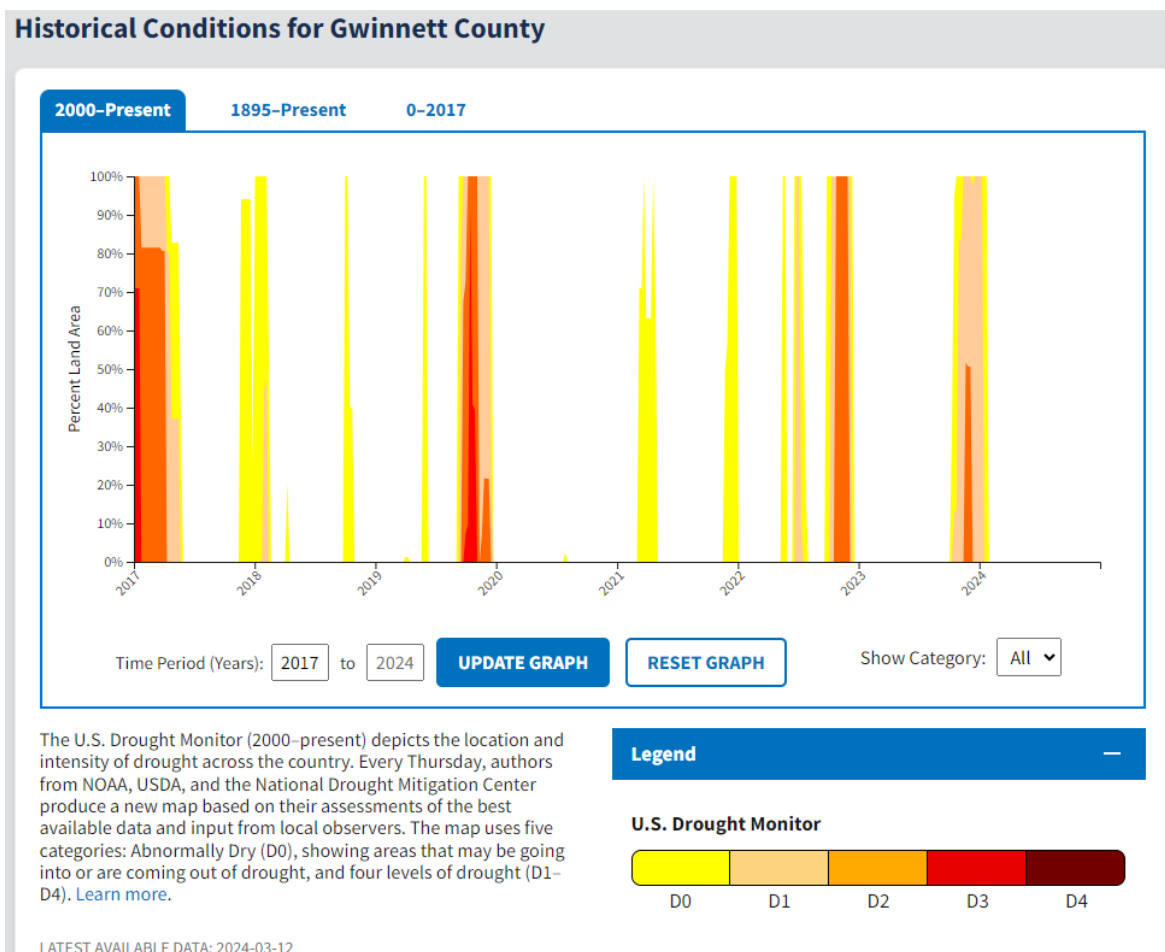
Range	Description
-4.0 or less	Extreme drought
-3.0 to -3.9	Severe drought
-2.0 to -2.9	Moderate drought
-1.9 to +1.9	Near Normal
+2.0 to +2.9	Unusual moist spell
+3.0 to +3.9	Very moist spell
+4.0 and above	Extremely moist

Source: <http://www.futura-sciences.us/dico/d/climatology-palmer-drought-severity-index-50000924/>

Hazard Profile

Gwinnett County experienced extreme drought conditions in 2017, but most recently in 2023. Lake Lanier provides much of the state's water supply, and during the extreme drought recordings, it has been recorded at approximately 50 percent of its storage capacity. Agricultural crop damage during extreme drought periods can reach in the billions statewide. These droughts had far-reaching impacts on agriculture, water availability for municipalities and industry, and wildfires. Drought conditions can also develop rapidly in the Southeast, especially when the lack of rain and high temperatures combine to quickly increase the loss of water from the landscape via evapotranspiration. To date, agricultural losses have been the primary losses associated with drought; no critical facilities have sustained any damage or functional downtime due to dry weather conditions. Because of the extremely unpredictable nature of drought (including duration), reliably calculating a recurrence interval is difficult and the data below is an indication of drought but is insufficient to produce hazard impact. Droughts happen frequently and are not always included in the NOAA database for Gwinnett County since droughts affect such vast areas.

Figure 45: Drought 2017-2024



Source: <https://www.drought.gov/states/georgia/county/gwinnett>

Assets Exposed to Hazard

- **Property Risk/Vulnerability:** Drought conditions typically pose little or no threat to structures; however, fires can occur as a result of dry weather. The Gwinnett County HMSC concluded that drought, in itself, presents no credible threat to critical facilities. The drought could result in the loss of the availability of municipal water supply. This threat has been addressed by mitigation actions. Wildfire as a result of drought was considered, and the Gwinnett County HMSC determined that because previous instances of wildfire in Gwinnett County have been relatively minimal, it does not bear a significant threat to the community.
- **People Risk/Vulnerability:** In evaluating the vulnerability of the population in Gwinnett County, it was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a drought event. People are vulnerable to drought through available water supply (both public and private wells) and effects from lack of water such as wildfires and the ability to grow and water crops.
- **Environment Risk/Vulnerability:** Risks to the environment are high for a drought event. Environmental concerns would be loss of vegetation and risk of erosion in areas that are affected by drought and availability of water supply (both public and private wells).

Vulnerability

Table 32: Drought

Frequency of Occurrence	Likely
Warning Time	More than 12 hours
Geographic Extent	Countywide
Potential Impact	Minor

Effects of Climate Change on Vulnerability

Higher temperatures lead to increased rates of evaporation, including more loss of moisture through plant leavers, As the soil dries out, a larger proportion of the incoming heat from the sun goes into heating the soil and adjacent air rather than evaporating its moisture, resulting in hotter summers under drier climatic conditions.

Climate is defined not simply as average temperature and precipitation but also by type, frequency, and intensity of weather events. Both globally and at the local level, climate change can alter the prevalence and severity of weather extremes, such as droughts. While predicting changes in drought events under a changing climate is difficult,

understanding vulnerabilities to potential changes is a critical part of estimating the effects of future climate change on human health, society, and the environment (U.S. Environmental Protection Agency [EPA] 2006).

According to the NOAA National Centers for Environmental Information on State Climate Summaries for 2022, temperatures have risen by 0.8 degrees Fahrenheit, about half of the warming for the contiguous United States, since the beginning of the 20th century, but the warmest consecutive 5-year interval was 2016-2020. Higher temperatures will increase the rate of soil moisture loss during dry spells, which could lead to more intense droughts and increased competition for the state's water resources.

Land Use and Development Trends

Gwinnett County Department of Water Resources currently has water restrictions and conservation programs in place to address water consumption in drought conditions. In 2003, Gwinnett County was proud to become one of the first Water First Communities in Georgia, and we maintain that distinguished status today. The Gwinnett County Department of Water Resources also partners with the EPA Water Sense Program, the Georgia EPD WaterSmart Program, and the Metropolitan North Georgia Water Planning District's My Drop Counts campaign.

Multijurisdictional Concerns

Agricultural losses associated with drought are more likely to occur in the rural, less concentrated areas of the county. Although the Cities of Berkeley Lake, Buford, Dacula, Duluth, Grayson, Lawrenceville, Lilburn, Mulberry, Norcross, Peachtree Corners, Snellville, Sugar Hill, and Suwanee are not likely to experience drought-related agricultural losses, they could experience impacts to their municipal water systems.

Hazard Summary

Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to the agricultural interests in Gwinnett County and the entire state. The potential negative effects of sustained drought are numerous. In addition to an increased threat of grassfires, drought can affect municipal and industrial water supplies, stream water quality, water recreation facilities, hydropower generation, and agricultural resources. The Gwinnett County HMSC discussed limitations associated with mitigation actions for drought and identified mitigation actions related to the potential threat of drought.

Droughts do not have the immediate effects of other natural hazards, but sustained drought can cause severe economic stress to not only the agricultural interests in Gwinnett County but to the entire state. The potential negative effects of sustained drought are numerous. In addition to the increased threat of wildfires, drought can

affect municipal and industrial water supplies, stream water quality, water recreation facilities, hydropower generation, and agricultural and forest resources. The Gwinnett County HMSC discussed the limitations associated with mitigation actions for drought and identified mitigation actions related to the potential threat of drought.

3.2.8 Tropical Storms/Hurricanes

Hazard Identification

The Gwinnett County HMSC researched historical data from the NCDC and NWS, as well as information from past newspaper articles relating to tropical storms/hurricanes in Gwinnett County. Tropical storms and hurricanes bring the threat of winds, heavy rains, and flooding that may require the need for evacuation support and shelter. Streets and highways become extremely hazardous to motorists due to debris, flooding, and power lines obstructing travel. Views of hurricanes and/or tropical storms from satellites located thousands of miles above the earth show how unique these powerful, tightly coiled weather systems are.

A hurricane is a type of tropical cyclone, the general term for all circulating weather systems (counterclockwise in the Northern Hemisphere) over tropical waters. Tropical cyclones are classified as follows:

- Tropical Depression (D) – An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.
- Tropical Storm (S) – An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 mph (34-63 knots).
- Hurricane (H) – An intense tropical weather system with a well-defined circulation and maximum sustained winds of 74 mph (64 knots) or higher. A category 1 or 2 on the Saffir-Simpson Hurricane Wind Scale
- Major Hurricane (M) - A tropical cyclone with maximum sustained winds of 111 mph (96 knots) or higher. A category 3, 4, or 5 on the Saffir- Simpson Hurricane Wind Scale.

Tropical Storms/hurricanes that impact Georgia originate over in the Atlantic basin. During the Atlantic Hurricane season the first named storm typically forms in mid to late June. Powered by heat from the sea, they are steered by the easterly trade winds and the temperate westerlies. Around their eye wall winds increase in velocity. When tropical storms/hurricanes move ashore, they sweep the ocean inward while spawning tornadoes and producing torrential rains and floods. On average the Atlantic hurricane season has 14 named storms, seven hurricanes, and three major hurricanes. Many of these remain over the ocean. However, about seven hurricanes strike the United States coastline every four years. Of these seven, three will be major hurricanes.

All Tropical Storms/Hurricanes are dangerous, but some are more so than others. The way storm surge, wind, and other factors combine to determine the hurricane's destructive power. To make comparisons easier and to make the predicted hazards of approaching hurricanes clearer to emergency managers, NOAA's hurricane forecasters use a disaster-potential scale, which assigns storms to five categories. This can be used to give an estimate of the potential property damage and flooding expected along the coast with a hurricane.

Table 33: Saffir-Simpson Hurricane Wind Scale

Category	Winds	Effects
1	74-95 mph	Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph	Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3	111-129 mph	Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4	130-156 mph	Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5	157 mph or higher	Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Source: <https://www.nhc.noaa.gov/climo/>

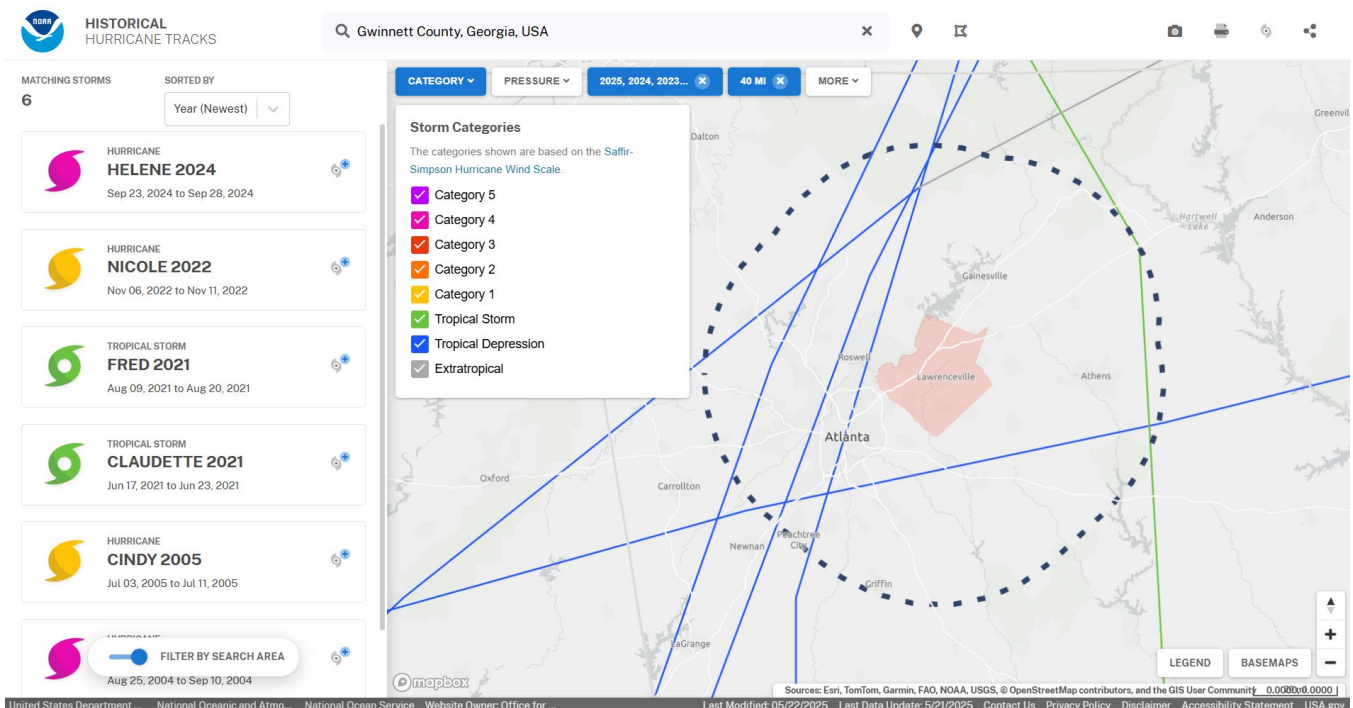
<https://www.nhc.noaa.gov/aboutsshws.php#:~:text=The%20Saffir%2DSimpson%20Hurricane%20Wind,S&Scal%20estimates%20potential%20property%20damage>

Hazard Profile

Gwinnett County has experienced 17 events since 2002, including 3 hurricanes and 14 tropical storms. A review of historical weather data indicates there is a significant chance of tropical storms and hurricanes affecting Gwinnett County each year. The most recent event occurred in 2024. Hurricane Helene's track was predicted to make a direct path through Gwinnett County, however just as it was moving inland the track shifted east towards Augusta, Georgia. This shift significantly decreased the impact to Gwinnett County. There were minor reports of property damage, down trees, and down power lines. The greatest impact was from the 9 to 10 inches of rain fall accumulated prior to and during the storm. Multiple river gauges observed flooding. The county returned to normal operations within 24 hours.

The most destructive tropical storm to date occurred when the remnants of Hurricane Irma downed hundreds of trees and power lines across the county. Nine structures were destroyed, 73 sustained major damage, and 77 received minor damage, mostly from falling trees. A 51-mph wind gust was measured near Suwanee and a 50-mph gust was measured around Norcross. Radar estimated between two and four inches of rain fell across the county with 3.98 inches measured in Dacula. No injuries were reported over the September 9th, 2017, event.

Figure 46: NOAA Historical Hurricane Tracks 2000-2025



Source: <https://oceanservice.noaa.gov/news/historical-hurricanes/>

Table 34: Tropical Storms/Hurricanes 2002-2024

County	Date	Type	Deaths	Injuries	Property Damage	Crop Damage
GWINNETT (ZONE)	26-Sep-24	Tropical Storm	0	0	\$	\$0
GWINNETT (ZONE)	28-Oct-20	Tropical Storm	2	0	\$0	\$0
GWINNETT (ZONE)	11-Sep-17	Tropical Storm	0	0	\$3,000,000	\$0
GWINNETT (ZONE)	04-Sep-11	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	10-Nov-09	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	21-Aug-08	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	14-Sep-07	Hurricane	0	0	\$0	\$0
GWINNETT (ZONE)	05-Oct-05	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	29-Aug-05	Hurricane	0	0	\$0	\$0
GWINNETT (ZONE)	10-Jul-05	Hurricane	0	0	\$0	\$0
GWINNETT (ZONE)	06-Jul-05	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	12-Jun-05	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	26-Sep-04	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	16-Sep-04	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	06-Sep-04	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	01-Jul-03	Tropical Storm	0	0	\$0	\$0
GWINNETT (ZONE)	14-Sep-02	Tropical Storm	0	0	\$0	\$0
Totals			2	0	\$3,000,000	\$0

Source: <https://www.ncdc.noaa.gov/stormevents>

Assets Exposed to Hazard

- **Property Risk/Vulnerability:** It can be assumed that all structures and facilities within Gwinnett County could be damaged by a hurricane, as hurricanes are one of the most damaging of weather phenomena, but the meteorological technology does provide more warning of the paths of hurricanes today. Also, tornadoes are usually a secondary effect of tropical storms/hurricanes which can impact property/public.
- **People Risk/Vulnerability:** In evaluating the vulnerability of the population in Gwinnett County, it was determined that risk/vulnerability includes the entire population of Gwinnett County since there is no way to determine the impact/magnitude of a tropical storm/hurricane and no way to predict where a tropical storm/hurricane will hit. People are vulnerable to tropical storms/hurricanes through power outages, effects on transportation routes, establishment of shelters, flooding, etc. This is particularly true due to there being a significant chance of a tropical storm/hurricane occurring in any given year in Gwinnett County. Due to the warning time of a tropical storm/hurricane, the effect on the population is reduced compared to previous years.
- **Environment Risk/Vulnerability:** Risks to the environment are significant for a tropical storm/hurricane. Tropical storms/hurricanes can cause flooding which in turn can affect and create contamination of potable water for public consumption. The magnitude of flooding that typically occurs after a hurricane can be significant and can cause issues with hazardous materials in the flooded water affecting the environment.

Vulnerability

Table 35: Tropical Storms/Hurricanes

Frequency of Occurrence	Likely
Warning Time	More than 12 hours
Geographic Extent	Countywide
Potential Impact	Moderate

Effects of Climate Change on Vulnerability

Since the 1970s, there has been a global increase in “tropical cyclone destructiveness” as measured by the Power Dissipation Index. This increased tropical cyclone intensity and duration correlates with increased sea surface temperature. This suggests that future increases in tropical sea surface temperature might lead to future increases in

tropical cyclone intensity and duration. However, there is a high level of uncertainty regarding the relationship between climate change and storm events. Future improvements in modeling small-scale climatic processes can be expected and will lead to an improved understanding of how the changing climate will alter temperature, precipitation, and storm events in Gwinnett County.

Estimate of Potential Losses

All assets throughout Gwinnett County are exposed to the threat of tropical storms and hurricanes. Any of these assets could be lost during an event. The amount of loss would vary from facility to facility.

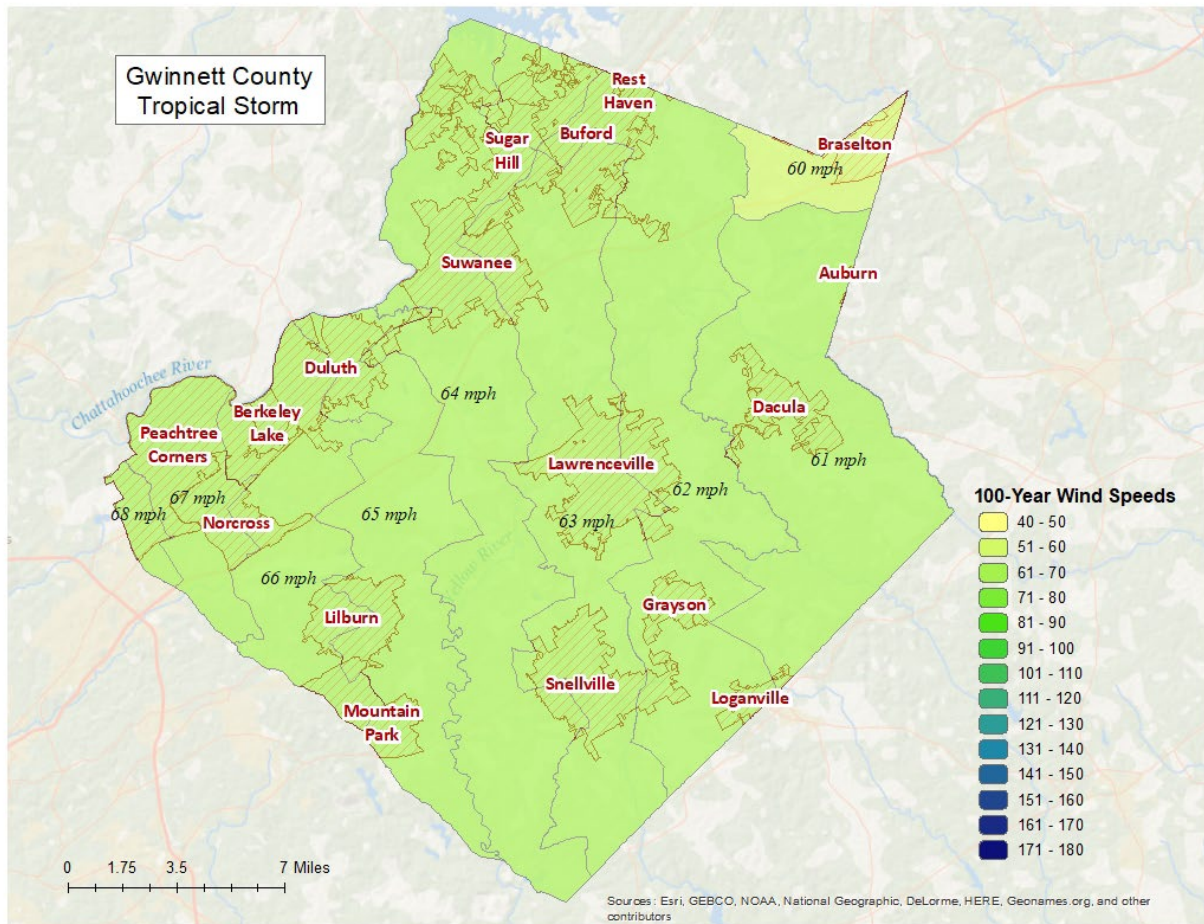
Land Use and Development Trends

Gwinnett County currently has no land use or development trends related to tropical storms or hurricanes. However, Gwinnett County does have the Gwinnett County Floodplain Management Ordinance (as amended 12/10/2020), which addresses land use planning in regard to flooding issues. Flooding is a secondary affect from tropical storms/hurricanes and this Floodplain Ordinance prohibits further structures being built in the floodplains in Gwinnett County.

Multi-Jurisdictional Concerns

All of Gwinnett County can potentially be affected by tropical storms and hurricanes. As a result, any mitigation steps taken related to tropical storms and hurricanes should be undertaken on a countywide basis and include the cities of Auburn, Berkeley Lake, Braselton, Buford, Dacula, Duluth, Grayson, Lawrenceville, Lilburn, Loganville, Mulberry, Norcross, Peachtree Corners, Snellville, Sugar Hill and Suwanee.

Figure 47: Wind Speeds by Storm Category



Wind-Related Building Damages

Buildings in Gwinnett County are vulnerable to storm events, and the cost to rebuild may have significant consequences for the community. The following table shows a summary of the results of wind-related building damage in Gwinnett County for the Tropical Storm (100-Year Event). The loss ratio expresses building losses as a percentage of total building replacement costs in the county. Figure 34 illustrates the building loss ratios of the modeled Tropical Storm.

*Note that wind-damaged buildings are not reported by jurisdiction. This is because census tract boundaries upon which hurricane building losses are based do not closely coincide with jurisdiction boundaries.

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences for the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in the table below.

Figure 48: Hurricane Wind Building Loss Ratios

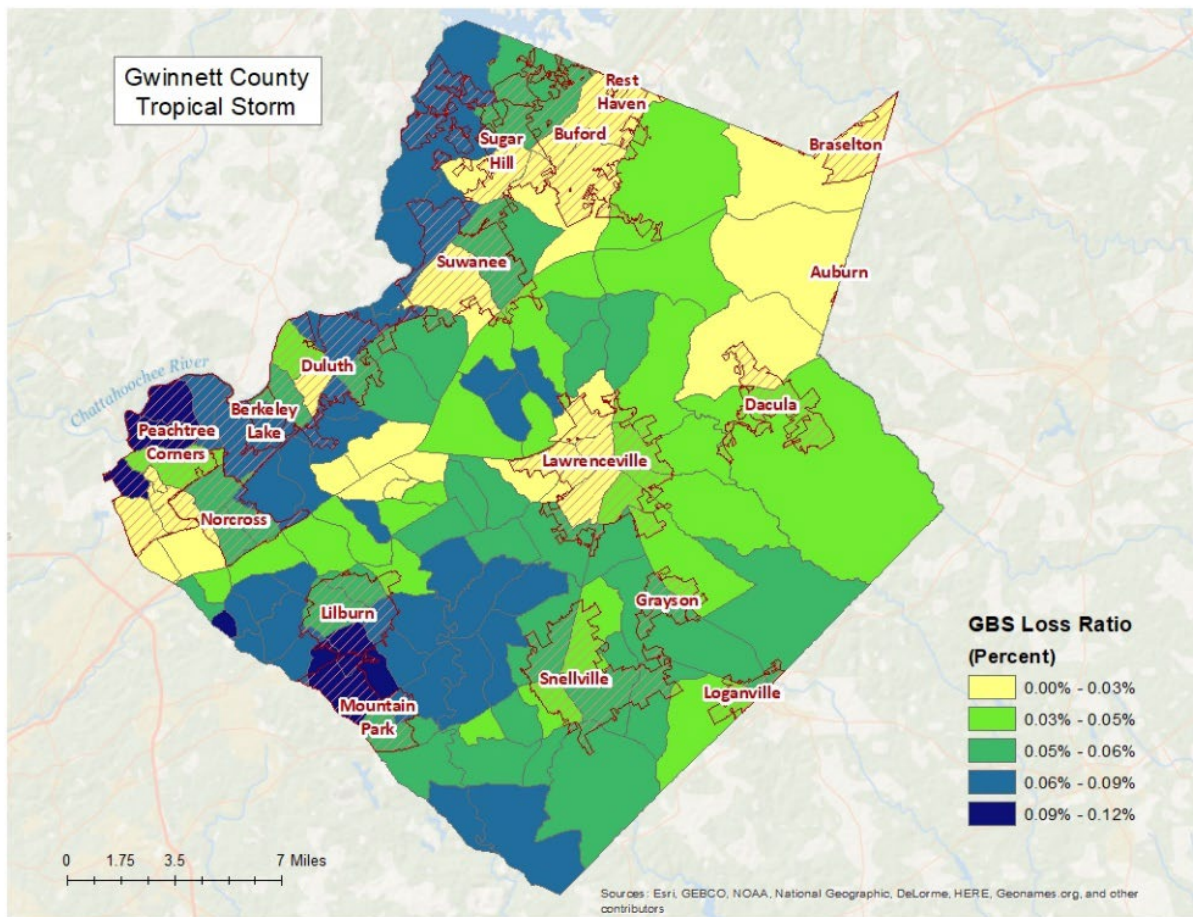


Table 36: Essential Facilities

Classification	Number
EOCs	1
Fire Stations	34
Care Facilities	145
Police Stations	26
Schools	179
TOTAL	385

Table 37: Wind-Damaged Essential Facility Losses

Classification	Facilities At Least Moderately Damaged > 50%	Facilities Completely Damaged > 50%	Facilities with Expected Loss of Use (< 1 day)
Tropical Storm	0	0	298

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high-velocity winds as well as the number of people who will require short-term sheltering. Since the one percent chance storm event for Gwinnett County is a Tropical Storm, the resulting damage is not enough to displace Households or require temporary shelters as shown in the results listed in the table below.

Table 38: Displaced Households and People

Classification	# of Displaced Households	# of People Needing Short-Term Shelter
Tropical Storm	0	0

Debris Generated from Hurricane Wind

Hazus-MH estimates the amount of debris that will be generated by high velocity hurricane winds and quantifies it into three broad categories to determine the material handling equipment needed:

- Reinforced Concrete and Steel Debris
- Brick and Wood and Other Building Debris
- Tree Debris

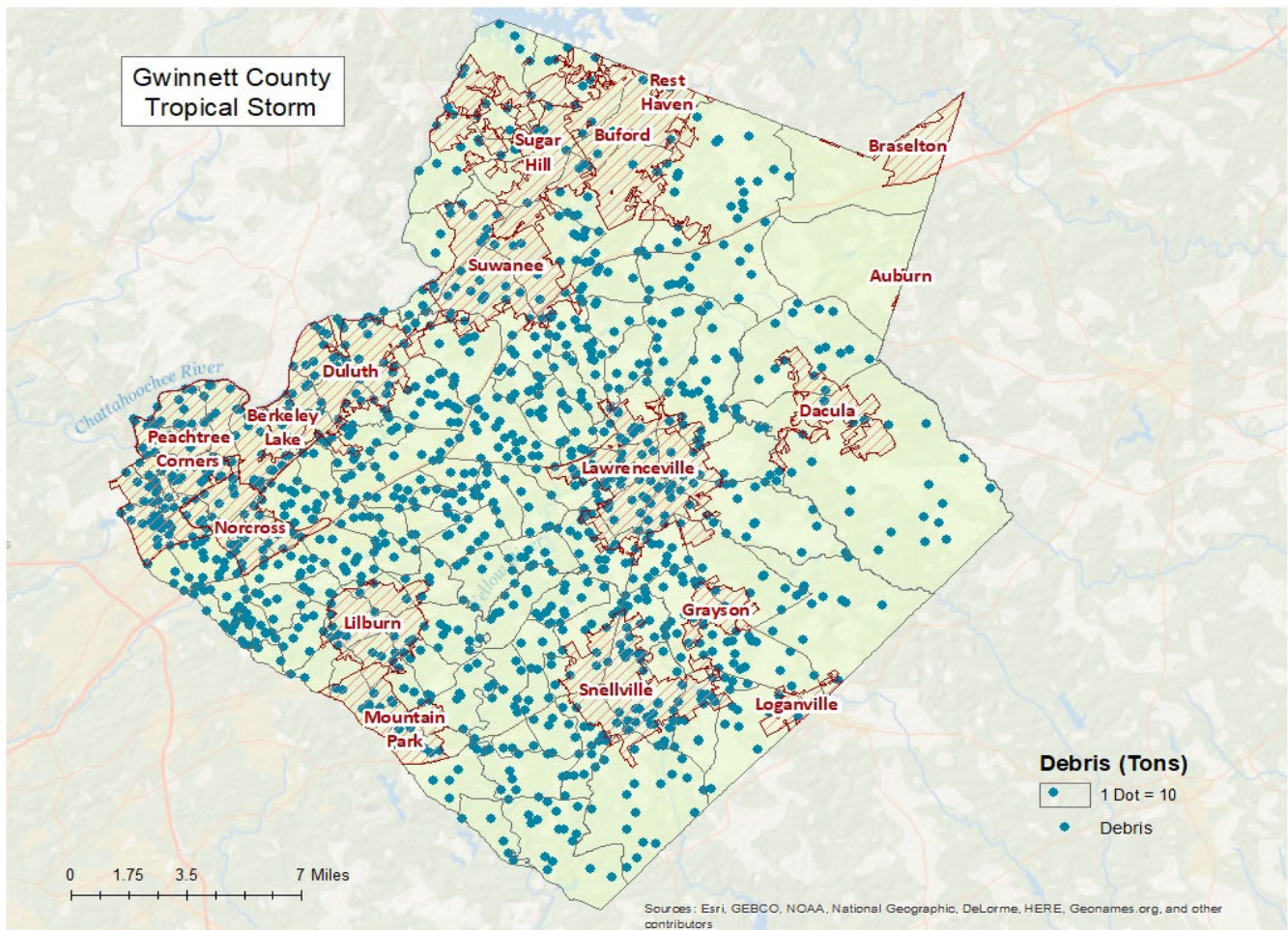
Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in the table below. The amount of hurricane wind-related tree debris that is estimated to require pick up at the public's expense is listed in the eligible tree debris column.

Table 39: Wind-Related Debris Weight (Tons)

Classification	Brick, Wood, and Other	Reinforced Concrete and Steel	Eligible Tree Debris	Other Tree Debris	Total
Tropical Storm	1,082	0	10,777	8,096	19,955

Figure 49: Wind-Related Debris Weight (Tons)

Figure 50 shows the distribution of all wind-related debris resulting from a Tropical Storm. Each dot represents 10 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.



Hazard Summary

Overall, tropical storms and hurricanes pose one of the greatest threats to Gwinnett County in terms of property damage, as well as injuries and loss of life. 17 events have impacted Gwinnett County since 2002. The past five years have reflected only two tropical storms occurring. Gwinnett County's tropical storm/hurricane risk analysis incorporates results from a FEMA-performed Hazus analysis which accounts for newly modeled areas. Potential losses were estimated as well as potential loss ratios for multiple scenarios. These events may change from season to season. Based on the frequency of this hazard, as well as its ability to negatively impact anywhere in the county, the pre-disaster mitigation measures identified in this plan should be pursued. See the HAZUS-MH Report in **Appendix A**.

3.2.9 Wildfires

Hazard Identification

The National Interagency Fire Center (NIFC), which covers multiple agencies under the Department of the Interior and the Department of Agriculture, defines a wildfire as, "A wildland fire originating from an unplanned ignition, such as lightning, volcanos, unauthorized and accidental human-caused fires, and prescribed fires that are declared wildfires." The NIFC continues by defining a wildland fire as "any non-structure fire that occurs in vegetation or natural fuels. Fires in Georgia can be wildland, wildland interface, or intermix fires. The potential for the threat of large wildfires is dependent upon topography and slope, surface fuel characteristics, recent climate conditions, current meteorological conditions, and fire behavior. The Gwinnett County Fire Department responded to 1,851 fires that they classified as grass/wood and burn violations (typically vegetation) in 2022.

The Keetch-Byram Drought Index relates current weather conditions to potential or expected fire conditions. The KBDI attempts to measure the amount of precipitation necessary to return the soil to full field capacity. The index ranges from zero, the point of no moisture deficiency, to 800, the maximum drought that is possible, and represents a moisture regime from 0 to 8 inches of water through the soil layer. Throughout the development of this plan, Gwinnett County hovered around 300 on the Keetch-Byram Drought Index, correlating to slightly increased fire intensity and extended periods of smoldering and smoke. In terms of magnitude, Gwinnett County has experienced the full range of the Keetch-Byram Drought Index at various times throughout the year.

Source: <https://www.drought.gov/data-maps-tools/keetch-byram-drought-index>

<https://www.nifc.gov/sites/default/files/redbook-files/RedBookAll.pdf>

Table 40: Keetch-Byram Drought Index

Index	Potential or Expected Behavior
0–200	Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.
200–400	Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.
400–600	Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days, creating possible smoke and control problems.
600–800	Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn through the night and heavier fuels will actively burn and contribute to fire intensity.

Source: <http://www.usda.gov/wps/portal/usda/usdahome>

Hazard Profile

As Gwinnett County continues to grow and develop the focus of wildfires increases in the county to include county-owned green space and parks. Small wildfires have been recorded in county parks and currently, mitigation actions are being pursued. It is estimated that approximately 800k people or roughly 96 percent of the population live within the Wildland Urban Interface (WUI), most with moderate to major impacts.

Figure 50: WUI Risk

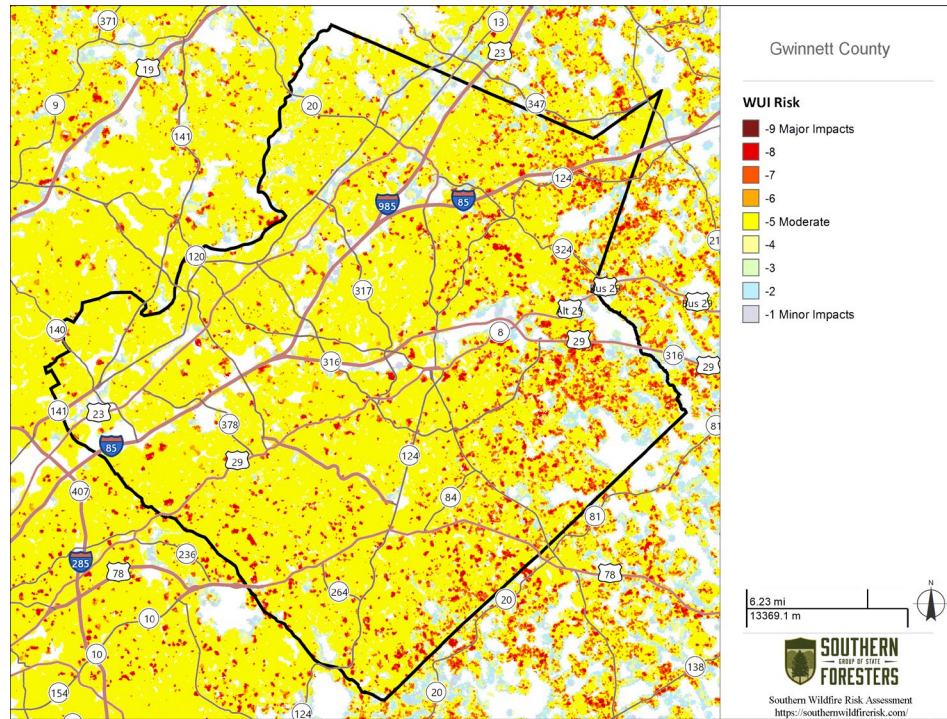
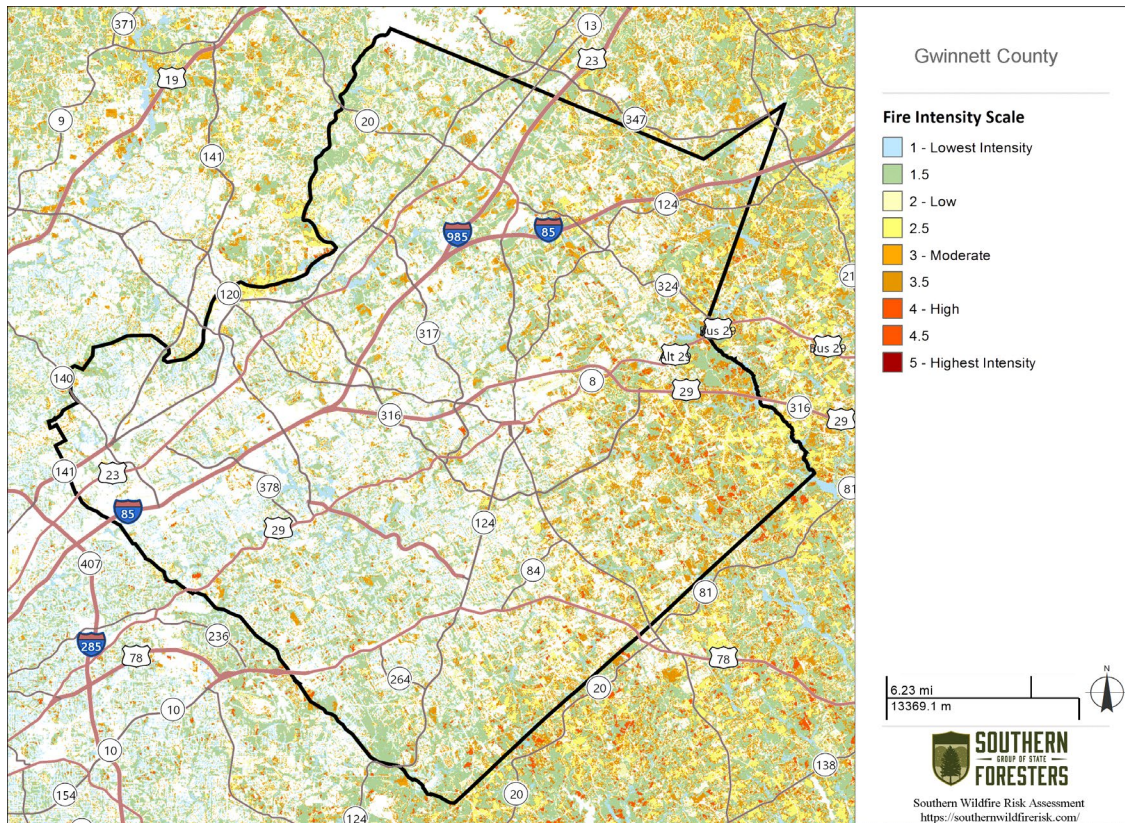


Figure 51: Fire Intensity Scale



Assets Exposed to Hazard

- **Property Risk/Vulnerability.** All assets throughout Gwinnett County are exposed to the threat of wildfires. The amount of loss would vary from facility to facility. The Fire intensity graphic to the right gives a representation of the county's impact with most if not all the county falling between low to high risks.

Infrastructures located in wildfire-vulnerable areas include:

- Heavy concentration of Commercial and industrial land
 - Heavy concentration of residential land use
 - Schools county-wide can be impacted
 - 50+ County Parks with over 10,000 acres of woodland, trails, and activity centers
- **People Risk/Vulnerability.** It was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a wildfire incident and no way to predict where a wildfire incident will occur. Further information and breakdowns of impacts on individual cities can be found in **Appendix A.**
 - **Environment Risk/Vulnerability.** Risks to the environment are high for a wildfire incident, although there is a low frequency of occurrence. Environmental concerns include the risk of losing vegetation and the risk of erosion in areas that are affected by wildfires. Further information and breakdowns of impacts on individual cities can be found in **Appendix A.**

Vulnerability

Table 41: Wildfires

Frequency of Occurrence	High Likely
Warning Time	None–Minimal
Geographic Extent	Localized–County-wide
Potential Impact	Negligible

Effects of Climate Change on Vulnerability

According to the United States Forestry Service (USFS), climate change will likely alter the atmospheric patterns that affect fire weather. Changes in fire patterns will, in turn, affect carbon cycling, forest structure, and species composition. Climate change associated with elevated greenhouse gas concentrations may create an atmospheric

and fuel environment that is more conducive to large, severe fires (USFS 2012). It is projected that higher summer temperatures will likely increase the fire risk by 10 to 30 percent. Fire occurrence and areas burned could increase across the United States as a result of the increase of lightning activity; the frequency of surface pressure and associated circulation patterns conducive to surface drying; and fire weather conditions, in general, which are conducive to severe wildfires. Warmer temperatures will also increase the effects of drought and increase the number of days each year with flammable fuels, extending fire seasons and areas burned (USFS 2012).

Land Use and Development Trends

Future development throughout Gwinnett County will result in the potential for damage from wildfires. There are currently no building codes specified in the Gwinnett County ordinance regarding wildfire.

Hazard Summary

According to available records, Gwinnett County has experienced numerous wildfire incidents. All of Gwinnett County is subject to wildfires and therefore should be included in any prospective mitigation projects. Further information and breakdowns of impacts on individual cities can be found in the Wildfire Risk Assessment Summary Report by Southern Wildfire in **Appendix A**.

3.2.10 Earthquakes

Hazard Identification

Although earthquakes occur less frequently in the southeastern United States than on the West Coast, historical records indicate that earthquakes and their associated seismic hazards exist in Georgia. The Gwinnett County HMSC reviewed historical data from the U.S. Geological Survey in researching earthquakes in Gwinnett County and the State of Georgia. By definition an earthquake is the sudden release of stress along a fault and the resulting vibrations of the earth. The vibrations propagate away from the epicenter.

The Mercalli Scale is the method used for measuring earthquake intensity. This scale ranks observed effects from I (felt only under favorable circumstances) to VIII (total damage). The magnitude of an earthquake is measured using the Richter scale. Earthquake magnitudes are on an absolute scale. A magnitude 8 earthquake is ten times stronger than a magnitude 7 earthquake and 100 times stronger than a magnitude 6 earthquake, etc.

Table 42: Modified Mercalli Scale of Earthquake Intensity

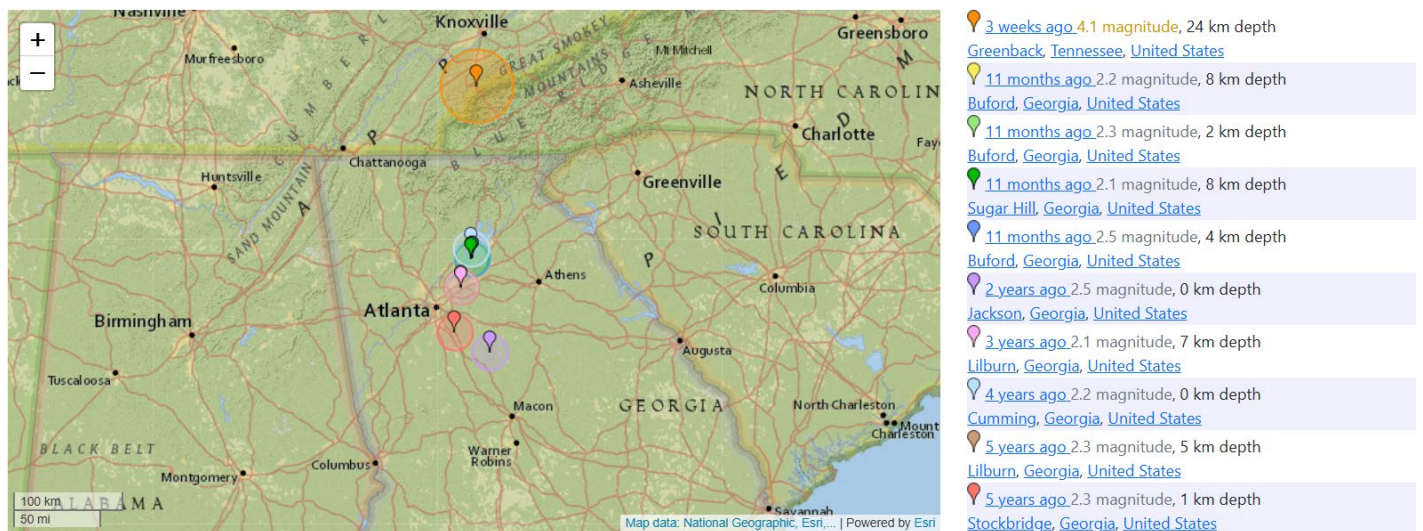
Richter	Mercalli	Intensity	Description of Effects
2	I	Instrumental	Detected only on seismographs
	II	Feeble	Felt only by a few persons at rest, especially on the upper floors of buildings
3	III	Slight	Felt quite noticeable by persons indoors, especially on the upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly.
	IV	Moderate	Felt indoors by many, and outdoors by a few during the day. At night, some awakening. Dishes, windows, and doors are disturbed; walls make cracking sounds.
4	V	Rather Strong	Felt by nearly everyone; many awakened. Some dishes and windows are broken. Unstable objects overturned.
5	VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
	VII	Very Strong	Damage is negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in ordinary structures; and considerable damage in poorly built or badly designed structures.
6	VIII	Destructive	Damage is slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage is great in poorly built structures. Fall of factory stacks, columns, monuments, walls. Heavy Furniture overturned.
7	IX	Ruinous	Damage is considerable in specially designed structures; well-designed frame structures are thrown out of plumb. Damage is great in substantial buildings, with partial collapse. Buildings shifted off foundations.
	X	Disastrous	Some well-built wooden structures were destroyed; most masonry and frame structures were destroyed with foundations. Rails bend greatly.
8	XI	Very Disastrous	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bend greatly.
	XII	Catastrophic	Damage total. Lines of sight and level are distorted. Objects are thrown into the air.

Source: pnsn.org/outreach/about-earthquakes/magnitude-intensity

Hazard Profile

Gwinnett County most recently experienced seismic activity from a 2.08md earthquake near Lilburn on June 7, 2024. Previously a 2.1 magnitude earthquake also struck near Lilburn on November 8, 2021. Lilburn also reported a 2.3 magnitude earthquake near the same location on February 9, 2020. Even with these three reported earthquakes, there was no reported damage that could have been contributed to the earthquakes. There are no earthquake-related disasters listed on the Georgia Emergency Management and Homeland Security Agency and no other seismic activity listed for several decades occurring within Gwinnett County. Below are maps showing where seismic activity has occurred in the past as well as maps depicting the unlikely chances that earthquakes will occur in the near future.

Figure 52: Recent Earthquake Activity in and around Gwinnett County



Source: <https://earthquaketrack.com/us-ga-lawrenceville/recent>

Figure 53: Seismic Design Category Map for 2023 IRC- Eastern U.S.

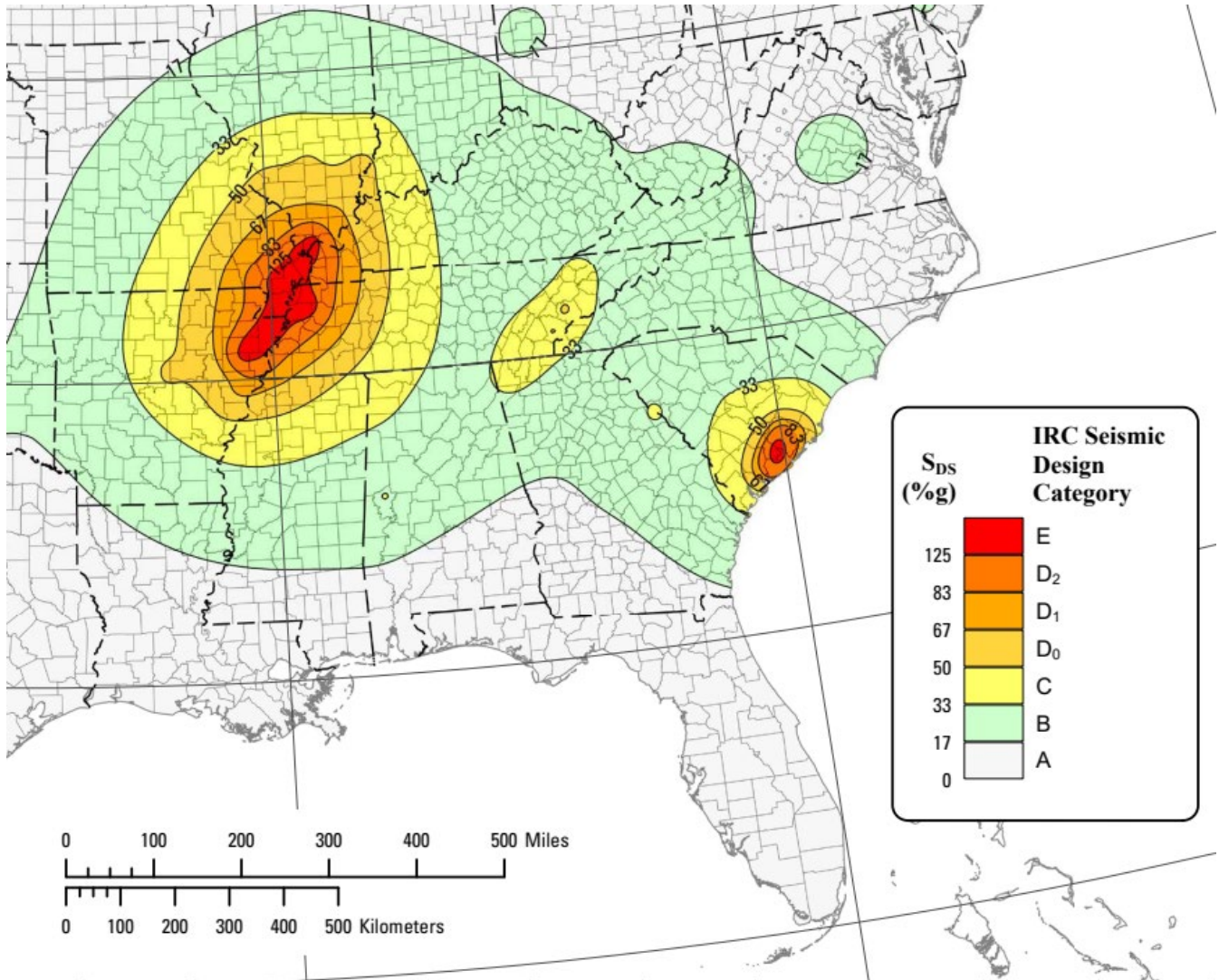
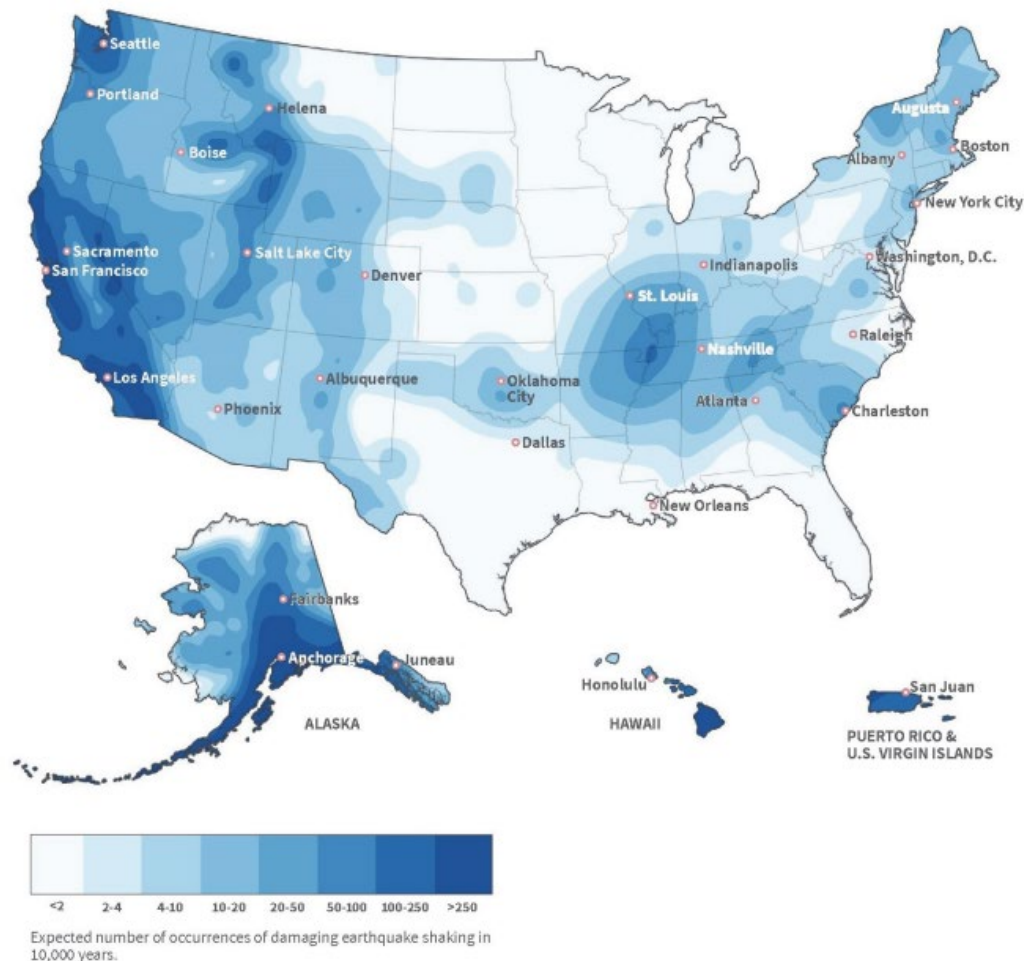


Figure 54: Map of Frequency of Damaging Earthquake Shaking in the United States (from FEMA P-530)



Assets Exposed to Hazard

- **Property Risk/Vulnerability:** The HMSC determined that all critical facilities as well as all public, private, and commercial properties are susceptible to being affected by an earthquake.
- **People Risk/Vulnerability:** In evaluating the vulnerability of the population in Gwinnett County, it was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of an earthquake and no way to predict where and when an earthquake will occur. People are vulnerable to earthquakes through power outages, effects on transportation routes, establishment of shelters, etc.
- **Environment Risk/Vulnerability:** Risks to the environment are high should an earthquake occur, but the frequency of earthquakes in Gwinnett County is low. Environmental concerns would be an interruption of water supply, secondary events such as fires, and hazardous materials accidents (such as gas pipelines rupturing, rupture of hazardous material containers at facilities, etc.).

Vulnerability

Table 43: Earthquakes

Frequency of Occurrence	Unlikely
Warning Time	None– Minimal
Geographic Extent	Countywide
Potential Impact	Negligible

Effects of Climate Change on Vulnerability

There are theories that climate change will increase the frequency and intensity of earthquakes and seismic activity, but nothing definitive has been found since technically earthquakes are not a climate response but rather a tectonic event.

Land Use and Development Trends

Gwinnett County currently has no land use or development trends related to earthquakes. Gwinnett County falls into a “level B” Seismic Design Category according to the International Residential Code and the International Business Code (IRC, ICC, IBC). FEMA produced a document in 2022 titled “Earthquake-Resistant Design Concepts”, An Introduction to Seismic Provisions for New Buildings”. This document does in-depth building codes regarding earthquakes and their possible damage outcomes.

Source: https://www.fema.gov/sites/default/files/documents/fema_p-749-earthquake-resistant-design-concepts_112022.pdf

Hazard Summary

Overall, Gwinnett County has the potential for damage from earthquakes. Should an earthquake affect certain portions of Gwinnett that are highly concentrated with homes or any of the critical facilities identified, depending upon the magnitude and duration of the event, significant damage could occur.

3.3 Technological Hazards

Technological hazards are distinct from natural hazards primarily in that they originate from human activity. In contrast, while the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-caused. The term “technological hazards” refers to the origins of incidents that can arise from human activities, such as the manufacturing, transportation, storage, and use of hazardous materials.

3.3.1 Hazardous Material Releases

Hazard Identification

Transportation

A major source of hazardous spills is along roadways, highways, and railways. Hazardous materials are substances or materials that pose a potential risk to life, health, or property if they are released because of their chemical or biological nature. Hazardous materials flow through Gwinnett County daily via the highway, the railroad, and the airway.

Facilities

Facilities that produce, process, or store hazardous materials are at risk, and facilities that treat or dispose of hazardous waste are also at risk. Equipment and machinery that are used to produce hazardous materials can be harmful to Gwinnett County if not properly maintained. Finally, Gwinnett County could be at risk if employees are not trained correctly on policies and procedures.

Pipeline

Several underground pipelines run east to west and north to south through Gwinnett County. The pipelines transport hydrocarbon (natural gas) at a constant flow and a liquid natural gas.

Hazard Profile

Hazardous material spills occur frequently within Gwinnett County. There were 199 or 20.3 percent of the recorded spills in Gwinnett County that were transportation-related in 2022. This is directly attributable to the presence of two interstate highways (I-85 and I-985), two major railways (CSX and Norfolk Southern), and several multilane highways (Highway 78, 316, etc.) running through portions of Gwinnett County. Gwinnett County Fire and Emergency Services responded to 980 hazardous materials incidents in 2022.

Gwinnett County has updated the system used to collect and track data related to calls for response by Gwinnett County Fire and Emergency Services. As the data collection method has changed since the last update of this plan, it is no longer possible to sort hazardous materials and call for response by transportation and fixed facility spills.

(Updated information provided by the Gwinnett County Fire Department)

Assets Exposed to Hazard

- **Property Risk/Vulnerability:** With over 300 SARA Title III reporting facilities, multiple interstate and highway systems, and both CSX and Norfolk Southern railways that dissect the county into thirds, the planning committee considers all critical facilities as having the possibility of being affected by a hazardous materials incident.
- **People Risk/Vulnerability:** In evaluating the vulnerability of the population in Gwinnett County, it was determined that risk/vulnerability includes the entire population of Gwinnett County since there is no way to determine the impact/magnitude of a hazardous materials event and no way to predict where and when a hazardous materials event will occur. People are vulnerable to hazardous materials events through effects on transportation routes, establishment of shelters, etc. Several cities, including Dacula, Duluth, and Norcross, are particularly vulnerable as each city is split by a railroad with limited under and over roadway crossings making first responder response difficult and timely.
- **Environment Risk/Vulnerability:** Risks to the environment are high should a hazardous materials accident occur. Environmental concerns would be an interruption of water supply, secondary events such as fires, and hazardous materials accidents (such as gas pipelines rupturing, rupture of hazardous material containers at facilities, etc.). When spills do occur, whether inside or outside facilities, or along roadways, shutdowns, lost time, and expended man-hours are all factors mitigation planners must consider. The Gwinnett County Fire and Emergency Services can provide a listing of facility locations throughout Gwinnett County if requested.

Vulnerability

Table 44: Hazardous Materials Releases

Frequency of Occurrence	Highly Likely
Warning Time	None–Minimal
Geographic Extent	Localized
Potential Impact	Minor

Effects of Climate Change on Vulnerability

As temperature changes, excessive heat on containers that contain hazardous materials may alter the material properties. In addition, hazardous substances stored at fixed locations in the floodplain may experience an increase in flood events due to the projected changes in increased precipitation events, magnitude, and frequency.

Estimate of Potential Losses

It is difficult to determine the damage to the environment associated with hazardous material spills. In October 2020, a train derailment on the CSX line caused an evacuation in a local neighborhood of Lilburn. The evacuation lasted only a few hours, but the greater impact of the spilled chemicals is unknown. Gwinnett County Fire and Emergency Services can provide a listing and location of facility locations throughout Gwinnett County if requested.

Source:

<https://www.gwinnettcounty.com/web/gwinnett/newsandevents/newsdetails?news=FirePressReleases/LilburnTrainDerailment10-11-20>

Land Use and Development Trends

Gwinnett County currently has no land use or development trends related to hazardous material spills.

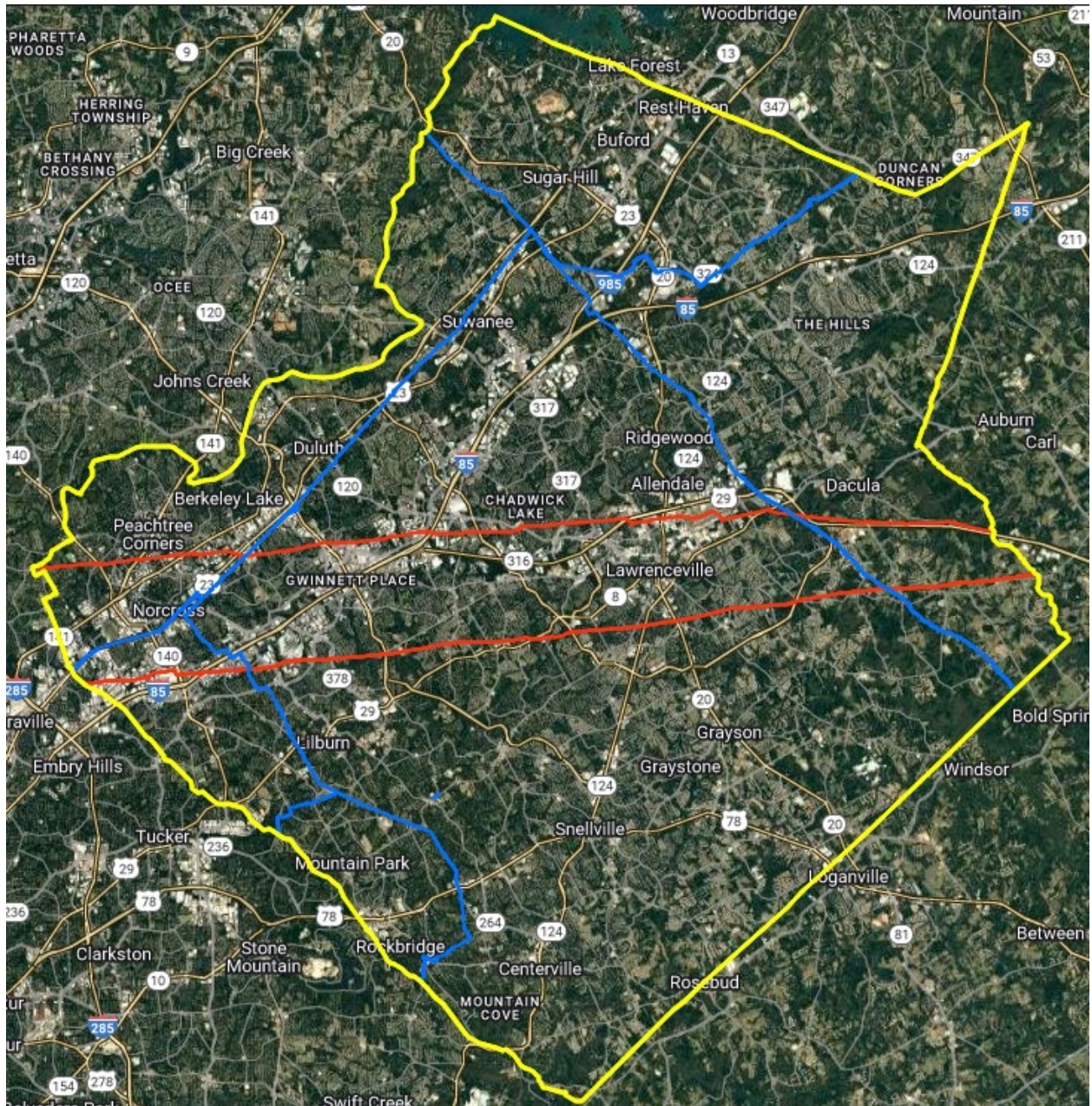
Multi-Jurisdictional Concerns

All of Gwinnett County, including the cities of Auburn, Berkeley Lake, Braselton, Buford, Dacula, Duluth, Grayson, Lawrenceville, Lilburn, Loganville, Mulberry, Norcross, Peachtree Corners, Snellville, Sugar Hill, and Suwanee are vulnerable to both fixed location and transportation related hazardous material spills. The I-85 and I-985 corridor are most vulnerable to transportation-related spills. Fixed location spills are possible in all areas of the county. Gwinnett County Fire and Emergency Services can provide a list of the facilities located in Gwinnett County if requested.

Hazard Summary

Technological hazards, stemming from human activity, are a risk in Gwinnett County, particularly related to hazardous material releases. Key risks include potential harm to people, property, and the environment, with the entire population being vulnerable due to the unpredictability of such incidents. Additionally, climate change may increase the likelihood of hazardous materials accidents due to temperature changes and increased flooding.

Figure 55: Gas Transmission (Blue) and Hazardous Liquid Pipelines (Red)



Source: National Pipeline Mapping System: <https://www.npms.phmsa.dot.gov/>

3.3.2 Pandemic/Epidemic

Hazard Identification

A widespread infectious disease outbreak is plausible in Gwinnett County. Pandemic/epidemic incidents are a danger to emergency responders and the general public. This can include influenza (including H1N1), tuberculosis, polio, smallpox, severe acute respiratory syndrome (SARS), and other health-related incidents. Bioterrorism incidents can also be included in this identified hazard area.

Hazard Profile

Influenza season usually begins around October and lasts until March. Although influenza is also referred to as “the flu”, it is a specific viral infection that is responsible for a substantial number of hospitalizations and deaths each winter- it *is not* the common cold. The Centers for Disease Control and Prevention (CDC) estimates up to 52,000 excess deaths are caused by influenza each year in the United States. The continuous genetic changes in the virus, called “antigenic drift,” mean that people can get sick from the same virus year after year; this year’s flu shot does not prevent next year’s illness.

Other novel infectious diseases may or may not be seasonal, and the seasons may vary. While COVID did show some degree of seasonality, it was much more resilient as a year-round virus than influenza. Between 2020 and 2023, COVID was responsible for approximately 1.1 million US deaths and over 2,000 deaths in Gwinnett County.

Historians estimate that over the last 3 centuries, there have been 10 influenza “pandemics” in addition to the 2020 COVID pandemic. A pandemic is an epidemic that affects the entire world. Influenza pandemics occur when the virus undergoes such dramatic changes that virtually no one has resistance to infection. When this occurs the number of people infected is much higher than during ordinary flu seasons. In addition, during some pandemics, the severity of illness is higher. For example, in 1918-1919, not only was the number of ill people high but also the death rate was 50 times higher than usual. Furthermore, there was a shift in the age groups with the highest mortality being persons under age five, 20 – 40 years of age, and those over 65. In contrast, the more recent pandemics of 1957 and 1968 caused far less dramatic increases in the death rate (only about two times the norm of 36,000 per year from regular flu). The highest mortality rates for COVID were found in people over age 60, pregnant women, obese individuals, and those with certain comorbidities.

The key to early detection of the next worldwide pandemic is surveillance. In Georgia, the following systems are in place to monitor influenza activity:

The Georgia Public Health Laboratory (GPHL), a division of the Georgia Department of Public Health (DPH) conducts clinical and non-clinical lab testing for influenza and other respiratory viruses year-round. Flu activity is monitored with the help of volunteer healthcare providers.

The Georgia DPH Epidemiology program collaborates with healthcare providers around the state in the U.S. Influenza sentinel provider surveillance network to track the occurrence of influenza-like illness (ILI) in clinical settings throughout the year. Each week, participants report the total number of patients evaluated and the number of patients who had ILI, fever > 100f, plus a cough and/or sore throat et al. Sentinel providers send throat swabs for lab testing to GPHL. This data is compiled and reported weekly.

GNR Public Health developed a Pandemic Influenza Plan with both government and external partners. The purpose of the plan is to mitigate the impact of a pandemic on the residents of Gwinnett, Newton, and Rockdale Counties and to outline the roles of our public safety agencies in responding to this threat. The plan is revised annually to ensure coordination with federal, state, and non-governmental organizations, many of which have also developed pandemic influenza plans.

In 2022, GNR Public Health investigated 4,610 notifiable diseases (not including sexually transmitted diseases), 3,191 general notifiable diseases, and 45 tuberculosis cases. GNR Epidemiology responded to 408 outbreaks (53 non-COVID) and 117 complaints of foodborne or waterborne illness in 2022.

Tuberculosis case counts and incidence rates have steadily decreased in the U.S. since 1992. Although our TB program saw a similar decrease from 2019 – 2021, there was a 59 percent increase in cases from 2021 – 2022. The total U.S. cases count also increased during this same period.

Our Tuberculosis team is receiving more cases with immunosuppression, complex medical histories, and non-pulmonary TB (meaning infections outside of the lungs). In 2022, 64.3 percent of TB cases were pulmonary. In addition to 45 reported cases, the TB team investigated 423 close contacts.

(Updated information provided by Gwinnett Newton Rockdale [GNR] Public Health)

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** All critical facilities as well as all public, private, and commercial properties are vulnerable to being affected by an infectious disease incident due to employees being ill and possibly being unable to maintain the facilities.
- **People Risk/Vulnerability.** It was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of an infectious disease incident and no way to predict which target group(s) will be the most vulnerable to a virus or bacteria. In addition to sickness (morbidity) and death (mortality), 40 percent of the workforce could become ill.
- **Environment Risk/Vulnerability.** Risks to the environment are low should an infectious disease incident occur.

Vulnerability

Table 45: Pandemic/Epidemic

Frequency of Occurrence	Likely
Warning Time	More than 12 hours
Geographic Extent	Countywide
Potential Impact	Negligible–Major

Effect of Climate Change on Vulnerability

The relationship between climate change and an increase in infectious diseases is difficult to predict with certainty; however, there may be linkages between the two. Changes in the environment may create a more livable habitat for vectors carrying disease as suggested by the Centers for Disease Control and Prevention (CDC n.d.). Localized changes in climate and human interaction may also be a factor in the spread of disease.

Land Use and Development Trends

Changes in land use and habitat fragmentation can lead to more frequent interactions between humans and wildlife and increase the risk of zoonotic diseases such as rabies, in particular, urbanization and development increase the risk for vector-borne diseases by providing suitable habitat and breeding grounds for mosquitoes and ticks which transmit pathogens (e.g., West Nile virus and Lyme disease).

As international tourism and commerce become more common, infectious diseases such as Ebola, measles, corona viruses, and flu may be imported to the U.S. from other countries.

The Intergovernmental Panel on Climate Change predicts that heavy rainfall events will continue to increase. Increasingly urbanized municipalities will have to develop new strategies for managing the flow of water or risk drinking water contamination and flooding. Heavy precipitation has been associated with waterborne disease outbreaks through contaminated drinking water and recreational waters (e.g., E. coli 0157: H7, Campylobacter, and Cryptosporidium). Increased precipitation and above-average temperatures have been linked to epidemics of West Nile virus. Studies show that warmer temperatures associated with climate change can accelerate mosquito development and biting rates.

Natural disasters are on the rise, and heavily developed states with significant coastlines are most at risk. Category 3 hurricane severely damaged parts of Southern Georgia in 2018. In the aftermath of a natural disaster, public health is concerned with

the increased risk of waterborne diseases, botulism, and tetanus. These disasters also create risks for Gwinnett County as mass sheltering environments are especially vulnerable to outbreaks of norovirus, influenza, and pertussis.

Hazard Summary

Infectious disease outbreaks pose a threat to all of Gwinnett County. For example, while ED visits, hospitalizations, and deaths due to waterborne infectious diseases incur over \$3.3 billion in direct healthcare costs, outbreaks/epidemics/pandemics threaten to destabilize the economy by decreasing work production and increasing strain on the health system. These costs during COVID were almost incalculable. Fortunately, Gwinnett County has a robust public health system in place to quickly identify infectious diseases and mitigate their effects.

3.3.3. Terrorism

Hazard Identification

Terrorism is defined in the Code of Federal Regulations as the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives. The FBI defines “domestic terrorism” by 18 U.S. Code § 2331 (5) that involve acts dangerous to human life that are a violation of the criminal laws of the United States or any State and appear to be intended to:

- Intimidate or coerce a civilian population
- Influence the policy of the government by intimidation or coercion
- Affect the conduct of a government by mass destruction, assassination, or kidnapping.

Techniques used to gain an audience for their platform include hostage-taking, product-tampering, criminal extortion, arson, sabotage, threats against individual family members, assassinations, kidnapping, explosive bombings, and armed attacks. The most likely targets of these forms of terrorism are political leaders, key military personnel, foreign missions, military facilities, corporate executives and facilities, and celebrities. Unfortunately, the risk of terrorist acts exists in Georgia and cannot be ruled out for Gwinnett County. Terrorist attacks can take a wide variety of forms, ranging from verbal threats to sabotage to biological weapons to bombs. The most frequently used terrorist methods include but are not limited to the following:

- **Bombs, guns, and explosives:** These are the “traditional” weapons used by terrorists worldwide. Typically, these weapons are less technical and resource demanding.
- **Biological weapons:** These weapons use infectious microbes or toxins to produce illness or death in people, animals, or plants. Potential biological weapons include anthrax, botulism, smallpox, viral hemorrhagic fevers, water

safety threats (for example, cholera), and food safety threats (for example, salmonella). Biological weapons are relatively difficult to cultivate and disseminate.

- **Chemical weapons:** Chemical weapons cause severe health reactions designed to incapacitate or cause death. There is a wide array of potential chemical agents that could be used as weapons. These agents vary in how their effects on the body, required dose, exposure mechanism, length of exposure, toxicity, origination, and form (for example, liquid, gas). Examples of chemical agents include sarin, mustard agent, VX, and cyanide.
- **Radiological and nuclear weapons:** Although there has been much speculation by media and various governmental agencies regarding the potential for a terrorist to obtain fissionable material or a nuclear bomb, there are no known unclassified cases of any such organization or group obtaining weapons-grade material. Constructing a nuclear bomb would require special resources, training, and materials.

Source: <https://www.ojp.gov/ncjrs/virtual-library/abstracts/fbi-and-terrorism#:~:text=The%20FBI%20defines%20terrorism%2C%20domestic,of%20political%20or%20social%20objectives>

<https://www.fbi.gov/file-repository/fbi-dhs-domestic-terrorism-strategic-report-2023.pdf/view>

Hazard Profile

A major terrorism hazard event has been determined to have a low likelihood of occurrence in Gwinnett County within the five-year update cycle of this hazard mitigation plan. Therefore, although some hazard characterization information is presented, no further risk assessment has been performed for this hazard. Additional analyses to further characterize the risks of this hazard and the development of suitable mitigation action items will be conducted in the future based on periodic reviews of this hazard mitigation plan and available resources.

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** All assets within Gwinnett County are vulnerable to being affected by a terrorist incident; however, several pieces of infrastructure pose a larger threat than others. Gwinnett County government facilities and schools are vulnerable to active shooter incidents.
- **People Risk/Vulnerability.** In evaluating the vulnerability of the population in Gwinnett County, it was determined that risk/vulnerability includes the entire population of Gwinnett County because there is no way to determine the impact/magnitude of a terrorist incident and no way to predict where and when a terrorist incident will occur. People are vulnerable to terrorist events through physical injury or disease, power outages, effects on transportation routes, the

establishment of shelters, the effect of incidents on the mental state of the public, confidence of the public in law enforcement support, contamination of the food supply, etc.

- **Environment Risk/Vulnerability.** Risks to the environment are high should a terrorist incident occur, but the frequency of terrorist events in Gwinnett County is low. Environmental concerns would be interruption or contamination of water or food supplies and secondary events such as fires and HAZMAT accidents (such as gas pipelines rupturing, rupture of HAZMAT containers at facilities, etc.).

Vulnerability

Table 46: Terrorism

Frequency of Occurrence	Likely
Warning Time	None–Minimal
Geographic Extent	Community-wide
Potential Impact	Negligible–Major

Effects of Climate Change on Vulnerability

Climate change can lead to resource scarcity, such as water and food shortages. These scarcities can heighten tensions within and between communities, potentially fostering conditions conducive to terrorism. Resource conflicts can create power vacuums and ungoverned spaces where terrorist organizations can thrive and recruit. Climate-induced disasters and long-term environmental changes can force large populations to migrate. These displaced populations may become more vulnerable to radicalization due to instability, lack of resources, and social fragmentation. Migrant flows can overwhelm host communities, leading to social tensions that terrorist groups might exploit. Climate change can compromise critical infrastructure, such as energy grids, water supply systems, and transportation networks. Terrorist groups might target these weakened infrastructures to amplify their impact. Disruptions to critical infrastructure can create chaos and erode public trust in government, which terrorists can use to their advantage. Climate change can exacerbate economic inequalities by disproportionately affecting poorer communities. These economic stresses can make marginalized groups more susceptible to extremist ideologies. Economic hardship can also limit the resources available for counter-terrorism efforts, reducing a society's overall resilience to terrorist threats. The increasing frequency and intensity of natural disasters can stretch emergency response resources thin, making it easier for terrorist activities to go undetected or unmitigated. Natural disasters can create chaotic environments that

terrorists might exploit for attacks, leveraging the reduced state capacity to respond to multiple concurrent crises. As climate change drives rural populations into urban areas, cities may become more densely populated and potentially more susceptible to terrorist attacks due to the concentration of people and critical infrastructure. Urban settings can provide both opportunities and cover for terrorist activities, with the complexity of urban environments making it harder to maintain security. The psychosocial stress caused by climate change impacts, such as the loss of homes and livelihoods, can increase societal tensions and the potential for radicalization. Political instability stemming from inadequate responses to climate change can create environments where terrorist ideologies can flourish. Climate change can alter global security dynamics, shifting military priorities and possibly creating opportunities for terrorist groups to exploit distracted or reallocated military resources. International cooperation on counterterrorism might be strained as nations focus on addressing climate-related impacts within their borders.

Land Use and Development Trends

Future development throughout Gwinnett County will take into consideration possible terrorist incidents; particularly if new facilities are built that could be potential terrorist targets.

Hazard Summary

The incidents described above demonstrate the need to take terrorism seriously in Gwinnett County. Gwinnett County officials work with state and federal officials on domestic preparedness efforts, the details of which go beyond the scope of this plan. The community should always remain vigilant to the threat of an attack, whether it is via explosives, agriculture, or a cyber-attack.

3.3.4. Cyber Security

Hazard Identification

Computer hackers are one of the risks that everyone faces in the world today. Increasingly more sophisticated attacks, BotNets, Phishing, data theft from out-of-office working/home working, stolen or lost media, insider threats, and unauthorized machines accessing internal networks are occurring. Malware, including more sophisticated Trojans, is an area of major concern. The issue of intruders with selective and developed predefined targets, that operate in “stealth” are not always visible and are not always detected by Anti-Virus software.

Hazard Profile

Threats of attacks may be from insiders or outsiders. Verizon conducts a yearly cyber threat report that is considered one of the most detailed reports. The 2022 Verizon Data Breach Investigations Report, DBIR, analyzed 23,896 security incidents, of which, 5,212 were confirmed data breaches. The report concludes that 80 percent of the data breaches are caused by actors external to the organization, with 20 percent belonging to actors belonging to the organization. Even though most breaches are from outsiders, the internal human element often opens the door for the breach to occur. There have been recorded instances of cyber security issues in Georgia some of which have impacted Gwinnett County including a Phishing scam to a local law enforcement agency that shut down their ability to use their computer systems as well as the major ransomware attack on the Colonial Pipeline that created a panic for fuel shortage after temporarily halting transportation of fuel for its over 5,000 miles of pipelines.

Source: <https://www.verizon.com/business/resources/reports>;
https://www.gwinnettdailyreport.com/local/Lawrenceville-police-hit-by-ransomware-attack/article_7a2b1596-aa6e-11e9-b226-dfdc15f4bac5.html

Assets Exposed to Hazard

- **Property Risk/Vulnerability.** It was determined that all county and municipal facilities are vulnerable to being affected by a cyber-security event. This type of event could have ramifications including damage to hardware, software, servers, and the like, decreasing or temporarily disrupting the ability of Gwinnett County to conduct daily operational activities.
- **People Risk/Vulnerability.** There is little to no physical risk to people due to this type of event. A possible risk would be if public safety services were impacted, causing a delay in response to an emergency.
- **Environment Risk/Vulnerability.** There is little to no risk to the environment due to this type of event.

Vulnerability

Table 47: Cyber Crime

Frequency of Occurrence	Highly Likely
Warning Time	None–Minimal
Geographic Extent	Community-wide
Potential Impact	Major

SECTION 4: COMMUNITY CAPABILITY ASSESSMENT

This section of the plan is a detailed assessment of Gwinnett County's capability as a local governmental unit to mitigate the impacts of the natural hazards that were identified and analyzed in this plan. This assessment includes an examination of the following local government capabilities:

- Legal Capability
 - General Authority
 - Building Codes and Inspections
 - Land Use Planning
 - Zoning
 - Subdivision Ordinance
 - Acquisition
 - Taxation
 - Floodway Regulations
 - National Flood Insurance Program and Community Rating System
 - Stormwater Management
 - FEMA's Floodplain Map Modernization Program
 - Emergency Management
- Educational Capability
- Political Capability
- Technical Capability
- Fiscal Capability
- Legal Capability Conclusion
- Institutional Capability Conclusion
- Political Capability Conclusion
- Technical Capability

4.1 Legal Capability

Local governments in Georgia have a wide array of powers that enable counties and municipalities to adopt and implement policies and ordinances that may be used to

mitigate the potential harmful effects of natural hazards. Below is a summary of the legal authority and powers that Georgia has conferred on local governments with the State (Local Hazard Mitigation Planning Manual, GA Division of Emergency Management). These powers fall into the following four broad categories: regulations, acquisitions, taxation, and spending.

4.1.1 General Authority

In accordance with Gwinnett County Code of Ordinances, article 1, subsection 11, the board of commissioners shall have the power and authority to fix and establish, by appropriate resolution entered on its minutes, policies, rules, and regulations governing all matters reserved to its exclusive jurisdiction. Such policies, rules, and regulations, when so adopted, with proper entry thereof made on the minutes of the board of commissioners, shall be conclusive and binding. The board of commissioners shall exercise only those administrative powers which are necessarily and properly incident to its functions as a policymaking or rule-making body, or which are necessary to compel enforcement of its adopted resolutions. The following powers are vested in the Board of Commissioners and reserved to its exclusive jurisdiction:

- To levy taxes
- To make appropriations
- To fix the rates of all other charges
- To authorize the incurring of indebtedness
- To order work done where the cost is to be assessed against the benefited property and to fix the basis for such assessment
- To authorize and provide for the execution of contracts
- To establish, alter, open, close, build, repair, or abolish public roads, private ways, bridges, and ferries, according to law, provided, however, that the chairman shall have the authority to accept subdivision plats when the requirements established by the board of commissioners for subdivisions have been met
- To establish, abolish, or change election precincts and militia districts according to law
- To accept, for the county, the provisions of any optional statute where the statute permits its acceptance by the governing authority of the county
- To exercise all powers, duties, and authority formerly imposed upon or vested in the commissioner of roads and revenues of Gwinnett County with respect to zoning and planning
- To create and change the boundaries of special taxing districts authorized by law
- To fix the bonds of county officers where the same are not fixed by statute

- To enact any ordinances or other legislation which the county may be given authority to enact
- To determine the priority of capital improvements
- To call elections for the voting of bonds
- To exercise all the power and authority formerly vested by law in the board of commissioners of Gwinnett County together with the power and authority which may be delegated by law to the governing authority of the county, by whatever name designated
- To appoint retained legal counsel and an independent county auditor and provide for their compensation

4.1.2 Building Codes and Inspections

The Building Permits Division of the Department of Planning and Development is responsible for enforcement of Building Codes and Inspections.

The Building Inspections Section is responsible for all building construction-related inspections, with the goal of protecting life, limb, and property and adherence to applicable codes. This goal is accomplished by identifying structural strength and stability, as well as establishing viable means of egress, proper sanitation control, adequate lighting and ventilation, energy conservation, and personal property safety from fire and other hazards.

The Building Plan Review Section of the Department of Planning and Development is responsible for the review and authorization to permit the construction of commercial buildings, commercial structures, and commercial interior projects located in unincorporated Gwinnett County. Commercial buildings include all buildings or structures other than one- and two-family dwellings or townhomes. Commercial structures include site retaining walls, cell tower installations, racking systems, and signage foundations.

The Building Permits Section of the Department of Planning and Development is responsible for enforcement of the following functions:

- Issuance of building permits
- Building permit revisions
- Building permit renewals and extensions
- Temporary certificates of occupancy/completion
- Replacement permit cards
- Payment of re-inspection fees
- Subcontractor affidavits

- Contractor name changes
- Subcontractor name changes
- Open record requests concerning building permits or building inspections

4.1.3 Land Use Planning

Gwinnett County's Comprehensive Plan and Land Use Plan Map have been updated annually since the adoption of the plan in 1997. However, because the county has changed dramatically since then, the County continuously works on updating its Comprehensive Plans. The Board of Commissions adopted a 2045 Unified Plan Amendment on September 27, 2022, to the 2045 Unified Plan that was approved on February 5, 2019. Public input is currently being sought to update the Unified Plan for the 2045 update. The 2050 Comprehensive Transportation Plan is also a work in progress and will utilize information from the 2045 Unified Plan as part of its update.

Source:

<https://www.gwinnettcounty.com/web/gwinnett/departments/planningdevelopment/services/landuseplanning/2045unifiedplan>

4.1.4 Zoning

Pursuant to the authority conferred by Article 9, Section 2, Paragraph IV, 1983 Constitution of Georgia, and for the purposes of promoting the health, safety, morals, convenience, order, prosperity or the general welfare of the present and future inhabitants of Gwinnett County; of lessening congestion in the streets; securing safety from fire, panic and other dangers; providing adequate light and air; preventing the overcrowding of land by avoiding both undue concentration of population and urban sprawl; facilitating the adequate provision of transportation, water, sewerage, schools, parks and other public requirements; protecting property against blight and depreciation; encouraging the most appropriate use of land, buildings and other structures throughout the County; securing economy in government expenditures; and for other purposes, all in accordance with a comprehensive plan for the development of the County, the County Commissioners of Gwinnett County do hereby ordain and enact into law the following Articles and Sections of the Zoning Resolution of Gwinnett County, Georgia. Title 2: Land Use & Zoning was updated in April of 2019.

Table 48: Section 230-130.3 Subsection R. Customary Home Occupation – Zoning Resolution

Section 230-130.3R of the Zoning Resolution	
Customary Home Occupation	An occupation customarily carried on within a dwelling unit for gain or support involving the sale of only those articles, products, or services produced on the premises, conducted entirely within the dwelling by members of the immediate family residing in the dwelling unit with equipment customarily used for household purposes and involving no display of articles or products. A customary home occupation includes the accommodation of not more than two boarders or roomers. A customary home occupation may include a family personal care home or a family daycare home.
1	The home occupation shall be carried on only by a member or members of the family residing in the residence.
2	To the extent that there is any sale of any item or service related to the home occupation, no sale of that item or service may occur on the premises unless a Special Use Permit is granted by the Board of Commissioners.
3	The home occupation shall not involve group instruction or group assembly of people on the premises.
4	There shall be no exterior evidence of the conduct of a home occupation. Except for the breeding of horses by a Hobby Breeder, the home occupation shall be conducted only within the enclosed living area of the home (including the basement, if any). There shall be no display or storage of products, materials, or machinery where they may be visible from the exterior of the residence.
5	Except as contained herein, the conduct of the home occupation shall neither increase the normal flow of traffic nor shall it increase either on-street or off-street parking.
6	No equipment, supplies, or materials may be utilized or stored in the conduct of the home occupation except those that are normally used for domestic or household purposes.
7	No more than 25 percent of the dwelling unit may be used for conducting the home occupation.
8	One business vehicle used exclusively by the resident is permissible. This vehicle may only be an automobile, pick-up truck, van, or sport-utility vehicle.

Table 49: Section 200-40 Division of County into Zoning Districts

Section 200-40.1 Zoning Districts	
RA-200	Agriculture-Residence District
R-LL	Single Family Residence-Large Lot District
R-100	Single Family Residence District
R-75	Single Family Residence District
OSC	Open Space Conservation District
R-60	Single Family Residence District
MH	Manufactured Housing
TND	Traditional Neighborhood Development District
R-SR	Senior Oriented Residence District
R-TH	Single Family Residence Townhouse District
RM-13	Multi-Family Residence District
RM-24	Multi-Family Residence District
HRR	High Rise Residence District
O-R	Office Residential District
O-1	Office-Institutional District
MU-N	Neighborhood Mixed-Use District
MU-C	Community Mixed-Use District
MU-R	Regional Mixed-Use District
M-1	Light Industry District
M-2	Heavy Industry District

4.1.5 Subdivision Ordinance

Subdivision regulations control the division of land into parcels for the purpose of building development or sale. Subdivision regulations are a more limited tool than zoning and only indirectly affect the type of use made of land or minimum specifications for structures.

Subdivision regulations provide for orderly growth and development by setting standards for street construction, interconnecting street systems, and utilities, and for other improvements that ensure the appropriate design and layout of new development.

These regulations also serve to protect natural features and resources by not allowing or reducing development intensity within sensitive environmental areas. Flood-related subdivision controls typically require that developers install adequate stormwater drainage facilities, and design water and sewer systems to minimize flood damage and contamination. Regulations typically prohibit the filling of floodways or the subdivision of land subject to flooding unless flood hazards are overcome through filling or other measures.

The Gwinnett County Subdivision Ordinance was first adopted in 1986. The original ordinance contained few specific design criteria for the approval or disapproval of new subdivisions. The ordinance was substantially revised to include specific development standards, including requirements for stormwater drainage to minimize or eliminate flood damage. The ordinance was last revised on October 6, 2020.

Source:

https://library.municode.com/ga/gwinnett_county/ordinances/code_of_ordinances?nodeId=1064984

4.1.6 Acquisition

The power of acquisition can be a useful tool for pursuing mitigation goals. Local governments may find the most effective method for completely hazard-proofing a particular piece of property is to acquire the property, either in fee simple or a lesser interest, such as an easement. Public acquisition removes the property from the private market and eliminates or reduces the possibility of inappropriate development. Georgia legislation empowers cities and counties to acquire property for public purpose by gift, grant, devise, bequest, exchange, purchase, lease, or eminent domain (Ga. Article III Legislative Branch).

4.1.7 Taxation

The Gwinnett County Board of Commissioners adopted their Code of Ordinances on September 6, 1994. The following are the findings of Article VI Section 1 of the ordinance:

The governing authority of Gwinnett County is hereby authorized and empowered to establish and administer fire protection districts and sewerage districts in the unincorporated area of the County. The governing authority shall fix the geographical boundaries of any such district and may construct, maintain, operate, and administer a fire protection system or a sewerage system in such district. The governing authority is hereby authorized to levy a tax, not to exceed five mills, for such purpose on all property in said district, if the levying of such tax is approved by a majority vote of those qualified voters of said district voting at a special election to be called and conducted by the probate court judge of said county in said district. The governing authority shall set the date for said election, which shall be held and conducted, as are other special elections. General obligation bonds also may be issued for such purposes, to be paid for by taxes levied only in said district. In the event such bonds are issued, a tax may be levied in

such district with no limitation as to rate or amount and such tax shall not be affected by the tax of not to exceed five mills provided for hereinbefore. If such bonds are issued, they shall be authorized in all respects as provided in Article VII, Section VII, Paragraph I of the Constitution at an election called and held by the governing authority of Gwinnett County, and only those voters residing in the affected district shall participate in the election held for that purpose. Such bonds may be issued in an amount up to ten (10%) percent of the assessed valuation of property located in such district and such percentage shall be in addition to that authorized elsewhere in this Constitution. The governing authority is also authorized to issue revenue bonds for such purposes as authorized by the Constitution and laws of this State. The homestead exemption granted under the Constitution and laws of this State shall not be granted and shall not apply to the levy of any taxes provided for herein. In order to assist in constructing, maintaining, operating, and administering any such system, the assessment may be made against the property in such district benefitted thereby, and the General Assembly is hereby authorized to provide the property against which assessments may be made, the procedure relative thereto, and all other matters relative thereto. In addition to the authority granted hereinbefore, the governing authority of Gwinnett County is hereby authorized to contract with any other political subdivision for the furnishing of fire protection services or sewerage services, or both, to any district established by the governing authority.

4.1.8 Floodway Regulations

The Gwinnett County Board of Commissioners adopted its Floodplain Management Ordinance in October 2024. The following are the findings of Section 700-10 of the ordinance:

Chapter 700. - Floodplain Management[23]

Footnotes:

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Editor's note— Ord. No. UDOA2023-00002(GCID 2023-0604), Exh. A(§ 45), adopted Sept. 26, 2023, repealed the former Ch. 700, §§ 700-10—700-50, and enacted a new Ch. 700 as set out herein. The former Ch. 700 pertained to similar subject matter and derived from Ord. No. UDOA2015-00001(GCID No. 2015-0360), adopted April 28, 2015; Ord. No. UDOA2019-00005(GCID2019-0295), Exh. A, adopted March 19, 2019; Ord. No. UDOA2020-00003(GCID: 2020-0962), Exh. A, adopted Oct. 6, 2020.

Section 700-10. - General Provisions.

700-10.1 Findings.

A. The flood hazard areas of Gwinnett County are subject to periodic inundation which may result in loss of life and property,

health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood relief and protection, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

B. Flood hazard areas can serve important stormwater management, water quality, streambank protection, stream corridor protection, wetland preservation and ecological purposes when permanently protected as undisturbed or minimally disturbed areas.

C. Effective floodplain management and flood hazard protection activities can:

1. Protect human life and health.
2. Minimize damage to private property.
3. Minimize damage to public facilities and infrastructure such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains.
4. Minimize expenditure of public money for costly flood control projects associated with flooding and generally undertaken at the expense of the general public.

D. Article IX, Section II of the Constitution of the State of Georgia and O.C.G.A. § 36-1-20(a), have delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, Gwinnett County, Georgia, establishes this set of floodplain management and flood hazard reduction policies for the purpose of regulating the use of flood hazard areas. It is determined that the regulation of flood hazard areas and the prevention of flood damage are in the public interest and will minimize threats to public health and safety, as well as to private and public property.

700-10.2 Requirements. The requirements of Chapter 700 shall be applicable to all Areas of Special Flood Hazard within the jurisdiction of Gwinnett County.

700-10.3 Purpose. It is the purpose of Chapter 700 to protect, maintain, and enhance the public health, safety, environment, and general welfare and to minimize public and private losses due to flood conditions in flood hazard areas, as well as to protect the beneficial uses of floodplain areas for water quality protection, streambank and stream corridor protection, wetlands preservation and ecological and environmental protection by provisions:

- A. Restricting or prohibiting uses or activities which are dangerous to health, safety, and property due to flooding or erosion hazards, or which increase flood heights, velocities, or erosion.
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction or renovation.
- C. Limiting the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters.
- D. Controlling filling, grading, dredging and other development which may increase erosion or flood damage.
- E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters, or which may increase flood hazards to other lands.
- F. Protecting the stormwater management, water quality, streambank protection, stream corridor protection, wetland preservation and ecological functions of natural floodplain areas.

700-10.4 Flood Area Maps and Studies. For the purposes of defining and determining "Area of Special Flood Hazard," "Areas of Future-conditions Flood Hazard," "Areas of Shallow Flooding," "Base Flood Elevations," "Floodplains," "Floodways," "Future-conditions Flood Elevations," "Future-conditions Floodplains," potential flood hazard or risk categories as shown on FIRM maps, and other terms used in Chapter 700, the following documents and sources may be used for such purposes and are adopted by reference thereto:

- A. The Flood Insurance Study (FIS), dated September 29, 2006, or most current study, with accompanying maps and other supporting data and any revision thereto.
- B. Other studies which may be relied upon for establishment of the base flood elevation (BFE) or delineation of the base or one percent (100-year) floodplain and flood-prone areas, including:
 - 1. Any flood or flood related study conducted by the United States Army Corps of Engineers, the United States Geological Survey or any other local, State, or Federal Agency applicable to Gwinnett County.
 - 2. Any base flood study conducted by a licensed professional engineer in the State of Georgia which has been prepared utilizing FEMA approved methodology and approved by the Department of Planning and Development.

C. Other studies which may be relied upon for establishment of the future conditions flood elevation or delineation of the future conditions floodplain and flood-proned areas, including:

1. Any flood or flood related study conducted by the United States Army Corps of Engineers, the United States Geological Survey or any other local, state, or federal agency applicable to Gwinnett County.
2. Any future-conditions flood study conducted by a licensed professional engineer in the State of Georgia which has been prepared utilizing FEMA approved methodology and approved by the Department of Planning and Development.

D. The repository for public inspection of the FIS, accompanying maps and other supporting data is located at the following location:

Gwinnett County Department of Water Resources
Central Facility
684 Winder Highway
Lawrenceville, GA 30045

700-10.5 Interpretation.

A. In the interpretation and application of Chapter 700 all provisions shall be:

1. Considered as minimum requirements.
2. Liberally construed in favor of Gwinnett County.
3. Deemed neither to limit nor repeal any other powers granted under state statutes.

B. Where interpretation is needed as to the exact location of floodplain or floodway boundaries (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the Department shall make the necessary interpretation based on data submitted by the applicant. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Chapter 700.

C. Where flood plain elevations have been defined, the floodplain shall be determined based on flood elevations rather than the area graphically delineated on the floodplain maps.

700-10.6 Drainage Easement Establishment. On behalf of the public, a drainage easement is hereby established for the sole purpose of preserving and protecting the free flow of surface waters inside the future

conditions flood contour elevations and along all watercourses. Where debris has accumulated in such a manner as would increase the need for flood protection, raise the flood level, or increase the risk of hazardous inundation of adjacent communities or jurisdictions, the County is hereby authorized to enter upon such watercourse and clear or remove such debris or obstructions as are hazardous to the public safety. The cost thereof shall be charged to the owner of the property where such debris and/or obstruction was generated. Where erosion has occurred in such a manner as would endanger a building or a structure, the County is hereby authorized to enter upon such watercourse and stabilize the channel for public safety. The cost thereof shall be charged to the owner of the property where the erosion has occurred and/or caused the erosion.

700-10.7 Establishment of Development Permit. A development permit shall be required in conformance with the provisions of this UDO prior to the commencement of any clearing, grading, or development activities adjacent to, within, or affecting a future conditions floodplain.

700-10.8 Compliance. No structure or use of land shall hereafter be located, extended, converted, or structurally altered without full compliance with the terms of Chapter 700 and other applicable regulations.

700-10.9 Compatibility with Other Regulations. Chapter 700 is not intended to modify or repeal any other ordinance, rule, regulation, statute, easement, covenant, deed restriction or other provision of law. The requirements of Chapter 700 are in addition to the requirements of any other ordinance, rule, regulation, or other provision of law, and where any provision of Chapter 700 imposes restrictions different from those imposed by any other ordinance, rule, regulation or other provision of law, whichever provision is more restrictive or imposes higher protective standards for human health or the environment shall control.

700-10.10 Warning and Disclaimer of Liability. The degree of flood protection required by Chapter 700 is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. Chapter 700 does not imply that land outside the special flood hazard or flood prone areas or uses permitted within such areas will be free from flooding or flood damages. Chapter 700 shall not create liability on the part of Gwinnett County or on the part of any officer or employee thereof for any flood damages that results from reliance on this Chapter, or any administrative decision lawfully made thereunder.

700-10.11 Duties and Responsibilities of Ordinance Administrator. As the administrator of Chapter 700, the duties of the Director of the Department

of Planning and Development or the Director's designee shall include, but shall not be limited to:

A. Review all development applications and permits to assure that the requirements of Chapter 700 have been satisfied and to determine whether proposed building sites will be reasonably safe from flooding.

B. Require that copies of all necessary permits from governmental agencies from which approval is required by federal or state law, including but not limited to Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334, be provided and maintained on file.

C. When base flood elevation data or floodway data have not been provided, then the Director or Director's designee shall require the applicant to obtain, review and reasonably use any base flood elevation and floodway data available from a federal, state, or other sources in order to meet the requirements of Sections 700-20 and 700-30 and provisions of 700-40 herein.

D. Review and record the actual elevation in relation to mean sea level (or highest adjacent grade) of the lowest floor, including basement, of all new or substantially improved structures.

E. Review and record the actual elevation, in relation to mean sea level to which any substantially improved structures have been flood-proofed.

F. When flood-proofing is used for a non-residential structure, the director or director's designee shall review the design and operational maintenance plan and obtain certification of design criteria from a registered professional engineer or architect.

G. Notify affected adjacent communities and the Georgia Department of Natural Resources (GA DNR) prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency (FEMA).

H. Where interpretation is needed as to the exact location of boundaries of the special flood hazard area (e.g., where there appears to be a conflict between a mapped boundary and actual field conditions) the director or director's designee shall make the necessary interpretation. Any person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Chapter 120. Where floodplain elevations have been defined, the floodplain shall be determined

based on flood elevations rather than the area graphically delineated on the floodplain maps.

I. All records pertaining to the provisions of Chapter 700 shall be maintained in the office of the Director or Director's designee and shall be open for public inspection.

J. Coordinate all FIRM revisions with the GA DNR and FEMA.

K. Review variance applications.

700-10.12 Severability. If the provisions of any section, subsection, paragraph, subdivision, or clause of Chapter 700 shall be adjudged invalid by a court of competent jurisdiction, such judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision, or clause of Chapter 700.

(Ord. No. UDOA2023-00002(GCID 2023-0604), Exh. A(§ 45), 9-26-2023; Ord. No. UDOA2024-00001(GCID 2024-0345), Exh. A, 6-18-2024)

Source:

https://library.municode.com/ga/gwinnett_county/codes/code_of_ordinances?nodeId=APXAUNDEOR_C H700FLMA_S700-10GEPR

4.1.9 National Flood Insurance Program and Community Rating System

Another voluntary program that provides significant value is the Community Rating System (CRS). CRS is an incentive-based program that encourages counties and municipalities to undertake defined flood mitigation activities that go beyond the minimum requirements of the NFIP, adding extra local measures to protect from flooding. All of the 18 creditable CRS mitigation activities are assigned a range of point values. As points are accumulated and reach identified thresholds, communities can apply for an improved CRS class. Class ratings, which run from 10 to 1, are tied to flood insurance premium reductions. As class ratings improve, the percent reduction in flood insurance premiums for NFIP policyholders increases. CRS premium discounts, by class, as defined by FEMA, are depicted in the adjacent table.

Table 50: Class Ratings and Flood Insurance Premium Reduction

Class	Discount
1	45%
2	40%
3	35%
4	30%
5	25%
6	20%
7	15%
8	10%
9	5%
10	0%

Table 51: Gwinnett County Community Rating

Community Identification Number	Community Name	CRS Entry Date	Current Effective Date	Current Class	Percent Discount For SFHA1	Percent Discount For Non-SFHA	Status
130322	Gwinnett County	10/1/94	05/01/15	7	15%	5	C

Source: <https://www.fema.gov/floodplain-management/community-rating-system#participating>

The Gwinnett County Planning and Development stormwater plan review section regulates unincorporated GC floodplain and permits projects for construction only after they demonstrate compliance with floodplain regulations. Code enforcement would serve as the program's citation arm should floodplain violations be identified. Building Inspectors oversee the NFIP requirements and flood prevention within its jurisdiction. Both entities review any permit applications or zoning complaints for their respective jurisdictions. Permits are not approved until signed off as compliant with all building codes and NFIP requirements. As the agencies that implement the addressed commitments and requirements of the NFIP, they also administer and oversee the process of substantial improvement (SI)/substantial damage (SD) regulations post-disaster. Assessment of damages after a disaster helps in community resiliency and future mitigation strategies. Implementing existing guidelines and local regulations such as building codes, zoning ordinances, and disaster management plans continues to help these communities recover from natural disasters. These SI/SD regulations are administered by:

- Performing damage assessments after each hazard event; informing property owners of how to apply for permits for repairs and determining if the damage that has occurred qualifies as substantial damage.
- Review permit applications for buildings located within the special flood hazard area to determine if the work being requested constitutes SI or SD repairs and ensure all requirements are addressed.
- Reviewing cost estimates of the proposed work to ensure they are reasonable using the current market value of the structure and its characteristics while excluding land value. Using the market value to determine if the proposed improvements meet SI requirements or using the market value before the damage to determine if repairs meet SD requirements.
- Conduct field inspections during construction to ensure it complies with issued permits and work with owners to correct any violations found.
- Retain all FIRMs and maintain all SFHA permits. Both are accessible to the general public; FIRM Panels are available to the public on the GW Flood Portal. Projects permitted in the County with SFHA are retained and would be available through Open Records Request.
- Coordinate with property owners and insurance adjusters on all NFIP flood insurance claims and Increased Cost of Compliance (ICC) coverage.

Assessment of substantial damage after a disaster helps in resilience and mitigation strategies. Implementing existing guidelines and local regulations such as building codes, zoning ordinances, and disaster management plans has helped recover from natural disasters' aftermath.

Documentation and Reporting: Prepare detailed documentation of the damage assessment, cost estimation, and calculations. This documentation will be essential for official determinations, insurance claims, or assistance applications.

Gwinnett County and the cities have utilized various funds, including local and Community Development Block Grant funding, to mitigate potential flood damage. This includes improvements to drainage systems and storm sewer systems. Historical records and recommendations from the engineering service are reviewed and used to mitigate potential issues before they arise.

4.1.9 Stormwater Management

The Gwinnett County Board of Commissioners adopted the Stormwater Management Ordinance on January 27, 2004, and updated October 2024. Chapter 800 defines the Stormwater Management Ordinance.

Chapter 800. - Stormwater Management [24]

Footnotes:

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*Editor's note— Ord. No. **UDOA2023-00002(GCID 2023-0604)**, Exh. A(§ 46), adopted Sept. 26, 2023, repealed the former Ch. 800, §§ 800-10–800-90, and enacted a new Ch. 800 as set out herein. The former Ch. 800 pertained to similar subject matter and derived from Ord. No. **UDOA2020-00003(GCID: 2020-0962)**, Exh. A, adopted Oct. 6, 2020.*

Section 800-10. - Stormwater Management General.

800-10.1 Stormwater management is intended to lessen the impacts of urbanization on the natural hydrology of the site. The goal is to reduce the amount of stormwater runoff and pollutants that are released, provide for natural on-site control and treatment of runoff, and optimize the location of stormwater management facilities. These goals are met through runoff reduction or water quality, channel protection, overbank flood protection and extreme flood protection.

800-10.2 Runoff reduction practices shall be sized and designed to retain the first 1-inch of rainfall on the site to the maximum extent practicable. Runoff reduction practices are stormwater best management practices, BMP's, used to disconnect impervious and disturbed pervious surfaces from the stormwater drainage system to reduce the post-construction stormwater runoff rates, volumes, and pollutant loads. Runoff Reduction shall be used where practical, prior to using water quality standards. If the Runoff Reduction requirements cannot be met in whole or part, then the water quality standards shall be used to treat the remainder.

800-10.3 Stormwater management systems shall be designed to detain or treat the runoff from 85% of the storms that occur in an average year and reduce the average annual post-development total suspended solids loadings by 80% in order to meet the water quality requirement. The water quality requirement can be waived if the entire 100% of runoff reduction is provided. Water quality and runoff reduction can also be provided in conjunction in order to meet the water quality requirements outlined in the Gwinnett County Stormwater Management Manual.

800-10.4 The increase in the frequency and duration of bankfull flow conditions in stream channels due to urban development is the primary cause of stream bank erosion and the widening and downcutting of stream channels. In order to reduce the effects from urban development within the stream channels, channel protection must be provided. Stream channel protection shall be provided using the following three approaches:

- A. 24-hour extended detention storage of the 1-year 24-hour return frequency storm event
- B. Erosion prevention measures such as energy dissipation and velocity control
- C. Preservation of the applicable stream buffer

800-10.5 Stormwater management facilities shall be designed so that their peak release rates, when combined with those of all bypass areas in the same basin, produce peak flow rates and flow velocities at the site's boundary line no greater than those which occurred at the same location for pre-developed conditions. A downstream analysis may warrant a development to over-detain to protect downstream properties or may even warrant reduction/elimination of detention due to the timing of peak discharges within the watershed as outlined in Sections 800-50.2 and 800-50.3.

800-10.6 The positive effects of stormwater management via on-site stormwater management facilities diminish rapidly as the distance downstream from the point of discharge increases, and the smaller the facility's contribution is, as a percentage of the total runoff contributing to downstream flow, the shorter the distance downstream that the benefits are realized. Because of these limitations, on-site stormwater treatment is effective at controlling flooding only when flow from the facility is a significant percentage of the total flow at the point of interest, and only if the point of interest is immediately downstream. The concepts of immediately downstream and significant percentage of total flow are inseparable. The portion of a receiving watercourse (one which receives and conveys runoff from a site) which lies downstream from the site to the point where the area of the site is 10 percent of the total drainage area, shall generally be considered to constitute that portion of the watercourse which is immediately downstream.

800-10.7 Peak flow rate control shall normally be provided only for the 2-year, 5-year, 10-year, and 25-year frequency storm events in order to meet the requirements of overbank flood protection. The 100-year event shall be provided when failure to do so would result in flooding of other habitable dwellings, property damage, or public access and/or utility interruption (extreme flood protection).

800-10.8 Trout stream protection, when required, can be achieved by using the appropriate stormwater BMP's outlined in the Gwinnett County Stormwater Management Manual. A temperature increase greater than 2°F is not allowed within a trout stream.

(Ord. No. **UDOA2023-00002(GCID 2023-0604)**, Exh. A(§ 46), 9-26-2023)

4.2 Educational Capability

Gwinnett County Public Schools (GCPS) and its 142 schools and other educational facilities serve more than 183,000 students. Buford City Schools is the second public school system in Gwinnett with 5 schools that support more than 6,000 students. Gwinnett’s modern, well-equipped, and well-maintained schools provide an environment where teaching and learning thrive. Geographical clusters, called clusters, determine attendance zones. Within each cluster, there are three to six elementary schools, one or two middle schools, and one high school.

Table 52: Educational Capability

Institutional Capability	Yes or No
County Board of Education (elected official)	Yes
CEO/Superintendent	Yes
Chief of Engagement Officer	Yes
Chief Technology & Innovation Officer	Yes
Chief Business Operations Officer	Yes
Chief of Schools	Yes
Chief Learning Officer	Yes
Chief Accountability Officer	Yes
Chief Human Resources Officer	Yes

Table 53: List of Schools & Enrollment

School Name	Cluster	Enrollment
Buford Elementary School	Buford City	398
Buford Academy	Buford City	1,254
Buford Senior Academy	Buford City	868
Buford Middle School	Buford City	1,414
Buford High School	Buford City	1,903
Alcova Elementary School	Dacula	1,436
Alford Elementary School	Discovery	896
Anderson-Livsey Elementary School	Shiloh	648
Annistown Elementary School	Shiloh	709
Arcado Elementary School	Parkview	977
Archer High School	Archer	3,124
Baggett Elementary School	Discovery	1,020
Baldwin Elementary School	Norcross	917
Bay Creek Middle School	Grayson	1,330
Beaver Ridge Elementary School	Norcross	983
Benefield Elementary School	Discovery	1,243
Berkeley Lake Elementary School	Duluth	819
Berkmar High School	Berkmar	3,019
Berkmar Middle School	Berkmar	1,084
Bethesda Elementary School	Berkmar	1,148
Britt Elementary School	South Gwinnett	599
Brookwood Elementary School	Brookwood	1,461
Brookwood High School	Brookwood	3,868
Buice Center - ADAPT	Special Education	Varies
Buice Center - The BRIDGE	Special Education	Varies
Buice Centre - STRIVE	Special Education	Varies
Burnette Elementary School	Peachtree Ridge	721

School Name	Cluster	Enrollment
Camp Creek Elementary School	Parkview	1,338
Cedar Hill Elementary School	Discovery	900
Centerville Elementary School	Shiloh	672
Central Gwinnett High School	Central Gwinnett	2,372
Chattahoochee Elementary School	Duluth	1,108
Chesney Elementary School	Duluth	1,088
Coleman Middle School	Duluth	810
Collins Hill High School	Collins Hill	2,684
Cooper Elementary School	Archer	1,446
Corley Elementary School	Berkmar	1,096
Couch Middle School	Grayson	1,087
Craig Elementary School	Brookwood	1,087
Creekland Middle School	Collins Hill	1,859
Crews Middle School	Brookwood	1,421
Dacula Elementary School	Dacula	1,187
Dacula High School	Dacula	2,484
Dacula Middle School	Dacula	1,834
Discovery High School	Discovery	2,796
Duluth High School	Duluth	2,635
Duluth Middle School	Duluth	1,270
Duncan Creek Elementary School	Mill Creek	1,397
Dyer Elementary School	Mountain View	861
Ferguson Elementary School	Meadowcreek	819
Five Forks Middle School	Brookwood	1,217
Fort Daniel Elementary School	Mill Creek	691
Freeman's Mill Elementary School	Mountain View	1,057
GIVE Center East	Alternative	226
GIVE Center West	Alternative	220

School Name	Cluster	Enrollment
Grace Snell Middle School	South Gwinnett	1,265
Graves Elementary School	Meadowcreek	1,070
Grayson Elementary School	Grayson	1,010
Grayson High School	Grayson	3,267
Gwin Oaks Elementary School	Brookwood	1,060
Gwinnett Online Campus	District Online School	2,252
Gwinnett School of Mathematics, Science, and Technology	N/A	1,231
Harbins Elementary School	Archer	1,412
Harmony Elementary School	Seckinger	609
Harris Elementary School	Duluth	643
Head Elementary School	Brookwood	752
Hopkins Elementary School	Berkmar	1,085
Hull Middle School	Peachtree Ridge	1,251
International Transition Center	N/A	638
Ivy Creek Elementary School	Seckinger	1,572
Jackson Elementary School	Peachtree Ridge	1,489
Jenkins Elementary School	Central Gwinnett	754
Jones Middle School	Seckinger	1,562
Jordan Middle School	Central Gwinnett	795
Kanoheda Elementary School	Berkmar	890
Knight Elementary School	Parkview	869
Lanier High School	Lanier	1,846
Lanier Middle School	Lanier	1,349
Lawrenceville Elementary School	Central Gwinnett	698
Level Creek Elementary School	North Gwinnett	1,080
Lilburn Elementary School	Meadowcreek	1,299
Lilburn Middle School	Meadowcreek	1,783

School Name	Cluster	Enrollment
Lovin Elementary School	Archer	892
Magill Elementary School	South Gwinnett	1,274
Mason Elementary School	Peachtree Ridge	962
Maxwell High School of Technology	Career Technical Education Programs	
McClure Health Science High School	Meadowcreek	1,146
McConnell Middle School	Archer	2,175
McKendree Elementary School	Collins Hill	1,012
Meadowcreek Elementary School	Meadowcreek	839
Meadowcreek High School	Meadowcreek	2,656
Mill Creek High School	Mill Creek	2,830
Minor Elementary School	Berkmar	898
Moore Middle School	Central Gwinnett	908
Mountain Park Elementary School	Parkview	645
Mountain View High School	Mountain View	2,298
Mulberry Elementary School	Dacula	710
Nesbit Elementary School	Meadowcreek	1,206
New Life Academy of Excellence Inc.	Charter	566
Norcross Elementary School	Norcross	806
Norcross High School	Norcross	2,595
North Gwinnett High School	North Gwinnett	3,093
North Gwinnett Middle School	North Gwinnett	2,168
North Metro Academy of Performing Arts	Charter	240
Northbrook Middle School	Peachtree Ridge	921
Norton Elementary School	South Gwinnett	952
Oakland Meadow School	Special Education	61
Osborne Middle School	Mill Creek	1,667
Parkview High School	Parkview	3,254

School Name	Cluster	Enrollment
Parsons Elementary School	Peachtree Ridge	868
Partee Elementary School	Shiloh	753
Patrick Elementary School	Seckinger	891
Paul Duke STEM	Norcross	1,194
Peachtree Elementary School	Norcross	836
Pharr Elementary School	Grayson	790
Phoenix High School	N/A	762
Pinckneyville Middle School	Norcross	1,206
Puckett's Mill Elementary School	Mill Creek	780
Radloff Middle School	Meadowcreek	1,299
Richards Middle School	Discovery	1,985
Riverside Elementary School	North Gwinnett	967
Roberts Elementary School	North Gwinnett	995
Rock Springs Elementary School	Collins Hill	749
Rockbridge Elementary School	Meadowcreek	1,033
Rosebud Elementary School	South Gwinnett	986
Seckinger High School	Seckinger	1,681
Shiloh Elementary School	Shiloh	719
Shiloh High School	Shiloh	2,192
Shiloh Middle School	Shiloh	1,737
Simonton Elementary School	Central Gwinnett	749
Simpson Elementary School	Norcross	947
Snellville Middle School	South Gwinnett	880
South Gwinnett High School	South Gwinnett	2,661
Starling Elementary School	Grayson	1,103
Stripling Elementary School	Norcross	787
Sugar Hill Elementary School	Lanier	1,106
Summerour Middle School	Norcross	1,465

School Name	Cluster	Enrollment
Suwanee Elementary School	North Gwinnett	672
Sweetwater Middle School	Berkmar	1,480
Sycamore Elementary School	Lanier	781
Taylor Elementary School	Collins Hill	873
Trickum Middle School	Parkview	2,146
Trip Elementary School	Grayson	1,315
Twin Rivers Middle School	Mountain View	1,616
Walnut Grove Elementary School	Collins Hill	751
White Oak Elementary School	Lanier	672
Winn Holt Elementary School	Central Gwinnett	1,055
Woodward Mill Elementary School	Mountain View	1,018

4.3 Political Capability

Gwinnett County government provides high-quality essential services for Gwinnett residents and as many other services as tax revenues allow; spend and accounts for tax dollars responsibly; responds to the needs and concerns of the citizens; and conducts business openly and professionally without favoritism.

The Board sets direction and formulates policies for the county government, adopts the budget, authorizes expenditures, and approves or disapproves specific actions, such as rezoning of private property.

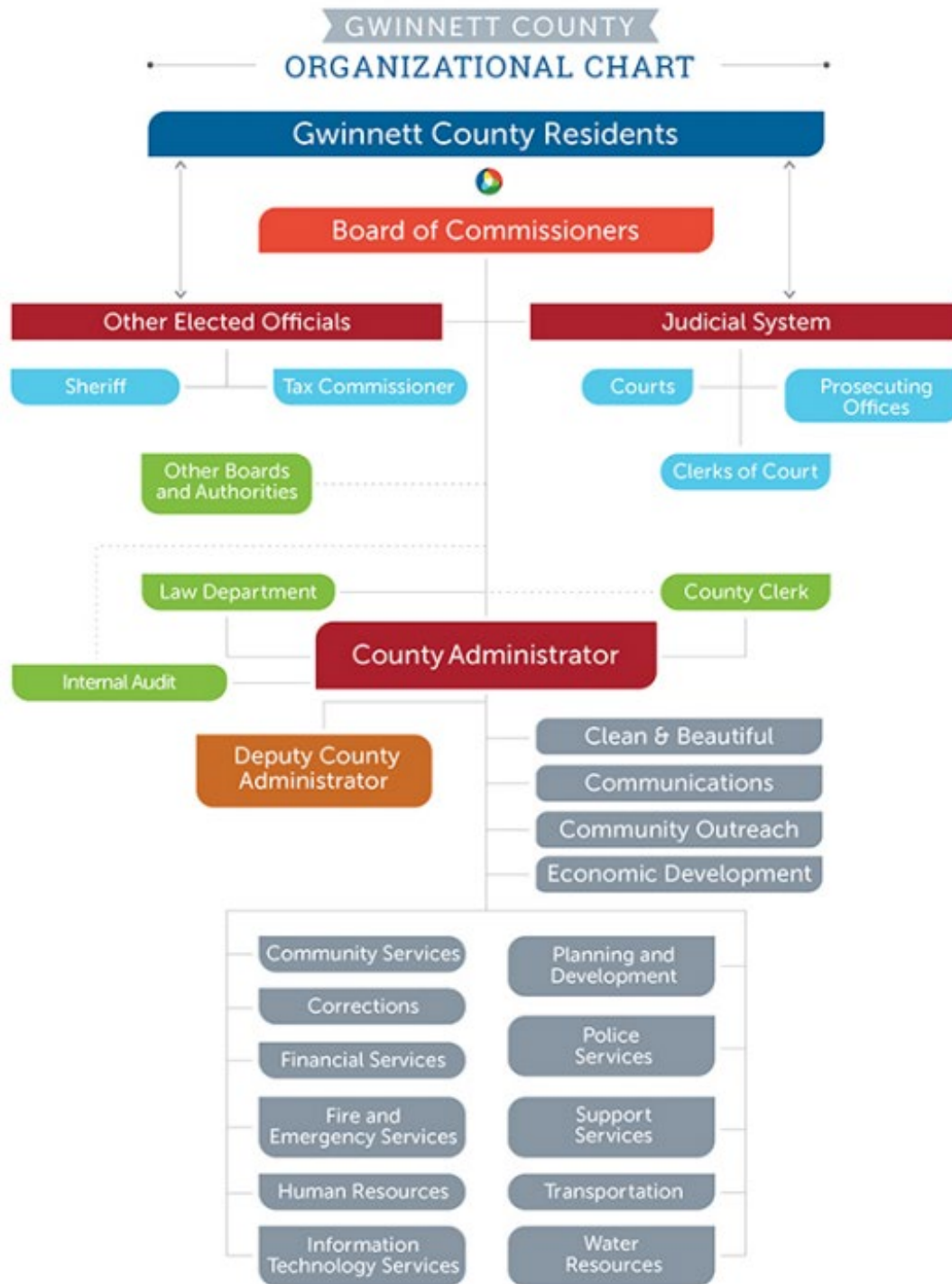
Voters in each of the four districts elect a part-time District Commissioner. The full-time Commission Chairman is elected countywide. Terms are for four years but are staggered so the chairman and two commissioners are elected during one election cycle, and the other two commissioners are elected two years later.

The Board holds official business meetings on the first and third Tuesdays of each month at 2:00 p.m. On those days, the Board conducts work sessions at 10:00 a.m. The Board also holds a public hearing to consider zoning requests on the fourth Tuesday of each month at 7:00 p.m. These meetings are held in the auditorium of the Gwinnett Justice and Administration Center. On many Tuesdays, the Board conducts informal discussions with county departments and community groups. These meetings are held in the conference room of the Board of Commissioners suite. Informal discussions as well as official meetings are always open to the public.

The Gwinnett County Board of Commissioners sets the standard as a dynamic, vibrant community where all people can enjoy essential economic opportunities, safe

neighborhoods, plentiful green space, and recreational facilities. They are committed to partnering with others in the community who share a dedication to making life better for Gwinnett County citizens.

Figure 56: Gwinnett County Organizational Chart



4.4 Technical Capability

Table 54: Technical Capability

Technical Capability	Yes or No
CRS Coordinator's Manual	Yes
Georgia State HMP	Yes
Georgia State Emergency Management Plan	Yes
FEMA 386 Series "How to Manuals"	Yes
GIS Data Base and Technical Layers	Yes
FEMA Floodplain Maps	Yes
FEMA-154 Rapid Visual Screening of Buildings for Potential Seismic Hazards – Book	Yes
FEMA-310 NEHRP Handbook for Seismic Evaluation of Existing Buildings	Yes

4.5 Fiscal Capability

The evaluation of funds and ordinances for the Community Capability section of this document provided valuable information on Gwinnett County's position in terms of existing mitigation planning; however, local conditions are constantly changing due to increased development, changes in technology, changes in local mitigation capabilities, or natural disaster events. It is because of these ever-changing conditions that evaluation must be an ongoing process; therefore, the initial community capability assessment should be viewed as a starting point rather than the result. Because these conditions do not change at regular intervals, it is difficult to establish a timeline dictating how often ordinances and policies should be reviewed. The best window of opportunity for policy evaluation may come following a natural disaster event.

Gwinnett County operates annually on approximately \$2.27 billion dollars. Board members hold public hearings to discuss the budget and accept comments in writing and online from citizens before making their final decision.

The operating budget, excluding transfers between funds, is up about 9.8 percent from 2022 to 2023. Much of the increase in the operating budget is related to increased personnel costs as the County adds necessary personnel and addresses compensation issues. The budget includes a \$1.78 billion operating budget and \$488 million for capital improvements, including Special Purpose Local Option Sales Tax (SPLOST) funded projects.

County and city officials agreed to share SPLOST proceeds, with the County receiving 74.96 percent and cities getting 25.04 percent. The County is dedicating 74 percent of its share of the proposed SPLOST to transportation (roads, bridges, intersection improvements, and sidewalks) and 26 percent to public safety facilities/equipment, recreational facilities/equipment, renovations of County facilities, and senior service facilities.

The County has maintained the highest quality bond rating of “Tripple AAA” since 1997 by the three primary rating agencies, placing it in the top two percent of counties in the nation. For approximately 25 years, each of the three rating agencies has consistently reported Gwinnett County’s debt position as very strong, citing the County’s emphasis on pay-as-you-go funding and low levels of tax-supported debt.

The excellent credit rating from Moody’s, Standard & Poor’s, and Fitch Ratings aids in the successful marketing of bonds to the investment community. Taxpayer money is saved by obtaining the lowest possible interest rates at the time of sale and eliminating the need to purchase municipal bond insurance for credit enhancement. In issuing debt, the County meets all state laws and requirements and follows several budgetary and fiscal policies to ensure the preservation of a sound financial position and favorable credit rating.

If favorable market conditions exist, the County may refund outstanding bonds for debt service savings. From 2013 until 2022, Gwinnett County realized a total debt service savings of \$101.2 million by refunding debt and by cash defeasance of debt.

Source: <https://www.gwinnettcountry.com/static/departments/boc/pdf/gwinnett-county-2023-budget-document-complete.pdf>

Table 55: Fiscal Capability

General and Tax- Related Special Revenue Funds	Yes or No
General Fund	Yes
Development and Enforcement Services District Fund	Yes
Fire and Emergency Medical Services District Fund	Yes
Loganville Emergency Medical Services District Fund	Yes
Police Services District Fund	Yes
Recreation Fund	Yes
Economic Development Tax Fund	Yes
Gwinnett Place TAD Fund	Yes
Indian Trail TAD Fund	Yes
Jimmy Carter Boulevard TAD Fund	Yes

Lake Lucerne TAD Fund	Yes
Park Place TAD Fund	Yes
The Exchange at Gwinnett TAD Fund	Yes
The Exchange at Gwinnett TAD Debt Service Fund	Yes
Enterprise Funds	
Airport Operating Fund	Yes
Economic Development Operating Fund	Yes
Local Transit Operating Fund	Yes
Stormwater Operating Fund	Yes
Water And Sewer Operating Fund	Yes
Solid Waste Operating Fund	Yes
Internal Source Funds	
Administrative Support Fund	Yes
Fleet Management Fund	Yes
Group Self-Insurance Fund	Yes
Risk Management Fund	Yes
Workers' Compensation Fund	Yes
Capital Funds	
Tax-Related Capital Funds	Yes
Vehicle Replace Fund	Yes
Capital Enterprise Funds	
Airport Renewal and Extension Fund	Yes
Stormwater Renewal and Extension Fund	Yes
2020 Water and Sewer Bond Construction Fund	Yes
Capital Special Revenue Funds	
2014 Special Purpose Local Options Sales Tax Fund	Yes
2017 Special Purpose Local Options Sales Tax Fund	Yes
2023 Special Purpose Local Options Sales Tax Fund	Yes
Grant Funds	

General Grant Fund	Yes
Fiscal Capability Fiscal Tools (Taxes, Bonds, Funds and Fees)	
HUD Grant funds	Yes
Local Transit Operating Grants	Yes
Jurisdiction Capabilities	
Authority to Levi Taxes	Yes
Taxes and Revenues	
Property Taxes	Yes
Beer and Wine Taxes	Yes
Insurance Premium Tax	Yes
Other Taxes	Yes
Licenses and Permits	Yes
Intergovernmental Revenue	Yes
Judicial Revenue	Yes
Charges for Services	Yes
Sales and Rental	Yes
Interest on Investments	Yes
Authority to Issue Bonds	Yes
Special Revenue Funds	
Authority Imaging Fund	Yes
Corrections Inmate Welfare Fund	Yes
Crime Victims Assistance Fund	Yes
District Attorney Federal Justice Asset Sharing Fund	Yes
District Attorney Federal Treasury Asset Sharing Fund	Yes
E-911 Fund	Yes
Juvenile Court Supervision Fund	Yes
Opioid Remediation Fund	Yes
Police Special Justice Fund	Yes
Police Special State Fund	Yes

Sheriff Inmate Fund	Yes
Sheriff Special Justice Fund	Yes
Sheriff Special State Fund	Yes
Sheriff Special Treasure Fund	Yes
Tourism Fund	Yes
Speed Hump Fund	Yes
Stadium Fund	Yes
Tree Bank Fund	Yes
Street Lighting Fund	Yes

4.6 Capability Conclusion

4.6.1 Legal Capability Conclusion

Statutes and ordinances have been adopted to ensure that the HMP will protect the citizens and property of those who live and work in Gwinnett County and improve the quality of life for all the citizens of Gwinnett County.

4.6.2 Educational Capability Conclusion

The Gwinnett County and Buford City Community School program is structured to extend education and recreation to the community. Gwinnett's modern, well-equipped, and well-maintained schools provide an environment where teaching and learning thrive.

4.6.3 Political Capability Conclusion

Gwinnett County government provides high-quality essential services for Gwinnett residents and as many other services as tax revenues allow; spends and accounts for tax dollars in a responsible manner; responds to the needs and concerns of the citizens; and conducts business in an open and professional manner without favoritism.

4.6.4 Technical Capability Conclusion

Gwinnett County Planning and Development, Fire and Emergency Services, and Information Technology Services have in place the necessary plans and tools to support a comprehensive multi-hazard mitigation plan supporting the citizens and property owners of Gwinnett County.

SECTION 5: MITIGATION STRATEGIES⁶

5.1 Natural, Human-Caused, and Technological Hazard Mitigation Goals and Objectives

The purpose of this section is to update strategies from the 2020 version of this plan and identify new strategies for the 2025 plan update, through which Gwinnett County can implement natural, human-caused, and technological hazard mitigation strategies through the included goals, objectives, and actions. As identified in Section 3, the Multi-Jurisdictional Hazard Mitigation Steering Committee (HMSC) has a clear understanding of the community's hazards and risks and has reviewed and updated this section to reflect those issues. The all-hazard mitigation plan represents an essential goal in the efforts at all levels of government to achieve a more coordinated system that can adapt to the changing threats and vulnerabilities of our time, the current priorities have not changed and remain in line with the previous plan.

For each of the hazards identified in Section 3, the Multi-Jurisdictional HMSC has updated the mitigation strategy as outlined through the strategies' goals, objectives, and actions. The goals, objectives, and actions are displayed as individual tables for each hazard strategy and listed in order of priority. The method used to determine the potential for loss reduction factored in the frequency of the event, monetary loss, anticipated costs, and the potential for loss of life. Although detailed cost-benefit analyses were beyond the scope of this Plan, HMSC Members utilized economic evaluation as a determining factor between mitigation actions when applicable and best guesses when appropriate.

Mitigation actions for all the cities and townships within Gwinnett County have been updated and incorporated in Gwinnett County's goals, objectives, and actions, and are also identified in Section 6, Individual Jurisdiction Mitigation Action Plans.

All of the actions identified in this updated plan will benefit all citizens, access and functional needs population, business and commercial owners, visitors, and the transient populations within Gwinnett County.

Many of the mitigation actions identified in the 2020 update of this plan are "completed", some have been "deferred", while others are "in progress". Short-term actions with a timeframe of "in progress" may be tracked as part of the Multi Year Strategic Plan. Long-term actions with a timeframe of "2025-2030" may be undertaken as prioritization and funding allows. Actions that are "ongoing" are both short- and long-term. The short- and long-term designations of the actions roll up to their objectives, then to their goals, and finally to their overall strategies.

⁶ All mitigation action numbers were restored to the 2010 plan version numbering and the action numbers where projects were removed are not recycled for new mitigation actions. Any gaps in consecutive number is a removed mitigation action.

5.2 Previous Hazard Mitigation Accomplishments

Gwinnett County has made previous efforts to mitigate community hazards and integrate mitigation accomplishments into the planning process. The goals of the prior mitigation plan have been incorporated into the current goals and strategies. These have been marked as “ongoing” in the following tables. Some of the previous efforts have been significant and beneficial in reducing loss of life and property during disasters. These efforts include the following:

Table 56: Project Accomplishments from Previous Update 2020

Project Accomplishments from Previous Update 2020										
Action #	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.1.2	Partner with the National Weather Service (NWS) and the American Red Cross (ARC) to offer additional storm spotter and citizen preparedness training.	County	County EMA, NWS, ARC	\$2,000	\$20,000	County Budget, Federal Emergency Management Agency (FEMA)	2020-2025	Completed and ongoing.	Existing	The NWS hosted a class in November 2023.
1.3.1	Establish programs to protect the homeless, poor, ill, and elderly during extreme winter temperatures.	County	Home First Gwinnett is a collaboration between Gwinnett County and the United Way	\$3,000	\$100,000	City/County Budget, FEMA	2020-2025	Completed and ongoing	Existing	Shelter locations have been established with multiple departments
1.3.2	Acquire additional sheltering supplies (e.g., cots, blankets).	County	County EMA, ARC	\$10,000	\$200,000	County Budget, FEMA	2020-2025	Completed and ongoing	Existing	Over \$50k worth of supplies purchased so far with EMPG
2.2.2 (previous 2.2.1)	Purchase and install generators or transfer switches at all Gwinnett County critical facilities	County	County EMA, County Officials	\$200,000	\$2 Million	City and County Budget, State and Federal Grants	2020-2025	Completed / Ongoing	New / Existing	Many Facilities are upfitted, and new facilities are being identified
3.1.3 (previous 3.1.1)	Establish, develop, and maintain a weather reporting station at Gwinnett County Airport to increase weather awareness.	County	County EMA, County Officials	\$500,000	\$1 Million	County Budget, FEMA	2020-2025	Completed	New	Earth Works Station is now at Brisco Airport.

Project Accomplishments from Previous Update 2020										
Action #	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
8.1.3	Continue to identify and implement water conservation efforts before, during, and after times of drought.	All	County EMA and Individual Jurisdictions	Staff Time	\$250,000	County and Individual Jurisdiction Budgets	2020-2025	Completed and ongoing	New and Existing	DWR has identified response and monitoring plans for the drought situation
13.3.1	Assist all departments in developing continuity of operations (COOP) plans.	County	County EMA, and County Officials	\$5,000	\$100,000	County Budget	2020-2025	Completed and ongoing	Existing	All county departments have COOP plans that will continue to be monitored and updated as needed

Previous Hazard Mitigation Actions that were removed.

The deleted strategies from the 2020 plan are listed below and have been removed from all other portions of the plan.

Table 57: Removed Hazard Mitigation Actions

Removed projects from the 2020 Plan										
Action #	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.15	Purchase winter weather salting and sanding equipment	City of Snellville	City Officials, Public Works	\$50,000	\$250,000	City Budget, Grants	2020-2025	Removed	Existing	
4.1.3 (previous 4.1.1)	Procure and install a shatter-resistant coating on windows and glass doors at administrative and educational buildings on the campus of GGC	GGC	Georgia Gwinnett College	\$495,530		FEMA, State, GGC Operational Funds	2018-2024	Removed	Existing	Requested to be removed. GEMA Stated project didn't qualify
7.2.15	Deconstruct and remove the failing dam at Bird Lake and restore it to a natural waterway.	City of Lilburn	City Officials			City Budget, Federal Grants	2020-2025	Removed	Existing	REMOVED It was determined it was private property, and no action could be taken by the local government.
15.1.8 (previous 15.1.4)	Implement an all-hazards notification system of the City of Snellville	City of Snellville	City Officials	\$250,000		City Budget, FEMA, Grants	2020-2025	Removed	Existing	

5.3 Project Actions and Ranking

The method used for prioritizing mitigation actions in Gwinnett County's Hazard Mitigation Plan is based primarily on the greatest opportunity for loss reduction and feasibility of implementation. Each jurisdiction and steering committee member evaluated potential projects using these two core criteria according to their professional judgement and knowledge of their jurisdiction. While an initial ranking is assigned to guide planning, actual implementation may be influenced by the availability and eligibility of external funding sources such as HMGP, FMA, and PDM, which may have different priorities. This approach ensures that the most impactful and feasible projects are identified while maintaining flexibility for funding-driven adjustments. This ensures that projects provide the greatest opportunity for loss reduction and reduce vulnerability to hazards throughout Gwinnett County. The projects are based on continuous community needs, the identification of new hazards, and current needs based on the community risk assessment. Project ranking will only be used as a generic guide when determining implementation as project funding allocated from HMGP, FMA, and PDM may have priorities that often do not line up with local plans. In this case, the funding may dictate the order in which projects are implemented but the initial ranking will be upon greatest opportunity for loss reduction.

Table 58: Winter Storms

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms.										
Objective 1.1: Increase citizen severe winter storm awareness, preparedness, and response.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.1.1	Distribute severe winter weather preparedness literature at appropriate/identified community events.	All	County Emergency Management Agency (EMA), NWS, ARC	\$2,000	\$20,000	City/County Budget, FEMA Preparedness Grants	2025-2030	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
1.1.2	Partner with the National Weather Service (NWS) and the American Red Cross (ARC) to offer additional storm spotter and citizen preparedness training.	County	County EMA, NWS, ARC	\$2,000	\$20,000	County Budget, FEMA Preparedness Grants	2025-2030	Ongoing	N/A	The NWS storm spotter class was offered in 2023.

Objective 1.2: Improve first responder capability to prepare for, respond to, and recover from severe winter storms.

1.2.1	Identify/acquire/equip all emergency response vehicles with tire chains.	County, City of Lilburn	County EMA, City maintenance and road staff, and County Officials	\$2,000	\$20,000	City/County Budget, HMA Grants, National Fire Grant	2025-2030	Deferred from 2015 Ongoing	Existing	Equipping new vehicles as they are obtained
1.2.3	Implement a road repaving process to reduce the impact winter weather throughout the city	City of Berkeley Lake	City Officials, Public Works	\$1 Million	\$1.5 Million	City Budget	2025-2030	New	Existing	Poor roads have increased winter weather issues.

Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms.

1.3.1	Establish programs to protect the homeless, poor, ill, and elderly during extreme winter temperatures.	All	Home First Gwinnett is a collaboration between Gwinnett County and the United Way	\$3,000	\$100,000	City/County Budget, HMA Grants	2025-2030	Ongoing	Existing	Working with County and NGO Partners, Shelters have been identified programs are being established.
1.3.2	Acquire additional sheltering supplies (e.g., cots, blankets).	County	County EMA, ARC	\$10,000	\$200,000	County Budget, HMA Grants	2025-2030	Ongoing	Existing	Over \$50k of supplies were purchased with plans in place to expand
1.3.3	Identify and bury utility lines in densely populated and commercial areas in the City of Auburn.	City of Auburn	City Officials, Public Works			City Budget, HMA Grants	2025-2030	Ongoing	Existing	Currently a low priority for the city and is dependent on funding and corporation from private utility company.
1.3.4	Identify and bury utility lines in densely populated and commercial areas in the City of Snellville	City of Snellville	City Officials, Public Works	\$250,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.5	Identify and bury utility lines in densely populated and commercial areas in the City of Norcross	City of Norcross	City Officials, Public Works	\$2 Million	\$2 Million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.6	Identify and bury utility lines in densely populated and commercial	City of Lilburn	City Officials, Public Works	\$250,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	New & Existing	Dark fiber lines were installed and buried. Utilities being placed underground are still in progress.

	areas in the City of Lilburn									
1.3.7	Identify and bury utility lines in densely populated and commercial areas in the City of Dacula	City of Dacula	City Officials, Public Works	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing from 2020	Existing	
1.3.9	Installation of road weather information systems that will provide the ability to monitor conditions and greatly improve the lead time of warnings, notifications, and mitigation actions during weather events	County	Gwinnett County Dept. Of Transportation	\$200,000	\$1 million	County Budget, HMA Grants	In progress	New	New / Existing	New, Working with DOT to submit pre-application
1.3.10	Purchase and install generators at City of Lilburn Public Works facility.	City of Lilburn	City Officials	\$100,000	\$400,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	Some generators have been installed at several facilities. More are needed.
1.3.11	Installation of backup power supply units to maintain traffic control devices during power outages.	County	Gwinnett County Dept. Of Transportation	\$100,000	\$800,000	County Budget, HMA Grants	2025-2030	New	New / Existing	New, Working with DOT to submit pre-application
1.3.12	Purchase and install generators at critical facilities	City of Norcross	City Officials	\$250,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.13	Purchase winter weather salting and sanding equipment	City of Norcross	City Officials, Public Works	\$50,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	New	
1.3.14	Purchase equipment for Lawrenceville Electric Department to maintain and clear trees and debris along city overhead powerlines	City of Lawrenceville	City Officials	\$40,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.16	Purchase and install generators or transfer switches at identified critical facilities	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.17	Purchase winter weather salting	City of Suwanee	City Officials	\$50,000	\$100,000	City Budget,	2025-2030	Complete	Existing	

	and sanding equipment					HMA Grants				
1.3.18	Purchase winter weather salting and sanding equipment	Town of Braselton	Town Officials	\$50,000	\$100,000	Town Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.19	Purchase Winter Weather salting/sanding/ scraping equipment	City of Sugar Hill	City Officials	\$100,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.20	Purchase and install generators or transfer switches at identified critical facilities in the City of Sugar Hill	City of Sugar Hill	City Officials	\$50,000	\$50,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.21	Purchase and install generators at critical facilities	City of Buford	City Officials	\$250,000	\$500,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.22	Purchase and install transfer switch at identified critical facilities	City of Buford	City Officials	\$50,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	New/ Existing	
1.3.23	Continue to improve equipment and methods to treat roads prior to winter storm events	City of Duluth	City Officials	\$5,000		City Budget	2025-2030	Ongoing	New/Existing	City has detailed list of projects which is updated frequently based on inspections and project completions
1.3.24	Purchase winter weather salting and sanding equipment	City of Mulberry	City Officials, Public Works	\$100,000	\$200,000	City Budget, HMA Grants	2025-2030	New	New	

Table 59: Severe Thunderstorms

Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. (* These actions also can apply to Hurricane and Tropical Storms)										
Objective 2.1: Increase citizen severe thunderstorm/windstorm awareness, preparedness, and response.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
2.1.1	Distribute severe weather preparedness literature at appropriate/identified events.	All	County EMA, City and County Officials	\$2,000	\$20,000	City/County Budget, HMA Grants	2025-2030	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
2.1.2	Provide NOAA weather radios to identify the functional needs of citizens (e.g., elderly, rural, low-income).	All	County EMA, City and County Officials	\$5,000	\$200,000	City/County Budget, HMA Grants	2025-2030	Ongoing	Existing	Distribution is a continuous effort
2.1.3	Implement alert, warning, and notification systems for visually impaired and hearing-impaired citizens.	All	County EMA, City and County Officials	\$5,000	\$200,000	City/County Budget, HMA Grants	2025-2030	Ongoing	Existing	Distribution is a continuous effort
2.1.4	Maintain and upgrade all outdoor warning systems	City of Sugar Hill	City Officials	\$30,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing/New	
2.1.5	Improve Electric grid infrastructure to withstand weather events and maintain safe sustainable systems for all residents	City of Lawrenceville	City Officials	\$750,000	\$2 Million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	Have spent approximately \$50,000 thus far and are expecting to spend more to upgrade the city system
Objective 2.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events, including thunderstorms and windstorms.										
2.2.2	Purchase and install generators or transfer switches at all Gwinnett County critical facilities	County	County EMA, County Officials	\$200,000	\$2 Million	City and County Budget, State Grant, HMA Grants	2025-2030	New / Ongoing	New / Existing	Community services identified locations utilized for shelter operations

Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. (* These actions also can apply to Hurricane and Tropical Storms)										
2.2.3	Purchase and install generators at critical facilities	City of Lilburn	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	Has been accomplished at City Hall and Police Department. Others still planned.
2.2.4	Purchase and install generators at critical facilities	City of Snellville	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
2.2.5	Purchase and install a generator for Dacula City Hall	City of Dacula	City Officials			City Budget, HMA Grants	2025-2030	Ongoing	New	
2.2.6	Purchase downed tree and storm cleanup equipment	City of Mulberry	City Officials, Public Works	\$50,000	\$200,000	City Budget, HMA Grants	2025-2030	New	New	

Table 60: Tropical Storms/Hurricanes

Goal 3: Minimize the impacts of tropical storms and hurricanes in Gwinnett County, including all municipalities.										
Objective 3.1: Enhance advance warning and preparedness capabilities.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
3.1.3	Establish, develop, and maintain weather reporting stations to increase weather awareness.	County	County EMA, County Officials	\$500,000	\$1 Million	County Budget, HMA Grants	2025-2030	New	New	NWS is working on a partnership with Georgia Gwinnett College to place a weather station on camps.
3.1.4	Identify existing facilities suitable for structural and non-structural wind retrofitting to decrease wind damage and increase occupant safety during tropical storm wind events.	County	County EMA, County Officials	Staff Time		County Budget, HMA Grants	2025-2030	New	New	New

Table 61: Tornadoes

Goal 4: Reduce the loss of life and property caused by tornadoes in Gwinnett County.										
Objective 4.1: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events involving tornadoes.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
4.1.4	Work with utility companies to improve tree-clearing programs along power lines	All	County EMA, City and County Officials	\$250,000	\$500,000	City/ County Budget, HMA Grants	2025-2030	New	Existing	New

Table 62: Lightning

Goal 5: Reduce Gwinnett County's risk and vulnerability to lightning										
Objective 5.1: Increase citizen lighting awareness										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
5.1.1	Distribute lighting awareness literature at appropriate/identified community events	All	County EMA, City and County Officials	\$2,000	\$20,000	City/ County Budget, HMA Grants	Ongoing	Ongoing	N/A	Emergency public information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp Events.
5.1.4	Install lightning detection and notification system for the City Park/Pavilion	City of Grayson	City Officials	\$10,000	\$20,000	City Budget	2025-2030	Ongoing	Existing	
5.1.5	Purchase and install equipment for all city parks to alert citizens of lightning during inclement weather	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	Ongoing	Existing	
Objective 5.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events involving lightning and its effects.										

Goal 5: Reduce Gwinnett County's risk and vulnerability to lightning										
5.2.1	Outfit the County Parks Department with equipment to mitigate fires caused by weather	County	County Parks Department	\$200,000	\$900,000	County Budget, HMA Grants, National Fire Grant	2025-2030	Ongoing	Existing	The project is still being considered
5.2.2	Install a lightning detection system in the city parks	City of Lilburn	City Officials	\$15,000	\$50,000	City Budget, HMA Grants	2025-2030	New	New	

Table 63: Wildfires

Goal 6: Minimize losses of life and property in Gwinnett County due to wildfires.										
Objective 6.1: Protect critical facilities and vulnerable populations from the effects of wildfires.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
6.1.3	Gwinnett County parks wildland fire buffer protection zones management plan	County	County EMA, First Responder Agencies, County Departments	\$500,000		HMA Grants, FP&S, State, County Budget	2025-2030	New	Existing	Deferred from 2020 HMP
Objective 6.2: Encourage the protection of residential and commercial structures.										
6.2.2	Educate homeowners and Businesses on Fire Prevention year-round. "Prevention 365" program. This includes "Prevention Month" (October) and distribution of pamphlets to promote the clearing of underbrush and fire hazards from around businesses and homes.	All	County EMA, County Fire/Rescue, City and County Officials	Staff Time	\$500,000	City Budget, County Budget, HMA Grants	Ongoing	Ongoing	NA	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.

Table 64: Flooding

Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1: Improve Gwinnett County's flooding information distribution and warning to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
7.1.2	Use HAZUS-MH to map 500/100-year flood plains in-house.	County	EMA, Storm Water	\$5,000	\$100,000	County Budget	2025-2030	New	New and Existing	
7.1.3	Identify repetitive loss areas and structures.	County	EMA, Storm Water	\$5,000	\$500,000	County Budget	Ongoing	Ongoing	Existing	A report is requested from FEMA yearly to stay current on the property list and identify needs.
7.1.4	Maintain NFIP status for Flood Mitigation	City of Berkeley Lake	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
7.1.5	Maintain NFIP status for Flood Mitigation	City of Buford	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
7.1.6	Maintain NFIP status for Flood Mitigation	City of Dacula	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
7.1.7	Maintain NFIP status for Flood Mitigation	City of Norcross	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
7.1.8	Develop and maintain actions to participate in the NFIP program	City of Peachtree Corners	City Officials	\$5,000	\$250,000	City Budget, HMA Grants	2025-2030	Ongoing	N/A	In progress
7.1.9	Maintain NFIP status for Flood Mitigation	City of Sugar Hill	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
7.1.10	Maintain NFIP Status for Flood Mitigation	City of Loganville	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	

Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.

7.2.1	Relocate/acquire structures that could be affected by flooding, as appropriate.	County	County Planning Department, EMA, IT	\$15,000	\$250,000	County Budget, HMA Grants	Ongoing	Ongoing	Existing	
7.2.3	Identify and replace damaged and aged culverts in the City of Auburn	City of Auburn	Public Works, Storm Water Coordinator	\$104,000		City of Auburn Storm water Utility Fund	Ongoing	Ongoing	Existing	
7.2.5	Increase culvert sizes at identified locations throughout the City of Duluth	City of Duluth	City Officials	\$3.5 Million	\$8 Million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.6	Purchase any repetitive flood loss properties	City of Duluth	City Officials	\$2 Million	TBD	City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has detailed list of projects which is updated frequently based on inspections and project completions
7.2.7	Develop an analysis of the draining network, to identify failing infrastructure along Rogers Creek to mitigation ongoing flooding issues	City of Duluth	City Officials	\$100,000	\$350,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has detailed list of projects which is updated frequently based on inspections and project completions
7.2.8	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Duluth	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has detailed list of projects which is updated frequently based on inspections and project completions
7.2.9	Identify and replace culverts, catch basins, storm water ditches, and outflows to mitigate flooding issues	City of Grayson	City Officials	\$20,000	\$50,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.10	Develop and maintain storm water management plans for the city to mitigate identified flooding areas	City of Grayson	City Officials	\$80,000	\$150,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	

7.2.11	Increase culvert sizes at identified locations throughout the City of Lawrenceville	City of Lawrenceville	City Officials	\$3.5 Million	\$8 Million	City Budget, HMA Grants	In progress	Ongoing	Existing	
7.2.12	Purchase any repetitive flood loss properties	City of Lawrenceville	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.13	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Lawrenceville	City Officials	\$500,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.14	Address flooding issues at Hillcrest Rd between HWY 29 and Indian Trail Road by replacing culverts and raising the roadway bridge	City of Lilburn	City Officials	\$1 Million		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.15	Increase Culvert sizes at identified locations throughout the City of Suwanee	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.16	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	In progress	Ongoing	Existing	
7.2.17	Update the Town of Braselton's storm water management plans and identify problem areas	Town of Braselton	Town Officials	\$100,000	\$800,000	Town Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.18	Increase Culvert sizes at identified locations throughout the Town of Braselton	Town of Braselton	Town Officials	\$3.5 Million	\$8 Million	Town Budget, HMA Grants	2025-2030	Ongoing	Existing	

7.2.19	Install electronic monitoring stations on high-hazard dams to remotely observe/control water surface elevations, flow rates, and hazard indicators surrounding flood events	County	Water Resource	\$200,000	\$500,000	DWR budget, HMA Grants	In progress	Ongoing	Existing	2 pilot stations are being worked on. Requires a different form of technology to be successful.
7.2.20	Replace damaged, aged, or inappropriately sized culverts throughout the county using hydraulic/hydrologic models along with an established database management system.	County	Water Resources	\$350,000		County/ Grants	2025-2030	Ongoing	New and Existing	Dept. of Water Resources continues to complete these with multiple funding sources.
7.2.21	Upgrade stormwater pipes and improve stormwater ditches	City of Norcross	City Officials	\$4 million	\$2 Million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.22	Improve the city stormwater infrastructure to manage older, undersized systems and mitigate runoff from growth	City of Dacula	City Officials	\$1.3 million	\$2 Million	City Budget, HMA Grants	2025-2030	New	Existing	
7.2.23	Rehabilitation of Duncan Lake Dam	City of Mulberry	City Officials, Public Works	\$1,500,000	\$5,000,000	City Budget, HMA Grants, HHPD, ASDSO	2025-2030	New	Existing	
7.2.24	Upgrade failing stormwater infrastructure	City of Berkeley Lake	City Officials	\$1 Million	\$1.5 Million	City Budget	2025-2030	Ongoing	Existing	
7.2.25	Relocate/acquire structures that could be affected by flooding.	City of Lilburn	City Officials			City Budget, HMGP	In progress	New	Existing	
7.2.26	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Lilburn	City Officials			City Budget, HMGP	In progress	New	New & Existing	

7.2.27	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Snellville	City Officials			City Budget, HMGP	In progress	New	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	
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Table 65: Drought

Goal 8: Minimize agricultural and property losses in Gwinnett County resulting from drought conditions.										
Objective 8.1: Protect critical facilities and vulnerable agriculture from the effects of drought conditions.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
8.1.2	Educate citizens and farmers in the County about the potential negative effects that arise from extended drought conditions.	County	County EMA	\$1,000	\$50,000	County Budget	2025-2030	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
8.1.3	Continue to identify and implement water conservation efforts before, during, and after times of extreme drought.	All	County EMA and Individual Jurisdictions	Staff Time		City Budget, County Budget, HMA Grants	2025-2030	Deferred from 2020	N/A	Addressed as needed

Table 66: Earthquakes

Goal 9: Reduce Gwinnett County's risk and vulnerability to earthquake events.										
Objective 9.1: Improve Gwinnett County's earthquake information distribution and warning to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
9.1.1	Distribute earthquake preparedness literature at community events.	All	County EMA, City and County Officials	\$2,500	\$100,000	County/ City Budget, HMA Grants	Ongoing	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.

Table 67: Dam Failure

Goal 10: Reduce Gwinnett County's risk and vulnerability to dam failure events.										
Objective 10.1: Improve Gwinnett County's capabilities to prepare for and respond to a dam failure.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
10.1.2	Initiate public education workshops for citizen dam owners about safety measures, preparedness, and mitigation of dam hazards	County	Water Resources, Emergency Management	\$1,000		County Budget	2025-2030	Ongoing	Existing	Informatic flyer was created in 2023.
10.1.3	Identify vulnerable areas (e.g., areas surrounding community dams) and develop protective action and response plans	All	Department of Water Resources, County EMA, City and County Officials	\$50,000	\$100,000	City / County Budget, HMA Grants	2025-2030	Ongoing	Existing	

10.1.4	Perform a study to identify impact and recovery from dam failures to include public infrastructure vital to county welfare and economy downstream of all dams.	All	County EMA, City and County Officials, Water Resources, Planning and Development	\$150,000	\$2,000,000	City/County Budget, HMA Grants	2025-2030	Ongoing	Existing	
10.1.5	Purchase signage and barriers to indicate critical/dangerous areas around dams to inform the public of dam safety	County	Water Resources, Planning and Development, Emergency Management	\$1,000		County Budget	2025-2030	Ongoing	Existing	A few signs and barriers have already been purchased and have been implemented at approximately 3 locations. More desired in the future.
10.1.6	Wolf Lake Dam Rehabilitation	County	Water Resources, Emergency Management	2.5 million	4 million	American Rescue Plan Act	2025-2030	Ongoing	New	Funding Approved by BOC July 16, 2024
10.1.7	Lak Orza Dam Outlet	County	Water Resources, Emergency Management	1.5 million	3 million	American Rescue Plan Act	2025-2030	Ongoing	New	Funding Approved by BOC July 16, 2024
10.1.8	Trophy Club Dam Outlet	County	Water Resources, Emergency Management	1.5 million	3 million	American Rescue Plan Act	2025-2030	Ongoing	New	Funding Approved by BOC July 16, 2024
10.1.9	Lake Inverness Dam Outlet	County	Water Resources, Emergency Management	1.5 million	3 million	American Rescue Plan Act	2025-2030	Ongoing	New	Funding Approved by BOC July 16, 2024
10.1.10	Knollwood Lake Dam outlet	County	Water Resources, Emergency Management	1.5 million	3 million	American Rescue Plan Act	2025-2030	Ongoing	New	Funding Approved by BOC July 16, 2024
10.1.11	Review/Develop recommendation for Emergency Response Plan for Dam/Dike failure at Lake Lanier	City of Sugar Hill	City Officials	\$100,000	\$500,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	

Table 68: Cyber Security

Goal 11: Reduce Gwinnett County's risk and vulnerability to cyber security attacks.										
Goal 11.1: Improve Gwinnett County's capabilities to prepare for and respond to cybercrime attacks.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
11.1.1	Organize and conduct tabletop exercises focused on cybercrime attacks for Information Technology Services (ITS) and the Gwinnett County Security Incident Management Team (GCSIRT)	County	County ITS, GCSIRT	\$5,000	\$50,000	County Budget	2025-2030	Ongoing	Existing	Deferred from 2010 management team is reviewing and working with budget to bring in additional resources to assist with security needs. Once the security division is in place, the initiative of the tabletop exercise will be discussed and potential future initiatives.
11.1.3	Purchase and maintain offsite and offline data backups for the Town of Braselton	Town of Braselton	Town Officials	\$20,000	\$50,000	Town Budget, HMA Grants	2025-2030	Ongoing	Existing	
11.1.4	Purchase and maintain offsite and offline data backups for county information	County	County ITS	\$800,000		County ITS	2025-2030	Ongoing	New	

Table 69: Hazardous Material Spills

Goal 12: Reduce Gwinnett County's risk and vulnerability to hazardous materials events.										
Objective 12.1: Increase citizen hazardous materials event awareness, preparedness, and response.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
12.1.1	Provide the public with information on hazardous materials hazards, including how to identify and report hazardous materials incidents.	All	County EMA, County Fire/Rescue, City and County Officials	\$2,000	\$20,000	County/ City Budget, HMA Grants	Ongoing	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
12.1.2	Educate the public on shelter-in-place procedures for hazardous materials incidents.	All	County EMA, County Fire/Rescue, City and County Officials	\$2,000	\$20,000	County/ City Budget, HMA Grants	Ongoing	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
Objective 12.2: Improve first responder capability to prepare for, respond to, and recover from hazardous materials events.										
12.2.1	Participate in annual chemical, biological, radiological, nuclear, and high-yield explosives exercises with all first responder agencies.	All	City and County Officials, School Officials, County EMA, County Fire/Rescue Department	\$5,000	\$50,000	City/ County Budget, School Budget	Ongoing	Ongoing	Existing	Ongoing, Training continues
Objective 12.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from hazardous materials events.										
12.3.1	Continue to enforce requirements for each site to submit Tier II reports to the Fire Rescue Department.	County	County Fire/Rescue Department	\$3,000	\$100,000	County Budget	Ongoing	Ongoing	Existing	Sites are being maintained and monitored by multiple levels (FD/EMA)

Table 70: Pandemics/Epidemic Incidents

Goal 13: Reduce Gwinnett County's risk and vulnerability to pandemic/epidemic events.										
Objective 13.1: Improve Gwinnett County's pandemic/epidemic information distribution and warning to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
13.1.1	Educate the public on pandemics, including isolation, quarantine, triage, and medical care.	County	County EMA, Gwinnett, Newton, and Rockdale County Health Departments	\$2,500	\$20,000	County Budget, Public Health Grants	Ongoing	Ongoing	N/A	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
Objective 13.2: Improve Gwinnett County's first responder capabilities to prepare for and respond to pandemic/epidemic events.										
13.2.1	Train staff and first responders on pandemic flu response.	All	County EMA, Gwinnett, Newton, and Rockdale County Health Departments	\$2,500	\$50,000	State Budget, County Budget, HMA Grants, Public Health Grants	2025-2030	Deferred	N/A	The project has been deferred due to manpower and budget constraints
Objective 13.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from pandemic/epidemic events.										
13.3.1	Assist all critical County Departments in developing and maintaining continuity of operations (COOP) plans.	County	County EMA, Gwinnett, Newton, and Rockdale County Health Departments	\$5,000	\$100,000	State Budget, County Budget, HMA Grants	Ongoing	Complete and ongoing	Existing	Annual meetings to fulfill training and updates

Table 71: Terrorism

Goal 14: Reduce Gwinnett County's risk and vulnerability from domestic and international terrorism incidents.										
Objective 14.1: Increase citizen domestic and international terrorism awareness, preparedness, and response.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
14.1.3	Purchase radio antennas to ensure the continued radio communication capabilities between responders and school staff.	County	School Officials	\$250,000		School Budget	2025-2030	Not Started	New	Awaiting funding opportunities and budget requirements
Objective 14.2. Improve first responder's capability to prepare for and respond to terrorism incidents.										
14.2.1	Train all first responders on terrorism response.	All	County Sheriff, County EMA, County Police Departments, School Officials	\$5,000	\$100,000	County Budget, School Budget, HMA Grants	Ongoing	Ongoing	Existing	Collaborative Active Shooter training at Mill Creek High School during the summer of 2014 included numerous Gwinnett County Public Schools, Gwinnett County law enforcement, and emergency medical services personnel. Opportunities for future training will be identified and implemented as allowed.
14.2.2	Develop and implement a visitor management system to restrict facility access through electronic locks and provide an alarm feature to alert authorities in an emergency.	All	School Officials	\$250,000		School Budget	Ongoing	Ongoing / Annual review of school safety plans	New and Existing	Attempting to identify funding for software and computer upgrades

Table 72: All-Hazards

Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.1: Improve Gwinnett County's information distribution and warning capabilities to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Estimated Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
15.1.5	Publish news articles and distribute educational literature regarding safe rooms and shelter-in-place procedures to the public.	All	Gwinnett County EMA with City and other County Officials	\$2,000	\$20,000	County/ City Budgets	2025-2030	Ongoing	NA	Emergency Public Information and education materials are distributed at County Public Safety Festivals and other events including the Multicultural festival and any Citizen Corp events.
15.1.9	Implement an all-hazards notification system for the City of Lilburn	City of Lilburn	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	N/A	Greatly increased social media communication to citizens via PIO
Objective 15.2: Improve Gwinnett County's first responder capabilities to prepare for and respond to all-hazards events.										
15.2.1	Conduct annual multi-agency disaster exercises involving all response agencies and County departments.	All	County EMA, First Responder Agencies, County Departments	\$50,000	\$1,000,000	County Budget, Grants, HMA Grants	Ongoing	Ongoing	N/A	Full-scale exercises completed in 2023 with multijurisdictional and department training. Will continue to identify future opportunities for exercises and training
15.2.2	Train first responders and County department representatives annually on EOC procedures.	County	County EMA, First Responder Agencies, County Departments	\$10,000	\$100,000	County Budget, Grants, HMA Grants	2025-2030	Ongoing	N/A	EOC operations 101 class is offered annually and as requested and will continue. EOC Management team training will be offered to higher ranks
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazards events.										
15.3.3	Maintain the Hazard Mitigation Steering Committee for plan maintenance.	County	County EMA	\$5,000	\$250,000	County/ City Budgets	Ongoing	Ongoing	Existing	HMSC meets yearly and as needed to maintain the plan

15.3.4	Develop/maintain/revise a resource management inventory that is compliant with National Incident Management System (NIMS) guidelines.	All	County EMA, City/County Officials	\$30,000	\$200,000	County Budget, Grants, HMA Grants	2025-2030	Ongoing	Existing	Information is actively maintained in WebEOC by EMA staff
15.3.14	Provide smoke alarms and conduct home safety surveys in key areas identified through demographic and housing data.	County	County Fire/Rescue	\$10,000	\$100,000	County Budget	Ongoing	In progress	Existing	GCFES manages this program
15.3.15	Implement a battalion-based education model to support community risk reduction efforts at the fire station level throughout Gwinnett County's five battalions.	County	County Fire/Rescue	Staff Time		County Budget	Ongoing	In progress	Existing	GCFES manages this program
15.3.17	Promote College Participation in the National PrepareAthon to promote Preparedness and Safety.	GGC	GGC	\$5,000	\$10,000	GGC Budget / HMA Grants	2025-2030	New Yearly Ongoing	Existing	GGC manages this outreach yearly
15.3.18	Procure and install an upgrade to current emergency communication/ radio systems on campus to ensure reliable communications during an incident.	GGC	GGC	\$181,000	\$250,000	GGC Budget / HMA Grants	2025-2030	Existing	Existing	
15.3.19	Improve the city road infrastructure to prevent deterioration and asphalt failure, and redesign roadways to accommodate growth	City of Dacula	City Officials	\$3.7 Million	\$5.5 Million	City Budget	2025-2030	New	Existing	
15.3.20	Expand and update the 911 facility	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	New	Existing	
15.3.21	Purchase electronic signage for the City of Norcross	City of Norcross	City Officials	\$50,000	\$50,000	City Budget	2025-2030	New	N/A	

15.3.22	Construct and establish safe havens/safe rooms/hurricane shelter/tornado shelters as needed	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	New	Existing	
15.3.23	Purchase and install generators at critical city facilities	City of Peachtree Corners	City Officials	\$250,000		City Budget, HMA Grants	In progress	Ongoing	Existing	
15.3.24	Develop a Continuity of Operations Plan for the City of Snellville	City of Snellville	City Officials	Staff time		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
15.3.25	Develop a site emergency plan for the E Center	City of Sugar Hill	City Officials	\$80,000	\$250,000	City Budget, HMA Grants	2025-2030	New	N/A	
15.3.26	Conduct a study of riverbank erosion to identify mitigation actions and restore the riverbank	Town of Braselton	Town Officials	\$500,000	\$1 Million	Town Budget, HMA Grants	2025-2030	New	Existing	
15.3.27	Purchase mobile electric signage for public notification	Town of Braselton	Town Officials	\$20,000	\$50,000	Town Budget, HMA Grants	2025-2030	New	Existing	
15.3.28	New build or retrofit saferoom/tornado shelters throughout Gwinnett County	All, PNP, HOW, GGC, Gwinnett Tech	The organizations representative			Budget, HMGP	2025-2023	New	New & Existing	

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SECTION 6: INDIVIDUAL JURISDICTION MITIGATION ACTION PLANS

6.1 CITY OF AUBURN, GEORGIA

MITIGATION ACTION PLAN

6.1.1 Geography and History

The City of Auburn (City) is located at 34°1'0"N, 83°49'55"W (34.016692, -83.831869). According to the U.S. Census Bureau, the city has a total area of 6.52 square miles (16.9 km²), all of which is land. The city has a total area of 0.14 square miles (0.36 square kilometers, 95.2 acres in Gwinnett County and it remains entirely single-family residential).

The City of Auburn is in Gwinnett County as well as Barrow County, within the Atlanta metro area. The Barrow County seat is Winder. The community of Auburn, which straddles Barrow and Gwinnett counties, was established in 1892. Its name is derived from the red clay found in nearby land used to dye clothes into a rich auburn color. Auburn is a community that has a mix of residential and commercial areas, planned houses, apartments, and green areas.

6.1.2 Significant Characteristics

Roy E. Parks Children's Playground is the newest addition to the city. A safe and clean place for children to play, the park is surrounded by a six-foot wrought iron fence. This park displays a whimsical mural on a retaining wall and features plenty of brightly colored play equipment. The park is not in Gwinnett County.

The City of Auburn Ballpark is located in downtown Auburn and hosts the Auburn Dixie Youth Baseball League. The park is not in Gwinnett County.

R.H. Burel Park is one of Auburn's most prominent parks. It is best known for a bright red caboose that was donated to the City by CSX Railroad. The park is not in Gwinnett County.

James Shackelford Memorial Park was dedicated to the late Council member James Shackelford. With its shelters and beautiful nature trails, this park is great for camping. The park is not in Gwinnett County.

Named by students at Auburn Elementary, Whistlestop Park is a green space park with picnic tables, shrubbery, and pecan trees. The park is not in Gwinnett County.

6.1.3 Population and Demographics

In 2021, Auburn had a population of 7,424 people with a median age of 33.8 and a median household income of \$66,551. Between 2020 and 2021 the population of Auburn declined from 7,519 to 7,424, a 1.26 percent decrease and its median household income grew from \$60,721 to \$66,551, a 9.6 percent increase.

The 5 largest ethnic groups in Auburn are White (Non-Hispanic) 66.5 percent, Black or African American (Non-Hispanic) 6.63 percent, White (Hispanic) 6.37 percent, Other (Hispanic) 6.29 percent, and Asian (Non-Hispanic) 4.78 percent.

The median property value in Auburn was \$159,700 in 2021, which is 0.652 times smaller than the national average of \$244,900. Between 2020 and 2021, the median property value increased from \$148,700 to \$159,700, a 7.4 percent increase. The homeownership rate in Auburn is 77.3 percent, which is approximately the same as the national average of 64.6 percent.

Auburn Comprehensive Plan Update 2018 provides the following info:

Variety of data sources collected by the NEGRC for Comp Plan Update: City of Auburn, State of Georgia, the 2012-2016 American Community Survey (ACS), the 2010 U.S. Census, and ESRI Business Analyst.

Table 73: City of Auburn Demographic Summary

Demographic Summary	2010 Actual	2017 Estimate	2022 Estimate
Population	6,887	7,375	8,862
Households	2,271	2,311	2,434
Families	1,800	1,856	1,963
Average Household Size	3.04	3.03	3.04
Median Age	32.9	35.9	33.1

2017 ACS 5-Year Estimate: Population: 7,316

Table 74: City of Auburn Population Since 1970

Year	1980	1990	2000	2010	2017	2021
Population	750	3,000	7,000	7,173	7,375	7,424

6.1.4 Economy

The median income for a household in the city is \$66,551, while the median income for a family is \$73,750. Males have a median income of \$ 50,625 versus \$25,869 for females. The per capita income for the city is \$25,914. Percentage of residents living in poverty in 2017-2021: 6.2 percent (18.9 percent for White Non-Hispanic residents, 22.6 percent for Black residents, 26.5 percent for Hispanic or Latino residents, 100.0 percent

for American Indian residents, 28.0 percent for other race residents, 51.7 percent for two or more races residents)

The most common industries for males are manufacturing (27.4 percent), construction (19.1 percent), and retail trade (9.36 percent). The most common industries for females are retail trade (15.6 percent), health care and social assistance (15.5 percent), and wholesale trade (12.6 percent).

Auburn-area historical tornado activity is slightly above the Georgia state average. It is 109 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 35.9 miles away from the city center, injuring 46 people and causing approximately \$5 million in damages.

On May 28, 1973, an F3 tornado with maximum wind speeds of 158-206 mph, struck 15.4 miles away from the city center, killing one person and injuring 65 others. Damages were estimated between \$5 million and \$50 million.

Source:<https://datausa.io/profile/geo/auburn-ga?measureOccupations=wage>;
<https://www.census.gov/quickfacts/auburncitygeorgia>

6.1.5 Infrastructure

The Auburn Police Department, consisting of about 20 employees, offers excellent coverage from well-trained and professional officers. The department includes divisions in Code Enforcement, Investigations, Support Services, and Uniform Patrol. In 2020, the Department was the first in Georgia to be awarded the GACP Risk Reduction Certificate award. This included a comprehensive review of 26 policy directives that deal with areas of high liability and risk.

Fire and emergency services for Auburn are provided by the Barrow County Department of Fire and Emergency Services, Station 4, and Gwinnett Fire and Emergency Services covers the portion of Auburn that is in Gwinnett County from Station 18. Station 4 has an advanced life support ambulance and a licensed basic life support engine and is staffed by four personnel 24 hours a day. Station 4 also houses a reserve engine and a reserve ambulance.

Gwinnett County Public Schools have the following schools that have students from Auburn:

Table 75: School Infrastructure in City of Auburn

School	Type	Enrollment
Mulberry	Elementary	753
Dacula ES	Elementary	1,181

Dacula MS	Middle School	1,811
Dacula HS	High School	2,518

6.1.6 Land Usage

The city has a total area of 6.75 square miles, all of which is land. The portion of the Auburn municipal boundary within Gwinnett County remains extremely small, as it is entirely single-family residential and is 0.14 square miles. There is projected growth of the City of Auburn within Gwinnett County with the Rowan Development.

6.1.7 Legal and Regulatory Capabilities

Auburn was certified in 2013 as a Local Issuing Authority for stormwater erosion and sedimentation inspections and enforcement.

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 76: City of Auburn Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Municipal Code	Title 15	2002	Y	N	N
Capital Improvements Plan	Municipal Code	Charter - Article VI	2009	Y	N	N
Comprehensive Plan	2030 Comprehensive Plan Referenced in the Municipal Code	Title 17	Updated 2018	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan		City plan pending	N	N	Y
Community Rating System	County Rating			Y	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Economic Development Plan	Strategic Implementation Plan	N/A	2010	N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	Local Emergency Operations Plan (EOP)		2012	N	N	Y
Flood Management Plan	Referenced in the Municipal Code	Title 18	2010	Y	N	N
Growth Control Ordinance	Municipal Code	Title 16	2002	Y	N	N
Hazard Setback Regulations	Building Code	IBC 2012	2002	Y	N	Y
Historic Ordinance	Municipal Code	Title 15 Title 16				
National Flood Insurance Program Participant			12/1/2022	Y	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Referenced in the Municipal Code	Title 16	2002	Y	N	Y
Subdivision Regulations	Municipal Code	Title 15 Title 16 Title 17		Y	N	Y
Zoning Ordinances	Municipal Code	Title 17	2002	Y	N	N

6.1.8 Administrative and Technical Capabilities

The City of Auburn has a number of administrative and technical capabilities. City departments include Administrative, Community Development, Parks and Leisure, Public Works, Code Enforcement, Police, Public Library, Tax, and Utilities. The City's government includes a mayor and four City Council Members.

The City Administrator is responsible for planning, organizing, and coordinating all financial activities. Community Development encompasses strategic planning, current

planning, GIS, occupational tax and permits, the Main Street program, and the Downtown Development Authority. Public Works encompasses public water systems, buildings and grounds, and stormwater. Parks and Leisure include public parks, leisure activities, and organized athletic activities.

6.1.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 77: City of Auburn Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.3	Identify and bury utility lines in densely populated and commercial areas in the City of Auburn.	City of Auburn	City Officials, Public Works			City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.3	Identify and replace damaged and aged culverts in the City of Auburn.	City of Auburn	Public Works, Storm Water Coordinator	\$104,000		City of Auburn Storm Water Utility Fund	2025-2030	Ongoing	Existing	.

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6.2 CITY OF BERKELEY LAKE, GEORGIA

MITIGATION ACTION PLAN

6.2.1 Geography and History

The City of Berkeley Lake (City) is located at 33°59'7"N, 84°11'0"W (33.985333, -84.183382). According to the U.S. Census Bureau, the city has a total area of 1.86 square miles (4.8 km²), of which 1.76 square miles (4.6 km²) is land and 0.1 square miles (0.26 km² or 5.4 percent) is water.

The majority of lands within the limits of the City of Berkeley Lake were developed in the late 1940s by Frank Coggins. It contains a dam that was constructed in 1948, which happens to be one of the largest earthen dams in the state. The 83-acre Lake Berkeley, the City's namesake, was named after Frank Coggins's Berkeley Blue Granite Quarries in Elberton, GA.

In 1952 the Berkeley Realty & Investment Company and its 700-acre property were purchased by Calvin and Kate Parsons along with John and Dorothy Bagwell. In 1953 Lake Berkeley Civic Association was formed by some 25 property owners. This association discussed important needs such as electricity, telephones and accessibility around the lake. The need for benefits that an incorporated City could help secure brought on the creation of the City of Berkeley Lake's charter.

On March 6, 1956, the General Assembly of Georgia approved the municipality as the City of Berkeley Lake in Gwinnett County. Since that time a number of ordinances have been passed to protect the character and tranquility of the community. A master plan for future land use and growth has also been developed and adopted.

In 2011 and 2012, the city annexed much of the Peachtree Industrial Boulevard corridor between South Old Peachtree Road and North Berkeley Lake Road. With the creation of the City of Peachtree Corners on July 1, 2012, Berkeley Lake is now surrounded by other municipalities and can expand its boundaries no further.

The City of Berkeley Lake grew rapidly throughout the 1990s, but as land availability within the city decreased so has the population growth. Throughout the last 10 years the City's population has grown slowly and increased by 30 percent from 2010 to 2021 largely due to annexations and new home construction in the River District subdivision. The number of residents over age 65 has seen the largest increase among age groups.

Source:

City of Berkeley Lake 2024 Comprehensive Plan

6.2.2 Significant Characteristics

Children's Park is a popular park located near City Hall for the enjoyment of area children.

Lake Berkeley is an 83-acre privately owned area where residents can enjoy fishing, boating, and various outdoor activities.

6.2.3 Population and Demographics

Berkeley Lake has grown into a thriving community centered on its 83-acre lake. According to the 2000 census, Berkeley Lake is the most affluent community in metro Atlanta and all of Georgia.

As of the Census Bureau's 2021 American Community Survey, there were 2,503 people and 799 homes in the city. The racial makeup of the population of the city was 83.9 percent White, 1.5 percent African American, 0.1 percent Native American, 9.9 percent Asian, and 4.5 percent from two or more races.

As of 2021, the median age of a Berkeley Lake resident is 57.5 years old, a significant increase from the 2016 Census. Berkeley Lake has the highest number of residents aged 55-59 years, followed by those age 60-69 years and 70-74 years. From 2016 to 2021, the largest increase in an age group is 65+, and Berkeley Lake residents form 70-74 increased the most (221 people), while residents aged 45-49 and 50-54 declined.

Source:

City of Berkeley Lake 2024 Comprehensive Plan

6.2.4 Economy

The median income for a household in the city in 2021 was \$138,182. Households earning over \$100,000 make up over 65 percent of the population in Berkeley Lake. Out of the 799 housing units, 97.0 percent are owner-occupied.

The most common job sectors in Berkeley Lake include construction (17.0 percent), professional/scientific/technical services (14.1 percent) and administration/support/waste services (13.0 percent). Resident by job sectors in Berkeley Lake include professional/scientific/technical services (13.0 percent), health care and social assistance (11.0 percent) and educational services (9.0 percent)

Source:

City of Berkeley Lake 2024 Comprehensive Plan

Disasters

Berkeley Lake-area historical tornado activity is above the Georgia state average. It is 107 percent greater than the overall U.S. average.

On April 3, 1974, an F4 tornado struck 27.9 miles away from the city center, killing six people and injuring 30 people. Damages were estimated between \$500,000 and \$5 million.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 19.0 miles away from the city center, injuring 46 people and causing between \$5 million to \$50 million in damages.

Table 78: City of Berkeley Lake Estimated Range of Home Values

Amount	Percent of Homes
\$0- \$999,999	81.41%
\$1,000,000 or more	18.595%

6.2.5 Infrastructure

Police services are provided by Gwinnett County. The City of Berkeley Lake supplements these services with City Marshals who primarily enforce ordinance violations.

Fire services are provided to Berkeley Lake by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Berkeley Lake, however, only Berkeley Lake Elementary falls within the city boundary:

Table 79: School Infrastructure in City of Berkeley Lake

School	Type	Enrollment
Berkeley Lake	Elementary	808
Duluth	Middle	1,279
Duluth	High	2,661

6.2.6 Land Usage

The city has a total area of 1.86 square miles (4.8 km²), of which 1.76 square miles (4.6 km²) is land and 0.1 square miles (0.26 km² or 5.4 percent) is water.

6.2.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 80: City of Berkeley Lake Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Code of Ordinances	Chapter 14, Chapter 78		Y	N	N
Capital Improvements Plan	Referenced in the Code of Ordinances	Part I – Article 6 Chapter 54 – Article III		Y	N	N
Comprehensive Plan	2040 Comprehensive Plan		Feb 2024	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Referenced in the Code of Ordinances	Chapter 42 - Article IV		Y	N	N
Growth Control Ordinance				Y	N	N
Hazard Setback Regulations						
Historic Ordinance	Code of Ordinances	Chapter 32 - Article II Chapter 42 - Article IV		Y	N	N
National Flood Insurance Program Participant		CID # 130450		N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Code of Ordinances	Chapter 32 - Article II		Y	N	N
Subdivision Regulations	Code of Ordinances	Chapter 26 - Article V Chapter 32 - Article II Chapter 42 - Article IV		Y	N	N
Wildfire Ordinance						
Zoning Ordinances	Code of Ordinances	Chapter 78		Y	N	N

6.2.8 Administrative and Technical Capabilities

The City of Berkeley Lake has a number of administrative and technical capabilities. City departments include Administrative, Courts, Planning and Zoning Commission, as well as Budget and Finance. The city government includes a mayor and five City Council Members. The City Administrator/City Clerk, Ordinance Enforcement Officer/City Marshal and Deputy City Clerk manage administrative functions. Other key City personnel include the City Attorney, City Treasurer, Municipal Judge, City Engineer and City Building Inspector.

6.2.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 81: City of Berkeley Lake Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.2: Improve first responder capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.2.3	Implement a road repaving process to reduce the impact of winter weather	City of Berkeley Lake	City Officials, Public Works	\$1 Million	\$1.5 Million	City Budget	2025-2030	New	Existing	Poor roads have increased winter weather issues.
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
7.1.4	Maintain NFIP status for flood mitigation	City of Berkeley Lake	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.24	Upgrade failing stormwater infrastructure	City of Berkeley Lake	City Officials	\$1 Million	\$1.5 Million	City Budget	2025-2030	Ongoing	Existing	

6.3 CITY OF BUFORD, GEORGIA

MITIGATION ACTION PLAN

6.3.1 Geography and History

The City of Buford (City) is located at 34°7'1"N, 83°59'55"W (34.117080, -83.998535). According to the U.S. Census Bureau, the city has a total area of 18.15 square miles (39.8 km²), of which 15.3 square miles (39.6 km²) is land and 0.1 square miles (0.1 km² or 0.34 percent) is water.

Winning a bid to host the lunch stop on the new Atlanta and Richmond Air Line Railway, the City of Buford was named after the railway's president, Algernon S. Buford. Formerly the Town of Buford," the city was incorporated by Act of legislature on August 24, 1872. The City's name was changed to the City of Buford in 1896.

Buford was blessed in its early years with far-sighted citizens who had an interest in business and education. The city was often called the "city of many factories" and has been referenced as the "New York of Gwinnett."

For over 60 years, Buford was the largest city in Gwinnett County. During most of those 60 years, it had the only significant industrial development in the county and exerted a powerful—and many times dominant—influence upon county politics.

Buford has the first bank within the county and had two running before any other permanent banking facilities were established in the county.

Buford is also associated with the field of education. Many students came from other areas of the county to acquire a diploma from a place that was recognized for quality education.

The City of Buford also made a name for itself with its leather industry, creating nationally known shoes, saddles, harnesses, horse collars, and other leather products. It also operated the only glue factory in the South and conducted a large farming operation which produced straw for horse collars and other farm products.

6.3.2 Significant Characteristics

Lake Sidney Lanier has over 692 miles of shoreline and is known for its aqua blue water, amazing scenery, and a variety of recreational activities.

Lake Lanier Islands is located past the Holiday Marina on the south side of the lake, and hosts many events ranging from concerts, arts and craft festivals, fireworks show, holiday light shows and activities for every member of the family.

6.3.3 Population and Demographics

As of the 2017-2021 census, there are 17,106 people and 4,998 households in the city. The population density is 944.8 people per square mile. The racial makeup of the city is 58.5 percent White, 25.2 percent Hispanic or Latino (of any race), 13.7 percent African American, 0.1 percent Native American, 3.4 percent Asian, 0 percent Pacific Islander, and 16.3 percent from two or more races.

There are 4,998 households, of which 6.5 percent include children under the age of 5, 31.5 percent include children under the age of 18, and 13.3 percent have someone who is 65 or older. The average household size is 3.33.

The median age of a Buford resident is 38 years old. In the City the population is spread out, with 26.2 percent under the age of 18, 10.7 percent from 18 to 24, 33.7 percent from 25 to 44, 19.0 percent from 45 to 64, and 11.9 percent who are 65 or older. The City's population has grown more than 5.28 percent since 2016.

6.3.4 Economy

In 2017-2021 the median income for a household in the city is \$54,321. Males have a median income of \$62,744 versus the \$46,261 for females. The per capita income for the city is \$25,502. About 13 percent of families are below the poverty line.

Gwinnett County is home to more than 700 manufacturing companies, more than 1,200 high-tech companies, and more than 410 international companies.

The most common jobs held by residents of Buford, GA, by number of employees, are Construction & Extraction Occupations (919 people), Food Preparation & Serving Related Occupations (852 people), and Sales & Related Occupations (847 people). The highest paid jobs held by residents of Buford, GA, by median earnings, are Computer & Mathematical Occupations (\$72,685), Health Diagnosing & Treating Practitioners & Other Technical Occupations (\$68,625), and Fire Fighting & Prevention, and Other Protective Service Workers Including Supervisors (\$63,103)

Buford-area historical tornado activity is slightly above the Georgia state average. It is 101 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 25.0 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 25.8 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 82: City of Buford Single-Family Home Values

Value	# Of Homes
< \$100,000	607
\$100k - \$200K	799
\$200k - \$300K	755
\$300K - \$400K	420
\$400K - \$750K	148

6.3.5 Infrastructure

The North Precinct of the Gwinnett County Police Department services the northern part of Gwinnett County, including the city of Buford. Fire services are provided to Buford by the Gwinnett County Department of Fire and Emergency Services.

The Buford City School System consists of the following Schools; the City Operates its independent school system:

Table 83: School Infrastructure in City of Buford

School	Type	Enrollment
Buford	Elementary	398
Buford Academy	Elementary 3-5	1,254
Buford Senior Academy	Elementary 4-5	868
Buford	Middle	1,414
Buford	High	1,903

6.3.6 Land Usage

According to the U.S. Census Bureau, the city has a total area of 18.15 square miles (39.8 km²), of which 15.3 square miles (39.6 km²) is land and 0.1 square miles (0.1 km² or 0.34 percent) is water.

6.3.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 84: City of Buford Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Ordinance		8-4-2008	Y	N	N
Capital Improvements Plan	Plan			Y	N	N
Comprehensive Plan	2045 Comprehensive Plan		1-4-2024	Y	N	N
Continuity of Operations/ Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Ordinance		9-14-2018	Y	N	N
Growth Control Ordinance				Y	N	N
Hazard Setback Regulations				Y		
Historic Ordinance				Y	N	N
National Flood Insurance Program Participant	Ordinance		9-14-2018	Y	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Zoning Ordinance		Amended 1-9-2018	Y	N	N
Subdivision Regulations	Zoning Ordinance		Amended 1-9-2018	Y	N	N
Zoning Ordinances	Ordinance		Amended 1-9-2018	Y	N	N

6.3.8 Administrative and Technical Capabilities

The City of Buford has a number of administrative and technical capabilities. City departments include Electric, Finance, Gas, Inspection, Marshal, Planning and Zoning, Recreation, Sanitation, Sewer, Storm Water Management, Street, Utility Billing and Water. The city government includes a Commission Chairman and three Commissioners. Other key City personnel include the City Manager, City Clerk/Planning Director, Public Utilities Director and Finance Director/Deputy Clerk.

6.3.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 85: City of Buford Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
1.3.21	Purchase and install generators at critical facilities	City of Buford	City Officials	\$250,000	\$500,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.22	Purchase and install transfer switches at identified critical facilities	City of Buford	City Officials	\$50,000	\$200,00	City Budget, HMG Grants	2025-2030	Ongoing	New/ Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
7.1.5	Maintain NFIP status for flood mitigation	City of Buford	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	Existing	

6.4 CITY OF DACULA, GEORGIA

MITIGATION ACTION PLAN

6.4.1 Geography and History

The City of Dacula (City) is located at 33°59'15"N, 83°53'31"W (33.987598, -83.891926). The city has a total area of 5.37 square miles (13.8 km²), all of which is land.

The City of Dacula began as the Town of Chinquapin Grove. When it was founded, the name was changed due to the fact that no chinquapin trees actually existed in the City. The name Dacula was formed by letters found in Decatur and Atlanta. Those two cities were near Dacula and were already prospering during the time of Dacula's founding.

There was a train station on a CSX line in Dacula, and though it closed in the mid-1950s, the city experienced immense growth. Formerly a small, one-light town in the early 80s, the City of Dacula now has nearly 10 public schools from both the Dacula and Mill Creek clusters of Gwinnett County.

6.4.2 Significant Characteristics

With its 3,850-seat auditorium, Hebron Baptist Church is one of the largest Southern Baptist churches in the Southeast United States.

The city has several beautiful parks suitable for weddings, picnics, and other large or small outdoor functions.

Little Mulberry Park is a park that encompasses 485 acres of an 890-acre park. It features five miles of trails, including two paved multi-purpose trails and a handicap-accessible trail, and more than two miles of woodland foot trails. The park also offers many picnic pavilions, restrooms, a playground, and an observation terrace.

Dacula is also known for its large Memorial Day parade, as well as its professional and collegiate athletes.

Approved in 2020, Rowen is a new 2,000-acre development bordering Dacula to the east. It is being promoted as Georgia's hub for environmental, agricultural and medical innovation. Gwinnett County has committed to the project as demonstrated by the \$125 million Eastern Regional infrastructure Project that provides sewer upgrades and trail amenities in the area.

6.4.3 Population and Demographics

In 2023, the estimated population of the City of Dacula was 8,101, representing an 82 percent increase from 2010. The growth rate in Dacula was significantly higher than for Gwinnett County and the state of Georgia. The population density is 1,333.0 people per square mile. The racial makeup of the city is 46 percent White, 28 percent African

American, 10 percent multiracial, four percent Asian, and 11 percent from two or more races.

There are 2,057 households, of which 35.2 percent include children under the age of 18. Approximately 21.4 percent of all households are made up of individuals, while 7 percent have someone living alone who is 65 or older. The average household size is 3.26.

The median age of a Dacula resident is 33 years old. In the City, the population is spread out, with 35.2 percent under the age of 18, 6.9 percent from 18 to 24, 29.3 percent from 25 to 44, 32.6 percent from 45 to 64, and 9.6 percent who are 65 or older. For every 100 females, there are 93.6 males.

The City’s population has grown more than 39.4 percent since 2020.

6.4.4 Economy

The median income for a household in the city is \$87,666. The per capita income for the city is \$23,686. About 5.2 percent of families and 8.2 percent of the population are below the poverty line.

The most common industries are retail trade, health care and social assistance, and manufacturing.

Dacula-area historical tornado activity is slightly above the Georgia state average. It is 94 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 33.3 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 36.4 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 86: City of Dacula Single-Family New House Construction Building Permits

Year	Permits	Average Cost
2002	63	\$70,200
2003	4	\$81,300
2004	4	\$82,100
2005	3	\$86,000
2006	15	\$133,200
2007	12	\$146,100

Year	Permits	Average Cost
2008	13	\$172,900
2009	2	\$174,600
2010	9	\$91,600
2011	1	\$65,000
2012	0	n/a
2013	84	\$107,800
2014	111	\$132,674
2015	96	\$146,408
2016	187	\$128,466
2017	42	\$103,030
2018	39	\$110,939

6.4.5 Infrastructure

The East Precinct of the Gwinnett County Police Department serves Dacula.

There are three parks located within the City of Dacula. Two are managed by the city and one is managed by Gwinnett County.

Fire services are provided to Dacula by the Gwinnett County Department of Fire and Emergency Services.

There are several public schools and private schools within the City Limits. Private schools include: Harbins Preparatory School, Hebron Christian Academy, and Dacula Classical Academy. There are also two Gwinnett County Public School clusters within the City Limits:

Table 87: School Infrastructure in City of Dacula

School	Type	Enrollment
Dacula	Elementary	1,181
Alcova	Elementary	1,459
Mulberry	Elementary	753
Cooper	Elementary	1,509
Harbins	Elementary	1,351

School	Type	Enrollment
Lovin	Elementary	891
Dacula	Middle	1,811
McConnell	Middle	2,058
Dacula	High	2,518
Archer	High	3,063

6.4.6 Land Usage

The city has a total area of 5.37 square miles (13.8 km²), all of which is land.

6.4.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 88: City of Dacula Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes				Y	N	N
Capital Improvements Plan	Referenced in the 2050 Comprehensive Plan			Y	N	N
Comprehensive Plan	2050 Comprehensive Plan		2/1/2024	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Economic Development Plan	County Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County EOP			N	N	Y
Flood Management Plan	Chapter 10, Article II – Floodplain Management / Flood Damage		3/5/20	Y	N	N
Growth Control Ordinance	Referenced in the 2050 Comprehensive Plan			Y	N	N
Hazard Setback Regulations						
Historic Ordinance	Referenced in the 2050 Comprehensive Plan			Y	N	N
National Flood Insurance Program Participant				N	N	Y
Post-Disaster Recovery Plan	County Emergency Operations Plan (EOP)			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Referenced in the 2030 Comprehensive Plan			Y	N	N
Subdivision Regulations	Referenced in the 2030 Comprehensive Plan			Y	N	N
Zoning Ordinances	Zoning Ordinance			Y	N	N

6.4.8 Administrative and Technical Capabilities

The City of Dacula has a number of administrative and technical capabilities. City departments include Administration, Planning and Development, Inspections, the Planning and Zoning Board, Public Works, Marshal's Office, Elections, and the Municipal Court. The city government includes a mayor and four city council members. The Planning Commission makes recommendation to the City Council on rezoning, permits, especial exemptions, etc. The Planning Commission is composed of five members and are appointed by the Mayor and City Council at the beginning of every calendar year.

6.4.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 89: City of Dacula Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.7	Identify and bury utility lines in densely populated and commercial areas in the City of Dacula	City of Dacula	City Officials, Public Works	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	No Action within existing commercial areas.
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. *These actions also can apply to Hurricane(s) and Tropical Storms										
Objective 2.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events, including thunderstorms and windstorms										
2.2.5	Purchase and install a generator for Dacula City Hall	City of Dacula	City Officials	\$55,000	\$100,000	City Budget, HMGP Grant	2025-2030	Ongoing	New	

Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
7.1.6	Maintain NFIP status for flood mitigation	City of Dacula	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	NIFP status maintained
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.22	Improve the city stormwater infrastructure to manage older, undersized systems and mitigate runoff from growth	City of Dacula	City Officials	\$1.3 million	\$2 million	City Budget/ HMA Grants	2025-2030	New	Existing	
Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazards events.										
15.3.19	Improve the city road infrastructure to prevent deterioration and asphalt failure, and redesign roadways to accommodate growth	City of Dacula	City Officials	\$3.7 Million	\$5.5 Million	City Budget	2025-2030	New	Existing	

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6.5 CITY OF DULUTH, GEORGIA

MITIGATION ACTION PLAN

6.5.1 Geography and History

The City of Duluth (City) is located at 34°0'11"N, 84°8'44"W (34.003, -84.114). According to the City's Geographic Information System, the city has a total area of 10.35 square miles (25.9 km²), of which 10.25 square miles (25.6 km²) is land and 0.1 square miles (0.3 km²) is water.

In the early eighteenth century, the Duluth area was a part of the Cherokee Indian territory and was an important crossroads used by Native Americans. In 1818, Gwinnett County was created by an act of the General Assembly of Georgia, and the area was opened to settlers. Evan Howell, a successful farmer and merchant, had a vision of a railway system that would run from Howell Crossing (Duluth, Georgia) to Duluth, Minnesota. In 1871 the railroad came to Duluth, Georgia, bringing with it new prosperity and growth. In 1906 the city was officially incorporated as the City of Duluth.

In 1989, Duluth was named Tree City for its dedication to preserving green space. Now Duluth is recognized as a model city for Gwinnett County. It is the second largest city in Gwinnett County and is noted first in financial stability throughout the State of Georgia. Despite its phenomenal growth, Duluth has retained its small-town character.

6.5.2 Significant Characteristics

The Southeastern Railway Museum preserves, restores, and operates historical railway equipment.

Eddie Owens Presents at the Red Clay Theatre is a new musical venue featuring state-of-the-art sound, lighting, and multi-media projection technology. It has stadium-style seating for 280 people, making it perfect for small and mid-scale concerts, as well as corporate events and presentations.

Duluth's historic downtown is also home to many shops and restaurants. Parsons Alley, a new award-winning redevelopment project in Downtown Duluth has transformed Downtown into a regional entertainment and restaurant district.

6.5.3 Population and Demographics

As of the 2020 U.S. Census Bureau, there were over 30,000 people and 12,314 households. The population density was 3,118.7 people per square mile. The racial makeup of the city was 41 percent White, 20.6 percent African American, 15.7 percent Hispanic or Latino (of any race), 23.9 percent Asian, and 8.2 percent from two or more races.

There were 12,314 households, of which 26 percent included children under the age of 6, 33 percent included children under the age of 18, and 35 percent had someone 60 or older. The average household size was 2.55.

The median age of a Duluth resident is 40 years old. In the City the population was spread out, with 22 percent under the age of 18, 6 percent from 18 to 24, 14.2 percent from 25 to 29, 15.3 percent from 35 to 44, 15.7 percent from 45 to 54, 11.7 percent from 55 to 64 and 10.1 percent who were 65 or older.

The City’s population has grown more than 44 percent since 2000.

Table 90: City of Duluth Population Since 1980

Year	1980	1990	2000	2010	2017	2023
Population	2,956	9,029	22,122	28,404	28,988	31,873

6.5.4 Economy

The median income for a household in the city is \$77,516. Males have a median income of \$45,192 versus \$36,181 for females. The per capita income for the city is \$36,472. About 9 percent of families are below the poverty line, including 18.2 percent of individuals under age 18 and 17.5 percent age 65 or over.

Duluth is poised with a perfect blend of small businesses, entrepreneurial enterprises, major corporations, and visionary developers.

Per the US Census, “Duluth’s economy employs 15.6k people. The largest industries in Duluth, GA are Professional, Scientific, and Technical Services (2,193 people), Health Care & Social Assistance (2,041 people), and Accommodation & Food Services (1,637 people), and the highest paying industries are Utilities (\$86,146), Professional, Scientific, & Technical Services (\$75,843), and Management of Companies & Enterprises (\$72,853).

The industries with the best median earnings for men in 2020 are Professional, Scientific, Management, Administrative, Waste Management Services (\$75,614), Wholesale Trade (\$75,211), and Public Administration (\$73,810).

The industries with the best median earnings for women in 2020 are Wholesale Trade (\$63,017), Public Administration (\$62,596), and Transportation, Warehousing, and Utilities (\$60,357).” (datausa.io 2023) Duluth-area historical tornado activity is slightly above the Georgia state average. It is 98 percent greater than the overall U.S. average.

Duluth-area historical tornado activity is slightly above the Georgia state average. It is 98 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 29.2 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 34.7 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million in damages.

On June 17, 2020, a train carrying hazardous materials collided with a semi-truck in the 3600 Block of Buford Hwy NW, close to downtown Duluth. Despite the severity of the collision, only three individuals sustained minor injuries and were hospitalized. Thankfully, none of the 23 derailed train cars leaked or released any hazardous materials into the surrounding area, averting a potential disaster.

Table 91: City of Duluth Estimated Range of Home Values

Value	Percentage of Homes
\$100,000 to 149,000	10.6%
\$150,000 to 199,000	15.4%
\$200,000 to 299,000	39.2%
\$300,000 to 499,000	27.6%
\$500,000 to 999,000	3.3%
\$1,000,000 or above	>1%

6.5.5 Infrastructure

The City of Duluth Police Department consists of 65 well-trained and professional officers. The department is organized in the following four divisions: Uniform Patrol Division, Criminal Investigations, Support Services, and Administration.

Fire services are provided to the City of Duluth by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in the City of Duluth:

Table 92: School Infrastructure in City of Duluth

School	Type	Enrollment
Berkeley Lake	Elementary	808
Burnette	Elementary	700
Chattahoochee	Elementary	1,119
Harris	Elementary	611
M.H. Mason	Elementary	926
Parsons	Elementary	874
Coleman	Middle	750
Duluth	Middle	1,279
Hull	Middle	1,249
Duluth	High	2,661
Peachtree Ridge	High	3,287
New Life Academy	Special Entities	603
YHALE Academy	Special Entities	208

6.5.6 Land Usage

The city has a total area of 10.35 square miles (25.9 km²), of which 10.25 square miles (25.6 km²) is land and 0.1 square miles (0.3 km²) is water.

6.5.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 93: City of Duluth Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Code of Ordinances	Chapter 5		Y	N	N
Capital Improvements Plan	Referenced in the Code of Ordinances	Part I - Article VI		Y	N	N
Comprehensive Plan	2045 Comprehensive Plan		February 2024	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan and Referenced in the 2045 Comprehensive Plan	Chapter 14		N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Referenced in the Code of Ordinances	Article 8		Y	N	N
Growth Control Ordinance	Code of Ordinances and Referenced in the 2045 Comprehensive Plan	Chapter 5 - Article IV		Y	N	N
Hazard Setback Regulations						
Historic Ordinance	Referenced in the 2045 Comprehensive Plan	Chapter 5		Y	N	N
National Flood Insurance Program (NFIP) Participant	Participates in NFIP			N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Unified Development Code	Article 2 Article 4 Article 5 Article 7 Article-8 Article 9 Article 10		Y	N	N
Subdivision Regulations	Unified Development Code	Article 5		Y	N	N
Zoning Ordinances	Unified Development Code	Article 2		Y	N	N

6.5.8 Administrative and Technical Capabilities

The City of Duluth has a number of administrative and technical capabilities. City departments include Administration, Clerk, Human Resources, Municipal Court, Parks and Recreation, Planning and Development, Police Department, Public Information and Marketing, and Public Works. The city government includes a mayor and five Council Members. The administrative functions of the city are managed by the City Manager.

6.5.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 94: City of Duluth Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to sever winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.23	Continue to improve equipment and methods to treat roads prior to winter storm events	City of Duluth	City Officials	\$5,000		City Budget	2025-2030	Ongoing	New/Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.5	Increase culvert sizes at identified locations throughout the City of Duluth	City of Duluth	City Officials	\$3.5 million	\$8 million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.6	Purchase any repetitive flood loss properties	City of Duluth	City Officials	\$2 million	TBD	City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has detailed list of projects which are updated frequently based on inspections and project completions.
7.2.7	Develop an analysis of the draining network, to identify failing infrastructure along Rogers Creek to mitigate ongoing flooding issues	City of Duluth	City Officials	\$100,000	\$350,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has a detailed list of projects which are updated frequently based on inspections and project completions.
7.2.8	Design, implement, and upgrade storm water management infrastructure in residential and commercial areas	City of Duluth	City Official	\$250,00		City Budget, HMA Grants	2025-2030	Ongoing	Existing	City has detailed list of projects which are updated frequently based on inspections and project completions.

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6.6 CITY OF GRAYSON, GEORGIA

MITIGATION ACTION PLAN

6.6.1 Geography and History

The City of Grayson (City) is located at 33°53'36"N, 83°57'20"W (33.893306, -83.955420). According to the U.S. Census Bureau, the city has a total area of 1.8 square miles (4.6 km²), all of which is land.

The City of Grayson has experienced many name changes over the years. It was first called Trip based on a suggestion given by a leading merchant and public figure at Lawrenceville. Later, John Jacobs, Grayson's first mayor and postmaster, wrote to change the name to Berkeley. The name was approved in 1901; however, Jacobs was later notified that there was already a Berkeley, Georgia. The name Grayson was suggested after Jacobs received a letter from his wife, who was visiting Grayson County in Texas.

In 1820 the first settlers came to Grayson; however, it wasn't founded until 1879, when James Patterson McConnell purchased 80 acres. Grayson grew quickly and attracted merchants, a railway, more settlers, educators and religious leaders. Because of the increase, schools and churches were established in order to better serve the community.

On December 1, 1898, the L&L Railroad came to Grayson. The train completed two round trips through the city each day, carrying mail, freight and passengers. While it ran from 1898 to 1932, the train became a huge part of life for Grayson and its economy.

Grayson is a vibrant "live, work and play" community close enough to the big city for easy access but far enough to experience personalized home-town living. With excellent schools, sports programs, parks, restaurants and shopping Grayson is a popular destination for families. Throughout the year, The City of Grayson offers family-friendly community events including concerts, festivals and movies. Though Grayson is known for the excellent amenities of a sophisticated and professional city, we pay homage to our past with an extensive collection of historical Grayson memorabilia housed in the Arts and History Center.

6.6.2 Significant Characteristics

Grayson Park is a smaller park that offers pavilions of various sizes.

The Grayson Arts and History Center promotes the collection and display of memorabilia that pertains to the history of Grayson, in addition to serving as an outlet to showcase the local arts of the community.

6.6.3 Population and Demographics

As of the 2021 the census estimates, there are 4,478 people and 1,160 households in the city. The population density is 559 people per square mile. The racial makeup of the city is 24.7 percent White, 70.8 percent African American, 4.2 percent Hispanic or Latino (of any race), 0 percent Pacific Islander, 3.1 percent Asian, 0.9 percent from two or more races, and 0.9 percent from other races.

There are 1,160 households, of which 53.2 percent include children under the age of 18. Approximately 10.5 percent of all households are made up of individuals living alone, while 7.7 percent have someone living alone who is 65 or older. The average household size is 3.86.

The median age of a Grayson resident is 31.3 years old. In the City, the population is spread out, with 32.2 percent under the age of 18, 8.1 percent from 18 to 24, 18.2 percent from 25 to 44, 29.6 percent from 45 to 64, and 11.7 percent who are 65 or older.

According to the U.S. Census Bureau, the City’s Population has changed since 2000: +263.4 percent and is one of the fastest growing areas in Gwinnett County.

Table 95: City of Grayson Population Since 1990

Year	1990	2000	2012	2018	2021
Population	529	765	2,780	4,409	4,478

6.6.4 Economy

The median income for a household in the city is \$113,652, while the median income for a family is \$116,119. Males have a median income of \$40,382 versus \$38,009 for females. The per capita income for the city is \$31,038. The percentage of residents living in poverty in 2021 was 1.4 percent (3.3 percent for White Non-Hispanic residents, 0.9 percent for Black residents, 0 percent for Hispanic or Latino residents).

From 2016 to 2017, employment in Grayson, GA grew at a rate of 5.69 percent, from 1.44k employees to 1.52k employees.

The most common job groups, by number of people living in Grayson, GA, are Management Occupations (258 people), Office & Administrative Support Occupations (195 people), and Sales & Related Occupations (153 people).

Compared to other places, Grayson, GA has an unusually high number of residents working as Health Diagnosing, Treating Practitioners, and Other Technical Occupations (2.04 times higher than expected), Health Technologists & Technicians (1.85 times), and Management Occupations (1.66 times).

Grayson-area historical tornado activity is slightly above the Georgia state average. It is 95 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 39.3 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 33.3 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 96: City of Grayson Single Family Home Values

Value	# Of Homes
< - \$100,000	30
\$100,000 - \$200,000	153
\$200,000 - \$300,000	444
\$300,000 - \$400,000	270
\$400,000 - \$500,000	60
\$500,000 - \$750,000	40
\$750,000 - \$1,000,000	7
\$1,000,000 and up	9

6.6.5 Infrastructure

The South and East Precincts of the Gwinnett County Police Department serve Grayson.

Fire services are provided to Grayson by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in the Grayson cluster:

Table 97: School Infrastructure in City of Grayson

School	Type	Enrollment
Grayson	Elementary	1,051
Pharr	Elementary	807
Starling	Elementary	1,249
Trip	Elementary	1,415
Couch	Middle	1,101

School	Type	Enrollment
Bay Creek	Middle	1,391
Grayson	High	3,462

6.6.6 Land Usage

The city has a total area of 1.8 square miles (4.6 km²), all of which is land.

6.6.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states, local, and tribal jurisdictions to implement hazard mitigation activities.

Table 98: City of Grayson Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Code of Ordinances and City Zoning Ordinance	Chapter 18	Updated 4/30/2019	Y	N	N
Capital Improvements Plan	Referenced in the 2040 Comprehensive Plan		1/22/2019	Y	N	N
Comprehensive Plan	2040 Comprehensive Plan		1/22/2019	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	Referenced in the 2045 Comprehensive Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Referenced in the 2040 Comprehensive Plan	Pg. 61,62	1/22/2019	Y	N	N
Growth Control Ordinance	Referenced in the 2040 Comprehensive Plan	Pg. 63,64	1/22/2019	Y	N	N
Hazard Setback Regulations						
Historic Ordinance	Code of Ordinances and Referenced in the 2040 Comprehensive Plan	Chapter 18 - Article IV. Sec 18-256	5/19/2008	Y	N	N
National Flood Insurance Program (NFIP) Participant	Participate in NFIP		6/1/2005	Y	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	City Zoning Ordinance	Chapter 18- Article IV.	December 2007	Y	N	N
Subdivision Regulations	City Zoning Ordinance	Chapter 18- Article IV.	December 2007	Y	N	N
Zoning Ordinances	City Zoning Ordinance		December 2007	Y	N	N

6.6.8 Administrative and Technical Capabilities

The City of Grayson has a number of administrative and technical capabilities. City departments include the Planning and Zoning Commission, the Zoning Board of Appeals, and the Code Enforcement Board. The city government includes a mayor and four City Council Members.

6.6.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department

or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 99: City of Grayson Mitigation Actions

Goal 5: Reduce Gwinnett County's risk and vulnerability to lightning.										
Objective 5.1: Increase citizen lightning awareness.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
5.1.4	Install lightning detection and notification system for the City Park/Pavilion	City of Grayson	City Officials	\$10,000	\$20,000	City Budget	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.9	Identify and replace culverts, catch basins, storm water ditches, and outflows to mitigate flooding issues	City of Grayson	City Officials	\$20,000	\$50,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.10	Develop and maintain storm water management plans for the city to mitigate identified flooding areas	City of Grayson	City Officials	\$80,000	\$150,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	

6.7 CITY OF LAWRENCEVILLE, GEORGIA

MITIGATION ACTION PLAN

6.7.1 Geography and History

The City of Lawrenceville (City) is located at 33°57'11"N, 83°59'33"W (33.953052, -83.992469). According to the U.S. Census Bureau, the city has a total area of 13.44 square miles (34.80 km), of which 13.3 square miles (34.4 km) is land and 0.1 square miles (0.2 km or 0.57 percent) is water.

The City of Lawrenceville, which is the county seat of Gwinnett, was incorporated on December 15, 1821. Also known as the second oldest city in the Greater Atlanta area, the city is named after Captain James Lawrence, a naval commander in the War of 1812.

In its early years, the city was a thriving farming community. The downtown area became known for retail and business, as locals would come to town to sell and trade produce and livestock and purchase dry goods.

The original City courthouse was destroyed by fire in 1871. The building that replaced it served as the official county courthouse until the Gwinnett Justice and Administration Center was completed in 1988.

For several years, the City's primary industry was cotton farming. The Lawrenceville Manufacturing Company, one of the very first cotton factories, made goods for the Confederate Army during the Civil War. Also supporting the City's rural economy was the sale of corn, brick manufacturing, lumber, and livestock.

In 1903, Lawrenceville built its first power plant on a city lake. Today's City of Lawrenceville Electric Department serves more than 12,000 customers with four substations and 16 circuits and approximately 351 miles of distribution line in Gwinnett County.

Around the turn of the century, a modern railroad system was built in Lawrenceville, although most residents continued to utilize mules as their primary mode of transportation. U.S. Highway 29, the City's first paved road, arrived in 1929.

The City of Lawrenceville Natural Gas Department was established in 1951 and currently serves an area that includes the corporate limits of the City and certain designated areas outside the City's corporate limits, including portions of Gwinnett County, Rockdale County, and Walton County. The gas system serves an approximately 178 square mile area and has approximately 58,000 customer accounts. The major assets of the City's gas system consist of three delivery points, 124 regulator stations, 58 miles of high-pressure pipeline, and approximately 1,460 miles of distribution pipeline.

In 1966, the first runway was built at Brisco Field, the Gwinnett County Airport. It handles light general aviation and most corporate jets and is the fourth busiest airport in Georgia.

In 2021, the City of Lawrenceville entered into an intergovernmental agreement with Gwinnett County to create the Lawrenceville Branch of the Gwinnett County Public Library at the former Hooper-Renwick School site. Through architectural design and historical exhibits, a themed library will preserve and honor the legacy of the former school, which was the only school for African American children in Gwinnett from 1951-1968. Completion is expected in 2025.

6.7.2 Significant Characteristics

Rhodes Jordan Park, named for former Mayor H. Rhodes Jordan, located off of Crogan Street, is a 162-acre park featuring a 22-acre lake, a multipurpose recreational trail, a playground, swimming pool, football field, soccer fields, baseball fields, a community garden and a large community center.

Gwinnett County's only professional theatre, the Aurora Theatre, has found a home in downtown Lawrenceville on Pike Street. This venue features live performances throughout the year. The theatre also boasts a children's playhouse, educational seminars, and a "ghost tour" through downtown Lawrenceville hosted by professional storytellers. The Lawrenceville Arts Center was completed in late 2021 and features a 525-seat theatre with a main stage, cabaret, and outdoor and civic spaces.

One of the premier hospitals in the region, Northside Hospital Gwinnett, is located in Lawrenceville. The Northside Hospital Gwinnett is a non-profit, 500-bed health care network comprised of two hospitals, plus several supporting medical facilities, with more than 5,200 employees and more than 1,200 affiliated physicians. The main campus is located near the intersection of Highway 316 and Duluth Highway 120 and is home to a Level II trauma center. Northside Hospital Gwinnett is currently undergoing a campus expansion that will result in the addition of 5,000 new jobs and the largest single conglomeration of hospital beds in the state.

Georgia Gwinnett College, located in Lawrenceville, was established in 2005, and is the first 4-year public institution created in Georgia in more than 100 years. The fall 2024 enrollment exceeds 12,000 students, with 66 percent full-time, and 34 percent part-time students. GGC boasts 17 major disciplines, with over 45 areas of concentration. GGC's diversity reflects that of Gwinnett County with over 120 nations represented within the student body. In 2021, the College Corridor, a 2.2-mile mobility connection between Downtown Lawrenceville and Georgia Gwinnett College opened, which includes a new roadway, bike lane, sidewalk, and development opportunities.

6.7.3 Population and Demographics

As of 2023, there are 31,015 people and 10,762 households in the city. The population density is 2,248.3 people per square mile. The racial makeup of the city is 34.3 percent White, 31.8 percent Black or African American, 26 percent Hispanic or Latino (of any

race), 0.7 percent Native American, 7.6 percent Asian, and 11.5 percent from two or more races.

There are 11,205 households, of which 17.9 percent include children under the age of 6, 34.4 percent include children under the age of 18, and 23.7 percent have someone who is 65 or older. The average household size is 2.78.

The median age of a Lawrenceville resident is 33 years old. In the City the population is spread out, with 25.5 percent under the age of 18, 9.9 percent from 18 to 24, 31.6 percent from 25 to 44, 21.5 percent from 45 to 64, and 11.5 percent who are 65 or older.

6.7.4 Economy

The median income for a household in the city is \$51,242. The per capita income for the city is \$27,521. About 18 percent of families and 17.5 percent of the population are below the poverty line, including 27 percent of individuals under the age of 18 and 9.3 percent age 65 or over.

Lawrenceville has three major job centers: Northside Hospital Gwinnett, Gwinnett County government complex, and Georgia Gwinnett College. The combination of job centers makes up almost 20 percent of the workforce. The overall employment growth for one year is 0.429 percent.

The most common sectors of employment for Lawrenceville residents are 13.1 percent in construction, 10.3 percent in retail trade, and 8.6 percent in educational services. City residents have higher employment rates in retail, information, education, health and social assistance. While in comparison to the rest of the County, construction, manufacturing, transportation, warehousing, utilities, finance, insurance, real estate, professional, scientific, and management careers are lower.

6.7.5 Natural Disaster

The Lawrenceville area's historical tornado activity is slightly above the State's average. The probability of tornado activity within the Lawrenceville area is 98 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 29.2 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 34.7 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Source:

<https://datausa.io/profile/geo/lawrenceville-ga#:~:text=In%202021%2C%20Lawrenceville%2C%20GA%20had,%2C%20a%20%E2%88%922.05%25%20decrease>

6.7.6 Infrastructure

Emergency Services

Since the early 1900s, the City of Lawrenceville has operated a Police Department to protect its citizens and merchants. Today, the police department staffs 72 officers and 23 civilians to assist our city in protective needs. The police department is divided into six divisions, including the following:

- Command Staff
- Administration Division
- Investigative Services
- Support Services
- Training and Recruiting
- Uniform Services

Fire protection and emergency medical services for the City of Lawrenceville are provided by the Gwinnett County Fire and Rescue Department.

Education

The Gwinnett County Public School District, the largest public school system in Georgia, provides public education in the City of Lawrenceville. There are three high schools (Central Gwinnett, Phoenix, and Discovery) located in the city limits and three more (Mountain View, Collins Hill, Archer and Maxwell) that serve the surrounding area. Three middle schools (Jordan, Moore, and Richards) and eight elementary schools (Benefield, Baggett, Alford, Cedar Hill, Lawrenceville, Simonton, Margaret Winn Holt, and Jenkins) currently support the high schools in the city limits. The schools are in the Collins Hill Cluster, Berkmar Cluster, Brookwood Cluster, Mountain View Cluster, and the Discovery Cluster. Gwinnett Technical College and Georgia Gwinnett College are also located within the limits of Lawrenceville.

Table 100: School Infrastructure in City of Lawrenceville

School	Type	Enrollment
Bethesda	Elementary	1,105
Corley	Elementary	1,093
Craig	Elementary	1,084
Freeman's Mill	Elementary	1,019
Gwin Oaks	Elementary	1,056
J.A. Alford	Elementary	822
Jackson	Elementary	1,457
Kanoheda	Elementary	849
Lawrenceville	Elementary	689
Lovin	Elementary	891
Margaret Winn Holt	Elementary	1,058
McKendree	Elementary	1,013
Rock Springs	Elementary	765
Simonton	Elementary	725
Taylor	Elementary	866
Alton C. Crews	Middle	1,416
Creekland	Middle	1,716
Five Forks	Middle	1,256
Richards	Middle	2,026
Sweetwater	Middle	1,441
Collins Hill	High School	2,695
Central Gwinnett	High School	2,435
Phoenix	High School	762
Gwinnett Intervention Education (GIVE) Center	School grades 6 through 12	219
Oakland Meadow School	Pre-K through 1st	46
Maxwell High School of Technology	High School	990

6.7.7 Land Usage

Lawrenceville has a total area of 13.44 square miles (34.8 km), of which 13.3 square miles (34.4 km) is land and 0.1 square miles (0.2 km or 0.57 percent) is water.

6.7.8 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 101: City of Lawrenceville Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Development Regulations	Article VII	2/5/07	Y	N	N
Capital Improvements Plan	2045 Comprehensive Plan		February 2024	Y	N	N
Comprehensive Plan	2045 Comprehensive Plan		February 2024	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan and Referenced in the 2045 Comprehensive Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Development Regulations	Article VIII	9/12/05	Y	N	N

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Growth Control Ordinance	Development Regulations and Referenced in the 2045 Comprehensive Plan	Article XVI	2/5/07	Y	N	N
Historic Ordinance	Referenced in the 2040 Comprehensive Plan	Chapter 3.4	10/6/08	Y	N	N
National Flood Insurance Program Participant			1980	Y	N	Y
Post Disaster Ordinance	City Code of Ordinances	Chapter 16	9/12/05			
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Development Regulations	Article IV	4/5/09	Y	N	N
Subdivision Regulations	Development Regulations	Article IV	4/5/09	Y	N	N
Zoning Ordinances	Planning and Zoning Code of Ordinances	Article IV	4/5/09	Y	N	N

6.7.9 Administrative and Technical Capabilities

The City of Lawrenceville has a number of administrative and technical capabilities. City departments include Utilities (Electric and Gas), Public Safety, Public Works, Taxes, Licenses and Permits, Planning and Development, Stormwater Management, Street and Sanitation Services, and the Municipal Court, as well as a number of Boards and Commissions. The city government includes a mayor, four Council Members and a City Manager and a City Clerk.

6.7.10 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 102: City of Lawrenceville Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.14	Purchase equipment for Lawrenceville Electric Department to maintain and clear trees and debris along city overhead powerlines	City of Lawrenceville	City Officials	\$40,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. *These actions also can apply to Hurricane(s) and Tropical Storms										
Objective 2.1: Increase citizen severe thunderstorm/windstorm awareness, preparedness, and response										
2.1.5	Improve electric grid infrastructure to withstand weather events and maintain safe sustainable systems for all residents	City of Lawrenceville	City Officials	\$750,000	\$2 million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	Have spent approximately \$50,000 thus far and are expecting to spend more to upgrade their system.
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										

Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.

7.2.11	Increase culvert sizes at identified throughout the City of Lawrenceville	City of Lawrenceville	City Officials	\$3.5 million	\$8 million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.12	Purchase any repetitive loss properties	City of Lawrenceville	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.13	Design, implement, and upgrade stormwater management infrastructure in residential and commercial areas	City of Lawrenceville	City Officials	\$500,000		City Budget, HMA Grants	2025-2030	Existing	Existing	

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6.8 CITY OF LILBURN, GEORGIA

MITIGATION ACTION PLAN

6.8.1 Geography and History

The City of Lilburn (City) is located at 33°53'20"N, 84°8'27"W (33.888853, -84.140897). According to the U.S. Census Bureau, The City has a total area of 7 square miles (18.1 km²), of which 6.9 square miles (17.9 km²) is land and 0.1 square miles (0.1 km² or 0.81 percent) is water.

The City of Lilburn was won in a land lottery by William McDaniel. Around 1890 the Georgia Carolina and Northern Railroad began purchasing property for tracks, including McDaniel's portion of what is present day Lilburn. The city was originally named McDaniel after William. During the construction phase of the railways, Seaboard Airline Railway purchased the Georgia Carolina and Northern Railroad. On April 24, 1882, the first train with passengers came through. During that period, Lilburn had a depot, telegraph office and several mercantile businesses; however, cotton was the base of the local economy, with a cotton gin built along Railroad Avenue.

Around 1900, the name was changed to Lilburn after Lilburn Trigg Myers, who at the time was the general superintendent for the Seaboard Airline Railway. The City of Lilburn was incorporated in 1910, and by 1919 the town had grown to include a bank, school, auto dealer, two doctors, and about nine merchants.

A disastrous fire ruined the business section of Lilburn in 1920. The town was rebuilt, but the cotton crops were attacked by boll weevils, destroying the crops. Because the cotton crop was what stimulated the economy, the destruction of it destroyed the town's economic support. The Great Depression of 1929 also hurt Lilburn, and the town and the government gradually died.

The town gradually relocated along Highway 29 with the help of automobiles. This created an Old and New Lilburn. The need for a water line in 1955 helped with the creation of a new city government, and the town began to grow again. In 1975 a new city hall was built, helping to create the growth that is now present.

6.8.2 Significant Characteristics

Lilburn City Park is a 10-acre park that has been renovated. This park features a lighted walking/jogging path, an open field area, a children's playground, tennis courts, plenty of public restrooms, a rental pavilion, and a bandstand.

Camp Creek Greenway Trail is a trail that allows people and pets to enjoy the outdoors. The trail includes bridges, rest areas, boardwalks, trail access from neighborhoods, and parks.

Lilburn Daze is an Arts and Crafts festival celebrated every second Saturday in October, featuring over 400 vendors.

6.8.3 Population and Demographics

As of the 2022 census, there are 15,673 people and 4,601 households in the city. The population density is 2,131.7 people per square mile. The racial makeup of the city is 30 percent White, 45.8 percent Hispanic or Latino (of any race), 13.2 percent African American, 1.2 percent Native American, 16.1 percent Asian, 1.3 percent Pacific Islander, and 19.8 percent from two or more races.

There are 4,601 households, of which 8.9 percent include children under the age of 6, 43.1 percent include children under the age of 18, and 35.6 percent have someone who is 65 or older. The average household size is 3.11.

The median age of a Lilburn resident is 35.7 years old. In the City, the population is spread out, with 32.1 percent under the age of 18, 5.7 percent from 18 to 24, 26.7 percent from 25 to 44, 21 percent from 45 to 64, and 14.6 percent who are 65 or older. For every 100 females, there are 123.1 males.

The City's population has grown more than 38.1 percent since 2000.

6.8.4 Economy

The median income for a household in the city is \$58,900. Males have a median income of \$35,228 versus \$31,117 for females. The per capita income for the city is \$26,612. There are 19.7 percent of residents living in poverty in 2021.

The most common jobs held by residents of Lilburn, GA, by number of employees, are Construction & Extraction Occupations, Office & Administrative Support Occupations, and Management Occupations. The highest-paid jobs held by residents of Lilburn, GA, by median earnings, are Finance & Insurance (\$174,033), Professional, Scientific, and Technical Services (\$134,259), and Public Administration (\$116,980).

The most common industries for females are health care and social assistance (24.2 percent); retail trade (10.3 percent); manufacturing (7.24 percent); other services, other than public administration (17.7 percent); finance and insurance (5.83 percent); and accommodation and food services (6.09 percent).

The most common industries for males are construction (27.7 percent); retail trade (15.9 percent); other services, except public administration (9.61 percent); and accommodation & food services (8.43 percent).

Lilburn-area historical tornado activity is above the Georgia state average. It is 103 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 25.5 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On March 24, 1975, an F3 tornado with maximum wind speeds of 158-206 mph struck 10.9 miles away from the city center, killing three people and injuring 152 people. Damages were estimated between \$50 million and \$500 million.

Table 103: City of Lilburn Estimated Range of Home Values

Value Range	# Of Owner-Occupied Housing Units with a Mortgage	Total Value
<50,000	42	<\$2,100,000
50,000-99,999	20	<\$1,999,980
100,000-299,999	1,448	<\$434,398,552
300,000-499,999	427	<\$213,499,573
500,000-749,999	35	<\$26,249,965
750,000-999,999	0	<\$0
1,000,000 or more	8	>\$8,000,000

6.8.5 Infrastructure

The Lilburn Police Department Chief is responsible for planning, directing, and leading the Operations Division and the Support Division of the police department. The Operations Division is led by a Captain, who oversees the Patrol Operations Unit and the Special Operations Unit. The Patrol Operations Unit is comprised of a Lieutenant, four Sergeants, 14 full-time officers, two part-time officers, and a Canine unit. The Patrol Operations Lieutenant also oversees the Public Safety Cadet Program.

The Special Operations Unit is comprised of a Lieutenant, a Community Outreach Officer, two Traffic Units, one full-time Code Enforcement Officer, one part-time Code Enforcement Officer, and two part-time Court Security Officers. The Lieutenant also serves as the multi-jurisdictional Special Response Team Commander and directs special projects.

The Support Division Commander, with the rank of Captain, leads the Criminal Investigation unit and the Support Services Unit. All units of the Support Division provide investigative and administrative support to all members of the police department.

The Criminal Investigation Unit is comprised of a Lieutenant, a Sergeant, and five investigators.

The Support Services Unit is comprised of a Support Services Manager, a Senior Records Clerk, and a Records Clerk.

The department is open 24 hours a day, 365 days a year responding to emergency and non-emergency calls.

Fire services are provided to Lilburn by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Lilburn. The Parkview Cluster, Berkmar Cluster, Meadowcreek Cluster, and Brookwood Clusters are all filed by Lilburn students.

Table 104: School Infrastructure in City of Lilburn

School	Type	Enrollment
Arcado	Elementary	933
Brookwood	Elementary	1,477
Camp Creek	Elementary	1,447
G.H. Hopkins	Elementary	1,117
Knight	Elementary	893
Lilburn	Elementary	1,294
Mountain Park	Elementary	628
R.D. Head	Elementary	738
Rebecca Minor	Middle	885
Berkmar	Middle	1,065
Five Forks	Middle	1,256
Lilburn	Middle	1,609
Trickum	Middle	2,211
Berkmar	High	3,077
Brookwood	High	3,868
McClure	High	1,146
Meadowcreek	High	2,656
Parkview	High	3,254

6.8.6 Land Usage

The city has a total area of 7 square miles (18.1 km²), of which 6.9 square miles (17.9 km²) is land and 0.1 square miles (0.1 km² or 0.81 percent) is water.

6.8.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 105: City of Lilburn Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	City Code	Chapter 105 Appendix A Appendix B		Y	N	N
Capital Improvements Plan	Referenced in the City Code and the Five-Year Financial Plan	Subpart A - Article VI		Y	N	N
Comprehensive Plan	2030 Comprehensive Plan		2008	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan and Referenced in the 2030 Comprehensive Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Flood Management Plan	Referenced in the City Code	Chapter 109 - Article III		Y	N	N
Growth Control Ordinance	2030 Comprehensive Plan			Y	N	N
Historic Ordinance	City Code and Referenced in the 2030 Comprehensive Plan	Chapter 109 - Article III Appendix A		Y	N	N
National Flood Insurance Program Participant				N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	City Code	Appendix A Appendix B		Y	N	N
Subdivision Regulations	City Code	Appendix A Appendix B		Y	N	N
Zoning Ordinances	City Code	Appendix A		Y	N	N

6.8.8 Administrative and Technical Capabilities

The City of Lilburn has a number of administrative and technical capabilities. City departments include Administration, Police, Planning and Development, Code Enforcement, Public Works, Parks and Recreations, and Courts, as well as other Boards and Commissions. The city government includes a mayor and four Council Members. The administrative functions of the city are managed by the City Manager and administrative staff.

6.8.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update

their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 106: City of Lilburn Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.2: Improve first responder capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.2.1	Identify/acquire/ equip all emergency response vehicles with tire chains	County, City of Lilburn	County EMA, City maintenance and road staff, and County Officials	\$2,000	\$20,000	County/ City Budget, HMA Grants , Nationa I Fire Grants	2025-2030	Ongoing	Existing	Fleet is equipping new vehicles as they are obtained
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
1.3.6	Identify and bury utility lines in densely populated commercial areas in the City of Lilburn	City of Lilburn	City Officials, Public Works	\$250,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	New and Existing	Dark fiber lines were installed and buried. Utilities being placed underground are still in progress.
1.3.10	Purchase and install generators at the City of Lilburn Public Works facility	City of Lilburn	City Officials	\$100,000	\$400,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	Some generators have been installed at several facilities. More are needed.
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. *These actions also can apply to Hurricane(s) and Tropical Storms										
Objective 2.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events, including thunderstorms and windstorms										
2.2.3	Purchase and install generators at critical facilities	City of Lilburn	City Officials	\$250,000		City Budget, FEMA, Grants	2025-2030	Ongoing	Existing	Has been accomplished at City Hall and the Police Department. Others are still planned.

Goal 5: Reduce Gwinnett County's risk and vulnerability to lightning.										
Objective 5.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events involving lightning and its effects										
5.2.2	Install a lightning detection system in the city park	City of Lilburn	City Officials	\$15,000	\$50,000	City Budget, HMGP	2025-2030	New	New	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.14	Address flooding issues at Hillcrest Rd. between Hwy 29 and Indian Trail Road by replacing culvers and raising the roadway bridge	City of Lilburn	City Officials	\$1 million		City Budget, HMGP	2025-2030	Ongoing	Existing	
7.2.25	Relocate/acquire structures that could be affected by flooding.	City of Lilburn	City Officials			City Budget, HMGP	In progress	New	Existing	
7.2.26	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Lilburn	City Officials			City Budget, HMGP	In progress	New	New & Existing	
Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.										
15.1.9	Implement an all-hazards notification system for the City of Lilburn	City of Lilburn	City Officials	\$250,000		City Budget, Federal Grants	2025-2030	Ongoing	N/A	Greatly increased social media communication to citizens via PIO.

6.9 CITY OF LOGANVILLE, GEORGIA

MITIGATION ACTION PLAN



6.9.1 Geography and History

The City of Loganville (City) is located at 33°50'07"N 83°53'45"W. According to the United States Census Bureau, Loganville has a total area of 7.4 square miles (19.1 km²), of which 7.3 square miles (19.0 km²) is land and 0.04 square miles (0.1 km²), and 0.60 percent is water.

The City of Loganville is named after James H. Logan, who on Nov. 9, 1842, attended a sheriff's sale in Monroe and purchased 62.5 acres described as Land Lot No. 186 in the Fourth Land District for the sum of \$150. Logan joined other settlers in the area, which at the time was known as Buncombe, and built a house along what is today CS Floyd Road. While the time spent in the town was somewhat short-lived, as Logan moved on to Pike County in 1850, his place in history was etched on June 11, 1851. This was when the area that was home to a few hundred residents changed its name from Buncombe to Loganville following the reappointment of William F. Kennedy as postmaster.

Loganville's first town charter was issued by the state in 1887, with the limits defined as being a half mile in every direction from the front door of the Justice of the Peace Courthouse of the 417th Georgia Military District. The first mayor was named as C.C.

George, though he resigned from the post before ever assuming office. The first mayor of record was Dr. J.I. Robinson.

A fire is believed to have destroyed the original land marker for the city limits, and a second charter was issued in 1905 that extended the city limits of Loganville a mile in every direction from the water well that remains a part of the downtown landscape today.

6.9.2 Significant Characteristics

There were two defining moments in the history of the City of Loganville before the arrival of the 20th century: the first charter, signed in 1887, and the establishment of a railroad branch in 1897. Work to bring a branch line to Loganville actually began before the charter, as it took almost 20 years for the town of about 500 people to finally convince a railroad company to establish a railroad tying the community with Lawrenceville. In October 1897, the city approved the issuance of \$5,000 in bonds to aid in the building of the Lawrenceville and Loganville Railroad – which would equate to almost \$138,000 today. On March 30, 1898, a charter was issued for the project that would change Loganville’s future.

The railroad made its last run on January 17, 1932, after it fell victim to circumstances created by the Great Depression. By that time cotton was no longer king as the city worked to re-define itself.

6.9.3 Population and Demographics

As of the 2020 census, Loganville has a population of 14,124 people and 4,550 households. The population density is 1907.8 people per sq. mile. The racial makeup of the city is 56.4 percent white, 32.8 percent African American, 3.5 percent Asian, 9.4 percent Hispanic or Latino, and 5.1 percent two or more races.

Of the 4,550 households, 8.0 percent are children under 5, 25.4 percent are under 18, and 12 percent are over 65.

6.9.4 Economy

In 2021 the median income for a household was \$72,820. The per capita income was \$31,211 and 9.5 percent of the population was in poverty.

6.9.5 Infrastructure

The Loganville Police Department and Fire Department cover all 7.4 sq. miles of the city.

6.9.6 Legal and Regulatory Capability

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 107: City of Loganville Legal and Regulatory Capabilities

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Ordinance/ Codes		04/09/2009	Y	N	Y
Capital Improvements Plan	Plan		2020-2025	Y	N	N
Comprehensive Plan	Plans		06/12/2022	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	None			N	N	N
Community Rating System	None			N	N	N
Economic Development Plan	Ordinance		Unsure	Y	N	N
Emergency Management Accreditation Program Certified	None			N	N	N
Emergency Response Plan	Plan		2020-2025	Y	N	N
Flood Management Plan	Ordinance		02/06/2012	Y	N	Y
Growth Control Ordinance	None			N	N	N
Historic Ordinance	None			N	N	N
National Flood Insurance Program Participant	Ordinance		05-14-2009	Y	N	Y

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Post-Disaster Recovery Plan	Plan		05-14-2009	Y	N	N
Real Estate Disclosure	None		2020-2025	N	N	N
Site Plan Requirements	Ordinance / Development Regulations			Y	N	N
Subdivision Regulations	Ordinance / Development Regulations		05/13/2020	Y	N	N
Zoning Ordinances	Ordinance		03/12/2020	Y	N	N

6.9.7 Administrative and Technical Capabilities

The City of Loganville has a number of administrative and technical capabilities. City departments include Water, Water Quality, Storm Water, Sewer, Street & Highways, Inspections, Fire Marshal, Planning and Development, Utility Billing, Fire, Police, Events & Marketing, and Public Works. The city government consists of a City Manager, 6 council members, and one Mayor. Other key city personnel include Public Utilities Director, Finance Director, and IT Director.

6.9.8 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan

Table 108: City of Loganville Mitigation Actions

Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Time Frame	Status	New/ Existing Infrastructure	Additional Action Information
7.1.10	Maintain NFIP status for Flood Mitigation	City of Loganville	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	

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6.10 CITY OF MULBERRY, GEORGIA

MITIGATION ACTION PLAN

6.10.1 Geography and History

The newly approved City of Mulberry in Gwinnett County, Georgia, encompasses an area from the Hall County line and the Town of Braselton southward to nearly the city limits of Dacula. The city was approved by voters in May 2024 following a ballot referendum and despite facing legal challenges. Mulberry will operate without its own police, fire, or garbage services, instead outsourcing these to Gwinnett County, while handling zoning, code enforcement, and stormwater runoff services independently.

This new city is expected to provide more localized governance for the residents in the area. The successful incorporation follows a push by local legislators and has been designed to operate similarly to other nearby cities, like Peachtree Corners, to ensure efficient management and community services. The City of Mulberry is located at (GPS coordinates needed). According to the U.S. Census Bureau, the city has a total area of 25.9 square miles (67.08 km²). The city has more than 13,000 privately owned acres with 2,450 acres classified as residential or commercial “vacant land”.

6.10.2 Significant Characteristics

By modeling itself after successful cities like Peachtree Corners, Mulberry will prioritize efficient management and effective use of resources. This includes leveraging existing county services and focusing city efforts on critical local issues. These characteristics will help shape the new city's identity and operational focus, ensuring it meets the needs of its residents while maintaining a sustainable and efficient governance model.

6.10.3 Population and Demographics⁷

As of 2024, there are 41,000 residents and 12,162 households in the city. The racial makeup of the city is 76.96 percent White, 9.1 percent Hispanic or Latino (of any race), 7.3 percent African American, 0.0 percent Native American, 0.3 percent Asian, and 6.4 percent categorized as Other.

There are 12,162 households, of which 53 percent include children under the age of 18, and 17.3 percent have someone who is 65 or older. The average household size is 3.3 persons.

⁷ [Feasibility Study](#):

The median age of a Mulberry resident is 37.4 years old. In the City, the population is spread out, with 25.8 percent under the age of 18, 25.7 percent from 18 to 24, and 17.3 percent who are 65 or older.

6.10.4 Economy

With an estimated median household income of nearly \$121,200, Mulberry would become a comparatively affluent city, exceeding Gwinnett County's median household income of \$84,009 by more than 44 percent. Among comparable recently incorporated cities examined for this report, only Milton had a higher median household income of nearly \$142,900. Peachtree Corners, which was incorporated a decade ago and has a similar total population to Mulberry with more than 42,000 residents, has an estimated median household income of just above \$74,700. At an estimated rate of only 3.0 percent, the percentage of Mulberry families living below the poverty level is also less than half of Gwinnett County's poverty rate of 7.7 percent.

6.10.5 Infrastructure

Police and Fire services are provided to Mulberry by the Gwinnett County Police and Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Mulberry.

Table 109: School Infrastructure in City of Mulberry

School	Type	Enrollment
Duncan Creek	Elementary	1,568
Osborne	Middle	1,722
Mill Creek	High	2,740
Ivy Creek	Elementary	1,570
Jones	Middle	1,562
Seckinger	High	1,638

6.10.6 Land Usage

The city has a total area of 25.9 square miles (67.08 km²).

6.10.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 110: City of Mulberry Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	City Code and the Development Regulations			Y	N	N
Capital Improvements Plan	Referenced in City Code			Y	N	N
Unified Development Ordinance	City Code			Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	N/A			N	N	Y
Economic Development Plan	County Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	City Code and the Development Regulations			N	N	Y
Growth Control Ordinance	Development Regulations			Y	N	N
Hazard Setback Regulations	Zoning Ordinance			Y	N	N
Historic Ordinance	City Code			Y	N	N

National Flood Insurance Program Participant	City Code			N	N	Y
Sign Ordinance	City Code of Ordinances			Y	N	N
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	City Code			Y	N	N
Subdivision Regulations	City Code, Development Regulations			Y	N	N
Zoning Ordinances	City Code and the Planning and Zoning Code of Ordinances			Y	N	N

6.10.8 Administrative and Technical Capabilities

The City of Mulberry has a number of administrative and technical capabilities. City departments include the City Manager, Mayor, City Attorney, and City Clerk. The government includes a mayor and five Council Members. The administrative functions of the city are managed by the City Manager and City Clerk.

6.10.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 111: City of Mulberry Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Time Frame	Status	New/ Existing Infrastructure	Additional Action Information
1.3.24	Purchase winter weather salting and sanding equipment	City of Mulberry	City Officials, Public Works	\$50,000	\$200,000	City Budget, HMA Grants	2025-2030	New	New	
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. (* These actions also can apply to Hurricane and Tropical Storms)										
Objective 2.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe weather events, including thunderstorms and windstorms.										
2.2.6	Purchase downed tree and storm cleanup equipment	City of Mulberry	City Officials, Public Works	\$50,000	\$200,000	City Budget, HMA Grants	2025-2030	New	New	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.23	Rehabilitation of Duncan Lake Dam	City of Mulberry	City Officials, Public Works	\$1,500,000	\$5,000,000	City Budget, HMA Grants	2025-2030	New	Existing	

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6.11 CITY OF NORCROSS, GEORGIA

MITIGATION ACTION PLAN

6.11.1 Geography and History

The City of Norcross (City) is located at 33°56'19"N, 84°12'31"W (33.938551, -84.208630). According to the U.S. Census Bureau, the city has a total area of 6.01 square miles (10.6 km²), of which 5.77 square miles (14.9 km²) is land and 0.24 percent of it is water.

The City of Norcross was founded by J.J. Thrasher and named after his good friend, Jonathan Norcross, who happened to be a former Mayor of Atlanta. It was incorporated on October 26, 1870, making it Gwinnett County's second oldest city.

With the creation of the Richmond-Danville Railroad and the help of John J. Thrasher, Norcross was born. With the building of the Brunswick Hotel in 1856, Norcross became known as a resort-like area. People from all over migrated to the area in order to be near the railroad and to build houses, churches and schools.

Norcross still preserves its historic center as a nineteenth century railroad town, but it is on the upswing as new restaurants and shops move downtown and as a new generation of citizens join.

6.11.2 Significant Characteristics

Norcross Baseball Hall of Fame has a great display of local baseball memorabilia, including a vintage uniform, autographed baseballs and bats, trophies and more. It is located in the City's Welcome Center.

Lionheart Theater Company is a community theater where professionals and talented amateurs provide affordable quality entertainment.

The City of Norcross also maintains the following city parks: Bety Mauldin, Discovery Garden, Heritage, Johnson-Dean, Lillian Webb, Norcross Historic Cemetery, Pinnacle, Rossie Brundage, Thrasher, Veterans, and Summerour.

6.11.3 Population and Demographics

As of 2022, there are 17,706 people and 6,083 households in the city. The racial makeup of the city is 31.2 percent White, 39.8 percent Hispanic or Latino (of any race), 25.5 percent African American, 0.1 percent Native American, 13.4 percent Asian, 0 percent Pacific Islander, and 9.6 percent from two or more races.

There are 6,083 households, of which 22.4 percent include children under the age of 6, 40.6 percent include children under the age of 18, and 14.7 percent have someone who is 65 or older. The average household size is 2.86.

The median age of a Norcross resident is 33 years old. In the City the population is spread out, with 29.2 percent under the age of 18, 6.6 percent from 18 to 24, 40.5 percent from 25 to 44, 23.2 percent from 45 to 64, and 7.4 percent who are 65 or older.

The City's population has grown by 94.23 percent annually since 2010.

6.11.4 Economy

The median income for a household in the city is \$70,403. Males have a median income of \$39,007 versus \$35,519 for females. The per capita income for the city is \$33,686. About 12 percent of families and 15 percent of the population are below the poverty line, including 28 percent of individuals under the age of 18 and 10.3 percent age 65 or over.

Some of the local companies in Norcross include Waffle House Corporate, Birchwood Foods, Zerorez, Advance Disposal, Digitrax, Unisource, Institute of Industrial Engineers, Salwa, Reddy US Therapeutics, Avalon International, Hitachi Koki USA, Ltd., The Athlete's Foot, Woody's Halfpipe, EMS Technologies, FinishLine, Technologies, Visix, American Megatrends, FIS, Car Max, Fed Ex Ground, NAPA, Archway, and 7up Snapple.

Norcross-area historical tornado activity is above the Georgia state average. It is 108 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 20.4 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 30.6 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 112: City of Norcross Home Values based on Square Footage

Square Feet	Value	# of Homes
324 – 1423.3 sq. ft.	\$58,320 to \$256,185	852
1423.4 to 1780 sq. ft.	\$256,186 to \$320,400	850
1781 to 2344 sq. ft.	\$329,401 to \$421,920	855
2345 to 6134 sq. ft.	\$421,921 to \$1,104,120	845

The above average is based on the range of square footages, 320 sq. ft. to 6,134 sq. ft. multiplied by \$180.00 per square foot. The estimated replacement value for single-family homes is between \$140 to \$220 per sq. ft. and the average being \$180 so that was used to determine the value.

6.11.5 Infrastructure

The Norcross Police Department covers an area of 6.01 square miles. As of 2022, it consists of 49 sworn officers, one Part-Time officers and full-time civilian employees. The Norcross Police Department was re-rewarded State Certification in 2020 and is due for renewal in late 2023. The Department is also CALEA certified, with a renewal set for late 2024.

Source: Norcross Police 2022 Annual Review

Fire services are provided to Norcross by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Norcross.

Table 113: School Infrastructure in City of Norcross

School	Type	Enrollment
Baldwin	Elementary	944
Norcross	Elementary	773
Susan Stripling	Elementary	798
Summerour	Middle	1,410
Paul Duke STEM	High	1,387
Norcross	High	2,383
Gwinnett Intervention Education Center West	Alternate 6-12	222

6.11.6 Land Usage

The city has a total area of 6.01 square miles (10.6 km²), of which 5.77 square miles (14.9 km²) is land and 0.24 percent is water.

6.11.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 114: City of Norcross Legal and Regulatory Capabilities

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	City Code and the Development Regulations	Chapter 103- Article VII	2/5/2007	Y	N	N
Capital Improvements Plan	Referenced in City Code	Chapter 2 - Article VI Chapter 16 - Article II		Y	N	N
Comprehensive Plan	2040 Comprehensive Plan		3/2/2020	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	City Code and the Development Regulations	Chapter 107- Article VIII	9/12/2005	Y	N	N
Growth Control Ordinance	Development Regulations	Article XVI	2/5/2007	Y	N	N
Hazard Setback Regulations						
Historic Ordinance	City Code	Chapter 114		Y	N	N
National Flood Insurance Program Participant	City Code	Chapter 107	9/18/2006	N	N	Y
	City Code of Ordinances	Chapter 16	9/12/2005			
Post-Disaster Recovery Plan	County EOP			N	N	Y

Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	City Code	Chapter 103 - Article IV Chapter 107 - Article II Chapter 115 - Article III		Y	N	N
Subdivision Regulations	City Code, Development Regulations	Chapter 115 - Article III Article IV	4/5/2009	Y	N	N
Zoning Ordinances	City Code and the Planning and Zoning Code of Ordinances	Chapter 115		Y	N	N

6.11.8 Administrative and Technical Capabilities

The City of Norcross has a number of administrative and technical capabilities. City departments include Economic Development, City Clerk, Community Development, Downtown Manager, Court Services, Information Technology, Police, Public Works, Utilities and Parks, Public Relations/Marketing, and Human Resources. The city government includes a mayor and five Council Members. The administrative functions of the city are managed by the City Manager and City Clerk.

6.11.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 115: City of Norcross Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.5	Identify and bury utility lines in densely populated commercial areas in the City of Norcross	City of Norcross	City Officials, Public Works	\$2 million	\$2 million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.12	Purchase and install generators at the City of Norcross Community Center	City of Norcross	City Officials	\$250,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.13	Purchase winter weather salting and sanding equipment	City of Norcross	City Officials, Public Works	\$50,000	\$200,00	City Budget, HMA Grants	2025-2030	Ongoing	New	
Goal 5: Reduce Gwinnett County's risk and vulnerability to lightning.										
Objective 5.1: Increase citizen lightning awareness.										
5.1.5	Purchase and install equipment for all city parks to alert citizens of lightning during inclement weather	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
7.1.7	Maintain NFIP Status for Flood Mitigation	City of Norcross	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	N/A	
Objective 7.2 Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.21	Upgrade stormwater pipes and improve stormwater ditches	City of Norcross	City Officials	\$4 million	\$2 million	City Budget HMA Grants	2025-2030	Ongoing	Existing	

Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.

Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.

15.3.20	Expand and update the 911 center facility	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	New	Existing	
15.3.21	Purchase electronic signage for the City of Norcross	City of Norcross	City Officials	\$50,000	\$50,000	City Budget	2025-2030	New	N/A	
15.3.22	Construct and install Safe Rooms and tornado Shelters at the City Community Center	City of Norcross	City Officials	\$250,000	\$250,000	City Budget	2025-2030	New	Existing	

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6.12 CITY OF PEACHTREE CORNERS, GEORGIA

MITIGATION ACTION PLAN

6.12.1 Geography and History

The City of Peachtree Corners is located at 33°57'30.3"N, 84°13'30" W (33.958406, -84.224978).

Peachtree Corners was incorporated in 2012, so no census or demographic data is available for the city from the 2010 U.S. Census. Peachtree Corners is a city in southwestern Gwinnett County, Georgia located along the banks of the Chattahoochee River. It is a northeastern suburb of Atlanta and is the largest city in Gwinnett County. Peachtree Corners is the only one of all of Atlanta's northern suburbs that was developed as a planned community.

In 2010, it was announced that the United Peachtree Corners Civic Association (UPCCA) was pursuing the incorporation of Peachtree Corners. The decision to pursue incorporation was spurred in part by a failed attempt by the City of Norcross to annex a portion of Technology Park, which if successful would have prevented the City of Peachtree Corners from ever forming. In a referendum held on November 8, 2011, residents of Peachtree Corners voted to incorporate as Gwinnett County's 16th city, and, with a population of 34,274 at the time, its largest. Municipal operations began on July 1, 2012.

6.12.2 Significant Characteristics

Peachtree Corners is defined as the area bordered by the cities of Dunwoody and Sandy Springs (DeKalb and Fulton counties) on the west, Buford Highway and Norcross city limits on the east, Johns Creek and Roswell (both also in Fulton) at the Chattahoochee River on the north, and the city limits of Berkeley Lake and Duluth on the north.

6.12.3 Communities

The Forum: The Forum is a 580,000-square-foot (54,000 m²), mixed-use development located in central Peachtree Corners at the intersection of Peachtree Corners Circle and State Route 141/Peachtree Parkway. The Forum features some of the country's most popular fashion retailers, home furnishings, and home accessory merchants that are typically found in regional and super-regional malls throughout the United States. The city is currently developing a Town Center project that will be a mix of life, work, and play that will serve as a central gathering opportunity and give the area a sense of place. The development will include a 2-acre Town Green, Veterans Memorial Park, many new restaurants and commercial spaces, residential homes, and a movie theater.

Simpsonwood-Spalding Corners: The historic core of Peachtree Corners is a large residential district that is bordered by Peachtree Parkway, the Chattahoochee River,

Holcomb Bridge, and Simpsonwood Park. There are numerous subdivisions within the area, many of which are located along the banks of the Chattahoochee. The area is home to three recreational areas - the public Jones Bridge Park and Holcomb Bridge Park, and the private Simpsonwood Conference and Retreat Center. All of the neighborhoods are zoned to either Simpson Elementary School, Gwinnett County's top elementary school, or Peachtree Elementary School, as well as Pinckneyville Middle School. This area is sometimes referred to as "Paul Duke's Peachtree Corners," because it was planned and developed by Paul Duke in the 1970s.

Technology Park: Technology Park is a major suburban office park developed in the 1960s and 1970s and an instrumental player in the growth of Peachtree Corners. Featuring 500 acres dedicated to creating a supportive environment for companies involved in the world of technology, with 3,800,000 square feet (350,000 m2) developed to date, 7,000 plus tenants call Technology Park home.

Winters Chapel: Winters Chapel is located along Peachtree Corners' border with DeKalb County. The area shares a name with its main road, which travels through Fulton, Gwinnett, and DeKalb Counties and was an important 19th-century route connecting Decatur and Roswell. The district is named after Winters Chapel (now Winters Chapel Methodist Church), which has resided at its present location since the 1870s. The church itself is named after an instrumental founder, Jeremiah Winters.

6.12.4 Population and Demographics

As of 2020, there are 42, 243 people and 16,695 households with parts of ZIP Codes 30071, 30096, 30097, and 30360 being within the city limits of Peachtree Corners. The racial makeup of the city is 49.7 percent White, 16.2 percent Hispanic or Latino (of any race), 24.4 percent African American, 1.3 percent Native American, 9.3 percent Asian, 0 percent Pacific Islander, and 6.3 percent from two or more races.

There are 16,695 households, of which 23 percent include children under the age of 6, 31.6 percent include children under the age of 18, and 5.4 percent have someone who is 65 or older. The average household size is 2.52.

The median age of a Peachtree Corners resident is 35.6 years old. In the City, the population is spread out, with 23 percent under the age of 18, 10.7 percent from 18 to 24, 29.4 percent from 25 to 44, 24.8 percent from 45 to 64, and 12.1 percent who are 65 or older.

Table 116: City of Peachtree Corners Population

Year	2018	2020	2023
Population	42,268	42, 243	42,065

6.12.5 Economy

The economy of Peachtree Corners is largely driven by the concentration of businesses, particularly engineering firms and information technology companies, located in the city's nearly 8 million square feet of office space varying from low-rise to mid-rise office buildings located in campus settings. The evolution of Peachtree Corners as an Atlanta-area office submarket began in the 1960s with the development of Technology Park, metro Atlanta's first successful office, research, and development center. Technology Park remains a center of activity for the city's economy, complemented by other developments such as the mid-rise buildings in park-like settings, all of which office developments complement, and do not impinge on, the city's residential neighborhoods. Supporting the office businesses are a range of shopping and eating establishments, lodging including a Marriott hotel, service businesses, medical, dental, law, and other professional offices, residential neighborhoods, and schools, all conveniently located.

Table 117: City of Peachtree Corners Main Industries Based on Data from 2016

Industry Description	Number of Establishments	Number of Employees
Wholesale Trade	203	5087
Retail Trade	427	3290
Information	38	3290
Real Estate, Rental, Leasing	137	575
Professional, Scientific, and Technical Services	362	3930
Administrative and Support and Waste Management and Remediation Service	151	3365
Educational Services	30	111
Health Care and Social Assistance	190	1678
Accommodation and Food Services	174	2218
Other Services	219	848

Table 118: City of Peachtree Corners Single-Family New House Construction Building Permits

Year	Permits	Average Cost
2021	90	\$1,806.32
2022	157	\$1,765.83

Table 119: City of Peachtree Corners Estimated Range of Home Values

Amount	# of Homes
\$175,000 to \$199,999	58
\$200,000 to \$249,999	0
\$250,000 to \$299,999	57
\$300,000 to \$399,999	31
\$400,000 to \$499,999	7
\$500,000 to \$749,999	3
\$750,000 to \$999,999	0
\$1,000,000 or more	1

6.12.6 Infrastructure

The city is governed by a mayor and six city council members. City Hall is located at 310 Technology Parkway, Peachtree Corners, GA 30092, telephone: 678-691-1200. Day-to-day operations of the city are under the oversight of the City Manager. The city's Planning Commission, Public Works, Code Enforcement, Business License, Stormwater Department, Zoning Board of Appeals, and Downtown Development Authority are made up of citizen members. The city has its municipal court and employs a city attorney.

Although, in order to operate, the city is authorized to collect property taxes of up to one mill a year, lately the city has operated only on business licenses and other fees and without levying any property taxes.

The United States Postal Service operates the Peachtree Corners Post Office. The ZIP Code 30092 is entirely within the city limits of Peachtree Corners. A significant portion of the city is within ZIP Code 30360, which is currently identified as "Atlanta", and portions of ZIP Codes 30071, 30096, and 30097 are included in the city.

Wesleyan School, Seigakuin Atlanta International School and Cornerstone Academy (K-8th grade) are private schools located in Peachtree Corners.

According to the City of Peachtree Corners website, students attend the following Gwinnett County Public Schools. Most of the schools are located outside of the city limits.

Table 120: School Infrastructure in City of Peachtree Corners

School	Type	Enrollment
Berkeley Lake	Elementary	808
Peachtree	Elementary	677
Simpson	Elementary	926
Stripling	Elementary	798
Coleman	Middle	750
Pinckneyville	Middle	1,136
Summerour	Middle	1,410
Duluth	High	2,661
Norcross	High	2,383
Paul Duke STEM	High	1,384

6.12.7 Land Usage

Land use in the City of Peachtree Corners consists of single-family homes which occupy 43.6 percent of the City's land area, and commercial uses occupy 17.5 percent; Parks occupy nearly 3 percent; and 7.4 percent of the City's land area is undeveloped. The city size is 17.37 square miles (44.98 square kilometers)

6.12.8 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 121: City of Peachtree Corners Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	All codes are the latest edition adopted by the State of GA. IBC, IRC, IMC, IPC, IFC, IFGC, NEC, IECC, and ISPSC		8/18/15	N	Y	N
Comprehensive Plan 2040	Ordinance	2018-09-199	10/23/2018	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	Adopted Gwinnett County			N	N	Y
Community Rating System				N	N	Y
Economic Development Plan			2023	Y	N	N
Emergency Management Accreditation Program Certified	Adopted Gwinnett County			N	N	Y
Emergency Response Plan	Adopted Gwinnett County	O2017-04-90 R2013-01-04	05/16/2017 01/29/2013	N	N	Y
Flood Management Plan	Adopted Gwinnett County	2017-04-90	06/20/2017	N	N	Y
Growth Control Ordinance						
Hazard Setback Regulations	Adopted Gwinnett County			N	N	Y
National Flood Insurance Program Participant				Y		Y
Post-Disaster Recovery Plan	Adopted Gwinnett County			N	N	Y
Real Estate Disclosure	Ordinance	O2013-01-01	01/29/2013	Y	N	N
Site Plan Requirements				Y	N	N
Subdivision Regulations	Ordinance	O2012-07-61	07-24-2012	Y	N	N
Zoning Ordinances						

6.12.9 Administrative and Technical Capabilities

The City of Peachtree Corners has a number of administrative and technical capabilities. City departments include Administrative, Downtown Development Authority, Licenses and Permits, Municipal Court, Parks and Leisure, Planning, Police, Public Library, Public Works, Storm Water Pollution, Tax, Economic Development, and Utilities. The city government includes a mayor and six City Council Members. The City Administrator and City Clerk manage administrative functions.

6.12.10 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 122: City of Peachtree Corners Mitigation Actions

Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
7.1.8	Develop and maintain actions to participate in the NFIP Program	City of Peachtree Corners	City Officials	\$5,000	\$250,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.										
15.3.23	Purchase and install generators at crucial city facilities	City of Peachtree Corners	City Officials	\$250,000		City Budget, HMA Grants	In progress	New	New	

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6.13 CITY OF SNELLVILLE, GEORGIA

MITIGATION ACTION PLAN

6.13.1 Geography and History

The City of Snellville (City) is located at 33°51'30"N, 84°0'23"W (33.858439, -84.006324). According to the U.S. Census Bureau, the city has a total area of 9.7 square miles (25.1 km²), of which 9.7 square miles (25.0 km²) is land and 0.04 square miles (0.1 km² or 0.41 percent) is water.

The City of Snellville began when two friends, James Sawyer and Thomas Snell, settled there from London, England. Commerce in Snellville was born when they built a small wood-framed building and started a business that sold things that local farmers couldn't make or borrow from their neighbors. The store became prosperous, attracting people from neighboring towns. Originally named New London, it is uncertain when the City's name was changed to Snellville; however, Snell and Sawyer identified their store's location as Snellville.

The religious community grew as commerce did, with several churches beginning during that time. All of the original churches are still in existence in Snellville, all with their original structures. Despite the growth of the religious community and commerce, Snellville's growth was slow in its early days due to the fact that it was not located on any navigable body of water and was bypassed by railroads.

Snellville was incorporated in 1923 and its city limits enlarged to a one-mile radius from the center of town. The growth remained slow until the 1960s when suburban development patterns of segregated uses and automobiles became commonplace. Snellville continues to be one of the most successful cities in the Atlanta region.

6.13.2 Significant Characteristics

Thomas W. Briscoe Park is an 87-developed acre park full of activities for all ages, including ball fields, eight soccer fields, basketball courts, a swimming pool, trails, a sand volleyball court, picnic areas, playgrounds, a gazebo, and plenty more.

Snellville is known for having the second-largest shopping area in Gwinnett County.

Emory Eastside Medical Center is a major hospital in Snellville serving the southern Gwinnett County Region.

6.13.3 Population and Demographics

As of the 2022 census, there are 22,024 people and 6,559 households in the city. The population density is 1,964.8 people per square mile. The racial makeup of the city is 41.7 percent White, 10.1 percent Hispanic or Latino (of any race), 22.1 percent African

American, 1.5 percent Native American, 8.1 percent Asian, 0 percent Pacific Islander, and 6.1 percent from two or more races.

There are 6,559 households, of which 14.4 include children under the age of 6, 35.5 percent include children under the age of 18, and 31.3 percent have someone who is 65 or older. The average household size is 3.06.

The median age of a Snellville resident is 39.6 years old. In the City, the population is spread out, with 22.1 percent under the age of 18, 6.3 percent from 18 to 24, 27.4 percent from 25 to 44, 28.4 percent from 45 to 64, and 15.7 percent who are 65 or older. For every 100 females, there are 88.3 males.

6.13.4 Economy

The median income for a household in the city is \$83,691, while the median income for a family is \$87,704. Males have a median income of \$39,929 versus \$37,287 for females. The per capita income for the city is \$31,421. Percentage of residents living in poverty in 2022: 8.0 percent (5.3 percent for White Non-Hispanic residents, 8.5 percent for Black residents, 3.9 percent for Hispanic or Latino residents, 27 percent for Asian residents)

Over 1,150 businesses operate in Snellville, bringing in more than \$1 billion in revenue yearly. The most common industries for males are construction (13 percent); professional, scientific and technical services (8 percent); administrative and support and waste management services (5 percent); broadcasting and telecommunications (5 percent); educational services (4 percent); finance and insurance (4 percent); and public administration (4 percent).

The most common industries for females are health care (16 percent); educational services (14 percent); professional, scientific and technical services (7 percent); finance and insurance (6 percent); social assistance (5 percent); accommodation and food services (4 percent); and administrative and support and waste management services (4 percent).

Snellville-area historical tornado activity is slightly above the Georgia state average. It is 96 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 32.5 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On March 24, 1975, an F3 tornado with maximum wind speeds of 158-206 mph struck 18.8 miles away from the city center, killing three people and injuring 152 people. Damages were estimated between \$50 million and \$500 million.

Table 123: City of Snellville Single-Family New House Construction Building Permits

Year	Permits	Average Cost
2016	19	\$222,278
2017	45	\$189,525
2018	68	\$186,062
2019	98	\$212,469
2020	135	\$160,803
2021	189	\$314,884
2022	92	\$219,712

6.13.5 Infrastructure

The City of Snellville Police Department consists of 60 well trained Police Officers and civilian employees. The Department is organized in the following divisions: Uniform, Criminal Investigations, Communications, Records and Administrative.

Fire services are provided in Snellville by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Snellville:

Table 124: School Infrastructure in City of Snellville

School	Type	Enrollment
Britt	Elementary	598
Snellville	Middle	876
South Gwinnett	High	2,570

6.13.6 Land Usage

The city has a total area of 10.6 square miles (27.4 km²), of which 10.5 square miles (27.1 km²) is land and 0.1 square miles (0.3 km²), or 1.22 percent is water.

6.13.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified

planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 125: City of Snellville Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	City Code Appendix A – UDO	Chapter 300	10-26-2020	Y	N	N
Capital Improvements Plan	Referenced in the City Code	Part I - Article III Article VI		Y	N	N
Comprehensive Plan	2040 Comprehensive Plan		2/11/19	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan and Referenced in the 2040 Comprehensive Plan		2-11-2019	N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	City Code Appendix A – UDO	Sec 403-4 Art 3 Chapter 400	10-26-2020	Y	N	N
Growth Control Ordinance	City Code Appendix A – UDO	Chapter 200	10-26-2020	Y	N	N
Historic Ordinance				N	N	N
National Flood Insurance Program Participant				N	N	Y
Post-Disaster Recovery Plan	County Plan			N	N	N

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	City Code – Appendix A – UDO	Article 3 Chapter 100		Y	N	N
Subdivision Regulations	City Code – Appendix A – UDO	Article 3 Chapter 100		Y	N	N
Zoning Ordinances	City Code – Appendix A – UDO	Articles 1 and 3 Chapter 100; All Articles Chapter 200; Article I Chapter 300; and Definitions in Article 2 Chapter 100		Y	N	N

6.13.8 Administrative and Technical Capabilities

The City of Snellville has a number of administrative and technical capabilities. City departments include Administration, Parks and Recreation, Planning and Development, Public Safety, and Public Works. The city government includes a mayor and five Council Members. The administrative functions of the city are managed by the City Manager. Other key administrative personnel include the Assistant City Manager, City Clerk, Controller, and Information Technology Administrator.

6.13.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide

mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 126: City of Snellville Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.4	Identify and bury utility lines in densely populated and commercial areas in the City of Snellville	City of Snellville	City Officials, Public Works	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. (* These actions also can apply to Hurricane and Tropical Storms)										
Objective 2.2: Improve Gwinnett County's capability to prepare for, respond to and recover from severe weather events, including thunderstorms and windstorms.										
2.2.4	Purchase and install generators at critical facilities	City of Snellville	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.27	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	City of Snellville	City Officials			City Budget, HMGP	In progress	New	Design, implement and upgrade storm water management infrastructure in residential and commercial areas	
Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.										
15.3.24	Develop a Continuity of Operations Plan for the City of Snellville	City of Snellville	City Officials	Staff time		City Budget, HMA Grants	2025-2030	Ongoing	Existing	

6.14 CITY OF SUGAR HILL, GEORGIA

MITIGATION ACTION PLAN

6.14.1 Geography and History

The City of Sugar Hill (City) is located at 34°6'8"N, 84°2'39"W (34.102123, -84.044094). According to the U.S. Census Bureau, the city has a total area of 9.57 square miles (24.78 km²), all of which is land.

The City of Sugar Hill is rumored to have received its name from an incident in which a heavily loaded freight wagon lost its wheel on a high hill and spilled a part of its load. Included in the load that fell were several large bags of sugar. The wheel was repaired, and the wagon was reloaded; however, the only thing that wasn't reloaded onto the wagon were the bags of sugar, which had broken open and spilled onto the hill. The area became known as "the hill where the sugar spilled," which was eventually shortened to Sugar Hill. It existed as part of the Georgia Militia District for many years, until it was charted as a city on March 24, 1939.

6.14.2 Significant Characteristics

The E Center is the city's mixed-use development that boasts a 406-seat performing arts theatre, The Eagle, a gymnasium, and 43,000 square feet of restaurant, retail, office, and meeting space all overlooking the outdoor amphitheater, The Bowl.

The Bowl, located directly behind city hall and the E Center, is the City's outdoor amphitheater where many concerts and events are held.

Sugar Hill Golf Club opened in 1992 and has become one of the most beautiful and artfully laid out golf courses in North Georgia

E.E. Robinson Park is a 54-acre park that has two of each of the following: softball fields, pavilions, tennis courts, basketball courts, beach volleyball courts, and concession stands. The park also features a soccer field, jogging trail, playgrounds, and much more.

Gary Pirkle Park is a 35-acre park for passive recreation like walking or jogging, and a 14-acre sports complex for basketball, racquetball, exercise rooms, and more.

Sugar Loop Greenway will travel around the city with approximately 16.5 miles of paved pathways intended for shared use by pedestrians, bicyclists, wheelchair users, and joggers. The greenway will bring economic, health, environmental, community, and transportation benefits to the city. The greenway will also provide connectivity to the citizens and guests.

6.14.3 Population and Demographics

As of 2022, there are an estimated 25,407 people and 8,271 households in the city. The estimated population density is 2,253.8 people per square mile. The racial makeup of the city is 62.7 percent White, 19.9 percent Hispanic or Latino (of any race), 12.4 percent African American, 0.7 percent Native American, 11.4 percent Asian, and 6.9 percent from two or more races. The average household is 2.97

The median age is 37.1. 27.4 percent of the population is under 18 years of age, 46.2 percent is aged 25 to 54, and 8.6 percent is over age 65. For every 100 females there are 93 males.

Sources: US Census Bureau, 2017-2021 American Community Survey and 2022 official population estimate

6.14.4 Economy

The median household income is \$89,583. The median income for male full-time year-round workers is \$51,230 and \$31,106 for females. The per capita income is \$35,990.

The most common industries for the civilian employed population 16 years and over are education, healthcare, and social assistance (18.6 percent); retail trade (14.8 percent); professional, scientific and management and administrative and waste management services (13.3 percent); manufacturing (10.7 percent); and construction (9.6 percent).

Sugar Hill-area historical tornado activity is above the Georgia state average. It is 103 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 22.6 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 24.7 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 127: City of Sugar Hill Single-Family New House Construction Building Permits

Year	Permits	Average Cost
2015	140	\$220,200
2016	164	\$224,971
2017	238	\$226,141
2018	153	\$216,203

6.14.5 Infrastructure

The North Precinct of the Gwinnett County Police Department, which covers an area of 87 square miles in north Gwinnett County, serves Sugar Hill.

Fire services are provided to Sugar Hill by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Sugar Hill

Table 128: School Infrastructure in City of Sugar Hill

School	Type	Enrollment
Roberts	Elementary	1,003
Sugar Hill	Elementary	1,145
White Oak	Elementary	709
Lanier	Middle	1,295
North Gwinnett	Middle	2,242
Lanier	High	1,886

6.14.6 Land Usage

The city has a total area of 9.57 square miles (24.78 km²), all of which is land.

6.14.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 129: City of Sugar Hill Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	City Code and 2002 Development Regulations	Chapter 14		Y	N	N
Capital Improvements Plan	Referenced in the City Code	Article VI		Y	N	N
Comprehensive Plan	2019 Comprehensive Plan		2019	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan and the 2019 Comprehensive Plan			N	N	Y
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	City Code and the Flood Plain Management Ordinance	Chapter 34	2006	Y	N	N
Growth Control Ordinance	2002 Development Regulations and the 2019 Comprehensive Plan			Y	N	N
Hazard Setback Regulations						
Historic Ordinance	City Code and the 2009 Comprehensive Plan	Article II		Y	N	N
National Flood Insurance Program (NFIP) Participant	Participate in NFIP			N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y

Site Plan Requirements	City Code & Development Regulations	Article II		Y	N	N
Subdivision Regulations	City Code & the 2002 Development Regulations	Article II Chapter 56, Article III		Y	N	N
Zoning Ordinances	City Code and Zoning Ordinance	Article III	1987 2000	Y	N	N

6.14.8 Administrative and Technical Capabilities

The City of Sugar Hill has a number of administrative and technical capabilities. City departments include the City Clerk, City Manager, Assistant City Manager, HR and Executive Services Manager, Economic Development, Events, Finance, Gas Customer Service and Utility, Parks and Recreation, Planning and Development, Public Works, Storm Water Utility, Public Safety and Golf Clubhouse Maintenance. The city holds Municipal Court on a monthly schedule for Code Enforcement matters. The city government includes a mayor and five Council Members, one of which serves as Mayor Pro Tem. The administrative functions of the city are managed by the City Manager.

6.14.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 130: City of Sugar Hill Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.19	Purchase winter weather salting/sanding/ scraping equipment	City of Sugar Hill	City Officials	\$100,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.20	Purchase and install generators or transfer switches at identified critical facilities in the City of Sugar Hill	City of Sugar Hill	City Officials	\$50,000	\$50,000	City Budget, HMGP Grants	2025-2030	Ongoing	Existing	
Goal 2: Minimize losses of life and property due to high winds from severe thunderstorms and windstorms in Gwinnett County, including all municipalities. *These actions also can apply to Hurricane(s) and Tropical Storms										
Objective 2.1: Increase citizen severe thunderstorm/windstorm awareness, preparedness and response										
2.1.4	Maintain and upgrade all outdoor warning systems	City of Sugar Hill	City Officials	\$30,000	\$200,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.1 Improve Gwinnett County's flooding information distribution and warning to citizens.										
7.1.9	Maintain NFIP status for flood mitigation	City of Sugar Hill	City Officials	\$5,000	\$100,000	City Budget	2025-2030	Ongoing	Existing	
Goal 10: Reduce Gwinnett County's risk and vulnerability to dam failure events										
Objective 10.1: Improve Gwinnett County's capabilities to prepare for and respond to a dam failure										
10.1.11	Review/Develop recommendation for Emergency Response Plan for Dam/Dike failure at Lake Lanier	City of Sugar Hill	City Officials	\$100,000	\$500,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.										
Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.										
15.3.25	Develop a site emergency plan for the E Center	City of Sugar Hill	City Officials	\$80,000	\$250,000	City Budget, HMA Grants	2025-2030	New	Existing	

6.15 CITY OF SUWANEE, GEORGIA

MITIGATION ACTION PLAN

6.15.1 Geography and History

The City of Suwanee (City) is located at 34°3'5"N, 84°4'22"W (34.051447, -84.072893). According to the U.S. Census Bureau, the city has a total area of 10.9 square miles (25.6 km²), of which 10 square miles (25.8 km²) is land and 0.1 square miles (0.2 km² or 0.71 percent) is water.

The City of Suwanee has various accounts as to how the city received its name. One account cites the Indian word meaning “echo” as the origin of the City’s name, while another points to the Creek word for “Shawnee.” The final account posits that the City’s name was derived from how early white settlers pronounced “Shawnee.” Regardless of which account is correct, the name appears to be closely tied to the city’s Native American heritage. Suwanee began as an Indian village to the Shawnee, Crete, and Cherokee Indians. White settlers moved in, and Suwanee was recognized as a town when the first Post Office was established in 1838.

Suwanee’s growth is attributed to the evolution of transportation. The Southern Railroad and Depot created a station in Suwanee, as did the Richmond & Danville Railroad. Suwanee became a connecting station as people transferred between the two lines.

The City’s economic foundation was cotton, which was grown by the majority of farmers until 1830. The first cotton gin house was built between 1872 and 1875. Suwanee wasn’t incorporated until 1949 and remained a small agriculturally based community into the 1970s when the growth of the highway system spurred more development.

6.15.2 Significant Characteristics

Town Center Park is a 10-acre open space where visitors can walk, jog, or bike with friends or pets. Amenities include pathways and sidewalks, garden areas, park benches, a big splash interactive water fountain, and an amphitheater with seating for 1,000. Most community gatherings are held at Town Center Park. A 25-acre extension of Town Center Park has been added to the master plan and construction began in 2019.

Suwanee Creek Greenway is a multipurpose trail that heads through almost 400 acres of parkland, and residential and commercial areas.

Suwanee Creek Park is an 85-acre park for passive recreation and is ideal for family picnics or reunions. This park features a disk golf course, hard and soft surface trails, pavilions, picnic tables, grills, and restrooms.

Play Town Suwanee is a huge children’s playground featuring slides, swing sets, bridges, rock climbing, a log cabin, boats, a pavilion, and more.

Sims Lake Park is Suwanee's newest park. At 62 acres, the park features a seven-acre lake, trails, a playground, restrooms, pavilions, and play meadows.

City Hall Park offers a gazebo and play equipment. George Pierce Park is a 300-acre park that offers many recreational facilities, a stocked fishing pond, nature trails, and more.

6.15.3 Population and Demographics

As of 2020 census data reflects, there were 20,786 people and 7,586 households in the city. The population density was 1,852 people per square mile. The racial makeup of the city was 56.4 percent White, 16 percent African American, 5.3 percent Hispanic or Latino (of any race), 0.1 percent Native American, 21 percent Asian, less than 0.1 percent Pacific Islander, and 3.4 percent from two or more races.

There were 20,786 people in Suwanee in 2020, of which 4.7 percent were children under the age of 5, 23.6 percent were children under the age of 18, 12.5 percent were 18 to 24, 25.2 percent were between 25 and 44, 18.6 percent were 45 to 54, 12.4 percent were between 55 and 64 and 7.7 percent were 65 or older. The average household size was 2.7225. The median age of a Suwanee resident is 38.2 years old.

6.15.4 Economy

The median income for a household in the city was \$99,022, while the median income for a family was \$142,142. Males had a median income of \$60,288 versus \$34,410 for females. The per capita income for the city was \$47,854. About 9.5 percent of the population for whom poverty status is determined live below the poverty line, a number that is lower than the national average of 12.8 percent. The largest demographic living in poverty is males 35 - 44.

The most common industries for males are professional, scientific, and technical services (9 percent); broadcasting and telecommunications (8 percent); construction (7 percent); accommodation and food services (5 percent); finance and insurance (5 percent); computer and electronic products (4 percent); and motor vehicle and parts dealers (4 percent).

The largest industries in Suwanee, GA are Professional, Scientific, & Technical Services (1,429 people), Retail Trade (1,191 people), and Health Care & Social Assistance (1,131 people), and the highest paying industries are Construction (\$97,734), Transportation & Warehousing, & Utilities (\$80,417), and Transportation & Warehousing (\$80,417).

Suwanee-area historical tornado activity is above the Georgia state average. It is 104 percent greater than the overall U.S. average.

On November 22, 1992, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 22.0 miles away from the city center, injuring 46 people and causing between \$5 million and \$50 million in damages.

On April 3, 1974, an F4 tornado struck 26.5 miles away from the city center, killing six people and injuring 30 others. Damages were estimated between \$500,000 and \$5 million.

Table 131: City of Suwanee Single-Family Home Values

Home Value	# Of Homes
< \$100K	97
\$100k - \$200k	963
\$200k - \$300K	2375
\$300k - \$400K	1,075
\$400k - \$500k	411
\$500k - \$750k	266
\$750k - \$999,999	21
\$2,000,000 and up	20

6.15.5 Infrastructure

The Suwanee Police Department consists of 53 employees who serve the City of Suwanee.

Fire services are provided to Suwanee by the Gwinnett County Department of Fire and Emergency Services.

Gwinnett County Public Schools have the following schools in Suwanee:

Table 132: School Infrastructure in City of Suwanee

School	Type	Enrollment
Level Creek	Elementary	1,077
Suwanee	Elementary	651
North Gwinnett	High	3,064

6.15.6 Land Usage

The city has a total area of 11.2 square miles (29.0 km²), of which 11.1 square miles (28.74 km²) is land and 0.1 square miles (0.2 km² or 0.89 percent) is water.

6.15.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 133: City of Suwanee Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Code of Ordinance, ICC (International Code Council), IBC (International Building Code), and International Energy Code	Chapter 18		Y	N	Y
Capital Improvements Plan	2040 Comprehensive Plan, Capital Improvement Program, and Short-Term Work Program		Capital Improvement Program adopts annually	Y	N	N
Comprehensive Plan	2040 Comprehensive Plan		Adopted 2019 Amended 2021	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			Y	N	N
Economic Development Plan	County Plan and 2040 Comprehensive Plan			Y	N	N
Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Code of Ordinances, and Flood Plain Management Ordinance			Y	N	N

Growth Control Ordinance	Referenced in the Code of Ordinances and the 2040 Comprehensive Town Master Plan	Chapter 46	Zoning Ordinance adopted in 1998 and amended in 2023	Y	N	N
Hazard Setback Regulations				N	N	N
Historic Ordinance	Referenced in the Code of Ordinances and the 2030 Comprehensive Town Master Plan	Chapter 38		Y	N	N
National Flood Insurance Program Participant				N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	Y	Y
Site Plan Requirements	Development Regulation, and Zoning Ordinance		Zoning Ordinance adopted in 1998 and amended in 2023	Y	N	N
Subdivision Regulations	Development Regulation, and Zoning Ordinance		Zoning Ordinance adopted in 1998 and amended in 2023	Y	N	N
Zoning Ordinances	Zoning Ordinance		Zoning Ordinance adopted in 1998 and amended in 2023	Y	N	N

6.15.8 Administrative and Technical Capabilities

The City of Suwanee has a number of administrative and technical capabilities. City departments include Economic and Community Development, Financial Services, Planning and Inspections, Police, and Public Works. The City Government includes a mayor and five Council Members. The administrative functions of the city are managed by the City Manager. Other key administrative personnel include the Assistant to the City Manager, City Clerk, Assistant City Manager and Economic Development Director, Events and Outreach Manager, Events Coordinator, Economic Development Manager, Special Projects Coordinator, IT Systems Engineer, Public Information Officer, Creative Design and Marketing Manager, Planning and Inspections Director, Planning Division Director, Development Coordinator, Building Official, Code Enforcement Officer, Development Inspector, Inspections Assistant, Senior Planner, Planner I, Public Works Director, Assistant to the Director of Public Works, Public Works Superintendent, City Engineer, Environmental Services Manager, Field Services Manager, Special Projects Supervisor, Facilities Technician, Crew Leader, Crew Members, Public Works Administrative Assistant, Financial Services Director, Financial Planning and Reporting Manager, Senior Accounting Analyst, Special Projects Analyst, Budget Analyst, Human Resources Division Director, Human Resources Generalist, Business Services Division Director, Business Services Manager, Business Services Specialists I and II, Business Services Administrative Assistant, Clerk of Municipal Court, Deputy Clerk of Courts I and II.

6.15.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 134: City of Suwanee Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Action	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional Action Information
1.3.16	Purchase and install generators or transfer switches at identified critical facilities	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
1.3.17	Purchase winter weather salting and sanding equipment	City of Suwanee	City Officials	\$50,000	\$100,000	City Budget, HMA Grants	2025-203	Complete	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.15	Increase culvert sizes at identified locations throughout the City of Suwanee	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	2025-2030	Ongoing	Existing	
7.2.16	Design, implement, and upgrade stormwater management infrastructure in residential and commercial areas	City of Suwanee	City Officials	\$250,000		City Budget, HMA Grants	In progress	Ongoing	Existing	

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6.16 TOWN OF BRASELTON, GEORGIA

MITIGATION ACTION PLAN

6.16.1 Geography and History

The Town of Braselton (Town) is located at 34°5'56"N, 83°47'52"W (34.098764, -83.797814). According to the U.S. Census Bureau, the Town has a total area of 12.6 square miles (32.6 km²), all of which is land.

The Town of Braselton is located in not only Gwinnett County, but spans into three additional counties—including Hall, Jackson, and Barrow—giving Braselton a rich heritage. The portions of Braselton that fall under Gwinnett and Barrow Counties are part of the Atlanta-Sandy Springs-Marietta, GA-AL Metropolitan Statistical Area. The portion that is in Hall County is part of the Gainesville, GA Metropolitan Statistical Area. The remaining portion that falls under Jackson County is not part of any Core-Based Statistical Area.

The name Braselton comes from the Braselton family, who have lived in the area for some time. In 1989, the town was bought by the Ameritech Pension fund and actress Kim Basinger for \$20 million. The goal of the Basinger-Braselton partnership was to establish it as a tourist attraction with movie studios and a film festival. Later Basinger sold her portion of Braselton to the Ameritech Fund. Now, much of Braselton's property is under the ownership of developer Wayne Mason.

6.16.2 Significant Characteristics

As the largest winery in Georgia, the Chateau Elan Winery and Resort attracts more than half a million visitors each year. The wines there have won many regional awards.

Historical Braselton-Stover House is located in downtown Braselton. It was built in 1916 by Green Braselton. Green was also the second son of the Town's founder, William Harrison Braselton. In December 2000, the house was purchased by Mary and Marvin Stover, who have restored its beauty. This house now has a 6000-square-foot banquet facility that can be used for weddings or business functions.

Downtown Braselton is listed on the National Register of Historic Places. In addition to the Braselton Brothers Store and other contributing buildings, the Braselton Event Center is located in downtown Braselton. It was built in 1916 by Green Braselton. Green was also the second son of the Town's founder, William Harrison Braselton. In December 2000, the house was purchased by Mary and Marvin Stover, who have restored its beauty. This house now has a 6000-square-foot banquet facility that can be used for weddings or business functions.

The Mulberry River Walk is an outdoor area that has trails, picnic areas, and a view of the falls. Approximately 1100 feet of the trail is within Gwinnett County.

Braselton is also the headquarters of the American Junior Golf Association, the Panoz Motor Sports Group, and the International Motor Sports Association.

6.16.3 Population and Demographics

As of 2022, the U.S. Census estimated that there are 14,855 people and 4,598 households in the Town. The population density is roughly 900 people per square mile. The racial makeup of the town is 77.5 percent White, 8.6 percent African American, 3.7 percent Asian, 0 percent Pacific Islander, 8.2 percent Hispanic or Latino (of any race), and 1.6 percent from two or more races.

There are 1,022.6 households, of which 15.8 percent include children under the age of 6, 42.4 percent include children under the age of 18, and 8.4 percent have someone who is 65 or older. The average household size is 2.79.

The median age of a Braselton resident is 36.4 years old. In the Town, the population is spread out, with 28.3 percent under the age of 18, 53.9 percent from 20 to 64, and 15.4 percent who are 65 or older.

The Town's growth has been rapid within the last decade, with the population increasing by 98 percent between 2010 and 2022.

6.16.4 Economy

The median income for a household in the Town is \$110,253. Males have a median income of \$74,922 versus \$39,023 for females. The per capita income for the Town is \$52,732. About 3.6 percent of the population is below the poverty line, including 3.9 percent of individuals under the age of 18 and 2.1 percent aged 65 or over.

Major employers in the Town include distribution warehouses for Sears Appliance Division, Year One, Tractor Supply, Haverty's Furniture, and Home Depot. From 2016 to 2017, employment in Braselton, GA grew at a rate of 15.6 percent, from 3.82k employees to 4.42k employees.

The most common job groups, by number of people living in Braselton, GA, are Management Occupations (846 people), Office & Administrative Support Occupations (817 people), and Sales & Related Occupations (632 people).

Compared to other places, Braselton, GA has an unusually high number of residents working as Law Enforcement Workers Including Supervisors (1.97 times higher than expected), Management Occupations (1.88 times), and Fire Fighting & Prevention, and Other Protective Service Workers Including Supervisors (1.8 times).

Braselton-area historical tornado activity is slightly above the Georgia state average. It is 92 percent greater than the overall U.S. average.

On April 3, 1974, an F4 tornado with maximum wind speeds of 207-260 miles per hour (mph) struck 35.0 miles away from the Town center, injuring 30 people and causing between \$500,000 and \$5 million in damages.

On December 13, 1973, an F3 tornado with maximum wind speeds of 158-206 mph struck 14.5 miles away from the Town center, injuring 21 people and causing between \$500,000 and \$5 million in damages.

Table 135: Town of Braselton Single-Family Home Values

Range of Home Values	# Of Homes
< - \$100,000	168
\$100,000 - \$200,000	753
\$200,000 - \$300,000	421
\$300,000 - \$400,000	419
\$400,000 - \$500,000	172
\$500,000 - \$750,000	427
\$750,000 - \$1,000,000	126
\$1,000,000 - \$1,500,000	35
\$1,500,000 - \$2,000,000	19

6.16.5 Infrastructure

The Braselton Police Department is located next to Town Hall and has about 19 police officers. An officer is on duty 24 hours each day.

Fire services are provided to the portion of Braselton in Gwinnett County by the Gwinnett County Department of Fire and Emergency Services.

There are currently no schools within Braselton's city limits that fall within Gwinnett County; however, residents may attend schools in the Mill Creek cluster of Gwinnett County Public Schools depending on their location.

Table 136: School Infrastructure in Town of Braselton

School	Type	Enrollment
Duncan Creek	Elementary	1,568
Osborne	Middle	1,722
Mill Creek	High	2,740

6.16.6 Land Usage

The Town has a total area of 12.6 square miles (32.6 km²), all of which is land.

6.16.7 Legal and Regulatory Capabilities

The Legal and Regulatory Capability survey documents authorities available to the jurisdiction and/or enabling legislation at the state level affecting planning and land management tools that support local hazard mitigation planning efforts. The identified planning and land management tools are typically used by states and local and tribal jurisdictions to implement hazard mitigation activities.

Table 137: Town of Braselton Legal and Regulatory Capability

Regulatory Tools/Plans	Regulatory Type: Ordinance Resolution Codes Plans, etc.	Reference Number	Date Adopted	Local Authority	State Prohibited	Higher Authority
Building Codes	Development Code	Article 18	01/12/2004	Y	N	N
Capital Improvements Plan	Braselton CIE	None	11/12/18	Y	N	N
Comprehensive Plan	2030 Comprehensive Plan	None	2020	Y	N	N
Continuity of Operations/Continuity of Government (COOP/COG) Plan	County COOP/COG Plan			N	N	Y
Community Rating System	County Rating			N	N	Y
Economic Development Plan	County Plan			N	N	Y

Emergency Management Accreditation Program Certified				N	N	Y
Emergency Response Plan	County Emergency Operations Plan (EOP)			N	N	Y
Flood Management Plan	Braselton Code of Ordinances	34-1	04/2011	Y	N	N
Growth Control Ordinance	Development Code	None	01/12/04	Y	N	N
Hazard Setback Regulations						
Historic Ordinance				N	N	N
National Flood Insurance Program (NFIP) Participant	Participating in NFIP			N	N	Y
Post-Disaster Recovery Plan	County EOP			N	N	Y
Real Estate Disclosure	Real Estate Commission			N	N	Y
Site Plan Requirements	Development Code	None	01/12/04	Y	N	N
Subdivision Regulations	Development Code	None	01/12/04	Y	N	N
Zoning Ordinances	Development Code	None	01/12/04	Y	N	N

6.16.8 Administrative and Technical Capabilities

The Town of Braselton has a number of administrative and technical capabilities. Town departments include Police, Planning, Finance, Public Works, Wastewater, and the Zoning Board of Appeals. The Town government includes a mayor and four Council Members. The administrative functions of the town are managed by the Town Manager/Clerk. Other key personnel include the Police Chief, Planning Director, Finance Director, Director of Public Works, Water Superintendent, Wastewater Superintendent, and the Planning Commission.

6.16.9 Mitigation Actions

Each jurisdiction participating in this Plan is responsible for implementing specific mitigation actions as prescribed in the adopted mitigation action plan. In each mitigation action plan, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update

their unique mitigation strategy as needed without altering the broader focus of the countywide Plan. The separate adoption of locally specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process. A complete list of countywide mitigation strategies and additional action information is provided in Section 5 of the Gwinnett County Hazard Mitigation Plan.

Table 138: Town of Braselton Mitigation Actions

Goal 1: Reduce Gwinnett County's risk and vulnerability to severe winter storms										
Objective 1.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from severe winter storms										
Section	Action/Project Description	Jurisdiction	Responsible	Estimated Cost	Est. Benefit	Funding Sources	Timeframe	Status	New/ Existing Infrastructure	Additional action information
1.3.18	Purchase winter weather salting and sanding equipment	Town of Braselton	City Officials	\$50,000	\$100,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 7: Reduce Gwinnett County's risk and vulnerability to flood events.										
Objective 7.2: Improve Gwinnett County's capability to prepare for, respond to, and recover from flood events.										
7.2.17	Update the City of Braselton's stormwater management plans and identify problem areas	Town of Braselton	City Officials	\$100,000	\$800,000	City Budget, HMA Grants	2025-2030	Ongoing	New/ Existing	
7.2.18	Increase culvert sizes at identified locations throughout the Town of Braselton	Town of Braselton	City Officials	\$3.5 million	\$8 million	City Budget, HMA Grants	2025-2030	Ongoing	Existing	
Goal 11: Reduce Gwinnett County's risk and vulnerability to cyber security attacks.										
Objective 11.1: Reduce Gwinnett County's risk and vulnerability to cyber security attacks.										
11.1.3	Purchase and maintain offsite and offline data backups for the Town of Braselton	Town of Braselton	City Officials	\$20,000	\$50,000	City Budget, HMA Grants	2025-2030	Ongoing	Existing	

Goal 15: Improve Gwinnett County's capability to reduce risk and vulnerability to all-hazards events.

Objective 15.3: Improve Gwinnett County's capability to prepare for, respond to, and recover from all-hazard events.

15.3.26	Conduct a study of riverbank erosion and identify mitigation actions to restore the riverbank	Town of Braselton	City Officials	\$500,000	\$1 million	City Budget, HMA Grants	2025-2030	New	Existing	
15.3.27	Purchase mobile electric signage for public notification	Town of Braselton	City Officials	\$20,000	\$50,000	City Budget, HMA Grants	2025-2030	New	Existing	

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Appendix A: Hazard Data

Appendix B: Supporting Documentation

Appendix C: Adoption Resolutions

Appendix D: FEMA Local Plan Review Tool

Appendix E: Dam Inundation Mapping

Appendix F: Repetitive Loss Property Maps

Appendix G: River Gauges in Gwinnett County