

**DAWSON COUNTY BOARD OF COMMISSIONERS  
WORK SESSION AGENDA – THURSDAY, FEBRUARY 15, 2024  
DAWSON COUNTY GOVERNMENT CENTER ASSEMBLY ROOM  
25 JUSTICE WAY, DAWSONVILLE, GEORGIA 30534  
4:00 PM**

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**NEW BUSINESS**

1. Presentation of FY 2025 Drug Treatment Court Grant Application- Treatment Services  
Director Heather Herrington
2. Presentation of Hazard Mitigation Plan Update- Jeff Stevens, iParametrics
3. Presentation of Request to Apply for a 2024 Fireworks Tax Grant- Emergency Services  
Director Troy Leist
4. Presentation of Impact Fee Program Update - Methodology Report Briefing- Bill Ross and  
Paige Hatley, ROSS+associates
5. County Manager Report
6. County Attorney Report

***\*A Voting Session meeting will immediately follow the Work Session meeting.***

*Those with disabilities who require certain accommodations in order to allow them to observe and/or participate in this meeting, or who have questions regarding the accessibility of the meeting, should contact the ADA Coordinator at 706-344-3666, extension 44514. The county will make reasonable accommodations for those persons.*



## DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: Drug Treatment Court

Work Session: 02/15/24

Prepared By: Heather Herrington

Voting Session: 02/15/24

Presenter: Heather Herrington

Public Hearing: Yes \_\_\_\_\_ No X

Agenda Item Title: FY25 Drug Treatment Court Grant Application

Background Information:

The Georgia Accountability Court Funding Committee was created by the Georgia Legislature to provide courts with critical funding necessary to support the growth of accountability courts in Georgia to reduce the prison population. Dawson County has received this state money for over a decade.

This agenda item is for approval to apply for the FY 2025 Drug Treatment Court grant. In fiscal year 2024, we received \$248,686 for Drug Treatment Court in grant funds from the Criminal Justice Coordinating Council. The match requirement of \$33,912 was fulfilled by current staff salaries budgeted in the General Fund. If awarded, we will use the funds to continue the two full-time counselor positions, to attend the state conference, to employ surveillance officers for home visits and drug screen collection, to purchase drug testing services and supplies, and to contract services with a treatment provider to assist with group and individual therapy sessions. For fiscal year 2025, we anticipate a similar amount of award.

Due to grant application deadlines; please review and vote 02-15-24.

Budget Information: Applicable: \_\_\_\_\_ Not Applicable: \_\_\_\_\_ Budgeted: \_\_\_\_\_ No \_\_\_\_\_

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining
250	2900					

Recommendation/Motion: \_\_\_\_\_

Department Head Authorization: \_\_\_\_\_

Date: \_\_\_\_\_

Finance Dept. Authorization: Vickie Neikirk

Date: 2/5/24

County Manager Authorization: J. Leverette

Date: 2-5-24

County Attorney Authorization: \_\_\_\_\_

Date: \_\_\_\_\_

Comments/Attachments:



# DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Emergency Services

Department: \_\_\_\_\_

Work Session: February 15, 2024

Prepared By: Troy Leist

Voting Session: March 7, 2024

Presenter: Jeff Stevens, iParametrics

Public Hearing: Yes \_\_\_\_\_ No X

Agenda Item Title: Hazard Mitigation Plan Approval and Adoption

### Background Information:

Every five years the county must update its Hazard Mitigation Plan.

### Current Information:

Our current Hazard Mitigation Plan is set to expire on March 10, 2024. iParametrics has been contracted since March 10, 2023, to complete the HMP update with the assistance from all stakeholders. We now have the completed plan and request approval and a formal adoption.

Budget Information: Applicable: \_\_\_\_\_ Not Applicable: \_\_\_\_\_ Budgeted: Yes \_\_\_\_\_ No \_\_\_\_\_

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining

Recommendation/Motion: \_\_\_\_\_

Department Head Authorization: Leist

Date: 2-15-2024

Finance Dept. Authorization: Vickie Neikirk

Date: 2/5/24

County Manager Authorization: Joey Leverette

Date: 2-5-24

County Attorney Authorization: \_\_\_\_\_

Date: \_\_\_\_\_

### Comments/Attachments:

\_\_\_\_\_

# Dawson County Hazard Mitigation Plan Update 2024 Executive Summary

## Overview

The Dawson County Hazard Mitigation Plan Update aims to affirm the County’s commitment to resilience by identifying, assessing, and reducing risk to life and property from hazard events. The plan outlines how the County will approach mitigation efforts within the boundaries of Dawson County in accordance with Federal Emergency Management Agency (FEMA) guidelines. It identifies hazard mitigation goals, objectives, and recommended mitigation actions for the County that will reduce injury and damage from natural and human-caused hazard incidents. The Federal Disaster Mitigation Act of 2000 requires all municipalities that wish to be eligible to receive FEMA hazard mitigation grants to adopt a local multi-hazard mitigation plan and update the plan every five years. Dawson County’s Hazard Mitigation Plan was approved by FEMA in 2012, and the 2018 Plan Update provided the first five-year update. The City of Dawsonville approved the plan to make it a multi-jurisdictional plan. The City of Dawsonville has been critical in this 2024 update and has sought approval from its City Commission. This approved Hazard Mitigation Plan makes Dawson County and its municipality eligible for FEMA’s Hazard Mitigation Grant Program, Flood Assistance Mitigation Grants, and Pre-Disaster Mitigation Grants.

The scope of the Dawson County Hazard Mitigation Plan Update encompasses all areas of Dawson County, including the City of Dawsonville. The Plan identifies all natural and technological hazards that could threaten life and property in Dawson County. The scope of this Plan includes both short and long-term mitigation strategies with implementation and possible sources of project funding. The Hazard Mitigation Plan Update is organized to incorporate the requirements of Rule 44 CFR 201.6 as well as FEMA Guidance.

## Planning Overview

The plan is divided into the following parts to address FEMA requirements for a local Hazard Mitigation Plan:

- **Chapter 1:** Introduction
- **Chapter 2:** Dawson County Profile
- **Chapter 3:** Hazard Profiles
- **Chapter 4:** Hazard Mitigation Strategies
- **Chapter 5:** Plan Implementation and Maintenance

The update of the plan was overseen by the Dawson County Hazard Mitigation Plan Update Committee with the assistance of a contractor, iParameters. The Committee members were the following:

Agency	Representative
Emergency Management Director	Chief Troy List
Etowah Water and Sewer Authority	Brooke Anderson, PE
Georgia Forestry Commission	Wesley Sisk

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Dawson County Sheriff's Office	Greg Rowan
Dawson County Schools	Tony Wooten
Dawson County Commissioner	Emory Dooley
Big Canoe POA	Ricky Jordan
Dawson County Parks and Recreation	Matt Payne
Big Canoe	Lydell Mack
Development Authority of Dawson County	Kevin Herrit
Dawson County Chamber of Commerce	Mandy Power
Dawson County Emergency Services	Johnny Irvin
City of Dawsonville	Bob Bolz
City of Dawsonville Public Works	Trampas Hansard
Dawson County Public Works	Robert Drewry

Monthly committee meetings were held to review all aspects of the Dawson County Hazard Mitigation Plan Update. This process ensures resiliency throughout the County to be prepared for, respond to, and recover from the most common and likely hazardous events to impact the county. It is important that state and local government, public-private partnerships, and community citizens can see the results of these mitigation efforts; therefore, the goals and strategies need to be achievable.

The Dawson County Hazard Mitigation Plan Update Committee identified the following goals during plan development:

- GOAL 1:** Protect the public health and safety
- GOAL 2:** Harden community assets against the impact of disasters through the development of new mitigation strategies and enforcement of current regulations
- GOAL 3:** Reduce and where possible, eliminate loss of life and damage to property from disasters especially with repetitive damaged properties
- GOAL 4:** Maintain continuity of public and private sector operations during and after hazard events
- GOAL 5:** Respond promptly, appropriately, and efficiently in the event of natural or manmade hazards

This plan complies with all requirements and scope of work as described in Dawson County's Hazard Mitigation Grant application.

**Hazards**

The planning work resulted in an updated list of hazards that could impact Dawson County's residential communities, businesses, and infrastructure. The tables below show the hazardous event categories ranked in order of likelihood with a comparison of historic and annual expected loss ratios.

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<b>Threat to Buildings</b>					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Wildfire	1	Tornado	1
Drought	2	Earthquake	2	Flooding	2
Extreme Heat	3	Tornado	3	Thunderstorm	3
Extreme Cold	4	Flooding	4	Wildfire	4
Tornado	5	Hurricane	5	Earthquake	5
Winter Weather	6	Ice Storm	6	Ice Storm	6
Ice Storm	7	Thunderstorm	7	Extreme Heat	7
Flooding	8	Extreme Cold	8	Hurricane	8
Hurricane	9	Extreme Heat	9	Extreme Cold	9
Earthquake	10	Winter Weather	10	Winter Weather	10
Wildfire	11	Drought	11	Drought	11

<b>Threat to People</b>					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Tornado	1	Tornado	1
Drought	2	Earthquake	2	Extreme Heat	2
Extreme Heat	3	Wildfire	3	Extreme Cold	3
Extreme Cold	4	Flooding	4	Flooding	4
Tornado	5	Extreme Heat	5	Thunderstorm	5
Winter Weather	6	Extreme Cold	6	Winter Weather	6
Ice Storm	7	Thunderstorm	7	Earthquake	7
Flooding	8	Winter Weather	8	Ice Storm	8
Hurricane	9	Hurricane	9	Wildfire	9
Earthquake	10	Ice Storm	10	Hurricane	10
Wildfire	11	Drought	11	Drought	11

Specific impacts were explored for Dawson County and the City of Dawsonville with detailed evaluations conducted across the County. Historical and future predicted impacts, including those due to climate change and population growth were studied and addressed for each hazard. Where data existed, specific data was utilized from agencies and organizations such as:

## Dawson County Hazard Mitigation Plan Update 2024 Executive Summary

- National Weather Service
- National Oceanic and Atmospheric Administration
- Centers for Disease Control and Prevention
- Department of Homeland Security
- Federal Emergency Management Agency
- United States Geological Survey
- United States Department of Agriculture
- Federal Bureau of Investigation
- Cybersecurity and Infrastructure Security Agency

### Mitigation Strategy

It is essential that State and local government, public-private partnerships, and the average citizen can see the results of these mitigation efforts. Therefore, the goals and strategies need to be achievable.

The mitigation goals and objectives form the basis for developing specific mitigation actions. County and municipal officials should consider the listed goals before making community policies, public investment programs, economic development programs, or community development decisions for their communities. The goals of Dawson County have changed slightly in the last five years (since 2012) due to specific threat events, such as the snow and ice storms of 2014 and Hurricane Irma in 2017. The 2014 Ice Storms, in particular, led to changes at the State and local levels regarding the importance of winter weather preparedness for the general public and the response-ability of local jurisdictions, including Dawson County. Due to the recent occurrence of natural hazards and the significant damage they have caused, mitigation strategies have become a top priority. There is now more focus on developing new strategies to prevent these events from happening and to minimize their impact when they do occur.

The Dawson County Hazard Mitigation Plan update covers two jurisdictions: Dawson County and the City of Dawsonville. However, these jurisdictions have limited capacity to implement all the mitigation actions described in the plan. This is because these jurisdictions are small in population and tax base, making raising sufficient revenue to pursue many actions difficult. Also, there is a lack of financial strength and staffing to implement all the actions described in the plan. To achieve the goals outlined in the plan, many actions will be pursued through grant programs and by collaborating with public and private organizations that can provide additional resources. For actions where grant funding partnerships are unavailable, Dawson County or municipality revenue streams may be supplemented through Special Purpose Local Option Sales Tax (SPLOST) funds, voted on by the electorate.

**GOAL I:** Maximize the use of all resources by promoting intergovernmental coordination and partnerships in the public and private sectors.

## Dawson County Hazard Mitigation Plan Update 2024 Executive Summary

**GOAL 2:** Harden community assets against the impacts of disasters by developing new mitigation strategies and enforcing current regulations.

**GOAL 3:** Minimize loss of life and property damage from disasters, especially for repetitive damaged properties.

**GOAL 4:** Increase community awareness about potential hazards and the need for preparedness.

These objectives outline specific outcomes that Dawson County aims to achieve over the next five years. Action steps are the necessary steps to reach these objectives. The objectives are not listed in order of importance.

**OBJECTIVE 1:** Our first objective is to reduce loss of life, damage to property, and minimize impacts on local citizens, industry, and infrastructure from identified hazards.

**OBJECTIVE 2:** We aim to provide advanced severe weather warnings to help citizens take precautionary measures and stay safe.

**OBJECTIVE 3:** Our third objective is to provide educational awareness to citizens about the dangers and impacts of the identified hazards.

**OBJECTIVE 4:** We will implement initiatives to protect our water resources and provide wildfire protection.

**OBJECTIVE 5:** We aim to increase the capacity of Dawson County, the City of Dawsonville, Etowah Water and Sewer, Dawson County Schools, and its citizens to respond to identified hazards.

**OBJECTIVE 6:** We will ensure the continuity of critical operations before, during, and after hazard events.

**OBJECTIVE 7:** We will evaluate and implement additional protective measures and capabilities in response to identified hazards, wherever possible.

### Next Steps

To adhere to best practices, state and federal guidelines, and lessons learned, the Dawson County Hazard Mitigation Plan Update Committee has developed a method to ensure the regular review and update of the Plan occurs. Plan maintenance protocols identified during the 2012 Dawson County Hazard Mitigation Plan and 2017 Plan Update were followed to the best of Dawson County's abilities. The Dawson County Hazard Mitigation Plan Update Committee will reconvene

## **Dawson County Hazard Mitigation Plan Update 2024 Executive Summary**

annually to monitor and evaluate the progress of the mitigation strategies in the Plan. Dawson County's Emergency Management Director, Troy Leist, will be responsible for implementing this meeting. The Committee will discuss the following questions annually:

- Do the goals address current and expected hazards and conditions?
- Are the goals and objectives still relevant to the County?
- Has the nature or magnitude of risks changed?
- Does the risk assessment portion of the Plan need to be updated or modified?
- Are the goals and objectives meeting changes in state and federal policy?
- Are the current resources appropriate for implementing the Plan?
- Are there local implementation problems, such as technical, political, legal, or coordination issues with other agencies?
- Did the jurisdictions, agencies, and other partners participate in the plan implementation process as proposed?

The responsible parties will provide a report at the annual meeting on their mitigation strategies. The report will address the following topics:

- During the implementation, were there any difficulties encountered?
- How successful was the coordination of efforts?
- Are there any suggestions for revising any mitigation strategies?

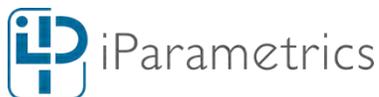
Dawson County's Emergency Management Director will send the minutes from this annual meeting to Dawson County Commissioners and City and Town Councils for review. If there are any updates or modifications to the Dawson County Hazard Mitigation Plan, the Emergency Management Director will forward the changes to the Georgia Emergency Management Agency's Hazard Mitigation Officer. The Dawson County Hazard Mitigation Plan's annual reviews will be open to the public. These meetings will be advertised in local newspapers, as well as on signage in the publicly used facility where the meeting is hosted. Additionally, an online platform will be provided for members of the public to join the meetings.



# DAWSON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

2024 – 2029 UPDATE

Dawson County  
Emergency Management Agency



## **Dawson County Multi-Jurisdictional Hazard Mitigation Plan Update 2024**

This document was funded in part by the Hazard Mitigation Planning Grant awarded to the Dawson County Emergency Management Agency by the Georgia Emergency Management Agency to fulfill the requirements of the Federal Disaster Mitigation Act of 2000. Dawson County Hazard Mitigation Plan 2024 was updated by the Dawson County Hazard Mitigation Plan Update Committee and was prepared by iParameters, LLC. For additional information, please contact Dawson County Emergency Management Agency.

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Resolution – Dawson County

Resolution – Dawsonville

## **Preface**

### **Mitigation Vision for the Future**

Emergency Managers succeed or fail based on how well they follow the following fundamental principles of emergency management, mitigation, preparedness, response, and recovery. Purposefully, our emergency management forefathers put the word mitigation first as a “means” to prevent or minimize the effects of disasters.

Mitigation is commonly defined as sustained actions taken to reduce or eliminate long- term risk to people and property from hazards and their effects. Hazard mitigation focuses attention and resources on community policies and actions that will produce successive benefits over time. A mitigation plan states the aspirations and specific courses of action that a community intends to follow to reduce vulnerability and exposure to future hazard events. These plans are formulated through a systematic process centered on the participation of citizens, businesses, public officials, and other community stakeholders.

Mitigation forms, or should form, the very foundation of every emergency management agency. For the prevention of disasters in communities, 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.

Dawson County and the City of Dawsonville realize the benefits achieved by the development of mitigation plans and implementation of mitigation strategies in our community. Dawson County’s elected officials, public safety organizations, planners, and many others have proven these benefits by working together towards the development and implementation of this plan and have the vision to implement mitigation practices therefore reducing the loss of life and property in their communities.

The areas covered by this plan include:  
Dawson County  
City of Dawsonville

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## Chapter 1. Introduction

### 1.1. Summary of Updates for Chapter 1

The following table provides a description of each section of this chapter and a summary of the changes that have been made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 1 Section	Updates
Introduction	<ul style="list-style-type: none"> <li>Update of goals</li> </ul>
Authority	<ul style="list-style-type: none"> <li>No update</li> </ul>
Funding	<ul style="list-style-type: none"> <li>Update of funding information</li> </ul>
Scope	<ul style="list-style-type: none"> <li>No update</li> </ul>
Purpose	<ul style="list-style-type: none"> <li>Updated from 2018 Mitigation Plan</li> </ul>
Consistency with Federal Guidelines	<ul style="list-style-type: none"> <li>Update of information</li> </ul>
Plan Review	<ul style="list-style-type: none"> <li>Updated from 2018 Mitigation Plan</li> </ul>
Hazard Mitigation Plan Update Committee	<ul style="list-style-type: none"> <li>Updated committee list to match the 2024 planning participants</li> </ul>
Public Participation	<ul style="list-style-type: none"> <li>Updated from 2018 Mitigation Plan</li> </ul>
Multi-Jurisdictional Considerations	<ul style="list-style-type: none"> <li>Updated with requirement descriptions</li> </ul>
Incorporation of Existing Plans, Studies, and Resources	<ul style="list-style-type: none"> <li>Updated from 2018 Mitigation Plan</li> </ul>

### 1.2. Introduction

The Dawson County Hazard Mitigation Plan Update is the first phase of a multi-hazard mitigation strategy for the entire community. This Plan encourages cooperation among various organizations and crosses political sub-divisions. As written, this Plan fulfills the requirements of the Federal Disaster Mitigation Act of 2000. The Federal Disaster Mitigation Act of 2000 provides federal assistance to state and local emergency management agencies and other disaster response organizations to reduce damage from disasters. The Act is administered by the Georgia Emergency Management Agency (GEMA) and the Federal Emergency Management Agency (FEMA).

It is important that state and local government, public-private partnerships, and community citizens can see the results of these mitigation efforts; therefore, the goals and strategies need to be achievable. The Dawson County Hazard Mitigation Plan Update Committee identified the following goals during plan development:



- GOAL 1:** Protect the public health and safety
- GOAL 2:** Harden community assets against the impact of disasters through the development of new mitigation strategies and enforcement of current regulations
- GOAL 3:** Reduce and where possible, eliminate loss of life and damage to property from disasters especially with repetitive damaged properties
- GOAL 4:** Maintain continuity of public and private sector operations during and after hazard events
- GOAL 5:** Respond promptly, appropriately, and efficiently in the event of natural or manmade hazards

This plan complies with all requirements and scope of work as described in Dawson County’s Hazard Mitigation Grant application.

**1.3. Authority**

In the past, federal legislation has provided funding for disaster relief, recovery, and some hazard mitigation planning. The Disaster Mitigation Act of 2000 is the latest legislation to improve the planning aspect of that process. The Act reinforces the importance of mitigation planning and emphasizes planning for disasters before they occur. The Act establishes a pre-disaster hazard mitigation program and designates new requirements for the national post-disaster Hazard Mitigation Grant Program (HMPG). Section 322 of the Act identifies the new requirements for planning activities and increases the amount of HMPG funds available to states that have developed a comprehensive mitigation plan prior to the disaster.

State and local communities must have an approved mitigation plan in place prior to receiving post-disaster HMGP funds. Local mitigation plans must demonstrate that their proposed mitigation measures are based on a sound planning process that accounts for the risk to and the capabilities of the individual communities. To implement the new DMA 2000 requirements, the Federal Emergency Management Agency (FEMA) prepared an Interim Final Rule, published in the Federal Register on February 26, 2002 at 44 CFR Parts 201 and 206, which establishes planning and funding criteria for states and local communities.

Developed in accordance with current state and federal rules and regulations governing local hazard mitigation plans, Dawson County’s Updated Hazard Mitigation Plan will be brought forth to each participating jurisdiction in Dawson County to be formally adopted. The Plan shall be routinely monitored and revised to maintain compliance with the following provisions, rules, and legislation:

Section 322, Mitigation Planning, of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as enacted by Section 104 of the Disaster Mitigation Act of 2000 (P.L. 106-390); and

FEMA's Interim Final Rule was published in the Federal Register on February 26, 2002, at 44 CFR Part 201.



#### **1.4. Funding**

The Georgia Emergency Management Agency awarded Dawson County a \$30,000 Hazard Mitigation Planning Grant for the update of Dawson County’s 2012 Hazard Mitigation Plan. The grant requires a 25% match by Dawson County, which was fulfilled by utilizing “in-kind” services. In-kind service documentation is available upon request.

#### **1.5. Scope**

The scope of the Dawson County Hazard Mitigation Plan Update encompasses all areas of Dawson County, including the City of Dawsonville. The Plan identifies all natural and technological hazards that could threaten life and property in Dawson County. The scope of this Plan includes both short and long-term mitigation strategies with implementation and possible sources of project funding.

The Hazard Mitigation Plan Update is organized to incorporate the requirements of Rule 44 CFR 201.6 as well as FEMA Guidance.

Chapter One includes an overview of the Hazard Mitigation Plan Update, the overall goals of the plan, and details of the planning process as required by Rule 44 CFR 201.6©(1) as well as FEMA Guidance.

Chapter Two of the Plan details the Dawson County profile, including the demographics, municipality, and history of Dawson County.

Chapter Three identifies the risk assessment process, past natural hazard events with associated losses, and current natural hazard risks. Potential losses are also analyzed as required by Rule 44 CFR 201.6(c)(2) as well as FEMA Guidance. Additionally, Chapter Three identifies and analyzes potential technological hazards faced by Dawson County.

Chapter Four identifies Dawson County’s hazard mitigation goals and objectives, mitigation strategies and actions, and sources of potential funding for mitigation projects as required by Rule 44 CFR 201.6(c)(3) as well as FEMA Guidance.

Chapter Five identifies the plan maintenance and implementation strategies. The process for evaluation of the hazard mitigation plan implementation progress is also detailed as required by Rule 44 CFR 201.6as well as FEMA Guidance.

#### **1.6. Purpose**

The purpose of the Dawson County Hazard Mitigation Plan Update is to:

- Protect life, promote safety, and preserve property by reducing the potential for future damages and economic losses that result from natural and technological hazards;
- Make communities in Dawson County safer places to live, work, and play;
- Qualify for grant funding in both the pre-disaster and post-disaster environments;



- Speed recovery and redevelopment following future disaster events;
- Demonstrate a firm local commitment to hazard mitigation principles; and
- Comply with state and federal legislative requirements for local multi-jurisdictional hazard mitigation plans.

### **1.7. Consistency with Federal and State Mitigation Policies**

The Plan is intended to enhance and complement state and federal recommendations for the mitigation of natural and technological hazards in the following ways:

- Substantially reduce the risk of life, injuries, and hardship from the destruction of natural and technological disasters on an ongoing basis;
- Create a greater awareness for the public about the need for individual preparedness and for building safer, more disaster-resistant communities;
- Develop strategies for long-term community sustainability during community disasters; and,
- Develop governmental and business continuity plans to continue essential private sector and governmental activities during disasters.

The Federal Emergency Management Agency publishes many guidance documents for local governments for mitigating natural disasters. The updated Dawson County Hazard Mitigation Plan fully recognizes, adopts, incorporates, and endorses the following principles:

- Develop a strategic mitigation plan for Dawson County;
- Enforce current building codes;
- Develop incentives to promote mitigation;
- Incorporate mitigation of natural hazards into land use plans;
- Promote awareness of mitigation opportunities and programs throughout our community continually; and,
- Identify potential funding sources for mitigation projects.

The private sector is often an overlooked segment of the community during disasters. It is vital that this sector of a community is included in mitigation efforts that are consistent with state and federal recommendations, such as the following:

- Encourage the creation of a business continuity plan for the continuance of commerce during disasters; and,
- Partner with businesses to communicate with customers about the hazards in our community and possible solutions.

Individual citizens must be made aware of the hazards they may encounter. Additionally, they must be educated on protecting themselves from the hazards they face. They must be shown that mitigation in their community is an important part of reducing loss of life and property. Their support is critical to the success of any mitigation effort. The updated Dawson County Hazard Mitigation Plan supports the following FEMA recommendations regarding individual citizens:

- Become educated on the hazards that citizens may encounter;



- Become part of the process by supporting and encouraging mitigation programs that reduce vulnerability to disasters; and,
- An individual’s responsibility is to safeguard his/her family and themselves prior to a disaster event.

**1.8. Plan Review (Requirement §201.6(c)(1))**

The contracted planner, iParametrics, LLC, was primarily responsible for collecting updated information and presenting data to the committee. The approved 2018 Hazard Mitigation Plan was provided to each Hazard Mitigation Plan Update Committee member. Each chapter was reviewed with updated hazard, risk, and vulnerability data; updated critical infrastructure information; and revised mitigation strategies based upon whether the strategy was completed, needed to be modified, is an ongoing strategy, or no longer applies. All meetings were held virtually. Irregularly attending participants were kept informed with emails containing the updated version of the plan.

*Table 1.1 Dawson County Hazard Mitigation Plan Update Meeting Dates*

Tuesday, April 4, 2023	Kick-off meeting, Review of Current Plan, Hazards Currently Listed, Future Concerns of the County
Tuesday, May 2, 2023	Current Existing Plans, County Economy, Disaster Declarations
Thursday, June 8, 2023	Discussion of Goals and Objectives in the Plan, Data Needed for Analysis
Tuesday, July 11, 2023	Review of Mitigation Action Items, Data Analysis
Tuesday, August 8, 2023	Critical Facilities, Data Analysis Progress;
Thursday, Sept.19, 2023	Data Analysis, Plan Update Next Steps, Public Comment Plan
Monday, January 29, 2024	Mitigation Plan Final Draft

Each section of Dawson County’s 2018 Hazard Mitigation Plan has been revised in some manner. Therefore, a summary of those changes will be listed in the first section of each chapter. Major plan changes include the following:

- Addition of Extreme Temperatures, Cyberattack, Hurricanes, and Active Threat/Shooter
- Additional data from previous years
- Additional information regarding Emerging Infectious Disease with insight from the COVID-19 Pandemic

**1.9. Hazard Mitigation Plan Update Committee (Requirement §201.6(b)(2))**

The following members, representing various jurisdictions, city and county departments, and community organizations and businesses, participated in Dawson County’s 2024 Hazard Mitigation Plan update. The list of the Committee from the 2018 update can be found in Appendix B.



**Dawson County Hazard Mitigation Plan Update Committee – 13 participants**

Chief Troy List  
Fire Chief and Emergency Management Director  
Dawson County

Brooke Anderson, PE  
General Manager  
Etowah Water and Sewer Authority

Wesley Sisk  
County Chief Ranger  
Georgia Forestry Commission

Greg Rowan  
Chief Deputy  
Dawson County Sheriff's Office

Tony Wooten  
Safe Schools Coordinator  
Dawson County Schools

Emory Dooley  
District 4  
Dawson County Commissioner

Ricky Jordan  
Director of Public Safety  
Big Canoe POA

Matt Payne  
Director  
Dawson County Parks and Recreation

Lydell Mack  
Director of Operations  
Big Canoe

Kevin Herrit  
Director of Economic Development  
Development Authority of Dawson County



Mandy Power  
President/CEO  
Dawson County Chamber of Commerce

Johnny Irvin  
Operations Division Chief  
Dawson County Emergency Services

Bob Bolz  
City Manager  
City of Dawsonville

Trampas Hansard  
Operations Manager  
City of Dawsonville Public Works

Robert Drewry  
Public Works Director  
Dawson County

Dawson County convened the Hazard Mitigation Plan Update Committee, which comprises representatives from various participating jurisdictions. The Committee worked with iParameters, LLC, and provided input at key process stages. Efforts were made to involve municipal, city, and county departments and community organizations that might have a role in implementing the mitigation actions or policies. These efforts included meeting invitations, e-mail updates, and opportunities for input and comment on all draft deliverables.

In addition to the Dawson County Hazard Mitigation Plan Update Committee, all surrounding counties – Cherokee, Fannin, Forsyth, Gilmer, Hall, Lumpkin, and Pickens – will be provided a copy of this FEMA-approved plan for their review. This plan will be provided to each County EMA office.

**1.10. Public Participation (*Requirement §201.6(b)(1), State Requirement Element F2*)**

Public awareness is a key component of any community’s overall mitigation strategy to protect a home, neighborhood, school, business, or city from the potential effects of natural hazards. As citizens become more involved in decisions that affect their safety, they are more likely to gain a greater appreciation of the natural hazards present in their community and take the steps necessary to reduce their impact.

Participation from local organizations and businesses during the update process included Big Canoe Property Owners and the Dawson County Chamber of Commerce Association.



The Dawson County Hazard Mitigation Plan Update Committee took it upon themselves to ensure the processes undertaken for the development, implementation, and maintenance of the Dawson County Hazard Mitigation Plan Update adequately considered public needs and viewpoints.

A list of public outreach initiatives can be found below:

- A Public Meeting was held on August 9, 2018, at the Dawson County Board of Commissioner’s Work Session for the public to comment on the 2018- 2023 Dawson County Hazard Mitigation Plan. This meeting was advertised on the Dawson County webpage. No public comments were provided.
- A Public Meeting was held on August 16, 2018, during the Dawson County Board of Commissioner’s Voting Session for the public to comment on the 2018-2023 Dawson County Hazard Mitigation Plan. This meeting was advertised on the Dawson County webpage. No public comments were provided.

**1.11. Documentation of Public Meeting Notice**

**1.12. Multi-Jurisdictional Considerations**

While cities are not required by FEMA to adopt hazard mitigation plans, the Federal Disaster Mitigation Act of 2000 requires all municipalities that wish to be eligible to receive FEMA hazard mitigation grants to adopt a local multi-hazard mitigation plan and to update the plan every five years. Dawson County’s Hazard Mitigation Plan was approved by FEMA in 2012, and the 2018 Plan Update provided the first five-year update. The City of Dawsonville approved the plan to make it a multi-jurisdictional plan. The City of Dawsonville has been critical in this 2024 update and they have sought approval from their City Commission as well. This approved Hazard Mitigation Plan makes Dawson County and its municipality eligible for FEMA’s Hazard Mitigation Grant Program, Flood Assistance Mitigation Grants, and Pre-Disaster Mitigation Grants.

As set forth by Georgia House Bill 489, the Emergency Management Agency is the implementing agency for projects pertaining to hazard mitigation. Dawson County is dedicated to working in the best interests of the County as well as the City of Dawsonville. During the creation and update of this Plan, Dawson County Emergency Management Agency solicited and received participation from the Dawson County City of Dawsonville. Therefore, the result is a truly multi-jurisdictional plan. A few mitigation action steps identified in this plan update may apply to selected jurisdictions. These steps are identified in the appropriate sections. Unless specifically noted otherwise, most steps apply equally to all jurisdictions.



**1.13. Incorporation of Existing Plans, Studies, and Resources (*Requirement §201.6(b)(3), State Requirement Element F3*)**

**Existing Plans**

- 2018 Dawson County Multijurisdictional Hazard Mitigation Plan
- 2019 State of Georgia Hazard Mitigation Plan
- Dawson County Local Emergency Operations Plan
- Georgia Forestry Commission's Dawson Co. Community Wildfire Protection Plan 2013-2033  
Dawson County Joint Comprehensive Plan
- 2018 Dawson County HAZUS Report

**Studies**

- 2020 United States Census
- 2022 United States Census Estimates
- 2012 United States Department of Agriculture Ag Census
- 2009 Dawson County Flood Insurance Study
- Radeloff, V. C., R. B. Hammer, S. I. Stewart, J. S. Fried, S. S. Holcomb, and J. F. McKeefry. 2005. The Wildland Urban Interface in the United States. *Ecological Applications* 15:799-805.

**Resources**

- 2014 City of Boston Natural Hazard Mitigation Plan Update
- 2010 Camden County Joint Hazard Mitigation Plan Update
- 2010 Northern Virginia Hazard Mitigation Plan Update National Climactic Data Center
- National Weather Service
- Dawson County Tax Assessor's Data
- Dawson County Website
- GMIS Database
- City University of New York
- Colorado State University
- United States Geological Survey
- FEMA Flood Insurance Rate Maps National Flood Insurance Program
- United States Coast Guard National Response Center Data
- Georgia Department of Transportation
- Georgia Safe Dams Program



**1.14. Application of Existing Plans and Studies**

<b>Existing Planning Mechanism</b>	<b>Reviewed? (Yes/No)</b>	<b>Incorporation into Mitigation Plan</b>
2018 Dawson County Multi-Jurisdictional Hazard Mitigation Plan	Yes	Baseline for the 2024 Plan; updated mitigation strategies; updated hazards; updated Dawson County information
2019 State of Georgia Hazard Mitigation Plan	Yes	Hazard descriptions; potential hazards; mapping mechanisms; potential mitigation strategies that could be adopted on a local level
Dawson County Local Emergency Operations Plan (LEOP)	Yes	Identification of current resources; identification of current capabilities
Georgia Forestry’s Dawson County Community Wildfire Protection Plan (CWPP)	Yes	Mitigation strategies for wildfire and drought; historical data
2012 USDA Agriculture Census	Yes	Agricultural data regarding potential losses for drought and wildfire
2010 United State Census and 2015 United States Census Estimates	Yes	To update Dawson County’s profile information
2009 Dawson County Flood Insurance Study	Yes	Identify potential flood prone areas; prioritization of flood- related mitigation strategies
2013-2033 Dawson County Comprehensive Plan	Yes	To identify future development trends; identify mitigation strategies to curb trends in a direction that considers the hazards of the area
2018 Dawson County HAZUS Report	Yes	To assist with risk and vulnerability assessment; Identify potential hazard impacts and damages
Dawson County Flood Mitigation Assistance Plan	No	No such plan exists



## Chapter 2. Dawson County Profile

### 2.1. Summary of Updates for Chapter Two

The following table provides a description of each section of this chapter and a summary of the changes made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 2 Section	Updates
Past Hazards	<ul style="list-style-type: none"> <li>Additional Hazards have been added over the last 5 years.</li> </ul>
History	<ul style="list-style-type: none"> <li>Information updated as needed.</li> </ul>
Past Events	<ul style="list-style-type: none"> <li>New events that have occurred in the last 5 years have been added.</li> </ul>
Demographics	<ul style="list-style-type: none"> <li>Updated data to the 2020 Census information and 2022 Census Estimates</li> </ul>
Economy	<ul style="list-style-type: none"> <li>Relevant information updated from the previous plan.</li> </ul>
Government	<ul style="list-style-type: none"> <li>No update needed.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>Relevant information updated.</li> </ul>
Climate	<ul style="list-style-type: none"> <li>Average temperature Chart removed.</li> </ul>
Utilities	<ul style="list-style-type: none"> <li>No update needed.</li> </ul>
NFIP Compliance	<ul style="list-style-type: none"> <li>No update needed.</li> </ul>

### 2.2. Past Hazards

Dawson County has faced many hazards in its long history. Severe Thunderstorms have been, perhaps, the most prevalent of these hazards. In the last 50 years, Dawson County has been subjected to 103 documented Severe Thunderstorm events. These events include torrential rainfall, hail, thunderstorm-force winds, and lightning.

Tornadoes, which can sometimes spawn from severe thunderstorms, have also occurred in Dawson County, although with much less frequency. There have been two documented tornadoes in the last fifty years in Dawson County.

Because of heavy rainfall either within or upstream from Dawson County, flooding has occurred in the past as well. Documentation of 13 flooding events exist within the National Climactic Data Center of the National Weather Service for Dawson County.



Winter storms and heavy snowfall have affected Dawson County infrequently in the last 50 years. These events are not a yearly occurrence and typically do not have the pre-planning in place when compared to Northern and Western states who see this type of weather phenomena regularly. The NCDC record 60 documented winter storm or heavy snow events for Dawson County with 13 of those having occurred in the last five years.

Dawson County has been plagued by other less severe or less frequent hazards in the past. These hazards include, but are not limited to, the following: drought, excessive heat, tropical cyclones, earthquakes, and wildfires.

Dawson County has had 12 Federally Declared disasters. These events include tornadoes (1974), drought (1977), winter storms (1993, 2000, 2014, 2015), Tropical Cyclones (1995, 2004, 2020), Storms/Flooding events (1998, 2009), and the COVID -19 Pandemic (2020).

### 2.3. History

Dawson County was created by a legislative act on December 3, 1857, primarily out of Lumpkin County and smaller parts of Gilmer, Pickens, and Forsyth counties. Georgia's 119th county and the county seat of Dawsonville were named for Judge William C. Dawson, a compiler of the laws of Georgia and commander of a brigade in the Creek Indian War of 1836. Dawson served in both houses of the Georgia state legislature, in Congress from 1836 to 1842, and in the U.S. Senate from 1849 until 1855.

Before the creation of Dawson County, the area enjoyed a rich history. Initially settled by the Cherokee Indians at the time of the American Revolution, the river valleys were dotted with farms, orchards, and numerous modern log structures. Native Americans thrived in the area until the discovery of gold in 1829. By 1832, prospectors had overrun much of the area, and Georgia claimed the region as a new territory. In 1838, those Native Americans who had not voluntarily moved west were forcibly removed to Oklahoma along the Trail of Tears. Although absent as a people from the area for more than 150 years, the legacy of the Cherokee remains in many names found throughout Dawson County: Amicalola, which means "tumbling waters," Etowah, Toto Creek - named for the Cherokee Toter family, and a host of other local names. Throughout the 1830s and 1840s, the area that was to become Dawson County was in the midst of the first gold rush in America. Numerous mines and mining operations - some within the city limits of Dawsonville - were located throughout the area. Remnants of these mines and small mining projects can still be found within the county.

By April 28, 1858, all county officers had the books necessary for the county's records, and these were placed in a log structure built for the temporary use of the court and other officials of the county. James Foster built the log courthouse for the sum of \$30.00 and the benches by James Jackson for an additional \$1.25.

Plans for a permanent courthouse were not long postponed, and by May 1858, plans were accepted to have a building 50 by 30 feet, with four gables, and the windowsills and steps were to be made of



"good plant." The contract was made to Wesley McGuire, John Hockenull, and Anderson Wilson. In August of 1858, the plans were changed at the recommendation of the grand jury. The new plans for the structure called for an enlarged building of 54 by 38 feet, two gables, the use of good bricks or other materials "such as the [courthouse] in Gainesville," and window sills to be made of granite, soapstone or marble.

Harrison Summerour, John McAfee and R. N. McClure secured a bond for \$9,600.00 to erect the courthouse. As the money came into the county treasurer, the contractors were to be paid, but a difficulty arose, and \$2,500.00 was borrowed from Mr. Summerour to meet the deadline of a contract payment. N. H. Goss made chairs for the new building for \$4.95. The bricks, which were purchased at \$8.00 per thousand, were made by the slaves of John Hockenull on a branch on the east side of Old Georgia 19 (now Highway 9), across the highway from the building that housed Standard Telephone Company in Dawsonville. It is thought that other bricks were made at John Hockenull's for "paving and fixing the courthouse outside walls".

In February of 1860, the grand jury commented on the "abused and defaced condition of the building by persons unknown." The damage was repaired and as time passed, the building was kept in good condition through the efforts of the grand jury and its recommendations.

Some of the more interesting recommendations implemented by the grand jury: William Hollingshed ceiled the building, old shingles were removed (and sold for \$5.00) and the building recovered, the lathing was removed, the northwest room (which had been rented for \$10.00 per month) was fitted for the commissioners' office, the windows were glazed (paned with glass), and from time to time the building was painted. A fence was built and painted around the courthouse (no stock law was in effect). A well, which had been dug earlier on the courthouse grounds, was included inside the fencing. Sawdust was kept on the floor until carpeting was installed, printed material was purchased to make curtains for the windows, and shutters were made and added to the windows. In a contract given to H. C. Thompson, the building was plastered, and later, the plaster was removed, and re-plastering was done through a contract awarded to Mr. Finger. Throughout the years the building received many coats of whitewash to keep it "spic-and-span".

The county's original jail was destroyed by fire soon after it was completed during a failed escape attempt. The county was without a jail until 1881 when a new jail was completed. The old jail is located west of the courthouse and, along with the historic courthouse, is listed in the National Register of Historic Places. Both the jail and the courthouse have undergone extensive renovation to restore them to their original appearance. The Dawson County/Dawsonville Welcome Center was previously housed for several years in the historic jail. Today, the facility serves as the home for Ninth District Opportunity.

For the first hundred years of its existence, Dawson County remained primarily an agricultural economy, largely due to the lack of railroads or major highways in the area. Dawson County was, however, a significant source of illegal corn whiskey (known as 'moonshine') for Atlanta during and after the prohibition era. During prohibition, many bootleggers would modify their cars for better speed and



handling to evade police when delivering their illegal cargo. Even after prohibition, the trend continued, as bootleggers were on the run from state revenue agents who sought to tax their illicit operations. Eventually, these cars were raced for entertainment (and profit), leading to the birth of modern stock car racing and NASCAR.

Bill Elliott, one of NASCAR's most successful drivers, was born in Dawsonville. "Awesome Bill from Dawsonville" won 44 races on the NASCAR circuit, including two Daytona 500 victories and the 1988 NASCAR Winston Cup championship. Elliott won NASCAR's Most Popular Driver Award a record 16 times between 1984 and 2002.

In 1957, the Appalachian Trail was re-routed to a new endpoint about 8 miles north of Amicalola Falls State Park, establishing the county as a major destination for hikers. At the same time, the flooding of the Chattahoochee River plain to form nearby Lake Lanier was completed, resulting in Georgia's largest lake at 39,000 acres. The lake forms the southern end of Dawson County.

With the construction of the Georgia 400 highway to Atlanta in the 1980s, the county finally had the major highway that it had lacked for a hundred and twenty years. This transportation route, combined with Lake Lanier, Amicalola Falls, and the recent development of the North Georgia Premium Outlets, has helped Dawson County transition from a quiet mountain enclave to one of Georgia's fastest-growing communities.

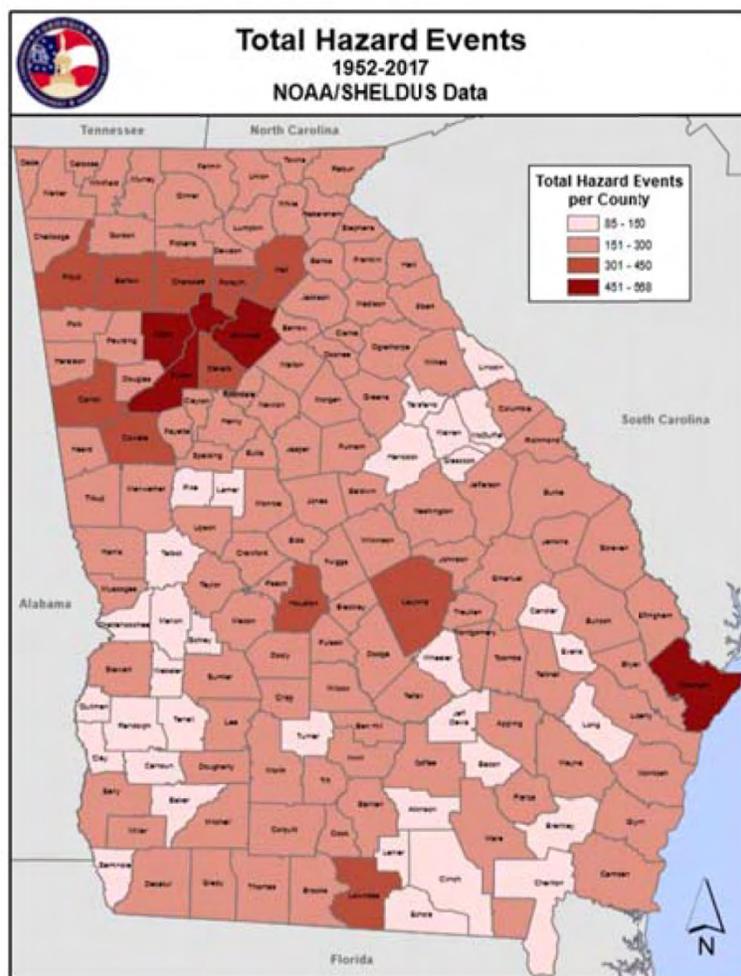
#### **2.4. Past Events**

- 2020, Tropical Storm Zeta (Federal Declaration)
- 2020, COVID-19 Pandemic (Federal Declaration)
- 2017, Hurricane Irma (Federal Declaration)
- 2017, Thunderstorm Wind/Hail Event
- 2017, Winter Storm
- 2016, Heavy Rain/Flood Event
- 2015, Winter Storm
- 2015, Ice Storm (Federal Declaration)
- 2014, Winter Storm
- 2014, Winter Storm/Ice Storm (Federal Declaration)
- 2013, Heavy Rain/Flood Event (Etowah River Historic Crest)
- 2013, Flood Event
- 2013, Ice Storm
- 2010, Winter Storms (3)
- 2009, Heavy Rain/Flood Event
- 2009, Tropical Storm Ida/Heavy Rain/Flood Event (Federal Declaration)
- 2008, Thunderstorm Hail Event
- 2008, Winter Storm



- 2005, Winter Storm
- 2004, Hurricane Ivan/Flash Flood Event (Federal Declaration)
- 2002, Tornado (F2)
- 2000, Ice Storm (Federal Declaration)
- 1998, Thunderstorms/Flood Event (Federal Declaration)
- 1997, Thunderstorm Wind Event
- 1995, Hurricane Opal/Thunderstorm Wind Event (Federal Declaration)
- 1993, Blizzard/Winter Storm (Federal Declaration)
- 1977, Drought (Federal Declaration)
- 1974, Tornado (F4) (Federal Declaration)

Figure 2.1 Total hazard events per county (source: 2019 State of Georgia Hazard Mitigation Strategy)





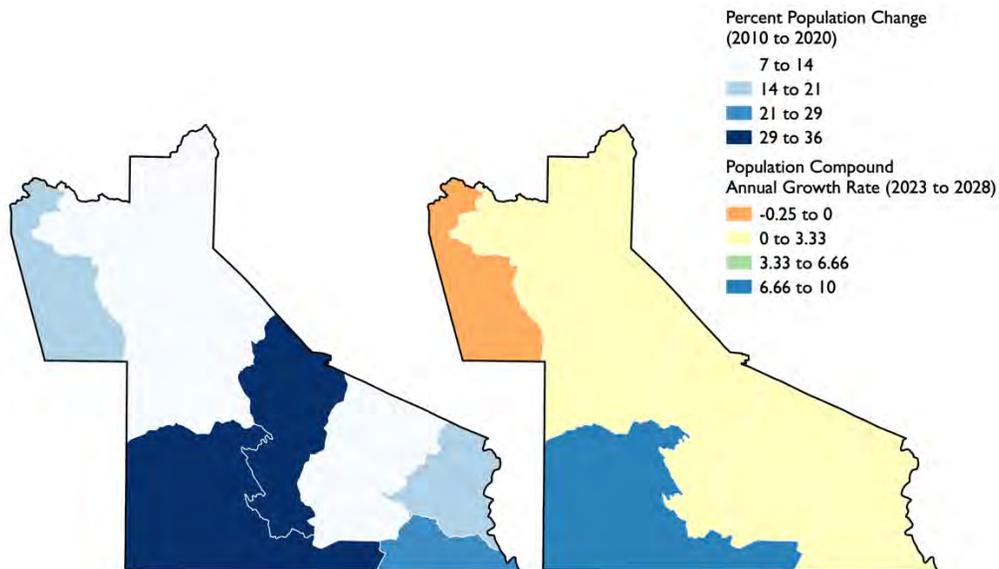
## 2.5. Demographics

Table 2.1 Demographics for Dawson County and Dawsonville (source: US Census Bureau)

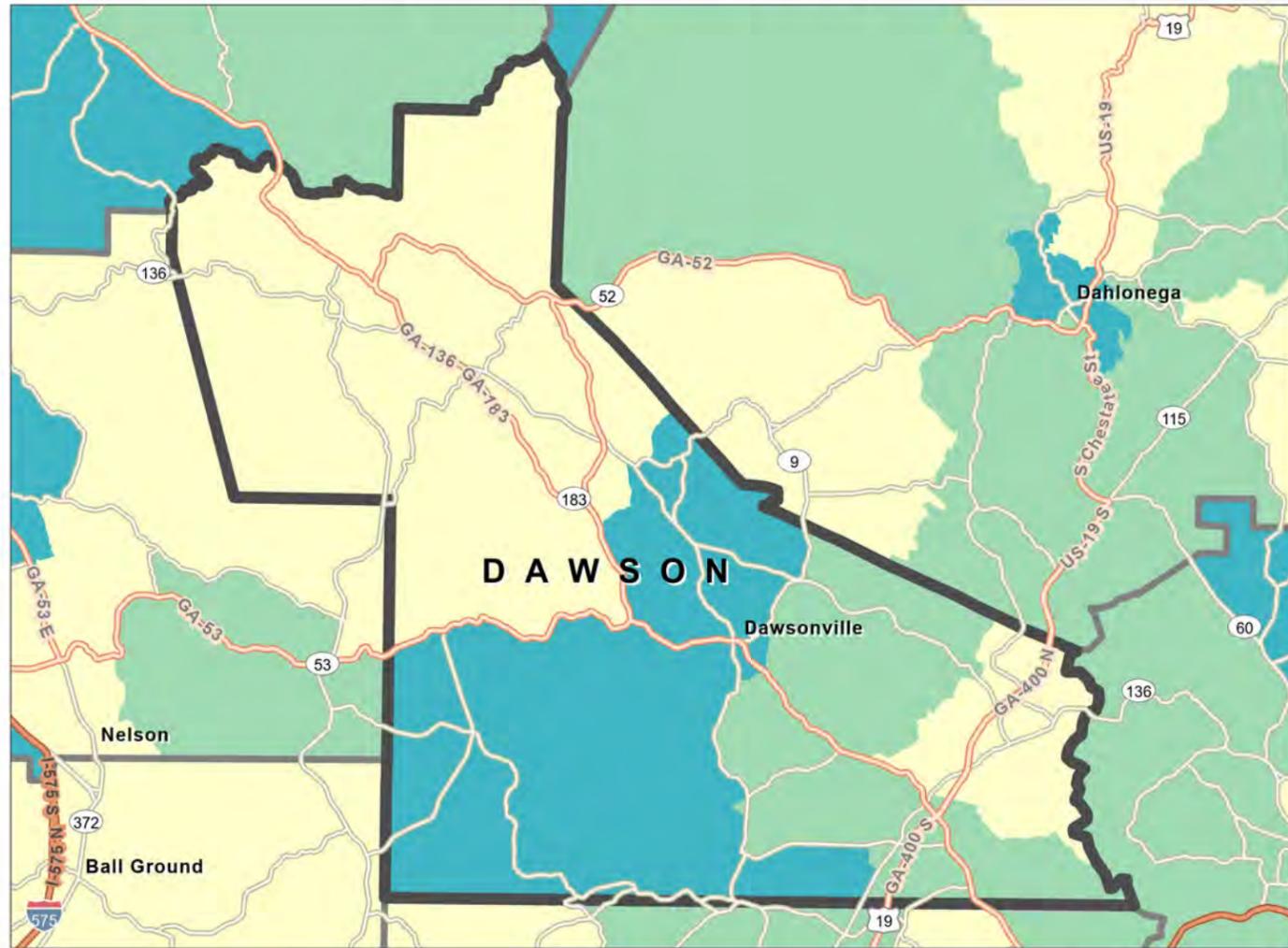
	2020 Census	July 1, 2022 Estimate
Population	26,798	30,138
White	89%	94.7%
African-American	0.8%	1.7%
Hispanic/Latino	6%	6.8%
Asian	0.9%	1.2%
American Indian	0.3%	0.6%
Native Hawaiian and other	0.1%	
Two or More Races	6.4%	1.8%
Median Age	43.8	----
Median Household Income	\$72,260	----
Person Below Poverty Line	9.5%	----
Homeowners	80.7%	----

	2020 Census	2022 Estimation
Dawsonville	3,720	4,489

Figure 2.2 Population Change – 2010 to 2020



Overall Social Vulnerability<sup>1</sup>

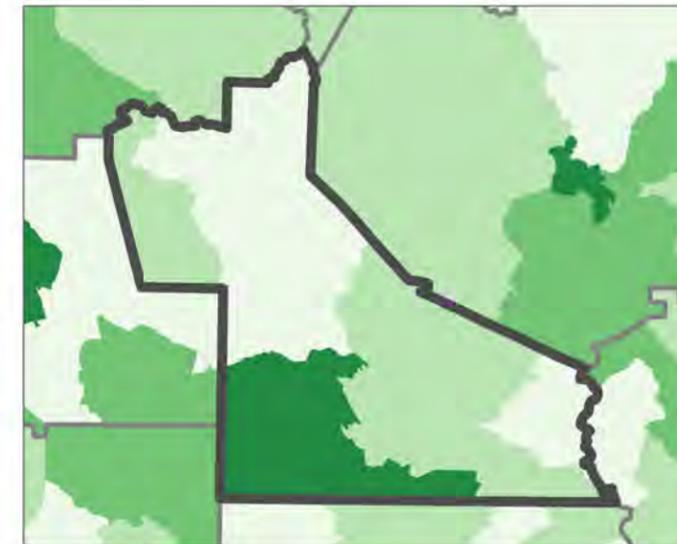


**Social vulnerability** refers to a community's capacity to prepare for and respond to the stress of hazardous events ranging from natural disasters, such as tornadoes or disease outbreaks, to human-caused threats, such as toxic chemical spills. The **CDC/ATSDR Social Vulnerability Index (CDC/ATSDR SVI 2020)**<sup>4</sup> **County Map** depicts the social vulnerability of communities, at census tract level, within a specified

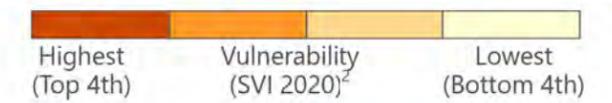
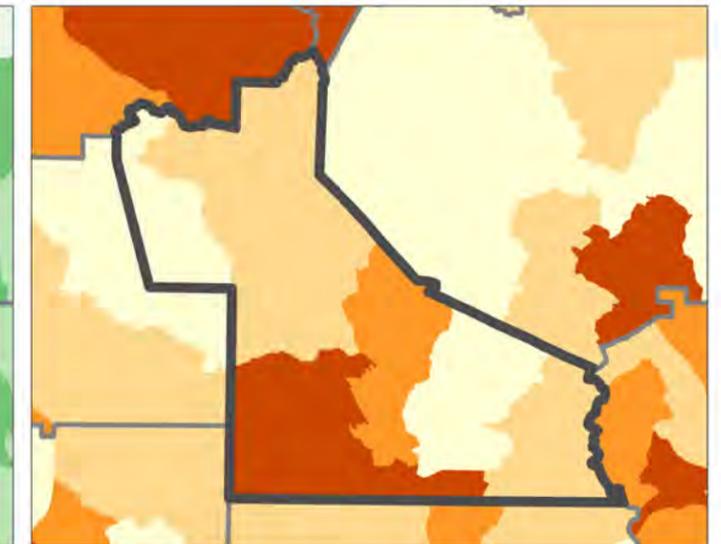
county. CDC/ATSDR SVI 2020 groups **sixteen census-derived factors** into **four themes** that summarize the extent to which the area is socially vulnerable to disaster. The factors include economic data as well as data regarding education, family characteristics, housing, language ability, ethnicity, and vehicle access. Overall Social Vulnerability combines all the variables to provide a comprehensive assessment.

CDC/ATSDR SVI Themes

Socioeconomic Status<sup>5</sup>



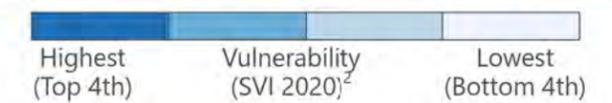
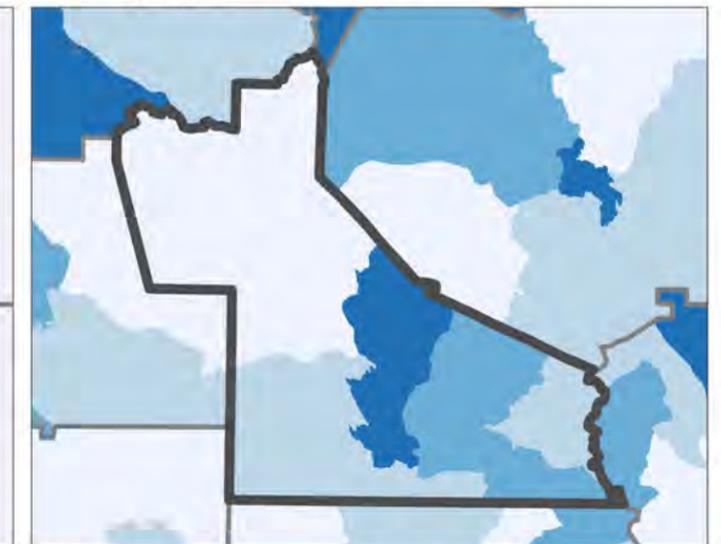
Household Characteristics<sup>6</sup>



Racial and Ethnic Minority Status<sup>7</sup>



Housing Type/Transportation<sup>8</sup>



**Data Sources:** <sup>2</sup>CDC/ATSDR/GRASP, U.S. Census Bureau, Esri® StreetMap™ Premium.

**Notes:** <sup>1</sup>Overall Social Vulnerability: All 16 variables. <sup>3</sup>Census tracts with 0 population. <sup>4</sup>The CDC/ATSDR SVI combines percentile rankings of US Census American Community Survey (ACS) 2016-2020 variables, for the state, at the census tract level. <sup>5</sup>Socioeconomic Status: Below 150% Poverty, Unemployed, Housing Costs Burden, No High School Diploma, No Health Insurance. <sup>6</sup>Household Characteristics: Aged 65 and Older, Aged 17 and Younger, Civilian with a Disability, Single-Parent Household, English Language Proficiency. <sup>7</sup>Race/Ethnicity: Hispanic or Latino (of any race); Black and African American, Not Hispanic or Latino; American Indian and Alaska Native, Not Hispanic or Latino; Asian, Not Hispanic or Latino; Native Hawaiian and Other Pacific Islander, Not Hispanic or Latino; Two or More Races, Not Hispanic or Latino; Other Races, Not Hispanic or Latino. <sup>8</sup>Housing Type/Transportation: Multi-Unit Structures, Mobile Homes, Crowding, No Vehicle, Group Quarters.

**Projection:** NAD 1983 Georgia Statewide Lambert.  
**References:** Flanagan, B.E., et al., A Social Vulnerability Index for Disaster Management. *Journal of Homeland Security and Emergency Management*, 2011, 8(1).  
**CDC/ATSDR SVI web page:** <https://www.atsdr.cdc.gov/placeandhealth/svi/index.html>.



## 2.6. Economy

Dawson County’s economy is primarily agricultural with some light industry. In August 2023, the unemployment rate in Dawson County was 3.3%, which is the same as the State average and below the National average of 3.8%. According to the Census data, Dawson County has a median household income of \$77,620, above the national average of \$76,330 for 2021. Recent economic challenges in Georgia and nationwide have affected these figures.

### Dawson County’s Largest Private Employers

- North Georgia Premium Outlets = 1322 full-time employees
- Gold Creek Foods LLC = 292 full-time employees
- Kroger = 145 full-time employees
- Wal-Mart = 353 full-time employees
- BTD Manufacturing = 233 full-time employees
- Publix = 124 full-time employees
- Home Depot Inc. = 172 full-time employees
- Premier Surplus = 125 full-time employees
- Atlanta Motorsports Park = 49.5 full-time employees
- Atlanta Gear Works = 45 full-time employees
- Ingles = 80 full-time employees
- MESH Engineering = 45 full-time employees
- Worldwide Manufacturing Inc. = 55 full-time employees
- Food Lion = 43 full-time employees
- MCC Labels = 124 full-time employees
- Chick-Fil-A = 87 full-time employees

\*All employment numbers were verified in August of 2023. This information is provided by the Dawson County Chamber of Commerce.

## 2.7. Government

The form of government specified in the County Charter is known as Commission- Administrator form of government, which provides for an elected body of Commissioners, one from each of four geographic districts, who are elected in staggered four-year terms and a Chairman, who is elected by the county at-large. Although each County Commissioner is elected as a representative from their respective districts, they represent the interests of the entire county and all its citizens. The Board of Commissioners appoints a County Manager, who is responsible for the day-to-day administrative operation of the county government.

The main duties of the Board of Commissioners are to pass local laws, known as ordinances, that regulate a variety of things that promote the health, safety, and welfare of the citizens covered by them;



to pass a balanced budget each year that funds its own operations as well as to allocate funds to the four Constitutional Officers, other elected officials, the courts and a variety of programs put in place by the State but funded locally; to ensure that necessary services are funded and provided; to set the millage rate for the County government and many other secondary duties.

The Board of Commissioners sets the County millage rate each year to fund a portion of the County budget. They also receive the millage rate that the Board of Education sets and an assessment by the State which is submitted to the Georgia Department of Revenue each year.

The Board receives, deliberates, and passes local ordinances yearly and amends many others to reflect the changing times. Both require a public hearing, normally held during the regular Commission meetings. They also pass several resolutions and proclamations throughout the year. Generally, with some exceptions, the Board can pass any local law and ordinance they feel is needed for the County so long as it does not violate the laws of the State or Federal government or the Constitutional rights of any individual. These are researched thoroughly by legal staff before ever being brought to a hearing.

The Board of Commissioners provides many services that citizens expect through the revenues that are raised annually. These include Fire and Ambulance protection, E-911 dispatch services, Zoning and Planning, Inspections, Code Enforcement, Animal Control, Public Library, Parks and Recreation, Public Works, Dawson Transit, and agencies that service all these, such as Building Maintenance and Vehicle Maintenance. The budget also funds state-mandated services such as Law Enforcement and Detention; Superior, Probate, Magistrate, and Juvenile courts; Tax Assessment and Tax Collection services; Elections management; District Attorney (shared with other counties); and some smaller funding for local agencies under the State of Georgia.

The City of Dawsonville has its own government as well. The City of Dawsonville has a Council-Manager form of government. They have a Mayor as well as four Council members who are elected by a City-wide popular vote. These officials serve four year terms. This Council serves as the legislative and policy-making body of the City. They appropriate funds to conduct business within the City and create policies and procedures.

The Dawsonville City Manager runs the operations of Dawsonville. They ensure the day-to-day operations of the City government run efficiently. The City of Dawsonville has four departments: Administration, Planning & Zoning, Public Works, and Utilities. Dawsonville also has various authorities, committees, and commissions that make recommendations to the City Council.

## **2.8. Transportation**

Dawson County's transportation system consists primarily of state highways and county-maintained roads. US Highway 19 (better known as Georgia 400) and State highways 9, 52, 53, 136, and 183 are major transportation routes that carry most passenger and commercial traffic in and out of Dawson



County. Congestion in these transportation corridors creates traffic problems, primarily because of population growth. This is particularly true along US Highway 19/ Georgia Highway 400.

In addition to the US and State Routes, Dawson Forest Road, Kelly Bridge Road, and Lumpkin Campground Road are significant county-maintained corridors.

Dawson County currently has one airport, which is privately owned and called Elliott Field. Over the past few years, there have been discussions about the City of Dawsonville potentially purchasing this airport, but no final decisions have been made at the time of this update. It's also worth noting that there has never been a passenger or freight railroad located within Dawson County.

**2.9. Climate**

Dawson County, like much of Georgia, enjoys a temperate climate. Dawson County experiences four distinct seasons, with warm to hot summers, brisk fall temperatures, relatively brief cool winters, and a warm spring season. This extended growing season is ideal for ornamental and economically significant agricultural plants in Georgia. Due to its proximity to the Atlantic Ocean, Dawson County's climate can differ from other parts of Georgia, resulting in milder winters and warmer, wetter summers.

**2.10. Utilities**

Dawson County's utility needs are met by various public and private entities. Amicalola EMC, Sawnee EMC, and Georgia Power provide electrical power to Dawson County. Propane and natural gas are the primary sources of heating and cooking fuel for Dawson County's residents. This fuel is delivered to residents and businesses by tank truck on an ongoing basis, especially during peak winter months. Atlanta Gas Light provides limited natural gas service in Dawson County. There are many propane distributors with large quantities of propane stored on-site.

**2.11. NFIP Compliance**

*Table 2.2 NFIP compliance status for jurisdictions (source: Federal Emergency Management Agency)*

<b>Jurisdiction</b>	<b>Participating?</b>	<b>Participation Date</b>
Dawson County	Yes	12/15/1990
Dawsonville	Yes	5/21/1982



## Chapter 3 Hazard Profiles

### 3.1. Summary of Updates for Chapter 1

The following table provides a description of each section of this chapter, and a summary of the changes that have been made since the Dawson County Hazard Mitigation Plan 2018.

Chapter 3 Section	Updates
Risk Assessment	<ul style="list-style-type: none"> <li>Updated the Risk Assessment conducted for the update (restructured and added components to THIRA)</li> </ul>
Natural Hazard Thunderstorms	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Winter Storms	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Flooding	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Tornado	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Drought	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Wildfire	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Earthquake	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Tropical Cyclone	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Natural Hazard Extreme Temperatures	<ul style="list-style-type: none"> <li>New section – not in 2018 Plan</li> </ul>
Technological Hazard Hazardous Materials	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Dam Failure	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> </ul>



	<ul style="list-style-type: none"> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Transportation	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Terrorism	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections. Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Communications Failure	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Emergent Infectious Diseases	<ul style="list-style-type: none"> <li>Updated and consolidated hazard profile.</li> <li>Added probability, impacts, impacts from future conditions sections</li> </ul>
Technological Hazard Cyberattack	<ul style="list-style-type: none"> <li>New section – not in 2018 Plan</li> </ul>
Technological Hazard Active Shooter/Threat	<ul style="list-style-type: none"> <li>New section – not in 2018 Plan</li> </ul>
Hazard Assessment	<ul style="list-style-type: none"> <li>New section – not in 2018 Plan</li> </ul>

### 3.2. Risk Assessment (Requirement §201.6(c)(2)(i and ii), Requirement §201.6(d)(3))

The Dawson County Hazard Mitigation Planning Committee (HMPC) conducted a comprehensive Threat and Hazard Identification and Risk Assessment (THIRA) for Dawson County and the City of Dawsonville. This assessment developed the hazard basis for this plan. The assessment includes the following components for each hazard:

- **Hazard Identification:** The HMPC identified nine natural hazards and eight technological hazards for this Hazard Mitigation Plan. This is an increase of one natural hazard (extreme temperatures), two technological hazard (cyberattack and active shooter/threat) compared to the previous plan. The list of hazards is based upon frequency, extent, previous occurrences, probability, and impacts.
- **Hazard Description:** Each hazard was described in detail. Many hazard descriptions came from the Georgia Hazard Mitigation Strategy.
- **Hazard Profile (Location, Extent, Previous Occurrences):** Each hazard was described based on:
  - Location: The geographic area within the planning area that is affected by the hazard
  - Extent: The expected range of intensity for each hazard
  - Previous Occurrences: The history of hazard events



- **Probability:** The probability of each hazard was evaluated using historical data as well as future condition data (e.g. climate change, population change, etc.). In some cases, probability levels were determined using the following scale:
  - Unlikely: Occurring every 50 years or less
  - Somewhat Likely: Occurring every 20 to 50 years
  - Likely: Occurring every 5 to 20 years
  - Highly Likely: Occurring every 1 to 5 years
  - Extremely Likely: Occurring every 1 year or more
- **Impacts:** The impacts (to infrastructure, agriculture, and people) were evaluated for each hazard. Example impacts include loss of life, building damage, crop damage, etc.
- **Impacts from Future Conditions:** The changes in impacts from future conditions, including climate change, population change, and land use change, were described for each hazard.
- **Multi-Jurisdictional Concerns:** Each jurisdiction was considered when determining the potential hazard impact.

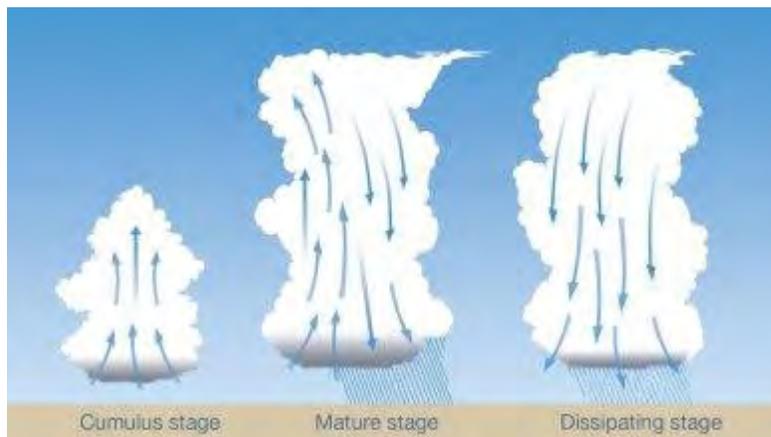
Along with this assessment, GEMA conducted a HAZUS assessment, which is incorporated in this chapter and found in Appendix G.

### 3.2.1. Natural Hazard: Thunderstorms

#### 3.2.1.1. Hazard Description

**Thunderstorms:** Thunderstorms are formed when moist air near the earth’s surface is forced upward through some catalyst (convection or frontal system). As the moist air rises, the air condenses to form clouds. Because condensation is a warming process, the cloud continues to expand upward. When the initial updraft is halted by the upper troposphere, both the anvil shape and a downdraft form. This system of up-drafting and down-drafting air columns is termed a “cell.”

Figure 3.1 The sequential development of a thunderstorm cell (source: Australian Government Bureau of Meteorology)





As the process of updrafts and downdrafts feeds the cell, the interior particulates of the cloud collide and combine to form rain and hail, which falls when the formations are heavy enough to push through the updraft. The collision of water and ice particles within the cloud creates a large electrical field that must discharge to reduce charge separation. This discharge is the lightning that occurs from cloud to ground or cloud to cloud in the thunderstorm cell. In the final stage of development, the updraft weakens as the downdraft-driven precipitation continues until the cell dies.

Each thunderstorm cell can extend several miles across its base and to reach 40,000 feet in altitude. Thunderstorm cells may compound and move abreast to form a squall line of cells, extending farther than any individual cell's potential.

In terms of temporal characteristics, thunderstorms exhibit no true seasonality in that occurrences happen throughout the year. Convectively, driven systems dominate the summer while frontal driven systems dominate during the other seasons. The rate of onset is rapid in that a single cell endures only 20 minutes. However, various cells in different stages of development may form a thunderstorm that lasts up to a few hours as it moves across the surface.

In terms of magnitude, the National Weather Service defines thunderstorms in terms of severity as a severe thunderstorm that produces winds greater than 57 mph and/or hail of at least 1 inch in diameter and/or a tornado. The National Weather Service chose these measures of severity as parameters more capable of producing considerable damage. Therefore, these are measures of magnitude that may project intensity.

**Lightning:** Lightning occurs when the difference between the positive and negative charges of the upper layers of the cloud and the earth's surface becomes great enough to overcome the resistance of the insulating air. The current flows along the forced conductive path to the surface (in cloud to ground lightning) and reaches up to 100 million volts of electrical potential. In Georgia, lightning strikes peak in July, with June and August being second highest in occurrence.

**Hail:** Hail is a form of precipitation that forms during the updraft and downdraft-driven turbulence within the cloud. The hailstones are formed by layers of accumulated ice (with more layers creating larger hailstones) that can range from the size of a pea to the size of a grapefruit. Hailstones span a variety of shapes but usually take a spherical form. Hailstorms mostly endanger cars but have been known to damage aircraft and structures.



Figure 3.2 Reference of hailstone size and wind speed

Hailstone size	Measurement		Updraft Speed	
	in.	cm.	mph	km/h
<b>bb</b>	< 1/4	< 0.64	< 24	< 39
<b>pea</b>	1/4	0.64	24	39
<b>marble</b>	1/2	1.3	35	56
<b>dime</b>	7/10	1.8	38	61
<b>penny</b>	3/4	1.9	40	64
<b>nickel</b>	7/8	2.2	46	74
<b>quarter</b>	1	2.5	49	79
<b>half dollar</b>	1 1/4	3.2	54	87
<b>walnut</b>	1 1/2	3.8	60	97
<b>golf ball</b>	1 3/4	4.4	64	103
<b>hen egg</b>	2	5.1	69	111
<b>tennis ball</b>	2 1/2	6.4	77	124
<b>baseball</b>	2 3/4	7.0	81	130
<b>tea cup</b>	3	7.6	84	135
<b>grapefruit</b>	4	10.1	98	158
<b>softball</b>	4 1/2	11.4	103	166

**3.2.1.2. Hazard Profile (Location, Extent, Previous Occurrences)**

The Dawson County Hazard Mitigation Plan Update Committee utilized data from the National Climatic Data Center, the National Weather Service, numerous weather- related news articles, and the Dawson County LEOP in researching severe thunderstorms and their potential impacts on the County.

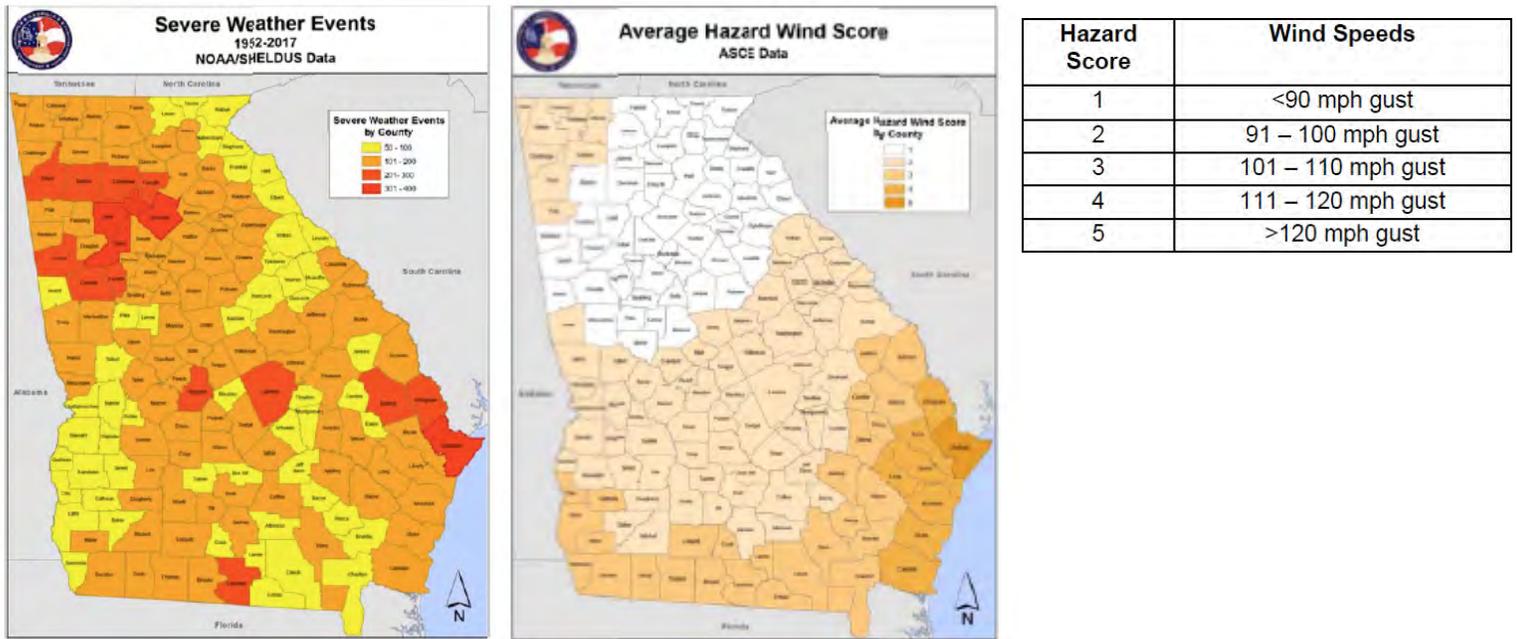
Severe thunderstorms, including high winds, hail, and lightning, are a serious threat to the residents and infrastructure of Dawson County. Severe thunderstorms are the most frequently occurring natural hazard in Dawson County. Severe thunderstorms are non-spatial and can occur anywhere in the County. The extent of the storms can include high winds, lightning, and hail. Hail up to 2.75 inches was recorded in Dawson County on several occasions, most recently in 2008.

While there have been dozens of documented thunderstorm events affecting Dawson County over the last 50 years, it is likely that the official number is a low estimate due to poor record keeping in decades past. For example, only 13 thunderstorm events were recorded between 1967 and 1990, likely a vast underestimation of actual events.

Below are two maps that identify the wind risk and the hazard wind score for the State of Georgia, including Dawson County. A legend is included to show the scale used by the Hazard Wind Score map.



Figure 3.3 Wind risk and hazard wind score for counties in Georgia (source: 2019 State of Georgia Hazard Mitigation Strategy)



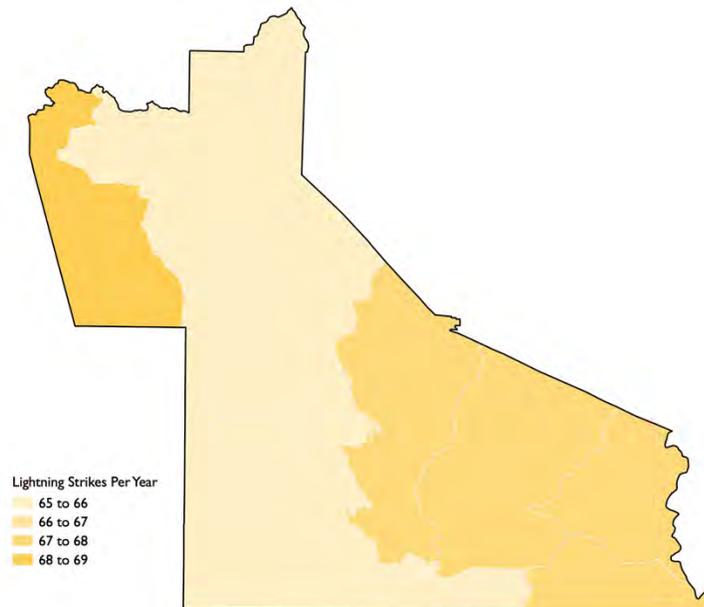
During the last 50 years, 104 thunderstorm events were recorded in Dawson County, with 91 of those occurring in the last 25 years. This number includes 39 hail events and only 8 lightning reports. According to these records, Dawson County has a 0.6% chance daily of a thunderstorm event based upon data from the last 25 years. Due to improved record keeping protocols, the Dawson County Hazard Mitigation Plan Update Committee believes the data from the last ten years provides a more accurate representation of the thunderstorm threat to the county. The Dawson County Hazard Mitigation Plan Update Committee has also determined that the lightning threat is severely under-reported, as shown in the NCDL data numbers. For additional historical data, please see Appendix D.

**3.2.1.3. Probability**

The annualized frequencies of strong wind, hail, and lightning events were calculated as an initial step in determining thunderstorm probability. The annualized frequency of lightning strikes occurring in the County is based on a prototype dataset from NOAA’s NCEI with all recorded cloud-to-ground lightning strikes from 1991 to 2012 made available through FEMA.

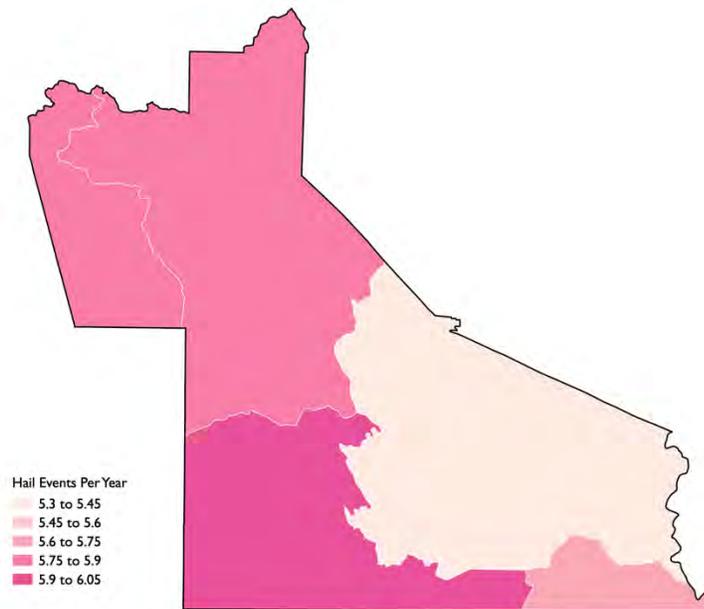


Figure 3.4: Annualized frequency analysis of lightning events in Dawson County (source: Federal Emergency Management Agency)



NOAA’s Storm Prediction Center provides access to reported hail events since 1986 that can be used to calculate the annualized frequency. The dataset includes events that meet a hail size threshold of 0.75” (before 2010) and a threshold of 1.0” (after 2010).

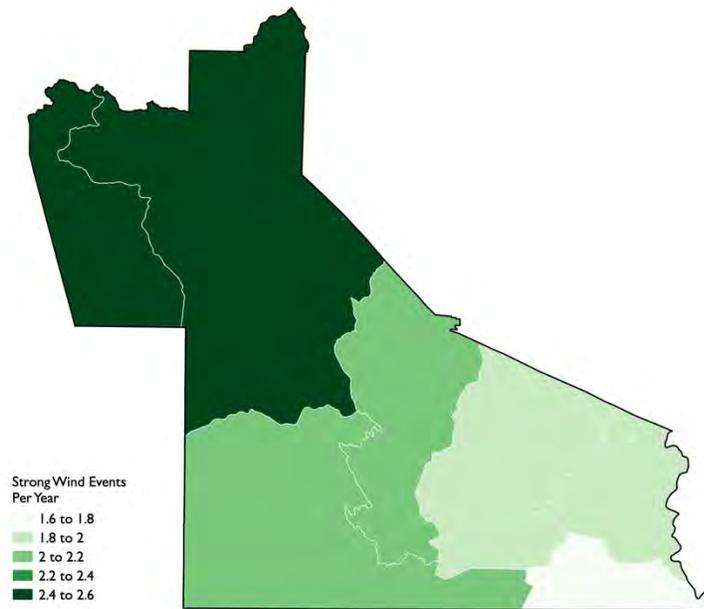
Figure 3.5: Annualized frequency analysis of hail events in Dawson County (source: National Oceanic and Atmospheric Administration)





NOAA’s Storm Prediction Center provides access to reported damaging wind events since 1986 that can be used to calculate annualized frequency. The dataset includes events with wind speeds greater than or equal to 50.4 knots (58 mph).

Figure 3.6 Annualized frequency analysis of strong wind events in Dawson County (source: National Oceanic and Atmospheric Administration)



Based on the above annualized frequency analysis, the probability of having a thunderstorm in the County is extremely likely (occurring every 1 year or more).

The impact of climate change on the frequency and severity of thunderstorms is not currently well known. According to the 2019 Georgia Hazard Mitigation Strategy, the anticipated frequency and severity will remain close to historical records.

#### 3.2.1.4. Impacts

In evaluating assets that are susceptible to severe thunderstorms, the Dawson County HMPC determined that all public and private property is at threat by severe thunderstorms, including all critical facilities. This is due to the lack of spatial prejudice of severe thunderstorm events.

Estimates of damage for the past events of the last 50 years are over \$3.5 million, or \$70,000 annually. These numbers are thought to be a gross underestimation of actual past damages though as most of the available information relating to severe thunderstorm events in Dawson County fails to describe damage estimates in any detail. With each thunderstorm event, there are likely unreported costs related to infrastructure costs, public safety response costs, utility repair costs, and personal home and business repair costs. Thunderstorms have occurred during all parts of the day and night and in every month in Dawson County.



### **3.2.1.5. Impacts from Future Conditions**

As described above, impacts from climate change are not well defined yet, but Dawson County could see impacts from land use changes and population growth. More specifically, Dawson County has seen continued and significant population growth (from 2010 to 2020, Dawson County's population increased by 4,731 (21.19%), according to Census Bureau's Population Estimates Program) – this population growth is also related to land use changes as the County becomes more developed to account for the increased population. Even if the frequency and severity of thunderstorms remain constant, damage to life and property will likely increase.

### **3.2.1.6. Multi-Jurisdictional Considerations**

Thunderstorm events have occurred across all areas of Dawson County. Crop damage from thunderstorm events would likely have the greatest impact in the rural areas of Dawson County. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Thunderstorms have the potential to impact all areas of Dawson County.

### **3.2.1.7. Hazard Summary**

Thunderstorm events pose one of the greatest threats of property damage, injuries, and loss of life in Dawson County. Thunderstorm events are the most frequently occurring weather event that threatens Dawson County. As a result, the Dawson County HMPC recommends that the mitigation measures identified in this plan for thunderstorms should be aggressively pursued due to the frequency of this hazard and the ability for this hazard to affect any part of Dawson County.

## **3.2.2. Natural Hazard: Winter Storms**

### **3.2.2.1. Hazard Description**

Severe winter storms bring the threat of ice and snow. There are many types of frozen precipitation that could create a severe winter weather event. Freezing rain consists of super cooled falling liquid precipitation freezing on contact with the surface when temperatures are below freezing. This results in an ice glazing on exposed surfaces including buildings, roads, and power lines. Sleet is easily discernable from freezing rain in that the precipitation freezes before hitting the surface. Often this sleet bounces when hitting a surface and does not adhere to the surface. However, sleet can compound into sufficient depths to pose some threat to motorists and pedestrians.

A heavy accumulation of ice, which is often accompanied by high winds, can devastate infrastructure and vegetation. Destructiveness in the southern states is often amplified due to the lack of preparedness and response measures. Also, the infrastructure was not designed to withstand certain severe weather conditions such as weight build-up from snow and ice. Often, sidewalks and streets become extremely dangerous to pedestrians and motorists. Primary industries, such as farming and fishing, suffer losses through winter seasons that produce extreme temperatures and precipitation.



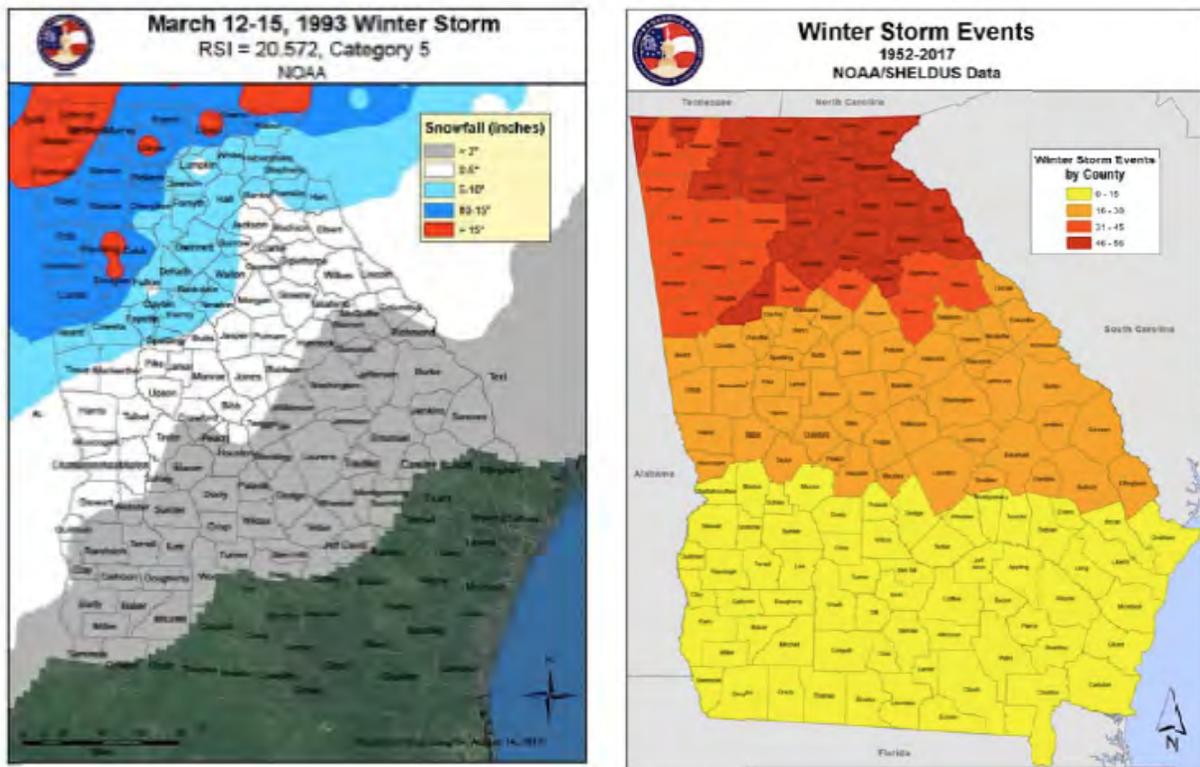
Severe winter weather exhibits seasonal qualities in that most occur within the months of January to March, with the highest probability of occurrence in February. The rate of onset and duration varies from storm to storm, depending on the weather system driving the storm. Severe winter weather rarely frequents the State of Georgia. However, the impacts of the storms substantiate severe winter weather’s inclusion in the risk assessment.

**3.2.2.2. Hazard Profile (Location, Extent, Previous Occurrences)**

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow.

Individual events of winter weather can be drastically different depending on many factors, including the duration of the event, the type of precipitation involved, and the depth of the precipitation. Winter storm events can be a light dusting of snow, ¼ inch of ice, or over a foot of snow. Other factors, such as wind, can influence the strength of these events, as happened with wind-blown snow during the March 1993 Winter Storm event. During this event, over a foot of snow was reported in multiple areas across Dawson County and most areas received at least 6 inches of snow.

Figure 3.7 Historic snowfalls for the March 1993 Winter Storm event and number of total winter storm events (source: 2019 State of Georgia Hazard Mitigation Strategy)



The National Weather Service weather forecast offices issue weather warnings when an office has at least an 80% confidence level of an event occurrence (generally within 24 to 36 hours). Warnings



related to severe winter weather include blizzard and winter storm warnings. Blizzard warnings are issued when sustained winds or frequent gusts greater than or equal to 35 mph and considerable falling and/or blowing snow frequently reducing visibility for greater than or equal to 3 hours are forecasted to occur. Winter storm warnings are issued when (1) more than one predominant hazard (ie. heavy snow and blowing snow (below blizzard conditions), snow and ice, snow and sleet, sleet and ice, or snow, sleet and ice) meets or exceeds warning criteria for at least one of the precipitation elements (2) at least 6 inches of snow or sleet is forecasted in a 12 hour period or (3) at least 9 inches of snow or sleet is forecasted in a 24 hour period. Previous occurrences of winter weather warnings can be seen in Appendix D.

### 3.2.2.3. Probability

The annualized frequencies of ice storms and winter weather events were calculated using data from the United States Army Corps of Engineers Cold Regions Research and Engineering Laboratory (CRREL) and archived NWS warnings compiled by Iowa State University's Iowa Environmental Mesonet.

Figure 3.8: Annualized frequency analysis of ice storm events in Dawson County (source: Federal Emergency Management Agency)

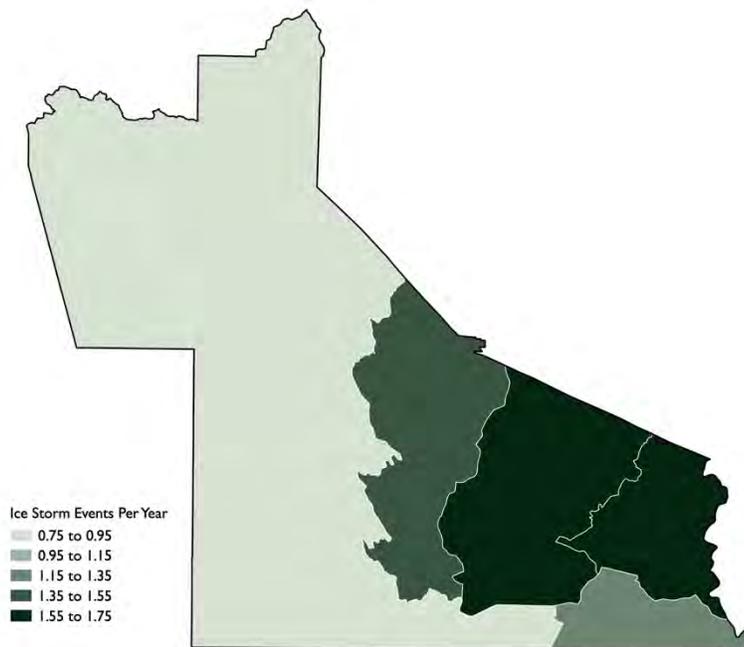
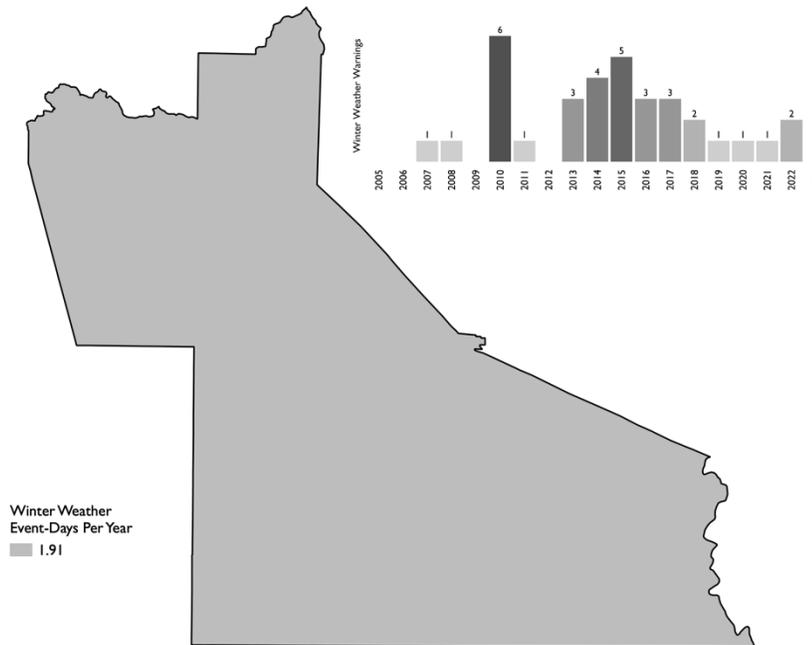




Figure 3.9: Annualized frequency analysis of winter weather events in Dawson County (source: Iowa State University)



Based on the above annualized frequency analysis, the probability of having a winter storm event in the County is extremely likely (occurring every 1 year or more).

Similar to thunderstorms, the impacts of climate change on winter storms is not entirely understood yet. Referencing the 2019 Georgia Hazard Mitigation Strategy though, winter storms have increased in frequency and intensity since the 1950s, but their tracks have shifted northward over the United States. While the trend in increased frequency will likely continue over the United States, Dawson County can expect similar levels as historical records due to the offset by the northward shift of the tracks.

#### 3.2.2.4. Impacts

While winter storms are not as frequent of an occurrence in Dawson County as they are in areas in the Northern US, they still have the potential to wreak havoc on the community when they do occur. Winter storms in Dawson County typically cause drastic damage to infrastructure, such as roads, power lines, and bridges. They also can cause damage to private property, businesses, and trees throughout the county. Due to the county’s elevation changes, many highways have steep grades that can become dangerous during icy conditions. The large number of trees in Dawson County can also become a hazard when the tree limbs become weighed down with snow and ice and begin to break and fall to the ground, potentially damaging private property, public property, or injuring people and animals.

Since winter storms are indiscriminate about location, the Dawson County HMPC determined that all public and private property, including all critical infrastructure, are susceptible to impacts from winter storms.



Total estimated losses for winter storm events of the last 50 years indicate a total of over \$1.2 million in losses. Extrapolated over 50 years, this averages out to \$25,940 per year. However, nearly all the documented winter storms with loss information have occurred over the last 20 years. As such, the average loss per year for the last 20 years is \$64,850 per year. It is estimated that these numbers are a gross underestimation of the impact of past winter storms and caution is expressed when using these figures to make loss determinations for winter storms in Dawson County.

#### **3.2.2.5. Impacts from Future Conditions**

Impacts from future conditions for winter weather mirrors the impacts from future conditions for thunderstorms for Dawson County. Climate change is not expected to have a significant impact, but Dawson County could see impacts from land use changes and population growth. Even if the frequency and severity of winter storms remain constant, damage to life and property will likely increase.

#### **3.2.2.6. Multi-Jurisdictional Considerations**

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Therefore, all mitigation actions identified regarding winter storms should be pursued on a countywide basis and include the City of Dawsonville.

#### **3.2.2.7. Hazard Summary**

Winter storms, which can include freezing rain, sleet, or snow, typically afford communities some advance warning, which is different from many other severe weather phenomena. The National Weather Service issues winter storm watches, advisories, and warnings as much as a day before the storm's impacts begin. Unfortunately, communities in the Southern United States are not equipped to handle winter storms due to their relative infrequent nature. Oftentimes, communities can face severe impact from these storms. The Dawson County HMPC recognizes the potential threats winter storms could have on the community and have identified specific mitigation actions as a result.

### **3.2.3. Natural Hazard: Flooding**

#### **3.2.3.1. Hazard Description**

Flooding is a temporary overflow of water on normally dry lands adjacent to the source of water, such as a river, stream, or lake. The causes of flooding include mass sources of precipitation, such as tropical cyclones, frontal systems, and isolated thunderstorms combined with other environmental variables, such as changes to the physical environment, topography, ground saturation, soil types, basin size, drainage patterns, and vegetative cover. Adverse impacts may include structural damages, temporary backwater effects in sewers and drainage systems, death of livestock, agricultural crop loss, loss of egress and access to critical facilities due to roads being washed-out or over-topped and unsanitary conditions by deposition of materials during recession of the floodwaters.

Floods are loosely classified as either coastal or riverine. Coastal flooding occurs when normally dry, low-lying land is flooded by sea water. Coastal flooding is usually associated with tropical cyclones in



Georgia. Riverine flooding occurs from inland water bodies such as streams and rivers. Riverine flooding is often classified based on rate of onset. The first is slow to build, peak, and recede, often allowing sufficient time for evacuations. The other type of riverine flood is referred to as a “flash” flood, which rapidly peaks and recedes, thus giving insufficient time for evacuations. Flash floods are typically considered the most dangerous of these types.

On a broad scale, flooding can occur around any body of water or low-lying surface given enough precipitation or snowmelt. The spatial extent of the flooding event depends on the amount of water overflow but can usually be mapped because of existing floodplains (areas already prone to flooding).

Flooding in Georgia is highly dependent on precipitation amounts and is highly variable. Certain seasons are more prone to flooding to a greater likelihood of excessive precipitation. Typically, the wet seasons are during the winter, early spring, and midsummer. Late spring and fall are usually drier seasons.

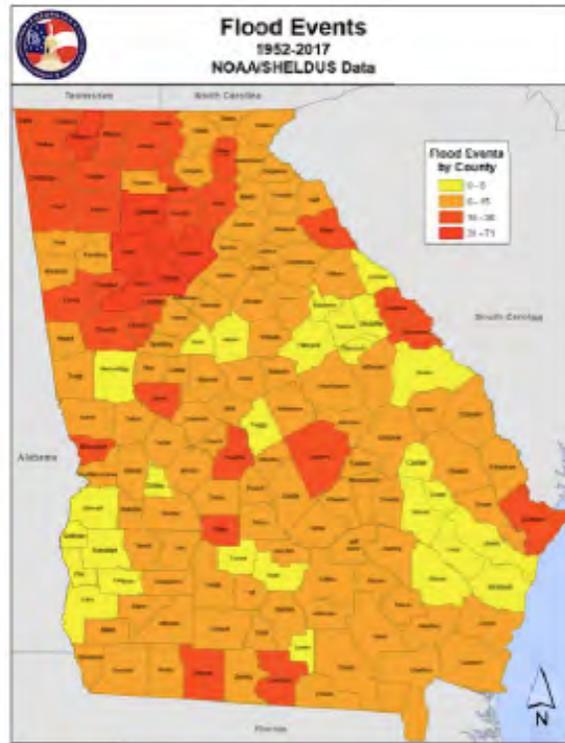
#### 3.2.3.2. Hazard Profile (Location, Extent, Previous Occurrences)

Flood events within Dawson County are typically associated with areas of special flood hazard as identified on Flood Rate Insurance Maps (FIRMs) published by FEMA. The flood maps delineate areas of high, moderate, and low flood risk by indicating areas of inundation under different flooding return periods (e.g. 100-year, 500-year floods). Dawson County is within the 100-year and 500-year floodplains depending on the location.

The HMPC researched flooding information for the last fifty years. The main sources of information used came from the NCDRC, the Dawson County Emergency Operations Plan, and news media sources. It was determined that flooding has caused significant damage on a relatively small number of occasions over the last 20 years. One significant flooding event that affected Dawson County occurred in September of 2004. The flash flood event led to two bridges and multiple culverts being washed out, four mobile homes flooded, and one breached dam. This event caused nearly \$500,000 in reported damages. While data was collected for the entire 50-year timeframe, little information was available regarding flood events over that period, possibly due to poor record keeping. The Etowah River reaches major flood stage at 21 feet near Dawsonville and 31 feet near Landrum. At these levels, GA Highway 9 floods in low-lying areas and water levels reach the bottom of the GA Highway 136 bridge. Homes along Riverbend Road and Etowah River Road become inundated with 4-10 feet of water (flooding of homes begins at “moderate” flood level near Landrum in unincorporated Dawson County). The highest crest of the Etowah River near Dawsonville (unincorporated Dawson County) is 15.9 feet in 2013, which is just below “moderate” flood stage. For additional historical data, please see Appendix D.



Figure 3.10 Past flood events in Georgia counties (source: 2019 State of Georgia Hazard Mitigation Strategy)

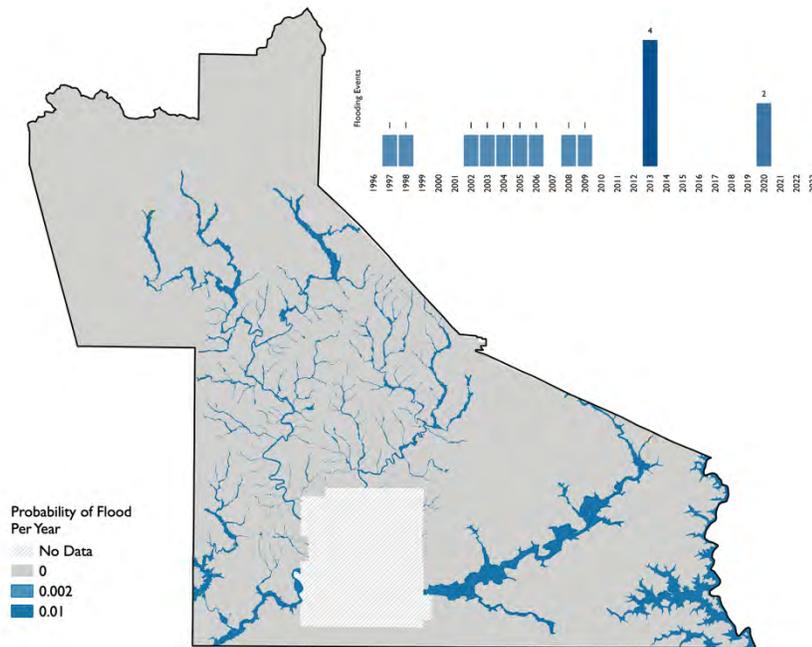


### 3.2.3.3. Probability

To evaluate the probability of flooding in Dawson County, the HMPC looked at the FEMA flood maps and events in the NCEI Storm Events Database since 1996. The County is within the 100-year and 500-year floodplains depending on the location within the County and had 15 flood event reports over 28 years within the database. According to FEMA, any place with a 1% chance or higher chance of experiencing a flood each year has at least a 25% chance of flooding during a 30-year mortgage. The probability of flooding in Dawson County is highly likely (occurring every 1 to 5 years).



Figure 3.11: FEMA flood zones in Dawson County and counts of historical flooding events (source: Federal Emergency Management Agency, National Oceanic and Atmospheric Administration)



Climate change is projected to impact precipitation, and thus the probability of flooding. As shown in Figure 3.15, the County is expected to see an increase of 4-5 inches of precipitation by the end of the century as well as an increase of 3-4 days that have heavy rains.

### 3.2.3.4. Impacts

Relatively little information is available regarding flooding damage estimates. However, with each flooding event, it is likely that significant costs arose related to road repair, infrastructure repair, and public safety response operations. Most of the flood damage in Dawson County’s history appears to be related to roads and culverts washing out because of flood waters.

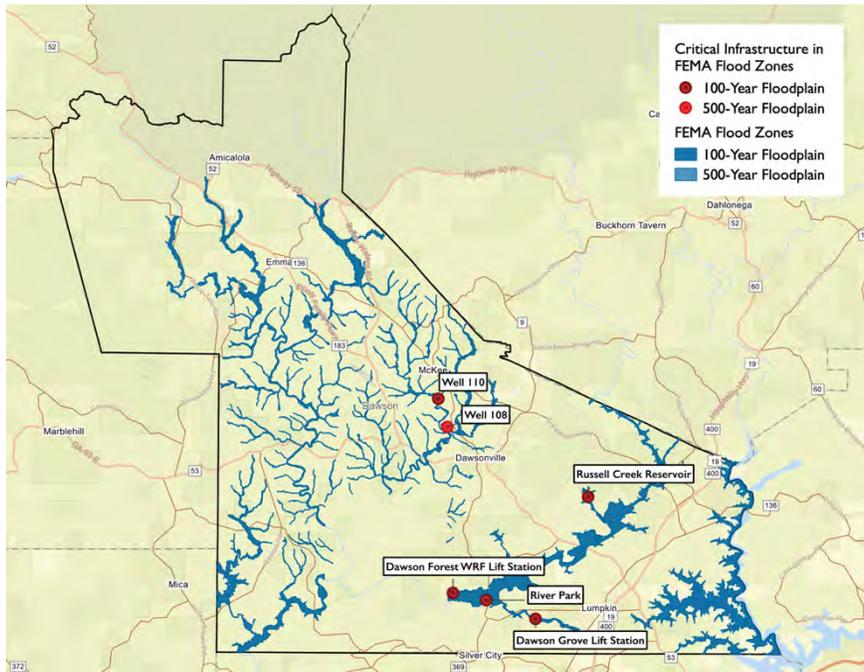
To evaluate the assets that would potentially be impacted by flooding, the Dawson County HMPC attempted to identify known structures within, or close to, the 100-year floodplain.



# DAWSON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, 2024-2029 UPDATE

## Chapter 3: Hazard Profiles

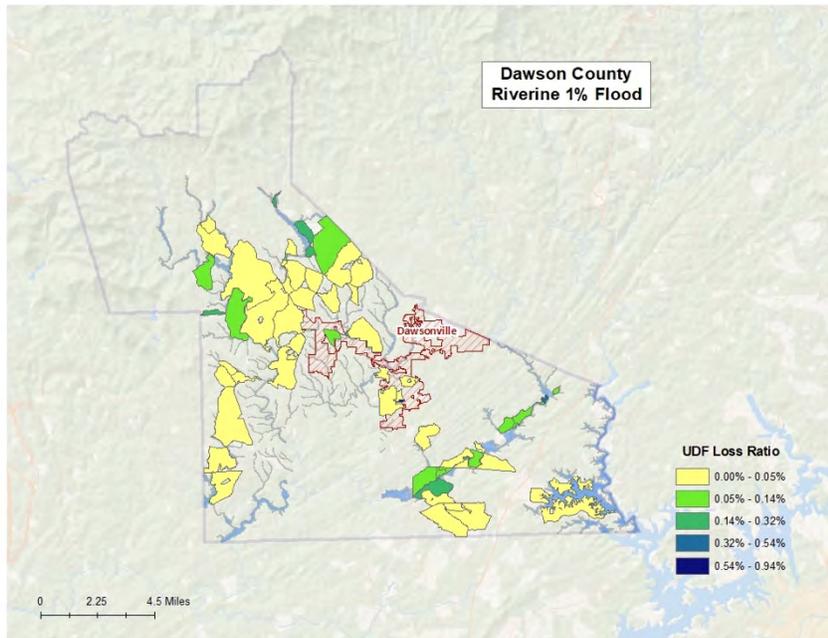
Figure 3.12 Critical infrastructure within flood zones (source: Federal Emergency Management Agency)



Based upon the 2024 Dawson County HAZUS report, a flood equivalent to the 1% riverine flood levels could result in losses in excess of \$5 million. However, it is possible that some areas may not experience total losses while others may be inundated with flood waters who are not designated in the 1% riverine flood areas. The analysis identified no essential facility that were subject to damage in the Dawson County riverine 1% probability floodplain.



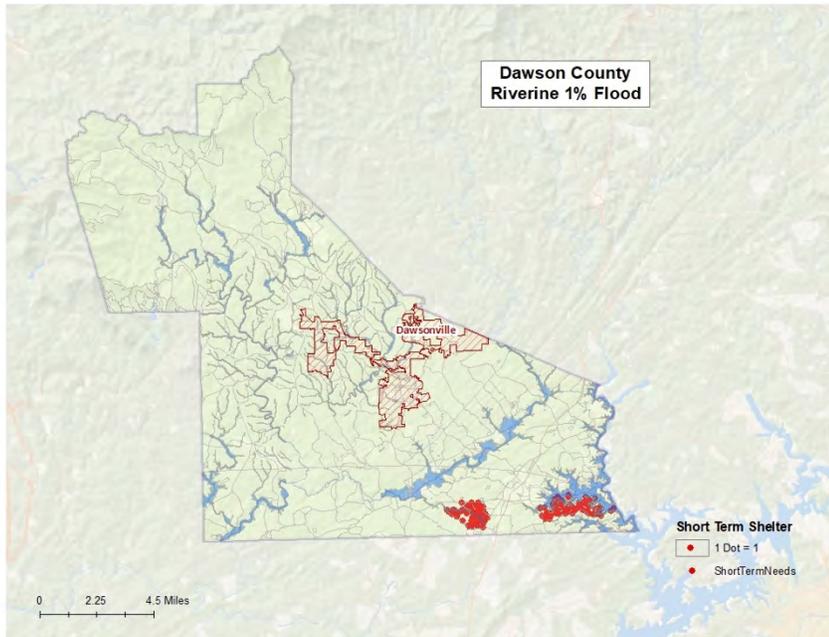
Figure 3.13 Dawson County potential loss ratios of total building exposure to losses sustained to buildings from the 1% riverine flood by 2010 census block (source: 2024 Dawson County HAZUS Report)



The analysis also estimated the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimated 281 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 844 individuals, of which 368 may require short term publicly provided shelter.



Figure 3.14 Riverine 1% estimated flood shelter requirements (source: 2024 Dawson County HAZUS Report)



### 3.2.3.5. Impacts from Future Condition

Dawson County is projected to see an increase in precipitation leading to an increase in the number of properties that are prone to flooding in 30 years. There is also a projected increase in the percent of properties that are at risk of flooding between now and 30 years from now.

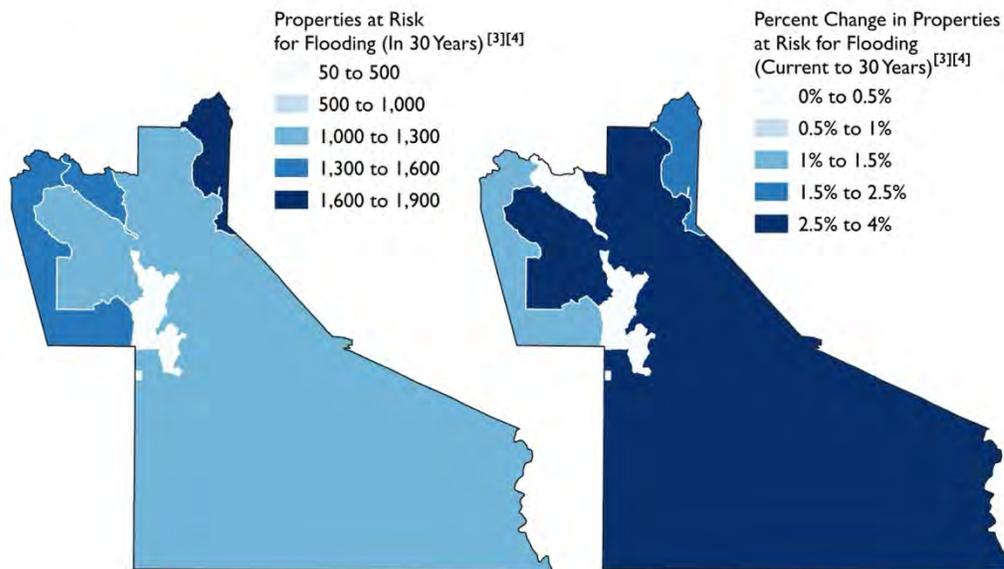
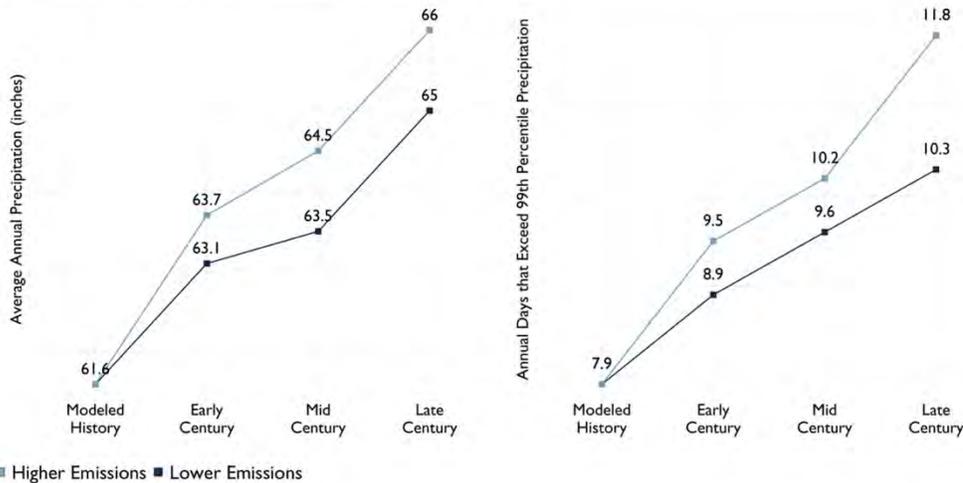


# DAWSON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, 2024-2029 UPDATE

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Figure 3.15 Projected precipitation levels in Dawson County under various emissions scenarios and impacts to property flooding (source: Climate Mapping for Resilience and Adaptation, First Street Foundation)

Precipitation Projections by Year [1] and Emissions Scenario [2]



[1] Modeled History (1976 to 2005); Early Century (2015 to 2044); Mid Century (2035 to 2064); Late Century (2070 to 2099)

[2] Lower Emissions Scenario (RCP 4.5); Higher Emissions Scenario (RCP 8.5)

[3] Based on a 1-in-100 year flood event; this event has a 26% chance occurring at least once over 30 years

[4] Calculated on the zip code-level; values for zip codes that span multiple counties represent the entire zip code (not restricted to the portion within Dawson County)

Data Sources: Climate Mapping for Resilience and Adaptation, First Street Foundation



Dawson County participates in the National Flood Insurance Program (NFIP) and follows the program’s guidelines to ensure future development is carried out in the best interests of the public. The County (CID No. 130304) first entered the NFIP on December 15, 1990. According to the NFIP guidelines, the County has executed a Flood Damage Prevention Ordinance. This ordinance attempts to minimize the loss of human life and health as well as minimize public and private property losses due to flooding. The ordinance requires any potential flood damage be evaluated at the time of initial construction and



that certain uses be restricted or prohibited based on this evaluation. The ordinance also requires that potential homebuyers be notified that a property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes and the International Building Codes. Currently, the Dawson County municipality of Dawsonville also participates in NFIP. There are no repetitive loss properties identified in Dawson County. This includes the City of Dawsonville.

**3.2.3.6. Multi-Jurisdictional Considerations**

During a large-scale flood event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain. This is particularly true for areas along the Etowah River, which is in unincorporated areas of Southern Dawson County. The City of Dawsonville would be less likely to see direct impacts from flooding. However, a flood impacting unincorporated areas of the county would still have significant impacts on the City of Dawsonville. All of Dawson County and the City of Dawsonville could potentially be impacted.

**3.2.3.7. Hazard Summary**

Flooding has the potential to inflict significant damage within Dawson County, particularly along Lake Lanier and its tributaries. Mitigation of flood damage requires the community to be aware of flood-prone areas, including roads, bridges, and critical facilities. The Dawson County HMPC identified flooding as a hazard requiring mitigation measures and identified specific goals, objectives, and action items they deemed necessary to lessen the impact of flooding for their communities. These maps were updated since the previous plan. There are no repetitive loss properties identified in Dawson County.

**3.2.4. Natural Hazard: Tornado**

**3.2.4.1. Hazard Description**

A tornado is a violently rotating column of air (seen only when containing condensation, dust, or debris) that is in contact with the surface of the ground. Exceptionally large tornadoes may not exhibit the classic “funnel” shape, but may appear as a large, turbulent cloud near the ground or a large rain shaft. Destructive because of strong winds and windborne debris, tornadoes can topple buildings, roll mobile homes, uproot vegetation, and launch objects hundreds of yards.

Most significant tornadoes (excluding some weak tornadoes and waterspouts) stem from the right rear quadrant of large thunderstorm systems where the circulation develops between 15,000 and 30,000 feet. As circulation develops, a funnel cloud, a rotating air column aloft, or tornado descends to the surface. These tornadoes are typically stronger and longer-lived. The weaker, shorter-lived tornadoes can develop along the leading edge of a singular thunderstorm. Although tornadoes can occur in most locations, most of the tornado activity in the United States in the Midwest and Southeast. Tornadoes can occur anywhere within the State of Georgia.

In terms of the continuum of area of impact for hazard events, tornadoes are isolated. Typically ranging from a few hundred to one or two miles across, tornadoes affect far less area than larger meteorological events such as tropical cyclones, winter storms and severe weather events. An exact



season does not exist for tornadoes. However, most occur between early spring to mid-summer (February-June). The rate of onset of tornado events is rapid. Typically, the appearance of the first signs of the tornado is the descending funnel cloud. This sign may be only minutes from the peak of the event, giving those in danger minimal sheltering time. However, meteorological warning systems attempt to afford those in danger more time to shelter. The frequency of specific tornado intensities is undetermined because no pattern seems to exist in occurrence. Finally, the duration of tornado events ranges from the few minutes of impact on a certain location to the actual tornado lasting up to a few hours.

Tornadoes are measured after the occurrence using the subjective intensity measures. The Enhanced Fujita Scale describes the damage and then gives estimates of magnitude of peak 3-second gusts in miles per hour.

*Figure 3.16 Wind gust speed intervals for Enhanced Fujita Scale ratings*

<b>The Enhanced Fujita Scale</b>	
<b>EF Rating</b>	<b>3 second gust (mph)</b>
0	65-85
1	86-110
2	111-135
3	136-165
4	166-200
5	over 200

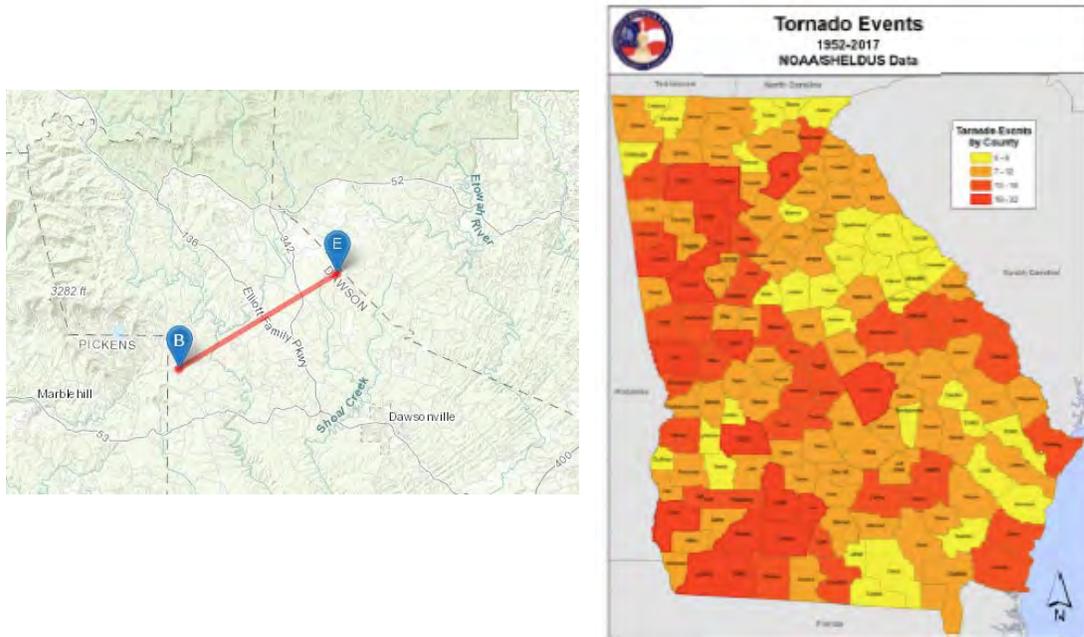
**3.2.4.2. Hazard Profile (Location, Extent, Previous Occurrences)**

All areas within Dawson County are vulnerable to the threat of a tornado. Due to the indiscriminate and unpredictable nature of tornadoes, there is no reliable method to determine where or when a tornado will strike. There have been only two documented tornadoes in the last 50 years in Dawson County. It is likely that other tornadoes have occurred within this timeframe, but available records are limited in nature.

Individual tornado events can cause extreme damage to an area. This holds true for Dawson County, as well. The strongest and costliest documented tornado to impact Dawson County was an EF4 in 1974. This storm traveled through the community of Juno. The storm caused \$2.5 million in damages and led to 15 injuries and three deaths in Dawson County. For additional historical data, please see Appendix D.



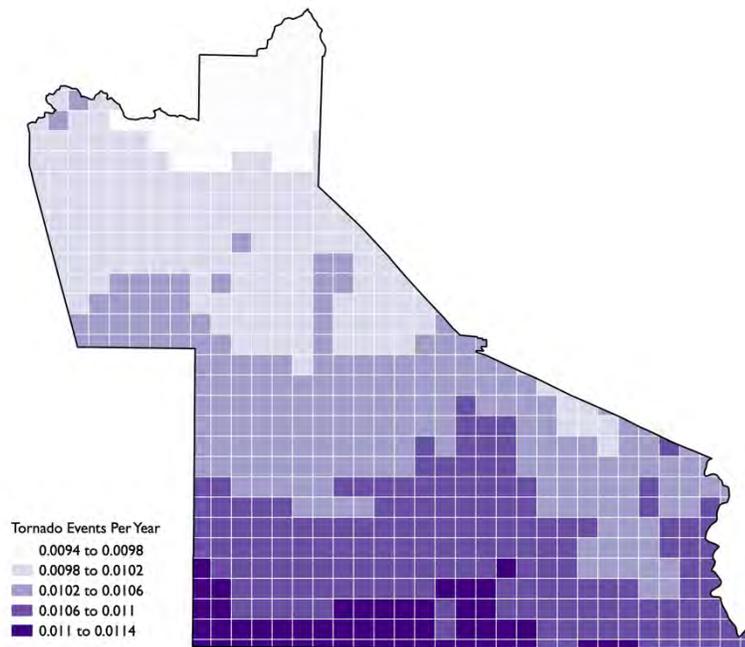
Figure 3.17 1974 EF4 tornado track and historical tornado events in Georgia counties (source: National Climatic Data Center, 2019 State of Georgia Hazard Mitigation Strategy)



### 3.2.4.3. Probability

NOAA’s Storm Prediction Center provides access to reported tornado events since 1986 that can be used to calculate annualized frequency. The dataset includes events with a rating of EF0 to EF5.

Figure 3.18 Annualized frequency analysis of tornado events in Dawson County (source: National Oceanic and Atmospheric Administration)





The probability of a tornado in Dawson County is somewhat likely (occurring every 20 to 50 years).

The impact of climate change on the frequency and severity of tornadoes is not currently well known. According to the 2019 Georgia Hazard Mitigation Strategy, the anticipated frequency and severity will remain close to historical records.

**3.2.4.4. Impacts**

In evaluating assets that are susceptible to tornadoes, the Dawson County HMPC determined that all public and private property is threatened by tornadoes, including all critical facilities. This is due to the lack of spatial prejudice of tornadoes.

Estimates of damage for the past events of the last 50 years are \$2.7 million, or \$54,000 annually. When only events of the last 25 years are considered, yearly estimations decrease dramatically to \$10,000 annually.

**3.2.4.5. Impacts from Future Conditions**

Impacts from future conditions for tornadoes mirrors the impacts from future conditions for other hazards where the effects from climate change are not well known or expected. Even if the frequency and severity of tornadoes remain constant, damage to life and property will likely increase due to land use and population changes.

**3.2.4.6. Multi-Jurisdictional Considerations**

All portions of Dawson County could potentially be impacted by a tornado due to the indiscriminate nature of tornadic events. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a tornado event. Therefore, all mitigation actions identified regarding tornadoes should be pursued on a countywide basis and include the City of Dawsonville.

**3.2.4.7. Hazard Summary**

Dawson County remains at risk to potential damage from tornadoes. Should a tornado strike in densely populated areas of the county, significant damage or loss of life could occur. Due to the destructive power of tornadoes, it is essential that the mitigation measures identified in this plan regarding tornado activity receive full consideration.

**3.2.5. Natural Hazard: Drought**

**3.2.5.1. Hazard Description**

Drought is a normal, recurrent feature of climate consisting of a deficiency of precipitation over an extended period (usually a season or more). This deficiency results in a water shortage for some social or environmental sector. Drought should be judged relative to some long-term average condition of



balance between precipitation and evapotranspiration in a particular area that is considered “normal.” Drought should not be viewed as only a natural hazard because the demand people place on water supply affects perceptions of drought conditions. From limited water supplies in urban areas to insufficient water for farmland, the impacts of drought are vast.

Droughts occur in virtually every climatic zone and on every continent. Because the impacts of drought conditions are largely dependent on the human activity in the area, the spatial extent of droughts can span a few counties to an entire country.

Temporal characteristics of droughts are drastically different from other hazards due to the possibility of extremely lengthy durations as well as a sluggish rate of onset. Drought conditions may endure for years or even decades. This factor implicates drought as having a high potential to cause devastation on a given area. The duration characteristic of droughts is so important that droughts are classified in terms of length of impact. Droughts lasting one to three months are considered short term, while droughts lasting 4 to 6 months are considered intermediate and droughts lasting longer than 6 months are long term. With the slow rate of onset, most populations have some inkling that drought conditions are increasingly present. However, barring drastic response measures, most only must adapt to the changing environment.

Seasonality has no general impact on droughts in terms of calendar seasons. However, “wet” and “dry” seasons obviously determine the severity of drought conditions. In other words, areas are less susceptible to drought conditions if the area is experiencing a wet season. The frequency of droughts is undetermined, because the hazard spans such a long period of time. However, climatologists track periods of high and low moisture content similarly to the tracking of cooling and warming periods.

#### **3.2.5.2. Hazard Profile (Location, Extent, Previous Occurrences)**

All portions of Dawson County could potentially be impacted by a drought, but agricultural areas of the county are potentially more at risk. The Dawson County HMPC reviewed data for the last 50 years regarding drought conditions. Historically, agricultural losses have accounted for the vast number of losses related to drought conditions.

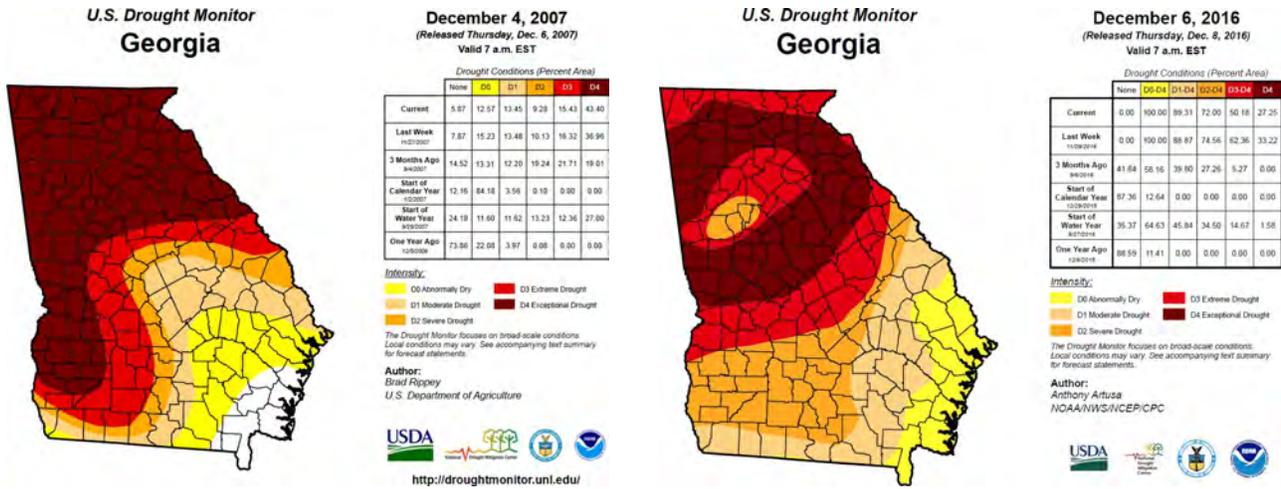
There have been two recent examples of “exceptional” drought events affecting Dawson County. These events occurred in 2007 and 2016. Both events reached the D4 (Exceptional Drought) designation, according to data from the United States Drought Monitor. Below are maps of these two events.



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Figure 3.19 Records from 2007 and 2016 exceptional droughts in Dawson County (source: USDA Drought Monitor – University of Nebraska-Lincoln)



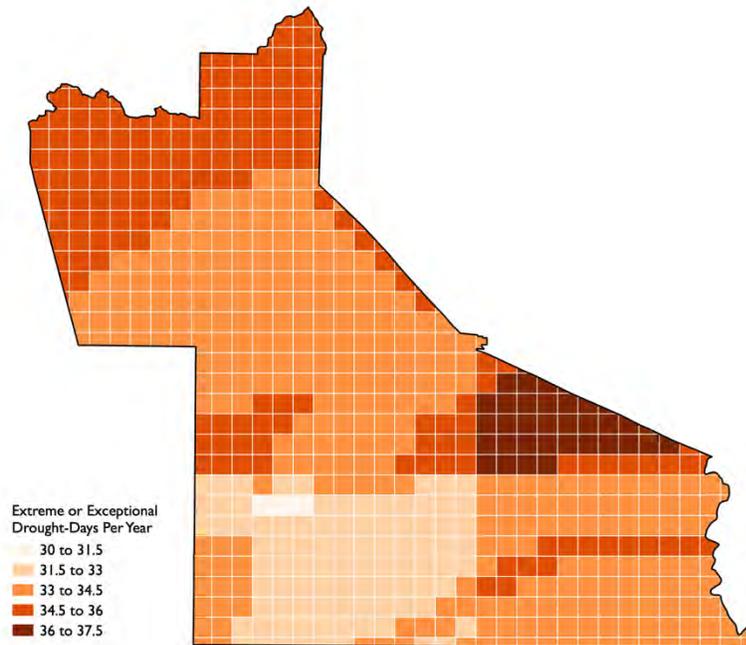
Due to poor record keeping and the unpredictable nature of drought conditions, reliability of historical data for the last 50 years is low. Dawson County has been impacted by 10 drought events in the last 20 years, according to data from the National Climatic Data Center.

### 3.2.5.3. Probability

The USDA monitors drought conditions based on precipitation, streamflow, reservoir levels, temperature and evaporative demand, soil moisture and vegetation health – historical data can be used to calculate annualized frequency.



Figure 3.20 Annualized frequency analysis of drought events in Dawson County (source: United States Department of Agriculture)

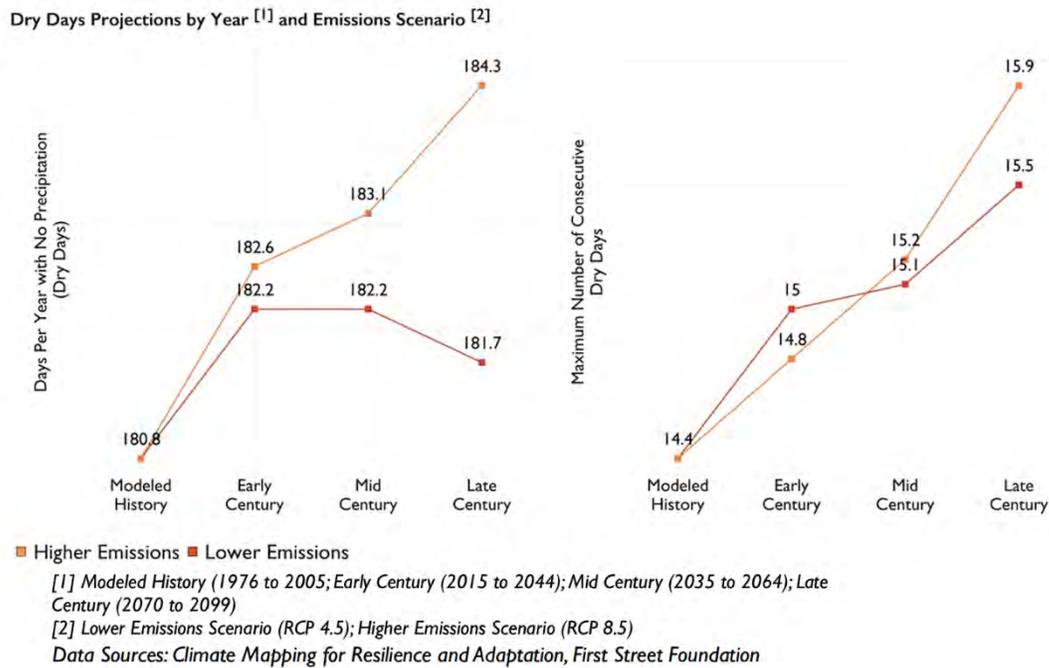


The probability of a drought event in Dawson County is highly likely (occurring every 1 to 5 years).

Climate change is going to impact the drought projections for Dawson County. The data projections show that there will be an increase in the number of dry days each year with no precipitation. If the higher emissions projections are correct, then there will be 184 days with no precipitation and if the lower emission projections are correct then there will be roughly 181 days with no precipitation. The projections also show that there will be an increase in the minimum consecutive number of dry days. If the lower emission projections are correct there will be almost 16-day consecutive dry days and 15 days if the higher emission projections are correct. These are demonstrated in the figure below.



Figure 3.21 Drought-related projections for Dawson County under various emissions scenarios (source: Climate Mapping for Resilience and Adaptation)



### 3.2.5.4. Impacts

No damage to structures or critical facilities is expected as a direct result of drought conditions. However, crop damage and subsequent losses can be expected to occur as a result of drought conditions. The degree of losses would depend on the duration of the drought, severity of the drought, temperatures during the drought, season in which the drought occurs, and the specific needs of the involved crops.

According to the 2017 Agriculture Census data, Dawson County’s market value of products sold was \$46,825,000. \$939,000 of that total represented crop sales, accounting for 2% of the total. Livestock, poultry and their product sales accounted for 98%, or \$45,886,000, of the total value.

Water system shortages and need for supply assistance for those systems could also lead to economic losses associated with the drought. Water resources could also become scarce during a drought, a condition that would potentially affect all Dawson County residences and critical facilities.

While drought conditions do not typically pose a direct threat to structures, secondary hazards from drought such as increased wildfire threat, does pose a significant threat to all public and private property in Dawson County, including all critical facilities.



### **3.2.5.5. Impacts from Future Conditions**

Combined effects from climate change and population growth can heighten the impacts of drought on Dawson County. Climate change can increase the severity, duration, and frequency of drought events, while population growth can lead to increased reliance on water infrastructure and wells countywide. This increased pull on these resources in Dawson County could quicken or deepen the impacts of a drought for residential, commercial, and industrial areas.

### **3.2.5.6. Multi-Jurisdictional Considerations**

All portions of Dawson County could potentially be impacted by a drought, but agricultural areas of the county are potentially more at risk. Crop damage from drought events would likely have the greatest impact in the rural areas of Dawson County. However, the greater population density of the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor could indicate a greater population impact of a significant drought event that threatens water supply needs. Therefore, all mitigation actions identified regarding drought should be pursued on a countywide basis and include the City of Dawsonville.

### **3.2.5.7. Hazard Summary**

Drought conditions can cause significant economic stress on the agriculture and forestry interests of Dawson County. The potential negative secondary impacts of drought are numerous. They include increased wildfire threat, decreased water supplies for residential and industrial needs, stream-water quality, and water recreation facilities. The Dawson County HMPC recognizes the potential threats drought conditions could have on the community and have identified specific mitigation actions as a result.

## **3.2.6. Natural Hazard: Wildfire**

### **3.2.6.1. Hazard Description**

A wildfire is an uncontained fire that spreads through the environment. Wildfires can consume large areas, including infrastructure, property, and resources. When massive fires, or conflagrations, develop near populated areas, evacuations could possibly ensue. Not only do the flames impact the environment, but the massive volumes of smoke spread by certain atmospheric conditions also impact the health of nearby populations.

Wildfires result from the interaction of three crucial elements: fuel, ignition (heat), and oxygen. Natural and manmade forces cause the three crucial elements to coincide in a manner that produces wildfire events. Typically, fuel consists of natural vegetation. However, as the urban and suburban footprint expands, wildfires may utilize other means of fuel, such as buildings. In terms of ignition or source of heat, the primary source is lightning. However, humans are more responsible for wildfires than lightning. Manmade sources vary from the unintentional, such as fireworks, campfires, or machinery, to intentional arson. With these two elements provided, the wildfires may spread if oxygen is present.

Weather is the most variable factor affecting wildfire behavior. Strong winds propel wildfires quickly across most landscapes unless firebreaks are present. Shifting winds create erratic wildfires, which can



complicate fire management efforts. Dry conditions provide faster-burning fuels, either making the area more vulnerable to wildfire or increasing the mobility of preexisting wildfires.

Wildfires are notorious for spawning secondary hazards, such as flash flooding and landslides, long after the original fire is extinguished. Both flash flooding and landslides result from fire consuming the natural vegetation that provides precipitation interception and infiltration as well as slope stability.

All of Georgia is prone to wildfire due to the presence of wildland fuels associated with wildfires. Land cover associated with wildland fuels includes coniferous, deciduous, and mixed forest; shrubland; grassland and herbaceous; transitional; and woody and emergency herbaceous wetlands. The spatial extent of wildfire events greatly depends on both the factors driving the fire as well as the efforts of fire management and containment operations.

In terms of seasonality, wildfires can occur during any season of the year. However, drier seasons, which vary within the State of Georgia, are more vulnerable to severe wildfires because of weather patterns and the abundant quick-burning fuels. In terms of rate of onset and duration, wildfires vary depending on the available fuels and weather patterns. Some wildfires can engulf an area in a matter of minutes from the first signs whereas others may be slower burning and moving. The frequency of wildfires are not typically measured because of the high probability of human ignition being statistically unpredictable. Magnitude and intensity are typically only measured by size of the wildfire and locations of burning.

Three classes of fires include understory, crown, and ground fires. Naturally induced wildfires burn at relatively low intensities, consuming grasses, woody shrubs, and dead trees. These understory fires often play an important role in plant reproduction and wildlife habitat renewal and self-extinguish due to low fuel loads or precipitation. Crown fires, which consist of fires consuming entire living trees, are low probability but high consequence events due to the creation of embers that can be spread by the wind. Crown fires typically match perceptions of wildfires. In areas with high concentrations of organic materials in the soil, ground fires may burn, sometimes persisting undetected for long periods until the surface is ignited.

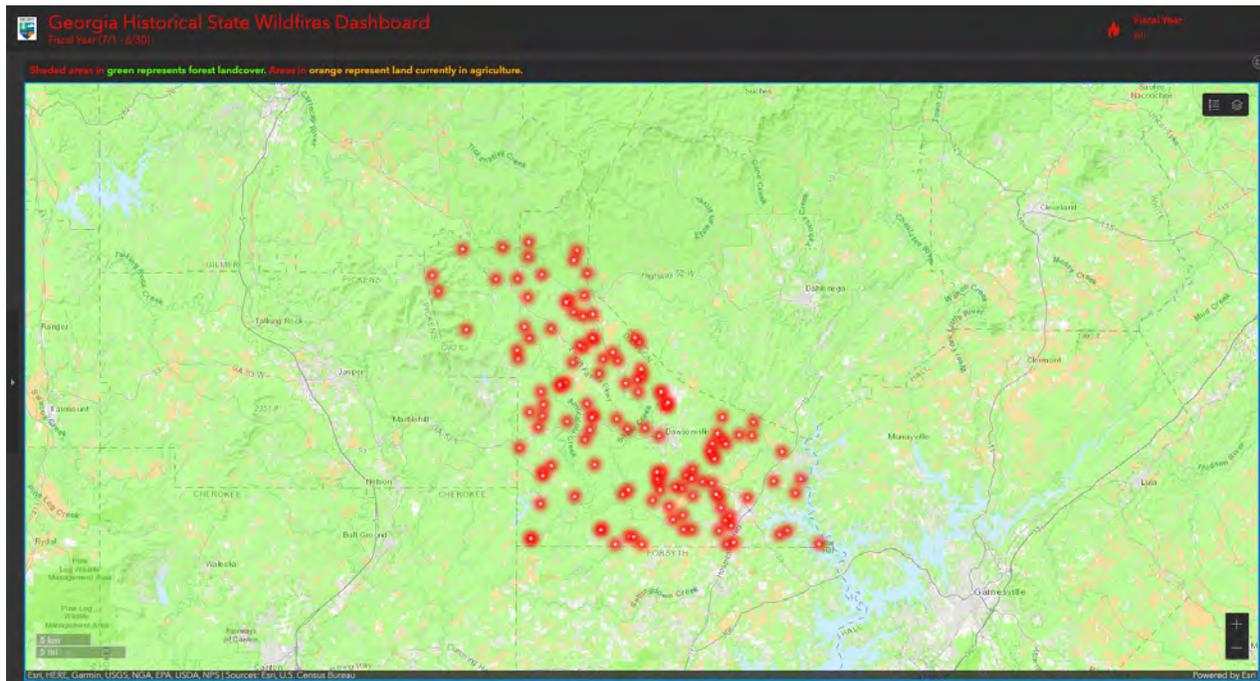
#### 3.2.6.2. Hazard Profile (Location, Extent, Previous Occurrences)

Wildfires pose a serious threat to Dawson County. This is a result of the high amount of forestland and vegetation available to fuel potential wildfires. Also, there is an increasing amount of wildland-urban interface (WUI) in Dawson County, which is defined as areas where structures and other human development meets undeveloped wildland properties. 98% of Dawson County's population lives within the WUI.

The Georgia Forestry Commissions has an online wildfire database for the State with data from 2012. From 2012 through June 2023, there were 125 wildfires in Dawson County.



Figure 3.22 Locations of wildfires in Dawson County (2012 through June 2023) (source: Georgia Forestry Commissions)

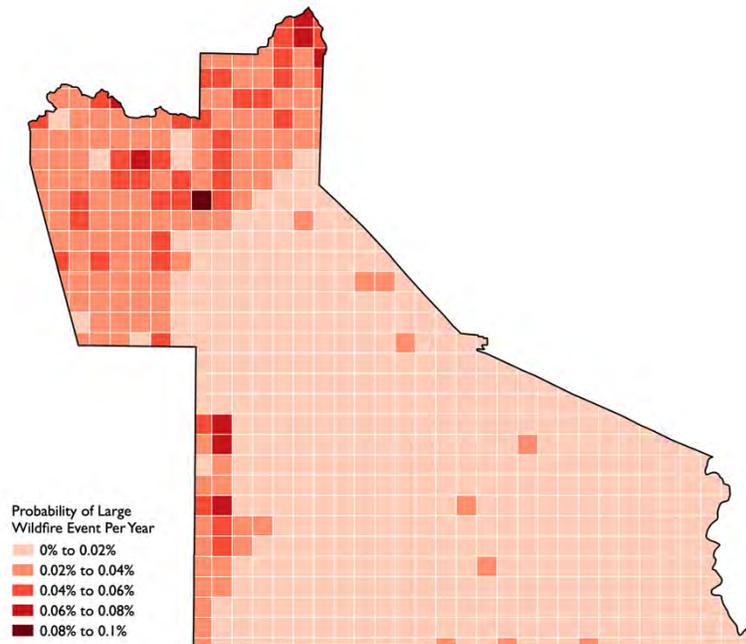


### 3.2.6.3. Probability

The USFS generated a series of spatial datasets representing burn probability through its geospatial Fire Simulation (FSim) system. FSim is designed to simulate the occurrence and growth of wildfires under tens of thousands of hypothetical contemporary fire seasons in order to estimate the probability of a given area burning under current (circa 2014) landscape conditions and fire management practices. Based on the burn probability dataset, the probability of a large wildfire event in Dawson County is unlikely (occurring every 50 years or less).



Figure 3.23 Burn probability in Dawson County (source: United States Forest Service)



The probability of wildfire events in Dawson County may increase though due to climate change. The potential change is attributed to the same reasons described for increase drought probability: the data projections show that there will be an increase in the number of dry days each year with no precipitation and in the minimum consecutive number of dry days.

**3.2.6.4. Impacts**

All public and private property located within the wildland-urban interface (WUI), including critical infrastructures, are susceptible to impacts from wildfires. Due to the large area of wildland area in Dawson County and the large amount of WIU, all public and private property, including critical infrastructures, could be directly or indirectly impacted by the threat of wildfire.

Little information is available regarding damages, in terms of dollars, for wildfire losses in Dawson County. According to the 2017 Agriculture Census by the USDA, Dawson County has \$939,000 in annual crop sales. These areas would potentially be impacted by a wildfire event.

**3.2.6.5. Impacts from Future Conditions**

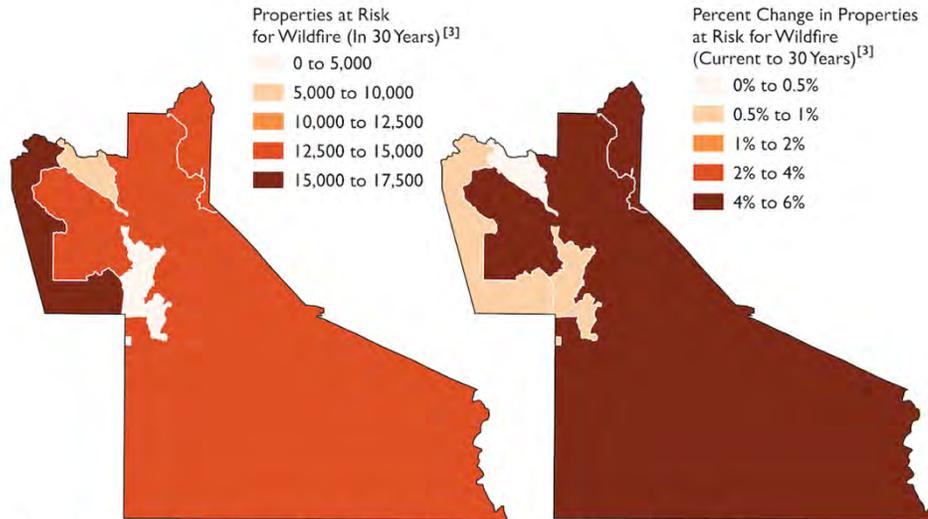
With the continued increase in population, WUI is increasing in Dawson County. The WUI creates areas where fire can easily move from wildland areas into developed areas and threaten structures and human life. The expansion of the WUI in Dawson County complicated wildland fire management operations and planning initiatives. This development trend is expected to continue in the future.

Climate change is also expected to impact wildfire risk in Dawson County. There is an expected increase in properties that are at risk for wildfire in 30 years especially in the northwestern part of the



county. Over the next 30 years there will be potential for up to a 6% increase in the number of properties at risk of wildfires in the County.

Figure 3.24 Projected impacts to properties from wildfire (source: Climate Mapping for Resilience and Adaptation)



[3] Calculated on the zip code-level; values for zip codes that span multiple counties represent the entire zip code (not restricted to the portion within Dawson County)  
Data Sources: Climate Mapping for Resilience and Adaptation, First Street Foundation

### 3.2.6.6. Multi-Jurisdictional Considerations

All portions of Dawson County, including the City of Dawsonville, could potentially be impacted by a wildfire due to the large amount of WUI, but the less developed areas of the county are more vulnerable. The 2017 Dawson County CWPP performed a risk assessment of Dawson County as five separate geographic zones. Four of these zones were shown to have moderate wildfire risk and one – Big Canoe – was identified as having a high wildfire risk. Unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a wildfire event. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and include the City of Dawsonville.

### 3.2.6.7. Hazard Summary

Wildfire is a significant threat to Dawson County due to the increased amount of WUI. The increasing amount of area where structures and other human development meets undeveloped, wildland property is where 98% of Dawson County’s population lives. The mitigation measures identified in this plan should be aggressively pursued based on the high frequency of this hazard and the ability for wildfires to inflict devastation anywhere in Dawson County.



### 3.2.7. Natural Hazard: Earthquakes

#### 3.2.7.1. Hazard Description

Earthquakes are generally defined as the sudden motion or trembling of the Earth's surface caused by an abrupt release of slowly accumulated strain. This release typically manifests on the surface as ground shaking, surface faulting, tectonic uplifting and subsidence, or ground failures, and tsunamis. In the United States, earthquake activity east of the Rocky Mountains is relatively low compared to the Western states because it is away from active plate boundaries and the plate interior strain rates are known to be very low.

The physical property of earthquakes that causes most damage within the United States is ground shaking. The vibrations from the seismic waves that propagate outward from the epicenter may cause failure in structures not adequately designed to withstand earthquakes. Because the seismic waves have different frequencies of vibration, the waves disseminate differently through sub-surface materials. For example, high frequency compression and shear waves arrive first, whereas lower frequency Rayleigh and love waves arrive later. Not only are the speeds varied between seismic waves, but also the types of movement. The surface vibration may be horizontal, vertical, or a combination of the two, which causes a wider array of structures to collapse.

Another manifestation of earthquakes is surface faulting. This phenomenon is defined as the offset or tearing of the earth's surface by a differential movement across a fault. Structures built across active faults tend to sustain damage regularly. There are no active faults within or near Georgia. Distinct inactive faults are known within the state north of the Columbus to Macon to Augusta fall line and running generally northeast- southwest.

The third earthquake phenomenon that causes damage is tectonic uplift and subsidence. Tectonic uplift can cause shallowing of the harbors and waterways while tectonic subsidence can cause permanent or intermittent inundation. Due to the association of tectonic uplift and subsidence with active faults, Georgia is not at risk to these phenomena.

The fourth earthquake damage-causing phenomena are earthquake-induced ground failures, including liquefaction and landslides. During an earthquake, the areas that are rich in sand and silt have groundwater within 30 feet of the surface temporarily behave as viscous fluids during strong ground shaking. Structures built on these materials can settle, topple, or collapse as the ground "liquefies" beneath it. Landslides can also form when earthquake shaking or seismic activity dislodges rock and debris on steep slopes, triggering rock falls, avalanches, and slides.

Also, unstable, or nearly unstable slopes consisting of clay soils may lose shear strength when disturbed by ground shaking and fail, resulting in a landslide. Georgia is at very low risk of seismic induced liquefaction or landslides.

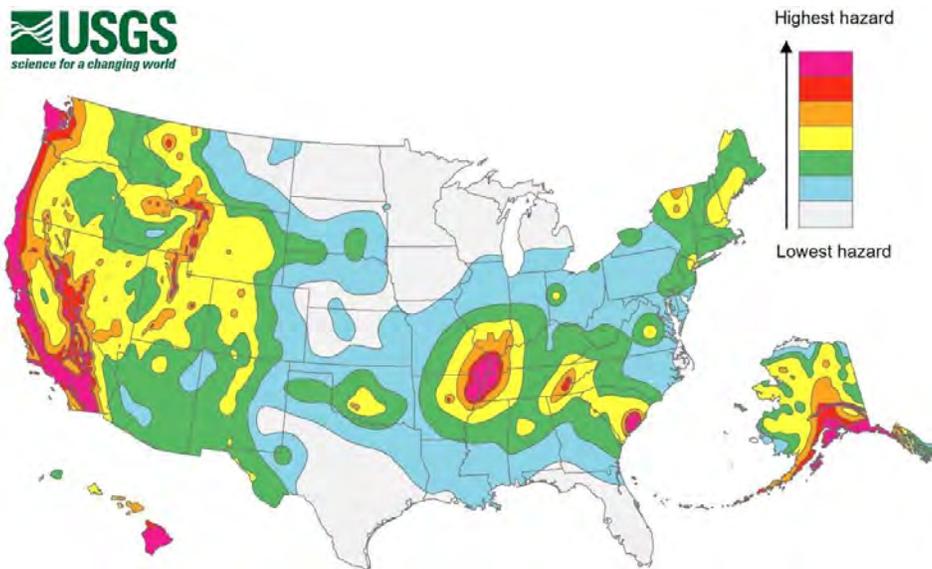
The last of the earthquake-induced phenomena are tsunamis, which are large, gravity- driven waves triggered by the sudden displacement of a large volume of water. The waves produced travel in all



directions from the origin at speeds of up to 600 miles per hour. In deep water, tsunamis normally have small wave heights. However, as the waves reach shallower water near land, the wave speed diminishes, and the amplitude drastically increases. Upon impact with a shoreline, the waves can inundate land rapidly, engulfing everything in its path. Successive wave crests follow, typically arriving minutes to hours later, frequently with later arrivals being more dominant. Frequently, the first tsunami waves are downward, causing dramatic exposure of the beach. Because of this, people are often killed trying to collect newly exposed seashells when the positive waves then arrive.

Although large tsunamis are rare in the eastern coast of the US, the possibility of such events occurring anywhere along the Atlantic and Gulf coast exists.

Figure 3.25 2018 long-term national seismic hazard map (source: United States Geologic Survey)



### 3.2.7.2. Hazard Profile (Location, Extent, Previous Occurrences)

Dawson County is not one of the 37 Georgia counties with the highest earthquake risk, according to the Georgia Emergency Management Agency and Georgia Institute of Technology School of Earth and Atmospheric Sciences. The entire county is at risk of earthquakes.

In reviewing data of the last 50 years, no earthquakes have originated from within Dawson County. However, earthquakes with a magnitude of 2.0 or greater have occurred as close as Cumming, Georgia. The strongest earthquake to occur within this radius was a 3.2M that occurred in North Carolina, just north of McCaysville, Georgia. Historically, the 1886 Charleston, SC earthquake, estimated to be between 6.6M and 7.3M on the modern Richter Scale, likely caused impacts to Dawson County. Although no historical records exist exhibiting any damages, Dawson County was estimated to be in a level VI area of the Modified Mercalli Intensity scale for this event. This would indicate strong shaking felt by everyone inside and outside at the time of the event and characterized by broken windows, movement of heavy furniture, and slight to moderate damage for poorly built buildings. Even



with this low number of occurrences, it was determined that if earthquakes occur within or close to the jurisdiction of Dawson County, significant damage could occur. Therefore, the Dawson County HMPC has determined the threat of earthquakes to be higher than the statistics would indicate.

Figure 3.26 Modified Mercalli scale values

Instrumental Intensity	Acceleration (%g)	Velocity (cm/s)	Perceived Shaking	Potential Damage
I	< 0.17	< 0.1	Not Felt	None
II-III	0.17 - 1.4	0.1 - 1.1	Weak	None
IV	1.4 - 3.9	1.1 - 3.4	Light	None
V	3.9 - 9.2	3.4 - 8.1	Moderate	Very light
VI	9.2 - 18	8.1 - 16	Strong	Light
VII	18 - 34	16 - 31	Very Strong	Moderate
VIII	34 - 65	31 - 60	Severe	Moderate to Heavy
IX	65 - 124	60 - 116	Violent	Heavy
X+	> 124	> 116	Extreme	Very Heavy

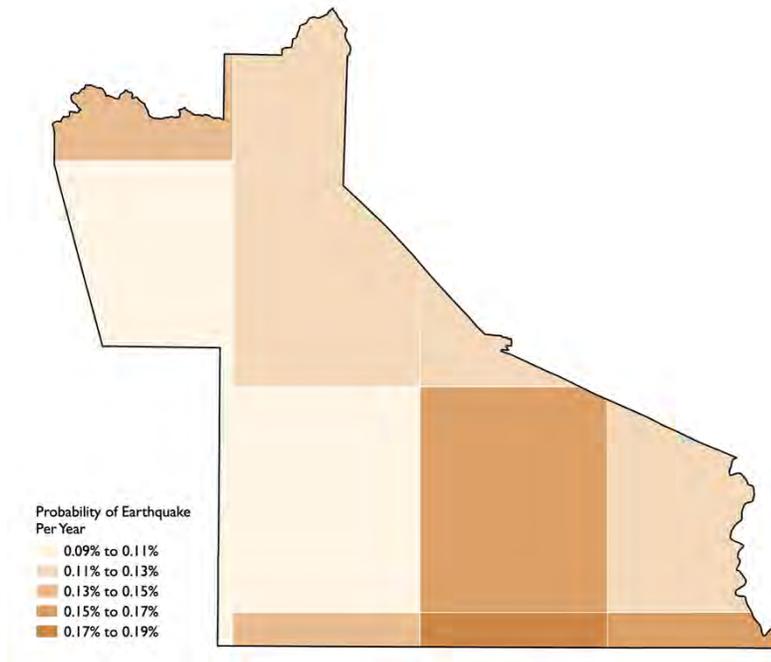
### 3.2.7.3. Probability

The USGS produces National Seismic Hazard Maps to quantify the frequency and severity of earthquakes. The maps compile all known earthquake sources (and proxies for unknown sources), their distance from the site in question, and other seismological and geological information to project potential maximum expected ground motions at a site over a particular period of time. Based on the National Seismic Hazard Maps, Dawson County has a 0.09% to 0.19% probability of experiencing an earthquake of minor-damage shaking each year depending on the location within the County, resulting in an unlikely probability (occurring every 50 years or less).

The probability of an earthquake in Dawson County is unlikely to change with climate change.



Figure 3.27 Probability of experiencing an earthquake with minor-damage shaking per year (source: United States Geologic Survey)



**3.2.7.4. Impacts**

The Dawson County HMPC determined that all critical facilities and all public and private property within Dawson County are susceptible to the impacts of an earthquake due to the lower building codes with regards to earthquakes when compared to other parts of the country. This includes the City of Dawsonville

**3.2.7.5. Impacts from Future Changes**

Impacts from future conditions for earthquakes mirrors the impacts from future conditions for other hazards where the effects from climate change are not well known or expected. Even if the frequency and severity of earthquakes remain constant, damage to life and property will likely increase due to land use and population changes.

**3.2.7.6. Multi-Jurisdictional Considerations**

All of Dawson County, including the City of Dawsonville, potentially could be threatened by earthquakes. However, the greater population density of the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor could see more significant impacts of an earthquake events. These areas also have the greatest density of commercial areas that could be particularly impacted by this type of event. As such, all earthquake mitigation actions should be pursued on a countywide basis and include the City of Dawsonville.



### 3.2.7.7. Hazard Summary

Even with the infrequency of earthquake impacts in Dawson County, the potential losses and impacts associated with the event would severely damage the infrastructure and economic viability of the County and the City of Dawsonville. The mitigation measures identified in this plan should be pursued based on the high impact potential of this hazard and the ability for earthquakes to inflict widespread devastation anywhere in Dawson County.

## 3.2.8. Natural Hazard: Tropical Cyclone

### 3.2.8.1. Hazard Description

The National Weather Service describes tropical cyclones systems in the Atlantic Basin, including the Gulf of Mexico and Caribbean Sea, into four types based on strength.

*Tropical Disturbance:* A discrete tropical weather system of apparently organized thunderstorms – generally 100 to 300 nautical miles in diameter – originating in the tropics or subtropics, and maintaining its identity for 24 hours or more.

*Tropical Depression:* An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 mph (33 knots) or less.

*Tropical Storm:* An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 mph to 73 mph (34-63 knots).

*Hurricane:* An intense tropical weather system with a well-defined circulation, producing maximum sustained winds of 74 mph (64 knots) or greater. Hurricane intensity is classified into five categories using the Saffir-Simpson Hurricane scale. Winds in a hurricane range from 74-95 mph for a Category 1 hurricane to greater than 156 mph for a Category 5 hurricane.



Figure 3.28 Saffir-Simpson scale for hurricane classification and wind speed intervals for other tropical cyclone classifications

Saffir-Simpson Scale for Hurricane Classification				
Strength	Wind Speed (Kts)	Wind Speed (MPH)	Pressure (Millibars)	Pressure
Category 1	64- 82 kts	74- 95 mph	>980 mb	28.94 "Hg
Category 2	83- 95 kts	96-110 mph	965-979 mb	28.50-28.91 "Hg
Category 3	96-113 kts	111-130 mph	945-964 mb	27.91-28.47 "Hg
Category 4	114-135 kts	131-155 mph	920-944 mb	27.17-27.88 "Hg
Category 5	>135 kts	>155 mph	919 mb	27.16 "Hg
Tropical Cyclone Classification				
Tropical Depression		20-34kts		
Tropical Storm		35-63kts		
Hurricane		64+kts or 74+mph		

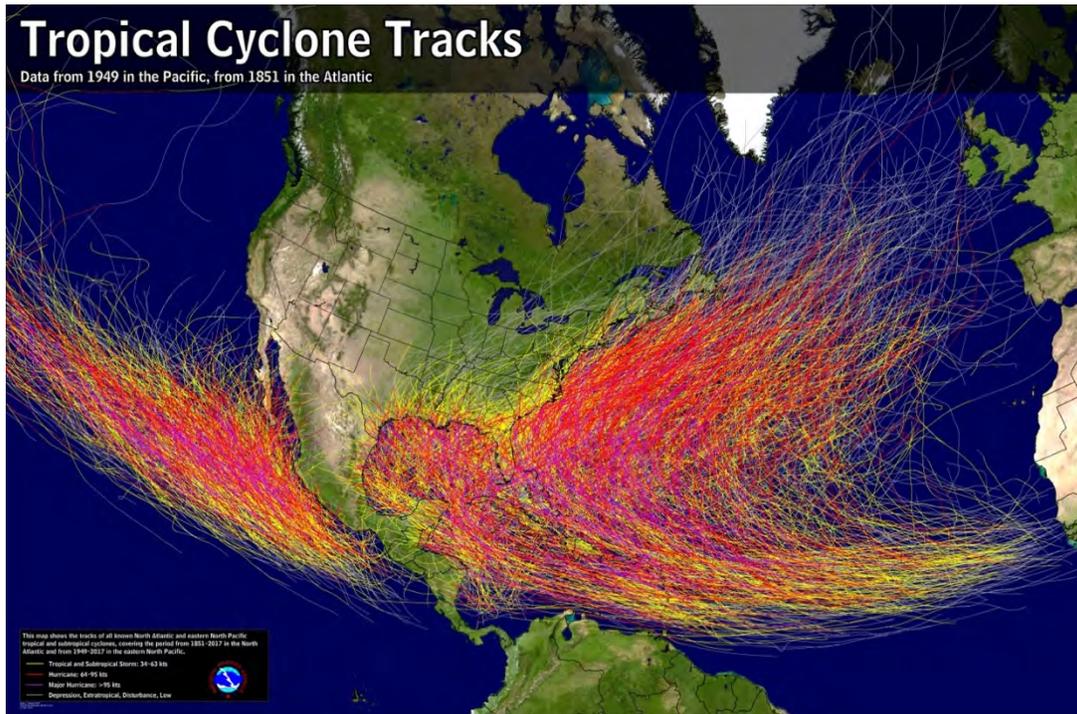
Tropical cyclones can cause catastrophic damage to coastlines and areas several hundred miles inland. Tropical cyclones can produce sustained high winds and spawn tornadoes and microbursts. Additionally, tropical cyclones can create storm surges along the coast and cause extensive damage from heavy rainfall. Floods and flying debris from the excessive winds are often the deadly and destructive results of these weather events.

Slow moving tropical cyclones traveling into mountainous regions tend to produce especially heavy rain. Excessive rain can trigger landslides or mudslides. Flash flooding can also occur due to intense rainfall.

Each of these hazards present unique characteristics and challenges; therefore, the following have been separated and analyzed as individual hazards: Tropical cyclones, Thunderstorms, Tornadoes, and Flooding. This section will focus on the direct effects of tropical cyclones.



Figure 3.29 Historical tropical cyclone tracks (source: National Hurricane Center)



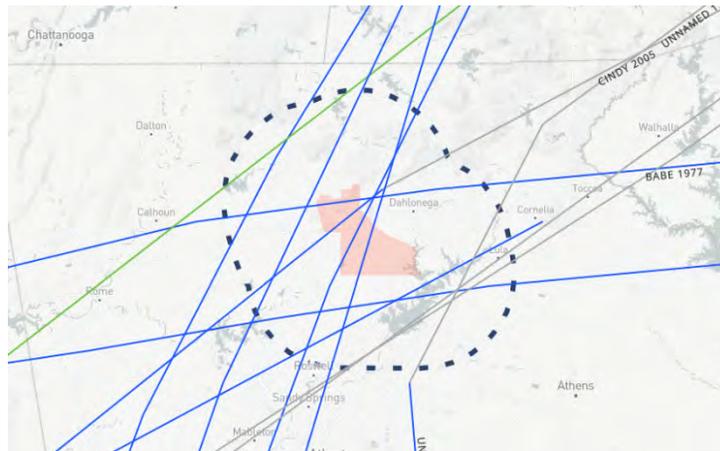
**3.2.8.2. Hazard Profile (Location, Extent, Previous Occurrences)**

Tropical cyclones have directly impacted Dawson County on an infrequent basis over the last 50 years. However, the possibility of a hurricane or tropical storm retaining their wind strength as far inland as Dawson County is possible. There have been fifteen documented impacts from tropical cyclones in Dawson County.

Three tropical cyclones – Hurricane Babe in 1977, Hurricane Cindy in 2005, and Hurricane Frances in 2004 – had a track that directly dissected Dawson County in the last 50 years. All 3 storms were below tropical storm strength at the time they entered Dawson County. Hurricane Frances brought strong winds across north Georgia with sustained speeds of 25 mph in the Dawson County area. In 2020, Hurricane Zeta was a tropical storm when it made its way through Georgia and brought impacts to Dawson County. Dawson County had downed trees and power outages due to the storm. The County received a federal disaster declaration because of the storm.



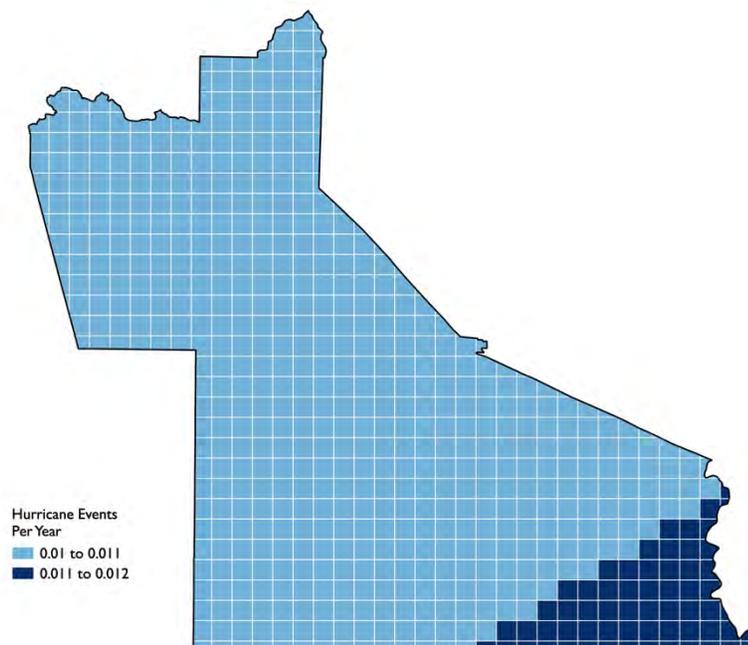
Figure 3.30 Tropical cyclone tracks in and near Dawson County (source: Office of Coastal Management)



### 3.2.8.3. Probability

The annualized frequency within Dawson County was determined using historical hurricane track data from NOAA’s HURDAT2. The probability of a hurricane in Dawson County is unlikely (occurring every 50 years or less), but based on previous occurrence data from NOAA, there is a greater probability of tropical cyclone with lower wind speeds – the probability of a tropical cyclone is likely (occurring every 5 to 20 years).

Figure 3.31 Annualized frequency analysis of hurricane events in Dawson County (source: National Oceanic and Atmospheric Administration)

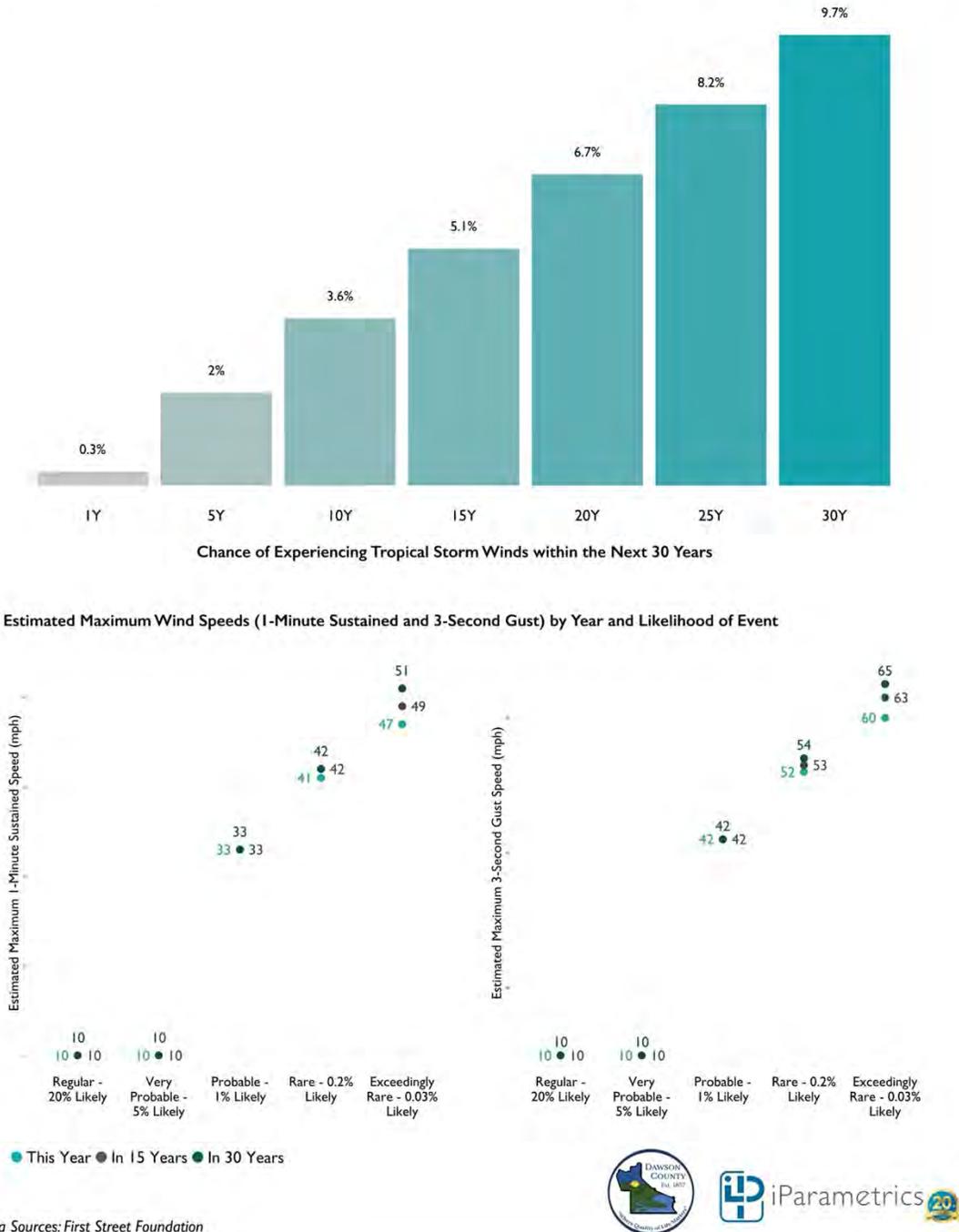


The chance of experiencing higher wind speeds is projected to increase over the next 30 years with the chance of experiencing tropical storm winds increasing by almost 10%. For wind climate change



projections, the data shows that in 30 years, there will be higher gust wind speeds. There will also be higher maximum sustained wind speeds as well. These are demonstrated in the figure below.

Figure 3.32 Wind speed and tropical storm probability projections for Dawson County (source: First Street Foundation)



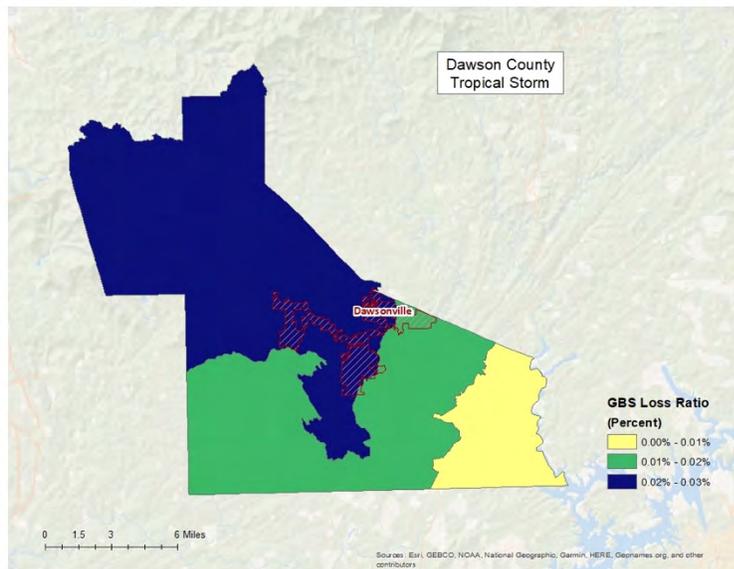


### 3.2.8.4. Impacts

The HMPC determined that all critical facilities and all public and private property within Dawson County are susceptible to direct and indirect impacts of a tropical cyclone.

Based upon the 2024 Dawson County HAZUS report, a wind damage assessment modeling a tropical storm with maximum winds of 64 mph (1% chance storm event) could result in almost \$380,000 of economic loss with the highest loss ratio occurring in the north.

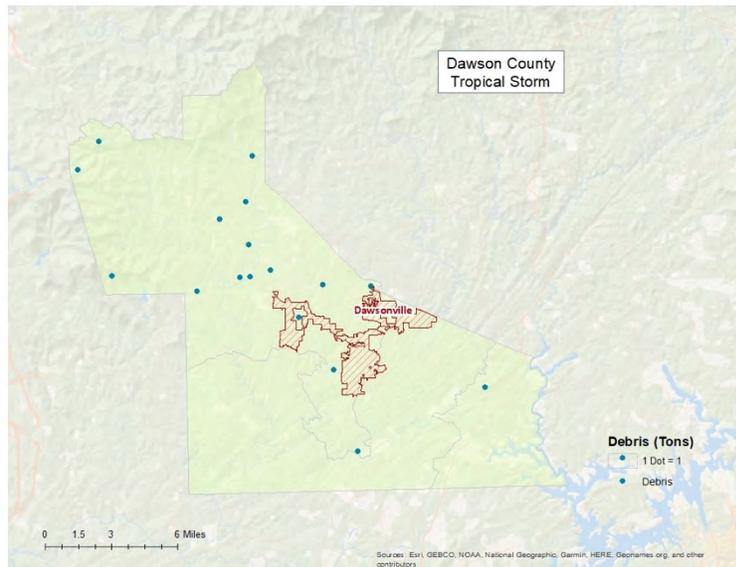
Figure 3.33 Hurricane wind building loss ratios (source: 2024 Dawson County HAZUS Report)



No essential facilities were damaged in the model, but 22 facilities resulted in expected loss of use. Further, the model resulted in 17 tons of expected debris generated from hurricane wind (classification of brick, wood, and other).



Figure 3.34 Wind-related debris weight (tons) (source: 2024 Dawson County HAZUS report)



### 3.2.8.5. Impacts from Future Conditions

Impacts in the future will likely be heightened due to climate change and population change. Climate change is expected to cause higher and more probable wind speeds, resulting in greater damage to infrastructure and loss of life. Increased population will also result in more development and population density, resulting in increased damage to property and life regardless of increases in wind speeds.

### 3.2.8.6. Multi-Jurisdictional Considerations

Tropical Cyclone events have impacted all areas of Dawson County. Crop damage from tropical cyclone events would likely have the greatest impact in the rural areas of Dawson County. However, property damage numbers would be highest in more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, due to greater population density. Additionally, any riverine flooding as a result of a tropical cyclone would have the greatest impact on areas along the Etowah River and its tributaries and distributaries. This would most likely impact areas in unincorporated areas of Dawson County. Tropical Cyclones have the potential to impact all areas of Dawson County.

### 3.2.8.7. Hazard Summary

Even with the relative infrequency of tropical cyclone impacts in Dawson County in the recent past, the potential losses and impacts associated with the event would severely damage the infrastructure and economic viability of the County and the City of Dawsonville. Dawson County's proximity to the Atlantic coast increases the likelihood of a tropical cyclone impacting the area. The mitigation measures identified in this plan for tropical cyclones should be pursued based on the high impact potential of this hazard and the ability for tropical cyclones to inflict widespread devastation anywhere in Dawson County. Dawson County has had five Federally Declared Disaster related to Tropical Cyclones, most recently in 2020 (Hurricane Zeta).



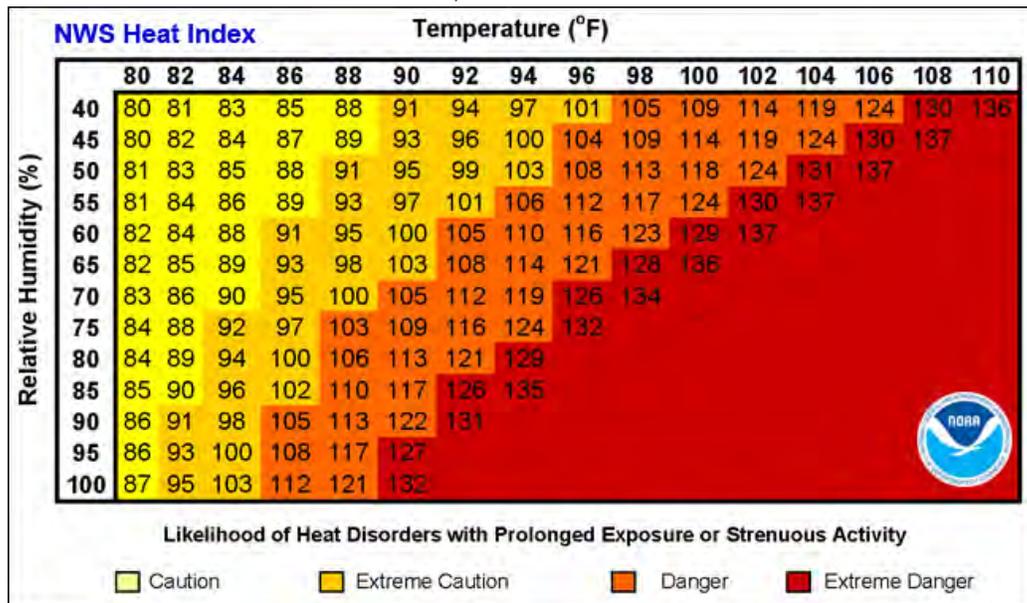
### 3.2.9. Natural Hazard: Extreme Temperatures

#### 3.2.9.1. Hazard Description

Extreme temperatures occur on both ends of the spectrum with excessive heat and excessive cold being a concern in the area. Excessive temperatures can impact every person throughout the community. It is important to ensure that people are prepared for the extreme heat and extreme cold scenarios as both can have impacts.

The National Weather services has a heat index that is used to determine if the heat is dangerous. The heat index is pictured below. The NWS will issue an alert when the heat index is expected to exceed 105 – 110 degrees Fahrenheit for at least 2 days in a row.

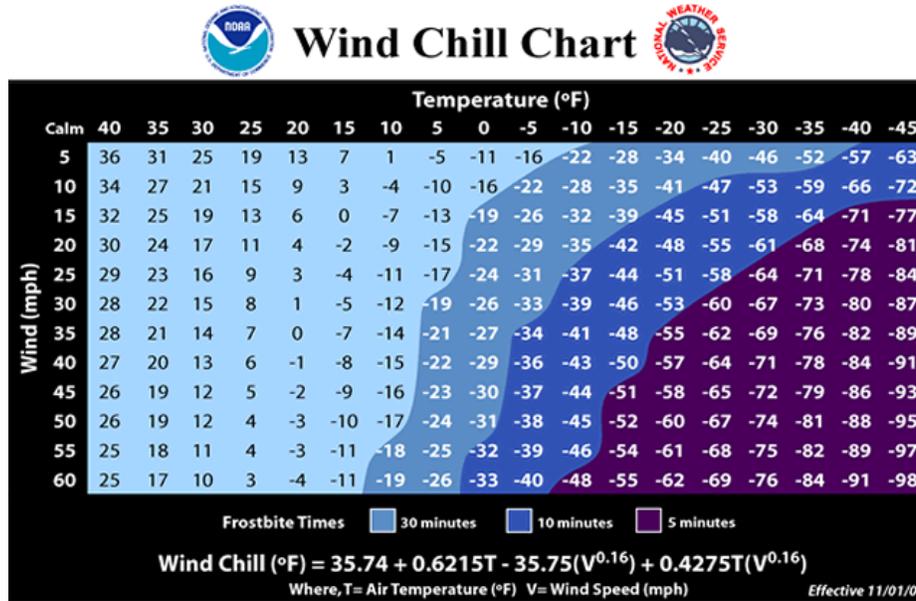
Figure 3.35 Likelihood of heat disorders with varying temperatures and relative humidity values (source: National Oceanic and Atmospheric Administration)



The National Weather Service will issue a Wind Chill warning if dangerous cold wind chill values are expected or are happening currently. The below Wind Chill Chart shows the temperatures and wind speeds where frostbite can happen. The higher the wind speed and the colder the temperature the quicker frostbite will set in.



Figure 3.36 Frostbite times with varying temperature and wind values (source: National Oceanic and Atmospheric Administration)



### 3.2.9.2. Hazard Profile (Location, Extent, Previous Occurrences)

The entire county is at risk of extreme temperatures. Further, in the case of an extreme temperature event, the event will likely affect the entire county as the hazard is typically a regional event as opposed to a localized event.

The National Weather Service weather forecast offices issue weather warnings when an office has at least an 80% confidence level of an event occurrence (generally within 24 to 36 hours). Days are considered extreme cold days the forecast office issues a warning for extreme cold or wind chill. From 2005 to 2022, no extreme cold warnings were issued, but wind chill warnings were issued when the wind chill index was less than or equal to 25°F for at least 3 hours using only sustained wind. The forecast office issued warnings on 115 days during this time period.

Extreme heat events are periods in which an absolute or relative threshold is surpassed for a duration of at least 2 or 3 consecutive days. For this analysis, an extreme heat day is based on the 90<sup>th</sup> percentile relative value – for each calendar day, the daily high was determined for the period between 1979 and 2019 (May through September only) and any day above the 90<sup>th</sup> percentile temperature is considered an extreme heat day. There were 658 extreme heat days recorded during this time period.

### 3.2.9.3. Probability

Using the data described above, the annualized frequencies of extreme cold and extreme heat events were determined.



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Figure 3.37 Annualized frequency analysis of extreme cold events in Dawson County (source: Iowa State University)

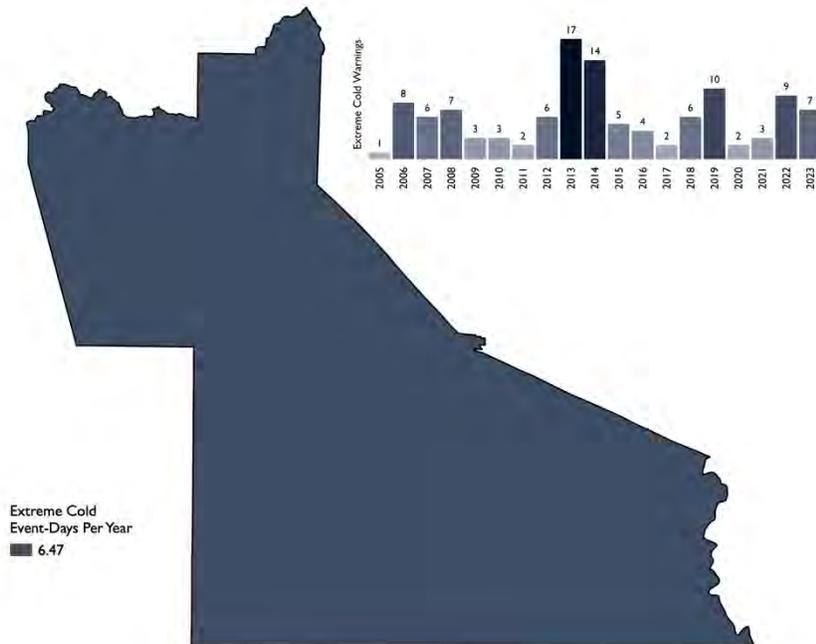
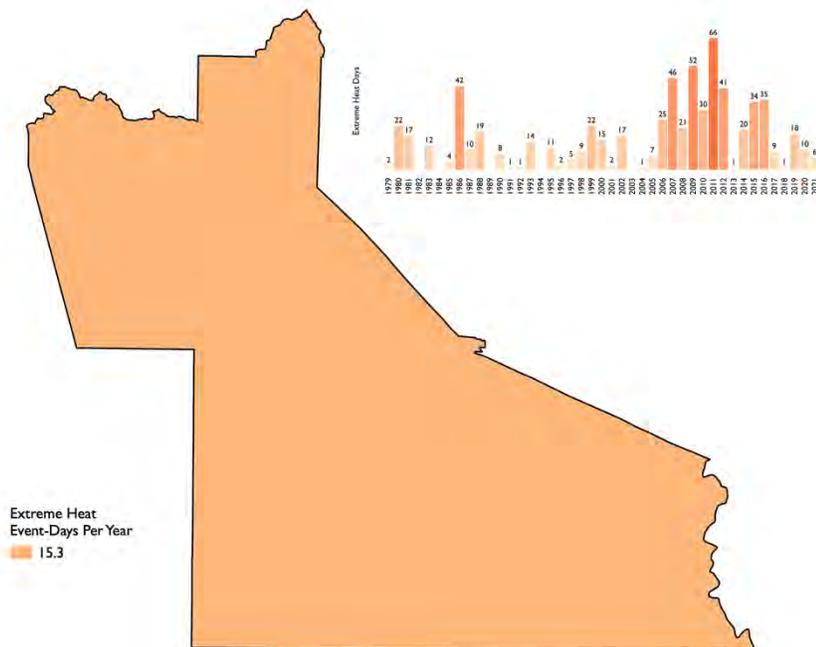


Figure 3.38 Annualized frequency analysis of extreme heat events in Dawson County (source: Centers for Disease Control and Prevention)



The probabilities of extreme cold and extreme heat days in Dawson County are extremely likely (occurring every 1 year or more).



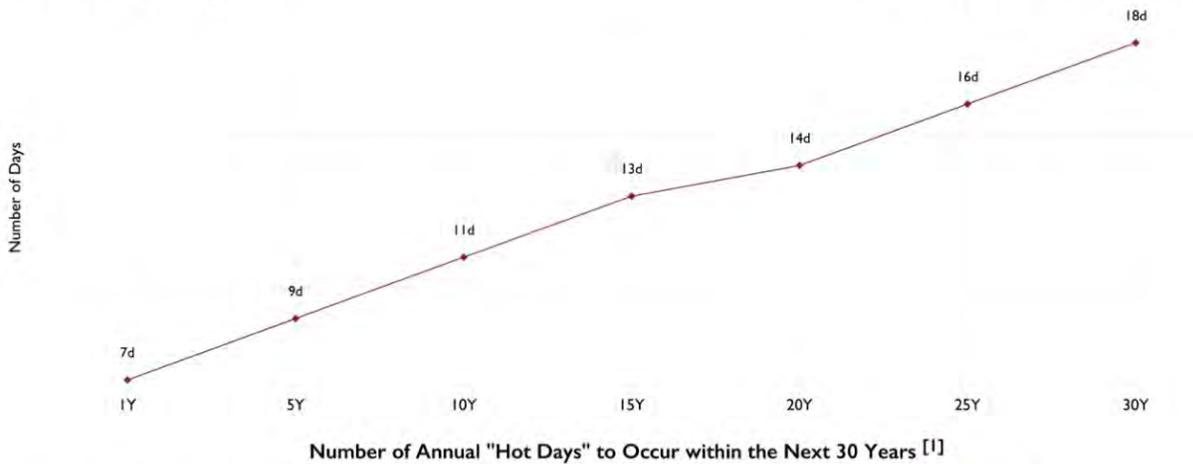
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For extreme heat the number of annual “Hot Days” is predicted to increase over the next 30 years. In the next year, it is expected that the County will see roughly 7 “Hot Days” but in 30 years the County will see roughly 18 “Hot Days” each year. The average daily high temperature is expected to increase as well. This year, the average daily high temperature during the hottest month of the year is expected to be 85 degrees while in 30 years that number is expected to be 88 degrees. The likelihood of a 3-day heat wave in on the County is expected to rise by almost 30% over the next 30 years. With the increase in temperatures, there is an expected 16.3% increase in energy usage in 30 years.



Figure 3.39 Extreme heat-related projections for Dawson County (source: First Street Foundation)



Average Daily High Temperature during the Hottest Month of the Year

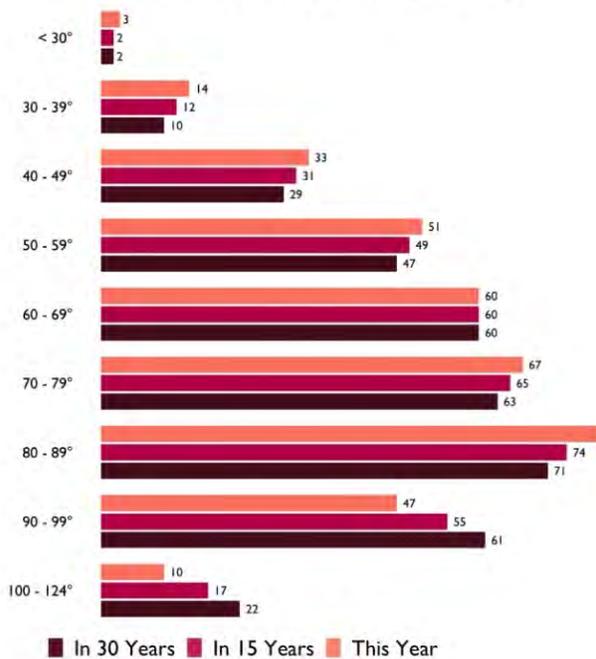
85°F  
This Year

87°F  
In 15 Years

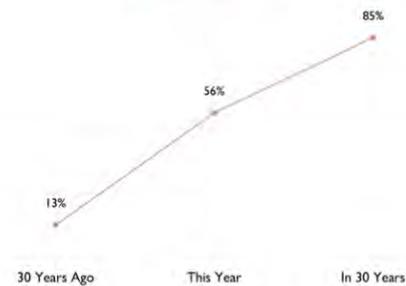
88°F  
In 30 Years

16.3%  
Increase in Energy Usage in 30 Years

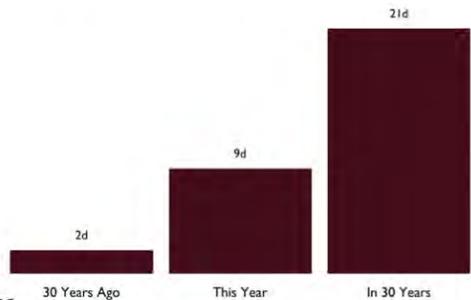
Number of Days in Temperature Range



Likelihood of a 3+ Day Heatwave [2]



Number of "Dangerous Days" [3]



[1] A "hot day" is defined by using the 98th percentile "feels like" temperature in a specified area, or in other words the lowest daily high temperature on the hottest 7 days in a given year. A "hot day" is considered to be any day with a "feels like" temperature above 101°F in Dawson County  
 [2] A heatwave consists of 3 or more consecutive days where the "feels like" temperature meets or exceeds the local definition of a "hot day"  
 [3] A "dangerous day" is defined as a day when the "feels like" temperature is at least 100°F  
 Data Sources: First Street Foundation





#### **3.2.9.4. Impacts**

Extreme temperatures can impact all areas of the County. With regards to direct impacts, extreme temperature events can cause crop damages as well as damages to the temperature regulation systems of physical assets (e.g. HVAC and heating) that may be pushed to capacity. Extreme temperatures also impact people and it is important to be aware of vulnerable populations. For extreme heat, the elderly, infants, and children are at risk for health problems if exposed for too long. Extreme heat can cause heat stroke, cramps, and exhaustion. If left untreated these issues can be fatal. The impacts of extreme cold can be felt by people of any age. If left exposed to colder temperatures for too long, people can become hypothermic and get frost bite.

Further, extreme temperatures can lead to other hazard-related impacts when coupled with complementary hazards (e.g. extreme cold coupled with precipitation can lead to winter weather and its impacts, extreme heat and drought can lead to exasperated drought impacts, etc.).

#### **3.2.9.5. Impacts from Future Conditions**

Extreme heat should be special concern regarding impacts from future conditions due to the effects of climate change. As described above, extreme heat days are expected to be more frequent and more severe, heightening all impacts from extreme heat listed above.

Further, population growth will increase vulnerable populations, requiring additional resources to combat the impacts from extreme temperature events.

#### **3.2.9.6. Multi-Jurisdictional Considerations**

All portions of Dawson County could potentially be impacted by extreme temperatures. The impacts will be higher in the areas with higher population densities such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor because of the larger population density in those areas.

#### **3.2.9.7. Hazard Summary**

Extreme temperatures can be both extreme heat and extreme cold. If a certain threshold is reached, then extreme temperature warnings can be put in place. If people are exposed to either extreme heat or extreme cold for too long, then it could potentially be fatal. It is important to put protocols in place to be prepared for people to be exposed to this hazard.

### **3.2.10. Technological Hazard: Hazardous Materials**

#### **3.2.10.1. Hazard Description**

Hazardous materials, or hazmat, refers to any materials that may pose a real hazard to human health and/or the environment because of its quantity, concentration, and/or physical or chemical characteristics. Hazardous materials include explosives, flammables, combustibles, oxidizers, toxic materials, radioactive substances, and corrosives. Specific federal and state regulations exist regarding the transport and storage of hazardous materials.



A hazardous materials spill or release occurs when a hazardous material gets into the environment in an uncontrolled fashion. Response to a hazmat spill or release depends greatly on the type of material involved and the subsequent physical and chemical characteristics. Major sources of hazardous materials spills include transportation accidents on roadways and railways, pipeline breaches, and spills into rivers and creeks. Jurisdictions with facilities that produce, process, or store hazardous materials are at risk, as are facilities that treat or dispose of hazardous materials.

### **3.2.10.2. Hazard Profile (Location, Extent, Previous Occurrences)**

Incidents involving hazardous materials may arise at various stages, including production, transportation, usage, and storage, anywhere within Dawson County. Individuals in close proximity to the processing and storage of such materials face potential risks of exposure to toxic fumes, soil contamination, and water contamination. Additionally, communities located at a distance from production or storage facilities are not exempt from risks, as hazardous materials are regularly transported through roadways, railways, pipelines, and waterways. This underscores the fact that all areas within the County are susceptible to potential hazards.

Data from the United States Coast Guard National Response Center (NRC) was reviewed regarding hazardous materials spill history in Dawson County. Data is available from 1982 to 2022 and all available data was reviewed. There were 6 NRC reported hazardous materials spills or releases in Dawson County over a 40-year period. It is anticipated that many more hazardous materials incidents have occurred over the last 40 years but have not been reported.

### **3.2.10.3. Probability**

Major hazardous materials incidents resulting in mass-casualties are rare and have not occurred historically in Dawson County. Reports of hazardous material spills and releases, however, are increasingly commonplace. Chemical spills of significant magnitude have the potential to happen in facilities engaged in the production, usage, or storage of chemicals. These facilities encompass chemical manifesting plants, laboratories, shipyards, railroad yards, warehouses, and areas designated for chemical disposal. Furthermore, unauthorized dumpsites may emerge in various locations. Accidents related to the transportation of hazardous materials can transpire at any given moment, causing substantial repercussions for the nearby community with one of the greatest areas of concern for the County being along the US Highway 19 corridor that runs through the center of Dawson County. Apart from the risks to human health, such incidents can have far-reaching effects on the environment and the economic sectors linked to aquaculture and agriculture.

The probability of this hazard in Dawson County is very likely (occurring every 1 to 5 years). The probability will likely increase in the future though for fixed facilities incidents as Dawson County continues to grow its industrial footprint.



#### **3.2.10.4. Impacts**

The environment is particularly vulnerable to the threat posed by hazardous materials. Waterways are at a high risk for contamination from hazardous materials. Water contamination is of concern to the Dawson County HMPC. Public and private property located near fixed hazardous materials facilities are also a greater risk than the general population of Dawson County.

Estimation of potential losses is difficult regarding hazardous materials due to the vast array of potential types of hazardous materials that could be involved in the incident and unknown costs regarding environmental damages. No recorded information was found regarding the losses associated with hazardous materials incidents in Dawson County. However, a hazardous materials release, whether in transport or at a fixed facility, would incur significant costs regarding emergency response, potential road closures, evacuations, watershed protection measures, expended man-hours, and cleanup materials, equipment, and personnel.

#### **3.2.10.5. Impacts from Future Conditions**

As hazardous material incidents are man-made incidents, climate change is not expected to directly play a role in impact changes. Indirectly though, hazardous material facilities may be affected by changes in flooding and wildfires leading to accidental releases. For example, increased flooding could inundate tanks and pipelines, leading to damaged pipelines and subsequent releases. Further, wildfires can lead to power outages which may affect the safe operations of hazardous material facilities.

The increase in Dawson County's population and industrial sector may also result in impact changes. The growth of the industrial sector heightens the risk of hazardous material incidents due to increased production and usage, greater transportation volumes, and the potential for human errors and infrastructure limitations. This expansion necessitates a proactive approach to safety measures, training, and emergency response protocols to mitigate the elevated risks associated with hazardous materials in industrial settings.

#### **3.2.10.6. Multi-Jurisdictional Considerations**

All of Dawson County, including the City of Dawsonville, are vulnerable to both fixed facility and transportation-related hazardous materials releases. However, areas of higher commercial density, such as the City of Dawsonville, and areas of greatest of highest traffic, such as the Georgia Highway 400 corridor, are at the greatest risk.

#### **3.2.10.7. Hazard Summary**

Hazardous materials incidents pose a significant threat to the citizens, infrastructure, and critical facilities of Dawson County. Unknown quantities of hazardous materials are transported daily through Dawson County and the City of Dawsonville. These materials are transported via highways, with US Highway 19 being of greatest concern. Water contamination as a result of a hazardous materials spill is of significant concern to the Dawson County HMPC. As a result of the threat posed by hazardous materials, the Dawson County HMPC has identified mitigation actions directly related to this threat.



### 3.2.11. Technological Hazard: Dam Failure

#### 3.2.11.1. Hazard Description

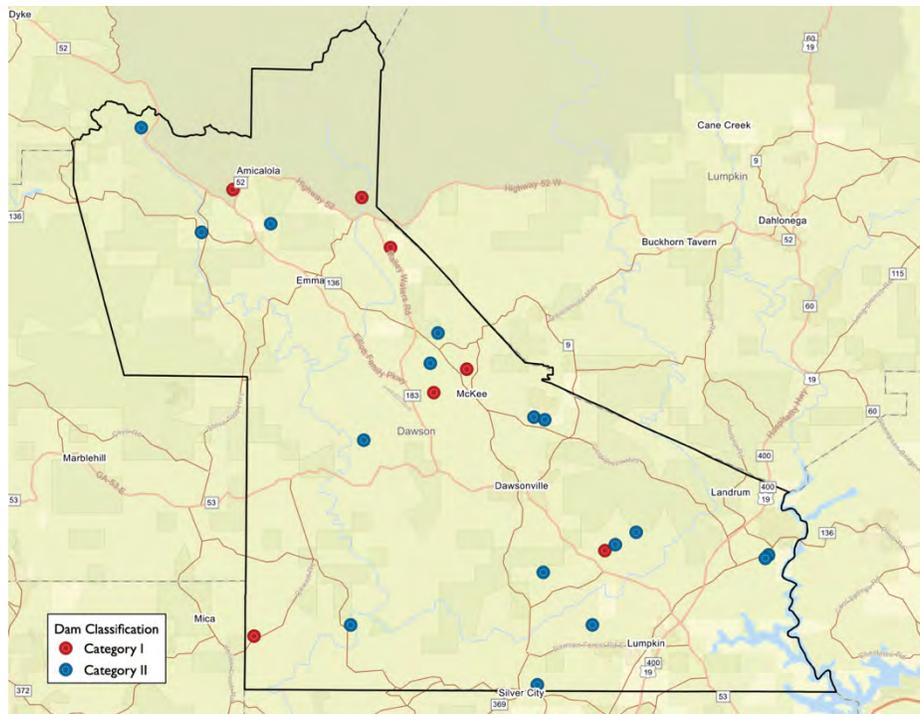
Georgia law defines a dam as any artificial barrier, which impounds or diverts water, is 25 feet or more in height from the natural bed of a stream or has an impounding capacity at maximum water storage evaluation of 100 acre-feet or more. Dams are generally constructed to provide a ready supply of water for drinking, irrigation, recreation, and other purposes. Dams can be constructed from earth, rock, masonry, concrete or any combination of these materials.

Dam failure is a term used to describe a significant breach of a dam and the subsequent loss of contained water. Dam failure can cause significant damages downstream to structures, roads, utilities, and crops. Dam failure can also put human and animal lives at risk. National statistics indicate that one-third of all dam failures in the United States are caused by overtopping due to inadequate spillway design, debris blocking spillways, or settlement of the dam crest. Another third of all US dam failures are the result of foundation defects, including settlement and slope instability.

#### 3.2.11.2. Hazard Profile (Location, Extent, Previous Occurrences)

There are seven Category I and 18 Category II dams located within Dawson County. Category I dams are those that would pose a possible threat to human life if a failure were to occur. All Category I dams must be inspected annually according to Georgia’s Safe Dams Act.

Figure 3.40 Locations of category I and II dams in Dawson County (source: Georgia’s Safe Dams Act)



There are no reported incidents of previous dam failures in Dawson County.



### **3.2.11.3. Probability**

Significant dam failures are low probability but high consequence events. Given that no previous occurrences have happened in the County, the probability of dam failure is unlikely (occurring every 50 years or less). The probability is likely to be affected though by climate change coupled with the aging status of dams.

### **3.2.11.4. Impacts**

The failure of dams in Dawson County could have severe consequences, leading to widespread flooding and property damage downstream. Such incidents pose a significant threat to public safety, potentially resulting in the displacement of communities, loss of lives, and disruption of essential infrastructure. Moreover, the environmental impact may include soil erosion, water contamination, and the alteration of ecosystems, necessitating comprehensive strategies for dam maintenance and emergency preparedness in the region.

### **3.2.11.5. Impacts from Future Conditions**

Dawson County participates in the National Flood Insurance Program (NFIP) and follows the program's guidelines to ensure future development is carried out in the best interests of the public. The County (CID No. 130304) first entered the NFIP on December 15, 1990. According to the NFIP guidelines, the County has executed a Flood Damage Prevention Ordinance. This ordinance attempts to minimize the loss of human life and health as well as minimize public and private property losses due to flooding. The ordinance requires any potential flood damage be evaluated at the time of initial construction and that certain uses be restricted or prohibited based on this evaluation. The ordinance also requires that potential homebuyers be notified that a property is located in a flood area. In addition, all construction must adhere to the Georgia State Minimum Standard Codes and the International Building Codes. Currently, the Dawson County municipality of Dawsonville also participate in NFIP.

Climate change and population growth collectively amplify the potential impacts of dam failures, creating a scenario of heightened vulnerability. As climate change induces more extreme weather events, including intense storms and prolonged periods of rainfall, the strain on dam structures increases, elevating the risk of failure. Simultaneously, population growth often leads to urbanization and expanded settlements in areas downstream of dams, intensifying the human and economic consequences of a failure. The combination of changing climate patterns and burgeoning populations not only raises the likelihood of dam failure but also exacerbates the scale of devastation.

### **3.2.11.6. Multi-Jurisdictional Considerations**

During a dam failure event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain and downstream from dams.



### 3.2.11.7. Hazard Summary

Dam failure poses a threat to Dawson County and its citizens, infrastructure, and critical facilities. A dam failure could prove catastrophic for areas downstream of the dam, particularly if the failure were to occur at any of the seven Category I dams located in Dawson County. As a result, mitigation efforts for dam failure should be focused in this potentially affected area.

## 3.2.12. Technological Hazard: Transportation Incident

### 3.2.12.1. Hazard Description

There are many secondary hazards that could be associated with transportation incidents. Injuries or deaths can occur as a result of the impact of a transportation accident, by a hazardous materials release as a result of a transportation incident, or by other related transportation hazards.

Transportation can occur via roadways, highways, interstates, railways, air or navigable waterways. Each transportation type poses their own unique hazard issues and consequences.

Roadway hazards are most likely to be caused by a motor vehicle accident involving one or more cars, trucks, vans, or transport vehicles. These incidents can have injuries as a result of the impact of the MVA or a hazardous materials release into the local environment, including waterways. Railway incidents pose many of the same dangers as motor vehicle accidents. However, the threat of a hazardous materials release is greatly increased when railway transportation incidents are considered.

Air accidents can include commercial airplanes, private airplanes, hot air balloons, helicopters, or other forms of air travel. Each of these incidents can cause a significant threat to human life as well as posing a hazardous material threat due to the cargo being transported or the fuel being used. Navigable waterway incidents can create formidable incidents for response organizations. Because of the waterway, technical expertise is needed to carry out rescue operations, especially in swift-moving waterways. Also, any incident in a waterway is likely to have environmental impacts.

### 3.2.12.2. Hazard Profile (Location, Extent, Previous Occurrences)

Transportation incidents are of a significant concern in Dawson County and can happen anywhere in the County. The most heavily traveled roads and pass-through routes include US Highway 19, and Georgia Highways 9, 52, 53, 136, 183, and 400.

Transportation incidents can range significantly in severity from minor fender-benders to fatal crashes. Due to the high frequency of transportation incidents, all previous occurrences are not listed, but Figure 3.42 on the next page shows annual summaries from 2017 to 2021.



# DAWSON COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, 2024-2029 UPDATE

## Chapter 3: Hazard Profiles

Figure 3.41 Transportation map for Dawson County

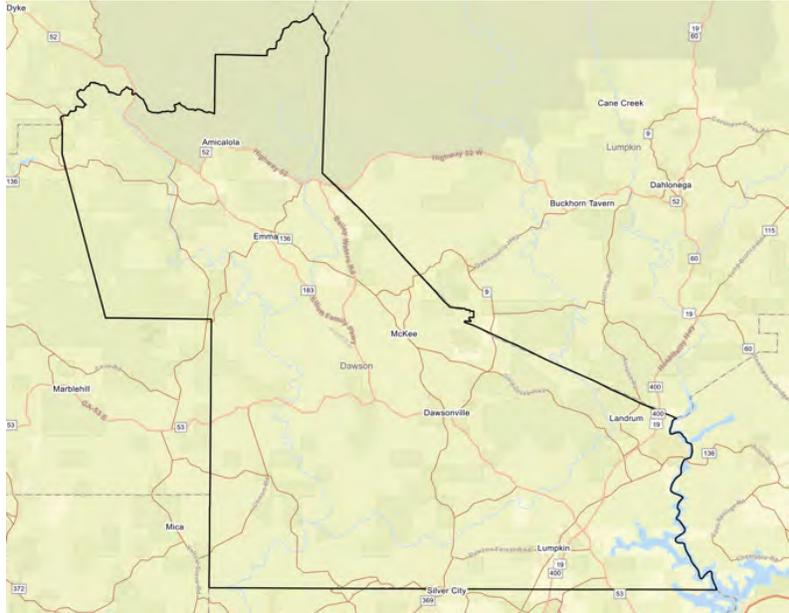
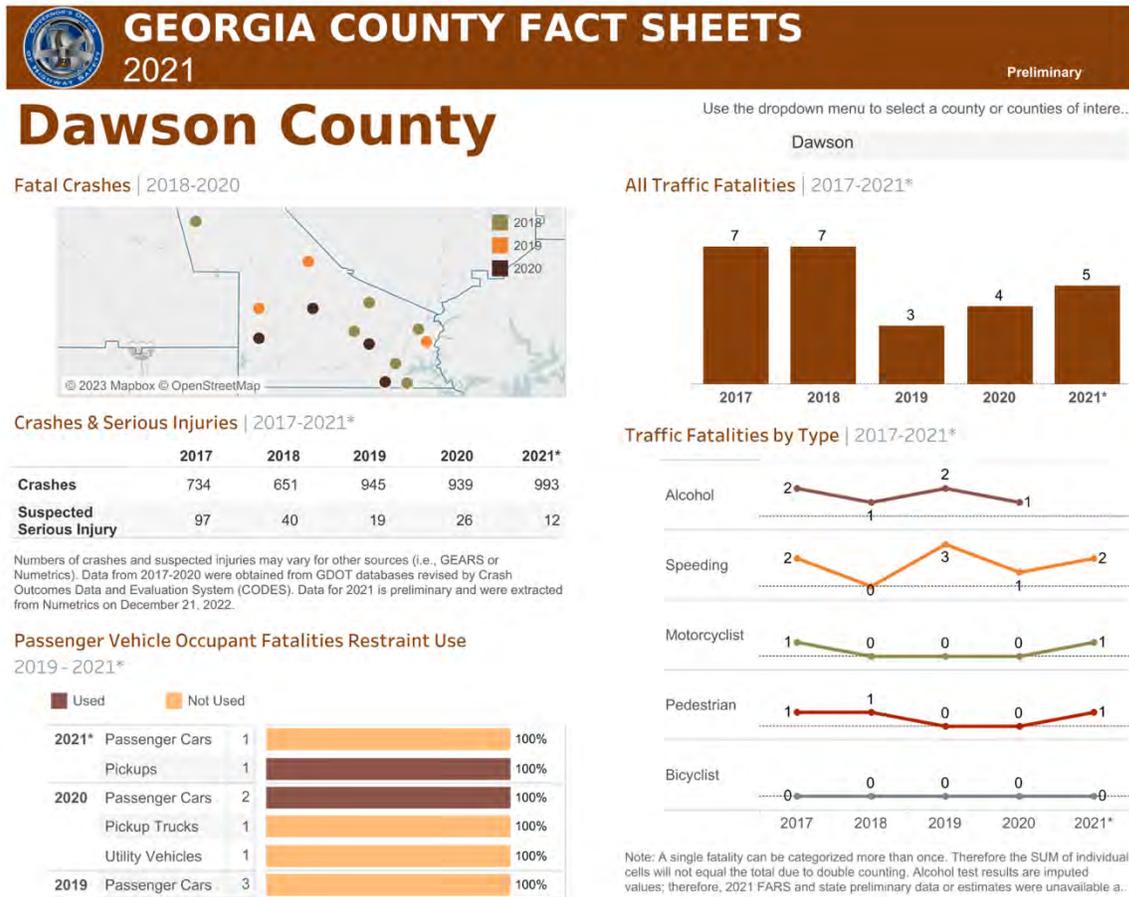




Figure 3.42 Dawson County traffic crash report (source: Georgia Governor's Office of Highway Safety)



### 3.2.12.3. Probability

Transportation incidents are one of the most commonly occurring hazards in Dawson County and nationwide. There is no sure way to predict future transportation incidents as most typically occur without warning. The probability of transportation incidents in Dawson County is extremely high (occurring every 1 year or more).

### 3.2.12.4. Impacts

Transportation incidents, ranging from vehicular accidents to hazardous material spills, can have profound impacts on both property and people. Collisions involving automobiles can result in property damage, vehicle destruction, road closures, and, most critically, injuries or loss of life for those involved. Loss of life from transportation incidents is common – 3 to 7 fatalities occurred annually in Dawson County between 2017 and 2021. Moreover, accidents involving the transportation of hazardous materials pose an additional layer of risk, potentially leading to environmental contamination, property destruction, and long-term health effects for nearby communities.



**3.2.12.5. Impacts from Future Conditions**

The greatest contributor to impacts from future changes is population change as an increase in overall population increases the likelihood and potential impact of a transportation incident.

**3.2.12.6. Multi-Jurisdictional Considerations**

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a transportation incident. However, areas along the Georgia Highway 400 corridor are at the greatest risk for this type of incident.

**3.2.12.7. Hazard Summary**

The Dawson County HMPC has determined that transportation incidents pose a high risk to their jurisdictions due to the unpredictable nature and likelihood of the incident. As a result, the Dawson County HMPC has developed mitigation strategies and actions with transportation incidents in mind.

**3.2.13. Technological Hazard: Terrorism**

**3.2.13.1. Hazard Description**

The Federal Bureau of Investigation (FBI) defines terrorism as violent acts or acts dangerous to human life that violate federal or state law, appear to be intended to intimidate or coerce a civilian population, affect the conduct of a government by mass destruction, assassination, or kidnapping, and is calculated to influence or affect the conduct of a government by intimidation or retaliate against government conduct. Terrorism is usually referenced as being premeditated and politically motivated.

Terrorist acts are, by their very nature, designed and carried out with the intention of inflicting mass casualties and extensive property damage. When an act of terrorism is carried out in a jurisdiction, it will likely be necessary to implement multiple aspects of the emergency management system and summon additional resources from local, state, and federal partners.

Terrorism is generally divided into two types: domestic terrorism and international terrorism. Domestic terrorism is defined as terroristic acts focused on facilities and populations without foreign direction. International terrorism involves activities that are foreign-based and/or sponsored by organizations outside of the United States.

Terrorists often use threats to create fear among the public, to convince citizens that government is powerless to prevent terrorism and to get immediate publicity for their causes. Weapons of Mass Destruction (WMDs), including incendiary, explosive, chemical, biological, radiological and nuclear agents, have the capability to cause death or serious bodily injury to a significant number of people, thus posing the threat of a catastrophic incident. Terrorism can also include arson, agro-terrorism, armed attack, intentional hazardous materials release, water or food contamination, and attacks on infrastructure and electronic information systems.

**3.2.13.2. Hazard Profile (Location, Extent, Previous Occurrences)**

It is almost impossible to predict where and when a terrorist attack could occur. The specific motivations of terrorists dictate target selection; therefore, any location within the County has the



potential to become a target of terrorism. Terrorism targets have historically been facilities that make a large economic or social impact on the targeted government or jurisdiction. In Dawson County, all critical facilities could be seen as potential targets. It is important to note that terrorism includes a multitude of potential approaches, including agro-terrorism, which is terrorism targeted toward agriculture, so due to the high economic impact of agriculture in Dawson County, agro-terrorism should also be of concern. Additionally, a terrorist contamination of Dawson County's water supply is of particular concern.

No previous occurrences of terrorism in Dawson County were noted.

### **3.2.13.3. Probability**

It is almost impossible to predict where and when a terrorist attack could occur. The probability of a terrorist attack in Dawson County is unlikely (occurring every 50 years or less).

### **3.2.13.4. Impacts**

The impacts of terrorism on Dawson County would be profound and multifaceted, extending beyond immediate physical harm to affect the fabric of the community. Acts of terrorism can instill fear, anxiety, and a pervasive sense of insecurity among residents, eroding the social cohesion that defines a community. Beyond the human toll, there would likely be significant economic repercussions, with disruptions to local businesses, tourism, and overall economic stability. Infrastructure may be compromised, emergency response systems strained, and the long-term psychological effects on individuals and the collective community psyche could endure.

### **3.2.13.5. Impacts from Future Conditions**

Population change can significantly affect the impacts of terrorism, with the scale of potential harm often tied to the density and composition of the population. In areas experiencing population growth, the potential consequences of terrorism may be more severe due to increased vulnerability and the higher concentration of people and infrastructure. Larger populations can result in more significant economic losses, disruptions to essential services, and a greater challenge in managing the aftermath of an attack. Additionally, diverse and growing populations may introduce complexities in communication, emergency response, and community resilience.

### **3.2.13.6. Multi-Jurisdictional Considerations**

All of Dawson County, including the City of Dawsonville, are vulnerable to potential acts of terrorism. However, critical facilities and their surrounding areas are at the greatest risk. Additionally, areas of tourism, such as Amicalola Falls State Park, are also at greater risk due to these areas being high visibility targets.

### **3.2.13.7. Hazard Summary**

Terrorism, while a low-probability hazard, would have devastating effects on Dawson County and the City of Dawsonville. These impacts would be immediate and long-lasting and could be potentially



economically crippling. Because of these considerations, the Dawson County HMPC has developed mitigation actions with terrorism in mind.

**3.2.14. Technological Hazard: Communications Failure**

**3.2.14.1. Hazard Description**

A communications failure refers to the breakdown or disruption in the transmission of information through various channels, including but not limited to, telecommunications networks, radio frequencies, internet services, and other means of conveying messages. This breakdown can occur due to technical issues, equipment malfunctions, natural disasters, cyberattacks, or other factors that impede the smooth flow of data and information. While a communications failure would most likely be a secondary hazard of one of the other hazards identified in this plan, a communications failure could be also be an independent incident. Communication failures can have significant consequences, particularly in emergency situations where timely and accurate information is crucial. It can affect public safety, disrupt essential services, and hinder coordination efforts among individuals, organizations, or governmental entities relying on effective communication channels.

A lack of communication with outside sources could lead to public panic, poor emergency response capabilities, and other cascading hazards. These events pose a significant threat to many jurisdictions.

**3.2.14.2. Hazard Profile (Location, Extent, Previous Occurrences)**

A communications failure can occur anywhere in Dawson County and would likely affect a significant portion of the County as opposed to a narrow, localized area. The severity of a communications failure can range from a minor outage on the magnitude of minutes or seconds to a county-wide outage ongoing for days to weeks.

**3.2.14.3. Probability**

Robust data is unavailable for Dawson County to analyze historical data of communications failure, but using subject matter expertise, the HMPC has evaluated the probability of a major communications failure incident as unlikely (occurring every 50 years or less).

Climate change may elevate the probability of communications failures through intensified and more frequent extreme weather events such as hurricanes, storms, and wildfires. These events can damage or disrupt critical communication infrastructure, including cell towers, power lines, and data centers, leading to widespread outages. Additionally increased flooding, attributed to climate change, can compromise the functionality of underground cables and other communication networks, further amplifying the vulnerability of communication systems to the impacts of a changing climate.

Further, population change can heighten the probability of communications failures as urbanization and increased population density place greater demand on existing communication infrastructure, leading to congestion and potential service disruptions. The expansion of communities and infrastructure can also make it more challenging to maintain and upgrade communication networks efficiently, increasing the risk of failures due to aging or inadequate systems.



#### **3.2.14.4. Impacts**

In case of any failure of a communications infrastructure, general communication difficulties would be exacerbated for both emergency responders and for the public. The reliance on wireless communications, particularly for the public safety sector, increases the impacts felt by Dawson County's emergency response agencies to a communications failure.

A communications failure in Dawson County could result in critical delays in emergency response efforts, hindering the coordination of first responders and increasing the risk of harm during disasters. Essential services, including public safety announcements, healthcare communication, and utilities coordination, may be severely compromised, impacting the well-being of the community. Additionally, disruptions in communication could impede the dissemination of vital information during extreme weather events, leaving residents uninformed and vulnerable to potential risks.

#### **3.2.14.5. Impacts from Future Conditions**

In the context of climate change, a communications failure in Dawson County may become more frequent and severe due to the increased frequency and intensity of extreme weather events. Rising temperatures, more intense storms, and other climate-related factors could lead to a higher likelihood of damage to communication infrastructure, exacerbating the challenges in emergency response coordination and public communication during crises. Population growth further compounds these challenges as expanding communities place additional stress on communication networks, potentially leading to increased congestion, slower response times, and difficulties in maintaining and upgrading infrastructure to keep pace with the growing demand. The combination of climate change and population growth heightens the vulnerability of Dawson County to the impacts of communications failures, emphasizing the need for adaptive strategies and resilient infrastructure planning.

#### **3.2.14.6. Multi-Jurisdictional Considerations**

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a communications failure. However, areas of greatest population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at greatest risk.

#### **3.2.14.7. Hazard Summary**

The Dawson County HMPC has determined that communications failures pose a high risk to their jurisdictions due to the unpredictable nature of the incident. As a result, the Dawson County HMPC has developed mitigation strategies and actions with communications failures in mind.

### **3.2.15. Technological Hazard: Emergent Infectious Diseases**

#### **3.2.15.1. Hazard Description**

Microorganisms, such as bacteria, viruses, parasites, fungi, or prions, surround us within the environment. They can even be found within our own bodies. Most microorganisms are completely harmless, and many are beneficial. However, some of these organisms are pathogenic, meaning they cause or can cause disease. Infectious diseases are caused by these pathogenic organisms and are



communicable – meaning they can be spread from person to person either directly or indirectly. Direct transmission of the disease occurs through actual physical contact with an infected person or their bodily fluids. Indirect transmission of a disease occurs when an infected person contaminates a surface by sneezing, coughing, etc., and a non- infected person encounters that infected surface. Another means of indirect transmission includes vectors, such as mosquitos, flies, mites, ticks, fleas, rodents, or dogs, which may carry the pathogenic microorganism and transmit it to people via a bite. Infectious diseases can also impact animal populations, particularly livestock and other farm animals. Even though these diseases may not directly affect humans, the economic impact of these diseases can be just as harmful, if not more so, to the community.

Infectious diseases can occur as primary events or they may occur as a cascading result of another disaster, such as a tornado, flood, or winter weather. Infectious diseases can vary greatly in severity and magnitude. According to the World Health Organization, infectious diseases account for three of the ten leading causes of death worldwide – HIV/AIDS, lower respiratory infections, and diarrheal disease. These three events, combined with tuberculosis and malaria, account for 20% of deaths globally.

In Western countries, the impact of infectious diseases has diminished greatly over the last 75 years due to improved sanitation, personal hygiene, vaccinations, and the use of antibiotics. In the United States, only two infectious diseases – seasonal influenza and pneumonia – rank in the top ten leading causes of death. Annually, there are 1,500 deaths in the United States from seasonal influenza and another 52,000 from pneumonia. Children and older adults are the greatest at risk for both.

Emergent infectious diseases are those that are appearing in a population for the first time. Re-emergent infectious diseases are those that may have previously existed in a population, but levels had dropped to the point where it was no longer considered a public health problem until levels once again began increasing.

During the last 25 years, emergent and re-emergent infectious diseases have been on the rise.

*Table 3.1 Select contributing factors to the rise of emergent and re-emergent diseases*

<b>Contributing Factors to Increasing Occurrence of Emergent Diseases</b>
<b>Agent-Related Factors</b>
Evolution of pathogenic infectious agents
Development of resistance to drugs
Resistance of disease carriers to pesticides
<b>Host-Related Factors</b>
Human demographic changes (humans inhabiting new areas)
Human behavior (sexual practices and drug use)
Human susceptibility to infection
<b>Environment-Related Factors</b>



Economic development and land use patterns  
International travel and commerce  
Deterioration of surveillance systems

Due to a lack of ready-made vaccines for these diseases and a lack of immunity in the population, emergent and re-emergent infectious diseases are much more likely to escalate to pandemic levels rapidly.

**3.2.15.2. Hazard Profile (Location, Extent, Previous Occurrences)**

The entire county could be affected by emergent infectious diseases, which is exemplified through previous occurrences.

Looking at occurrences with cases local to Dawson County, in 2009, the Central Georgia area was impacted by the 2009-2010 H1N1 Swine Flu. There were 1286 cases of H1N1 in Georgia in 2009-2010 and 33 deaths. The majority of registered cases occurred with people between the ages of 5 and 29. This equates to a mortality rate of just over 2.5% - which is slightly lower than the 3% rate of the 1918-1919 Spanish Flu Pandemic.

In 2020, the COVID-19 Pandemic impacted the entire world and caused a variety of public health protocols to be implements state-wide. In 2020, Dawson County had over 1,700 cases and there were over 575,000 cases statewide. By the end of 2021, there were over 1.4 million cases statewide and over 4,500 cases in Dawson County since the beginning of the pandemic. Vaccines were made available at the end of 2020. On May 11, 2023, the Public Health Emergency declaration for COVID-19 expired, but there are still COVID-19 cases.

In 2022, an Mpox outbreak occurred in the United States. There were over 30,000 cases nationwide with 2,000 cases and 54 deaths in Georgia as of October 2023. Mpox vaccines are available to prevent infection.

Over the last 25 years, emergent infectious disease outbreaks have occurred in other parts of the country. These include:

- 1993 Cryptosporidium Outbreak (Milwaukee, Wisconsin – 403,000 people ill and 100 deaths)
- 2010 Whooping Cough Outbreak (California – 9,500 people ill and 10 infant deaths)
- 2014 Measles (Nationwide – 334 cases from January to May 2014 – most in 20 years)
- 2015 H5N2 Avian Flu Outbreak (Midwest – over 25 million chickens and turkeys destroyed as a precautionary measure at 83 locations)
- 2016 Zika Virus Disease (224 Cases Florida and Texas of patients that acquired the disease locally)



### **3.2.15.3. Probability**

It is probable that a human health incident will occur in Dawson County in the future. Common human health incidents, like the flu, occur annually and may be perceived as a lower risk by the general population. Outbreaks, like COVID-19, are less frequent, but can have greater impacts to the County.

The probability of this hazard was determined to be likely (occurring every 5 to 20 years). The probability of emergent infectious diseases would increase with continued population growth, especially in densely populated areas.

### **3.2.15.4. Impacts**

The impacts of emergent infectious diseases on Dawson County can be far-reaching and multifaceted. The community's health infrastructure may face substantial challenges in terms of disease surveillance, testing, and healthcare delivery during outbreaks. The potential for increased strain on local healthcare facilities, disruptions to essential services, and economic repercussions due to containment measures and reduced productivity may be significant. Furthermore, emergent infectious diseases can impact social dynamics, affecting community interactions, education, and overall well-being.

Dawson County would also likely see significant economic impacts from an outbreak involving animal populations, such as an Avian Flu, due to the large economic base agriculture provides (over \$50 million in annual sales). The lack of current vaccines and preparatory activities for these diseases has created a situation where the potential impact to Dawson County of a pandemic or epidemic could be catastrophic.

### **3.2.15.5. Impacts from Future Conditions**

With the influence of climate change, the impacts of emergent infectious diseases on Dawson County may intensify. Altered climate patterns can affect the distribution of disease vectors, expand the geographic range of certain illnesses, and contribute to the emergence of new infectious agents. Climate-related factors such as extreme weather events and changing ecological conditions may also disrupt local health systems, making communities more vulnerable to the spread of diseases. Additionally, population growth can exacerbate these impacts, placing greater pressure on healthcare infrastructure, public services, and community resilience. The increased density of populations may facilitate the rapid transmission of infectious diseases, while urbanization and demographic changes may influence the effectiveness of public health interventions. In the context of climate change and population growth, adaptive strategies, robust healthcare systems, and community engagement become even more crucial to mitigate the evolving challenges posed by emergent infectious diseases in Dawson County.

### **3.2.15.6. Multi-Jurisdictional Considerations**

Dawson County, as well as the City of Dawsonville, are vulnerable to emergent infectious diseases. However, places of greater population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at greatest risk to this hazard. Additionally, livestock and other farm animals are at greater risk, along with areas with large, concentrated populations, such as schools.



### 3.2.15.7. Hazard Summary

An emergent infectious disease would have devastating effects on Dawson County and the City of Dawsonville. These impacts would be immediate and long-lasting and could be potentially economically crippling. Of particular concern to the Dawson County HMPC is impacts to Dawson County's large agricultural business population (over \$50 million in annual sales). Because of these considerations, the Dawson County HMPC has developed mitigation actions with emergent infectious diseases in mind.

### 3.2.16. Technological Hazard: Cyberattack

#### 3.2.16.1. Hazard Description

According to the National Institute of Standards and Technology, a cyberattack is an online attack that is meant to disrupt, disable, destroy, or maliciously control an organization's computing environment/infrastructure or destroying the integrity of the data or stealing controlled information. These attacks can hold organizations hostage for hours or sometimes days or months. The people who are behind these attacks often want financial compensation to release the organization's online infrastructure. These attacks can cost organizations both public and private millions of dollars to recover if targeted.

There are a variety of different types of attacks. Organizations should be aware of malware, phishing, and ransomware. Malware is when software is used to get access to an organizations IT system to steal information, disrupt services, or damage the IT networks. Ransomware is a kind of malware that allows the attacker to hold specific information hostage until a form of payment or ransom is provided. Phishing happens when a user is encouraged to share private information online using misleading tactics. It is important for organizations to put in protocols to prevent being victims of a cyberattack.

#### 3.2.16.2. Hazard Profile (Location, Extent, Previous Occurrences)

All systems that are online could be a victim of a cyberattack. If a government organization relies on online systems, then they are at risk for a cyberattack. All online document management or transactions are at risk. The severity of cyberattacks can vary widely, ranging from minor incidents like phishing or malware infections to highly sophisticated and destructive campaigns such as nation-state-sponsored attacks targeting critical infrastructure. Factors influencing severity include the attacker's capabilities, the vulnerabilities of the targeted systems, and the potential impact on financial, operational, or national security aspects.

In April 2018, the Dawson County Government was the victim of a cyberattack. The Dawson County Government was the victim of a ransomware attack and government employees were unable to conduct key duties of their jobs. The attack was first noticed when certain employees were unable to save changes to their working files on their computers. As soon as other government offices noticed issues, the IT department began to shut down servers to avoid the issue from spreading. Several components of the County's IT systems were impacted including the exchange server, and phone and internet services were taken offline. A cybersecurity company was called in to assist the County with



the issues and services were eventually restored. Up until this point, the County had cyberattack insurance but did not have an emergency plan in place for ransomware.

Just one month prior, the City of Atlanta was the victim of a cyberattack. The City of Atlanta was the victim of a ransomware attack and several of the City's government departments were unable to conduct work on computers. Everything from paying traffic tickets to water bills online and even the free Wi-Fi at the airport were shut down. The attackers wanted \$50,000 in cryptocurrency to release the City's data. The two men who were behind the attack were prosecuted, but the City ultimately paid millions of dollars to get the city back to normal.

### 3.2.16.3. Probability

As technology advances and industries become more reliant on technology-based infrastructure, the probability of cyber incidents occurring increases every day. It is estimated that every 11 seconds, a business falls victim to a ransomware attack and it is predicted that attacks will cost up to \$20 billion annually. This statistic has changed dramatically since 2016, which estimated a ransomware attack occurred every 40 seconds. In 2020, government was among the top three most cyber attacked industries, increasing from the top five in 2015. The probability of a cyberattack in Dawson County is highly likely (occurring every 1 to 5 years).

### 3.2.16.4. Impacts

A cyberattack on Dawson County could have significant and multifaceted impacts. At a basic level, it might result in disruptions to local government services, including communication systems and administrative functions. More severe consequences could involve the compromise of sensitive data, potentially exposing residents' personal information, leading to identity theft or financial fraud. In the worst-case scenario, a sophisticated cyberattack could cripple critical infrastructure, disrupt emergency services, and have cascading effects on public safety, economic stability, and the overall well-being of the community.

### 3.2.16.5. Impacts from Future Conditions

There are no impacts from future conditions that are specific to a cyberattack.

### 3.2.16.6. Multi-Jurisdictional Considerations

The City of Dawsonville also conducts many processes online. It is important that both the County and the City have protocols in place to be ready for a Cyberattack.

### 3.2.16.7. Hazard Summary

Cyberattacks are a hazard that can shut down online functions of an organization. They can cause organizations to be shut down for days and sometimes longer. These attacks can cost millions of dollars to fix. It is important for protocols to be in place to prevent these attacks from happening.



### 3.2.17. Human Caused Hazard: Active Threat/Shooter

#### 3.2.17.1. Hazard Description

The FBI defines an active shooter as one or more individuals actively engaged in killing or attempting to kill people in a populated area. Implicit in this definition is the shooter's use of a firearm. The "active" aspect of the definition inherently implies the ongoing nature of an incident, and thus the potential for the response to affect the outcome.

Two types of shootings include school shootings and mass shootings.

**School shootings** are incidents in which a student at an educational institution shoots and injures or kills at least one other student or faculty member on the grounds of the institution. There have been accounts of rampage school shootings when no single or specific individual is targeted by the shooter. Rampage school shootings involve students who attend (or formerly attended) the school where the attack takes place; occurring on a school-related "public stage"; and involving multiple victims, at least some shot at random or as a symbol.

**Mass shootings** are defined when the incident occurs in relatively public places, that involve four or more deaths, not including the shooter, and gunmen who select victims somewhat indiscriminately. The violence in these cases is not a means to an end. This means the gunmen does not pursue criminal profit or kill in the name of terrorist ideologies.

The Georgia Emergency Management and Homeland Security Agency says that because these situations are usually over before law enforcement arrive, it is important for individuals to prepare for these events. They recommend that individuals should sign up for active shooter training and if they see something they should report it to the appropriate authorities. They should also plan with their families for these situations. They also say if individuals find themselves in this situation they should run and escapes if they can, hide if they can't escape, or fight as an absolute last resort.

#### 3.2.17.2. Hazard Profile (Location, Extent, Previous Occurrences)

Active shooter incidents are possible anywhere in the County, but densely populated or high-profile areas, like government buildings, schools, and public spaces, are typically targeted. The severity of active threats can vary widely, ranging from relatively contained incidents with limited impact to highly dangerous situations involving multiple assailants and high-powered weapons, resulting in significant harm and casualties. Factors such as the assailant's intent, weaponry, tactics, and the effectiveness of law enforcement responses play crucial roles in determining the severity of an active threat. There are no records of active threat/shooter situations in Dawson County.

#### 3.2.17.3. Probability

There is no sure way to predict future active threats, as most typically occur without warning. The probability of an active shooter/threat incident in Dawson County is somewhat likely (occurring every 20 to 50 years).



#### **3.2.17.4. Impacts**

The impacts of active shooter incidents are profound and far-reaching, extending beyond the immediate physical harm to individuals and encompassing broader consequences for communities. The emotional and psychological toll on survivors, witnesses, and the affected community can be long-lasting, leading to post-traumatic stress, anxiety, and a sense of insecurity. Beyond the human cost, these incidents can result in economic repercussions, with businesses and local economies suffering due to temporary closures, decreased consumer confidence, and potential long-term effects on the local workforce. Furthermore, active shooter incidents prompt a reevaluation of security measures, both in public and private spaces, necessitating investments in enhanced safety protocols, emergency response training, and community support systems.

#### **3.2.17.5. Impacts from Future Conditions**

Population growth can potentially impact the probability of active shooter incidents in various ways. As populations expand, the density of people in public spaces increases, potentially providing more targets for individuals with malicious intent. Larger populations may also lead to higher levels of stress, competition, or societal challenges, which can contribute to the factors influencing violent behavior. Additionally, in densely populated areas, there may be increased anonymity, making it easier for potential perpetrators to plan and execute such incidents without immediate detection. However, it's important to note that the relationship between population growth and the probability of active shooter incidents is complex, and multiple factors, including societal, economic, and mental health considerations, contribute to the overall risk.

#### **3.2.17.6. Multi-Jurisdictional Considerations**

Heavily populated areas are more likely to see an active threat/shooter situation to unfold. It is important that this is considered in the City of Dawsonville as it is the most populated area of the County.

#### **3.2.17.7. Hazard Summary**

Active threats/shooters are dangerous situations that can escalate quickly. They involve one or more people with a firearm who are killing to attempting to kill people in an area. These situations are often over before law enforcement can arrive. It is important for communities to be prepared to respond to these situations and to prepare community members if they find themselves in these situations.



### 3.3. Vulnerability Assessment

The goal of profiling the location, extent, previous occurrences, probability, and impacts of each of the above hazards is to be able to summarize the vulnerabilities of Dawson County, so the planning team can develop a strategy to increase the County’s resiliency. The below tables rank the natural hazards relevant to Dawson County with higher ranks denoting higher vulnerability. The summary tables are broken into two categories: threats to buildings and threats to people. The County’s vulnerability to each hazard is determined by the annual expected loss ratio, which is the product of the annualized frequency and the historic loss ratio. The annualized frequency component gauges the recurrence rate of each hazard, providing insights into its likelihood of occurrence per year – these values are determined based on the “Probability” sections for each hazard included above. Concurrently, the historic loss ratio quantifies the magnitude of past damages inflicted by each hazard (on people and buildings), serving as a metric of severity, these values are provided by FEMA through its National Risk Index database. After ranking the vulnerabilities by annual expected loss ratio, each hazard was also marked to indicate whether the vulnerability is expected to increase based on climate change (based on the “Impacts from Future Conditions” sections above).

Table 3.2 Vulnerability assessment (to buildings) for natural hazards for Dawson County

<b>Threat to Buildings</b>					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Wildfire	1	Tornado	1
Drought	2	Earthquake	2	Flooding	2
Extreme Heat	3	Tornado	3	Thunderstorm	3
Extreme Cold	4	Flooding	4	Wildfire	4
Tornado	5	Hurricane	5	Earthquake	5
Winter Weather	6	Ice Storm	6	Ice Storm	6
Ice Storm	7	Thunderstorm	7	Extreme Heat	7
Flooding	8	Extreme Cold	8	Hurricane	8
Hurricane	9	Extreme Heat	9	Extreme Cold	9
Earthquake	10	Winter Weather	10	Winter Weather	10
Wildfire	11	Drought	11	Drought	11



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*Table 3.3 Vulnerability assessment (to people) for natural hazards for Dawson County*

<b>Threat to People</b>					
Annualized Frequency		Historic Loss Ratio		Annual Expected Loss Ratio	
Hazard	Rank	Hazard	Rank	Hazard	Rank
Thunderstorm	1	Tornado	1	Tornado	1
Drought	2	Earthquake	2	Extreme Heat	2
Extreme Heat	3	Wildfire	3	Extreme Cold	3
Extreme Cold	4	Flooding	4	Flooding	4
Tornado	5	Extreme Heat	5	Thunderstorm	5
Winter Weather	6	Extreme Cold	6	Winter Weather	6
Ice Storm	7	Thunderstorm	7	Earthquake	7
Flooding	8	Winter Weather	8	Ice Storm	8
Hurricane	9	Hurricane	9	Wildfire	9
Earthquake	10	Ice Storm	10	Hurricane	10
Wildfire	11	Drought	11	Drought	11

*Table 3.4 Certainty of future increased risk (against buildings) from climate change for natural hazards*

<b>Threat to Buildings</b>		
Annual Expected Loss Ratio		Future Increased Risk?
Hazard	Rank	Certainty
Tornado	1	Unknown
Flooding	2	Likely
Thunderstorm	3	Unknown
Wildfire	4	Likely
Earthquake	5	Unlikely
Ice Storm	6	Unknown
Extreme Heat	7	Likely, Severe
Hurricane	8	Likely
Extreme Cold	9	Unlikely
Winter Weather	10	Unknown



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Drought	11	Likely
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*Table 3.5 Certainty of future increased risk (against people) from climate change for natural hazards*

<b>Threat to People</b>		
Annual Expected Loss Ratio		Future Increased Risk?
Hazard	Rank	Certainty
Tornado	1	Unknown
Extreme Heat	2	Likely, Severe
Extreme Cold	3	Unlikely
Flooding	4	Likely
Thunderstorm	5	Unknown
Winter Weather	6	Unknown
Earthquake	7	Unlikely
Ice Storm	8	Unknown
Wildfire	9	Likely
Hurricane	10	Likely
Drought	11	Likely



## Chapter 4. Hazard Mitigation Strategies

### 4.1. Summary of Updates to Chapter Four

The following table provides a description of each section of this chapter and a summary of the changes made to the Dawson County Hazard Mitigation Plan 2018.

Chapter 4 Section	Updates
Goals and Objectives	<ul style="list-style-type: none"> <li>Updated goals to match the needs of Dawson County and the City of Dawsonville</li> </ul>
Identification and Analysis of Mitigation Techniques	<ul style="list-style-type: none"> <li>Mitigation Actions have been updated.</li> <li>Chart of complete and deleted mitigation actions has been updated.</li> </ul>
Multi-Jurisdictional Considerations	<ul style="list-style-type: none"> <li>Addition of hurricanes, winter storms, and cybersecurity concerns. Not included in 2018 Plan.</li> </ul>

### 4.2. Goals and Objectives (*Requirement §201.6(c)(3), Requirement §201.6(c)(3)(i)*)

It is essential that State and local government, public-private partnerships, and the average citizen can see the results of these mitigation efforts. Therefore, the goals and strategies need to be achievable. The mitigation goals and objectives form the basis for developing specific mitigation actions. County and municipal officials should consider the listed goals before making community policies, public investment programs, economic development programs, or community development decisions for their communities. The goals of Dawson County have changed slightly in the last five years (since 2012) due to specific threat events, such as the snow and ice storms of 2014 and Hurricane Irma in 2017. The 2014 Ice Storms, in particular, led to changes at the State and local levels regarding the importance of winter weather preparedness for the general public and the response-ability of local jurisdictions, including Dawson County. Due to the recent occurrence of natural hazards and the significant damage they have caused, mitigation strategies have become a top priority. There is now more focus on developing new strategies to prevent these events from happening and to minimize their impact when they do occur.

The Dawson County Hazard Mitigation Plan update covers two jurisdictions: Dawson County and the City of Dawsonville. However, these jurisdictions have limited capacity to implement all the mitigation actions described in the plan. This is because these jurisdictions are small in population and tax base, making raising sufficient revenue to pursue many actions difficult. Also, there is a lack of financial strength and staffing to implement all the actions described in the plan. To achieve the goals outlined in the plan, many actions will be pursued through grant programs and by collaborating with public and private organizations that can provide additional resources. For actions where grant funding or



partnerships are unavailable, Dawson County or municipality revenue streams may be supplemented through Special Purpose Local Option Sales Tax (SPLOST) funds, voted on by the electorate.

- GOAL 1:** Maximize the use of all resources by promoting intergovernmental coordination and partnerships in the public and private sectors.
- GOAL 2:** Harden community assets against the impacts of disasters by developing new mitigation strategies and enforcing current regulations.
- GOAL 3:** Minimize loss of life and property damage from disasters, especially for repetitive damaged properties.
- GOAL 4:** Increase community awareness about potential hazards and the need for preparedness.

These objectives outline specific outcomes that Dawson County aims to achieve over the next five years. Action steps are the necessary steps to reach these objectives. The objectives are not listed in order of importance.

- OBJECTIVE 1:** Our first objective is to reduce loss of life, damage to property, and minimize impacts on local citizens, industry, and infrastructure from identified hazards.
- OBJECTIVE 2:** We aim to provide advanced severe weather warnings to help citizens take precautionary measures and stay safe.
- OBJECTIVE 3:** Our third objective is to provide educational awareness to citizens about the dangers and impacts of the identified hazards.
- OBJECTIVE 4:** We will implement initiatives to protect our water resources and provide wildfire protection.
- OBJECTIVE 5:** We aim to increase the capacity of Dawson County, the City of Dawsonville, Etowah Water and Sewer, Dawson County Schools, and its citizens to respond to identified hazards.
- OBJECTIVE 6:** We will ensure continuity of critical operations before, during, and after hazard events.
- OBJECTIVE 7:** We will evaluate and implement additional protective measures and capabilities in response to identified hazards, wherever possible.



**4.3. Identification and Analysis of Mitigation Techniques (Requirement §201.6(c)(3)(iv), Requirement §201.6(c)(3)(iii))**

In updating Dawson County’s mitigation strategy, various activities were considered to help achieve the mitigation goals and objectives. This includes the following activities as defined by the Emergency Management Accreditation Program (EMAP):

1. The use of applicable building construction standards;
2. Hazard avoidance through appropriate land-use practices;
3. Relocation, retrofitting, or removal of structures at risk;
4. Removal or elimination of the hazard;
5. Reduction or limitation of the amount or size of the hazard;
6. Segregation of the hazard from that which is to be protected;
7. Modification of the basic characteristics of the hazard;
8. Control of the rate of release of the hazard;
9. Provision of protective systems or equipment for both cyber or physical risks;
10. Establishment of hazard warning and communication procedures; and
11. Redundancy or duplication of essential personnel, critical systems, equipment, and information materials.

As part of our prioritization process, we assess each item according to the STAPLEE criteria, which stands for Social, Technical, Administrative, Political, Legal, Economic, and Environmental factors. Based on this assessment, we designate each item as High, Medium, or Low priority. For items that require grant funding, we conduct a thorough Cost-Benefit Analysis to determine their actual cost-effectiveness. This analysis informs the grant research and application process.

<b>Strategic Priority</b>	<b>Priority Description</b>	<b>Strategies within this priority</b>
LOW	Low-priority strategies are those strategies that will have less direct impact on mitigating Dawson County’s hazards, are in the early stages of strategy development, or score poorly on a preliminary cost-benefit analysis	1.c; 1.d; 2.f; 5.i;
MEDIUM	Medium-priority strategies directly mitigate Dawson County's hazards but have less impact than high-priority strategies. They may be in the early stages of development or score lower on a cost-benefit analysis.	1h; 1.i; 1.j; 1.k; 1.l; 1.m; 1.n; 1.o; 1.q; 1.t; 2.b; 2.e; 2.g; 3.a; 3.b; 3.c; 3.d; 3.g; 3.h; 3.k; 4.a; 4.b; 4.d; 4.f; 4.g; 4.h; 4.i; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.j; 5.k; 5.l; 5.o; 7.a;



<b>HIGH</b>	High-priority strategies refer to those strategies that can significantly mitigate the hazards faced by Dawson County. These strategies are usually the most crucial needs of the county and/or the City of Dawsonville. Moreover, they have scored high on a preliminary cost-benefit analysis, making them an essential part of the mitigation plan.	1.a; 1.b; 1.e; 1.f; 1.g; 1.p; 1.r; 1.s; 2.a; 2.c; 2.d; 2.h; 3.e; 3.f; 3.i; 3.j; 4.c; 4.e; 4.j; 5.a; 5.m; 5.n; 6.a; 6.b; 6.c; 6.d; 7.b;
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The lead agency listed in the Mitigation Strategy charts will be responsible for the jurisdictional administration and prioritization of the mitigation strategy. Prioritization was determined based on many factors. These include the likelihood of the event, the potential impact of the event, the current readiness posture of Dawson County for the event, the all-hazard impact of the mitigation strategy, and a cost-benefit analysis for the mitigation action. For example, mitigation actions that address high-likelihood, high-impact events with a low cost would rate higher than low- low-likelihood, high-impact events with a high cost.

All mitigation strategies considered by the Dawson County Hazard Mitigation Plan Update Committee can be classified under one of the following six (6) broad categories of mitigation techniques:

**4.3.1. Prevention (Requirement §201.6(c)(3)(ii))**

Preventative activities are aimed at preventing hazardous issues from exacerbating and are generally implemented through government-run programs or regulatory measures that impact the way land is utilized and buildings are constructed. They are particularly effective in decreasing a community's future vulnerability, especially in areas where development hasn't taken place or capital investments haven't been significant. The updated plan outlines various examples of preventative activities, which are listed in the table below:

Natural Hazards	Mitigation Strategies
Drought	4.c; 4.d
Earthquake	6.a
Extreme Temperatures	
Flood	1.a; 1.b; 1.c; 1.d; 1.e; 1.f; 1.g; 1.h; 1.i; 6.a
Thunderstorms	1.a; 1.i; 6.a
Tornadoes	1.o; 6.a
Tropical Cyclone	1.a; 1.i; 1.o; 6.a
Wildfire	4.c; 6.a
Winter Storms	6.a



<b>Technological Hazards</b>	<b>Mitigation Strategies</b>
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	1.s; 1.t
Emergent Inf. Disease	7.a
Hazardous Materials	7.a
Terrorism	1.s; 1.t; 7.a
Transportation	7.a

**4.3.2. Property Protection**

The process of safeguarding properties involves making changes to existing buildings and structures to make them more resilient against various hazards. This may also involve relocating the structures from hazardous areas altogether. The updated plan includes a list of examples of property protection measures, which are listed in the table below:

<b>Natural Hazards</b>	<b>Mitigation Strategies</b>
Drought	
Earthquake	
Extreme Temperatures	
Flood	
Thunderstorms	1.m; 1.p; 1.q;
Tornadoes	1.m; 1.p; 1.q;
Tropical Cyclone	1.p; 1.q;
Wildfire	
Winter Storms	
<b>Technological Hazards</b>	<b>Mitigation Strategies</b>
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	



**4.3.3. Natural Resource Protection**

Natural resource protection activities aim to mitigate the impact of natural hazards by preserving or restoring natural areas such as floodplains, wetlands, steep slopes, and sand dunes, along with their protective functions. These protective measures are often implemented by parks, recreation, or conservation agencies and organizations. The updated plan includes several examples of natural resource protection, which are listed in the following table:

<b>Natural Hazards</b>	<b>Mitigation Strategies</b>
Drought	
Earthquake	4.b
Extreme Temperatures	
Flood	
Thunderstorms	4.b
Tornadoes	4.b
Tropical Cyclone	4.b
Wildfire	4.b
Winter Storms	4.b
<b>Technological Hazards</b>	<b>Mitigation Strategies</b>
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

**4.3.4. Structural Projects**

Structural mitigation projects aim to reduce the impact of a hazard by altering the natural progression of the environmental hazard event through construction. These projects are typically designed by engineers and managed or maintained by public works staff. The following table contains examples of structural projects included in the updated plan:



Natural Hazards	Mitigation Strategies
Drought	4.j; 5.l; 6.c; 6.d
Earthquake	5.j; 5.k; 5.l; 6.c; 6.d
Extreme Temperatures	
Flood	1.j; 1.k; 1.l; 4.j
Thunderstorms	1.j; 1.k; 1.l; 1.n; 5.j; 5.k; 5.j; 6.d
Tornadoes	1.n; 5.j; 5.k; 5.l; 6.c; 6.d
Tropical Cyclone	1.j; 1.k; 1.l; 1.n; 5.j; 5.k; 5.l
Wildfire	4.j; 5.j; 5.k; 5.l; 6.c; 6.d
Winter Storms	5.k; 5.k; 5.l
Technological Hazards	Mitigation Strategies
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

**4.3.5. Emergency Services**

While emergency services are not usually regarded as a mitigation technique, they can still reduce the impact of a hazardous event on individuals and property. These services are usually implemented just before, during, or after the occurrence of a hazardous event. The updated plan includes a list of emergency services, which are mentioned in the table below:

Natural Hazards	Mitigation Strategies
Drought	4.e; 4.f; 5.b; 5.m;
Earthquake	5.a; 5.b; 5.d; 5.e; 5.f; 5.g; 5.h; 5.m; 5.n; 5.o;
Extreme Temperatures	
Flood	5.b; 5.c; 5.d; 5.e; 5.i; 5.m; 5.n; 5.o;
Thunderstorms	2.a; 2.b; 2.c; 2.d; 2.e; 2.f; 2.g; 2.h; 5.a; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o; 6.b;



Tornadoes	2.a; 2.b; 2.e; 2.g; 2.h; 5.a; 5.b; 5.c; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o; 6.b;
Tropical Cyclone	2.c; 2.d; 2.f; 2.g; 2.h; 5.a; 5.b; 5.c; 5.e; 5.i; 5.m; 5.n; 5.o;
Wildfire	2.h; 4.g; 4.h; 4.i; 5.a; 5.b; 5.d; 5.i; 5.m; 5.n; 5.o;
Winter Storms	1.r; 2.a; 2.e; 2.f; 2.g; 2.h; 5.a; 5.b; 5.d; 5.e; 5.f; 5.g; 5.h; 5.i; 5.m; 5.n; 5.o;
Technological Hazards	Mitigation Strategies
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	
Emergent Inf. Disease	3.j; 7.b
Hazardous Materials	3.j; 7.b
Terrorism	3.j; 7.b
Transportation	7.b

**4.3.6. Public Education and Awareness**

The updated plan utilizes public education and awareness activities to inform various groups of people, including residents, elected officials, business owners, potential property buyers, and visitors, about potential hazards, hazardous areas, and techniques they can use to mitigate the risks and protect themselves and their property. The plan includes a list of examples of public education and awareness strategies in the following table:

Natural Hazards	Mitigation Strategies
Drought	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h; 4.a
Earthquake	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h
Extreme Temperatures	
Flood	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Thunderstorms	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Tornadoes	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.g; 3.h
Tropical Cyclone	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;
Wildfire	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h; 4.a
Winter Storms	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.h;



<b>Technological Hazards</b>	<b>Mitigation Strategies</b>
Active Threat/Shooter	
Cyberattack	
Communications Failure	
Dam Failure	3.k
Emergent Inf. Disease	3.k
Hazardous Materials	3.i; 3.k
Terrorism	3.i; 3.k
Transportation	3.i; 3.k

**4.3.7. Overall**

<b>Mitigation Technique</b>	<b>Percentage</b>
Prevention	23.9%
Property Protection	4.2%
Natural Resource Protection	1.4%
Structural Projects	15.5%
Emergency Services	33.8%
Public Education and Awareness	15.5%

The following Mitigation Charts meet:

Requirement §201.6(c)(3)(ii)

Requirement §201.6(d)(3)



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**Completed Strategies**

Previous Strategy #	Strategy Description	Status
5.g	Purchase barricades for points of distribution traffic flow, evacuations, and other activation	COMPLETE
5.i	Purchase ATV for wildland firefighting and search and rescue operations	COMPLETE
6.l	Purchase two electronic signs	COMPLETE
6.r	Purchase a wheeled loader to move tree debris	COMPLETE
7.e	Provide additional interconnection points between the Forsyth County and Etowah Water and Sewer Authority water systems	COMPLETE
8.c	Purchase a snowplow for the front of trucks	The City of Dawsonville - COMPLETE
8.d	Purchase 4- wheel drive for staff vehicles during winter weather hazardous weather response	COMPLETE
10.e	Develop a plan for a short-term contamination of the raw water supply	COMPLETE



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**Deleted Strategies**

Previous Strategy #	Strategy Description	Reason
2.e	Build a safe room in new EOC building that is available to the public	Strategy is no longer a priority
2.g	Consider an ordinance that requires all new construction to include a safe room	Strategy is no longer a priority
2.h	Build a storm shelter as part of any large (50+ residences) residential communities, particularly if locations include slab homes	Strategy is no longer a priority
2.i	Build safe rooms at local fire stations and police stations	Strategy is no longer a priority
3.c	Install outdoor warning siren at Paradise Valley Resort	Strategy removed due to being duplicated in 3.a
3.e	Install lighting detection systems in other areas where large crowds gather for outdoor events	Combined with 3.d
4.g	Promote severe weather awareness to clients of North Georgia Assisted Living Facility	Strategy removed due to rephrasing of other strategies
4.h	Promote severe weather awareness to client of Senior Center	Strategy removed due to rephrasing of other strategies
4.i	Promote severe weather awareness to clients of DFCS	Strategy removed due to rephrasing of other strategies
5.g	Purchase barricades for points of dispensing traffic flow, evacuations, and other activation	Strategy is no longer a priority
6.b	Equip chainsaw strike team with chainsaws necessary for debris removal assistance	Strategy is a duplicate
6.e	Purchase the most updated landline phone list from Windstream every 2-3 years	Strategy is no longer a priority or relevant
6.j	Purchase portable cooking shelters and portable shower	Strategy is no longer a priority
6.t	Purchase a Mobile Command Vehicle	Strategy is no longer a priority
6.u	Equip Mobile Command Vehicle	Strategy is no longer a priority



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<b>Previous Strategy #</b>	<b>Strategy Description</b>	<b>Reason</b>
7.c	Cross train staff across multiple departments to serve in emergency related positions that would be outside their normal job functions	Strategy is no longer a priority
8.a	Purchase a brine truck	Strategy is no longer a priority
8.b	Purchase spreaders for salt/brine	Strategy is no longer a priority
10.b	Train a Hazmat Response Team to Technician Level	Strategy is no longer a priority
10.c	Equip a HazMat Response Team	Strategy is no longer a priority



#### **4.4. Multi-Jurisdictional Considerations**

It is difficult to separate the impacts of each hazard by jurisdiction in Dawson County for several reasons. This is because any hazard that affects the City of Dawsonville would also have an impact on Dawson County as a whole and vice versa. This is because the two jurisdictions are strongly interdependent. Dawson County provides all public safety services, including fire protection, police services, and emergency medical response, for the City of Dawsonville. Any hazard incident that requires any public safety response would immediately affect the ability of those public safety agencies to provide adequate protective services to the City of Dawsonville and vice versa.

Dawsonville is the major commercial center for all of Dawson County. Moreover, the City of Dawsonville has incorporated many areas that had previously been part of unincorporated Dawson County for the last 20 years. This has created greater interdependency between the two jurisdictions and greater homogeneity of population characteristics and types of vulnerable populations.

##### **Thunderstorms**

Thunderstorms have occurred in all areas of Dawson County. While rural areas are likely to face crop damage, the more heavily populated areas, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, are at a greater risk of property damage due to higher population density. Thunderstorms have the potential to impact all areas of Dawson County.

##### **Winter Storms**

It is possible that a winter storm, which may include freezing rain, sleet, and snow, could impact all areas of Dawson County. However, the areas with higher population density, such as the City of Dawsonville and areas along Georgia Highway 400, are likely to experience a higher amount of property damage. Therefore, all measures to prepare for and mitigate the effects of winter storms should be taken on a countywide basis, with a focus on protecting the City of Dawsonville.

##### **Flooding**

During a major flood event, several parts of Dawson County can be affected by flooding. However, the areas that are highly susceptible to flooding are those located within the 100-year floodplain, especially areas along the Etowah River situated in unincorporated regions in Southern Dawson County. The City of Dawsonville is less likely to be directly impacted by flooding, but a flood affecting the unincorporated areas of the county can still have significant consequences on the city. It is possible for both Dawson County and the City of Dawsonville to be affected by flooding.



### **Tornado**

It is important to understand that tornadoes can occur in any part of Dawson County, regardless of the area's population density. However, in areas with high population density, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, the damage caused by a tornado would likely be more significant. Additionally, areas with a focus on tourism, like Amicalola Falls State Park, could be particularly vulnerable to the impact of a tornado. Therefore, it is crucial to take measures to mitigate the risks of tornadoes throughout the county, including the City of Dawsonville.

### **Drought**

All areas of Dawson County are at risk of being impacted by drought, but the agricultural regions are particularly vulnerable. Thunderstorm events are likely to cause crop damage in the rural areas of Dawson County. However, the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor have a higher population density, indicating that a significant drought event could have a greater impact on the population's water supply needs. Therefore, all drought mitigation actions should be implemented countywide, including the City of Dawsonville.

### **Wildfire**

It's important to note that all areas of Dawson County, including the City of Dawsonville, are at risk of wildfire due to the large amount of Wildland-Urban Interface. However, the less developed areas of the county are more vulnerable to the threat. A risk assessment was performed in 2017 and Dawson County was divided into five separate geographic zones. Four of these zones were found to have moderate wildfire risk, while one - Big Canoe - was identified as having a high wildfire risk. It's worth noting that unincorporated areas of the county that have a tourism focus, such as Amicalola Falls State Park, could be particularly impacted by a wildfire event. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and should include the City of Dawsonville.

### **Earthquakes**

It is possible that earthquakes could pose a threat to the entire Dawson County, including the City of Dawsonville. However, the areas with higher population density along the Georgia Highway 400 corridor, including the City of Dawsonville, may experience more severe impacts from an earthquake event. These areas also have a higher concentration of commercial establishments, which could be severely affected by such an event. Therefore, it is recommended to undertake all earthquake mitigation measures on a countywide basis, including the City of Dawsonville.



**Tropical Cyclone**

Tropical cyclones can have a significant impact on all areas of Dawson County. The crop damage caused by these events would be most felt in the rural areas of the county. On the other hand, property damage is expected to be higher in more densely populated areas like the City of Dawsonville and along the Georgia Highway 400 corridor. Flooding as a result of tropical cyclones would have the greatest impact on areas along the Etowah River and its tributaries and distributaries, particularly in the unincorporated areas of Dawson County. It's important to note that tropical cyclones have the potential to affect all parts of Dawson County.

**Hurricane**

The National Hurricane Center describes a hurricane as a tropical cyclone in which the maximum sustained wind is, at minimum, 74 miles per hour (mph)<sup>1</sup>. The term hurricane is used for Northern Hemisphere tropical cyclones east of the International Dateline to the Greenwich Meridian. The term typhoon is used for Pacific tropical cyclones north of the Equator west of the International Dateline. Hurricanes in the Atlantic Ocean, Gulf of Mexico, and Caribbean form between June and November with the peak of hurricane season occurring in the middle of September. Hurricane intensities are measured using the Saffir-Simpson Hurricane Wind Scale. This scale is a 1 to 5 categorization based on the hurricane's intensity at the indicated time.

Hurricanes bring a complex set of impacts. The winds from a hurricane produce a rise in the water level at landfall called storm surge. Storm surges produce coastal flooding effects that can be as damaging as the hurricane's winds. Hurricanes bring very intense inland riverine flooding. Hurricanes can also produce tornadoes that can add to the wind damages inland. In this risk assessment, only hurricane winds, and coastal storm surge are considered.

*Table 1: Saffir-Simpson Hurricane Wind Scale*

Category	Wind Speed (mph)	Damage
1	74 - 95	Very dangerous winds will produce some damage
2	96 - 110	Extremely dangerous winds will cause extensive damage
3	111 - 130	Devastating damage will occur
4	131 -155	Catastrophic damage will occur
5	> 155	Catastrophic damage will occur

The National Oceanic and Atmospheric Administration's National Hurricane Center created the HURDAT database, which contains all of the tracks of tropical systems since the mid-1800s. This database was used to document the number of tropical systems that have affected Dawson County by creating a 20-mile buffer around the county to include storms that didn't make direct landfall in Dawson County but impacted the county. Note that the storms listed

<sup>1</sup> National Hurricane Center (2011). "Glossary of NHC Terms." National Oceanic and Atmospheric Administration. <http://www.nhc.noaa.gov/aboutgloss.shtml#h> Retrieved 2012-23-02.



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contain the peak sustained winds, maximum pressure and maximum attained storm strength for the entire storm duration. Since 1902, Dawson County has had 12 tropical systems within 20 miles of its county borders.

*Table 2: Tropical Systems Affecting Dawson County<sup>2</sup>*

YEAR	DATE RANGE	NAME	MAX WIND (Knots)	MAX PRESSURE	MAX CAT
1902	October 03 - 13	UNNAMED	104	970	H2
1907	September 18 - 23	UNNAMED	46	0	TS
1911	August 23 - 31	UNNAMED	98	972	H2
1928	August 07 - 17	UNNAMED	92	0	H1
1959	October 06 - 09	IRENE	46	1003	TS
1977	September 03 - 09	BABE	75	1012	H1
1997	July 16 - 27	DANNY	81	1013	H1
2004	August 25 - September 10	FRANCES	144	1009	H4
2005	July 03 - 11	CINDY	75	1011	H1
2020	October 24 - 30	ZETA	115	1007	H3
2021	August 09 - 20	FRED	63	1013	TS
2022	November 06 - 11	NICOLE	75	1005	H1

**Extreme Temperatures**

Extreme temperatures may affect all areas of Dawson County. However, areas with higher population densities, such as the City of Dawsonville and parts of Dawson County along the Georgia Highway 400 corridor, are expected to experience greater impacts.

**Hazardous Materials Incidents**

The entire Dawson County, comprising of the City of Dawsonville, is susceptible to both hazardous materials releases from fixed facilities and transportation-related incidents. However, regions with higher commercial density, such as the City of Dawsonville, and areas with the greatest traffic, such as the Georgia Highway 400 corridor, may be the most at risk.

<sup>2</sup> Atlantic Oceanic and Meteorological Laboratory (2012). "Data Center." National Oceanic and Atmospheric Administration. [http://www.aoml.noaa.gov/hrd/data\\_sub/re\\_anal.html](http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html) Retrieved 7-20-2015



### Dam Failure

During a dam failure event, many portions of Dawson County would potentially be impacted by flooding. However, the areas most prone to flooding have historically been those areas located within the 100-year floodplain and downstream from dams.

### Transportation Incidents

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a transportation incident. However, areas along the Georgia Highway 400 corridor are at the greatest risk for this type of incident.

### Terrorism

All of Dawson County, including the City of Dawsonville, are vulnerable to potential acts of terrorism. However, critical facilities and their surrounding areas are considered at the greatest risk. Additionally, areas of tourism, such as Amicalola Falls State Park, are also at greater risk as they are highly visible targets.

### Communications Failure

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a communications failure. Dawson County and the City of Dawsonville have adopted the mitigation action item of installing back-up generators at all critical facilities.

### Emergent Infectious Diseases

Dawson County, as well as the City of Dawsonville, are vulnerable to emergent infectious diseases. However, places of greater population density, such as the City of Dawsonville and areas along the Georgia Highway 400 corridor, are at the greatest risk of this hazard. As of July 2023, Dawson County had officially reported 7,438 confirmed cases of COVID-19. Of those, 108 cases resulted in the patient's death<sup>3</sup>.

### Cyberattack

The City of Dawsonville conducts many processes online. It is important for the County and City to have protocols in place to be prepared for a cyberattack.

### Active Threat/Shooter

Populated areas have a higher risk for active shooter situations. Consider this in Dawsonville, the county's most populous area.

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<sup>3</sup> Centers for Disease Control. (2021, September).HealthData.gov. [https://healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb/data\\_preview](https://healthdata.gov/dataset/COVID-19-Diagnostic-Laboratory-Testing-PCR-Testing/j8mb-icvb/data_preview)



## Chapter 5. Plan Implementation and Maintenance

### 5.1. Summary of Updates for Chapter Five

The following table provides a description of each section of this chapter, and a summary of the changes that have been made to the Dawson County Hazard Mitigation Plan 2018.

<b>Chapter 5 Section</b>	<b>Updates</b>
Maintenance	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Plan Distribution	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Implementation	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Evaluation	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Peer Review	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Plan Update	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>
Conclusion	<ul style="list-style-type: none"> <li>• Content revised as needed</li> </ul>

### 5.2. Maintenance (*Requirement §201.6(c)(4)(iii)*)

To adhere to best practices, state and federal guidelines, and lessons learned, the Dawson County Hazard Mitigation Plan Update Committee has developed a method to ensure the regular review and update of the Plan occurs. Plan maintenance protocols identified during the 2012 Dawson County Hazard Mitigation Plan and 2017 Plan Update were followed to the best of Dawson County's abilities. The Dawson County Hazard Mitigation Plan Update Committee will reconvene annually to monitor and evaluate the progress of the mitigation strategies in the Plan. Dawson County's Emergency Management Director, Troy Leist, will be responsible for implementing this meeting. The Committee will discuss the following questions annually:

- Do the goals address current and expected hazards and conditions?
- Are the goals and objectives still relevant to the County?
- Has the nature or magnitude of risks changed?
- Does the risk assessment portion of the Plan need to be updated or modified?
- Are the goals and objectives meeting changes in state and federal policy?
- Are the current resources appropriate for implementing the Plan?
- Are there local implementation problems, such as technical, political, legal, or coordination issues with other agencies?
- Did the jurisdictions, agencies, and other partners participate in the plan implementation process as proposed?

The responsible parties will provide a report at the annual meeting on their mitigation strategies. The report will address the following topics:





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### 5.3. Plan Distribution

This plan will be distributed to various departments and organizations within Dawson County, including but not limited to:

- Dawson County Board of Commissioners
- Dawson County Fire Department
- Dawson County Emergency Management Agency
- Dawson County Sheriff's Office
- Dawson County Public Works
- Dawson County Planning and Development
- Dawson County Board of Education
- City of Dawsonville

A printed copy of the approved Plan will be available for viewing at the Dawson County Emergency Management Agency located at 393 Memory Lane, Dawsonville, GA 30534. A printed copy of the approved Plan will also be available for viewing at the Chestatee Regional Public Library located at 342 Allen Street in Dawsonville. The existence and location of these copies will be publicized in the County's local newspaper, the Dawson County News.

All comments, questions, concerns, and opinions about the Plan will be directed to Director Troy Leist of the Dawson County Emergency Management Agency for follow-up.

### 5.4. Implementation (*Requirement §201.6(c)(4)(ii)*)

The Dawson County Hazard Mitigation Plan requires each jurisdiction to carry out certain mitigation actions as laid out in the plan. To ensure the proposed strategies are implemented successfully, every department or agency responsible for a strategy is identified in the Mitigation Strategies section. This allocation of responsibility increases accountability and the likelihood of successful implementation.

It is common to have a local lead department or agency assigned for a particular strategy. Additionally, there may be secondary or assisting departments or agencies listed to share responsibility and coordinate efforts for some strategies that cross departmental lines. A completion date is assigned to monitor whether the identified mitigation strategies are being implemented in a timely manner.

Dawson County and the City of Dawsonville will look for external sources of funding to carry out prevention projects both before and after a disaster. Potential funding sources have been identified for the actions listed in the mitigation strategies. Each participating jurisdiction will be responsible for deciding on additional implementation procedures beyond those outlined in the Dawson County Hazard Mitigation Plan.

This plan, as a joint effort between Dawson County and the City of Dawsonville, will serve as a comprehensive mitigation plan. The mitigation strategies, hazard identification, and other information



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identified in this plan will be integrated into all comprehensive Dawson County plans, as well as all municipality plans in the future. Incorporation of these strategies will occur, as necessary, throughout this planning cycle covered by this Hazard Mitigation Plan Update. Aspects of this plan will be integrated into the Dawson County Comprehensive Plan during the next planning cycle. This comprehensive plan is a joint, multi-jurisdictional plan that covers both unincorporated Dawson County and the City of Dawsonville. The City of Dawsonville will additionally incorporate mitigation strategies into their future land use zoning and planning ordinances, development regulations, and the Dawsonville Downtown Master Plan.

Identified hazards and mitigation strategies of the 2012 Dawson County Hazard Mitigation plan were integrated into the Local Emergency Operations Plan, multiple County and City SOPs and SOGs, and future planning and zoning plans. Dawson County will integrate mitigation strategies identified in this plan into the Dawson County Comprehensive Plan, Community Wildfire Protection Plan, Continuity of Operations Plan, and other future plans. Strategies identified in the previous plan were applied to grant applications, building and zoning requirements, and development planning considerations for Dawson County and the City of Dawsonville. Many of these strategies will be applied using previously identified policies and ordinances, including the NFIP compliance ordinances and water-use ordinances, which have now been applied countywide. All jurisdictions have the authority to adopt locally-binding ordinances and policies to enhance the mitigation strategies in their jurisdiction.

The Legal and Regulatory Capability survey lists the authorities and enabling legislation that are available at the state level to support local hazard mitigation planning efforts. This survey also identifies the planning and land management tools that are typically used by states and local jurisdictions to implement hazard mitigation activities.

<b>Regulatory Tools/Plans</b>	<b>Regulatory Type: Ordinance, Resolution, Codes, Plans, Etc.</b>	<b>Local Authority</b>	<b>State Prohibited</b>	<b>Higher Authority</b>
Building Codes	County/Municipal Code	Yes	No	No
Capital Improvements Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	No
Comprehensive Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	No
Economic Development Plan	2008-2028 Dawson County Comprehensive Plan	Yes	No	Yes
Emergency Management Accreditation Program		No	No	Yes
Emergency Response Plan	Dawson County Local Emergency Operations Plan (LEOP)	Yes	No	Yes



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Regulatory Tools/Plans	Regulatory Type: Ordinance, Resolution, Codes, Plans, Etc.	Local Authority	State Prohibited	Higher Authority
Flood Management Plan	Dawson County Code Chapter 38, Article V (Flood Damage Prevention)	Yes	No	No
Historic Preservation		Yes	No	No
National Flood Insurance Program Participation	Dawson County Code Chapter 38, Article V, Division 2, Section 38-506	Yes	No	Yes
Continuity of Government/ Operations Plan		No	No	No
Post-Disaster Ordinance	Dawson County Code Chapter 22, Article III	Yes	No	No
Zoning Ordinances	County and Municipal Codes	Yes	No	No

The City of Dawsonville provides a range of administrative and technical services to its community. Its departments include Administrative, Public Works, Utilities, and Planning and Zoning. For public safety services, such as police, fire suppression, and emergency medical response, the City of Dawsonville relies on Dawson County. Over the past two decades, the City of Dawsonville has annexed portions of Dawson County, particularly areas to the north of the core commercial area of Dawsonville. These annexations have expanded the City of Dawsonville's jurisdiction and created greater homogeneity of population between the City of Dawsonville and Dawson County.

The Dawson County Hazard Mitigation Planning Committee aims to identify more opportunities to integrate the requirements of this plan into other local planning mechanisms. While there are many potential benefits to integrating components of this plan into other local planning mechanisms, the committee believes that the development and maintenance of this stand-alone Hazard Mitigation Plan is currently the most effective and appropriate way to implement local hazard mitigation actions.

**5.5. Evaluation (Requirement §201.6(c)(4)(i))**

Periodic revisions and updates of the Dawson County Hazard Mitigation Plan may be required to ensure that the goals of this plan are kept current with federal, state, and local regulations. These revisions should also consider any potential changes in the hazard vulnerability and mitigation priorities of Dawson County.

The Dawson County Hazard Mitigation Plan Update Committee will meet annually to review the Dawson County Hazard Mitigation Plan. During this annual review, mitigation strategies will be reviewed to evaluate the progress that has occurred for each identified mitigation strategy. The Dawson County Hazard Mitigation Plan Update Committee will also meet following any disaster event to review the



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identified mitigation strategies for that hazard event and determine if timelines should be adjusted or additional mitigation strategies should be identified and added to the plan. These steps will ensure that the Dawson County Hazard Mitigation Plan is continuously updated to allow for changes in hazard vulnerabilities and identified mitigation strategies.

The Dawson County Hazard Mitigation Plan Update Committee will complete all evaluations of the Dawson County Hazard Mitigation Plan.

**5.6. Peer Review (State Requirement Element F1)**

Representatives from neighboring emergency management agencies conducted a peer review of the Dawson County Hazard Mitigation Plan Update. The purpose of the review was to maintain quality standards, improve performance, and provide credibility to the plan. This peer review process is a form of self-regulation and accountability, and it provides new insights from qualified professionals who face similar natural and man-made hazards in their own communities.

Dawson County Hazard Mitigation Plan Update was peer-reviewed by:

Renee Cornelison Director Cherokee County Emergency Management Agency	Date
John Nicholson Director Pickens County Emergency Management Agency	Date
Chris Grimes Deputy Director Forsyth County Emergency Management Agency	Date
David Wimpy Director Lumpkin County Emergency Management Agency	Date

**5.7. Plan Update (Requirement §201.6(c)(4)(i))**

The Hazard Mitigation Plan needs to be updated at least once every five years as required by the Federal Disaster Mitigation Act of 2000. It is the responsibility of the Dawson County Emergency Management Agency to ensure that this requirement is met. The Dawson County Hazard Mitigation Plan Update Committee will assist the department in the process and ensure that all jurisdictions contribute to the planning. The public will be invited to participate in the planning process through public hearings held during major updates and annual review meetings. The current plan will expire in the first quarter of 2029, so the next plan update must be approved and adopted before that time.



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In the second quarter of 2028, Dawson County will initiate the fifth Hazard Mitigation Plan Update process. This update will involve meetings to achieve the objectives of the Dawson County Hazard Mitigation Plan. The Dawson County Emergency Management Agency will lead this planning process, while the Dawson County Hazard Mitigation Planning Committee will follow a similar approach as the previous cycle to fulfill all FEMA and GEMA requirements for the Hazard Mitigation Plan Update. The committee aims to complete this process by the fourth quarter of 2028 to meet all identified planning deadlines.

#### 5.8. Conclusion

Through the hazard mitigation planning process, Dawson County, the City of Dawsonville, and other participating organizations have gained a wealth of information and knowledge about the county's history of disasters, natural and technological hazards, vulnerabilities, and potential strategies to reduce the effects of these hazards.

During the Hazard Mitigation Planning Committee meeting, it was identified that it is difficult to pinpoint the vulnerable geographic locations for most hazards due to their widespread potential effects and random impact areas. This is especially true for natural hazards. To tackle this issue, the Dawson County Hazard Mitigation Plan Update Committee decided to create mitigation goals, objectives, and strategies that are both general and specific in nature. These strategies will help the committee to adopt the most effective measures that will benefit the maximum number of people in the area. The Dawson County Hazard Mitigation Planning Committee adopted strategies in all six of the major mitigation categories: Prevention, Property Protection, Natural Resource Protection, Structural Projects, Emergency Services, and Public Education and Awareness.



Appendix A – Dawson County Inventory of Dams

Dawson County Category I Dams

Name	Latitude	Longitude	Height (feet)	Storage (acres)
Amicalola Creek Watershed Structure # 1	34.546389	-84.264280	44.00	349.00
Amicalola Creek Watershed Structure # 3	34.543056	-84.198611	56.00	1294.00
Etowah River Reach Sub Watershed Structure # 12	34.393980	-84.074620	63.00	1047.00
Etowah River Reach Watershed Structure # 22	34.460650	-84.161840	43.00	307.00
Etowah River Reach Watershed Structure # 23	34.470570	-84.145030	29.00	225.00
Yellow Creek Reservoir Dam	34.357778	-84.253333	114.00	13587.00

Dawson County Category II Dams

Name	Latitude	Longitude	Height (feet)	Storage (acres)
Amicalola Creek Watershed Structure # 2	34.531944	-84.245000	65.00	941.00
Amicalola Creek Watershed Structure # 4	34.521944	-84.183889	48.00	592.00
Etowah River Watershed Structure # 10	34.384722	-84.106111	54.00	521.00
Etowah River Watershed Structure # 13	34.401620	-84.058800	51.00	654.00
Etowah River Watershed Structure # 24	34.485833	-84.159722	32.00	167.00
Etowah River Watershed Structure # 9	34.362500	-84.081111	31.00	427.00
Fausett Lake Dam	34.528333	-84.280278	31.00	576.00
Gilleland Lake Dam	34.473056	-84.163611	24.00	124.00
Gold Creek Golf Club Lake Dam # 2	34.450278	-84.110833	43.00	350.00
Gold Creek Golf Club Lake Dam #1	34.449167	-84.105278	38.00	464.00
Howington Lake Dam	34.396389	-84.069444	32.00	64.00
Rainbow Lake Dam	34.440556	-84.197500	32.00	250.00
Running Pine Lake Dam	34.362500	-84.204167	29.00	33.00



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<b>Name</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Height (feet)</b>	<b>Storage (acres)</b>
Strickland Lake Dam	34.396111	-84.219722	26.00	6.00
Thomas Lake Dam	34.337222	-84.109167	30.00	66.00
Toto Estates Lake Dam (Lower)	34.391944	-83.991389	31.00	36.00
Toto Estates Lake Dam (Upper)	34.390556	-83.993056	29.40	36.00
Wood Lake Dam (East)	34.572500	-84.311111	33.00	



**Appendix B – Dawson County Hazard Mitigation Plan Update Committee Sign-In  
Sheets and Committee List**

**2024 Committee Meeting Attendance List**

Name	4/4/23	5/2/23	6/8/23	7/11/23	8/8/23	9/19/23
Chief Troy Leist		X	X	X		X
Brooke Anderson, PE	X	X	X	X		X
Wesley Sisk						
Greg Rowan						
Tony Wooten	X		X	X	X	
Emory Dooley						X
Ricky Jordan					X	
Matt Payne						
Lydell Mack						
Kevin Herrit						
Mandy Power						
Johnny Irvin						
Bob Bolz		X	X	X		X
Trampas Hansard		X		X		X
Robert Drewry	X					

**2018 Committee List**

Brooke Anderson General Manager Etowah Water and Sewer Authority	Dawson County School System
Kristan Bean 911 Assistant Director Dawson County Sheriff's Office	Jason Brownell Director of Operations Big Canoe Property Owners Association Jason Dooley Battalion Chief Dawson County Emergency Services
Bob Bolz City Manager City of Dawsonville	Sharon R. Fausett County Commissioner – District One Dawson County Board of Commissioners
Kenneth W. Brooks Ranger II Georgia Forestry Commission	Kevin Gibbs Park Manager Amicalola Falls State Park
Rickey Dean Brown Chief Operations Officer	Trampas Hansard



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Operations Manager  
City of Dawsonville Public Works

Julie Hughes Nix  
Commissioner, District 4  
Dawson County Board of Commissioners

David Headley  
County Manager  
Dawson County Public Administration

Dave Palmer  
Public Information Officer  
Georgia Department of Public Health,  
District 2

Lisa Hensa  
Director  
Dawson County Parks and Recreation

Dawn Pruett  
Director  
Dawson County Senior Services

Richard Jordan  
Public Safety Director  
Big Canoe Property Owners Association

Ricky Rexroat  
Deputy Chief/Deputy EMA Director (Former  
- Retired)  
Dawson County Emergency Services

Tim Joy  
Chief Ranger  
Georgia Forestry Commission

Jim Rich  
Director of Transportation  
Dawson County Board of Education

Dorothy Jubon  
Lead – External Affairs  
American Red Cross – Northeast Georgia  
Chapter

Robin Roland  
IT Coordinator  
Dawson County Information Technology  
Department

Clark MacAllister  
Extension Coordinator  
University of Georgia Extension  
Stephen Maddox  
Lieutenant/Assistant Patrol Commander  
Dawson County Sheriff's Office

Greg Rowan  
Chief Deputy  
Dawson County Sheriff's Office

Casey Majewski  
Planning Director  
City of Dawsonville Planning and Zoning

Aleisha Rucker-Wright  
Director  
Dawson County E-911

David McKee  
Director  
Dawson County Public Works

Tim Satterfield  
Deputy Chief (Former - Retired)  
Dawson County Emergency Services

Dick McNeill  
Business Consultant  
Citizen Representative

Danny Speaks  
Division Chief of Operations and Training  
Dawson County Emergency Services



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Jason Streetman  
Planning Director  
Dawson County Planning and Development

Lanier Swafford  
Fire Chief; Director (Former - Retired)  
Dawson County Emergency Services;  
Dawson County Emergency Management

Kurt Tangel  
Chief Appraiser (Former)  
Dawson County Tax Assessors Office

Billy Thurmond  
Chairman  
Dawson County Board of Com



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**Appendix C – Dawson County Critical Facilities**

Facility	Jurisdiction	Facility Type
ACCG Fire Dept Headquarters	Dawson County	Emergency Services, Fire
ACCG Rock Creek Park	Dawson County	Government
Ettowah Water and Sewer Authority Administration Building	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #1	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #2	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #3	Dawson County	Government, Water/Sewer
Amicalola Creek W/S Str #4	Dawson County	Government, Water/Sewer
Amicalola Regional Farmers Market	Dawsonville	NGO
Amicalola Water Storage Tank	Dawson County	Government, Water/Sewer
Annex & Public Works	Dawson County	Government, Water/Sewer
Auraria Water Storage Tank	Dawson County	Government, Water/Sewer
Big Canoe Fire Dept 2	Dawson County	Emergency Services, Fire
Black's Mill Elementary School	Dawson County	Education, K-12
Black's Mill Lift Station	Dawson County	Government, Water/Sewer
Black's Mill School Lift Station	Dawson County	Government, Water/Sewer
Blueridge Overlook Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Bottom Treatment Pond/Treatment Pond 1	Dawsonville	Government, Water/Sewer
Burt Creek Lift Station	Dawsonville	Government, Water/Sewer
Burt Creek Pump Station	Dawson County	Government, Water/Sewer
Burt Creek Water Storage Tank	Dawson County	Government, Water/Sewer
Burts Crossing Lift Station	Dawsonville	Government, Water/Sewer
Chamber Lift Station	Dawson County	Government, Water/Sewer
Chestatee Emergency Center	Dawson County	Medical
City of Dawsonville Public Works/Utilities office	Dawsonville	Government
Creekstone Lift Station	Dawsonville	Government, Water/Sewer
Crown Point Lift Station	Dawsonville	Government, Water/Sewer
Crystal Falls Water Reclamation Facility	Dawson County	Government, Water/Sewer
DAWSON CO-SHOAL HOLE RD (SL)	Dawson County	Government



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Facility	Jurisdiction	Facility Type
Dawson County Courthouse	Dawson County	Government
Dawson County Fire Department Station 02	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 03	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 04	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 05	Dawson County	Emergency Services, Fire
Dawson County Fire Department Station 8	Dawson County	Emergency Services, Fire
Dawson County Fleet Maintenance	Dawson County	Government, Transportation
Dawson County Headquarters Fire/Rescue Department Station 01	Dawson County	Emergency Services, Fire
Dawson County High School & Agriculture Building	Dawson County	Education, K-12
Dawson County Historic Courthouse	Dawson County	Government
Dawson County Jail	Dawson County	Law Enforcement, Jail Services
Dawson County Junior High School	Dawson County	Education, K-12
Dawson County Magistrate	Dawson County	Government
Dawson County Middle School	Dawson County	Education, K-12
Dawson County Public Library	Dawson County	Government
Dawson County Public Works Bldg.	Dawson County	Government
Dawson County Sheriff's Office	Dawson County	Law Enforcement
Dawson Forest Road Lift Station	Dawson County	Government, Water/Sewer
Dawson Forest Water Reclamation Facility	Dawson County	Government, Water/Sewer
Dawson Pointe Lift Station	Dawson County	Government, Water/Sewer
Dawsonville City Hall	Dawsonville	Government
Dawsonville Pond	Dawson County	Government, Water/Sewer
Downtown Lift Station	Dawsonville	Government, Water/Sewer
Etowah River Reach Sub W/S Str #12	Dawson County	Government, Water/Sewer
Etowah River Reach W/S Str #22	Dawson County	Government, Water/Sewer
Etowah River Reach W/S Str #23	Dawson County	Government, Water/Sewer
Etowah River W/S Str #13	Dawson County	Government, Water/Sewer
Etowah River W/S Str #24	Dawson County	Government, Water/Sewer



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Facility	Jurisdiction	Facility Type
Etowah River W/S Str #9	Dawson County	Government, Water/Sewer
Etowah W/S Str #10	Dawson County	Government, Water/Sewer
Farmington Woods Lift Station	Dawsonville	Government, Water/Sewer
Fausett Lake Dam	Dawson County	Government, Water/Sewer
Flat Creek Lift Station	Dawsonville	Government, Water/Sewer
Gilleland Lake Dam	Dawson County	Government, Water/Sewer
Gold Creek Golf Club Lake Dam # 2	Dawson County	Government, Water/Sewer
Gold Creek Golf Club Lake Dam #1	Dawson County	Government, Water/Sewer
Gold Creek Lift Station	Dawsonville	Government, Water/Sewer
Goshen Family Medicine	Dawson County	Medical
Hightower Water Treatment Facility	Dawson County	Government, Water/Sewer
Hightower WTF Water Storage Tank	Dawson County	Government, Water/Sewer
Hightower WTF Water Storage Tank	Dawson County	Government, Water/Sewer
Holding Pond	Dawsonville	Government, Water/Sewer
Howington Lake Dam	Dawson County	Government, Water/Sewer
Hwy 53 Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Hwy 9 North/Townley Water Storage Tank & Pump Station	Dawson County	Government, Water/Sewer
Kilough Elementary School	Dawson County	Education, K-12
Maintenance Shop/sprayfields	Dawsonville	Government
Northeast Georgia Urgent Care	Dawson County	Medical
Northside Urgent Care	Dawson County	Medical
Oakmont Lift Station	Dawson County	Government, Water/Sewer
Rainbow Lake Dam	Dawson County	Government, Water/Sewer
Rental Residence	Dawsonville	Government
Riverview Elementary School	Dawson County	Education, K-12
Riverview Lift Station	Dawson County	Government, Water/Sewer
Robinson Elementary School	Dawson County	Education, K-12
Running Pine Lake Dam	Dawson County	Government, Water/Sewer
Scott Lake Dam	Dawson County	Government, Water/Sewer
Shoal Creek Lift Station	Dawsonville	Government, Water/Sewer
Southmark Dam	Dawson County	Government, Water/Sewer
Spring 105	Dawsonville	Government, Water/Sewer



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<b>Facility</b>	<b>Jurisdiction</b>	<b>Facility Type</b>
Tank 1	Dawsonville	Government, Water/Sewer
Tank 2	Dawsonville	Government, Water/Sewer
Technology Building	Dawson County	Education
Tel Tek Lift Station	Dawson County	Government, Water/Sewer
Thomas Lake Dam	Dawson County	Government, Water/Sewer
Thompson Creek Lift Station	Dawson County	Government, Water/Sewer
Thunder Ridge Lift Station	Dawson County	Government, Water/Sewer
Toto Estates (lower)	Dawson County	Government, Water/Sewer
Toto Estates (upper)	Dawson County	Government, Water/Sewer
Transportation Building	Dawson County	Government, Transportation
Treatment Pond 2	Dawsonville	Government, Water/Sewer
Well 106	Dawsonville	Government, Water/Sewer
Well 108	Dawsonville	Government, Water/Sewer
Well 109	Dawsonville	Government, Water/Sewer
Well 110	Dawsonville	Government, Water/Sewer
Well 111	Dawsonville	Government, Water/Sewer
Wood Lake Dam (East)	Dawson County	Government, Water/Sewer
Yellow Creek Reservoir Dam	Dawson County	Government, Water/Sewer



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**Appendix D – Hazard Data Tables**

**Thunderstorms**

EVE NT_I D	CZ_NA ME_ST R	BEGIN_ LOCATI ON	BEGI N_DA TE	BEGI N_TI ME	EVEN T_TYP E	DEATH S_DIRE CT	INJURIE S_DIRE CT	DAMAGE_P ROPERTY_N UM	DAMAGE_ CROPS_N UM
9993 534	DAWS ON CO.		04/01/ 1974	2350	Thund erstor m Wind	0	0	0	0
9993 556	DAWS ON CO.		04/08/ 1974	1330	Thund erstor m Wind	0	0	0	0
9994 470	DAWS ON CO.		09/13/ 1979	1630	Thund erstor m Wind	0	0	0	0
9993 740	DAWS ON CO.		07/01/ 1983	1325	Thund erstor m Wind	0	0	0	0
9996 021	DAWS ON CO.		03/28/ 1984	1240	Thund erstor m Wind	0	0	0	0
9996 062	DAWS ON CO.		05/07/ 1984	2045	Thund erstor m Wind	0	0	0	0
9997 820	DAWS ON CO.		04/05/ 1985	1920	Thund erstor m Wind	0	0	0	0
9994 735	DAWS ON CO.		06/06/ 1985	1644	Thund erstor m Wind	0	0	0	0



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EVE NT_I D	CZ_NA ME_ST R	BEGIN_ LOCATI ON	BEGI N_DA TE	BEGI N_TI ME	EVEN T_TYP E	DEATH S_DIRE CT	INJURIE S_DIRE CT	DAMAGE_P ROPERTY_N UM	DAMAGE_ CROPS_N UM
9997 027	DAWS ON CO.		05/26/ 1986	2300	Thund erstor m Wind	0	0	0	0
9997 028	DAWS ON CO.		05/26/ 1986	2330	Thund erstor m Wind	0	0	0	0
9996 221	DAWS ON CO.		04/15/ 1987	145	Thund erstor m Wind	0	0	0	0
9994 111	DAWS ON CO.		04/04/ 1989	1410	Thund erstor m Wind	0	0	0	0
9997 703	DAWS ON CO.		04/28/ 1990	1250	Thund erstor m Wind	0	0	0	0
1001 0237	DAWS ON CO.		04/29/ 1991	1130	Thund erstor m Wind	0	0	0	0
1000 7223	DAWS ON CO.		07/02/ 1992	700	Thund erstor m Wind	0	0	0	0
1031 9208	DAWS ON CO.	Dawsonv ille	04/15/ 1993	1955	Thund erstor m Wind	0	0	500	0
1031 9209	DAWS ON CO.	Dawsonv ille	05/21/ 1994	1500	Thund erstor m Wind	0	0	5000	0



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EVE NT_I D	CZ_NA ME_ST R	BEGIN_ LOCATI ON	BEGI N_DA TE	BEGI N_TI ME	EVEN T_TYP E	DEATH S_DIRE CT	INJURIE S_DIRE CT	DAMAGE_P ROPERTY_N UM	DAMAGE_ CROPS_N UM
1031 9210	DAWS ON CO.	Dawsonv ille	06/27/ 1994	100	Thund erstor m Wind	0	0	5000	0
1031 9211	DAWS ON CO.	Dawsonv ille	01/19/ 1995	1555	Thund erstor m Wind	0	0	500000	0
5553 904	DAWS ON CO.	DAWSO NVILLE	05/27/ 1996	2100	Thund erstor m Wind	0	0	2500	0
5605 191	DAWS ON CO.	DAWSO NVILLE	03/05/ 1997	1836	Thund erstor m Wind	0	0	2000	0
5608 771	DAWS ON CO.	DAWSO NVILLE	07/04/ 1997	1845	Thund erstor m Wind	0	0	2000	0
5609 253	DAWS ON CO.	JUNO	07/28/ 1997	2230	Thund erstor m Wind	0	0	125000	15000
5639 871	DAWS ON CO.	JUNO	04/17/ 1998	50	Thund erstor m Wind	0	0	2000	0
5656 792	DAWS ON CO.	DAWSO NVILLE	07/20/ 1998	1344	Thund erstor m Wind	0	0	2000	0
5694 267	DAWS ON CO.	DAWSO NVILLE	05/07/ 1999	1800	Thund erstor m Wind	0	0	500	0



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5694 650	DAWS ON CO.	DAWSO NVILLE	05/23/ 1999	1830	Thund erstor m Wind	0	0	500	0
5707 842	DAWS ON CO.	DAWSO NVILLE	07/21/ 1999	1530	Thund erstor m Wind	0	0	200	0
5707 854	DAWS ON CO.	JUNO	07/22/ 1999	1635	Thund erstor m Wind	0	0	1000	0
5148 436	DAWS ON CO.	DAWSO NVILLE	05/25/ 2000	1623	Thund erstor m Wind	0	0	500	0
5155 322	DAWS ON CO.	DAWSO NVILLE	07/23/ 2000	1226	Thund erstor m Wind	0	0	70000	0
5232 312	DAWS ON CO.	DAWSO NVILLE	02/16/ 2001	1900	Thund erstor m Wind	0	0	5000	0
5255 358	DAWS ON CO.	DAWSO NVILLE	06/04/ 2001	2030	Thund erstor m Wind	0	0	5000	0
5290 912	DAWS ON CO.	DAWSO NVILLE	05/13/ 2002	1449	Thund erstor m Wind	0	0	2000	0
5308 943	DAWS ON CO.	DAWSO NVILLE	07/01/ 2002	1750	Thund erstor m Wind	0	0	0	0



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5362 028	DAWS ON CO.	DAWSO NVILLE	05/07/ 2003	217	Thund erstor m Wind	0	0	3000	0
5334 889	DAWS ON CO.	DAWSO NVILLE	07/22/ 2003	1300	Thund erstor m Wind	0	0	3000	0
5415 008	DAWS ON CO.	DAWSO NVILLE	07/14/ 2004	41	Thund erstor m Wind	0	0	2000	0
5415 180	DAWS ON CO.	LANDRU M	07/14/ 2004	1645	Thund erstor m Wind	0	0	1000	0
5428 980	DAWS ON CO.	COUNTY WIDE	11/24/ 2004	1027	Thund erstor m Wind	0	0	15000	0
5432 565	DAWS ON CO.	DAWSO NVILLE	12/09/ 2004	630	Thund erstor m Wind	0	0	250	0
5435 353	DAWS ON CO.	AMICAL OLA	01/13/ 2005	1650	Thund erstor m Wind	0	0	20000	0
5447 960	DAWS ON CO.	AMICAL OLA	04/22/ 2005	1210	Thund erstor m Wind	0	0	3000	0
5468 171	DAWS ON CO.	DAWSO NVILLE	07/02/ 2005	1421	Thund erstor m Wind	0	0	60000	0



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5514 744	DAWS ON CO.	JUNO	06/25/ 2006	1001	Thund erstor m Wind	0	0	1000	0
5531 257	DAWS ON CO.	DAWSO NVILLE	08/04/ 2006	1820	Thund erstor m Wind	0	0	750	0
2701 0	DAWS ON CO.	AMICAL OLA	04/04/ 2007	45	Thund erstor m Wind	0	0	0	0
3124 7	DAWS ON CO.	JUNO	05/12/ 2007	1358	Thund erstor m Wind	0	0	6000	0
3948 7	DAWS ON CO.	DAWSO NVILLE	06/11/ 2007	1530	Thund erstor m Wind	0	0	1000	0
4772 0	DAWS ON CO.	DAWSO NVILLE	07/01/ 2007	1220	Thund erstor m Wind	0	0	50000	0
9474 2	DAWS ON CO.	DAWSO NVILLE	04/11/ 2008	1839	Thund erstor m Wind	0	0	100000	0
1313 61	DAWS ON CO.	LUMPKI N	08/07/ 2008	1429	Thund erstor m Wind	0	0	5000	0
1513 05	DAWS ON CO.	DAWSO NVILLE	02/11/ 2009	1730	Thund erstor m Wind	0	0	1000	0



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1958 88	DAWS ON CO.	MC KEE	09/09/ 2009	1650	Thund erstor m Wind	0	0	2000	0
2462 84	DAWS ON CO.	DAWSO NVILLE	06/28/ 2010	1951	Thund erstor m Wind	0	0	3000	0
2511 13	DAWS ON CO.	BRIGHT	07/26/ 2010	1359	Thund erstor m Wind	0	1	25000	0
2850 23	DAWS ON CO.	JUNO	02/28/ 2011	1644	Thund erstor m Wind	0	0	0	0
2931 32	DAWS ON CO.	JUNO	03/26/ 2011	2235	Thund erstor m Wind	0	0	25000	0
3066 05	DAWS ON CO.	DAWSO NVILLE	04/27/ 2011	2249	Thund erstor m Wind	0	0	10000	0
3145 66	DAWS ON CO.	LUMPKI N	05/26/ 2011	1650	Thund erstor m Wind	0	0	2000	0
3261 42	DAWS ON CO.	JOHNTO WN	06/18/ 2011	1631	Thund erstor m Wind	0	0	15000	0
3409 10	DAWS ON CO.	AMICAL OLA	08/07/ 2011	1705	Thund erstor m Wind	0	0	25000	0



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4047 33	DAWS ON CO.	LUMPKI N	08/10/ 2012	2100	Thund erstor m Wind	0	0	500	0
4047 35	DAWS ON CO.	HUBBAR DSVILLE	08/10/ 2012	2105	Thund erstor m Wind	0	0	1000	0
4963 45	DAWS ON CO.	DAWSO NVILLE	01/11/ 2014	755	Thund erstor m Wind	0	0	500	0
5186 07	DAWS ON CO.	DAWSO NVILLE	05/14/ 2014	1920	Thund erstor m Wind	0	0	750	0
5380 38	DAWS ON CO.	LUMPKI N	08/20/ 2014	1254	Thund erstor m Wind	0	0	1500	0
5471 56	DAWS ON CO.	MC KEE	10/14/ 2014	540	Thund erstor m Wind	0	0	5000	0
5910 86	DAWS ON CO.	AMICAL OLA	06/24/ 2015	1745	Thund erstor m Wind	0	0	1000	0
5912 42	DAWS ON CO.	AFTON	06/26/ 2015	1615	Thund erstor m Wind	0	0	6000	0
5945 61	DAWS ON CO.	DAWSO NVILLE	07/13/ 2015	1430	Thund erstor m Wind	0	0	3000	0



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5988 08	DAWS ON CO.	JUNO	08/10/ 2015	1536	Thund erstor m Wind	0	0	10000	0
6900 60	DAWS ON CO.	JUNO	03/21/ 2017	1914	Thund erstor m Wind	0	0	40000	0
7047 75	DAWS ON CO.	JOHNTO WN	06/23/ 2017	1806	Thund erstor m Wind	0	0	1000	0
7210 64	DAWS ON CO.	DAWSO NVILLE	09/05/ 2017	1740	Thund erstor m Wind	0	0	20000	0
7504 74	DAWS ON CO.	BARRET TSVILLE	05/31/ 2018	1657	Thund erstor m Wind	0	0	1000	0
7642 07	DAWS ON CO.	SILVER CITY	06/22/ 2018	1650	Thund erstor m Wind	0	0	7000	0
7695 82	DAWS ON CO.	JOHNTO WN	07/06/ 2018	1320	Thund erstor m Wind	0	0	20000	0
7767 90	DAWS ON CO.	AMICAL OLA	07/21/ 2018	230	Thund erstor m Wind	0	0	25000	0
7775 68	DAWS ON CO.	EMMA	07/21/ 2018	405	Thund erstor m Wind	0	0	200000	0



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8377 52	DAWS ON CO.	HUBBAR DSVILLE	05/04/ 2019	1220	Thund erstor m Wind	0	0	5000	0
8377 64	DAWS ON CO.	AFTON	05/11/ 2019	515	Thund erstor m Wind	0	0	8000	0
8419 58	DAWS ON CO.	HUBBAR DSVILLE	06/22/ 2019	20	Thund erstor m Wind	0	0	8000	0
8420 16	DAWS ON CO.	JOHNTO WN	06/22/ 2019	2030	Thund erstor m Wind	0	0	20000	0
8758 39	DAWS ON CO.	HUBBAR DSVILLE	01/11/ 2020	1752	Thund erstor m Wind	0	0	2000	0
8933 40	DAWS ON CO.	LUMPKI N	04/13/ 2020	118	Thund erstor m Wind	0	0	25000	0
8987 46	DAWS ON CO.	JOHNTO WN	05/04/ 2020	2355	Thund erstor m Wind	0	0	7000	0
8987 58	DAWS ON CO.	AFTON	05/05/ 2020	1741	Thund erstor m Wind	0	0	5000	0
8995 60	DAWS ON CO.	AFTON	06/09/ 2020	1555	Thund erstor m Wind	0	0	50000	0



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9109 84	DAWS ON CO.	LUMPKI N	08/03/ 2020	1405	Thund erstor m Wind	0	0	30000	0
9292 67	DAWS ON CO.	DAWSO NVILLE	11/11/ 2020	2236	Thund erstor m Wind	0	0	10000	0
9633 80	DAWS ON CO.	AFTON	05/04/ 2021	1200	Thund erstor m Wind	0	0	8000	0
9637 27	DAWS ON CO.	LUMPKI N	06/14/ 2021	1346	Thund erstor m Wind	0	0	15000	0
1042 884	DAWS ON CO.	JOHNTO WN	06/14/ 2022	1228	Thund erstor m Wind	0	0	1000	0
1051 303	DAWS ON CO.	MC KEE	07/13/ 2022	1320	Thund erstor m Wind	0	0	4000	0
1051 304	DAWS ON CO.	DAWSO NVILLE	07/13/ 2022	1324	Thund erstor m Wind	0	0	0	0
1091 621	DAWS ON CO.	EMMA	03/03/ 2023	1629	Thund erstor m Wind	0	0	1000	0
1095 608	DAWS ON CO.	LUMPKI N	04/01/ 2023	645	Thund erstor m Wind	0	0	0	0



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1118 749	DAWS ON CO.	BARRET TSVILLE	07/20/ 2023	1543	Thund erstor m Wind	0	0	2000	0
1118 762	DAWS ON CO.	AFTON	07/20/ 2023	1632	Thund erstor m Wind	0	0	5000	0
1118 804	DAWS ON CO.	HUBBAR DSVILLE	07/20/ 2023	1640	Thund erstor m Wind	0	0	1000	0
1118 803	DAWS ON CO.	MC KEE	07/20/ 2023	1650	Thund erstor m Wind	0	0	50000	0
1122 386	DAWS ON CO.	LUMPKI N	07/28/ 2023	1630	Thund erstor m Wind	0	0	2000	0



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**Winter Storms**

<b>EVEN T_ID</b>	<b>CZ_NA ME_STR</b>	<b>BEGIN _DATE</b>	<b>BEGIN _TIME</b>	<b>EVENT _TYPE</b>	<b>DEATHS_ DIRECT</b>	<b>INJURIES _DIRECT</b>	<b>DAMAGE_PRO PERTY_NUM</b>	<b>DAMAGE_C ROPS_NUM</b>
5536 301	DAWSON N (ZONE)	01/06/1 996	1500	Winter Storm	0	0	0	0
5536 317	DAWSON N (ZONE)	02/02/1 996	1000	Winter Storm	0	0	5000	0
5167 342	DAWSON N (ZONE)	12/17/2 000	730	Winter Storm	0	0	0	0
5167 930	DAWSON N (ZONE)	12/19/2 000	0	Winter Storm	0	0	0	0
5386 123	DAWSON N (ZONE)	02/26/2 004	0	Winter Storm	0	0	0	0
5435 644	DAWSON N (ZONE)	01/28/2 005	2000	Winter Storm	0	0	250000	0
4964 86	DAWSON N (ZONE)	01/28/2 014	1200	Winter Storm	0	0	0	0
5658 48	DAWSON N (ZONE)	02/25/2 015	1400	Winter Storm	0	0	0	0
6120 58	DAWSON N (ZONE)	01/22/2 016	0	Winter Storm	0	0	0	0
6177 10	DAWSON N (ZONE)	03/03/2 016	1330	Winter Storm	0	0	0	0
7281 58	DAWSON N (ZONE)	12/08/2 017	1000	Winter Storm	0	0	0	0



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7998 69	DAWSO N (ZONE)	12/08/2 018	2300	Winter Storm	0	0	0	0
8763 17	DAWSO N (ZONE)	02/08/2 020	800	Winter Storm	0	0	0	0

EVE NT_I D	CZ_NA ME_ST R	BEGIN_L OCATIO N	BEGIN _DAT E	BEGI N_TIM E	EVEN T_TYP E	DEATHS _DIREC T	INJURIE S_DIREC T	DAMAGE_PR OPERTY_NU M	DAMAGE_ CROPS_NU M
5679 396	DAWS ON (ZONE)		01/31/ 1999	1500	Winter Weath er	0	0	0	0
5680 347	DAWS ON (ZONE)		02/23/ 1999	1100	Winter Weath er	0	0	0	0
5230 842	DAWS ON (ZONE)		01/20/ 2001	1200	Winter Weath er	0	0	0	0
5340 919	DAWS ON (ZONE)		02/06/ 2003	1500	Winter Weath er	0	0	0	0
5430 931	DAWS ON (ZONE)		12/19/ 2004	1700	Winter Weath er	0	0	0	0
5447 745	DAWS ON (ZONE)		04/02/ 2005	1000	Winter Weath er	0	0	0	0
5491 190	DAWS ON (ZONE)		02/06/ 2006	400	Winter Weath er	0	0	0	0
5491 086	DAWS ON (ZONE)		02/12/ 2006	0	Winter Weath er	0	0	0	0
5491 090	DAWS ON (ZONE)		02/18/ 2006	1200	Winter Weath er	0	0	0	0



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7343 7	DAWS ON (ZONE)		01/16/ 2008	2100	Winter Weath er	0	0	0	0
7496 1	DAWS ON (ZONE)		01/19/ 2008	1200	Winter Weath er	0	0	0	0
7623 7	DAWS ON (ZONE)		01/22/ 2008	900	Winter Weath er	0	0	0	0
8631 0	DAWS ON (ZONE)		03/08/ 2008	600	Winter Weath er	0	0	0	0
1434 23	DAWS ON (ZONE)		12/01/ 2008	630	Winter Weath er	0	0	0	0
2164 49	DAWS ON (ZONE)		01/07/ 2010	1600	Winter Weath er	0	0	0	0
2164 37	DAWS ON (ZONE)		02/04/ 2010	1300	Winter Weath er	0	0	0	0
2168 15	DAWS ON (ZONE)		02/12/ 2010	1430	Winter Weath er	0	0	0	0
2729 43	DAWS ON (ZONE)		12/12/ 2010	1200	Winter Weath er	0	0	0	0
2739 04	DAWS ON (ZONE)		12/15/ 2010	1925	Winter Weath er	0	0	0	0
2847 26	DAWS ON (ZONE)		02/03/ 2011	1630	Winter Weath er	0	0	0	0



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2858 32	DAWS ON (ZONE)		02/09/ 2011	2200	Winter Weath er	0	0	0	0
3558 78	DAWS ON (ZONE)		11/29/ 2011	600	Winter Weath er	0	0	0	0
5492 02	DAWS ON (ZONE)		11/01/ 2014	0	Winter Weath er	0	0	0	0
5655 03	DAWS ON (ZONE)		02/20/ 2015	1500	Winter Weath er	0	0	0	0
6136 81	DAWS ON (ZONE)		01/20/ 2016	600	Winter Weath er	0	0	0	0
6143 20	DAWS ON (ZONE)		02/15/ 2016	200	Winter Weath er	0	0	0	0
6681 68	DAWS ON (ZONE)		01/06/ 2017	1700	Winter Weath er	0	0	0	0
7337 23	DAWS ON (ZONE)		01/16/ 2018	1800	Winter Weath er	0	0	0	0
9329 51	DAWS ON (ZONE)		01/07/ 2021	1300	Winter Weath er	0	0	0	0

EVE NT_I D	CZ_NA ME_ST R	BEGIN_L OCATIO N	BEGIN _DAT E	BEGI N_TIM E	EVEN T_TYP E	DEATHS _DIREC T	INJURIE S_DIREC T	DAMAGE_PR OPERTY_NU M	DAMAGE_ CROPS_NU M
5580 629	DAWS ON (ZONE)		01/11/ 1996	1600	Heavy Snow	0	0	0	0



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5547 841	DAWS ON (ZONE)		03/20/ 1996	1600	Heavy Snow	0	0	0	0
5166 886	DAWS ON (ZONE)		12/03/ 2000	500	Heavy Snow	0	0	0	0
5276 910	DAWS ON (ZONE)		01/02/ 2002	600	Heavy Snow	0	0	0	0
5338 421	DAWS ON (ZONE)		01/23/ 2003	0	Heavy Snow	0	0	0	0
1590 7	DAWS ON (ZONE)		02/01/ 2007	400	Heavy Snow	0	0	0	0
2196 14	DAWS ON (ZONE)		03/02/ 2010	600	Heavy Snow	0	0	0	0
2751 24	DAWS ON (ZONE)		12/25/ 2010	1200	Heavy Snow	0	0	0	0
2803 22	DAWS ON (ZONE)		01/09/ 2011	2100	Heavy Snow	0	0	0	0
4304 82	DAWS ON (ZONE)		03/06/ 2013	300	Heavy Snow	0	0	0	0
5017 71	DAWS ON (ZONE)		02/11/ 2014	700	Heavy Snow	0	0	0	0



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5586 878	DAWS ON (ZONE)		01/08/ 1997	1900	Ice Storm	0	0	1000	0
5670 066	DAWS ON (ZONE)		12/23/ 1998	1200	Ice Storm	0	0	0	0
5670 068	DAWS ON (ZONE)		12/23/ 1998	1200	Ice Storm	0	0	0	0
5679 307	DAWS ON (ZONE)		01/02/ 1999	1800	Ice Storm	0	0	3000	0
5127 778	DAWS ON (ZONE)		01/22/ 2000	1300	Ice Storm	0	0	980000	0
5128 341	DAWS ON (ZONE)		01/28/ 2000	1900	Ice Storm	0	0	32790	0
5326 324	DAWS ON (ZONE)		12/04/ 2002	1400	Ice Storm	0	0	0	0
5384 191	DAWS ON (ZONE)		01/25/ 2004	500	Ice Storm	0	0	10000	0
5483 357	DAWS ON (ZONE)		12/15/ 2005	0	Ice Storm	0	0	15000	0
2131 93	DAWS ON (ZONE)		01/29/ 2010	2100	Ice Storm	0	0	0	0
4237 70	DAWS ON (ZONE)		01/25/ 2013	700	Ice Storm	0	0	0	0



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5654 57	DAWS ON (ZONE)		02/16/ 2015	1400	Ice Storm	0	0	0	0

**Tornadoes**

EVE NT_I D	CZ_N AME_ STR	BEGIN_ LOCATI ON	BEGI N_DA TE	BEGI N_TI ME	EVEN T_TY PE	TOR_ F_SC ALE	DEATH S_DIRE CT	INJURIE S_DIRE CT	DAMAGE_P ROPERTY_ NUM	DAMAGE_ CROPS_N UM
999 354 9	DAWS ON CO.		04/03/ 1974	1845	Torna do	F4	5	13	2500000	0
532 196 2	DAWS ON CO.	JUNO	11/11/ 2002	220	Torna do	F2	0	3	200000	0

**Drought**

EVEN T_ID	CZ_NA ME_STR	BEGIN _DATE	BEGIN _TIME	EVENT _TYPE	DEATHS_ DIRECT	INJURIES _DIRECT	DAMAGE_PRO PERTY_NUM	DAMAGE_C ROPS_NUM
5613 275	DAWSO N (ZONE)	09/01/1 997	0	Drought	0	0	0	0
5693 895	DAWSO N (ZONE)	05/01/1 999	0	Drought	0	0	0	0
5713 452	DAWSO N (ZONE)	08/01/1 999	0	Drought	0	0	0	0
5127 164	DAWSO N (ZONE)	02/01/2 000	0	Drought	0	0	0	0
5147 510	DAWSO N (ZONE)	05/01/2 000	0	Drought	0	0	0	0



**DAWSON COUNTY MULTI-JURISDICTIONAL  
HAZARD MITIGATION PLAN, 2024-2029 UPDATE**  
**Chapter 5: Plan Implementation and Maintenance**

<b>EVEN T_ID</b>	<b>CZ_NA ME_STR</b>	<b>BEGIN _DATE</b>	<b>BEGIN _TIME</b>	<b>EVENT _TYPE</b>	<b>DEATHS_ DIRECT</b>	<b>INJURIES _DIRECT</b>	<b>DAMAGE_PRO PERTY_NUM</b>	<b>DAMAGE_C ROPS_NUM</b>
5152 118	DAWSON (ZONE)	06/01/2 000	0	Drought	0	0	0	1260000
5173 375	DAWSON (ZONE)	07/01/2 000	0	Drought	0	0	0	0
5160 368	DAWSON (ZONE)	10/01/2 000	0	Drought	0	0	0	0
5268 697	DAWSON (ZONE)	10/01/2 001	0	Drought	0	0	0	0
5269 999	DAWSON (ZONE)	11/01/2 001	0	Drought	0	0	0	0
5274 234	DAWSON (ZONE)	12/01/2 001	0	Drought	0	0	0	0
5284 463	DAWSON (ZONE)	04/01/2 002	0	Drought	0	0	0	0
5316 932	DAWSON (ZONE)	08/01/2 002	0	Drought	0	0	0	0
5340 174	DAWSON (ZONE)	01/01/2 003	0	Drought	0	0	0	0
5389 938	DAWSON (ZONE)	03/01/2 004	0	Drought	0	0	0	0
3650 0	DAWSON (ZONE)	05/01/2 007	0	Drought	0	0	0	0
6683 5	DAWSON (ZONE)	09/01/2 007	0	Drought	0	0	0	0



**DAWSON COUNTY MULTI-JURISDICTIONAL  
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<b>EVEN T_ID</b>	<b>CZ_NA ME_STR</b>	<b>BEGIN _DATE</b>	<b>BEGIN _TIME</b>	<b>EVENT _TYPE</b>	<b>DEATHS_ DIRECT</b>	<b>INJURIES _DIRECT</b>	<b>DAMAGE_PRO PERTY_NUM</b>	<b>DAMAGE_C ROPS_NUM</b>
6267 9	DAWSON (ZONE)	10/01/2 007	0	Drought	0	0	0	0
6693 2	DAWSON (ZONE)	11/01/2 007	0	Drought	0	0	0	0
6809 8	DAWSON (ZONE)	12/01/2 007	0	Drought	0	0	0	0
3493 92	DAWSON (ZONE)	09/01/2 011	0	Drought	0	0	0	0
6707 92	DAWSON (ZONE)	06/01/2 016	0	Drought	0	0	0	0
6708 74	DAWSON (ZONE)	07/01/2 016	0	Drought	0	0	0	0
6709 38	DAWSON (ZONE)	08/01/2 016	0	Drought	0	0	0	0
6712 82	DAWSON (ZONE)	09/01/2 016	0	Drought	0	0	0	0
6713 70	DAWSON (ZONE)	10/01/2 016	0	Drought	0	0	0	0
6720 31	DAWSON (ZONE)	11/01/2 016	0	Drought	0	0	0	0
6721 42	DAWSON (ZONE)	12/01/2 016	0	Drought	0	0	0	0
6722 42	DAWSON (ZONE)	01/01/2 017	0	Drought	0	0	0	0



**DAWSON COUNTY MULTI-JURISDICTIONAL  
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EVEN T_ID	CZ_NA ME_STR	BEGIN _DATE	BEGIN _TIME	EVENT _TYPE	DEATHS_ DIRECT	INJURIES _DIRECT	DAMAGE_PRO PERTY_NUM	DAMAGE_C ROPS_NUM
6772 84	DAWSON (ZONE)	02/01/2 017	0	Drought	0	0	0	0
6903 54	DAWSON (ZONE)	03/01/2 017	0	Drought	0	0	0	0
6904 13	DAWSON (ZONE)	04/01/2 017	0	Drought	0	0	0	0
7013 59	DAWSON (ZONE)	05/01/2 017	0	Drought	0	0	0	0
8577 12	DAWSON (ZONE)	09/24/2 019	0	Drought	0	0	0	0
8628 16	DAWSON (ZONE)	10/01/2 019	0	Drought	0	0	0	0
8630 03	DAWSON (ZONE)	11/01/2 019	0	Drought	0	0	0	0

**Flooding**

EVE NT_I D	CZ_NA ME_ST R	BEGIN_L OCATIO N	BEGIN _DATE	BEGI N_TIM E	EVEN T_TYP E	DEATHS _DIREC T	INJURIE S_DIREC T	DAMAGE_PR OPERTY_NU M	DAMAGE_ CROPS_NU M
5605 344	DAWSON (ZONE)		02/27/ 1997	2200	Flood	0	0	0	0
5441 168	DAWSON (ZONE)		02/21/ 2005	1730	Flood	0	0	5000	0
2008 17	DAWSON CO.	HUBBAR DSVILLE	09/21/ 2009	1355	Flood	0	0	10000	0



**DAWSON COUNTY MULTI-JURISDICTIONAL  
HAZARD MITIGATION PLAN, 2024-2029 UPDATE**  
**Chapter 5: Plan Implementation and Maintenance**

EVE NT_I D	CZ_NA ME_ST R	BEGIN_L OCATIO N	BEGIN _DAT E	BEGI N_TIM E	EVEN T_TYP E	DEATHS _DIREC T	INJURIE S_DIREC T	DAMAGE_PR OPERTY_NU M	DAMAGE_ CROPS_NU M
5578 103	HABER SHAM (ZONE)		12/01/ 1996	1120	Flash Flood	0	0	0	0
5639 947	DAWS ON CO.	JUNO	04/17/ 1998	300	Flash Flood	0	0	10000	0
5316 275	DAWS ON CO.	DAWSO NVILLE	09/21/ 2002	1530	Flash Flood	0	0	50000	0
5334 753	DAWS ON CO.	WEST PORTIO N	07/10/ 2003	830	Flash Flood	0	0	25000	0
5334 754	DAWS ON CO.	WEST PORTIO N	07/10/ 2003	1400	Flash Flood	0	0	0	1000
5424 879	DAWS ON CO.	COUNTY WIDE	09/16/ 2004	1845	Flash Flood	0	0	250000	0
5514 743	DAWS ON CO.	NORTHE AST PORTIO N	06/25/ 2006	1130	Flash Flood	0	0	2000	0
1260 39	DAWS ON CO.	AFTON	07/09/ 2008	200	Flash Flood	0	0	5000	0
4462 79	DAWS ON CO.	LUMPKI N	05/19/ 2013	400	Flash Flood	0	0	50000	0
4566 87	DAWS ON CO.	AMICAL OLA	07/03/ 2013	1445	Flash Flood	0	0	5000	0
4690 84	DAWS ON CO.	BRIGHT	08/07/ 2013	410	Flash Flood	0	0	5000	0
4690 96	DAWS ON CO.	HUBBAR DSVILLE	08/07/ 2013	636	Flash Flood	0	0	5000	0
4710 51	DAWS ON CO.	JUNO	08/22/ 2013	1630	Flash Flood	0	0	25000	0
8817 81	DAWS ON CO.	BRIGHT	02/06/ 2020	1133	Flash Flood	0	0	50000	0



**DAWSON COUNTY MULTI-JURISDICTIONAL  
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EVE NT_I D	CZ_NA ME_ST R	BEGIN_L OCATIO N	BEGIN _DATE	BEGI N_TIM E	EVEN T_TYP E	DEATHS _DIREC T	INJURIE S_DIREC T	DAMAGE_PR OPERTY_NU M	DAMAGE_ CROPS_NU M
8817 82	DAWS ON CO.	BRIGHT	02/06/ 2020	1133	Flash Flood	0	0	0	0
9261 27	DAWS ON CO.	BRIGHT	10/10/ 2020	2216	Flash Flood	0	0	0	0
9261 29	DAWS ON CO.	DAWSO NVILLE	10/10/ 2020	2216	Flash Flood	0	0	0	0
9261 26	DAWS ON CO.	BRIGHT	10/10/ 2020	2216	Flash Flood	0	0	0	0





**DAWSON COUNTY MULTI-JURISDICTIONAL  
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**Appendix E – Dawson County Worksheet 3As**



**DAWSON COUNTY MULTI-JURISDICTIONAL  
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**Chapter 5: Plan Implementation and Maintenance**

**Appendix F – Documentation of Peer Review**



**DAWSON COUNTY MULTI-JURISDICTIONAL  
HAZARD MITIGATION PLAN, 2024-2029 UPDATE**  
**Chapter 5: Plan Implementation and Maintenance**

**Appendix G – Dawson County HAZUS Report**



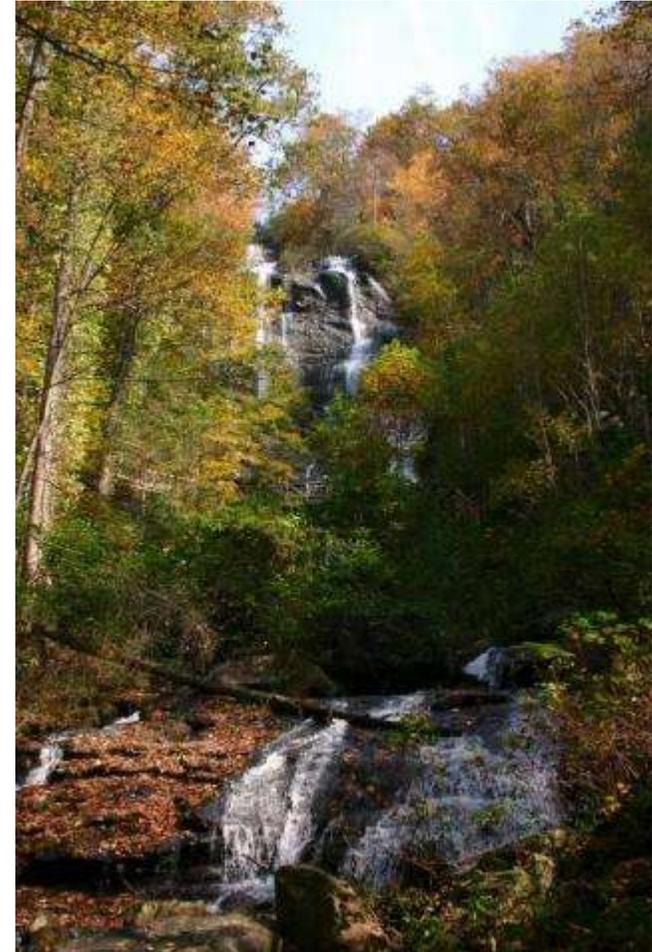
# Dawson County Hazard Mitigation Plan Public Briefing

February 15, 2024

# What is Mitigation?

FEMA defines this as:

**“the effort to reduce the loss of life and property by lessening the impact of disasters”**



# Let's Start With Why

- Unlocks federal funding opportunities through various grant programs such as:
  - Building Resilient Infrastructure and Communities (BRIC)
  - Hazard Mitigation Grant Program (HMGP)
- Ensures collaboration throughout the community to focus on how to become more resilient
- FEMA requires updates every 5 years



# What Can Mitigation Look Like?

- Hurricane Michael 2018
- Sand Palace- Mexico Beach
- 40-foot pilings
- Improved screws
- Salt-tolerant species of plants in the dunes
- \$30k for typical house according to the Insurance Institute



# Hazard Mitigation Planning Process

- Hazard Mitigation Committee formed
  - Diverse Committee including the City of Dawsonville and County residents
- Held multiple meetings
- Understood latest development trends, how weather patterns were changing, etc.
- Updated previous mitigation actions
- Identified new mitigation actions
- Now seeking Public Comment



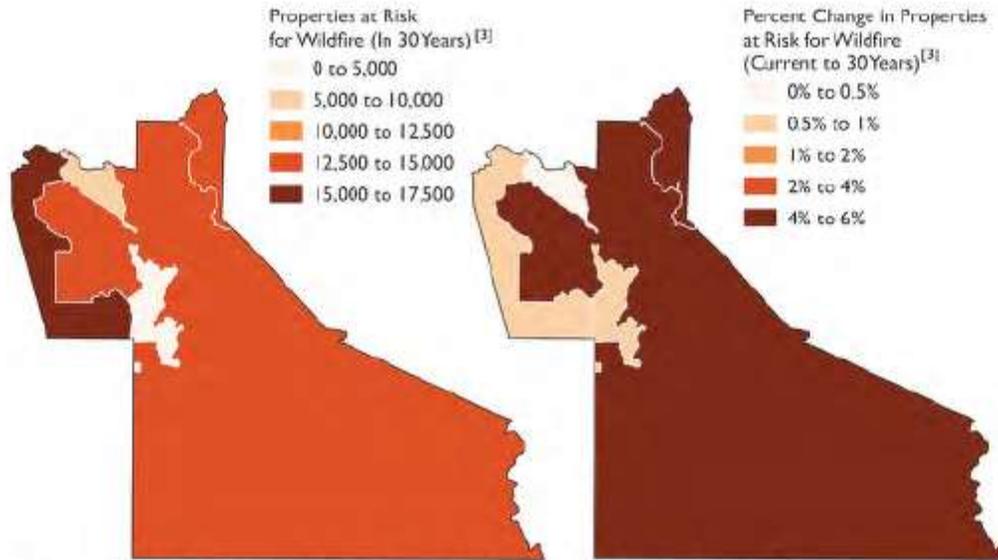
# Hazard List

- Natural Hazards
  - Thunderstorms
  - Winter Storms
  - Flooding
  - Tornado
  - Drought
  - Wildfire
  - Earthquakes
  - Tropical Cyclones
  - Extreme Temperatures
- Technological Hazards
  - Hazardous Materials
  - Dam Failure
  - Transportation Incident
  - Terrorism
  - Communications Failure
  - Emergent Infectious Diseases
  - Cyber Attack
- Human Caused Hazards
  - Active Threat/Shooter



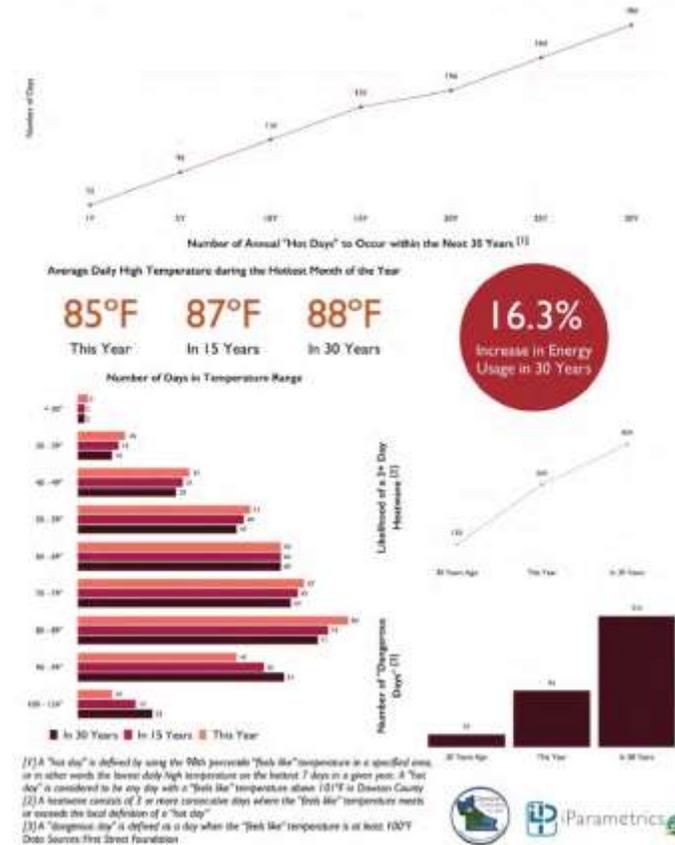
# Using the Latest Data

Figure 3.24 Projected impacts to properties from wildfire (source: Climate Mapping for Resilience and Adaptation)



[3] Calculated on the zip code-level; values for zip codes that span multiple counties represent the entire zip code (not restricted to the portion within Dawson County)  
Data Sources: Climate Mapping for Resilience and Adaptation, First Street Foundation

Figure 3.39 Extreme heat-related projections for Dawson County (source: First Street Foundation)



# Hazard Mitigation Goals

- Protect the public health and safety
- Harden community assets against the impact of disasters through the development of new mitigation strategies and enforcement of current regulations
- Reduce and where possible, eliminate loss of life and damage to property from disasters especially with repetitive damaged properties
- Maintain continuity of public and private sector operations during and after hazard events
- Respond promptly, appropriately, and efficiently in the event of natural or manmade hazards



# Mitigation Actions

- Completed 8 Actions
  - Purchased a wheeled loader to move tree debris
  - Develop a plan for short-term contamination of the raw water supply
- Removed 20 Actions
  - Purchase a brine truck
  - Purchase a Mobile Command Vehicle
- 68 Actions to be Completed
  - Build redundant fiber rings for 911
  - Build a database of pre-scripted mass notifications for various hazard events
  - Build a drought contingency reservoir



# Next Steps

- Complete public comment period
  - Surrounding jurisdiction review
- Approve sending the plan to GEMA
- GEMA reviews and approves
- FEMA Region 4 reviews and approves
- Dawson County and Dawsonville adopt the plan



Questions?  
Comments?  
Concerns?

Jeff Stevens, CEM, MEP  
Executive Vice President  
[Jeff.Stevens@iparametrics.com](mailto:Jeff.Stevens@iparametrics.com)  
c. 401.536.8178



# DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Emergency Services

Department: \_\_\_\_\_

Work Session: February 15, 2024

Prepared By: Troy Leist

Voting Session: February 15, 2024

Presenter: Troy Leist

Public Hearing: Yes \_\_\_\_\_ No X

Agenda Item Title: Permission to Apply for Fireworks Tax Grant

**Background Information:**

This grant is to aid Georgia fire departments with current certificates of compliance through the Georgia Firefighter Standards and Training Council Grant Program. These grants will be funded through monies derived from taxes levied upon the sale of consumer fireworks in Georgia.

**Current Information:**

Emergency Services would like to apply for this 90/10 grant. We are requesting the grant funding to purchase over 4,000 feet of much needed fire hose for our front-line suppression equipment. If the requested \$15,348.78 is awarded, the grant would fund \$13,813.02 and the county would be responsible for 10%, which is \$1,535.76.

Budget Information: Applicable: \_\_\_\_\_ Not Applicable: \_\_\_\_\_ Budgeted: Yes \_\_\_\_\_ No \_\_\_\_\_

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining

Recommendation/Motion: \_\_\_\_\_

Department Head Authorization: T.Leist

Date: 2-15-2024

Finance Dept. Authorization: Vickie Neikirk

Date: 2/5/24

County Manager Authorization: Joey Leverette

Date: 2-5-24

County Attorney Authorization: \_\_\_\_\_

Date: \_\_\_\_\_

**Comments/Attachments:**

VN-If awarded, funding for the match would come from the Grant Contingency



**GEORGIA FIREFIGHTER  
STANDARDS AND TRAINING COUNCIL**

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Governor

1000 Indian Springs Drive  
Forsyth, Georgia 31029-9599  
support@gfstconline.org  
478-993-4521

Randy Toms  
Executive Director

**GFSTC Fireworks Tax Grant Policies and Procedures**

**PURPOSE:**

To aid Georgia Fire Departments with current Certificates of Compliance through the GFSTC Grant Program. These grants will be funded through monies derived from taxes levied upon the sale of consumer fireworks in Georgia. Applicants shall demonstrate the need for (1) the purpose of maintaining Certificate of Compliance, or (2) the purposes of maintaining or improving the communities Insurance Services Organization's (ISO) ratings.

**SCOPE:**

All legally organized and compliant fire departments as recognized by the Georgia Firefighter Standards and Training Council, fire service associations, and other fire service organizations within the State of Georgia. GFSTC shall receive up to ten percent (10%) of the fireworks tax allotment for administrative and improvement expenses to maintain the process. GFSTC may also make additional grant request for monies based on providing resources to the statewide fire service.

**PROCEDURES:**

The GFSTC shall determine and announce the opening and closing dates for each application period. The Council shall also determine the monetary grant amounts available and whether the grant(s) will be partially or fully funded.

Grant application(s) must be fully completed and submitted by established deadlines. Partially completed applications will not be considered.

GFSTC Grants shall be reviewed and considered on the need(s) demonstrated by the department in the application.

The GFSTC Director shall make recommendations on each application received and completed to a review committee appointed by the GFSTC chairman. This review committee shall be composed of five members. This committee shall make grant approval recommendations to the full council.

Awards recipients shall be responsible for expenditures of the grant and shall provide a completed and signed affidavit.

Improper use of GFSTC grant funds shall be subject to review by the GFSTC and any resulting penalties shall be determined by the results of the investigation.

All grants and grant purchases shall be subject to open records laws and request. All purchases shall follow local and/or state purchasing policies.

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**GEORGIA FIREFIGHTER  
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478-993-4521

Randy Toms  
Executive Director

1/30/2024

**GFSTC 2024 FIREWORKS TAX GRANT ANNOUNCEMENT**

Georgia Fire Departments:

This is the Georgia Firefighter Standards and Training Council announcement and policy for the 2024 Fireworks Tax Grants. Please understand that we have a limited amount of money and while all departments are welcome to make application, those departments that demonstrate the most financial and operational need will be the primary consideration in the Grant Review Committee's and Council's decision-making process. There is a \$25,000.00 limit with a 10% department match.

**The Grant application period will open on 1/30/2024 and must be received in the GFSTC office by the close of business, 5:00 PM, on 3/1/2024.** Applications will be accepted electronically. Any applications received after that date and time will not be considered in the 2024 process. The application link is available on our website, on Facebook and will be emailed to the chiefs and training officers.

As part of the grant application, you will be required to upload three documents; 1.) Application Signature Page 2.) Proof of cancer insurance/statement of benefits 3.) Copy of a vendor quote, good for 90 days, for the items that you are requesting to purchase.

After the application period is closed, a date will be announced for the Grant Review Committee to meet. We will then announce a date for the GFSTC Council Meeting for the final approval of the grant awards by the Council. Any department that is awarded a grant will have to correctly complete and submit a State of Georgia Vendor Management Form Package and the Grant Affidavit for approval prior to any requisition request. GFSTC will supply the departments with this required form.

Once again, please have all **grant applications correctly completed and submitted online no later than 5:00 PM, 3/1/2024.** If you need any assistance or have questions with the application process, please contact GFSTC via the email address [whitman@gfstconline.org](mailto:whitman@gfstconline.org) and we will assist you.

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A match of up to 10% of the grant request will be required of the applicant based upon population, funding, and need. This requirement may be waived by GFSTC in cases of extreme financial hardships.

Priorities for each funding cycle will be established by the GFSTC prior to the release of the application.

Service as a review committee member, shall not prohibit their individual department from applying for this grant opportunity. However, in this incident the committee member(s) must excuse themselves from any discussion or vote on the application from their department.

## Supplement #1

### Items from GFSTC that will be given priority in the grant selection process.

Rule 205-1-2-.03. Minimum Equipment Required for County, Municipal or Private Corporation Fire Departments

A minimum of the following equipment, appliances, adapters, and accessories for structural pumper apparatus shall include:

- (a) 400 feet of 1½", 1¾", or 2" double-jacketed, lined fire hose
- (b) Two (2) handline nozzles, 95 gpm minimum
- (c) Two (2) portable fire extinguishers suitable for use on class A, B, and C fires, with a minimum rating of 80BC for dry chemical, 10BC CO2 or 2½ gallon water extinguishers
- (d) Self-contained breathing apparatus to allow for each on-scene Firefighter to safely perform the duties of a Firefighter while engaged in emergency operations in accordance with the general criteria of NFPA 1981, Standard on Open Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services.
- (e) One (1) spare SCBA cylinder for each SCBA carried
- (f) One (1) 12 foot or longer fire service rated roof ladder
- (g) One (1) 24 foot or longer fire service rated extension ladder
- (h) One (1) pick head ax
- (i) One (1) flat head ax
- (j) One (1) pike pole or plaster hook (minimum 6-feet in length)
- (k) One (1) claw tool or multipurpose, forcible entry tool (minimum 30-inches in length)
- (l) One (1) bolt cutter (minimum 24-inches in length)
- (m) One (1) crowbar or pry bar
- (n) Two (2) functioning portable battery-powered hand lights
- (o) Wheel chock(s)
- (p) One (1) two-way radio assigned to the apparatus
- (q) One (1) ANSI approved traffic vest per assigned seating position (exception: if assigned to each member it is not necessary to be on apparatus.)
- (r) Two (2) Spanner wrenches or suitable hose fastening wrench
- (s) One (1) hydrant wrench
- (t) One (1) double male coupling
- (u) One (1) double female coupling
- (v) One (1) folding ladder
- (w) One (1) salvage cover or material suitable for fire service salvage operations.
- (x) 500 feet of 2½" diameter or larger supply hose to meet the jurisdiction needs

Personal protective clothing to allow for each on-scene Firefighter to safely perform the duties of a Structural Firefighter while engaged in fighting a structure fire.

- (a) Personal protective clothing shall include a helmet, coat, pants, boots, gloves, and hood that meet NFPA standards at the time of manufacture.

**Supplement #2**

**Items from ISO that will be given priority in the grant selection process.**

**FIRE SUPPRESSION RATING SCHEDULE**

Appendix A

TABLE 512A PUMPER EQUIPMENT AND HOSE			
Equipment and Hose	Needed	Points Credit/Unit	Total Points
Booster tank	300 gal. or larger	1/10 gal.	30
Hose:			
15' soft-suction or 20' hard-suction hose	1	12	12
1½", 1¾", or 2" hose carried	400'	3/50	24
Master stream appliance (1,000 gpm)	1	100	100
Nozzles:			
2½" playpipe with shutoff and 1", 1½", and 1¾" tips	1	20	20
2½" combination spray with shutoff	1	30	30
1½" or 1¾" combination spray with shutoff	2	10	20
SCBA (30-minute minimum)	4	24	96
Extra cylinders (carried)	4	6	24
Salvage covers (minimum size of 12' x 14')	2	2	4
Electric handlights	2	2	4
Hose clamp	1	4	4
Hydrant hose gate (2½")	1	4	4
Gated wye (2½" x 1½" x 1½")	1	4	4
Radio:			
Mounted	1	32	32
Portable	1	16	16
Ladders:			
12' to 16' roof	1	10	10
24' extension or larger	1	16	16
Annual tests:			
Pumper (see Table 512B)	1	100	100
Hose (see Table 512C)	1	50	50
<b>Total</b>			<b>600</b>

# FIRE SUPPRESSION RATING SCHEDULE

## Appendix B

**TABLE 542A EQUIPMENT FOR A SERVICE COMPANY**

Equipment	Needed	Points Credit/Unit	Total Points
SCBA (30-minute minimum)	4	24	96
Extra cylinders (carried)	4	6	24
Salvage covers (minimum size of 12' x 14')	6	2	12
Electric generator (3,000 watt)	1	25	25
Portable floodlight (500 watt)	3	4	12
Smoke ejector (5,000 cfm)	1	20	20
Portable thermal cutting unit	1	20	20
Saw – power (chain or heavy-duty rotary type)	1	20	20
Electric handlights	4	2	8
Pike pole (plaster hook):			
3' or 4'	2	2	4
6' or longer	4	2	8
Radio:			
Mounted	1	32	32
Portable	1	16	16
Ladder:			
24' extension or longer	1	25	25
16' roof or longer	1	25	25
10' attic or longer	1	4	4
14' combination or longer	1	5	5
<b>Total</b>			<b>356</b>

**TABLE 542B ADDITIONAL EQUIPMENT FOR A LADDER COMPANY**

Equipment	Needed	Points Credit/Unit	Total Points
Ladder:			
16' or longer roof	1	25	25
35' or longer extension	1	25	25
Elevated stream device*	1	100	100
Large spray nozzle (1,000 gpm)	1	16	16
Aerial ladder/elevating platform*	1	200	200
Annual tests (aerial/platform, see Table 542C)	1	50	50
<b>Total</b>			<b>416</b>

\*Of sufficient height to reach the roof of any building, or 100 feet, whichever is less. The credit shall be prorated if existing equipment has insufficient reach.



**GEORGIA FIREFIGHTER  
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478-993-4521

Randy Toms  
Executive Director

In applying for the GFSTC Fireworks Tax Grant, the below signatures affirm that the department agrees to follow all the rules and policies set forth for this program as established by the Georgia Firefighter Standards and Training Council. Furthermore, the applicant understands that during the grant period the applicant must achieve or maintain all department compliance and training requirements as established by the GFSTC and that any equipment requested may be purchased by the GFSTC through group purchasing programs and distributed to the departments. The applicant also understands that there is a \$25,000.00 request limit and there will be a 10% department match.

Dawson County Emergency Services

Name of Department

Troy Leist, Emergency Services Director

Printed Name and Title of Department Representative

02/01/2024

Signature of Department Representative

Date

Billy Thurmond, Chairman

Printed Name and Title of Authorizing Authority (Whoever the Chief reports to: Mayor, County Manager, City Manager, County Commissioner, etc.) *This application will not be processed without this information.*

Signature of Authorizing Authority

Date

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(877) 637-3473

# Quote

**Quote #** QT1783816  
**Date** 01/31/2024  
**Expires** 05/03/2024  
**Sales Rep** Adams, Jeremy L  
**Shipping Method** FedEx Ground  
**Customer** DAWSON COUNTY FIRE DEPT (GA)  
**Customer #** C37753

**Bill To**

DAWSON COUNTY FIRE DEPT  
 393 MEMORY LANE  
 DAWSONVILLE GA 30534  
 United States

**Ship To**

Lucas Ray  
 DAWSON COUNTY FIRE DEPT- GA  
 170 Dawson Forest Road West  
 Dawsonville GA 30534  
 United States

Item	Alt. Item #	Units	Description	QTY	Unit Price	Amount
DP17R-50-ARN			1.75" DJ Red Rubber Liner	30	\$176.73	\$5,301.90
DP17G-50-ARN			1.75" DJ Green Rubber Liner	30	\$176.73	\$5,301.90
DP17O-50-ARN			1.75" DJ Orange Rubber Liner	26	\$176.73	\$4,594.98

\*Pricing Per Sourcewell RFP #040220\*

**Subtotal** \$15,198.78  
**Shipping Cost** \$150.00  
**Tax Total** \$0.00  
**Total** \$15,348.78

This Quotation is subject to any applicable sales tax and shipping and handling charges that may apply. Tax and shipping charges are considered estimated and will be recalculated at the time of shipment to ensure they take into account the most current information.

All returns must be processed within 30 days of receipt and require a return authorization number and are subject to a restocking fee.

Custom orders are not returnable. Effective tax rate will be applicable at the time of invoice.



# Impact Fee Program

# Methodology Report



Including the following public facility categories:



- Library Services*
- Parks and Recreation*
- Fire Protection*
- Law Enforcement*
- Road Improvements*



**PRELIMINARY DRAFT**  
*For 2.15.24 Work Session*

**ROSS+associates**

urban planning & plan implementation

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**Hatley Plans LLC**

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## Introduction

Impact fees present a potential revenue source for public facilities funding. This Methodology Report focuses on public facilities pertaining to **library services, parks and recreation, fire protection, law enforcement, and road improvements** that are needed to meet the demands of future growth and development while maintaining the current level of service enjoyed by residents and businesses in the county today. Based on that analysis, calculations have been carried out in order to identify what portion of future facilities could be funded through impact fee collections as well as the maximum allowable impact fee for each public facility category.

This report is part of an update to the County’s impact fee program, which was first adopted in 2006 and last updated in 2018. All public facility categories from the current impact fee program are included and updated in this Methodology Report.

### ■ Impact Fees Authorized

#### Impact Fees Authorized by the State

Impact fees are a form of revenue authorized and regulated in Georgia pursuant to O.C.G.A. §36-71-1 et seq., the *Georgia Development Impact Fee Act (DIFA)*, and are administered by the Georgia Department of Community Affairs under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*, of the Georgia Administrative Code.

Under DIFA, a city or county can collect money from new development based on—and that does not exceed—that development’s proportionate share of the cost to fund future public facilities that will be needed. Impact fees cannot be used to solve existing service deficiencies and must be spent only on public facilities that create new capacity to keep pace with the number of future residents and businesses as the county grows.

The key is that each capital improvement, whether it’s land, buildings or long-lived vehicles, must create new capacity within the system to keep pace with the number of future residents and businesses as the county grows. Maintenance and personnel are not eligible for impact fee funding, nor would replacement of deteriorated floor space or a run-down vehicle because, although the replacement is maintaining the level of service, no new capacity is created to serve the needs of new growth.

Ultimately, and importantly, the services provided in the public facility categories for which impact fees are being charged must be the same for both the existing community and future growth.

#### Categories for Assessment of Impact Fees

The chart on the following page shows the public facility categories and specific facility types that are eligible for impact fee funding under Georgia law and that are currently included in the County’s impact fee program and thus addressed in this report.

The service area for each public facility category—that is, the geographical area served by the facility category—is also given, along with the basis for the standard adopted as the level of service to be delivered for each facility category.

**Table 1: Overview of Impact Fee Program Facilities**

Public Facility Category	Eligible Facilities	Service Area	Level of Service Standard Based on ...
<b>Library Services</b>	Library facilities and collection materials	Countywide	Square footage of facilities and number of collection materials per dwelling unit
<b>Parks and Recreation</b>	Park land and recreation components	Countywide	Acreage and number of recreation components per dwelling unit
<b>Fire Protection</b>	Fire stations, fire trucks, auxiliary vehicles & ambulances	Countywide	Square footage of facilities and number of heavy vehicles per day-night population
<b>Law Enforcement</b>	Sheriff's patrol, inmate detention, E-911	Countywide	Square footage of facilities and number of specialized vehicles per day-night population
<b>Road Improvements</b>	Projects creating increased capacity	Countywide	Level of Service 'D' and trip generation by new growth

**Eligible Facilities**<sup>1</sup> under the Georgia Development Impact Fee Act (DIFA) are limited to capital items having a life expectancy of at least 10 years, such as land, buildings and certain vehicles. Impact fees cannot be used for the maintenance, supplies, personnel salaries, or other operational costs, or for short-term capital items such as computers, furniture or most automobiles. None of these costs are included in the impact fee program.

**Service Areas** are the geographic areas that the facilities serve, and the areas within which the impact fee can be collected. Monies collected in a service area for a particular category may only be spent for that purpose, and only for projects that serve that service area.

**Level of Service Standards** are critical to determining new development's fair share of the costs. The same standards must be applied to existing development as well as new to assure that each is paying only for the facilities that serve it. New development cannot be required to pay for facilities at a higher standard than that available to existing residents and businesses, nor to subsidize existing facility deficiencies.

<sup>1</sup> For a complete list of 'eligible facilities' allowed under DIFA, see 'public facilities' in the Glossary in this report. Dawson County's impact fee program, however, comprises only those listed above.

## ■ Editorial Conventions

This report observes the following conventions:

- The capitalized word 'County' applies to the government of Dawson County, the Board of Commissioners or any of its departments or officials, as appropriate to the context.
- The lower case word 'county' refers to the geographical area of Dawson County, as in "the population of the county has grown".
- Single quote marks ( ' and ' ) are used to highlight a word or phrase that has a particular meaning or refers to a heading in a table.
- Double quote marks ( " and " ) are used to set off a word or phrase that is a direct quote taken from another source, such as a passage or requirement copied directly from a law or report.
- Importantly... Numbers shown on tables in this report are often rounded from the actual calculation of the figures for clarity, but the actual calculated number of decimal points is retained within the table for accuracy and further calculations.

## Updating the Impact Fee Program

Dawson County adopted its impact fee program in 2006. Impact fee collections were suspended in 2009 in response to the worsening economic conditions brought on by the Great Recession. In 2018 the County fully updated its impact fee program by preparing a new Methodology Report and amending its Capital Improvements Element (CIE), and Development Impact Fee Ordinance (which included a new impact fee schedule). This allowed reinstatement of impact fee collections and expenditures on impact fee-eligible public facilities.

This new Methodology Report again updates the County’s documentation, including the recognition of current prices and costs for needed capital equipment and facilities, and extends the horizon of the program to 2050. Subsequent adoption of a new CIE (also called a ‘CIE Amendment’) and fee schedule (via amendment to the current Development Impact Fee Ordinance) by the Board of Commissioners would again update the County’s program.

### ■ Impact Fee Program Documentation

The Dawson County Impact Fee Program consists of four components:

- A **Methodology Report**, which includes methodologies used to determine new development’s fair share of the County’s investment in its libraries, parks, fire and law enforcement facilities, and roads.
- A **Capital Improvements Element (CIE)** to implement the County’s proposed list of future project improvements, including a 5-Year Community Work Program.
- A **Development Impact Fee Ordinance**, including an impact fee schedule by land use category.
- The County’s **Comprehensive Plan**, of which the CIE is a component.



This **Methodology Report** identifies the need for new public facilities and includes a compilation of the capital facilities on which impact fee revenue can be spent. The calculations and information contained in this report—repeated (as applicable) for each category of public facility for which an impact fee will be charged—are:

- a *projection of needs to 2050*;
- the designation of geographic *service areas*—where a defined set of public facilities provide service to development;
- the designation of *levels of service (LOS)*—the service level that is being and will be provided;
- a *list of impact fee eligible capital improvement projects* to serve new growth, based on appropriate LOS standards, through 2050;
- the calculation of the cost impact of new growth and development (and thus the *maximum impact fees* that could be adopted, by land use category).

Information from this report will be used to craft an amended **Capital Improvements Element (CIE)**. The CIE will include growth forecasts and identified capital improvement projects and costs from this report, along with an excerpted list of projects expected to be done in the next five years.

Upon adoption of the CIE Amendment, the County can spend impact fees on the projects identified therein. If the County wishes to change the fees that are assessed (i.e., update the 2018 fee schedule), it must amend its **Impact Fee Ordinance**. As stated above, this report will calculate the *maximum* impact fees that *could* be charged, with the final fee schedule to be determined by the Board of Commissioners and amended into the current Development Impact Fee Ordinance.

Once determined, the fees are summarized in an Impact Fee Schedule and incorporated into the County's Development Impact Fee Ordinance. Upon adoption of the amended ordinance, in conjunction with the CIE described above, the County may begin collecting impact fees under its new fee schedule. The impact fees will be used to fund the projects listed in the amended CIE. The CIE's adoption will also automatically amend the **Comprehensive Plan**, since the CIE is a required element of that plan for communities that collect impact fees.

### ■ Maximum Impact Fee Schedule

As previously noted, an amended Capital Improvements Element (based on information in this Methodology Report) will result in an updated list of impact fee eligible projects. If the County wishes to also update its fee schedule, it is important to know the **maximum impact fee that *could* be charged** for the public facility categories included in this report, based on the calculations carried out in the following chapters.

Because the state law provides that new growth and development cannot be charged more than their fair proportionate share of the costs of the capital improvements needed to serve them, this Methodology Report calculates the maximum that could be charged as an impact fee in order to establish the 'ceiling' above which the County cannot go. Lower fees, however, are fully within the purview of the Board, although the 'shortfall' in funding would have to be made up from revenue other than impact fees.

The summary fee schedule presented on the following pages shows the total maximum impact fee that could be charged for each of the land use categories shown, drawn from each of the public facility chapters in this report. The total maximums reflects reductions for any credit based upon anticipated tax contributions from new development, when applicable, as well as a 3% fee for administration of the Impact Fee Program and a charge for recoupment of the cost to prepare the CIE, as allowed under State law.

The 'Total Maximum Fee' shown in the last column is the total maximum fee—per unit of measure—that is allowed in each public facility category, by land use category.<sup>2</sup> These maximums are presented to generate discussion and determination by the Board of Commissioners as to the appropriate fees to be charged. As discussed below, **the County cannot charge more than the maximum in any given public facility category, only less.**

<sup>2</sup> The land uses are the most common as identified in the Trip Generation Manual, 11th Edition, Institute of Transportation Engineers. (Data from the Trip Generation Manual is used to calculate the average number of employees per unit of measure for non-residential uses, as well the 'road improvements' impact fee for residential uses.) The County's Impact Fee Procedures Manual contains guidance on determining the proper land use category for applicants whose proposed use does not seem to appear or be a good fit in the list of land uses in the impact fee schedule.

**Table 2: Summary Maximum Impact Fee Schedule<sup>3</sup>**

ITE Code	Land Use	Library Services	Parks & Recreation	Law Enforcement	Fire Protection	Road Improvements	Total Fee per Unit	Unit of Measure
<i>Residential</i>								
210	Single-Family Detached Housing	\$ 302.71	\$ 6,472.83	\$ 330.28	\$ 1,785.60	437.10	\$ 9,328.5240	per dwelling
215	Duplex or Townhouse 1-3 stories	\$ 302.71	\$ 6,472.83	\$ 330.28	\$ 1,785.60	333.74	\$ 9,225.1586	per dwelling
220	Multi-Family Low Rise 2-3 stories	\$ 302.71	\$ 6,472.83	\$ 330.28	\$ 1,785.60	312.41	\$ 9,203.8366	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	\$ 302.71	\$ 6,472.83	\$ 330.28	\$ 1,785.60	210.44	\$ 9,101.8617	per dwelling
<i>Industrial (100-199)</i>								
110	General Light Industrial			\$ 0.2387	\$ 1.2907	\$ 0.2225	\$ 1.7519	per square foot
140	Manufacturing			\$ 0.2918	\$ 1.5775	\$ 0.2202	\$ 2.0894	per square foot
150	Warehousing			\$ 0.0522	\$ 0.2823	\$ 0.0793	\$ 0.4137	per square foot
151	Mini-Warehouse			\$ 0.0522	\$ 0.2823	\$ 0.0672	\$ 0.4017	per square foot
154	High-Cube Warehouse, short term			\$ 0.1009	\$ 0.5453	\$ 0.0649	\$ 0.7111	per square foot
155	High-Cube Warehouse, fulfillment center			\$ 0.1007	\$ 0.5447	\$ 0.0839	\$ 0.7293	per square foot
156	High-Cube Hub Warehouse			\$ 0.1054	\$ 0.5701	\$ 0.2146	\$ 0.8901	per square foot
180	Specialty Trade Contractor			\$ 0.4171	\$ 2.2550	\$ 0.4552	\$ 3.1273	per square foot
<i>Lodging (300-399)</i>								
310	Hotel or Conference Motel			\$ 85.9083	\$ 464.4458	\$ 0.3704	\$ 550.7245	per room
311	All Suites Hotel			\$ 142.5225	\$ 770.5187	\$ 0.2039	\$ 913.2451	per room
312	Business Hotel			\$ 19.1834	\$ 103.7114	\$ 0.1863	\$ 123.0812	per room
320	Motel			\$ 20.5210	\$ 110.9428	\$ 0.1553	\$ 131.6191	per room
<i>Recreational (400-499)</i>								
445	Movie Theater			\$ 0.2184	\$ 1.1809	\$ 3.6196	\$ 5.0190	per square foot
480	Amusement Park			\$ 342.8366	\$ 1,853.4762	\$ 2,475.6713	\$ 4,671.9842	per acre
491	Racquet/Tennis Club			\$ 0.0732	\$ 0.3959	\$ 1.0063	\$ 1.4754	per square foot
495	Recreational Community Center			\$ 0.1631	\$ 0.8816	\$ 1.3359	\$ 2.3805	per square foot
<i>Institutional (500-599)</i>								
520	Private Elementary School			\$ 0.1057	\$ 0.5716	\$ 0.7152	\$ 1.3926	per employee
522	Private Middle School (Junior High)			\$ 0.1237	\$ 0.6685	\$ 0.9349	\$ 1.7271	per employee
530	Private High School			\$ 0.0975	\$ 0.5271	\$ 0.6522	\$ 1.2768	per employee
560	Church/Place of Worship			\$ 0.0585	\$ 0.3165	\$ 0.3523	\$ 0.7273	per square foot
565	Day Care Center			\$ 0.3434	\$ 1.8566	\$ 2.2073	\$ 4.4073	per square foot
566	Cemetery			\$ 16.0725	\$ 86.8924	\$ 0.2790	\$ 103.2439	per acre
<i>Medical (600-699)</i>								
610	Hospital			\$ 0.4405	\$ 2.3813	\$ 0.4992	\$ 3.3210	per square foot
620	Nursing Home			\$ 0.3144	\$ 1.6999	\$ 0.3129	\$ 2.3272	per square foot
630	Clinic			\$ 0.4171	\$ 2.2548	\$ 1.7428	\$ 4.4147	per square foot
640	Veterinary Clinic			\$ 0.2612	\$ 1.4123	\$ 0.9966	\$ 2.6701	per square foot

<sup>3</sup> The County cannot charge more than the maximum in any given public facility category, only less.

**Summary Maximum Impact Fee Schedule**

ITE Code	Land Use	Library Services	Parks & Recreation	Law Enforcement	Fire Protection	Road Improvements	Total Fee per Unit	Unit of Measure
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*Office (700-799)*

710	General Office Building			\$ 0.5019	\$ 2.7135	\$ 0.5025	\$ 3.7178	per square foot
712	Small Office Building			\$ 0.2823	\$ 1.5261	\$ 0.6670	\$ 2.4754	per square foot
714	Corporate Headquarters Building			\$ 0.5306	\$ 2.8687	\$ 0.3685	\$ 3.7679	per square foot
715	Single-Tenant Office Building			\$ 0.5234	\$ 2.8298	\$ 0.6058	\$ 3.9590	per square foot
720	Medical-Dental Office Building			\$ 0.6373	\$ 3.4453	\$ 1.6687	\$ 5.7512	per square foot
750	Office Park			\$ 0.4821	\$ 2.6066	\$ 0.5131	\$ 3.6019	per square foot
760	Research and Development Center			\$ 0.5069	\$ 2.7406	\$ 0.5136	\$ 3.7611	per square foot
770	Business Park			\$ 0.4748	\$ 2.5667	\$ 0.5766	\$ 3.6181	per square foot

*Retail (800-899)*

812	Building Materials and Lumber Store			\$ 0.1020	\$ 0.5515	\$ 0.7903	\$ 1.4438	per square foot
813	Free-Standing Discount Superstore			\$ 0.3557	\$ 1.9229	\$ 2.3417	\$ 4.6203	per square foot
814	Variety Store			\$ 0.1027	\$ 0.5551	\$ 2.9508	\$ 3.6086	per square foot
815	Free-Standing Discount Store			\$ 0.3372	\$ 1.8231	\$ 2.4970	\$ 4.6574	per square foot
816	Hardware/Paint Store			\$ 0.0449	\$ 0.2429	\$ 0.3741	\$ 0.6619	per square foot
817	Nursery (Garden Center)			\$ 0.4810	\$ 2.6003	\$ 3.1566	\$ 6.2379	per square foot
818	Nursery (Wholesale)			\$ 0.2570	\$ 1.3893	\$ 1.8077	\$ 3.4540	per square foot
820	Shopping Center			\$ 0.3276	\$ 1.7710	\$ 1.7155	\$ 3.8140	per square foot
821	Shopping Plaza - No Supermarket (<150K)			\$ 0.3276	\$ 1.7710	\$ 4.3798	\$ 6.4784	per square foot
822	Strip Retail Plaza			\$ 0.3276	\$ 1.7710	\$ 2.5239	\$ 4.6224	per square foot
840	Automobile Sales (New)			\$ 0.3833	\$ 2.0720	\$ 1.2904	\$ 3.7457	per square foot
841	Automobile Sales Used)			\$ 0.3343	\$ 1.8074	\$ 1.2543	\$ 3.3960	per square foot
842	Recreation Vehicle Sales			\$ 0.0978	\$ 0.5289	\$ 0.2318	\$ 0.8585	per square foot
843	Auto Parts Store			\$ 0.1480	\$ 0.8002	\$ 2.5294	\$ 3.4777	per square foot
848	Tire Store			\$ 0.1974	\$ 1.0670	\$ 1.2835	\$ 2.5478	per square foot
850	Supermarket			\$ 0.3299	\$ 1.7834	\$ 2.7983	\$ 4.9116	per square foot
857	Discount Club			\$ 0.2032	\$ 1.0988	\$ 1.9681	\$ 3.2702	per square foot
861	Sporting Goods Superstore			\$ 0.8258	\$ 4.4644	\$ 1.1023	\$ 6.3925	per square foot
862	Home Improvement Superstore			\$ 0.8258	\$ 4.4644	\$ 1.4249	\$ 6.7151	per square foot
881	Pharmacy/Drugstore w/drive-through			\$ 0.2575	\$ 1.3920	\$ 5.0246	\$ 6.6741	per square foot
890	Furniture Store			\$ 0.0889	\$ 0.4805	\$ 0.2920	\$ 0.8614	per square foot

*Services (900-999)*

912	Drive-in Bank			\$ 0.4727	\$ 2.5557	\$ 4.6514	\$ 7.6799	per square foot
930	Fast Casual Restaurant			\$ 0.7774	\$ 4.2031	\$ 2.5928	\$ 7.5733	per square foot
931	Fine Dining Restaurant			\$ 0.7774	\$ 4.2031	\$ 2.1665	\$ 7.1471	per square foot
932	High-Turnover (Sit-Down) Restauant			\$ 0.7774	\$ 4.2031	\$ 2.8613	\$ 7.8418	per square foot
934	Fast-Food Restaurant			\$ 1.6190	\$ 8.7528	\$ 10.7983	\$ 21.1700	per square foot
941	Quick Lubctication Vehicle Shop			\$ 0.6704	\$ 3.6244	\$ 3.2247	\$ 7.5196	per square foot
943	Automobile Parts & Service			\$ 0.2237	\$ 1.2095	\$ 0.7694	\$ 2.2027	per square foot
945	Convenience Store w/gas			\$ 0.3990	\$ 2.1571	\$ 11.1103	\$ 13.6664	per square foot

Note: Total Fee per Unit includes administration and CIE preparation fees.

## ■ Reductions in Impact Fee Assessments

As noted, the fee schedule on the previous pages shows the maximum impact fee that could be adopted. There are, however, several ways that a lower impact fee could be charged. These are discussed below.

### Adoption of Reduced Impact Fees

The County may adopt the maximum fee for any given public facility category, or could adopt a lower fee, as part of the Impact Fee Ordinance. In order to fulfill DIFA's requirement that new growth pay its fair, proportionate share, all fees in a particular public facility category could be reduced proportionally (that is, by the same percentage), but individual land use categories within the particular public facility category cannot be individually reduced or deleted.

It must be remembered that any across-the-board reduction in the maximum allowable impact fee must be funded ultimately with other revenue—General Fund or SPLOST, for instance—to make up the shortfall in collections. An alternate approach is to determine that individual projects that are eligible to be funded with impact fees will, instead, be funded through other revenue sources (such as SPLOST, bonds, General Fund taxes, or other income sources).

### Individual Fee Assessment

A landowner or developer may request an 'individual assessment' when the average figures used in this Methodology Report do not apply to the specific project being proposed. This individual assessment determination will be made preferentially on alternate data available regarding the number of housing units or employment characteristics of the specific project, as applicable. Under the appeal procedures of the Development Impact Fee Ordinance, special circumstances can be considered and approved in modifying the fee for a particular project demonstrably differing from the average values used in this methodology.

### Individual Appeals

The Impact Fee Ordinance provides for the appeal by anyone assessed an impact fee, first to the Impact Fee Administrator and then, if not resolved, to the Board of Commissioners.

### Exemptions

Exemptions from the established impact fee amounts on the adopted Impact Fee Schedule can be adopted by the Board of Commissioners for development that represents 'extraordinary economic or employment growth' or for 'affordable housing', as defined by the Board. The exemptions must be enabled as part of the Impact Fee Ordinance and can be applied by the Board in whole or in part to specified uses based on standards spelled out in separately adopted Resolutions.

It is important to note that any exemptions granted must be made up in the applicable impact fee fund(s) from County revenue other than impact fees.

## ■ Periodic Review Recommended

A number of the factors that form the baseline assumptions in this report's impact cost calculations may change over time. The impact fee methodologies for the public facilities categories should be reviewed from time to time and should reflect changes in the growth and development of the county. Also, the fiscal elements of the impact fee system should be brought up to 'current' dollars to account for inflation.

- Like the County's Comprehensive Plan, the 'planning horizon' of this report is long-range, to 2050. When that plan is next updated, this report and its methodologies should be reviewed and

updated as needed to meet any new 'planning horizon'. Any updates would also carry over into the CIE and, potentially, the Impact Fee Ordinance as described in the previous section.

- Population and employment projections should be reviewed periodically against other data, such as building permits and utility hook-ups, to confirm continuing validity or to make modifications.
- Costs should be maintained in present value terms. Land costs and various facility construction costs should be reviewed periodically. The cost of library collection materials, recreation components (such as playground equipment and pavilions) and heavy vehicles also should be updated to then-current dollars.
- Data that is used to calculate credits in impact fee calculations to avoid 'double taxation' should be updated to reflect actual growth. This includes projections in tax base growth, average new house values and assessed value per employee.
- Any changes in funding strategy for the facilities included in the impact fee program should be reflected in the impact fee calculation.

Changes in the pace of development will affect the timing of service delivery but not, *per se*, the methodology used to calculate the impact costs. If more residential and business development is built than was projected, facilities will be needed sooner to meet the level of service standard. Tax revenues will increase faster than projected as growth accelerates and more impact fees will be collected. In this way, more funds are produced to provide the facilities and services demanded. If growth slows, the opposite occurs: reduced revenue and lowered demand for services.

## Forecasts

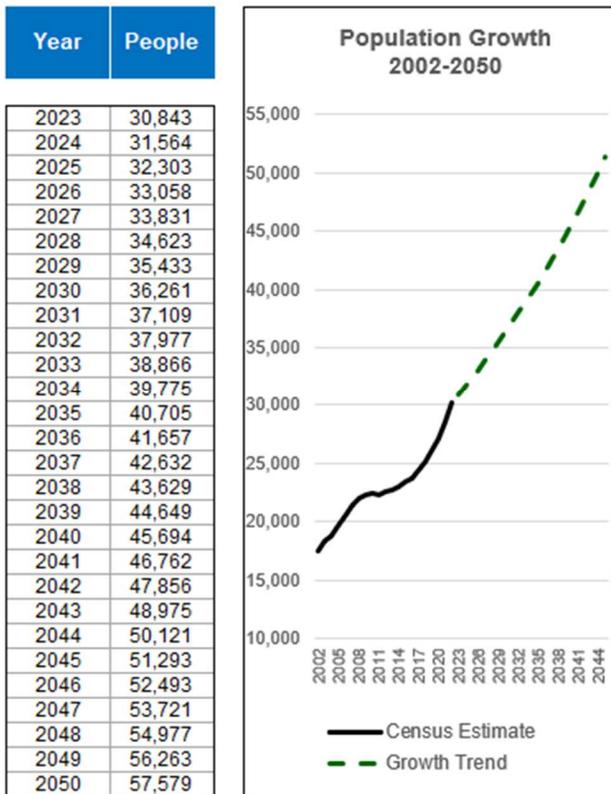
In order to accurately calculate the demand for future services in Dawson County, new growth and development must be quantified in future projections. These projections include forecasts for population, households, housing units, and employment to the year 2050. These projections provide the base-line conditions from which the most current (2023) Level of Service calculations are produced. The projections used for each public facility category are specified in each public facility chapter that follows.

This chapter presents a summary of the forecasts that have been identified for use in this report, based on an analysis of past trends. For a more detailed description of the methodologies used in preparing the population, housing and employment forecasts, see Technical Appendix A – *Future Growth*.

### ■ Population, Housing and Employment Forecasts

Table 3 presents projected population growth from 2023 to 2050 relative to growth over the preceding 20-year period, as reported by the Census Bureau.

**Table 3: Projected Population Growth**



The projections indicate a continuation of the previous population growth trend over the past two decades. The line plotting U.S. Census population estimates from 2002 – 2022 reflect a period of strong growth up until the Great Recession, a result of which population growth slowed considerably at first along with the collapse of the housing market, and then began to recover.

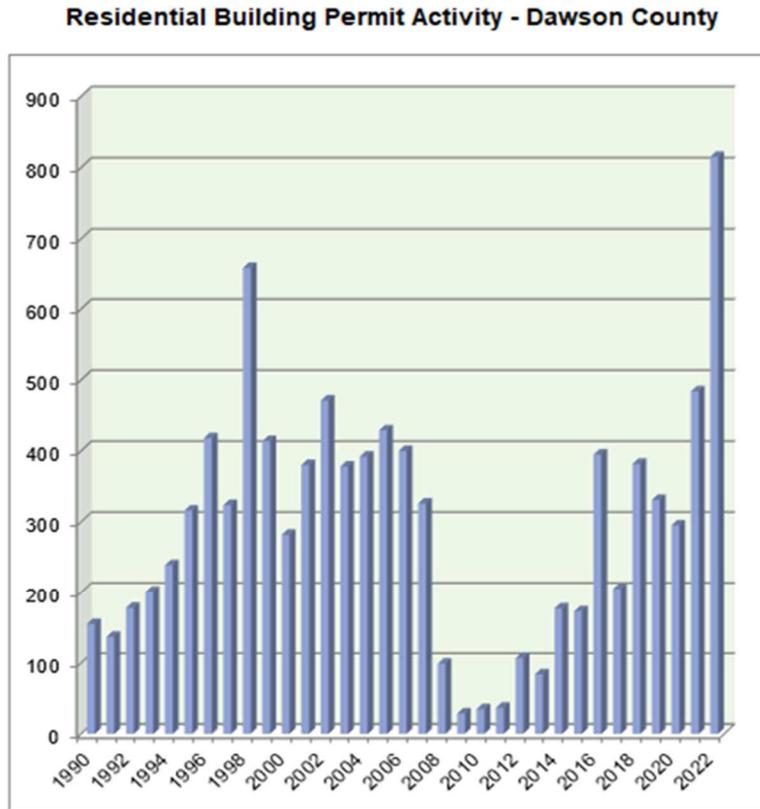
Starting around the middle of the past decade, growth returned at an accelerated pace, which is illustrated by residential building permit activity on Table 4.

Going back to 1990, the county was on a clear upswing in development, trending higher and higher overall, slipping a bit in 2006, and then plummeting with the nationwide housing market crash. Recovery from the crash was slow but steady—even outpacing the rebound in adjacent Gainesville-Hall County as well as the Atlanta Metro Area on an annual percent increase basis. The county’s housing industry has regained its footing and permits have been on the rise since then.

Looking ahead, Dawson County is projected to continue its previous population growth trend over the past two decades. Overall, the county is expected to add 26,736 people to its 2023 population of 30,843. The result is projected to be a 2050 population of 57,579, in which 46.4% of the future residents are not here today.

**Table 4: Residential Building Permit Activity**

Calendar Year	New Housing Units Permitted
1990	155
1991	137
1992	178
1993	201
1994	239
1995	316
1996	418
1997	324
1998	659
1999	414
2000	282
2001	380
2002	471
2003	378
2004	392
2005	429
2006	400
2007	326
2008	99
2009	29
2010	35
2011	37
2012	107
2013	84
2014	177
2015	173
2016	395
2017	205
2018	382
2019	331
2020	295
2021	484
2022	815



Source: US Bureau of the Census, annual building permit data, 1990-2015; Dawson County 2016-2022.

Housing for this future population growth is anticipated to increase at the same rate, yielding a 2050 housing stock of 26,634 dwelling units, based on the addition of 12,481 units to the existing housing supply.

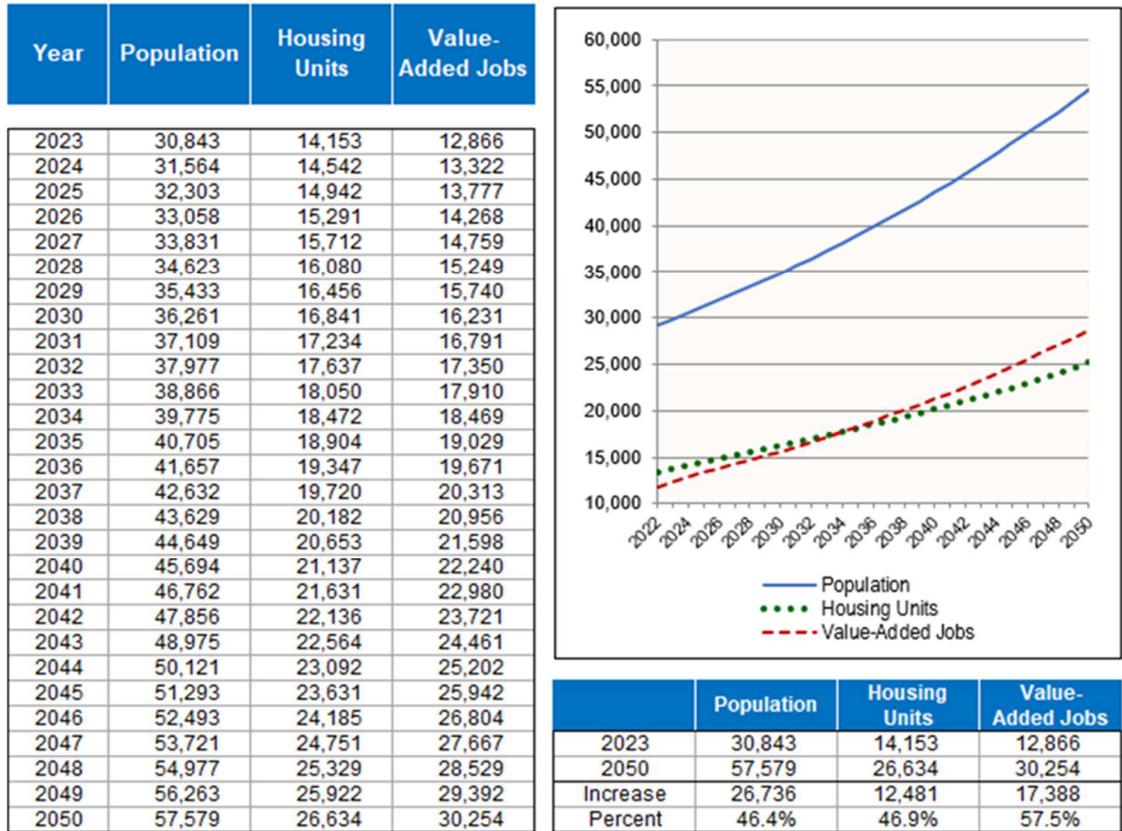
Employment in the county is projected to expand at a somewhat greater pace than population. Total 'value added' jobs<sup>4</sup> is projected by Woods & Poole Economics, Inc.<sup>5</sup> to increase by 17,388. These are jobs in businesses that would be impact-fee eligible and will represent an increase of almost 58% of all value-added jobs in 2050. Today, there are about 0.9 jobs for each housing unit in the county. By 2050, this is projected to grow to 1.14.

Each of these countywide forecasts are shown on Table 5.

<sup>4</sup> 'Value-added' jobs are jobs in employment categories that create new or expanded places of business (other than governmental jobs which are otherwise exempt from impact fee assessments, as well as construction and agricultural jobs since they are transitory or non-site specific in nature and don't require building permits; as such, they are not assessed impact fees).

<sup>5</sup> Woods & Poole is a nationally recognized independent firm that specializes in long-term county economic data and demographic data projections. Their employment data include both full-time and part-time jobs by place of work.

**Table 5: Forecasts of Future County Growth**



**■ Projections Related to Impact Fee Calculations**

Table 6 shows the forecasts that have been identified as the most likely for Dawson County, based on an analysis of past trends described above. These figures are used in calculating the Level of Service (LOS) and Future Demand for county facilities in each public facility category addressed in this report.

Countywide forecasts apply to all public facility categories, as they provide services available to each resident regardless of whether they live in the unincorporated area or inside the Dawsonville city limits.

The population figures on Table 6 represent a projection forward of past annual population figures (i.e., the past growth rate) as discussed above. To calculate the number of housing units anticipated in the future, the number of households (which equates to the number of occupied housing units) is calculated by dividing the most recently reported average household size in the county into the population forecasts, and then that is expanded to the total number of housing units by adding in vacant units. As noted above, employment forecasts are based on Woods & Poole Economics, Inc. data, as further described in the Appendix. ‘Day-night population’ combines population and employee projections and is further described below.

Because **library facilities** and **parks** predominantly serve residents (as opposed to businesses), the projected increase in housing units over the next 27 years quantifies demand for these facilities, as shown in the following public facility chapters.

For **fire protection** and **law enforcement**, the day-night population is used instead of housing units. Day-night population combines residents ('population') and employees (based on 'value-added' jobs) and is a measure of total services demanded of a 24-hour service provider facility. The Fire & Emergency Services Department, for instance, protects one's house from fire whether or not the residents are at home, and protects stores and offices whether or not they are open for business.

The **road improvements** category is unique, in that it utilizes vehicle trip generation data to calculate the amount of future traffic that is attributed to future growth and development (as described in the Technical Appendix).

Since 'housing unit' and 'day-night population' figures are used in the Level of Service and Future Demand calculations for the public facility categories in this report, as described above, they are highlighted in Table 6.

**Table 6: Projections Used in Impact Fee Calculations**

Year	County Population	Households	Housing Units	Value-Added Jobs	Day-Night Population
2023	30,843	12,239	14,153	12,866	43,709
2024	31,564	12,575	14,542	13,322	44,886
2025	32,303	12,921	14,942	13,777	46,080
2026	33,058	13,223	15,291	14,268	47,326
2027	33,831	13,587	15,712	14,759	48,590
2028	34,623	13,905	16,080	15,249	49,872
2029	35,433	14,230	16,456	15,740	51,173
2030	36,261	14,563	16,841	16,231	52,492
2031	37,109	14,903	17,234	16,791	53,900
2032	37,977	15,252	17,637	17,350	55,327
2033	38,866	15,609	18,050	17,910	56,776
2034	39,775	15,974	18,472	18,469	58,244
2035	40,705	16,347	18,904	19,029	59,734
2036	41,657	16,730	19,347	19,671	61,328
2037	42,632	17,053	19,720	20,313	62,945
2038	43,629	17,452	20,182	20,956	64,585
2039	44,649	17,860	20,653	21,598	66,247
2040	45,694	18,278	21,137	22,240	67,934
2041	46,762	18,705	21,631	22,980	69,742
2042	47,856	19,142	22,136	23,721	71,577
2043	48,975	19,512	22,564	24,461	73,436
2044	50,121	19,969	23,092	25,202	75,323
2045	51,293	20,435	23,631	25,942	77,235
2046	52,493	20,914	24,185	26,804	79,297
2047	53,721	21,403	24,751	27,667	81,388
2048	54,977	21,903	25,329	28,529	83,506
2049	56,263	22,416	25,922	29,392	85,655
2050	57,579	23,032	26,634	30,254	87,833
2023-2050 Increase:	26,736	10,793	12,481	17,388	44,124

# Library Services

## ■ Introduction

The Dawson County Library System provides library services through a central library facility in Dawsonville and a small satellite branch on Liberty Drive (east of Ga 400). Together, the two facilities contain a total of 14,750 square feet and have a current collection of almost 43,000 materials.

The Dawson County Library is part of the Chestatee Regional Library System and is maintained in part by financial contributions from Dawson County. The library provides services to all residents of Dawson County through a variety of information and materials, facilities and programs.

Demand for library services is almost exclusively related to the county's resident population. Businesses make some use of public libraries for research purposes, but the use is incidental compared to that of the families and individuals who live in the county. Thus, a library services system impact fee is limited to future residential growth.

## ■ Service Area

Materials, facilities and services of the Dawson County library system are equally available to the county's population. The entire county is therefore considered a single service district for library services. An improvement in any part of the county increases service to all parts of the county to some extent.

## ■ Level of Service and Forecasted Demand

'Level of Service' (LOS) is the relationship between service capacity and service demand for public facilities. The County has adopted a level of service for library facilities based on the current level of service in facility space and collection materials.

In Table 7 below, the library's current building area (square feet) and collection materials are used to calculate future demand in square feet and collection volumes over the next two decades. Based on the adopted LOS, future growth will demand 13,007 additional square feet of library space by the year 2050 in order to maintain the adopted level of service. In addition, 37,424 collection materials will need to be added to serve new growth. Ultimately, more collection materials will need to be acquired in order to account for future collection material discards, as shown later in this chapter.

**Table 7: Level of Service and New Growth Demand**

Existing System Inventory*		Current Service Area	Level of Service	Service Area Growth	New Growth Demand
Collection Materials	Number of Housing Units (2023)	Collection Materials per Housing Unit	Increase in Housing Units (2023-2050)	Additional Collection Materials Needed	
42,437	14,153	2.9984	12,481	37,424	
Building Area (Square Feet)	Number of Housing Units (2023)	Square Feet of Floor Area per Housing Unit	Increase in Housing Units (2023-2050)	Square Feet of Additional Floor Area Needed	
14,750	14,153	1.0422	12,481	13,007	

\* Includes 14,000 square foot Dawson County Library and 750 square foot satellite location.

**Table 8: Future Collection Materials Needed**

Year	New Growth Demand			Plus Discarded Materials	Total Materials Needed (annual)
	New Dwelling Units	New Materials Needed (annual)	Running Total		
2023	0	0	0	0	0
2024	389	1,166	1,166	6	1,172
2025	400	1,199	2,366	6	1,206
2026	349	1,046	3,412	5	1,052
2027	421	1,262	4,675	6	1,269
2028	368	1,103	5,778	6	1,109
2029	376	1,127	6,905	6	1,133
2030	385	1,154	8,060	6	1,160
2031	393	1,178	9,238	6	1,184
2032	403	1,208	10,447	6	1,215
2033	413	1,238	11,685	6	1,245
2034	422	1,265	12,950	7	1,272
2035	432	1,295	14,246	7	1,302
2036	443	1,328	15,574	7	1,335
2037	373	1,118	16,692	6	1,124
2038	462	1,385	18,078	7	1,392
2039	471	1,412	19,490	7	1,420
2040	484	1,451	20,941	7	1,459
2041	494	1,481	22,422	8	1,489
2042	505	1,514	23,937	8	1,522
2043	428	1,283	25,220	7	1,290
2044	528	1,583	26,803	8	1,591
2045	539	1,616	28,419	8	1,624
2046	554	1,661	30,080	9	1,670
2047	566	1,697	31,778	9	1,706
2048	578	1,733	33,511	9	1,742
2049	593	1,778	35,289	9	1,787
2050	712	2,135	37,424	11	2,146
<b>Total</b>	<b>12,481</b>	<b>37,424</b>		<b>192</b>	<b>37,616</b>

Note: Discard rate = 0.514%

Table 8 shows the number of collection materials demanded by new growth each year in the first columns, based on the adopted LOS. These are then increased by an average annual discard rate (0.5%) for 'weeded' volumes, which reflects the average rate over the past five years. By including the weeded volumes, the resulting 'total materials needed' reflects the total number of volumes required annually to maintain the LOS once these non-impact fee eligible volumes are discarded.

■ **Projects to Meet Future Demand**

**New Collection Materials – Costs and Schedule for Implementation**

The new collection materials needed to serve new growth and development, identified in Table 8, are used to calculate the future cost to meet service demand. Based on past library expenditures, the estimated average replacement cost per item is \$27.80, which is factored into Table 9 on the next page.

The annual costs are then increased each year using the 10-year average Consumer Price Index (CPI) rate, and then reduced to current NPV dollars using the Discount Rate (See also Technical Appendix C – *Cost Adjustments and Credits* for further explanation). The percentage of the cost attributable to new growth in each year is based on the percentage of total volumes needed that are attributable to new growth's demand (the total number needed minus the discarded items as shown above).

**Table 9: Cost of Collection Materials to Meet Future Demand**

Year	Total Materials Needed (annual)	Total Current Cost	Net Present Value (NPV)*	% for New Growth	New Growth's Share (NPV)**
2024	1,172	\$ 32,594.59	\$ 32,594.59	99.49%	\$ 32,427.91
2025	1,206	\$ 33,516.29	\$ 33,711.94	99.49%	\$ 33,539.54
2026	1,052	\$ 29,242.96	\$ 29,585.37	99.49%	\$ 29,434.07
2027	1,269	\$ 35,275.89	\$ 35,897.27	99.49%	\$ 35,713.70
2028	1,109	\$ 30,834.99	\$ 31,561.30	99.49%	\$ 31,399.91
2029	1,133	\$ 31,505.31	\$ 32,435.66	99.49%	\$ 32,269.79
2030	1,160	\$ 32,259.43	\$ 33,405.92	99.49%	\$ 33,235.09
2031	1,184	\$ 32,929.75	\$ 34,299.12	99.49%	\$ 34,123.73
2032	1,215	\$ 33,767.66	\$ 35,377.19	99.49%	\$ 35,196.28
2033	1,245	\$ 34,605.57	\$ 36,466.67	99.49%	\$ 36,280.19
2034	1,272	\$ 35,359.68	\$ 37,478.85	99.49%	\$ 37,287.20
2035	1,302	\$ 36,197.59	\$ 38,590.94	99.49%	\$ 38,393.60
2036	1,335	\$ 37,119.29	\$ 39,804.59	99.49%	\$ 39,601.04
2037	1,124	\$ 31,253.94	\$ 33,710.57	99.49%	\$ 33,538.18
2038	1,392	\$ 38,711.31	\$ 41,997.84	99.49%	\$ 41,783.08
2039	1,420	\$ 39,465.43	\$ 43,065.92	99.49%	\$ 42,845.69
2040	1,459	\$ 40,554.71	\$ 44,512.91	99.49%	\$ 44,285.28
2041	1,489	\$ 41,392.62	\$ 45,697.80	99.49%	\$ 45,464.12
2042	1,522	\$ 42,314.31	\$ 46,988.06	99.49%	\$ 46,747.78
2043	1,290	\$ 35,862.43	\$ 40,056.01	99.49%	\$ 39,851.18
2044	1,591	\$ 44,241.50	\$ 49,703.35	99.49%	\$ 49,449.18
2045	1,624	\$ 45,163.20	\$ 51,035.02	99.49%	\$ 50,774.04
2046	1,670	\$ 46,420.06	\$ 52,761.50	99.49%	\$ 52,491.69
2047	1,706	\$ 47,425.55	\$ 54,219.01	99.49%	\$ 53,941.75
2048	1,742	\$ 48,431.04	\$ 55,691.74	99.49%	\$ 55,406.94
2049	1,787	\$ 49,687.90	\$ 57,470.56	99.49%	\$ 57,176.67
2050	2,146	\$ 59,658.99	\$ 69,406.24	99.49%	\$ 69,051.31
<b>Total</b>	<b>37,616</b>	<b>\$ 1,045,791.98</b>	<b>\$ 1,137,525.93</b>		<b>\$ 1,131,708.94</b>

\* Established by inflating the current cost estimate to each expenditure year above (based on 10-year average annual Consumer Price Index), then deflating it to the present year.

\*\* This is the impact fee eligible cost of the project.

**New Library Space – Costs and Schedule for Implementation**

The building floor area needed to serve new growth (13,007 square feet, from Table 7) is used to calculate the future cost to meet service demand, as shown in Table 10 on the next page. Future building projects include a 952 square foot renovation project that will increase space for public use in the main branch library, as well as an additional 12,055 square feet of building area that is “demanded” by new growth in order for future residents to enjoy the same level of service as existing residents.

These 12,055 square feet represent the difference between the total 13,007 square feet needed by 2050 and the known 952 square feet renovation projection. The square footage may be allocated across one or more project types, such as an expansion to the existing library or satellite location, and/or the construction of additional buildings. As shown on Table 10, the 12,055 square feet is currently presented as a future branch that could serve growing residential areas well beyond downtown Dawsonville, where the main branch is located.

The cost estimates for future building projects are shown in current dollars, and then increased using Engineering News Record’s (ENR) 10-year average Building Cost Index (BCI), and then reduced by the Discount Rate to determine the Net Present Value. Actual implementation, however, may occur earlier for less money or later at greater cost.

**Table 10: Cost of Building Projects to Meet Future Demand**

Year	Description	Number (Square Feet)	Estimated Project Cost (current \$)*	% Impact Fee Eligible	New Growth Share	Net Present Value**
2025	Library Renovation	952	\$ 67,000.00	100%	\$ 67,000.00	\$ 69,390.00
2030	New Library	12,055	\$ 3,676,775.00	100%	\$ 3,676,775.00	\$ 3,807,942.00
<b>TOTAL</b>		13,007	3,743,775.00		3,743,775.00	3,877,332.00

\*Sources: County’s estimated contribution to the library renovation project (10% of the total cost, upon award of Public Library State Grant ); and, BNI Building News Square Foot 2023 Costbook (\$305 per square foot for new building construction)

\*\* NPV based on 10-year average annual Building Cost Index (BCI), projected to future years of construction shown above. Implementation years subject to change during the annual budgeting process.

**Maximum Impact Fee Calculation**

At the bottom of the following page, Table 12 summarizes the costs to provide the library improvements proposed to serve future residential growth. The total net present value of the impact fee eligible costs of future library projects is brought forward from Table 9 and Table 10, which is then reduced by the current balance in the Library Services impact fee fund and by a ‘Property Tax Credit’. Table 11 calculates this credit (see also Technical Appendix C - *Cost Adjustments and Credits* for further explanation).

A credit calculation is required because future library collection materials are not fully impact fee eligible. Specifically, 99.49% of the cost of library materials can be funded with impact fees, leaving 0.51% having to be funded by another source. For this calculation, it is assumed that the County will meet its financial obligations towards the non-eligible project costs (0.51%) through property tax revenue.

To the extent that new growth will be contributing taxes for non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting the allocation of those tax collections in order to avoid new growth paying more than their ‘fair share’ of total costs; failure to do so would be a form of double taxation.

The resulting 'Total New Residential Contribution' on the last line of Table 11 reflects the credit amount that is applied to the total cost of all impact-fee eligible library projects in Table 11.

**Table 11: New Growth Contribution from Future Property Taxes**

Year	Ineligible Funding Required (NPV)*	Property Tax Credit**	Contribution from New Growth
2024	\$ 166.68	8.09%	\$ 13.48
2025	\$ 172.40	11.81%	\$ 20.36
2026	\$ 151.30	14.82%	\$ 22.42
2027	\$ 183.57	18.19%	\$ 33.39
2028	\$ 161.39	20.92%	\$ 33.76
2029	\$ 165.87	23.53%	\$ 39.03
2030	\$ 170.83	26.03%	\$ 44.47
2031	\$ 175.39	28.42%	\$ 49.85
2032	\$ 180.91	30.72%	\$ 55.57
2033	\$ 186.48	32.92%	\$ 61.39
2034	\$ 191.65	35.03%	\$ 67.14
2035	\$ 197.34	37.06%	\$ 73.13
2036	\$ 203.55	39.01%	\$ 79.40
2037	\$ 172.39	40.56%	\$ 69.92
2038	\$ 214.76	42.38%	\$ 91.02
2039	\$ 220.23	44.12%	\$ 97.16
2040	\$ 227.63	45.80%	\$ 104.25
2041	\$ 233.68	47.42%	\$ 110.81
2042	\$ 240.28	48.97%	\$ 117.67
2043	\$ 204.83	50.22%	\$ 102.87
2044	\$ 254.17	51.68%	\$ 131.36
2045	\$ 260.98	53.08%	\$ 138.53
2046	\$ 269.81	54.44%	\$ 146.88
2047	\$ 277.26	55.75%	\$ 154.57
2048	\$ 284.80	57.01%	\$ 162.36
2049	\$ 293.89	58.24%	\$ 171.16
2050	\$ 354.93	59.61%	\$ 211.57
<b>Total New Residential Contribution</b>			<b>\$ 2,403.54</b>

\* Cost of the non-impact fee eligible portion (0.51%) of future collection materials.

\*\* The percentage of future taxes generated by new residential growth that would be applied to the ineligible cost of future collection materials.

Since libraries predominantly serve residents, impact fees for these facilities are based solely on housing units. To calculate the **maximum impact fee that *could* be charged** for library improvements, the net eligible cost is divided by the increase in housing units to calculate a 'net impact fee per housing unit'. As allowed under State law, a 3% administrative fee and a Capital Improvements Element (CIE) Preparation surcharge are then added to the net fee to produce the total maximum impact fee that could be charged in Dawson County for the Library Services public facility category.

**Table 12: Maximum Impact Fee Per Housing Unit**

Factor	Total
Total Eligible Cost of Library Projects	\$ 5,009,040.94
minus Library Impact Fee Fund Balance	\$ (1,391,207.00)
minus Credit for Tax Contributions	\$ (2,403.54)
= Net Eligible Project Costs	\$ 3,615,430.40
÷ Housing Unit Increase (2023-2050)	12,481
<b>= Net Impact Fee per Housing Unit</b>	<b>\$ 289.67</b>
plus 3% Administration Fee	\$ 8.69
plus CIE Preparation Fee	\$ 4.35
<b>= Maximum Impact Fee per Housing Unit</b>	<b>\$ 302.71</b>

**Maximum Impact Fee Schedule**

The **maximum** fee per housing unit that could be charged is transferred to Table 13 below. As previously noted, this fee would only apply to residential development.

The total fees per unit below are transferred to Table 1 in the Introduction chapter of this report.

**Table 13: Maximum Impact Fee Schedule – Library Services**

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
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Total Cost per Housing Unit: \$ 302.7100

*Residential*

210	Single-Family Detached Housing	n/a	\$ 302.7100	per dwelling
215	Duplex or Townhouse 1-3 stories	n/a	\$ 302.7100	per dwelling
220	Multi-Family Low Rise 2-3 stories	n/a	\$ 302.7100	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	n/a	\$ 302.7100	per dwelling

# Parks and Recreation

## ■ Introduction

Public recreational opportunities are available in Dawson County through a number of parks facilities and programs operated by the County. Most parks and recreational components such as playgrounds, pickleball courts, and recreation centers are commonly viewed as 'residential amenities', thus demand for recreational facilities is almost exclusively related to the county's resident population. Businesses make some incidental use of public parks for office events, company softball leagues, etc., but the use is minimal compared to that of the families and individuals who live in the county. As such, the parks and recreation impact fee is limited to future residential growth.

## ■ Service Area

Parks and recreational facilities are made available to the county's population without regard to the political jurisdiction within which the resident lives. In addition, the facilities are provided equally to all residents, and often used on the basis of the programs available, as opposed to proximity of the facility. For instance, some programs are located only at certain centralized facilities, to which any Dawson County resident can come. Thus, the entire county is considered a single service area for parks and recreation.

## ■ Level of Service and Forecasted Demand

'Level of Service' (LOS) is the relationship between service capacity and service demand for public facilities. The County has determined that in most instances, existing amenities provided to residents now would also be appropriate to serve the future service area population – this is the adopted LOS, which is calculated by dividing the current inventory of each component by the current number of housing units in the county.

For canoe launches, park land, pickleball courts, park trails, and multi-use trails/greenways (which have a current inventory of "0" miles), however, the County has based the LOS on the total number of existing *and future* amenities that are needed to serve all residents (i.e., housing units) through 2050. The number of future amenities is based on planning efforts that have identified future recreation components, such as a multi-use trail system in the *Dawson County Greenway and Trail Master Plan (2021)*, or known needs for additional components based on local demand or the growing population. These future items help establish the adopted LOS, because they – along with existing similar components – are deemed the number sufficient to serve residents for the coming decades.

The Level of Service standard for all components is then multiplied by the increase in housing units through 2050 to produce the future demand for recreation amenities created by future growth, as shown under 'Future Demand' on Table 14 on the next page.

Table 14: Level of Service and New Growth Demand

Recreation Component Type	Current Inventory	Level of Service (LOS)*	Future Demand**	Total Needed (Rounded)***	% Impact Fee Eligible
Baseball/Softball Fields	14	0.000989190	12.34	12	100.00%
Basketball Courts (outdoor)	1	0.000070656	0.88	1	88.00%
Batting Cages	3	0.000211969	2.64	3	88.00%
Canoe Launch	1	0.000112638	1.40	2	70.00%
Concessions/RR Building	2	0.000141313	1.76	2	88.00%
Dog Parks	1	0.000070656	0.88	1	88.00%
Multi-purpose Fields	2	0.000141313	1.76	2	88.00%
Park Land****	241.83 acres	0.012834347	160.00	160	100.00%
Parking	1,255 spaces	0.088673779	1,106.73	1,106	100.00%
Pavilions	4	0.000282626	3.52	4	88.00%
Pickleball Courts	2	0.000525644	6.56	7	93.71%
Playgrounds	2	0.000141313	1.76	2	88.00%
Rec Center / Gym	88,000 sq.ft.	6.217763018	77,603	77,603	100.00%
Soccer Fields	3	0.000211969	2.64	3	88.00%
Splashpads	1	0.000070656	0.88	1	88.00%
Swimming Pool	1	0.000070656	0.88	1	88.00%
Tennis Courts	6	0.000423938	5.29	5	100.00%
Trails, Multi-use	0 miles	0.000735901	9.18	9.18	100.00%
Trails, Park	1.75 miles	0.000298491	3.72	3.72	100.00%

\* LOS per housing unit, based on the current inventory divided by the current number of housing units (14,153), with the exception that the LOS calculations for canoe launches, park land, pickleball courts, and all trails are based on the the total number of such components that are anticipated to be adequate through 2050 (based on planned or anticipated projects, local needs, and the Dawson County Greenway and Trail Master Plan recommendations).

\*\* Future Demand is calculated by multiplying the LOS by the increase in housing units (12,481) through 2050.

\*\*\* Rounded for all components except for parking spaces and trails.

\*\*\*\* County-owned parks that are open to the public (River Park, Rock Creek Park, and Veterans Memorial Park) or will be in the near-term (Styles Nature Trails).

For all components except trails, the future demand is rounded to whole numbers in the 'Total Needed' column. This is because the County cannot build a portion of a facility; it must build entire facilities. As a result, the '% Impact Fee Eligible' column may reflect a percentage less than 100%.

A component's impact fee eligibility ('% Impact Fee Eligible') is based on the extent to which future improvements are needed to specifically serve new growth and development (i.e. additional housing units between 2023 and 2050), and only at the LOS applicable countywide.

For example, the adopted level of service indicates that only a portion of one additional splashpad (.88) is needed to serve the future population. Since a fraction of a splashpad cannot be built for it to fully serve its intended purpose, this number is rounded up to a single splashpad, of which 88% is the amount that new growth mathematically demands. This is therefore the percentage of the facility that is impact fee eligible, meaning no more than 88% of the cost of an additional splashpad can be funded with impact fees. The remaining 12% must come from another funding source.

It should be noted that future building area (in square feet above) may be allocated across multiple projects, as needed. For example, a portion of the 77,603 square feet in needed 'rec center/gym' space could be used for a building expansion project and the balance of the impact fee eligible square footage could be devoted to an additional building.

Or, by way of example, if a 90,000 square foot recreation facility is constructed and it is the County’s intention to use impact fees to the greatest extent possible, still only 86.2% of the total cost of the project (77,603 divided by 90,000) could be funded with impact fees. The remaining portion is not technically demanded by new growth and therefore must be funded by another source.

■ Projects to Meet Future Demand

Costs and Schedule for Implementation

The following table lists project costs for providing future recreation components needed to attain the applicable Level of Service standards. Estimated current cost estimates are increased to the gross cost by 22% to account for contingencies and planning/architectural/engineering/legal fees, resulting in ‘Total Cost (current dollars)’ figures.

These figures are then adjusted to reflect the Net Present Value (NPV) based on a future date of construction, which is currently unknown for most recreation components; as such, an ‘average’ year of 2030 is used for most NPV calculations – some projects will occur earlier for less money, and some later at greater cost. All will average out. Exceptions are park trails and rec center/gym square footage, which are expected to be constructed in the near-term and use 2025 for NPV calculations.

To calculate the Net Present Value of the total estimated costs, current estimates are increased using Engineering News Record’s (ENR) 10-year average building cost inflation (BCI) rate for recreation buildings, the 10-year average Consumer Price Index (CPI) rate for land, and the 10-year average Construction Cost Index (CCI) rate for all other projects. All project costs are then reduced to current NPV dollars using the Net Discount Rate, and total costs are converted to ‘New Growth Share’ dollars based on the percentage that each improvement is impact fee eligible (from Table 14).

Table 15: Costs to Meet Future Demand for Parks and Recreation

Component Type	Total Needed	Estimated Cost Per Unit*	Gross Cost Per Unit**	Total Cost (current dollars)	% Impact Fee Eligible	New Growth Share	Net Present Value (NPV)**
Baseball/Softball Fields	12	\$ 325,000.00	\$ 380,250.00	\$ 4,563,000.00	100.00%	\$ 4,563,000.00	\$ 4,645,947.83
Basketball Courts, Outdoor	1	\$ 65,000.00	\$ 76,050.00	\$ 76,050.00	88.00%	\$ 66,924.00	\$ 68,140.57
Batting Cages	3	\$ 27,000.00	\$ 31,590.00	\$ 94,770.00	88.00%	\$ 83,397.60	\$ 84,913.63
Canoe Launch	2	\$ 100,000.00	\$ 117,000.00	\$ 234,000.00	70.00%	\$ 163,800.00	\$ 166,777.61
Concessions/RR Building	2	\$ 371,000.00	\$ 434,070.00	\$ 868,140.00	88.00%	\$ 763,963.20	\$ 777,850.79
Dog Parks	1	\$ 25,000.00	\$ 29,250.00	\$ 29,250.00	88.00%	\$ 25,740.00	\$ 26,207.91
Multi-purpose Fields	2	\$ 195,000.00	\$ 228,150.00	\$ 456,300.00	88.00%	\$ 401,544.00	\$ 408,843.41
Park Land (acres)	160	\$ 21,000.00	\$ 24,570.00	\$ 3,931,200.00	100.00%	\$ 3,931,200.00	\$ 4,002,662.75
Parking Space	1,106	\$ 2,000.00	\$ 2,340.00	\$ 2,588,040.00	100.00%	\$ 2,588,040.00	\$ 2,635,086.31
Pavilions	4	\$ 65,000.00	\$ 76,050.00	\$ 304,200.00	88.00%	\$ 267,696.00	\$ 272,562.27
Pickleball Courts	7	\$ 125,000.00	\$ 146,250.00	\$ 1,023,750.00	93.71%	\$ 959,400.00	\$ 976,840.31
Playgrounds	2	\$ 100,000.00	\$ 117,000.00	\$ 234,000.00	88.00%	\$ 205,920.00	\$ 209,663.29
Rec Center / Gym (square feet)	77,603	\$ 135.00	\$ 157.95	\$ 12,257,393.85	100.00%	\$ 12,257,393.85	\$ 12,329,213.09
Soccer Fields	3	\$ 1,000,000.00	\$ 1,170,000.00	\$ 3,510,000.00	88.00%	\$ 3,088,800.00	\$ 3,144,949.30
Splashpads	1	\$ 500,000.00	\$ 585,000.00	\$ 585,000.00	88.00%	\$ 514,800.00	\$ 524,158.22
Swimming Pool/Aquatic Center	1	\$ 13,000,000.00	\$15,210,000.00	\$ 15,210,000.00	88.00%	\$ 13,384,800.00	\$ 13,628,113.65
Tennis Courts	5	\$ 125,000.00	\$ 146,250.00	\$ 731,250.00	100.00%	\$ 731,250.00	\$ 744,542.92
Trails, Multi-use (miles)	9.18	\$ 3,100,000.00	\$ 3,627,000.00	\$ 33,295,860.00	100.00%	\$ 33,295,860.00	\$ 33,901,123.97
Trails, Park (miles)	3.72	\$ 205,000.00	\$ 239,850.00	\$ 892,242.00	100.00%	\$ 892,242.00	\$ 894,925.00
<b>TOTAL</b>							<b>\$ 79,442,522.85</b>

\* Sources: Unit cost estimates in 2018 Capital Improvements Element (CIE), actual costs from the County’s Fixed Assets listing, cost estimates from the Dawson County Greenway and Trail Master Plan, and comparable facilities in GA communities, raised to 2023 equivalent costs.

\*\* See text for explanation of Gross Cost and NPV calculations.

**Maximum Impact Fee Calculation**

Table 17 on the next page summarizes the costs to provide the parks and recreation improvements proposed to serve future residential growth. The total net present value of the impact fee eligible costs of future projects is brought forward from Table 15, which is then reduced by the current balance in the Parks and Recreation impact fee fund and by 'SPLOST credits'. Table 16 calculates these credits (see also Technical Appendix C - *Cost Adjustments and Credits* for further explanation).

Two credit calculations are required. The first is needed because some future parks projects are not fully impact fee eligible. These are projects showing less than 100% in the '% Impact Fee Eligible' column on Table 15. For this calculation, it is assumed that the County will meet its financial obligations towards the non-eligible project costs through SPLOST revenue.

To the extent that new growth will be contributing taxes for non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting the allocation of those tax collections in order to avoid new growth paying more than their 'fair share' of total costs; failure to do so would be a form of double taxation.

A second SPLOST credit is calculated because some projects are scheduled to receive funding from the SPLOST program, as shown on Table 16. As such, a credit is calculated to avoid the prospect of double-taxation for these projects that will also receive SPLOST VII funding generated by the county's residential population.

The resulting 'contributions from new growth' reflect the total credit amount that is applied to the total cost of all impact-fee eligible parks and recreation projects in Table 17.

**Table 16: New Growth Contributions from Future SPLOST**

Year	Ineligible Funding Required (NPV)*	SPLOST Credit	Contribution from New Growth
2030	\$2,747,732.68	14.94%	\$ 410,557.23
<b>TOTAL \$</b>			<b>410,557.23</b>

\* Net Present Value of amount to be paid from SPLOST revenue to cover costs not eligible for impact fee funding, using 2030 as the 'average' year.

Impact Fee/ SPLOST VII Project*	Cost Estimate*	SPLOST Credit**	Contribution from New Growth
Playground (War Hill)	\$300,000.00	8.83%	\$ 26,496.41
Playground (Rock Creek)	\$325,000.00	8.83%	\$ 28,704.44
Canoe Launch (Etowah River Road)	\$100,000.00	8.83%	\$ 8,832.14
Primitive Hiking Trails (War Hill)	\$295,000.00	8.83%	\$ 26,054.80
<b>TOTAL \$</b>			<b>90,087.79</b>

\* Source: Approved SPLOST VII project list.

\*\* The percentage represents the anticipated portion of SPLOST collections to be generated by new growth in 2027 (the last year in the SPLOST VII Program).

**TOTAL CONTRIBUTIONS FROM NEW GROWTH \$ 500,645.02**

Since parks and recreation amenities predominantly serve residents, impact fees for these facilities are based solely on housing units. To calculate the **maximum impact fee that could be charged** for parks and recreation improvements, the net cost is divided by the increase in housing units to calculate a 'net impact fee per housing unit'.

As allowed under State law, a 3% administrative fee and a Capital Improvements Element (CIE) surcharge are then added to the net fee to produce the total maximum impact fee that could be charged in Dawson County for the Parks and Recreation public facility category.

**Table 17: Net Cost to Serve New Growth – Per Housing Unit**

Factor	Total
Total Eligible Cost of Parks Projects	\$ 79,442,522.85
minus Parks Impact Fee Fund Balance	\$ (1,633,378.00)
minus Credit for SPLOST Contributions	\$ (500,645.02)
= Net Eligible Project Costs	\$ 77,308,499.83
÷ Housing Unit Increase (2023-2050)	12,481
<b>= Net Impact Fee per Housing Unit</b>	<b>\$ 6,194.10</b>
plus 3% Administration Fee	\$ 185.82
plus CIE Preparation Fee	\$ 92.91
<b>= Maximum Impact Fee per Housing Unit</b>	<b>\$ 6,472.83</b>

**Maximum Impact Fee Schedule**

The **maximum** fee per housing unit that could be charged is transferred to Table 18 below. As previously noted, this fee would only apply to residential development.

The total fees per unit below are transferred to Table 1 in the Introduction chapter of this report.

**Table 18: Maximum Impact Fee Schedule – Parks and Recreation**

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
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Total Cost per Housing Unit: \$ 6,472.8292

*Residential*

210	Single-Family Detached Housing	n/a	\$ 6,472.8292	per dwelling
215	Duplex or Townhouse 1-3 stories	n/a	\$ 6,472.8292	per dwelling
220	Multi-Family Low Rise 2-3 stories	n/a	\$ 6,472.8292	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	n/a	\$ 6,472.8292	per dwelling

## Law Enforcement

### ■ Introduction

The Dawson County Sheriff's Office provides law enforcement services throughout Dawson County, which includes operation of the County detention facilities. The detention facilities and all law enforcement activities are administered from the Law Enforcement Center in Dawsonville; a precinct station is located in a different location than the Law Enforcement Center but contains no detention facilities.

The Sheriff's Office provides 24-hour countywide land and marine patrol; serves arrest warrants and civil papers issued by the court; detains suspects and those sentenced to the county detention center; transports inmates locally and throughout the state; provides security to the courts and the governmental center, and during county government meetings; investigates crimes; and operates the 911 emergency communications center.

### ■ Service Area

The entire county is considered a single service area for the provision of the law enforcement services because all residents and employees in the county have equal access to the benefits of the program.

### ■ Level of Service and Forecasted Demand

'Level of Service' (LOS) is the relationship between service capacity and service demand for public facilities. The LOS calculations are the basis for determining the facilities needed to serve new growth so that the adopted LOS is maintained for both existing and future development.

The County has adopted a level of service for law enforcement services based on the current level of service in facility space and specialized vehicles (that have a service life of at least 10 years). The adopted LOS is calculated by dividing the current inventory of each facility type – that is, the number of inmate beds, total building area (square footage) supporting primary functions outside of the detention facility, and specialized vehicles – by the current day-night population. Day-night population is used as a measure in that law enforcement is a 24-hour service provided continuously to both residences and businesses in the service area.

The current inventories include the following, which are summarized on Table 19:

- 192 inmate beds, 96 of which (or, 50%) are estimated to be used on an average daily basis
- 22,680 square feet in non-detention space, including square footage for Sheriff's Office HQ/administration, training and storage space, the K-9 building and kennels, and the 911 Center
- 4 vehicles (van, 4-wheeler, and 2 UTVs) that have a service life of at least 10 years

The LOS standard calculated in Table 19 is then multiplied by the increase in day-night population to 2050 to produce the future demand for law enforcement facilities created by future growth, as shown in the far right column.

As can be seen on Table 19, only 97 beds are needed to meet future demand created by new growth and development. Since this is just one more than the total number of beds that are already available for use, no expansion of detention facilities is proposed at this time.

**Table 19: Level of Service and New Growth Demand**

Facility	Current Service Area Population	Level of Service	Service Area Growth	New Growth Demand
<b>Applicable Detention Center Beds *</b>	<b>2023 Day-Night Population</b>	<b>Beds per Day-Night Population</b>	<b>Day-Night Pop Increase (2023-50)</b>	<b>Additional Beds Needed</b>
96	43,709	0.002196	44,124	97
Less: Residual capacity in existing facility				(96)
Net new beds needed **				1
<b>Sheriff's Office Operations (sq.ft.)</b>	<b>2023 Day-Night Population</b>	<b>Square Feet per Day-Night Population</b>	<b>Day-Night Pop Increase (2023-50)</b>	<b>Additional Square Feet Needed***</b>
22,680	43,709	0.518886	44,124	22,895
<b>Specialized Vehicles ****</b>	<b>2023 Day-Night Population</b>	<b>Vehicles per Day-Night Population</b>	<b>Day-Night Pop Increase (2023-50)</b>	<b>Additional Vehicles Needed*****</b>
4	43,709	0.000092	44,124	4.04

\*\* Net number of additional beds needed does not justify expansion of detention facilities at this time.

\*\*\* Square feet to be allocated among EOC/911 Center, Training Facility, and future new construction or expansion projects to meet new growth demand.

\*\*\*\* Vehicles having a service life of at least 10 years.

\*\*\*\*\* Four vehicles will be purchased at 100% impact fee eligibility.

The future demand for services equates to additional building area (square footage) for Sheriff's Office law enforcement functions and additional vehicles. The square footage shown under the 'New Growth Demand' column on Table 19 represents the maximum that can be funded with impact fees and may be allocated across future projects that add building area, as needed and identified by the County, as follows: expansion of an existing building, construction of an additional building (such as a precinct building to expand service), and/or replacement of an existing building. Building replacement projects, however, are only impact fee eligible to the extent that the new building adds square footage to the existing building footprint. Building replacement projects that result in the same or smaller building size are not impact fee eligible.

Regarding future vehicle needs, 'New Growth Demand' technically requires 4.04 additional specialized vehicles based on the Level of Service, resulting in four new vehicles being 100% impact fee eligible and the potential for a fifth to be purchased. However, only a portion (4%) of a fifth vehicle is eligible for impact funding; the remaining 96% of the cost of that vehicle would have to be funded with sources other than impact fees. In this instance, the number of needed vehicles is rounded down to an even four.

As previously noted, the net demand for additional beds in the detention facility does not justify expansion of detention facilities at this time.

■ Projects to Meet Future Demand

Costs and Schedule for Implementation

The following table lists estimated project costs and timeframes for future improvements needed to attain the Level of Service standards for law enforcement functions. They include a 911/Emergency Operations Center and a Training Facility in the near-term, as well as future building projects to expand square footage that will be needed to meet the demand generated by population and business growth.

The timing and specific nature of these longer-range projects can be determined at a later date, but the combined square footage of all future buildings shown on Table 20 cannot exceed 22,899 square feet in order to utilize impact fees. Anything above this square footage is technically not required by new growth and development and therefore not eligible for impact fee funding. Other funds would have to be utilized.

In addition to building needs, Table 20 lists four vehicles to be added to the Sheriff’s Office fleet of “specialized vehicles”. Since patrol vehicles typically do not have a service life of 10 years, they are not eligible for impact fee funding and are not included in the list of future vehicle purchases.

The Net Present Value (NPV) of the impact fee eligible cost estimates are calculated by increasing the current estimated costs using Engineering News Record’s (ENR) 10-year average building cost index (BCI) rate for future building area and the 10-year average Consumer Price Index (CPI) rate for all vehicles. All costs are then reduced using the Net Discount Rate (see Technical Appendix for additional information).

Table 20: Costs to Meet Future Demand for Law Enforcement Facilities

Year	Capital Improvement	Number*	Estimated Project Cost (current \$)**	% Impact Fee Eligible	New Growth Share	Net Present Value***
2024	EOC/911 Center (square feet)	4,836	n/a****	n/a****	n/a****	n/a****
2024	SWAT Vehicle	1	\$ 285,721	100.00%	\$ 285,721	\$ 285,721
2025	Dive Team Boat	1	\$ 135,000	100.00%	\$ 135,000	\$ 135,788
2027	Training Facility (square feet)	5,000	\$ 1,500,000	100.00%	\$ 1,500,000	\$ 1,520,660
2028	Incident Command Vehicle	1	\$ 200,000	100.00%	\$ 200,000	\$ 204,711
2034	Future Building Expansion (square feet)	6,530	\$ 1,958,850	100.00%	\$ 1,958,850	\$ 2,050,239
2035	Specialized Vehicle	1	\$ 200,000	100.00%	\$ 200,000	\$ 213,224
2044	Future Building Expansion (square feet)	6,529	\$ 1,958,700	100.00%	\$ 1,958,700	\$ 2,145,727
<b>Totals</b>			\$ 6,238,271		\$ 6,238,271	\$ 6,556,071

\* Square footage (and implementation) may change to suit local needs; however, the TOTAL number of square feet allocated across future building projects (whether building expansion or new construction) cannot exceed 22,895 square feet.

\*\* Source: Cost estimates based on Sheriff’s Office information, including on current prevailing rates for various vehicle types.

\*\*\* NPV for building area and vehicles based on 10-year average annual Building Cost Index (BCI) and Consumer Price Index (CPI), respectively, projected to the anticipated implementation year and then reduced to current NPV dollars.

\*\*\*\* To be fully funded with SPLOST revenue.

**Maximum Impact Fee Calculation**

Tables 21 and 22 summarize the costs to provide the law enforcement system improvements proposed to serve future growth and development. The 'maximum impact fee per person' fee (Table 21) will be used to calculate impact fees for all nonresidential land uses. The 'maximum impact fee per housing unit' (Table 22) is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis.

The **maximum impact fee that *could* be charged** for law enforcement improvements includes a 3% administrative fee and a Capital Improvements Element (CIE) surcharge, as allowed by State law.

**Table 21: Net Cost to Serve New Growth – Per Person**

Factor	Total
Eligible Cost of Law Enforcement Projects	\$ 6,556,070.75
minus Balance in Impact Fee Fund	\$ (45,839.00)
= Total Net Eligible Costs	\$ 6,510,231.75
÷ Day-Night Pop Increase to 2050	44,124
<b>= Net Impact Fee per Person</b>	<b>\$ 147.54</b>
plus 3% Administration Fee	\$ 4.43
plus CIE Preparation Fee	2.21
<b>= Maximum Impact Fee per Person</b>	<b>\$ 154.18</b>

**Table 22: Net Cost to Serve New Growth – Per Housing Unit**

Factor	Total
Residential Population Increase to 2050	26,736
÷ Day-Night Population Increase to 2050	44,124
= Residential Increase as % of Total Increase	60.59%
Total Net Project Costs	\$ 6,510,231.75
× Residential % of Total Day-Night Increase =	\$ 3,944,736.56
÷ New Housing Units (2023-2050)	12,481
<b>= Net Impact Fee per Housing Unit</b>	<b>316.06</b>
plus 3% Administration Fee	\$ 9.48
plus CIE Preparation Fee	4.74
<b>= Maximum Impact Fee per Housing Unit</b>	<b>\$ 330.28</b>

**Maximum Impact Fee Schedule**

The maximum per person and per housing unit figures are transferred to Table 23 below. As previously noted, this fee would apply to residential and non-residential development. The total fees per unit below are transferred to Table 1 in the Introduction chapter of this report.

**Table 23: Maximum Impact Fee Schedule – Law Enforcement**

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
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Total Cost per Housing Unit: \$ 330.2819

*Residential*

210	Single-Family Detached Housing	n/a	\$ 330.2819	per dwelling
215	Duplex orTownhouse 1-3 stories	n/a	\$ 330.2819	per dwelling
220	Multi-Family Low Rise 2-3 stories	n/a	\$ 330.2819	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	n/a	\$ 330.2819	per dwelling

Total Cost per Day-Night Person (Employee): \$ 154.1834

*Industrial (100-199)*

110	General Light Industrial	0.001548	\$ 0.2387	per square foot
140	Manufacturing	0.001892	\$ 0.2918	per square foot
150	Warehousing	0.000339	\$ 0.0522	per square foot
151	Mini-Warehouse	0.000339	\$ 0.0522	per square foot
154	High-Cube Warehouse, short term	0.000654	\$ 0.1009	per square foot
155	High-Cube Warehouse, fulfillment center	0.000653	\$ 0.1007	per square foot
156	High-Cube Hub Warehouse	0.000684	\$ 0.1054	per square foot
180	Specialty Trade Contractor	0.002705	\$ 0.4171	per square foot

*Lodging (300-399)*

310	Hotel or Conference Motel	0.557183	\$ 85.9083	per room
311	All Suites Hotel	0.924370	\$ 142.5225	per room
312	Business Hotel	0.124420	\$ 19.1834	per room
320	Motel	0.133095	\$ 20.5210	per room

*Recreational (400-499)*

445	Movie Theater	0.001417	\$ 0.2184	per square foot
480	Amusement Park	2.223564	\$ 342.8366	per acre
491	Racquet/Tennis Club	0.000475	\$ 0.0732	per square foot
495	Recreational Community Center	0.001058	\$ 0.1631	per square foot

*Institutional (500-599)*

520	Private Elementary School	0.000686	\$ 0.1057	per employee
522	Private Middle School (Junior High)	0.000802	\$ 0.1237	per employee
530	Private High School	0.000632	\$ 0.0975	per employee
560	Church/Place of Worship	0.000380	\$ 0.0585	per square foot
565	Day Care Center	0.002227	\$ 0.3434	per square foot
566	Cemetery	0.104242	\$ 16.0725	per acre

*Medical (600-699)*

610	Hospital	0.002857	\$ 0.4405	per square foot
620	Nursing Home	0.002039	\$ 0.3144	per square foot
630	Clinic	0.002705	\$ 0.4171	per square foot
640	Veterinary Clinic	0.001694	\$ 0.2612	per square foot

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
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*Office (700-799)*

710	General Office Building	0.003255	\$ 0.5019	per square foot
712	Small Office Building	0.001831	\$ 0.2823	per square foot
714	Corporate Headquarters Building	0.003442	\$ 0.5306	per square foot
715	Single-Tenant Office Building	0.003395	\$ 0.5234	per square foot
720	Medical-Dental Office Building	0.004133	\$ 0.6373	per square foot
750	Office Park	0.003127	\$ 0.4821	per square foot
760	Research and Development Center	0.003288	\$ 0.5069	per square foot
770	Business Park	0.003079	\$ 0.4748	per square foot

*Retail (800-899)*

812	Building Materials and Lumber Store	0.000662	\$ 0.1020	per square foot
813	Free-Standing Discount Superstore	0.002307	\$ 0.3557	per square foot
814	Variety Store	0.000666	\$ 0.1027	per square foot
815	Free-Standing Discount Store	0.002187	\$ 0.3372	per square foot
816	Hardware/Paint Store	0.000291	\$ 0.0449	per square foot
817	Nursery (Garden Center)	0.003120	\$ 0.4810	per square foot
818	Nursery (Wholesale)	0.001667	\$ 0.2570	per square foot
820	Shopping Center	0.002125	\$ 0.3276	per square foot
821	Shopping Plaza - No Supermarket (<150K	0.002125	\$ 0.3276	per square foot
822	Strip Retail Plaza	0.002125	\$ 0.3276	per square foot
840	Automobile Sales (New)	0.002486	\$ 0.3833	per square foot
841	Automobile Sales Used)	0.002168	\$ 0.3343	per square foot
842	Recreation Vehicle Sales	0.000635	\$ 0.0978	per square foot
843	Auto Parts Store	0.000960	\$ 0.1480	per square foot
848	Tire Store	0.001280	\$ 0.1974	per square foot
850	Supermarket	0.002140	\$ 0.3299	per square foot
857	Discount Club	0.001318	\$ 0.2032	per square foot
861	Sporting Goods Superstore	0.005356	\$ 0.8258	per square foot
862	Home Improvement Superstore	0.005356	\$ 0.8258	per square foot
881	Pharmacy/Drugstore w/drive-through	0.001670	\$ 0.2575	per square foot
890	Furniture Store	0.000576	\$ 0.0889	per square foot

*Services (900-999)*

912	Drive-in Bank	0.003066	\$ 0.4727	per square foot
930	Fast Casual Restaurant	0.005042	\$ 0.7774	per square foot
931	Fine Dining Restaurant	0.005042	\$ 0.7774	per square foot
932	High-Turnover (Sit-Down) Restaurant	0.005042	\$ 0.7774	per square foot
934	Fast-Food Restaurant	0.010500	\$ 1.6190	per square foot
941	Quick Lubrication Vehicle Shop	0.004348	\$ 0.6704	per square foot
943	Automobile Parts & Service	0.001451	\$ 0.2237	per square foot
945	Convenience Store w/gas	0.002588	\$ 0.3990	per square foot

Note: Total Fee per Unit includes administration and CIE preparation fees.

# Fire Protection

## ■ Introduction

Fire protection services are provided to the entire county through the Dawson County Fire & Emergency Services Department. The capital value of the department’s services is based upon fire stations, administrative office space, and apparatus having a life of 10 years or more.

The Fire & Emergency Services department provides service throughout Dawson County, including the City of Dawsonville and 50 miles of shoreline on Lake Sydney Lanier. Services are provided through three operating divisions: Fire/Rescue, the Emergency Management Agency, and Emergency Medical Services. For the purpose of impact fees, the term ‘fire protection’ as used in this chapter applies only to the Fire/Rescue Division.

## ■ Service Area

Fire protection operates as a coordinated system, with each station backing up the other stations in the system. The backing up of another station is not a rare event; it is the essence of good fire protection planning. All stations do not serve the same types of land uses, nor do they all have the same apparatus. It is the strategic placement of personnel and equipment that is the backbone of good fire protection. Any new station would relieve some of the demand on the other stations. Since the stations would continue to operate as ‘backups’ to the other stations, everyone in the county would benefit by the construction of the new station since it would reduce the ‘backup’ times the station nearest to them would be less available. For these reasons the entire county is considered a single service area for the provision of fire protection services because all residents and employees within the county have equal access to the benefits of the program.

## ■ Level of Service and Forecasted Demand

The County has adopted a Level of Service (LOS) for all fire protection facilities based on the total number of facilities (existing *and* planned; see Table 24 on the next page for a complete listing) that are anticipated to serve the county through 2050. This forward-looking approach in Table 23 below is calculated by dividing the combined ‘existing and planned’ building area (square footage) and vehicles (expected to be in service for at least 10 years) by the 2050 day-night population for the countywide service area. Day-night population is used as a measure in that public safety is a 24-hour service provided continuously to both residences and businesses in the service areas.

**Table 23: Level of Service and New Growth Demand**

Facility	Current Service Area Population	Level of Service	Service Area Growth	New Growth Demand
Existing & Planned Building Area (square feet) *	2050 Day-Night Population	Square Feet per Day-Night Population	Day-Night Population Increase to 2050	Square Feet of Additional Floor Area Needed
94,901	87,833	1.0805	44,124	47,675
Existing & Planned Fire Apparatus *	2050 Day-Night Population	Fire Apparatus per Day-Night Population	Day-Night Population Increase to 2050	Additional Fire Apparatus Needed **
34	87,833	0.000387	44,124	17.08

\* See Table 24 for details.

\*\* 17 fire apparatus at 100% impact fee eligibility will be added.

**Table 24: Existing and Planned Fire Protection Facilities**

Description	Square Feet	Vehicles*					
		Engine	Quint	Tender	Brush	Squad	Marine
<b>Existing</b>							
Station 1 - Memory Ln.	10,708	1		1	1		
Station 2 - Liberty Dr.	9,801	1	1			1	
Station 3 - Harmony Church Rd.	3,884	2					1
Station 4 - Emma Terrace	2,160	1		1			
Station 5 - Kelly Bridge Rd.	1,800			1			
Station 6 - Hubbard Rd.	6,500	1					
Station 7 - Dawson Forest Rd.	6,944	1		1			
Station 8 - Sweetwater Juno Rd.	6,048	1		1		1	
<b>Total Existing System</b>	<b>47,845</b>	<b>8</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>2</b>	<b>1</b>
<b>Planned</b>							
Station 1 Vehicle Addition			1				
Station 3 Replacement	6,100	1					
Station 4 Replacement	6,100	1					
Station 5 Replacement	6,100	1					
Station 9 - SR 138 Area	6,100	1		1			
Station 10 - Etowah River Rd. Area	6,100	1			1		
Station 11 - War Hill Park Area	6,100	1		1			
Station 12 - SR 136 @ Shoal Creek Area	6,100	1		1			
Station 13 - Dawson Forest @ Red Rider Area	6,100	1				1	
Station 14 - SR 136 @ Cothran Rd. Area	6,100	1		1			
<b>Total Planned Improvements</b>	<b>54,900</b>	<b>9</b>	<b>1</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>Total Existing and Planned System**</b>	<b>94,901</b>	<b>17</b>	<b>2</b>	<b>9</b>	<b>2</b>	<b>3</b>	<b>1</b>

\* Heavy vehicles expected to be kept for 10 years or more in service. Includes frontline and reserve vehicles.

\*\* Excludes existing square footage in Stations 3, 4 and 5, which are being replaced with larger facilities.

The LOS standard in Table 23 on the previous page is multiplied by the increase in day-night population to 2050 to produce the demand for all fire protection facilities created by future growth, as shown under 'New Growth Demand' on Table 23. In other words, how much of each component type is technically "demanded" by the new growth that is projected to be added between 2023 and 2050 and will thus need to be added to the current system in order to increase needed capacity.

The future demand for services equates to additional building area (square feet) for additional fire stations as well as additional vehicles, consistent with the planned improvements on Table 24 above. Table 25 on the next page presents all planned projects by estimated implementation year, and Table 26 provides cost estimates for each. As noted at the bottom of Table 25, some of the building area and vehicles required to meet the future demand for services are being deferred to 2053, based on the anticipated pace of development.

■ Projects to Meet Future Demand

Costs and Schedule for Implementation

Table 25 shows the proposed schedule of capital improvements, based on scheduled in pace with annual demands generated by population and business growth. The annual budget process, however, will determine and potentially revise the schedule since it is difficult to program all future improvements with any certainty over the coming decades. Project costs are shown on Table 26.

**Table 25: Schedule for Fire Protection Improvements**

Year*	Day-Night Population		Description**	Additional Building Area (sf)**	Additional Fire Apparatus				
	Total	Cumulative Additions			Engine	Quint	Tender	Brush	Squad
2023	43,709	0							
2024	44,886	1,177							
2025	46,080	2,371	Station 1 Vehicle			1			
2026	47,326	3,617	Station 3 Replacement	2,216	1				
2027	48,590	4,881	Station 4 Replacement	3,940	1				
2028	49,872	6,163	Station 5 Replacement	4,300	1				
2029	51,173	7,464	Station 9 (new)	6,100	1		1		
2030	52,492	8,783							
2031	53,900	10,191							
2032	55,327	11,618							
2033	56,776	13,067	Station 10 (new)	6,100	1			1	
2034	58,244	14,535							
2035	59,734	16,025							
2036	61,328	17,619							
2037	62,945	19,236							
2038	64,585	20,876	Station 11 (new)	6,100	1		1		
2039	66,247	22,538							
2040	67,934	24,225							
2041	69,742	26,033							
2042	71,577	27,868							
2043	73,436	29,727	Station 12 (new)	6,100	1		1		
2044	75,323	31,614							
2045	77,235	33,526							
2046	79,297	35,588							
2047	81,388	37,679							
2048	83,506	39,797	Station 13 (new)	6,100	1				1
2049	85,655	41,946							
2050	87,833	44,124							
<b>Totals</b>				<b>40,956</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>1</b>

\*Actual implementation dates will be determined through the annual budget adoption process.

\*\*Station 14 and the purchase of 1 engine and 1 tender are deferred to 2053 and are therefore not shown above. In addition, the existing square footage being replaced in Stations 3, 4 and 5 is deducted from the overall square footage of the new buildings; only square footage that increases a building's size (and thus capacity), is impact fee eligible.

\*\*\*The size of each facility may vary.

The following table lists estimated project costs and timeframes for providing future fire protection components needed to attain the applicable Level of Service standards. The Net Present Value (NPV) of the impact fee eligible cost estimates are calculated by increasing the current estimated costs using Engineering News Record’s (ENR) 10-year average building cost index (BCI) rate for future building area and the 10-year average Consumer Price Index (CPI) rate for all vehicles. Project costs are then reduced using the Net Discount Rate (see Technical Appendix for additional information).

**Table 26: Costs to Meet Future Demand for Fire Protection Facilities**

Year	Description	Total Needed	Estimated Project Cost (current \$)*	% Impact Fee Eligible	New Growth Share	Net Present Value (NPV)***
2025	Station 1 Quint	1	\$ 1,300,000	100%	\$ 1,300,000	\$ 1,307,617.00
	Station 3 Replacement	n/a**	n/a**	n/a**	n/a**	n/a**
	Station 3 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 754,378.00
2026	Station 4 Replacement (sq.ft.)	6,100	\$ 3,500,000	64.59%	\$ 2,260,656	\$ 2,287,224.00
	Station 4 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 758,781.00
2028	Station 5 Replacement (sq.ft.)	6,100	\$ 3,500,000	70.49%	\$ 2,467,213	\$ 2,525,547.00
	Station 5 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 767,666.00
	Station 9 (sq.ft.)	6,100	\$ 3,500,000	100%	\$ 3,500,000	\$ 3,582,753.00
	Station 9 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 767,666.00
	Station 9 Tender	1	\$ 300,000	100%	\$ 300,000	\$ 307,066.00
2033	Station 10 (sq.ft.)	6,100	\$ 3,500,000	100%	\$ 3,500,000	\$ 3,688,952.00
	Station 10 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 790,335.00
	Station 10 Brush	1	\$ 150,000	100%	\$ 150,000	\$ 158,067.00
2038	Station 11 (sq.ft.)	6,100	\$ 3,500,000	100%	\$ 3,500,000	\$ 3,798,298.00
	Station 11 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 813,673.00
	Station 11 Tender	1	\$ 300,000	100%	\$ 300,000	\$ 325,469.00
2043	Station 12 (sq.ft.)	6,100	\$ 3,500,000	100%	\$ 3,500,000	\$ 3,910,886.00
	Station 12 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 837,701.00
	Station 12 Tender	1	\$ 300,000	100%	\$ 300,000	\$ 335,080.00
2048	Station 13 (sq.ft.)	6,100	\$ 3,500,000	100%	\$ 3,500,000	\$ 4,026,811.00
	Station 13 Engine	1	\$ 750,000	100%	\$ 750,000	\$ 862,438.00
	Station 13 Squad	1	\$ 250,000	100%	\$ 250,000	\$ 287,479.00
<b>Totals</b>			<b>\$33,100,000.00</b>		<b>\$ 30,827,868.85</b>	<b>\$ 32,893,887.00</b>

\*Source: Building cost estimates based on Fire & Emergency Services Department information. Vehicle cost estimates based on current prevailing rates for various apparatus types.

\*\*To be fully funded with SPLOST revenue.

\*\*\* NPV for building area and vehicles based on 10-year average annual Building Cost Index (BCI) and Consumer Price Index (CPI), respectively, projected to the anticipated implementation year and then reduced to current NPV dollars.

A final table depicting future projects and costs is associated with the Etowah Water and Sewer Authority’s program of extending new major water mains and replacing some undersized distribution water mains in various parts of the county. The County has undertaken a cooperative program of funding fire hydrants to be placed as these new mains are installed, thus bringing a considerable increase in firefighting capability to these currently unserved areas. Since these extensions will increase capacity for all properties in the water service areas, thus promoting new growth and development, the expenditures are 100% impact fee eligible.

**Table 27: Fire Hydrant Extension Program**

Year	Avg. Number of Hydrants per Year	Cost (current \$)	Cost (NPV)
2024	11	\$ 93,500.00	\$ 93,500.00
2025	11	\$ 93,500.00	\$ 93,219.69
2026	11	\$ 93,500.00	\$ 92,940.21
2027	11	\$ 93,500.00	\$ 92,661.58
2028	11	\$ 93,500.00	\$ 92,383.77
2029	11	\$ 93,500.00	\$ 92,106.81
2030	11	\$ 93,500.00	\$ 91,830.67
2031	11	\$ 93,500.00	\$ 91,555.36
2032	11	\$ 93,500.00	\$ 91,280.88
2033	11	\$ 93,500.00	\$ 91,007.21
2034	11	\$ 93,500.00	\$ 90,734.37
2035	11	\$ 93,500.00	\$ 90,462.35
2036	11	\$ 93,500.00	\$ 90,191.14
2037	11	\$ 93,500.00	\$ 89,920.75
2038	11	\$ 93,500.00	\$ 89,651.16
2039	11	\$ 93,500.00	\$ 89,382.39
2040	11	\$ 93,500.00	\$ 89,114.42
2041	11	\$ 93,500.00	\$ 88,847.25
2042	11	\$ 93,500.00	\$ 88,580.89
2043	11	\$ 93,500.00	\$ 88,315.32
2044	11	\$ 93,500.00	\$ 88,050.55
2045	11	\$ 93,500.00	\$ 87,786.57
2046	11	\$ 93,500.00	\$ 87,523.39
2047	11	\$ 93,500.00	\$ 87,260.99
2048	11	\$ 93,500.00	\$ 86,999.38
2049	11	\$ 93,500.00	\$ 86,738.56
2050	11	\$ 93,500.00	\$ 86,478.51
<b>Total</b>	<b>297</b>	<b>\$ 2,524,500.00</b>	<b>\$ 2,428,524.18</b>

Average Hydrant Cost = \$ 8,500.00

The Net Present Value cost is the current cost estimate inflated to each future year using the ENR’s Construction Cost Index (CCI), reduced by the discount rate to 2024 equivalent dollars.

The total NPV cost is added to the total NPV cost in Table 26; these combined costs are shown in Table 27 as the ‘Eligible Cost of Fire Protection Projects’ and are used to calculate the maximum impact fee that could be charged to fund future fire protection projects.

**Maximum Impact Fee Calculation**

Tables 28 and 29 summarize the costs to provide the fire protection system improvements proposed to serve future growth and development. The ‘maximum impact fee per person’ fee (Table 28) will be used to calculate impact fees for all nonresidential land uses. The ‘maximum impact fee per housing unit’ (Table 29) is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth, because they are assessed impact fees per housing unit rather than on a person by person basis.

The **maximum impact fee that could be charged** for fire protection improvements includes a 3% administrative fee and a Capital Improvements Element (CIE) surcharge, as allowed by State law.

**Table 28: Net Cost to Serve New Growth – Per Person**

Factor	Total
Eligible Cost of Fire Protection Projects	\$35,322,411.18
minus Balance in Fire Impact Fee Fund	\$ (126,184.00)
= Total Net Eligible Costs	\$ 35,196,227.18
÷ Day-Night Pop Increase to 2050	44,124
<b>= Net Cost per Person</b>	<b>\$ 797.67</b>
plus 3% Administration Fee	\$ 23.93
plus CIE Preparation Fee	11.96
<b>= Maximum Impact Fee per Person</b>	<b>\$ 833.56</b>

**Table 29: Net Cost to Serve New Growth – Per Housing Unit**

Factor	Total
Residential Population Increase to 2050	26,736
÷ Day-Night Population Increase to 2050	44,124
= Residential Increase as % of Total Increase	60.59%
Total Net Project Costs	\$ 35,196,227.18
× Residential % of Total Day-Night Increase =	\$ 21,326,405.81
÷ New Housing Units (2023-2050)	12,481
<b>= Net Impact Fee per Housing Unit</b>	<b>1,708.71</b>
plus 3% Administration Fee	\$ 51.26
plus CIE Preparation Fee	25.63
<b>= Maximum Impact Fee per Housing Unit</b>	<b>\$ 1,785.60</b>

**Maximum Impact Fee Schedule**

The maximum per person and per housing unit figures from Tables 28 and 29 are transferred to Table 30 below. As previously noted, this fee would apply to residential and non-residential development.

The total fees per unit below are transferred to Table 1 in the Introduction chapter of this report.

**Table 30: Maximum Impact Fee Schedule – Fire Protection**

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
Total Cost per Housing Unit:			\$ 1,785.6016	
			\$ -	
<i>Residential</i>				
210	Single-Family Detached Housing	n/a	\$ 1,785.6016	per dwelling
215	Duplex orTownhouse 1-3 stories	n/a	\$ 1,785.6016	per dwelling
220	Multi-Family Low Rise 2-3 stories	n/a	\$ 1,785.6016	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	n/a	\$ 1,785.6016	per dwelling
Total Cost per Day-Night Person (Employee):			\$ 833.5611	
			\$ -	
<i>Industrial (100-199)</i>				
110	General Light Industrial	0.001548	\$ 1.2907	per square foot
140	Manufacturing	0.001892	\$ 1.5775	per square foot
150	Warehousing	0.000339	\$ 0.2823	per square foot
151	Mini-Warehouse	0.000339	\$ 0.2823	
154	High-Cube Warehouse, short term	0.000654	\$ 0.5453	per square foot
155	High-Cube Warehouse, fulfillment center	0.000653	\$ 0.5447	per square foot
156	High-Cube Hub Warehouse	0.000684	\$ 0.5701	per square foot
180	Specialty Trade Contractor	0.002705	\$ 2.2550	per square foot
<i>Lodging (300-399)</i>				
310	Hotel or Conference Motel	0.557183	\$ 464.4458	per room
311	All Suites Hotel	0.924370	\$ 770.5187	per room
312	Business Hotel	0.124420	\$ 103.7114	per room
320	Motel	0.133095	\$ 110.9428	per room
<i>Recreational (400-499)</i>				
445	Movie Theater	0.001417	\$ 1.1809	per square foot
480	Amusement Park	2.223564	\$ 1,853.4762	per acre
491	Racquet/Tennis Club	0.000475	\$ 0.3959	per square foot
495	Recreational Community Center	0.001058	\$ 0.8816	per square foot
<i>Institutional (500-599)</i>				
520	Private Elementary School	0.000686	\$ 0.5716	per employee
522	Private Middle School (Junior High)	0.000802	\$ 0.6685	per employee
530	Private High School	0.000632	\$ 0.5271	per employee
560	Church/Place of Worship	0.000380	\$ 0.3165	per square foot
565	Day Care Center	0.002227	\$ 1.8566	per square foot
566	Cemetery	0.104242	\$ 86.8924	per acre
<i>Medical (600-699)</i>				
610	Hospital	0.002857	\$ 2.3813	per square foot
620	Nursing Home	0.002039	\$ 1.6999	per square foot
630	Clinic	0.002705	\$ 2.2548	per square foot
640	Veterinary Clinic	0.001694	\$ 1.4123	per square foot

ITE Code	Land Use	Employees	Total Fee per Unit	Unit of Measure
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*Office (700-799)*

710	General Office Building	0.003255	\$ 2.7135	per square foot
712	Small Office Building	0.001831	\$ 1.5261	per square foot
714	Corporate Headquarters Building	0.003442	\$ 2.8687	per square foot
715	Single-Tenant Office Building	0.003395	\$ 2.8298	per square foot
720	Medical-Dental Office Building	0.004133	\$ 3.4453	per square foot
750	Office Park	0.003127	\$ 2.6066	per square foot
760	Research and Development Center	0.003288	\$ 2.7406	per square foot
770	Business Park	0.003079	\$ 2.5667	per square foot

*Retail (800-899)*

812	Building Materials and Lumber Store	0.000662	\$ 0.5515	per square foot
813	Free-Standing Discount Superstore	0.002307	\$ 1.9229	per square foot
814	Variety Store	0.000666	\$ 0.5551	per square foot
815	Free-Standing Discount Store	0.002187	\$ 1.8231	per square foot
816	Hardware/Paint Store	0.000291	\$ 0.2429	per square foot
817	Nursery (Garden Center)	0.003120	\$ 2.6003	per square foot
818	Nursery (Wholesale)	0.001667	\$ 1.3893	per square foot
820	Shopping Center	0.002125	\$ 1.7710	per square foot
821	Shopping Plaza - No Supermarket (<150K)	0.002125	\$ 1.7710	per square foot
822	Strip Retail Plaza	0.002125	\$ 1.7710	per square foot
840	Automobile Sales (New)	0.002486	\$ 2.0720	per square foot
841	Automobile Sales Used)	0.002168	\$ 1.8074	per square foot
842	Recreation Vehicle Sales	0.000635	\$ 0.5289	per square foot
843	Auto Parts Store	0.000960	\$ 0.8002	per square foot
848	Tire Store	0.001280	\$ 1.0670	per square foot
850	Supermarket	0.002140	\$ 1.7834	per square foot
857	Discount Club	0.001318	\$ 1.0988	per square foot
861	Sporting Goods Superstore	0.005356	\$ 4.4644	per square foot
862	Home Improvement Superstore	0.005356	\$ 4.4644	per square foot
881	Pharmacy/Drugstore w/drive-through	0.001670	\$ 1.3920	per square foot
890	Furniture Store	0.000576	\$ 0.4805	per square foot

*Services (900-999)*

912	Drive-in Bank	0.003066	\$ 2.5557	per square foot
930	Fast Casual Restaurant	0.005042	\$ 4.2031	per square foot
931	Fine Dining Restaurant	0.005042	\$ 4.2031	per square foot
932	High-Turnover (Sit-Down) Restauant	0.005042	\$ 4.2031	per square foot
934	Fast-Food Restaurant	0.010500	\$ 8.7528	per square foot
941	Quick Lubtication Vehicle Shop	0.004348	\$ 3.6244	per square foot
943	Automobile Parts & Service	0.001451	\$ 1.2095	per square foot
945	Convenience Store w/gas	0.002588	\$ 2.1571	per square foot

Note: Total Fee per Unit includes administration and CIE preparation fees.

## Road Improvements

### ■ Introduction

The information in this chapter is derived from local road project information reflecting proposed road improvement projects that create new capacity. All road improvement projects benefit existing and future traffic proportionally to the extent that relief from over-capacity conditions eases traffic problems for everyone. For example, since new growth by 2050 will represent a certain portion of all 2050 traffic, new growth would be responsible for that portions' cost of the road improvements.

### ■ Service Area

The service area for these road projects is defined as the entire county, in that these road projects are recognized as providing primary access to all properties within the county as part of the county-wide network of principal streets and thoroughfares. All new development within the county will be served by this countywide network, such that improvements to any part of this network to relieve congestion or to otherwise improve capacity will positively affect capacity and reduce congestion throughout the county.

### ■ Level of Service

Level of Service (LOS) for roadways and intersections is measured on a 'letter grade' system that rates a road within a range of service from A to F. Level of Service A is the best rating, representing unencumbered travel; Level of Service F is the worst rating, representing heavy congestion and long delays. This system is a means of relating the connection between speed and travel time, freedom to maneuver, traffic interruption, comfort, convenience and safety to the capacity that exists in a roadway. This refers to both a quantitative measure expressed as a service flow rate and an assigned qualitative measure describing parameters. *The Highway Capacity Manual, Special Report 209*, Transportation Research Board (1985), defines Level of Service A through F as having the following characteristics:

1. LOS A: free flow, excellent level of freedom and comfort;
2. LOS B: stable flow, decline in freedom to maneuver, desired speed is relatively unaffected;
3. LOS C: stable flow, but marks the beginning of users becoming affected by others, selection of speed and maneuvering becomes difficult, comfort declines at this level;
4. LOS D: high density, but stable flow, speed and freedom to maneuver are severely restricted, poor level of comfort, small increases in traffic flow will cause operational problems;
5. LOS E: at or near capacity level, speeds reduced to low but uniform level, maneuvering is extremely difficult, comfort level poor, frustration high, level unstable; and
6. LOS F: forced/breakdown of flow. The amount of traffic approaching a point exceeds the amount that can transverse the point. Queues form, stop & go. Arrival flow exceeds discharge flow.

The traffic volume that produces different Level of Service grades differs according to road type, size, signalization, topography, condition and access. The County has set its Level of Service for road improvements at LOS D. Using this standard maximizes roadway capacity before traffic conditions actually break down (LOS "F").

■ Future Road Improvement Projects – Costs and Schedule

Projects providing road capacity that will serve new growth have been identified by the County and are shown on Table 31. This is not a list of all local road projects. These projects were selected for inclusion in the County’s impact fee program because the specific improvements proposed will increase traffic capacity to some extent, whether through road widening, improved intersection operations, or paving of dirt roads.

As more fully explained in the Trip Generation Appendix, only 53.07% of improvement costs are eligible for cost recovery from new growth, based on the increase in traffic that new growth will add to the traffic level existing today. At that rate, over \$16 million in road improvement projects would be eligible for funding. This figure represents the Net Present Value costs, which convert current project costs using ENR’s construction cost index (CCI) applied to the relevant year of construction.

**Table 31: Road Projects and Eligible Costs**

Capacity-Adding Projects	Total Cost (current \$)*	Estimated Year of Completion	Net Present Value **	% Impact Fee Eligible	New Growth Cost (NPV)
Couch Road Widening	\$ 1,776,000.00	2026	\$ 1,765,367.02	53.07%	\$ 936,866.84
Elliot Road Widening	\$ 1,000,000.00	2025	\$ 997,001.99	53.07%	\$ 529,101.37
Etowah River Road Connector	\$ 531,000.00	2025	\$ 529,408.05	53.07%	\$ 280,952.82
Goshen Road Bridge Widening	\$ 1,500,000.00	2025	\$ 1,495,502.98	53.07%	\$ 793,652.05
Grizzle Road Widening	\$ 2,600,000.00	2026	\$ 2,584,433.69	53.07%	\$ 1,371,539.29
Hubbard Road Widening	\$ 1,936,000.00	2026	\$ 1,924,409.09	53.07%	\$ 1,021,269.26
Lumpkin Campground Rd. @ Dawson Forest Rd. Widening	\$ 3,100,000.00	2025	\$ 3,090,706.16	53.07%	\$ 1,640,214.23
Lumpkin Campground Rd. @ SR 53 Intersection Improvements	\$ 5,400,000.00	2025	\$ 5,383,810.72	53.07%	\$ 2,857,147.37
Lumpkin Campground Rd. @ Whitmire/Red Rider Roundabout	\$ 2,400,000.00	2025	\$ 2,392,804.77	53.07%	\$ 1,269,843.28
Lumpkin Campground Rd. @ Dawson Forest Rd. Widening & Turn Lanes	\$ 5,000,000.00	2027	\$ 4,955,164.47	53.07%	\$ 2,629,668.07
New Bethel Church Road Widening	\$ 369,000.00	2027	\$ 365,691.14	53.07%	\$ 194,069.50
Red Rider Road Widening	\$ 1,500,000.00	2028	\$ 1,482,092.65	53.07%	\$ 786,535.29
SR9 @ Thompson Road Roundabout	\$ 1,500,000.00	2025	\$ 1,495,502.98	53.07%	\$ 793,652.05
White Drive West Center Turn Lane	\$ 900,000.00	2025	\$ 897,301.79	53.07%	\$ 476,191.23
Steve Tate Highway Bridge	\$ 1,153,000.00	2027	\$ 1,142,660.93	53.07%	\$ 606,401.46
<b>TOTAL</b>	<b>\$ 30,665,000.00</b>		<b>\$ 30,501,858.41</b>		<b>\$ 16,187,104.10</b>

\* Total estimated cost of project in current dollars less non-County assistance.

\*\* Net Present Value = current cost inflated to target year using the ENR Construction Cost Index, (CCI) reduced to the current year using the Discount Rate.

**Maximum Impact Fee Calculation**

Table 33 summarizes the costs to provide future road improvements. The total net present value of the impact fee project costs in Table 31 is brought forward and then reduced by both the Road Improvements impact fee fund balance as well as a credit for future SPLOST contributions.

This credit is required due to the road projects being only partially impact fee eligible. For this calculation in Table 32, it is assumed that the County will meet its financial obligations towards the non-eligible project costs through SPLOST revenue. To the extent that new growth will be contributing taxes for non-eligible portions of impact fee projects (for which they are not financially responsible), a credit must be applied reflecting the allocation of those tax collections in order to avoid new growth paying more than their 'fair share' of total costs; failure to do so would be a form of double taxation.

**Table 32: New Growth Contribution from Future SPLOST**

Year	Ineligible Funding Required (NPV)*	SPLOST Tax Credit**	Contribution from New Growth
2025	\$ 7,641,285.03	5.15%	\$ 393,174.63
2026	\$ 2,944,534.41	7.64%	\$ 225,031.42
2027	\$ 3,033,377.51	10.04%	\$ 304,688.70
2028	\$ 695,557.36	12.36%	\$ 85,959.33
<b>Total New Growth Contribution</b>			<b>\$ 1,008,854.09</b>

\* Net Present Value of amount to be paid from SPLOST taxes to cover road improvement costs not eligible for impact fee funding.

\*\* The percentage of future SPLOST collections generated by new growth that would be applied to the ineligible cost of future road projects.

**Table 33: Net Cost to Serve New Growth – Per Trip End**

Factor	Total
Eligible Cost of Road Projects	\$ 16,187,104.10
minus Credit for Future SPLOST Contributions	\$ (1,008,854.09)
minus Impact Fee Fund Balance	\$ (380,818.00)
= Net Eligible Road Project Cost	\$ 14,797,432.01
÷ New Growth Trip Ends*	319,239
<b>= Net Impact Cost per Trip End</b>	<b>\$ 46.35</b>

\* Trip ends attributed to new growth. See the *Trip Generation* section in the Appendix.

The 'net cost per trip end' fee will be used to calculate impact fees for all land uses. This cost is the **maximum** that can be charged by the County to provide road improvements based on the calculations in this chapter.

**Maximum Impact Fee Schedule**

The 'cost per trip end' is transferred to Table 34 below. This is the **maximum** fee that would apply to both residential and non-residential development.

The total fees per unit below are transferred to Table 1 in the Introduction chapter of this report.

**Table 34: Maximum Impact Fee Schedule – Road Improvements**

ITE Code	Land Use	Trip Ends	Total Fee per Unit	Unit of Measure
----------	----------	-----------	--------------------	-----------------

Total Cost per Trip End: \$ 46.3522

*Residential*

210	Single-Family Detached Housing	9.43	\$ 437.1013	per dwelling
215	Duplex or Townhouse 1-3 stories	7.20	\$ 333.7359	per dwelling
220	Multi-Family Low Rise 2-3 stories	6.74	\$ 312.4139	per dwelling
221	Mid-Rise Multi-Family 4-10 stories	4.54	\$ 210.4390	per dwelling

*Industrial (100-199)*

110	General Light Industrial	0.004800	\$ 0.2225	per square foot
140	Manufacturing	0.004750	\$ 0.2202	per square foot
150	Warehousing	0.001710	\$ 0.0793	per square foot
151	Mini-Warehouse	0.001450	\$ 0.0672	per square foot
154	High-Cube Warehouse, short term	0.001400	\$ 0.0649	per square foot
155	High-Cube Warehouse, fulfillment center	0.001810	\$ 0.0839	per square foot
156	High-Cube Hub Warehouse	0.004630	\$ 0.2146	per square foot
180	Specialty Trade Contractor	0.009820	\$ 0.4552	per square foot

*Lodging (300-399)*

310	Hotel or Conference Motel	0.007990	\$ 0.3704	per room
311	All Suites Hotel	0.004400	\$ 0.2039	per room
312	Business Hotel	0.004020	\$ 0.1863	per room
320	Motel	0.003350	\$ 0.1553	per room

*Recreational (400-499)*

445	Movie Theater	0.078090	\$ 3.6196	per square foot
480	Amusement Park	53.410000	\$ 2,475.6713	per acre
491	Racquet/Tennis Club	0.021710	\$ 1.0063	per square foot
495	Recreational Community Center	0.028820	\$ 1.3359	per square foot

*Institutional (500-599)*

520	Private Elementary School	0.015430	\$ 0.7152	per employee
522	Private Middle School (Junior High)	0.020170	\$ 0.9349	per employee
530	Private High School	0.014070	\$ 0.6522	per employee
560	Church/Place of Worship	0.007600	\$ 0.3523	per square foot
565	Day Care Center	0.047620	\$ 2.2073	per square foot
566	Cemetery	0.006020	\$ 0.2790	per acre

*Medical (600-699)*

610	Hospital	0.010770	\$ 0.4992	per square foot
620	Nursing Home	0.006750	\$ 0.3129	per square foot
630	Clinic	0.037600	\$ 1.7428	per square foot
640	Veterinary Clinic	0.021500	\$ 0.9966	per square foot

ITE Code	Land Use	Trip Ends	Total Fee per Unit	Unit of Measure
<i>Office (700-799)</i>				
710	General Office Building	0.010840	\$ 0.5025	per square foot
712	Small Office Building	0.014390	\$ 0.6670	per square foot
714	Corporate Headquarters Building	0.007950	\$ 0.3685	per square foot
715	Single-Tenant Office Building	0.013070	\$ 0.6058	per square foot
720	Medical-Dental Office Building	0.036000	\$ 1.6687	per square foot
750	Office Park	0.011070	\$ 0.5131	per square foot
760	Research and Development Center	0.011080	\$ 0.5136	per square foot
770	Business Park	0.012440	\$ 0.5766	per square foot

<i>Retail (800-899)</i>				
812	Building Materials and Lumber Store	0.017050	\$ 0.7903	per square foot
813	Free-Standing Discount Superstore	0.050520	\$ 2.3417	per square foot
814	Variety Store	0.063660	\$ 2.9508	per square foot
815	Free-Standing Discount Store	0.053870	\$ 2.4970	per square foot
816	Hardware/Paint Store	0.008070	\$ 0.3741	per square foot
817	Nursery (Garden Center)	0.068100	\$ 3.1566	per square foot
818	Nursery (Wholesale)	0.039000	\$ 1.8077	per square foot
820	Shopping Center	0.037010	\$ 1.7155	per square foot
821	Shopping Plaza - No Supermarket (<150K)	0.094490	\$ 4.3798	per square foot
822	Strip Retail Plaza	0.054450	\$ 2.5239	per square foot
840	Automobile Sales (New)	0.027840	\$ 1.2904	per square foot
841	Automobile Sales Used	0.027060	\$ 1.2543	per square foot
842	Recreation Vehicle Sales	0.005000	\$ 0.2318	per square foot
843	Auto Parts Store	0.054570	\$ 2.5294	per square foot
848	Tire Store	0.027690	\$ 1.2835	per square foot
850	Supermarket	0.060370	\$ 2.7983	per square foot
857	Discount Club	0.042460	\$ 1.9681	per square foot
861	Sporting Goods Superstore	0.023780	\$ 1.1023	per square foot
862	Home Improvement Superstore	0.030740	\$ 1.4249	per square foot
881	Pharmacy/Drugstore w/drive-through	0.108400	\$ 5.0246	per square foot
890	Furniture Store	0.006300	\$ 0.2920	per square foot

<i>Services (900-999)</i>				
912	Drive-in Bank	0.100350	\$ 4.6514	per square foot
930	Fast Casual Restaurant	0.055936	\$ 2.5928	per square foot
931	Fine Dining Restaurant	0.046741	\$ 2.1665	per square foot
932	High-Turnover (Sit-Down) Restaurant	0.061729	\$ 2.8613	per square foot
934	Fast-Food Restaurant	0.232961	\$ 10.7983	per square foot
941	Quick Lubrication Vehicle Shop	0.069570	\$ 3.2247	per square foot
943	Automobile Parts & Service	0.016600	\$ 0.7694	per square foot
945	Convenience Store w/gas	0.239693	\$ 11.1103	per square foot

Note: Total Fee per Unit includes administration and CIE preparation fees.

## Glossary

*The following terms are used in this Report. Where possible, the definitions are taken directly from the Georgia Development Impact Fee Act.*

**Capital improvement:** an improvement with a useful life of 10 years or more, by new construction or other action, which increases the service capacity of a public facility.

**Capital improvements element:** a component of a comprehensive plan adopted pursuant to Chapter 70 of the Development Impact Fee Act which sets out projected needs for system improvements during a planning horizon established in the comprehensive plan, a schedule of capital improvements that will meet the anticipated need for system improvements, and a description of anticipated funding sources for each required improvement.

**Development:** any construction or expansion of a building, structure, or use, any change in use of a building or structure, or any change in the use of land, any of which creates additional demand and need for public facilities.

**Development impact fee:** a payment of money imposed upon development as a condition of development approval to pay for a proportionate share of the cost of system improvements needed to serve new growth and development.

**Public facilities** (also referred to as **eligible facilities** in this report):<sup>6</sup> capital improvements in one of the following categories:

- (A) Water supply production, treatment, and distribution facilities;
- (B) Waste-water collection, treatment, and disposal facilities;
- (C) Roads, streets, and bridges, including rights of way, traffic signals, landscaping, and any local components of state or federal highways;
- (D) Storm-water collection, retention, detention, treatment, and disposal facilities, flood control facilities, and bank and shore protection and enhancement improvements;
- (E) Parks, open space, and recreation areas and related facilities;
- (F) Public safety facilities, including police, fire, emergency medical, and rescue facilities; and
- (G) Libraries and related facilities.

**Impact cost:** the proportionate share of capital improvements costs to provide service to new growth, less any applicable credits.

**Impact fee:** the impact cost plus surcharges for program administration and recoupment of the cost to prepare the Capital Improvements Element.

**Level of service:** a measure of the relationship between service capacity and service demand for public facilities in terms of demand to capacity ratios or the comfort and convenience of use or service of public facilities or both.

**Project improvements:** site improvements and facilities that are planned and designed to provide service for a particular development project and that are necessary for the use and convenience of the occupants or users of the project and are not system improvements. The character of the

<sup>6</sup> This is the full list of eligible facilities as defined by the Development Impact Fee Act. This report addresses only those that are included in the County's impact fee program.

improvement shall control a determination of whether an improvement is a project improvement or system improvement and the physical location of the improvement on site or off site shall not be considered determinative of whether an improvement is a project improvement or a system improvement. If an improvement or facility provides or will provide more than incidental service or facilities capacity to persons other than users or occupants of a particular project, the improvement or facility is a system improvement and shall not be considered a project improvement. No improvement or facility included in a plan for public facilities approved by the governing body of the municipality or city shall be considered a project improvement.

**Proportionate share:** means that portion of the cost of system improvements which is reasonably related to the service demands and needs of the project.

**Rational nexus:** the clear and fair relationship between fees charged and services provided.

**Service area:** a geographic area defined by a municipality, city, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas shall be designated on the basis of sound planning or engineering principles or both.

**System improvement costs:** costs incurred to provide additional public facilities capacity needed to serve new growth and development for planning, design and engineering related thereto, including the cost of constructing or reconstructing system improvements or facility expansions, including but not limited to the construction contract price, surveying and engineering fees, related land acquisition costs (including land purchases, court awards and costs, attorneys' fees, and expert witness fees), and expenses incurred for qualified staff or any qualified engineer, planner, architect, landscape architect, or financial consultant for preparing or updating the capital improvement element, and administrative costs, provided that such administrative costs shall not exceed 3 percent of the total amount of the costs. Projected interest charges and other finance costs may be included if the impact fees are to be used for the payment of principal and interest on bonds, notes, or other financial obligations issued by or on behalf of the municipality or city to finance the capital improvements element but such costs do not include routine and periodic maintenance expenditures, personnel training, and other operating costs.

**System improvements:** capital improvements that are public facilities and are designed to provide service to the community at large, in contrast to 'project improvements.'

## Impact Fee Program



## Methodology Report

Including the following public facility categories:

- Library Services*
- Parks and Recreation*
- Fire Protection*
- Law Enforcement*
- Road Improvements*

**PRELIMINARY DRAFT**  
For 2.15.24 Work Session

**ROSS+associates**  
urban planning & plan implementation  
in association with  
**Hatley Plans LLC**

# Impact Fee Program Update

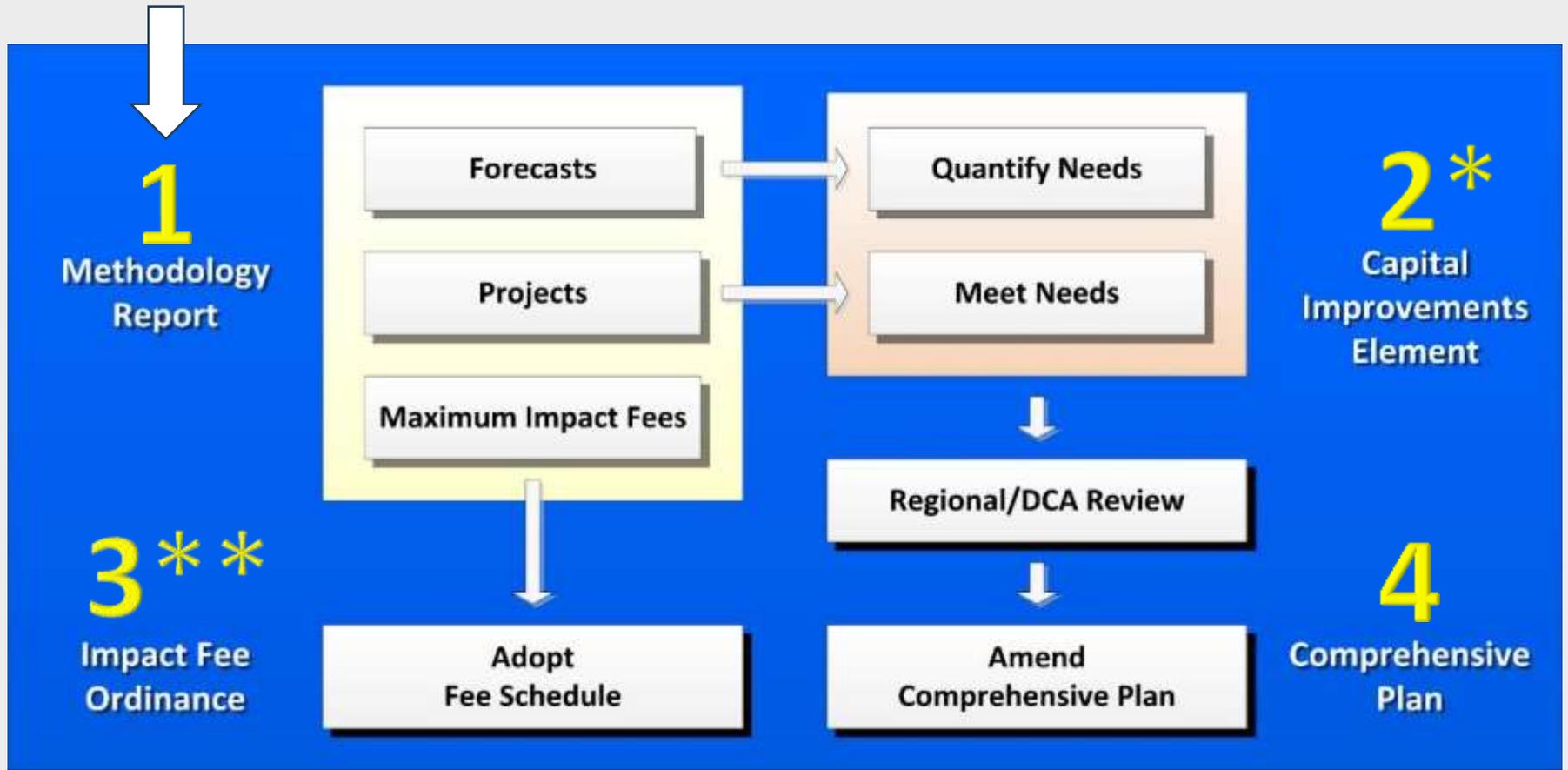
## Draft Methodology Report Briefing

Dawson County Board of Commissioners

2.15.24

# Where are we? *Project Workflow*

**Impact Fee Program Update** = Amend 2018 CIE (for new projects) + Amend Ordinance (for new fees)



\* Requires DCA approval & local adoption (automatically amends Comp Plan)

\*\* For local adoption

# *First*, the Methodology Report

The **Methodology Report** sets out ...

... **forecasts** (population, housing & employment) to calculate the demand for future services,

... **projected needs** for system improvements over the coming decades,

... **capital projects** that will meet the anticipated need for system improvements, and

... the **maximum impact fee that could be charged** to help pay for the system improvements.

# *Then*, the Capital Improvements Element

The **CIE** sets out ...

... **forecasts** (population, housing & employment) to calculate the demand for future services,

... **projected needs** for system improvements over the coming decades,

... **capital projects** that will meet the anticipated need for system improvements, and

... the maximum impact fee that could be charged to help pay for the system improvements.

***Meanwhile...***  
*(while CIE is  
under DCA  
review)*

We will need to discuss...

...**impact fee schedule** for adoption

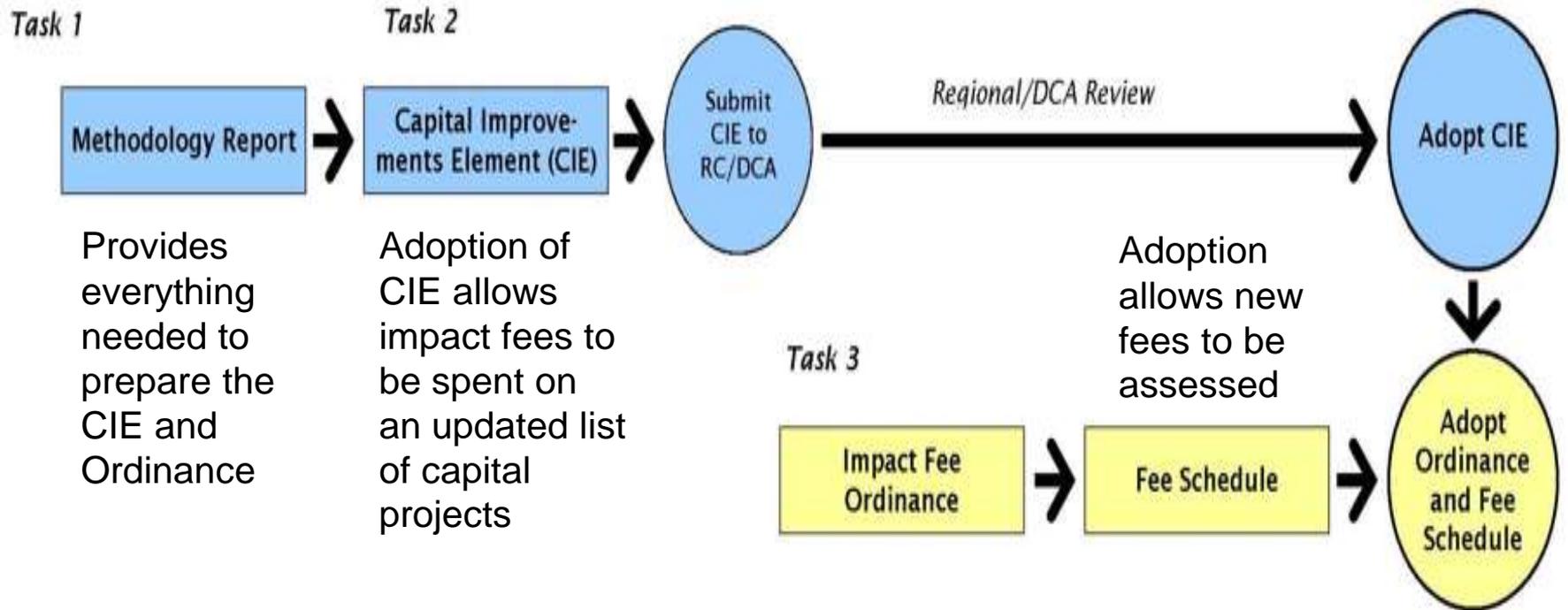
- *maximum fees vs. current fees*
- *fees in other communities*
- *fee scenarios – interactive exercise*

...**ways to reduce** impact fees

- *adoption of reduced fee schedule*
- *individual fee assessment*
- *individual appeals*
- *developer agreement (credits)*
- *exemptions*

# Where are we going? *Project Workflow*

## *Impact Fee Program Update:*



## *Next Steps...*

- ✓ **Methodology Report** (*finalize*)
- **CIE Transmittal** Public Hearing
- **BOC work session** to discuss **fees** & impact fee ordinance
- Impact Fee **Ordinance** – **2** public **hearings**
- **Adoption** of CIE & Ordinance (*CIE first or both at same meeting*)

# FLASH REPORT

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**January 2024**

**Dawson County Government**

[www.dawsoncountyga.gov](http://www.dawsoncountyga.gov)



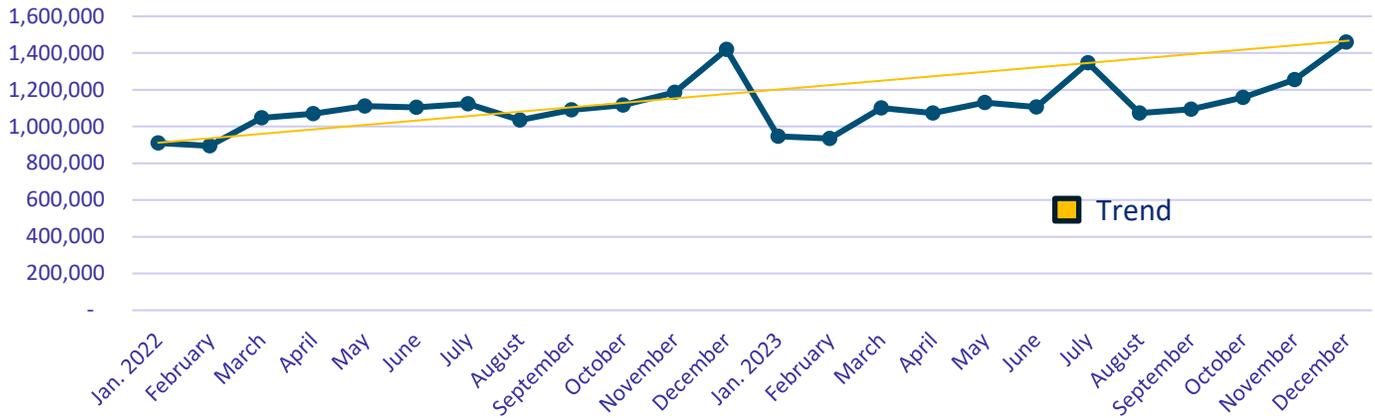
# DAWSON COUNTY GOVERNMENT

## FLASH REPORT

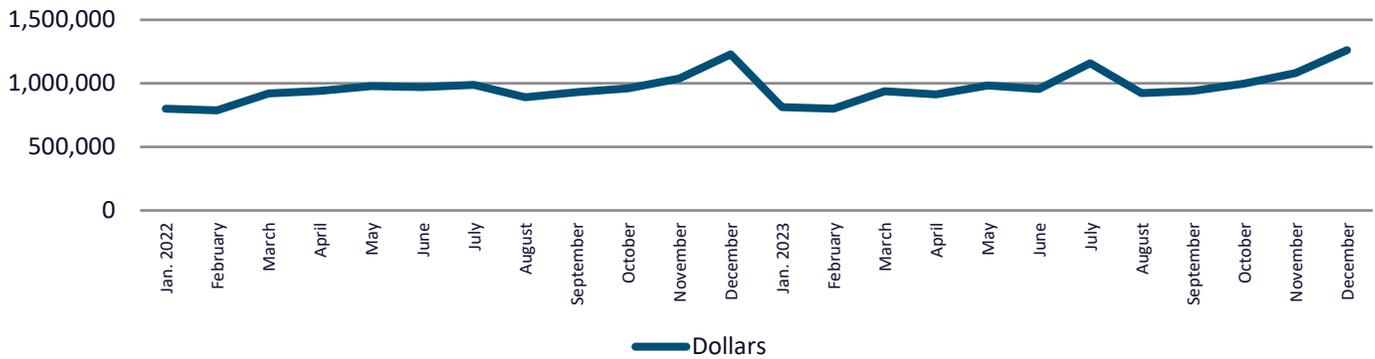
January 2024

### Finance

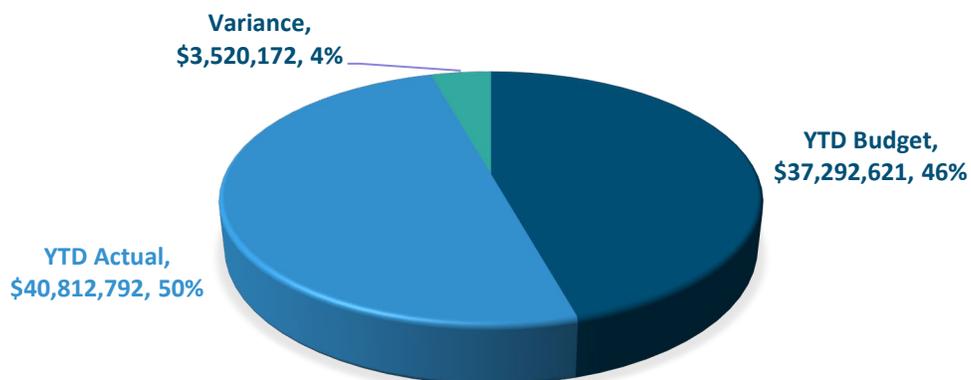
**SPLOST VII COLLECTION CHART (in dollars)**



**LOST COLLECTION CHART**

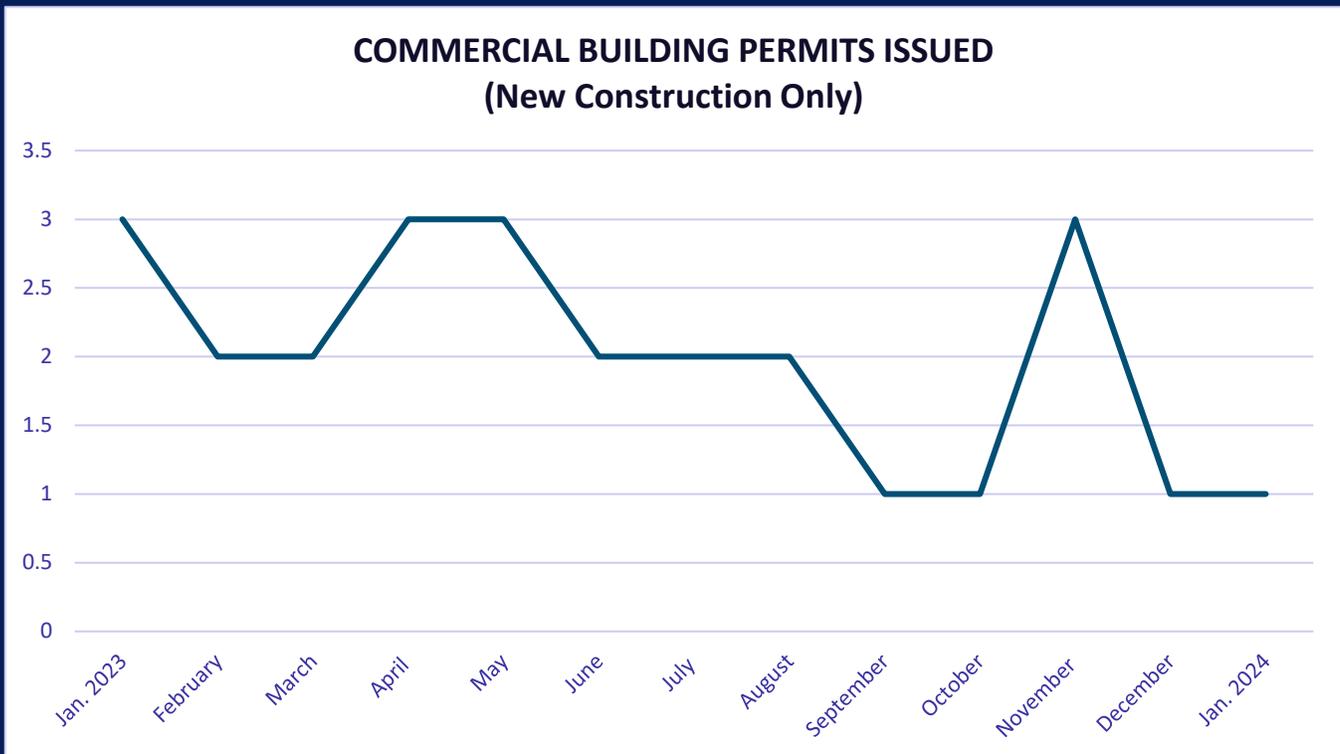
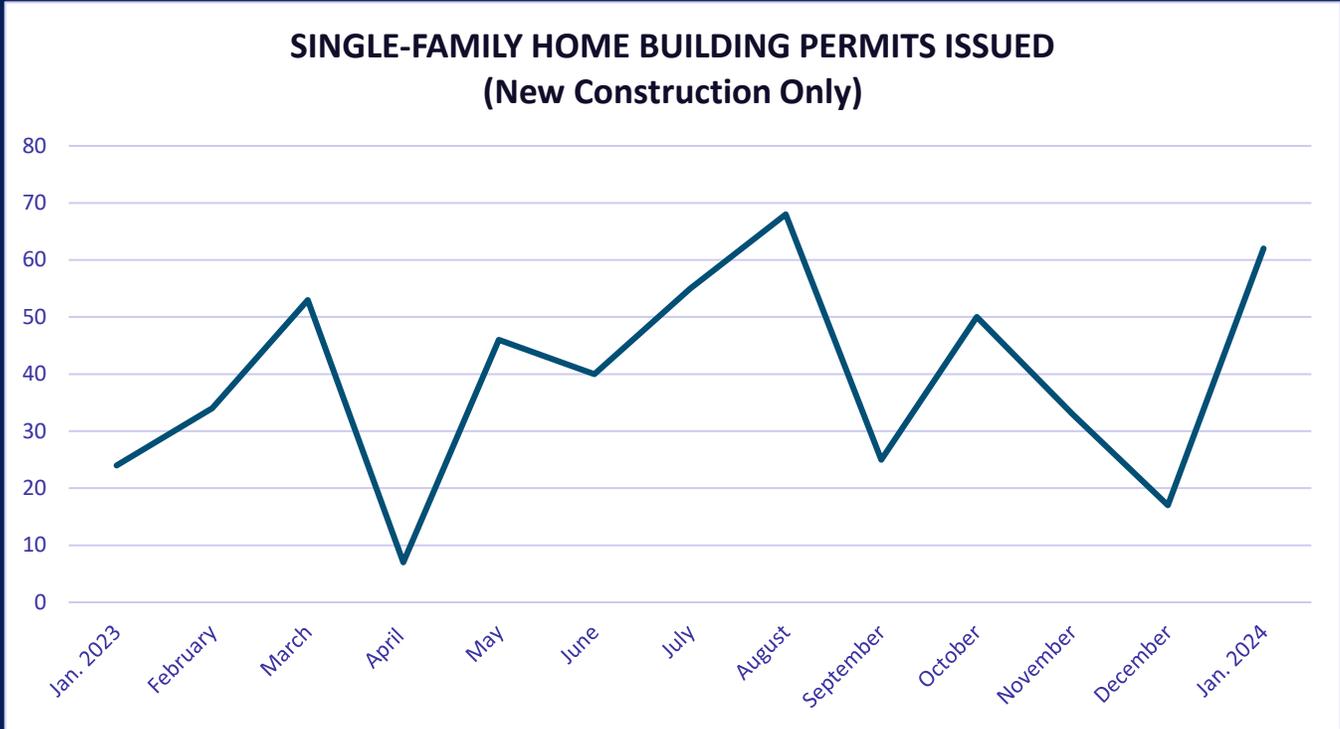


**ALL REVENUE**





### Planning & Development



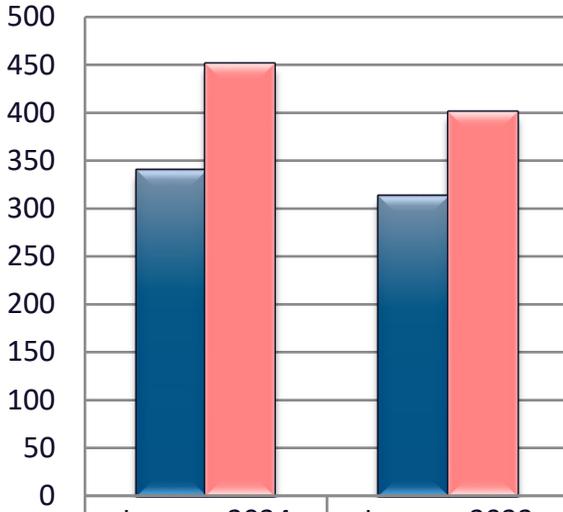


# DAWSON COUNTY GOVERNMENT

## FLASH REPORT

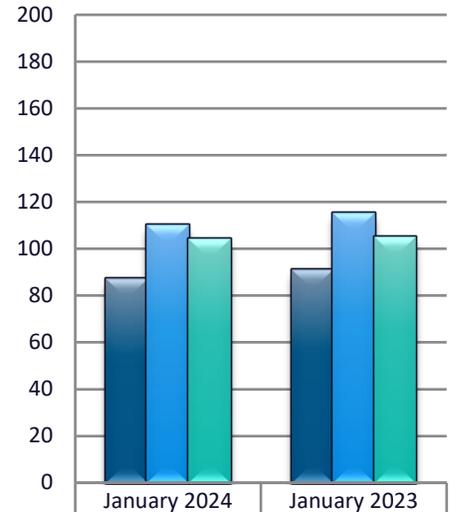
January 2024

### EMS/FIRE CALLS FOR SERVICE



EMS	340	313
Fire	451	401

### INMATE POPULATION

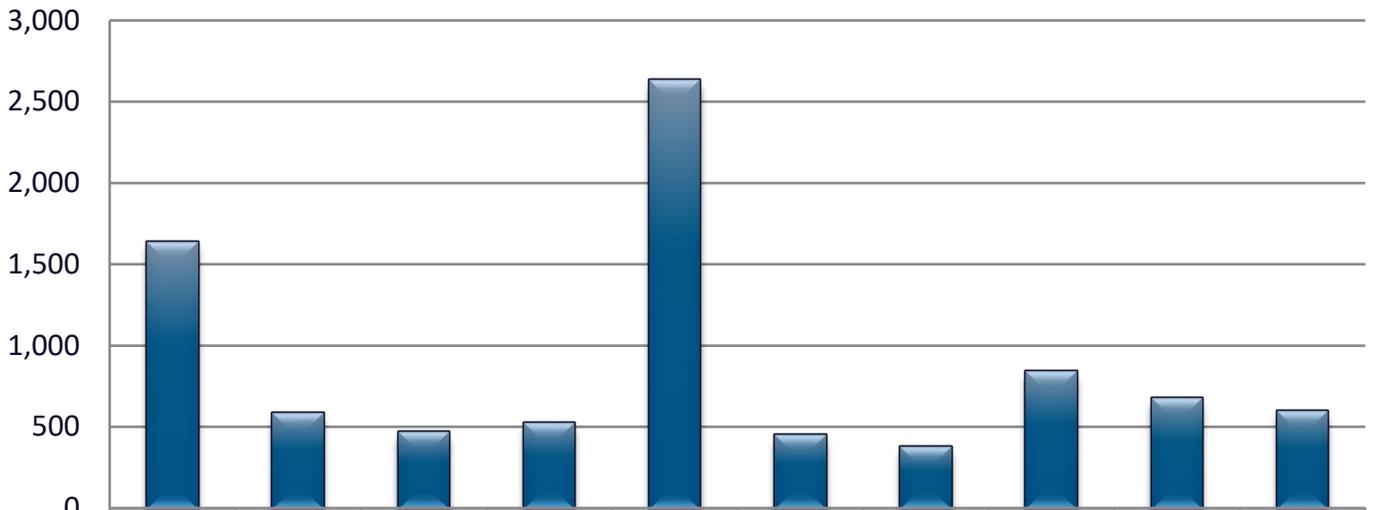


Lowest Daily Count	87	91
Highest Daily Count	110	115
Daily Average	104	105

\*Max Capacity: 192

## Elections

### VOTER REGISTRATIONS PROCESSED BY MONTH



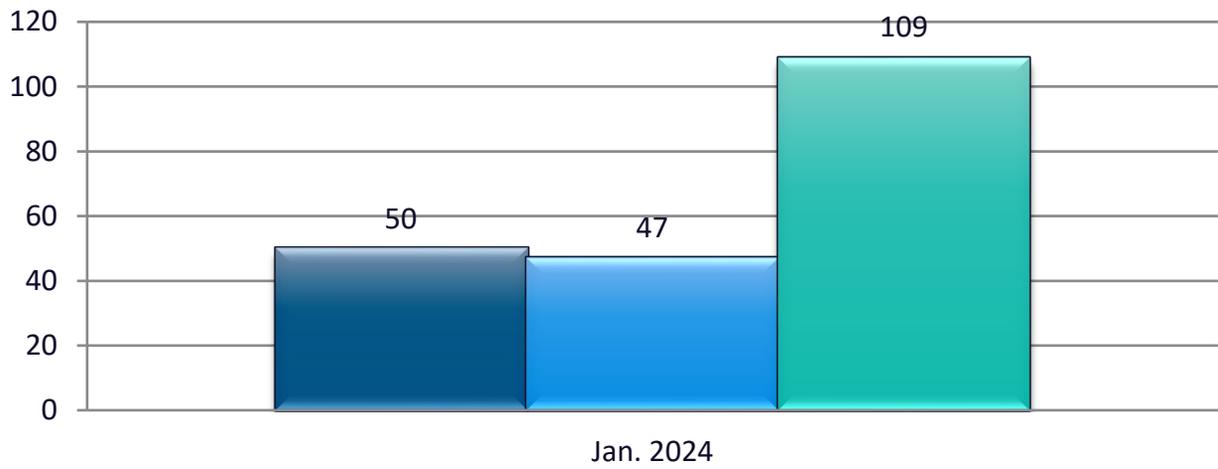
Reg	1,639	585	469	525	2,630	449	377	837	677	595
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## Service Requests by Department

### 2024 SERVICE REQUESTS RECEIVED

■ Roads 
 ■ Facilities 
 ■ Fleet



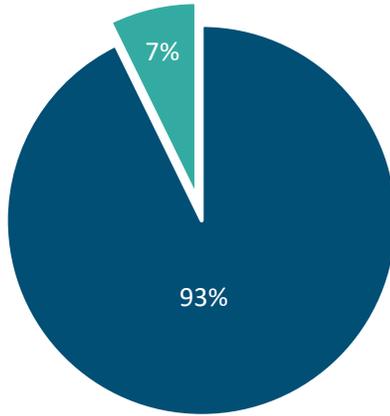
### INFORMATION TECHNOLOGY WORK ORDERS BY MONTH





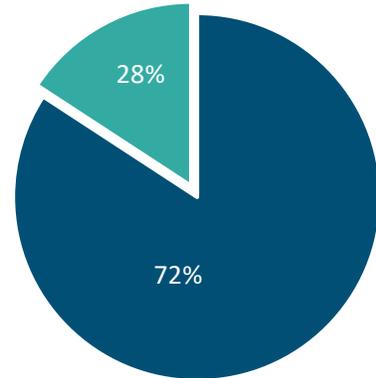
### Human Resources

#### FULL-TIME VACANCY %



- Total FT Positions: 320
- FT Vacancies: 25

#### PART-TIME REGULAR VACANCY %



- Total PT-Reg Positions: 64
- PT-Reg Vacancies: 12

### Public Relations

#### BOC



#### Streaming Viewers



**Facebook Followers**  
6,272 (previous month 6,225)



**X Followers**  
704 (previous month 693)



**Instagram Followers**  
142 (previous month 138)

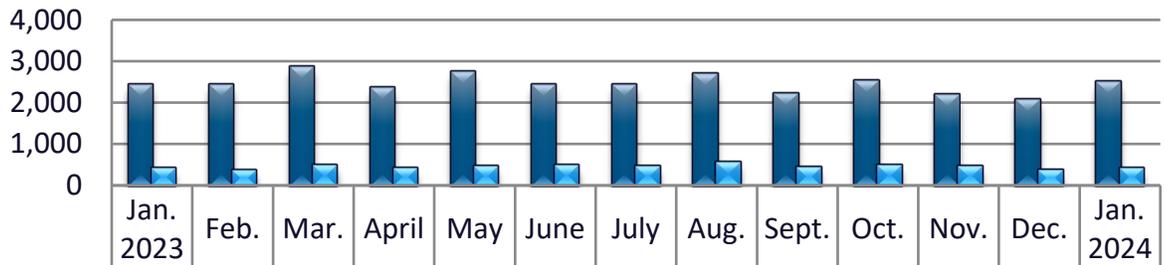


**Website Visitors**  
15,981 (previous month 12,204)



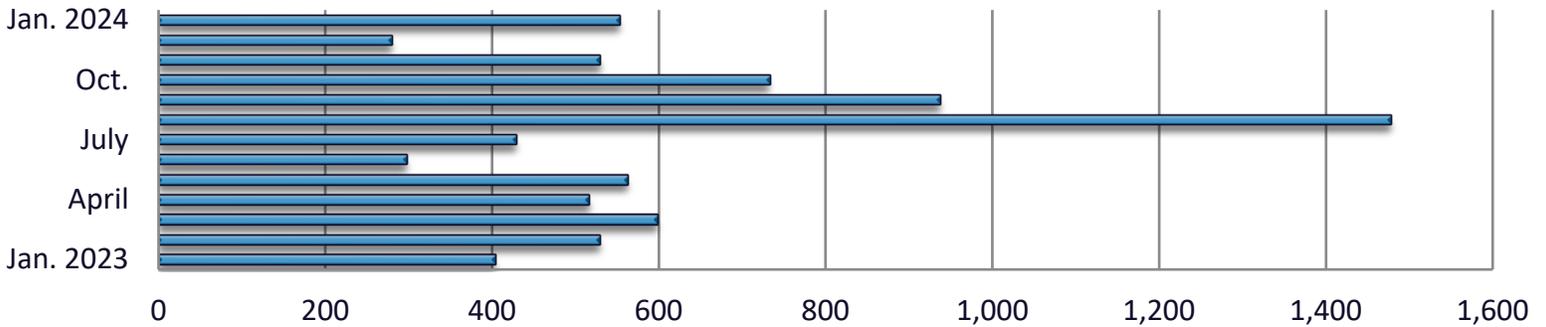
## Senior Services

### MEALS SERVED BY MONTH



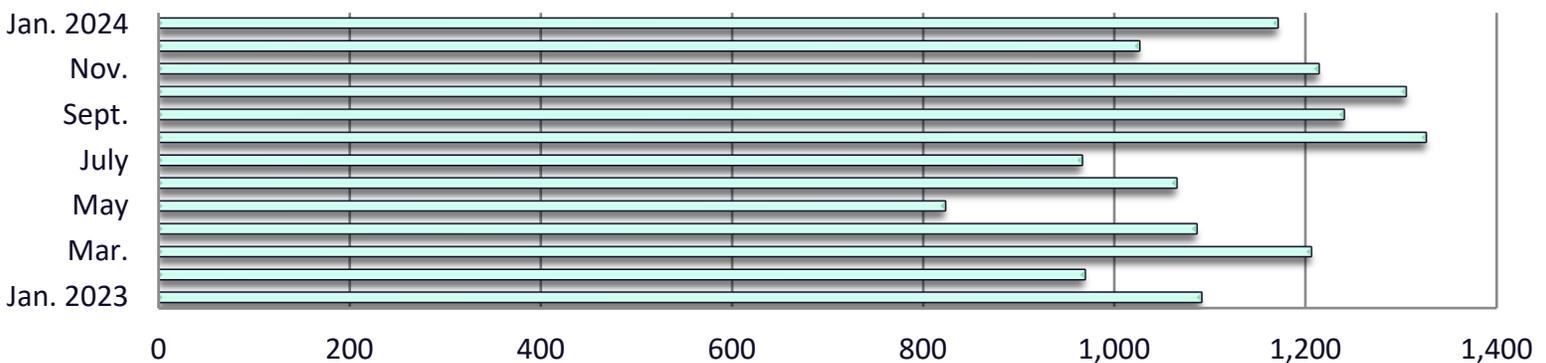
	Jan. 2023	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 2024
Meals on Wheels	2,424	2,430	2,863	2,361	2,742	2,446	2,432	2,692	2,225	2,520	2,180	2,064	2,506
Meals Served Onsite	423	378	481	420	458	491	459	571	430	490	460	365	423

### PHYSICAL ACTIVITY PARTICIPANTS



	Jan. 2023	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 2024
Part	403	528	597	516	562	297	428	1,477	937	732	529	279	552

### TRANSIT - TOTAL TRIPS

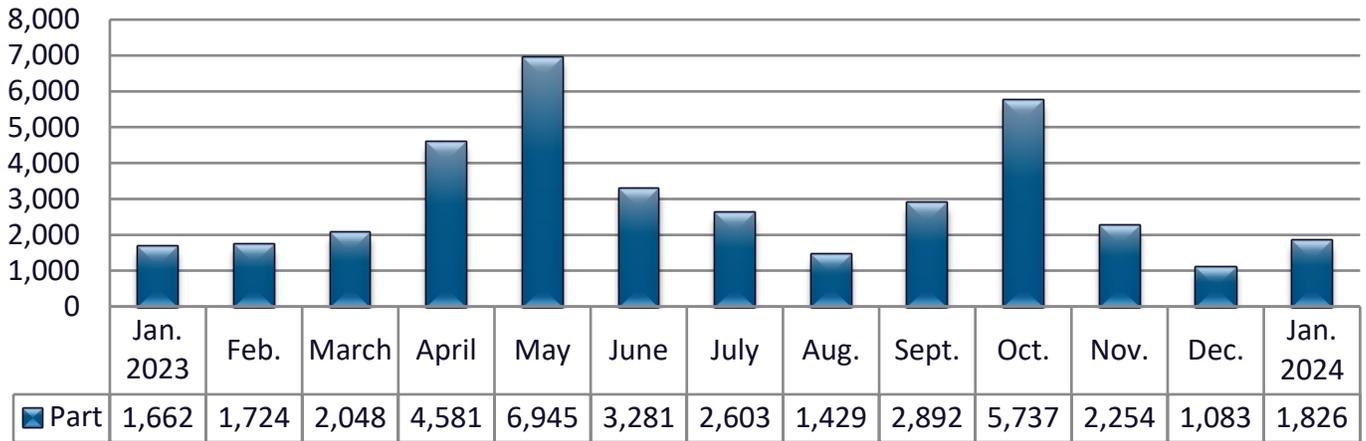


	Jan. 2023	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 2024
Trips	1,090	968	1,205	1,085	822	1,064	965	1,325	1,239	1,304	1,213	1,025	1,170

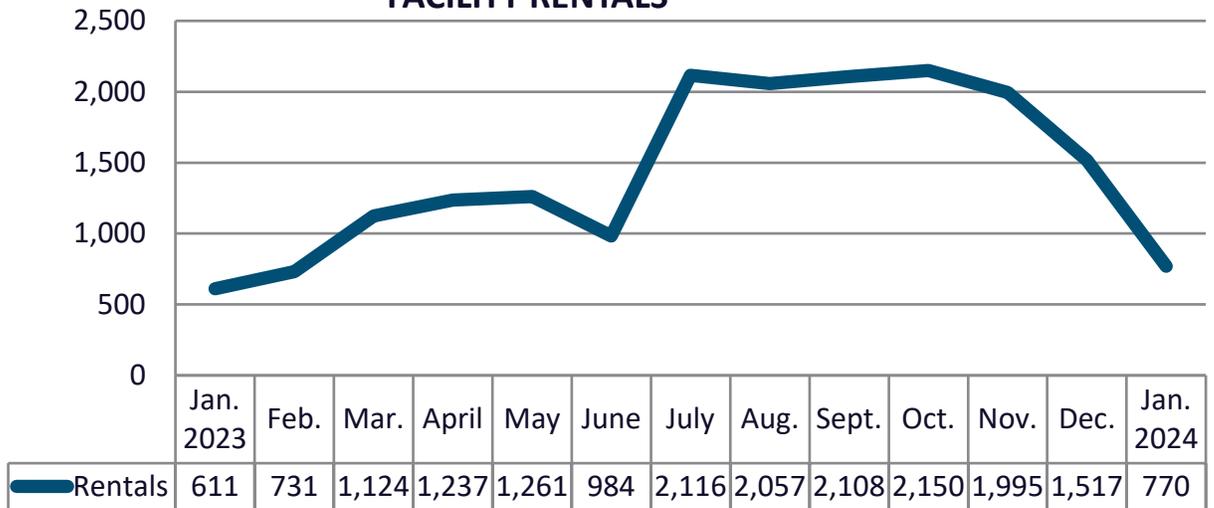


## Parks & Recreation

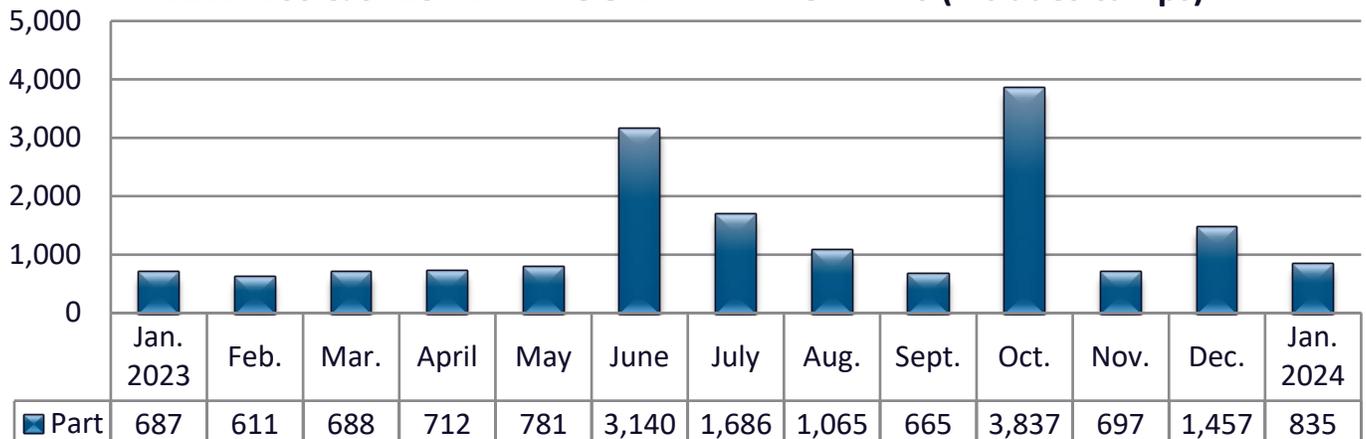
### YOUTH SPORTS PARTICIPANTS BY MONTH



### FACILITY RENTALS



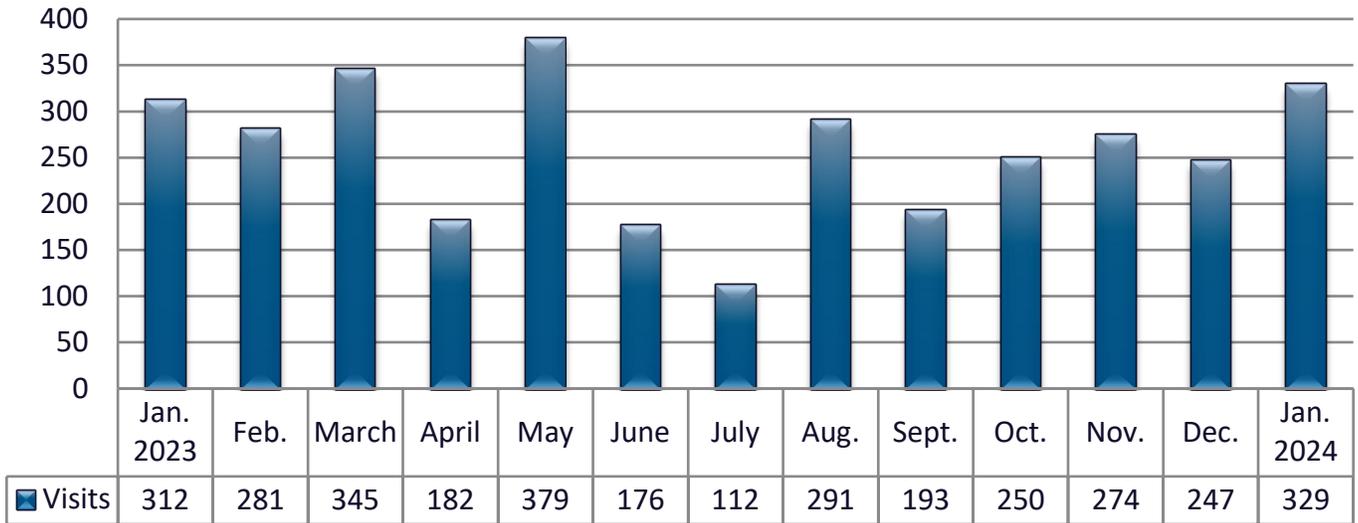
### WELLNESS & SPECIALTY PROGRAM PARTICIPANTS (includes camps)





### Marshal

**TOTAL MONTHLY VISITS FOR CODE ENFORCEMENT AND ANIMAL CONTROL**



### Public Works

**TRANSFER STATION TONNAGE COLLECTION**



**LOST and SPLOST Collections**

Local Option Sales Tax (LOST) collections are up 2.7 percent for the same month in 2022 and up 2.9 percent for 2023 year to date. Special Purpose Local Option Sales Tax (SPLOST) collections are up 2.8 percent for the same month in 2022. Total SPLOST VII collections (July 2021 to present) are \$33,166,219.

December 2023 collections received in January 2024 are as follows:

<b>LOST</b>	<b>\$1,261,655</b>
<b>SPLOST</b>	<b>\$1,459,335</b>
County	\$1,332,373
City	\$126,962

**Items Approved by the County Manager or Chief Financial Officer Since Last Report**

Southern Fire & Controls	Facilities	Comprehensive Fire Protection	IFB	Contract	\$14,559 - Annual Inspections	Funding Source – Various Departments’ Regular Operating Budgets
Municipal Emergency Services	EMS	Forestry Firefighting Hose for Brush Truck	Cooperative Agreement Purchase	Purchase Order	\$5,366.50	Funding Source – Fire Regular Operating Budget
Hustler Turf Equipment	Parks & Recreation	60” Deck Commercial Mower	Cooperative Agreement Purchase	Purchase Order	\$14,916	Funding Source – Parks & Recreation SPLOST VI Budget

Municipal Emergency Services	EMS	Turnout Gear	Cooperative Agreement Purchase	Purchase Order	\$131,638.50	Funding Source – Fire Capital Projects Budget
Nevco Signs	Parks & Recreation	Football Field Scoreboard	Cooperative Agreement Purchase	Purchase Order	\$9,703.26	Funding Source – Parks & Recreation SPLOST VI Budget
Signal Signs	Parks & Recreation	Remove Old / Install New Football Field Scoreboard	Nevco’s Authorized Installer in Georgia	Purchase Order	\$8,730	Funding Source – Parks & Recreation SPLOST VI Budget