

**DAWSON COUNTY BOARD OF COMMISSIONERS
VOTING SESSION AGENDA - THURSDAY, AUGUST 16, 2018
DAWSON COUNTY GOVERNMENT CENTER ASSEMBLY ROOM
6:00 PM**

A. ROLL CALL

B. INVOCATION

C. PLEDGE OF ALLEGIANCE

D. ANNOUNCEMENTS

E. APPROVAL OF MINUTES

[Minutes](#) of the Voting Session held on August 2, 2018

[Minutes](#) of the Work Session held on August 9, 2018

F. APPROVAL OF AGENDA

G. PUBLIC COMMENT

H. ALCOHOL LICENSE

1. New Alcohol License (*Retail Package Sale of Beer and Wine*) - Jasmine Food Mart Inc.

I. PUBLIC HEARINGS

1. Adoption of Impact Fees (*2nd of 2 hearings. 1st hearing was held on August 2, 2018.*)
2. 2018 Millage Rate and Property Tax (*3rd of 3 hearings. 1st hearing was held on August 2, 2018, and the 2nd hearing was held on August 9, 2018.*)

J. NEW BUSINESS

1. Consideration of Request to Adopt Hazard Mitigation Plan
2. Consideration of Request to Apply for Georgia Firefighter Standards and Training Council Fireworks Tax Grant
3. Consideration of Options for the County's Multi-Functional Printers
4. Consideration of Red Rider Road Traffic Change Request
5. Consideration to Move Weekly Board of Commissioners Meetings from Thursday to Tuesday Beginning in 2019

K. PUBLIC COMMENT

L. EXECUTIVE SESSION

M. ADJOURNMENT

Backup material for agenda item:

Minutes of the Voting Session held on August 2, 2018

**DAWSON COUNTY BOARD OF COMMISSIONERS
VOTING SESSION MINUTES – AUGUST 2, 2018
DAWSON COUNTY GOVERNMENT CENTER ASSEMBLY ROOM
25 JUSTICE WAY, DAWSONVILLE
6:00PM**

ROLL CALL: Those present were Chairman Thurmond; Commissioner Fausett, District 1; Commissioner Gaines, District 2; Commissioner Hamby, District 3; Commissioner Nix, District 4; County Manager Headley; County Attorney Frey; County Clerk Cloud; and interested citizens of Dawson County.

INVOCATION: Chairman Thurmond

PLEDGE OF ALLEGIANCE: Chairman Thurmond

ANNOUNCEMENTS:

Chairman Thurmond asked for the board and community to remember the family of Cecil Bennett, who died July 31, 2018. Chairman Thurmond noted that Mr. Bennett was a county resident and leader, a former county commissioner and longtime Board of Education member.

APPROVAL OF MINUTES:

Motion passed unanimously to approve the minutes from the Voting Session held on July 19, 2018. Gaines/Hamby

APPROVAL OF AGENDA:

Motion passed unanimously to approve the agenda as presented. Nix/Fausett

PUBLIC COMMENT:

None

PUBLIC HEARINGS:

Adoption of Impact Fees (1st of 2 hearings. 2nd hearing will be held on August 16, 2018.)

Bill Ross of Ross+associates, the company the county hired to study reinstating an impact fee program, made a presentation explaining impact fees and their purpose. Ross said that Dawson County is expected to experience great growth over the next 20-plus years, and impact fees could help offset the costs of development for current residents. Ross discussed the maximum impact fee amounts that the county could adopt and how those impact fees would be used (road improvements, public safety, parks and recreation, etc.). Ross said the county, should it choose to adopt an impact fee program, is not obligated to adopt the maximum impact fee amounts but, by law, cannot exceed the maximum impact fee amounts.

Chairman Thurmond opened the hearing by asking if there was anyone present who wished to be heard on the adoption of impact fees and, hearing none, closed the hearing.

2018 Millage Rate and Property Tax (1st of 3 hearings. 2nd hearing will be held at 4 p.m. August 9, 2018, and 3rd hearing will be held at 6 p.m. August 16, 2018.)

Chairman Thurmond opened the hearing by asking if there was anyone present who wished to be heard on the Millage Rate and Property Tax.

The following spoke on the 2018 Millage Rate and Property Tax:

- Jim Purdy- Dawsonville, Georgia, asked, “Does it assume if we increase the tax revenue 12 percent, we will increase the county budget 12 percent?” Purdy said previous increases have been less and that he believes a 5 or 6 percent increase “would suffice.”

Chairman Thurmond asked if there was anyone else present who wished to speak on the 2018 Millage Rate and Property Tax and, hearing none, closed the hearing.

CONSENT AGENDA:

Consideration of Georgia Department of Administrative Services Vehicle Cooperative Agreement Purchase Request

Motion passed unanimously to approve the Georgia Department of Administrative Services Vehicle Cooperative Agreement Purchase at the request of Chief Deputy Greg Rowan and Purchasing Manager Melissa Hawk. Gaines/Fausett

NEW BUSINESS:

Consideration of Countywide Computer Replacement Program

Motion passed unanimously to approve the Countywide Computer Replacement Program. The three-phase replacement will cost \$145,000 a year for three years, monies which will come from Special Purpose Local Option Sales Tax (SPLOST) VI funds. Fausett/Nix

Consideration of Request to Extend HVAC Services Contract Renewal Period

Motion passed unanimously to approve the Request to Extend the HVAC Services Contract Renewal Period with Setpoint HVAC Services. Hamby/Fausett

Consideration of Keep Dawson County Beautiful Executive Director Appointment

Motion passed unanimously to appoint Kara Wilkins as Keep Dawson County Beautiful Executive Director. Nix/Hamby

PUBLIC COMMENT:

None

ADJOURNMENT:

APPROVE:

ATTEST:

Billy Thurmond, Chairman

Kristen Cloud, County Clerk

Backup material for agenda item:

Minutes of the Work Session held on August 9, 2018

**DAWSON COUNTY BOARD OF COMMISSIONERS
WORK SESSION AGENDA - THURSDAY, AUGUST 9, 2018
DAWSON COUNTY GOVERNMENT CENTER ASSEMBLY ROOM
4:00 PM**

NEW BUSINESS

1. Presentation of Request to Adopt Hazard Mitigation Plan- Emergency Services Director Danny Thompson / Katy Westbrook, Lux Mitigation and Planning Corporation
This item will be placed on the August 16, 2018, Voting Session Agenda.
2. Presentation of Request to Apply for Georgia Firefighter Standards and Training Council Fireworks Tax Grant- Emergency Services Director Danny Thompson
This item will be placed on the August 16, 2018, Voting Session Agenda.
3. Presentation of Options for the County's Multi-Functional Printers- Purchasing Manager Melissa Hawk
This item will be placed on the August 16, 2018, Voting Session Agenda.
4. Presentation of Red Rider Road Traffic Change Request- Public Works Director David McKee
This item will be placed on the August 16, 2018, Voting Session Agenda.
5. Presentation to Move Weekly Board of Commissioners Meetings from Thursday to Tuesday Beginning in 2019- Chairman Thurmond
This item will be placed on the August 16, 2018, Voting Session Agenda.
6. County Manager Report
This item was for information only.
7. County Attorney Report
This item was for information only.

ROLL CALL: Those present were Chairman Thurmond; Commissioner Fausett, District 1; Commissioner Gaines, District 2; Commissioner Hamby, District 3; Commissioner Nix, District 4; County Manager Headley; County Attorney Frey; County Clerk Cloud; and interested citizens of Dawson County.

PUBLIC HEARING:

2018 Millage Rate and Property Tax (2nd of 3 hearings. 1st hearing was held August 2, 2018. 3rd hearing will be held at 6 p.m. August 16, 2018.)

Chairman Thurmond opened the hearing by asking if there was anyone present who wished to be heard on the Millage Rate and Property Tax.

The following spoke on the 2018 Millage Rate and Property Tax:

- Mike Wenson- Dawsonville, Georgia, asked the board to cut county expenses and lower the millage rate. He said the latest property evaluation is flawed and that he has appealed his assessment. Wenson said his property values have gone up “62 percent since 2015 and went up 35 percent year over year this year.”

EXECUTIVE SESSION:

Motion passed unanimously to enter into Executive Session to discuss personnel. Hamby/Nix

Motion passed unanimously to come out of Executive Session. Gaines/Hamby

APPROVE:

ATTEST:

Billy Thurmond, Chairman

Kristen Cloud, County Clerk

DRAFT

Backup material for agenda item:

1. New Alcohol License (*Retail Package Sale of Beer and Wine*) - Jasmine Food Mart Inc.



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: Planning & Development

Work Session:

Prepared By: Niki M. McCall

Voting Session: 8/16/18

Presenter: Jason Streetman

Public Hearing: Yes No

Agenda Item Title New Retail Package Alcohol License (Beer & Wine) – Jasmine Food Mart, Inc.

Background Information:

Azeem Ali, the owner of Jasmine Food Mart, Inc., has made a request for a new retail package (beer & wine) alcohol license. The business is located at 41 Big Horn Lane and is zoned CHB.

Current Information:

Azeem Ali has submitted a partially complete application and is undergoing all Federal and State background checks.

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

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining

Recommendation/Motion: _____

Department Head Authorization: _____

Date: _____

Finance Dept. Authorization: _____

Date: _____

County Manager Authorization: _____

Date: _____

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

DAWSON COUNTY PLANNING AND DEVELOPMENT

ALCOHOL LICENSING

Location & Mailing Address:

25 JUSTICE WAY, SUITE 2322
DAWSONVILLE, GA 30534

Phone: 706/344-3500 x 42335

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

This application must be signed by the applicant and notarized. Every question must be fully answered with the answer typewritten or printed. If the space provided is not sufficient, answer on a separate sheet and indicate in the space provided that a separate sheet is attached. When completed, the application must be dated, signed, and verified under oath by the applicant and submitted to Planning and Development, together with the license fee(s) and the administrative/investigative fee (separate checks). All fees are payable to Dawson County in certified funds (bank check, certified check, or money order). **The applicant must be not less than 21 years of age.**

NOTICE: Any false answer to any question could result in the denial of a license, or in the event a license is issued, in the revocation or suspension of the license. *****KEEP A COPY OF ALL FORMS SUBMITTED*****

FOR OFFICIAL USE ONLY:

Name of Business:

Jasmine Food Mart, Inc.

Date Received:

8-8-18

License Fee Enclosed: \$

7650.00

Approved: _____

Denied: _____

State License Number: _____

Local License Number: _____

Administrative/Investigative Fee Enclosed: \$

250.00

Advertising Fee Enclosed: \$ _____

1. TYPE OF LICENSE: (check one):



NEW



AMENDMENT (TRANSFER)

2. ADMINISTRATIVE AND INVESTIGATIVE FEE:



\$250.00 (Consumption on Premises)

ADMINISTRATIVE AND INVESTIGATIVE FEE:



\$250.00 (Retail Package)

ADMINISTRATIVE AND INVESTIGATIVE FEE:



\$250.00 (Transfer of License)

Note: Administrative/Investigative fees may be higher depending on the number of persons for which we conduct a federal and state background check.

ADVERTISING FEE:



\$ 40.00 (Distilled Spirits)
(Consumption on Premises & Retail Package)

3. TYPE OF BUSINESS:



Bona Fide Eating Establishment



Indoor Commercial Recreation Facility



Super Market



Hotel/Motel



Convenience Store



Caterer (must have alcohol by the drink license)



Package Liquor Store (see Item 14, Page 5)



Other

Explain: _____

Will live entertainment be offered? NO

If Yes, Explain: _____

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

4. TYPE OF LICENSE AND FEES:
(Check all that apply)

PAYMENT BY CERTIFIED FUNDS ONLY!!
Note: If license is issued after July 1st, fees are one half.

RETAIL PACKAGE: (Total: Beer - Wine - Distilled Spirits = \$5,800)
(Total: Beer - Wine = \$1,300)

- Beer \$650 Wine \$650 Distilled Spirits \$4,500

GROCERY & CONVENIENCE STORES: ATTACH COPY OF DEPT. OF AGRICULTURE FOOD ESTABLISHMENT LICENSE.

RETAIL CONSUMPTION ON PREMISES: (Total: Beer - Wine - Distilled Spirits = \$4,800)
(Total: Beer - Wine = \$1,500)

- Distilled Spirits \$3,300
 Beer \$ 750 Add'l Fixed Bars # _____ \$ 500 (each bar)
 Wine \$ 750 Movable Bars # _____ \$ 250 (each bar)

PRIVATE CLUB:

Note: Must obtain a retail consumption on the premises license.

- Beer \$750 Wine \$750 Distilled Spirits \$3,300

HOTEL IN-ROOM SERVICE:

Note: Must obtain a retail consumption on the premises license before Hotel In-Service License is issued.

- Beer \$750 Wine \$750 Hotel In-Service \$250

SPECIAL EVENT ALCOHOL PERMIT:

Note: Must complete additional Special Event Alcohol Permit Form # 2-B.

- \$25 Per Day

5. BUSINESS

(a) Business Name: Janmire Food Mart, Inc

(b) Location: 41, Big Horn Lane
Street Number Street Name

Dawsonville GA 30534
City State Zip Code

(c) Mailing Address: 2019, Sugar Springs Dr
For Renewals: Street Number Street Name

Lawrenceville GA 30043
City State Zip Code

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

6. OWNER:

(a) Full Name: Azeem Ali

(b) Corporation or LLC Name (if applicable): Jasmine Food Mart

(c) Location: 41, Big Horn Lane
Street Number Street Name

Dawsonville GA 30534
City State Zip Code Phone Number

(d) Mailing Address: 2019 Sugar Springs Dr
Street Number Street Name

Lawrenceville GA 30043 6787179647
City State Zip Code Phone Number

7. REGISTERED AGENT: *(Applicant may name a registered agent - attach Registered Agent Consent Form #2-A.)*

(a) Full Name: _____ Social Security # _____

(b) Address: _____
Street Number Street Name

City State Zip Code Phone Number

8. TYPE OF OWNERSHIP:

Sole Proprietorship

Private Held Corporation

Public Held Corporation Subject to S.E.C. Regulations

Other; explain _____

Legally Registered Partnership

Public Held Corporation

Limited Liability Company

9. FOR PARTNERSHIP ONLY:

(a) Date the Partnership was formed: _____

(b) Attach Partnership Agreement _____

(c) List Partners:

Name & Resident Address <small>(Attach separate sheet if necessary)</small>	Social Security Number	G - General L - Limited S - Silent	Interest	
			Investment \$	Participation %

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

10. FOR CORPORATION or LLC ONLY: (Attach Articles & Certificate of Incorporation/ Organization)

- (a) Date of Incorporation/Organization: 8/25/17
- (b) Place of Incorporation/Organization: GA
- (c) State Parent Corporation, if applicable: _____
- (d) Number of Shares of Capital Stock Authorized, if applicable: _____
- (e) Number of Shares of Outstanding Stock, if applicable: _____
- (f) For Corporations or LLC's, list officers, directors, members, and/or principal shareholders with 20% or more of the stock:

Name	Social Security #	Position	Interest %
<u>Azeem Ali</u>	<u>[REDACTED]</u>	<u>owner</u>	<u>100</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

- (g) Is the corporation owned by a holding company? _____
If yes, explain: _____

11. FOR PRIVATE CLUBS ONLY:

- (a) Date of organization under the laws of the State of Georgia: _____
- (b) State the total number of regular dues paying members: _____
- (c) Is any member, officer, agent, or employee compensated directly or indirectly from the profits of the sale of distilled spirits beyond a fixed salary as established by its members at any annual meeting or by its governing board out of the general revenue of the club?

- (d) **Attach minutes of the annual meeting setting salaries.** For private club, list officers, directors and/or principal shareholders with 20% or more of the stock.

Name	Social Security #	Position
_____	_____	_____
_____	_____	_____
_____	_____	_____

12. FINANCING:

- (a) Bank to be used by business, include branch: Bank of Ozarks, Dawsonville
- (b) State total amount of capital that is or will be invested in the business by any party or parties: 50,000
- (c) State total amount of funds invested by the owner: 50,000
- (d) State total amount of funds invested by parties other than the owner: 0
- (e) If any capital is borrowed:

Name of Lender	Date	Amount	Interest Rate
_____	_____	_____	_____
_____	_____	_____	_____

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

13. GENERAL INFORMATION:

(a) Has owner and/or individual partner, shareholder, director, officer or member any interest in any manufacturer or wholesaler of alcoholic beverage? NO

(b) Has owner and/or individual partner, shareholder, director, officer or member received any financial aid or assistance from any manufacturer or wholesaler of alcoholic beverages? NO

(c) If answer is "Yes" to either of immediate foregoing, explain: _____

(d) Show hereunder any and all persons, corporations, partnerships, limited liability companies or associations (other than persons stated herein as owner(s), directors, officers or members) who have received or will receive, as a result of your operation under the requested license, any financial gain or payment derived from any interest or income from the operation. Financial gain or payment shall include payment or gain from any interest in the land, fixtures, building, stock, and any other asset of the proposed operation under the license. In the event any corporation or limited liability company is listed as receiving an interest or income from this operation, show the names of the officers, directors or members of said corporation together with the names of the principal stockholders.

none

(e) List all other businesses engaged in the sale of alcohol beverages that you the owner, or any individual, partner, shareholder, officer, director or member has interest in, is employed by or is associated with in any way whatsoever, or has had interest in, has been employed by, or has been associated with in the past.

Name	Name or Business	Interest %
<u>Azeem Ali</u>	<u>Santay's Food Mart</u>	<u>100</u>

14. FOR PACKAGE LIQUOR STORE APPLICANTS: *State of Georgia Regulations*****

The State of Georgia will **not** issue a State Alcohol License to any person who has more than two (2) retail package liquor licenses. See official language below. Do **not** apply for a Dawson County License if you already have (or have interest in) two (2) package liquor store licenses in the State of Georgia.

O.C.G.A. 3-4-21 and Regulation 560-2-2-40.

No person shall be issued more than two retail package liquor licenses, nor shall any person be permitted to have a beneficial interest in more than two retail package liquor licenses issued by the Department regardless of the degree of such interest.

For the purposes of explanation and applicability of the Code:

"Beneficial interest" as used here means: when a person holds the retail package liquor license in his own name, or when he has a legal, equitable or other ownership interest in, or has any legally enforceable interest or financial interest in, or derives any economic benefit from, or has control over a retail package liquor business.

The term "person" shall include all members of a retail package liquor dealer licensee's family; and the term "family" shall include any person related to the holder of the license within the first degree of consanguinity and affinity as computed according to the canon law which includes the following: spouse, parents, step-parents, parents-in-law, brothers and sisters, step-brothers and step-sisters, brothers-in-law and sisters-in-law, children, step-children and children-in-law.

Do you currently hold any package liquor licenses in your own name or have a beneficial interest in any package liquor licenses as described above? _____ Yes No If yes, attach a separate sheet listing names, addresses, and license numbers.

APPLICATION FOR ALCOHOLIC BEVERAGE LICENSE

NOTE: Before signing this statement, check all answers and explanations to see that you have answered all questions fully and correctly. This statement is to be executed under oath and subject to the penalties of false swearing, and it includes all attached sheets submitted herewith.

STATE OF GEORGIA, DAWSON COUNTY

I, Azeem Ali, DO SOLEMNLY SWEAR, SUBJECT TO THE PENALTIES OF FALSE SWEARING, THAT THE STATEMENTS AND ANSWERS MADE BY ME AS THE APPLICANT IN THE FOREGOING APPLICATION ARE TRUE AND CORRECT.

[Signature]
APPLICANT'S SIGNATURE

I HEREBY CERTIFY THAT Azeem Ali SIGNED HIS NAME TO THE FOREGOING APPLICATION STATING TO ME THAT HE KNEW AND UNDERSTOOD ALL STATEMENTS AND ANSWERS MADE THEREIN, AND, UNDER OATH ACTUALLY ADMINISTERED BY ME, HAS SWORN THAT SAID STATEMENTS AND ANSWERS ARE TRUE AND CORRECT.

THIS 6 DAY OF Aug, 2018.

M PRADHAN
NOTARY PUBLIC
Gwinnett County
State of Georgia
My Comm. Expires Mar. 23, 2019

[Signature]
NOTARY PUBLIC

FOR OFFICIAL USE ONLY:

PLANNING AND DEVELOPMENT REVIEW:

Date: 8-9-18

APPLICANT HAS OBTAINED ALL NECESSARY PERMITS AND LICENSES. (Building Permit / Business License)

Planning and Development Director

APPLICANT HAS COMPLETED ALL NECESSARY INSPECTIONS. (Fire Dept. / Health Dept. / Dept. of Agriculture-Retail Package only)

Planning and Development Director

APPLICANT HAS COMPLETED PREMISE & STRUCTURE FORM # 3 AND ATTACHED ALL REQUIRED INFORMATION IN ITEMS 10 through 15.

Planning and Development Director

FOR OFFICIAL USE ONLY:

SHERIFF DEPARTMENT REVIEW:

APPLICANT HAS COMPLETED ALL REQUIREMENTS FOR FEDERAL AND STATE BACKGROUND CHECK AND IS APPROVED FOR THIS APPLICATION PROCESS.

Date: _____

Sheriff

DAWSON COUNTY PLANNING AND DEVELOPMENT

ALCOHOL LICENSING

Locating & Mailing Address:

25 JUSTICE WAY, SUITE 2322
Dawsonville, GA 30534

Phone: 706.344.3500 x 42335

PREMISE AND STRUCTURE FORM

INSTRUCTION: THIS STATEMENT MUST BE TYPEWRITTEN OR PRINTED AND EXECUTED UNDER OATH. EACH QUESTION MUST BE FULLY ANSWERED. IF SPACE PROVIDED IS NOT SUFFICIENT, ANSWER ON A SEPARATE SHEET AND INDICATE IN THE SPACE PROVIDED THAT A SEPARATE SHEET IS ATTACHED.

1. **TYPE OF BUSINESS:**

EATING ESTABLISHMENT

INDOOR COMMERCIAL RECREATION ESTABLISHMENT

CONVENIENCE STORE

SUPER MARKET

PACKAGE LIQUOR STORE

HOTEL OR MOTEL

OTHER (DESCRIBE) _____

2. **TRADE NAME OF BUSINESS:**

Jasmine Food Mart, Inc

LOCATION:

41, Big Horn Lane

Street Number

Street Name

Dawsonville

City

GA

State

30534

Zip Code

Land Lot

3. **IS THIS LOCATION WITHIN A COMMERCIAL ZONING DISTRICT?**

PROOF OF ZONING IS REQUIRED FROM PLANNING AND DEVELOPMENT

For package liquor stores, is this zoned Commercial Highway Business (C-HB) or Commercial Planned Comprehensive Development (CPCD) as required by the ordinance?

_____yes _____no.

PROOF OF C-HB or CPCD ZONING IS REQUIRED FROM PLANNING AND DEVELOPMENT.

4. **DOES THE COMPLETED BUILDING OR THE PROPOSED BUILDING COMPLY WITH ORDINANCES OF DAWSON COUNTY, REGULATIONS OF THE STATE REVENUE COMMISSIONER, AND THE LAWS OF THE STATE OF GEORGIA?** yes IF NO, EXPLAIN NON-COMPLIANCE AND PROPOSED METHODS

TO RECTIFY SAME: _____

PREMISE AND STRUCTURE FORM

5. (a) DOES THE BUILDING IN WHICH THE BUSINESS IS TO BE LOCATED CONTAIN SUFFICIENT LIGHTING SO THAT THE BUILDING ITSELF AND THE PREMISES ON ALL SIDES OF THE BUILDING ARE READILY VISIBLE AT ALL TIMES FROM THE FRONT OF THE STREET ON WHICH THE BUILDING IS LOCATED AS TO REVEAL ALL OF THE OUTSIDE PREMISES OF SUCH BUILDING? yes
- (b) IS THE BUILDING SO ILLUMINATED SO THAT ALL HALLWAYS, PASSAGE WAYS, AND OPEN AREAS MAY BE CLEARLY SEEN BY THE CUSTOMER THEREIN? yes

IF THE ANSWER IS NO TO EITHER OR BOTH (a) OR (b) ABOVE, PLEASE EXPLAIN PROPOSED METHODS TO RECTIFY THE INSUFFICIENT LIGHTING. _____

6. **FOR CONSUMPTION ON PREMISES AND RETAIL PACKAGE APPLICATIONS:**

(Answer "N/A" for items that are not applicable to your business)

- (a) NUMBER OF SQUARE FEET OF TOTAL FLOOR AREA: _____
- (b) NUMBER OF SQUARE FEET DEVOTED TO DINING AREA: N/A
- (c) SEATING CAPACITY EXCLUDING BAR AREA: N/A
- (d) DO YOU HAVE A FULL SERVICE KITCHEN? N/A

DOES THE FULL SERVICE KITCHEN CONTAIN A THREE (3) COMPARTMENT SINK? _____

IS THE STOVE AND/OR GRILL PERMANENTLY INSTALLED AND APPROVED BY THE HEALTH AND FIRE DEPARTMENTS? _____

IF THE ANSWER TO ANY OF THE IMMEDIATE FOREGOING IS NO, PLEASE EXPLAIN: _____

- (e) HOURS PREPARED MEALS OR FOODS ARE SERVED: N/A
- (f) HOURS THAT ALCOHOLIC BEVERAGES ARE SERVED or SOLD: 9am - 11:00pm M-S
Sun - 12pm - 11:00pm
- (g) HOURS OF OPERATION: 6am - 11:00pm 7 days a week
- (h) MAXIMUM NUMBER OF EMPLOYEES ON HIGHEST SHIFT: 1
- (i) NUMBER OF PARKING SPACES: _____
- (j) NUMBER OF PARKING SPACES DEVOTED TO HANDICAPPED PERSONS: _____
- (k) **PACKAGE LIQUOR STORES:**

DO YOU COMPLY WITH ORDINANCE ARTICLE 5 SECTION 503 - POSTING OF LICENSE NUMBER?
Every licensee shall have posted on the front of the licensed premises the name of the licensee together with the following inscription, "County Retail Package Sales of Distilled Spirits License No. _____"

DO YOU COMPLY WITH ORDINANCE ARTICLE 5 SECTION 505 A) (2) - TYPES OF OUTLETS WHERE PACKAGE SALES ARE PERMITTED? _____

Outlets that are devoted exclusively to the retail sale of distilled spirits, malt beverages and/or wine by the package with ingress and egress provided directly to and only to the exterior of the building and not to any other enclosed part of the building or adjoining building.

PREMISE AND STRUCTURE

7. **FOR HOTEL/MOTEL ONLY:**

- (a) NUMBER OF ROOMS AVAILABLE FOR HIRE TO GENERAL PUBLIC: _____
- (b) NUMBER OF SQUARE FEET OF FLOOR SPACE DEVOTED TO RESTAURANT: _____
- (c) NUMBER OF SQUARE FEET OF FLOOR SPACE DEVOTED TO DINING AREA: _____
- (d) SEATING CAPACITY EXCLUDING BAR AREA: _____
EXPLAIN IF MORE THAN ONE DINING AREA: _____

- (e) DO YOU HAVE A FULL SERVICE KITCHEN? _____
DOES THE FULL SERVICE KITCHEN CONTAIN A THREE (3) COMPARTMENT SINK? _____
IS THE STOVE AND/OR GRILL PERMANENTLY INSTALLED AND APPROVED BY THE HEALTH AND FIRE DEPARTMENTS? _____
IF THE ANSWER TO ANY OF THE IMMEDIATE FOREGOING IS NO, PLEASE EXPLAIN: _____

- (f) HOURS PREPARED MEALS OR FOODS ARE SERVED: _____
- (g) HOURS THAT ALCOHOLIC BEVERAGES ARE SERVED: _____
- (h) MAXIMUM NUMBER OF EMPLOYEES ON THE HIGHEST SHIFT DEVOTED TO THE OPERATION OTHER THAN THE RESTAURANT: _____
- (i) MAXIMUM NUMBER OF EMPLOYEES ON HIGHEST SHIFT DEVOTED TO THE RESTAURANT OPERATION: _____
- (j) NUMBER OF PARKING SPACES: _____
- (k) NUMBER OF PARKING SPACES DEVOTED TO HANDICAPPED PERSONS: _____

FOR ALL APPLICATIONS:

- 8. **ATTACH A CERTIFIED SCALE DRAWING OF THE PROPOSED PREMISES BY A REGISTERED LAND SURVEYOR OR PROFESSIONAL ENGINEER, SHOWING THE DISTANCE REQUIREMENT FROM CHURCH, SCHOOL, DAYCARE FACILITY, OR ALCOHOL TREATMENT CENTER.
(See Survey Form # 3-A)**
- 9. **ATTACH APPLICANT'S CERTIFICATION THAT THE LOCATION COMPLIES WITH THE DISTANCE REQUIREMENT FROM CHURCH, SCHOOL, DAYCARE FACILITY OR ALCOHOL TREATMENT CENTER.
(See Survey Form 3-A)**
- 10. **ATTACH EVIDENCE OF OWNERSHIP (DEED, LEASE, SALES AGREEMENT, LETTER OF INTENT).**

PREMISE AND STRUCTURE FORM

- 11. IF THE APPLICANT IS A FRANCHISE, ATTACH A COPY OF THE FRANCHISE AGREEMENT OR CONTRACT.
- 12. IF THE APPLICANT IS AN EATING ESTABLISHMENT, ATTACH A COPY OF THE MENU(S).
- 13. (a) IF THE BUILDING IS COMPLETE, ATTACH COPIES OF DETAILED SITE PLANS OF SAID BUILDING INCLUDING OUTSIDE PREMISES AND FLOOR PLAN.

(b) IF THE BUILDING IS PROPOSED, ATTACH COPIES OF PROPOSED SITE PLAN AND SPECIFICATIONS AND BUILDING PERMIT OF THE PROPOSED BUILDING.

NOTE: Before signing this statement, check all answers and explanations to see that you have answered all questions fully and correctly. This statement is to be executed under oath and subject to the penalties of false swearing, and it includes all attached sheets submitted herewith

STATE OF GEORGIA, DAWSON COUNTY

I, Azeem Ali, DO SOLEMNLY SWEAR, SUBJECT TO THE PENALTIES OF FALSE SWEARING, THAT THE STATEMENTS AND ANSWERS MADE BY ME AS THE APPLICANT IN THE FOREGOING PREMISE AND STRUCTURE STATEMENT ARE TRUE AND CORRECT.

[Signature]
APPLICANT'S SIGNATURE

I HEREBY CERTIFY THAT Azeem Ali SIGNED HIS/HER NAME TO THE FOREGOING APPLICATION STATING TO ME THAT HE/SHE KNEW AND UNDERSTOOD ALL STATEMENTS AND ANSWERS MADE THEREIN, AND, UNDER OATH ACTUALLY ADMINISTERED BY ME, HAS SWORN THAT SAID STATEMENTS AND ANSWERS ARE TRUE AND CORRECT.

THIS, THE 6 DAY OF Aug, 20 18.

[Signature]
NOTARY PUBLIC

M PRABHAN
NOTARY PUBLIC
Gwinnett County
State of Georgia
My Comm. Expires Mar. 23, 2019

Summary

Parcel Number 113 140
Location Address 41 BIG HORN DR
Legal Description LL 315 LD 135
 (Note: Not to be used on legal documents)
Class C3-Commercial
 (Note: This is for tax purposes only. Not to be used for zoning.)
Zoning C-HB
Tax District UNINCORPORATED (District 01)
Millage Rate 23.916
Acres 1.17
Neighborhood 400 (00042)
Homestead Exemption No (50)
Landlot/District 315 /

[View Map](#)



Owner

JASMINE BUSINESS INC
 2019 SUGAR SPRINGS DR
 LAWRENCEVILLE, GA 30043

Land

Type	Description	Calculation Method	Frontage	Depth	Acres	Lots
COM	400 Commercial 400000	Acres	0	0	1.17	0

Commercial Improvement Information

Description Convenience Stores-C-Average
Value \$408,397
Actual Year Built 1997
Effective Year Built 1997
Square Feet 4968
Wall Height 14
Wall Frames Wood
Exterior Wall Stucco
Roof Cover Tar & Gravel
Interior Walls Sheetrock
Floor Construction Concrete On Ground
Floor Finish Quarry Tile
Ceiling Finish Acoustical Tile
Lighting Standard F.F.
Heating Cent. Htg. & A.C.
Number of Buildings 1

Description Drive-thru Car Wash-C
Value \$60,542
Actual Year Built 1997
Effective Year Built 1997
Square Feet 925
Wall Height 14
Wall Frames Bearing Wall
Exterior Wall Brick
Roof Cover Tar & Gravel
Interior Walls Unfinished
Floor Construction Concrete On Ground
Floor Finish Concrete
Ceiling Finish
Lighting Standard F.F.
Heating No Heat
Number of Buildings 1

Accessory Information

Description	Year Built	Dimensions/Units	Identical Units	Value
COMMERCIAL SITE VALUE(50000)	1997	1x0 / 1	1	\$50,000
COMM.ASPH.PAVING(10000-100000)	1997	0x0 / 19353	1	\$15,482
COMM.CONC.PAVING(1-5000)	1997	0x0 / 3691	1	\$5,167
xLIGHT POLES (PARKING LOTS)	1997	0x0 / 2	1	\$3,000

Sales

Sale Date	Deed Book / Page	Plat Book / Page	Sale Price	Reason	Grantor	Grantee
7/18/2007	823 2	37 49	\$1,500,000	Fair Market Sale (Improved)	CHESTATEE CAPITAL LLC	JASMINE BUSINESS INC
4/11/1997	238 6 32		\$0	Convenience	CHESTATEE CAPITAL LL	CHESTATEE CAPITAL LL
8/2/1996	222 254	37 49	\$513,556	Fair Market Sale (Vacant)	COUNTRY CUPBOARD FOO	CHESTATEE CAPITAL LL
3/2/1995	196 321		\$446,250	Fair Market Sale (Vacant)		COUNTRY CUPBOARD FOO

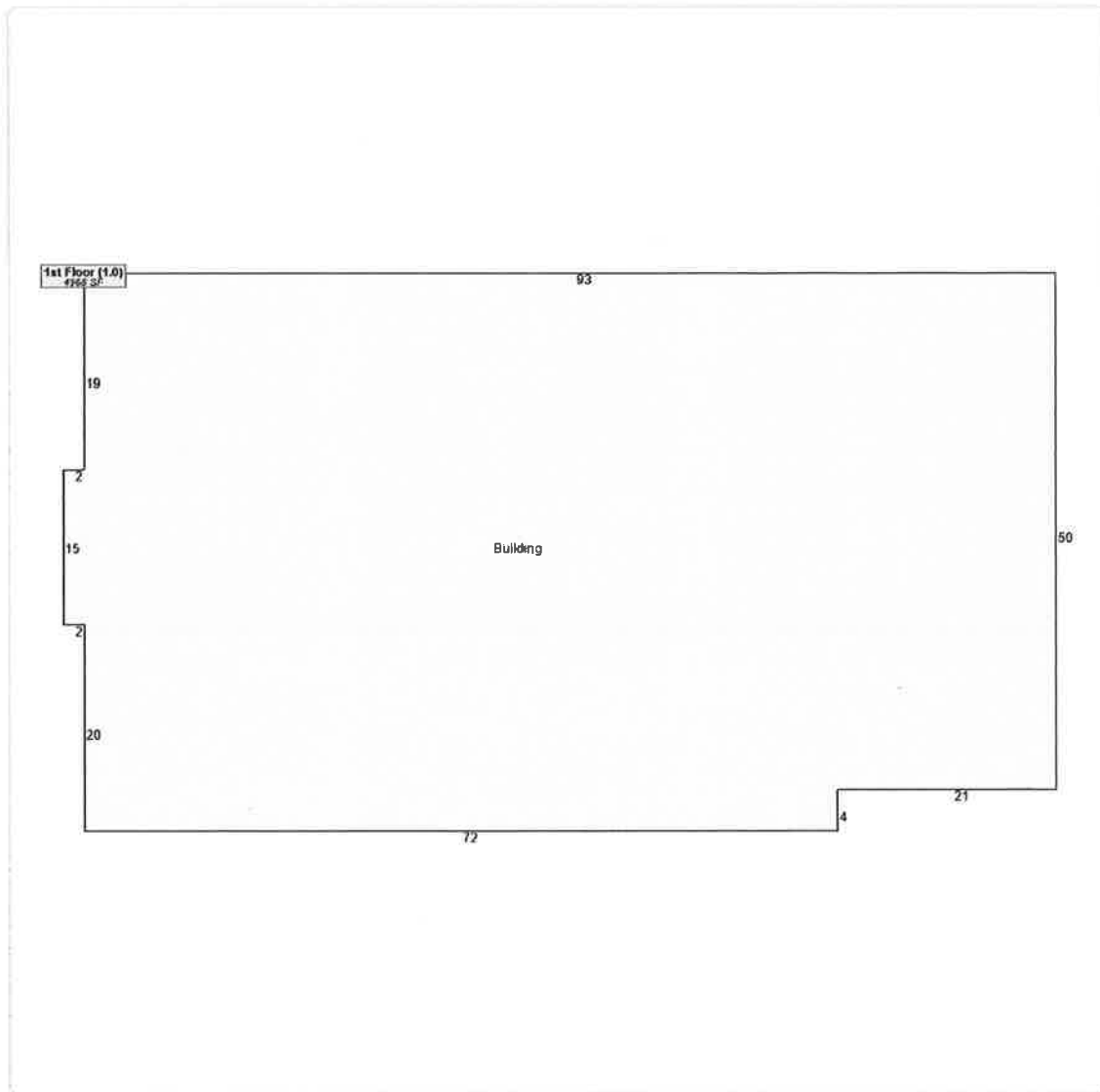
Valuation

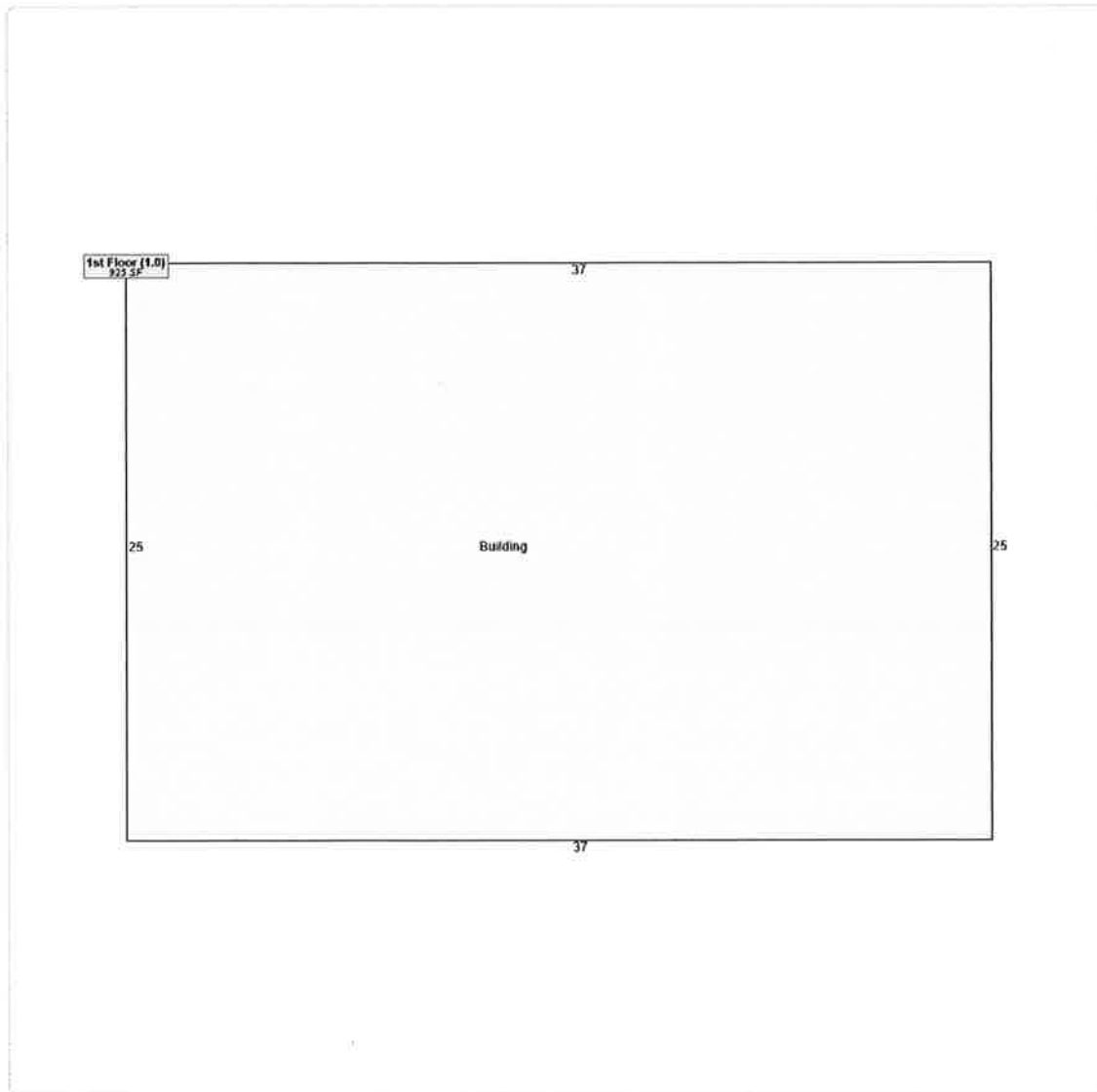
	2018	2017	2016	2015
Previous Value	\$1,253,012	\$1,253,012	\$1,022,278	\$984,604
Land Value	\$710,424	\$710,424	\$710,424	\$495,144
+ Improvement Value	\$468,939	\$468,939	\$468,939	\$453,485
+ Accessory Value	\$73,649	\$73,649	\$73,649	\$73,649
= Current Value	\$1,253,012	\$1,253,012	\$1,253,012	\$1,022,278

Photos



Sketches



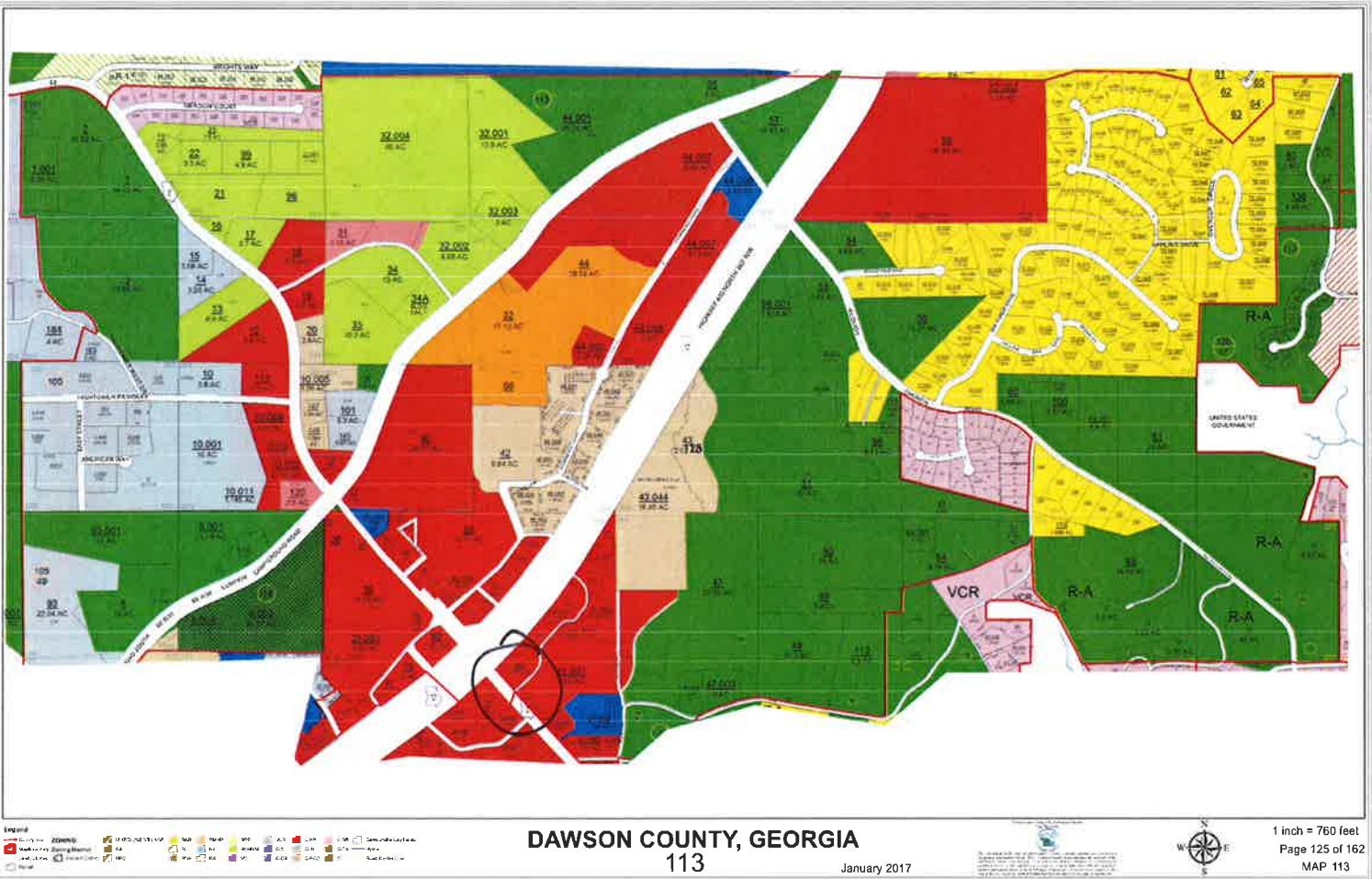


No data available for the following modules: Rural Land, Conservation Use Rural Land, Residential Improvement Information, Mobile Homes, Prebill Mobile Homes, Permits.

The Dawson County Assessor makes every effort to produce the most accurate information possible. No warranties, expressed or implied are provided for the data herein, its use or interpretation. The assessment information is from the last certified tax roll. All other data is subject to change.

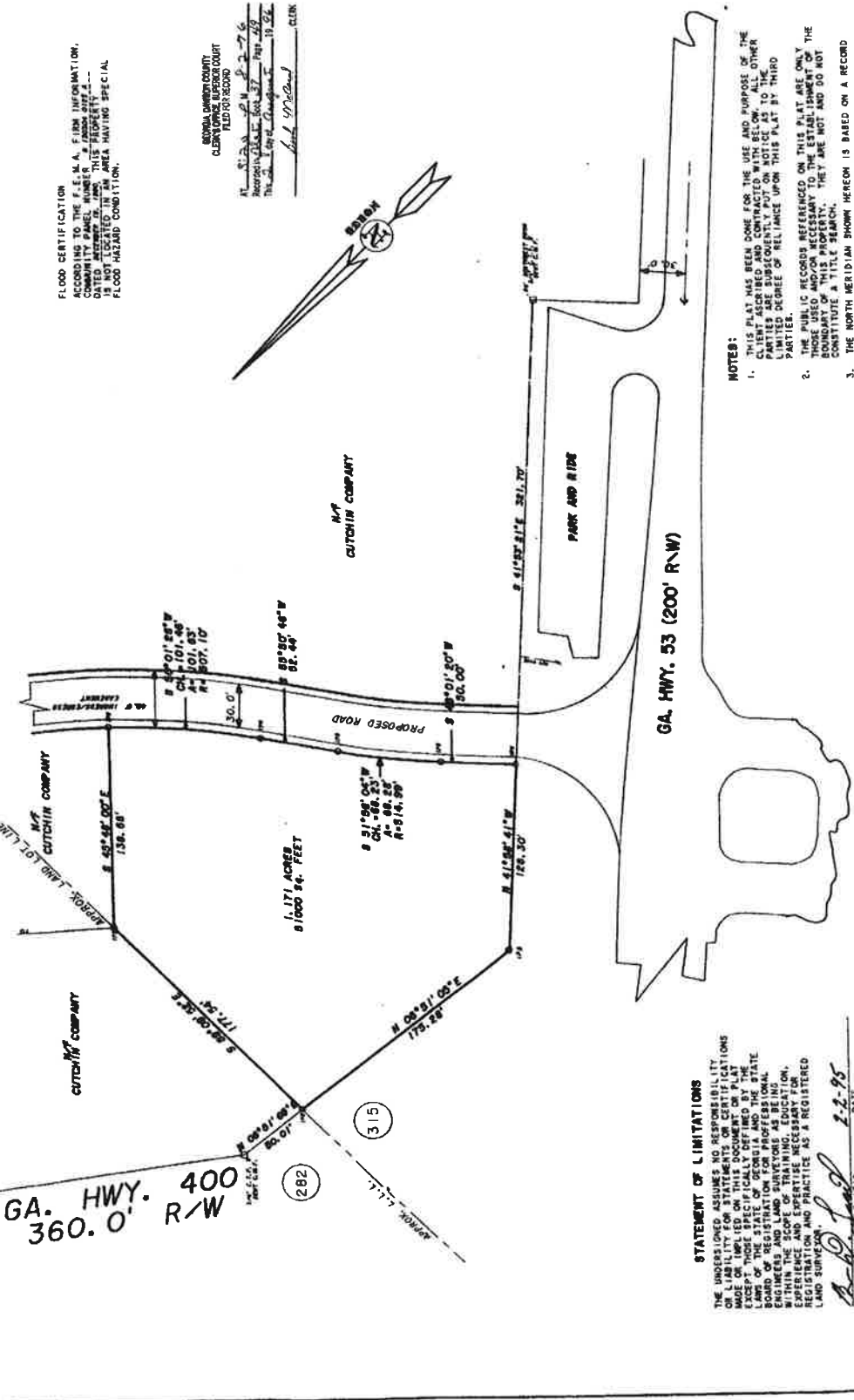
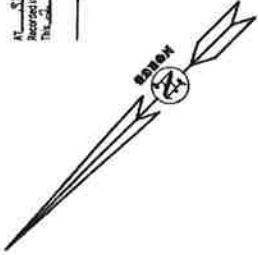


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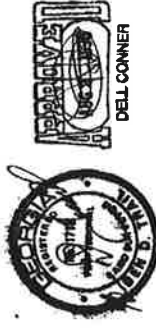
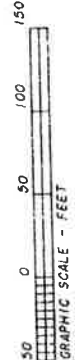
FLOOD CERTIFICATION
 ACCORDING TO THE F.E.M.A. FIRM INFORMATION,
 COMMUNITY PANEL NUMBER 17200000000000000000
 IS NOT LOCATED IN AN AREA HAVING SPECIAL
 FLOOD HAZARD CONDITION.

GEORGIA SURVEYING BOARD
 CLEMENS SUPERIOR COURT
 FILED FOR RECORD
 RECORD BOOK 37 PAGE 249
 THE SURVEYOR'S SIGNATURE IS
Ben G. Hall
 CLERK



NOTES:
 1. THIS PLAT HAS BEEN DONE FOR THE USE AND PURPOSE OF THE CLIENT AS DESCRIBED AND CONTRACTED WITH BELOW. ALL OTHER PARTIES ARE SUBSEQUENT TO THIS PLAT. THIS PLAT IS THE PROPERTY OF THE CLIENT AND IS TO BE KEPT IN THE OFFICE OF THE SURVEYOR.
 2. THE PUBLIC RECORDS REFERENCED ON THIS PLAT ARE ONLY THOSE USED AND/OR NECESSARY TO THE ESTABLISHMENT OF THE BOUNDARY OF THIS PLAT.
 3. TRUE NORTH MERIDIAN SHOWN HEREON IS BASED ON A RECORD MAGNETIC BEARING.

STATEMENT OF LIMITATIONS
 THE UNDERSIGNED ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGE TO THE PLAT OR FOR ANY LOSS OF RECORDS OR FOR ANY OTHER REASON EXCEPT THOSE SPECIFICALLY DEFINED BY THE LAWS OF THE STATE OF GEORGIA AND THE STATE SURVEYING BOARD. THE SURVEYOR'S LIABILITY IS LIMITED TO THE SCOPE OF TRAINING, EDUCATION, EXPERIENCE AND EXPERTISE NECESSARY TO THE PERFORMANCE OF HIS DUTY AS A REGISTERED LAND SURVEYOR AND PRACTICE AS A REGISTERED LAND SURVEYOR.
 BEN G. HALL 2-2-95 DATE



REVISOR 8-1-94 TITLE BLOCK
 SURVEY FOR:
CHESTATEE CAPITAL, LLC & CHICAGO TITLE INSURANCE COMPANY
LAND LOT 315-SOUTH HALF 13TH DISTRICT-1ST SECTION
 DAWSON COUNTY, GEORGIA
 DRAWN BY: G. C. V
 JOB NO. 950201
 PREPARED BY
MORELAND MTOBELLI ASSOCIATES, INC.
 GAINESVILLE, GEORGIA PHONE: 404-332-4021
 DATE: 1-31-95
 SCALE: 1" = 50'

THE FIELD DATA ON WHICH THIS MAP OR PLAT IS BASED HAS A CLOSURE PER CENT OF ONE FOOT IN 50,284 FEET AND AN ANGLE ERROR OF 00.00 SECONDS PER ANGLE POINT. THIS MAP OR PLAT HAS BEEN CALCULATED FOR CLOSURE AND FOUND TO BE ACCURATE WITHIN ONE FOOT IN 100,000 FEET.
 THIS PLAT WAS PREPARED IN CONFORMITY WITH THE MINIMUM STANDARDS AND REQUIREMENTS OF LAW, GEORGIA LAWS 1978, AND IS SUITABLE FOR RECORDING.
 TYPE OF EQUIPMENT: LEITZ SET-

- LEGEND
- A-I.F. ANGLE IRON FOUND
 - C-M.F. CONCRETE MONUMENT FOUND
 - C-L CENTERLINE
 - I-P.F. IRON PIN FOUND
 - I-P.S. LAND LOT SET (1/2" REBAR)
 - U.L. UNDERGROUND UTILITY
 - P.L. PROPERTY LINE
 - O.P.L. OVERHEAD POWER LINE
 - P-P. POWER POLE
 - R-W. RIGHT-OF-WAY

Printed: 8/8/2018 8:42:01 AM



Official Tax Receipt
Dawson County
25 Justice Way, Suite 1222
Dawsonville, GA 30534
—Online Receipt—

Phone: (706) 344-3520
Fax: (706) 344-3522

Trans No	Property ID / District Description	Original Due	Interest & Penalty	Amount Due	Amount Paid	Transaction Balance
2017 - 6954	113 140 / 1 LL 315 LD 13S FMV: 1253012	\$11986.85	\$0.00 Fees: \$0.00 \$0.00	\$0.00	\$11986.85	\$0.00
Totals:		\$11986.85	\$0.00	\$0.00	\$11986.85	\$0.00

Paid Date: 11/8/2017

Charge Amount: \$11986.85

JASMINE BUSINESS INC
 2019 SUGAR SPRINGS DR

LAWRENCEVILLE, GA 30043



Scan this code with your mobile phone to view this bill

DAWSON COUNTY PLANNING AND DEVELOPMENT

ALCOHOL LICENSING

Location & Mailing Address:

25 JUSTICE WAY, SUITE 2322
DAWSONVILLE, GA 30534

Phone: 706/344-3500 x 42335

STATEMENT OF PERSONAL HISTORY

Instruction: This statement must be typed or neatly printed and executed under oath. Each question must be fully answered. If space provided is not sufficient, answer on a separate sheet and indicate in the space if a separate sheet is attached.

1. NAME: Ali Azeem Amir
Last First Middle

RESIDENCE: 2019, Sugar Springs Dr
Street Number Street Name
Dawsonville GA 30043 678 717 9647
City State Zip Code Telephone Number

2. CHECK: (all that apply)

Sole Owner/Proprietor Partner: General Limited Silent
 Director Principal Stockholder (20% or more)
 Registered Agent Officer: _____
 Manager Employee: _____

3. TRADE NAME OF BUSINESS FOR WHICH THIS STATEMENT IS MADE:

NAME OF BUSINESS: Jannine Food Mart, Inc
LOCATION: 411 Big Horn Lane
Street Number Street Name P. O. Box
Dawsonville GA 30054 678 717 9647
City State Zip Code Telephone Number

4. STATE THE PERCENTAGE OF OWNERSHIP OR INTEREST, IF ANY, IN THIS BUSINESS: _____

100%

5. STATE METHOD AND AMOUNT OF COMPENSATION, IF ANY, DIRECTLY OR INDIRECTLY: _____

6. DATE OF BIRTH: 8/25/1977 PLACE OF BIRTH: Pakistan
SSN: 33094 2269 SEX: MALE FEMALE RACE: Asian
COLOR OF HAIR: Bk COLOR OF EYES: Bk

7. U.S. CITIZEN LEGAL PERMANENT RESIDENT QUALIFIED ALIEN OR NON-IMMIGRANT

Requirements:

Affidavit for Issuance of a Public Benefit and a Secure & Verifiable Document

E-Verify Private Employer Affidavit of Compliance or E-Verify Private Employer Exemption Affidavit

STATEMENT OF PERSONAL HISTORY

8. SINGLE MARRIED WIDOWED DIVORCED SEPARATED

IF MARRIED OR SEPARATED, COMPLETE INFORMATION LISTED BELOW:

FULL NAME OF SPOUSE: Janmire Gadhia SSN# 606928825
 MAIDEN NAME: Gadhia PLACE OF BIRTH: India
 DATE OF BIRTH: 9/29/81 NAME AND ADDRESS OF SPOUSE'S EMPLOYER:

9. STATE ANY OTHER NAMES THAT YOU HAVE USED: MAIDEN NAME, NAMES BY FORMER MARRIAGES, FORMER NAMES CHANGED LEGALLY OR OTHERWISE, ALIASES, NICKNAMES, ETC. SPECIFY WHICH, SHOW DATES, ETC.:

10. EMPLOYMENT RECORD FOR THE PAST TEN (10) YEARS. (LIST THE MOST RECENT EXPERIENCE FIRST).

From Mo/Yr	To Mo/Yr	Occupation & Duties Performed	Salary Received	Employer (Business Name)	Reason for Leaving
09/2011	current	owner	2000\$	Acworth B.P.	currently Emp

11. LIST IN REVERSE CHRONOLOGICAL ORDER ALL OF YOUR RESIDENCES FOR THE PAST TEN (10) YEARS:

From	To	Street	City	State
2005	current	2019, Sugar Springs Dr	Lawrenceville	GA

STATEMENT OF PERSONAL HISTORY

12. DO YOU HAVE ANY FINANCIAL INTEREST, OR ARE YOU EMPLOYED IN ANY OTHER WHOLESALE OR RETAIL BUSINESS ENGAGED IN DISTILLING, BOTTLING, RECTIFYING, OR SELLING ALCOHOLIC BEVERAGES? _____

NO

IF YOUR ANSWER IS "YES" TO NUMBER 14, GIVE NAMES, LOCATIONS, AND AMOUNT OF INTEREST IN EACH: _____

13. HAVE YOU EVER HAD ANY FINANCIAL INTEREST IN AN ALCOHOLIC BEVERAGE BUSINESS THAT WAS DENIED A LICENSE? _____

IF SO, GIVE DETAILS: NO

14. HAS ANY ALCOHOLIC BEVERAGE LICENSE IN WHICH YOU HOLD, OR HAVE HELD, ANY FINANCIAL INTEREST OF, OR EMPLOYED, OR HAVE BEEN EMPLOYED, EVER BEEN CITED FOR ANY VIOLATIONS OF THE RULES AND REGULATIONS OF THE STATE REVENUE COMMISSIONER RELATING TO THE SALE AND DISTRIBUTION OF ALCOHOLIC BEVERAGES? _____

IF SO, GIVE DETAILS: NO

15. IF DURING THE PAST TEN YEARS YOU HAVE BOUGHT OR SOLD ANY BUSINESS ASSOCIATED WITH ALCOHOL, GIVE DETAILS. (DATE, LICENSE NUMBER, PERSONS, AND CONSIDERATIONS INVOLVED):

Sanky's Food Mart

16. HAVE YOU EVER BEEN DENIED BOND BY A COMMERCIAL SECURITY COMPANY? NO

IF SO, GIVE DETAILS: _____

17. ARE YOU A REGISTERED VOTER? NO IN WHAT STATE? _____

18. HAVE YOU EVER BEEN ARRESTED, OR HELD BY FEDERAL, STATE OR OTHER LAW ENFORCEMENT AUTHORITIES, FOR ANY VIOLATION OF ANY FEDERAL LAW, STATE LAW, COUNTY OR MUNICIPAL LAW, REGULATION OR ORDINANCES? (Do not include traffic violations. All other charges must be included even if they were dismissed. Give reason charged or held, date, place where charged and disposition. If no arrest, write no arrest. After last arrest is listed, please write no other arrest):

1. No arrest

2. _____

3. _____

4. _____

STATEMENT OF PERSONAL HISTORY

19. LIST BELOW FOUR REFERENCES (PERSONAL AND BUSINESS). GIVE COMPLETE ADDRESS AND PHONE NUMBER INCLUDING AREA CODE. IF GIVING A BUSINESS REFERENCE, NAME A PERSON AT THE LOCATION TO BE CONTACTED. DO NOT INCLUDE RELATIVES OR EMPLOYERS OR FELLOW EMPLOYEES OF PARTICULAR BUSINESS.

1. Jannine Gadhia 2019, Sugar Springs Dr Lawrenceville
678-717-7049
2. Akber Gadhia 10640 Montchis way Decatur GA 30097
770-757-5196
3. Ayan kar 6566 Hwy 53 E Dawsonville GA 30534
706-216-6662
4. Yasmin Gadhia 2019 Sugar Springs Dr Lawrenceville
404 786 1633

20. HAVE YOU HAD ANY LICENSE UNDER THE REGULATORY POWERS OF DAWSON COUNTY DENIED, SUSPENDED, OR REVOKED WITHIN TWO (2) YEARS PRIOR TO THE FILING OF THIS APPLICATION?

NO

IF SO, GIVE DETAILS: _____

21. ATTACH PHOTOGRAPH (Front View) TAKEN WITHIN THE PAST YEAR:



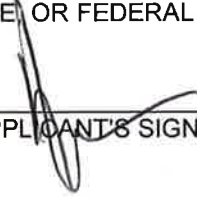
NOTE: ATTACH A COPY OF YOUR DRIVER'S LICENSE TO THIS FORM.

STATEMENT OF PERSONAL HISTORY

Before signing this statement, check all answers and explanations to see that you have answered all questions fully and correctly. This statement is to be executed under oath and subject to the penalties of false swearing, and it includes all attachments submitted herewith.

STATE OF GEORGIA, DAWSON COUNTY.

I, Azeem Ali, DO SOLEMNLY SWEAR, SUBJECT TO THE PENALTIES OF FALSE SWEARING, THAT THE STATEMENT AND ANSWERS MADE BY ME AS THE APPLICANT IN THE FOREGOING PERSONAL STATEMENT ARE TRUE AND CORRECT. FURTHER, AS PART OF THE PROCESS RESULTING FROM MY APPLICATION FOR BACKGROUND INVESTIGATION, FOR AN ALCOHOLIC BEVERAGE LICENSE. I HEREBY AUTHORIZE PERSONNEL OF THE DAWSON COUNTY SHERIFF'S DEPARTMENT OR DAWSON COUNTY MARSHAL'S OFFICE TO RECEIVE, VERIFY, AND DISSEMINATE ANY CRIMINAL HISTORY INFORMATION WHICH MAY BE IN THE FILES OF ANY LOCAL, STATE OR FEDERAL CRIMINAL JUSTICE AGENCY FOR INVESTIGATIVE PURPOSES, DENIAL, OR APPEALS.



APPLICANT'S SIGNATURE

I HEREBY CERTIFY THAT Azeem Ali SIGNED HIS/HER NAME TO THE FOREGOING APPLICATION STATING TO ME THAT HE/SHE KNEW AND UNDERSTOOD ALL STATEMENTS AND ANSWERS MADE THEREIN, AND UNDER OATH ACTUALLY ADMINISTERED BY ME, HAS SWORN THAT SAID STATEMENTS AND ANSWERS ARE TRUE AND CORRECT.

THIS, THE 6 DAY OF Aug, 2018



NOTARY PUBLIC

M PRADHAN
NOTARY PUBLIC
Gwinnett County
State of Georgia
My Comm. Expires Mar. 23, 2019

Dawson County, Georgia Board of Commissioners

Private Employer Exemption Affidavit Pursuant To O.C.G.A. § 36-60-6(d)

By executing this affidavit, the undersigned private employer verifies that it is exempt from compliance with O.C.G.A. § 36-60-6, stating affirmatively that the individual, firm or corporation employs fewer than eleven employees and therefore, is not required to register with and/or utilize the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable revisions and deadlines established in O.C.G.A. § 13-10-90.



Signature of Exempt Private Employer

Azeem Ali

Printed Name of Exempt Private Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on August, 06, 2018 in Duluth (city), GA (state).



Signature of Authorized Officer or Agent

Azeem Ali (owner)

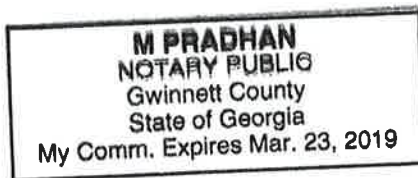
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME
ON THIS THE 6 DAY OF August, 2018.



NOTARY PUBLIC

My Commission Expires: 3-23-2019



COMMERCIAL LEASE AGREEMENT

THIS COMMERCIAL LEASE AGREEMENT (this “Lease”) is made and entered as of the Effective Date by and between Landlord and Tenant.

ARTICLE 1
DEFINITIONS

As used in this Lease, the following terms shall have the respective meanings set forth in Article 1 below. Other terms are defined elsewhere in this Lease. If there are any conflicts between the terms in this Article 1 and the terms in the remainder of the Lease, the terms in this Article 1 shall govern and control.

Effective Date (also known as the date of this Lease):	August <u>15</u> , 2018
Landlord:	Jasmine Business Inc, a Georgia corporation.
Lender:	Any person or entity which made or makes a loan to Landlord, secured by a Security Instrument
Security Instrument:	A deed to secure debt, mortgage, deed of trust or similar security instrument, security agreement or UCC financing statement, now or hereinafter encumbering the Premises, and any modifications, renewals, consolidations, extensions, or replacements of any of the foregoing, and all advances made or hereafter to be made upon the security thereof
Tenant:	Jasmine Food Mart Inc, a Georgia limited liability company, 2019 Sugar Springs dr Lawrenceville, GA 30043 and Azeem Ali, an individual and Georgia resident, 2019 Sugar Springs Dr Lawrenceville, GA 30043 the foregoing parties being joint and several as Tenant hereunder
Guarantors:	Not applicable, as Tenant individual is individually a party Tenant to this Lease
Premises:	The term, “ Premises ” shall mean the Land, Improvements and Personalty, collectively and as such terms are defined below. “ Land ” means that certain lot, tract or parcel of land, bearing a street address of 41 Big Horn Lane, Dawsonville, Dawson County, Georgia, as more particularly described in <u>Exhibit A</u> attached hereto and made a part hereof, together with all of Landlord’s easement rights and appurtenances thereto; “ Improvements ” mean all buildings (singularly or collectively, the “ Buildings ”), structures, improvements and fixtures now existing or hereafter situated on the Land, including without limitation, all canopies, lighting, electrical, mechanical, plumbing, heating, ventilation and air conditioning systems, underground storage tanks and system and motor fuel dispensers; “ Personalty ” means all equipment and other personal property owned by Landlord and situated on the Land, together with all additions and accessions thereto, substitutions therefor and replacements thereof permitted by this Lease. WHEREAS, Tenant acknowledges Landlord owns all furniture, trade fixtures, equipment and such other tangible property now located at the Premises (except inventory and supplies which have been purchased by Tenant under a separate agreement of even date), collectively the “ Landlord’s

	FFE”;
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Initial Term:	<p>The period of time commencing on the Effective Date of this Lease and terminating on the last day of the twenty-fourth (24th) full calendar month following the Rent Commencement Date, unless this Lease shall sooner terminate or be extended as provided herein; provided, however, if the Rent Commencement Date is not the first day of a month, then the Initial Term shall commence on the Rent Commencement Date and shall continue for the balance of the month in which the Rent Commencement Date occurs and thereafter for the total number of months set forth above (the “Initial Term”). Upon Landlord's written request, Tenant shall promptly execute and deliver to Landlord documentation confirming the date of Landlord's delivery of the Premises to Tenant, the Rent Commencement Date and Expiration Date of the Term of this Lease; provided, however, execution and delivery of such documentation shall in no event delay any such dates.</p> <p>Reference to the Term shall mean the Initial Term and Renewal Terms (if any and if applicable).</p>
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Lease Year:	<p>“Lease Year 1” means the period beginning on the Rent Commencement Date and ending on the last day of the 12th full calendar month thereafter; provided, however, if the Rent Commencement Date is not the first day of a month, then Lease Year 1 shall commence on the Rent Commencement Date and shall continue for the balance of the month in which the Rent Commencement Date occurs and for a period of 12 full calendar months thereafter. “Lease Year” means each successive 12 month period after Lease Year 1 occurring during the Term.</p>
Renewal Options and Renewal Terms (if any):	<p>If Tenant shall be in possession of the Premises on the date the original term of this Lease expires, and if the Lease shall be in full force and effect on such date and Tenant shall have fully complied with all the obligations and conditions of the Lease and has never been in default of the Lease, Tenant shall have the option to renew this Lease, under the same terms, for an additional three (3) years, provided Tenant shall give written notice to Landlord that he is exercising this option at least ninety (90) days but no more than one hundred eighty (180) days prior to the expiration of the original term hereof. Receipt of such notice by Landlord shall constitute renewal, and shall be binding upon the parties. Any such renewal shall incorporate all terms of this Lease.</p>
Renewal Notice Deadline:	<p>At least ninety (90) days but no more than one hundred eighty (180) days prior to the expiration of the original term hereof.</p>

Rent Commencement Date:	Same as the Effective Date
Expiration Date:	The last day in the last month of the Term or Renewal Term, as applicable

Late Charge:	The greater of \$25.00 or 10% of the unpaid Rent
Security Deposit:	\$0

Base Rent for Initial Term:	The sum due and payable during the Initial Term, as set forth below	
Period:	Monthly Base Rent	
Lease Months 1 thru 4	\$0	
Lease Months 5 thru 24	\$3000	

*indicates that base rent includes Tenant's share of real estate taxes.

Base Rent for Renewal Terms (if any):	The sum due and payable during the Renewal Term(s), as set forth below		
		Monthly Base Rent	
		\$3000.00	

Additional Rent:	All amounts, costs, expenses, liabilities and obligations which Tenant is required to pay pursuant to the terms of this Lease other than Base Rent, including amounts, costs, expenses, liabilities and obligations due to or incurred by Landlord as a result of or in connection with the exercise of any right of Landlord under this Lease or Tenant's failure to perform any obligation hereunder.
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Prepaid Rent:	First month's rent to be paid upon signing of the Lease
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Business Sale Consideration:	None
A Special Default Event:	The occurrence of any one or more of the following events: 1. A default or event of default by Tenant under (a) any fuel supply agreement to which Tenant is a party for the purchase of motor fuel products for the Premises, among other services; 2. Tenant fails to complete a repair or an image or equipment upgrade at the Premises within the time period set forth by the Motor Fuel Supplier; or, 3. The license for the operation of Amusement Machines at the Premises is suspended, revoked or non-renewed.

Permitted Use(s):	Use as a branded retail motor fuel outlet and convenience store including a car wash (although Landlord discloses that car wash equipment is not in good working condition), and for no other purpose or use whatsoever
Tenant's Trade Name:	Shell or the other retail motor fuel brand name designated by Landlord
Motor Fuel Supplier:	Wallace Oil Company (or its successors or assigns), or such other person or entity from time to time designated by Landlord.

Tenant's Address for Notices:	41 Big Horn Lane, Dawsonville GA 30534.
Landlord's Address for Notices:	2019 Sugar Springs Drive, Lawrenceville, Georgia 30043

Exhibits:	<u>Exhibit A</u> – Legal Description of Land at Premises <u>Exhibit B</u> – Landlord's FFE The Exhibits enumerated above (if any) are made a part of this Lease.
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ARTICLE 2
TERMS AND CONDITIONS

1. DEMISE. Landlord, for and in consideration of the rents, covenants and other payments hereinafter to be paid, observed, performed and fulfilled by Tenant, has demised and leased to Tenant, and Tenant, by these presents, does hereby rent and take the Premises from Landlord, subject to any state of facts that an accurate survey and inspection would show; to zoning ordinances affecting the Premises, to general utility, sewer and drainage easements of record, and to other easements, restrictions and encumbrances appearing in the public records of the county where the Land is situated on the Effective Date, to have and to hold for the Term.

2. TERM; ACCEPTANCE OF PREMISES. The Term of this Lease shall be effective on the Effective Date and continues thereafter through and until 11:59 p.m. on the Expiration Date. Tenant shall have and hold the Premises for the Term, unless sooner terminated or extended as hereinafter provided. Tenant takes and accepts the Premises upon the terms and conditions herein contained and in its present condition and **AS IS, WHERE IS, WITH ALL FAULTS CONDITION**, and hereby stipulates that the Premises are suited for the use intended by Tenant, except as

may be otherwise expressly provided in this Lease. Tenant agrees that Landlord has made no representations and/or warranties, express or implied, with respect to the Premises; that it has examined the Premises and is fully satisfied with the condition thereof, including but not limited to the economic viability, profitability or business potential of the business thereon; and that it is solely relying on the results of its own investigation relative to the entry of this Lease.

3. RENT. During the Term, Tenant covenants and agrees to pay to Landlord, without notice, demand, setoff, counterclaim, recoupment, abatement, suspension, deferment, diminution, deduction, reduction or defense, the sums designated as Rent for the respective periods, as set forth in Article 1. References to “**Rent**” shall mean the sums designated in Article 1 as Base Rent and Additional Rent. Rent shall be paid in lawful money of the United States, at Landlord’s Address for Notices; provided, however, Landlord reserves the right to collect Rent by electronic means, including electronic funds transfer or ACH or by online (Web-based) means, and Tenant hereby covenants and agrees, from time to time, to execute any and all documents required to facilitate payment by such means. Tenant shall commence payment of Rent on the Rent Commencement Date. Unless otherwise provided by this Lease, all amounts due from Tenant to Landlord for Rent shall be payable on or before the first (1st) calendar day of each and every calendar month hereunder, in advance; provided, however, Rent shall be prorated for a partial month. It shall be Tenant's responsibility to ensure that Rent payments are received by Landlord on or before the date when such payments are due. Payments that are mailed are done so at Tenant's sole risk and, regardless of when a payment is mailed, payment shall not be deemed received by Landlord until the payment is actually in Landlord's possession. If Landlord fails to receive all or any portion of Rent by the 5th day of each month, Tenant shall pay a Late Charge to Landlord, as Additional Rent, such amount being an administrative charge payable to Landlord to handle the additional costs incurred by Landlord in connection with such late payment, together with actual attorney’s fees incurred by Landlord. Nothing in this Section shall authorize Tenant to pay Rent later than the due date, and acceptance of a late charge or interest shall not constitute a waiver of Tenant’s default with respect to the overdue amount nor prevent Landlord from exercising any of the other rights and remedies available to Landlord under this Lease, at law or in equity. Should Landlord, at its option, either extend the time of payment or accept partial Rent payment due, neither of such actions shall prejudice Landlord's right to subsequently insist upon Tenant's strict compliance with the requirements hereof, and Landlord's acceptance of any partial Rent payment shall be without prejudice to Landlord's right to recover the balance of Rent then owing or to pursue any remedy provided for in this Lease. Should Tenant present a check to Landlord that is returned by Tenant’s bank for any reason or should an electronic payment not clear, post or be valid for any reason, Tenant agrees to pay Landlord, on demand, a service charge not to exceed \$100.00 or five percent (5%) of the face amount of the check or insufficient electronic payment, whichever is lesser, plus an amount equal to any bank fee charged to Landlord, and, at Landlord’s option, all future payment of Rent shall be by cashier’s check only.

4. SECURITY DEPOSIT. Tenant shall deposit the Security Deposit with Landlord on or prior to the Effective Date, which shall be held by Landlord, without liability to Tenant for any interest thereon, as security for the full and faithful performance by Tenant of each and every term, covenant and condition of this Lease. If the Rent or Additional Rent shall be unpaid or should Landlord make payments on behalf of Tenant, or should Tenant fail to perform any of the terms of this Lease, then Landlord may, at its option, appropriate and apply the Security Deposit, or so much thereof as may be necessary to compensate Landlord toward the payment of the Rent, charges or other sums due from Tenant, or towards any loss, damage or expense sustained by Landlord resulting from such default on the part of Tenant; and in such event Tenant shall upon demand restore the Security Deposit to the original sum deposited. In the event Tenant furnishes Landlord with proof that all utility bills have been paid through the date of Lease termination, and performs all of Tenant’s other obligations under this Lease, the Security Deposit shall be returned in full to Tenant within thirty (30) days after the Expiration Date, or sooner date of termination of this Lease pursuant to agreement of the parties, and the surrender of the Premises by Tenant in compliance with the provisions of this Lease. In the event of a sale of the Premises, subject to this Lease and transfer of the Security Deposit to the new landlord, Landlord shall be released from all liability for the return of the Security Deposit and Tenant shall look solely to the new landlord for the return of the Security Deposit. This provision shall apply to every transfer or assignment made of the Security Deposit to a new landlord.

5. UTILITIES. Landlord agrees to provide and maintain the necessary mains, conduits and other facilities necessary to supply water, electricity and sewerage service to the Premises. Within seven (7) days of the Effective Date, Tenant shall open its own accounts for utilities serving the Premises, including without limitation, gas, electricity, water, sewer, garbage, and all other utilities required by Tenant for the Premises, and thereafter and for the remainder of the Term of the Lease, Tenant shall maintain such accounts in its own name. Tenant shall

owe Landlord, as Additional Rent, the prorated amount due for utilities in the first month of Lease Year 1, with the payment due from Tenant within five (5) days of presentation of a statement evidencing the underlying charges. Tenant shall not at any time overburden or exceed the capacity of the mains, feeders, ducts, conduits, or other facilities by which such utilities are supplied to, distributed in or serve the Premises. Landlord shall not be liable for any interruptions in utility services, which are due to fire, accident, strike, acts of God, or other causes beyond the reasonable control of Landlord.

6. USE OF PREMISES. The Premises shall be used for the Permitted Use(s) and no other. The Premises shall not be used for any illegal purposes, or in any manner to create any nuisance or trespass, or in any manner to vitiate the insurance or increase the rate of insurance on the Premises. Tenant covenants and agrees that it will not use, or suffer, or permit any person, firm or entity to use the Premises or any portion thereof in violation of the laws of the Governmental Authorities (as defined in Section 34 hereof). Tenant agrees to keep the Premises open on days and at required by the Motor Fuel Supplier, **but no less than 7 days a week, with a minimum of 18 hours per day except for weather related closings or special holiday hours.** Tenant covenants and agrees to comply with, the requirements and rules of the Motor Fuel Supplier and applicable motor fuel brand. Tenant will operate Premises under Tenant's Trade Name and will keep the Premises fully-stocked with merchandise with an adequate supply of merchandise and products for sale to the general public. Tenant, at Tenant's expense, shall be responsible to procure and maintain all state and local licenses and permits that may be required for Tenant to operate the Premises for the Permitted Use(s). Tenant shall not at any time abandon the Premises, but shall in good faith continuously throughout the Term of this Lease conduct and carry on in the Premises the type of business for which the Premises are leased. This Lease shall be deemed and construed to be a "net lease" and under no circumstances or conditions, whether now existing or hereafter arising, or whether beyond the present contemplation of the parties, shall Landlord be expected or required to make any payment of any kind whatsoever or be under any other obligation or liability hereunder, except as otherwise expressly set forth in this Lease. Landlord reserves the right to promulgate reasonable rules and regulations, which in Landlord's sole judgment may, from time to time, be needed for safety, care and cleanliness of the Premises, and for the preservation of good order therein. Such rules and regulations shall be effective upon notice to Tenant.

7. CARE OF PREMISES. Tenant assumes the sole responsibility for the condition, use, operation, maintenance, replacement and management of the Premises and Landlord shall have no responsibility in respect thereof and shall have no liability for damages to the property of Tenant or any SubTenant of Tenant or anyone claiming by, through or under Tenant for any reason whatsoever, unless such damage is caused by the gross negligence or willful misconduct of Landlord, provided that such gross negligence or willful misconduct shall not entitle Tenant to abate, suspend, defer, diminish or reduce the payment of Base Rent or Additional Rent. All costs and expenses (other than depreciation, interest on and amortization of debt incurred by Landlord, and costs incurred by Landlord in financing or refinancing the Premises) and other obligations of every kind and nature whatsoever relating to the Premises and the appurtenances thereto and the use and occupancy thereof which may arise or become due and payable with respect to the period which ends on the expiration of the Term in accordance with the provisions hereof (whether or not the same accrue or shall become payable before or during the Term or thereafter) shall be paid and performed by Tenant. Additionally, Tenant shall be responsible for any repairs or maintenance to the pumps, underground storage tanks, petroleum dispensing system, and associated equipment. Any and all repairs, replacements, rebuilding, painting, cleaning and maintenance of the Premises shall be performed with materials and labor of the kind and quality equal or superior to the original work. Tenant agrees to return the Premises to Landlord at the expiration of this Lease, in as good condition and repair as when first received, natural wear and tear, damage by storm, fire, lightning, earthquake or other casualty and permitted improvements by Tenant or subtenants hereunder alone excepted. Any personal property of Tenant not removed within ten (10) days following the expiration or earlier termination of this Lease shall be deemed to have been abandoned by Tenant and shall, at Landlord's option, become the property of Landlord, and may be retained or disposed of by Landlord, as Landlord shall desire. If Landlord, in the exercise of Landlord's sole reasonable discretion, determines that emergency repairs, replacement, rebuilding, painting, cleaning or maintenance for which Tenant is responsible are necessary or desirable, or any repairs, replacement, rebuilding, painting, cleaning or maintenance to the Premises are made necessary by any act or omission or negligence of Tenant's agents, employees, subtenants, assignees, concessionaires, contractors, invitees, licensees, or visitors, then, in any of such events, Landlord shall be entitled, but not obligated, to perform or cause to be performed such repairs,

replacement, rebuilding, painting, cleaning, or maintenance without incurring any liability to Tenant for any damage caused thereby, and Tenant shall pay Landlord the cost thereof plus fifteen percent (15%) as Additional Rent upon demand.

8. ALTERATIONS. Tenant shall not make any alterations, additions, or improvements to the Premises (the “**Remodeling**”) without the prior written consent of Landlord, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion. All approved Remodeling will be performed in a good and workmanlike manner, in conformity with all laws, and by a contractor reasonably satisfactory to Landlord, free of any liens or encumbrances. Landlord may require Tenant to remove any Remodeling (whether or not made with Landlord’s consent) at the termination of this Lease and to restore the Premises to its prior condition, all at Tenant’s expense. All Remodeling, which Landlord has not required Tenant to remove, shall become Landlord’s property and shall be surrendered to Landlord upon the termination of this Lease, except that Tenant may remove any of Tenant’s trade fixtures or other personal property, which can be removed without damage to the Premises.

9. TAXES.

(a) **Ad Valorem Taxes.** Landlord agrees to pay all ad valorem or real estate taxes, including general and special assessments for public improvements or benefits, levied, assessed or imposed at any time by any Governmental Authorities upon or against the Premises or any portion thereof, which accrue or become due with respect to any period during the Term (collectively, the “**Taxes**”). Tenant’s base monthly rent has been calculated to include any ad valorem real estate taxes.

(b) **Personal Property Taxes.** Tenant agrees to pay, when due, all personal property taxes and assessments and solid waste taxes or fees, levied, assessed or imposed at any time by any Governmental Authorities upon or against the Premises or any portion thereof, which accrue or become due with respect to any period during the Term. Within five (5) days after payment, Tenant shall deliver to Landlord proof of payment, together with a copy of the underlying statements or bills.

10. INSURANCE. Landlord shall, during the Term of this Lease, and at Tenant’s expense (by reimbursement to Landlord on a monthly basis of one-twelfth of the annual insurance premium) maintain in full force and effect: (a) All risk property insurance covering (i) the Improvements and Personalty, and all building materials and other property which constitute part of the Premises, and

Tenant shall, during the Term of this Lease, and at Tenant’s expense maintain in full force and effect (a) all risk property insurance covering Tenant’s trade fixtures, signs, inventory and supplies, furniture, equipment, and improvements and betterments installed by Tenant, all amounts not less than one hundred percent (100%) of the full replacement value thereof (as reasonably determined by Landlord); (b) Contractual and comprehensive commercial general liability insurance against claims for bodily injury, death or property damage occurring on, in or about the Premises, which insurance shall be written on a so-called occurrence basis, and shall provide minimum protection with a combined single limit in an amount not less than Two Million and No/100 Dollars (\$2,000,000.00) for any one occurrence, and such insurance shall have a deductible of not greater than Five Thousand and No/100 Dollars (\$5,000.00); (c) Business interruption and loss of rent insurance in amounts sufficient to compensate Landlord for all Base Rent, Additional Rent and other amounts payable hereunder for a period of not less than twelve (12) months, the amount of such coverage to be adjusted annually to reflect the Base Rent, Additional Rent and other amounts payable during the succeeding twelve (12) month period; (d) Liability insurance covering the liabilities arising out of the dispensing or selling of alcoholic beverages imposed under any laws, including, without limitation a "dram shop" or alcoholic beverage control act, with a cross liability clause and a severability of interests clause to cover Tenant's indemnity and including an endorsement if necessary to provide coverage of personal injury and defense for a third party, all in limits of not less than One Million and No/100 Dollars (\$1,000,000.00) inclusive per occurrence or, upon Landlord's request, such higher limits as shall become customary under new leases of comparable Premises; and (e) Such additional and/or other insurance coverage, endorsements, or deductibles with respect to the Premises and in such amounts as reasonably requested by Landlord or its Lender. Every insurance policy maintained pursuant to this Lease shall (a) provide that the issuer waives all rights of subrogation against Landlord, any successor to Landlord’s interests in the Premises and Landlord’s Lender, and (b) provide that thirty (30) days’ advance notice of cancellation, modification, termination or lapse of coverage shall be given to Landlord and Landlord’s Lender and that such insurance, as to the interest of Landlord and Landlord’s Lender, shall not be invalidated by any act or neglect of Landlord, Landlord’s Lender, Tenant or any party, nor by any foreclosure or any other proceedings

relating to the Premises, nor by any change in the title ownership of the Premises, nor by use or occupation of the Premises for purposes more hazardous than are permitted by such policy, and (c) be primary and without right or provision of contribution as to any other insurance carried by Landlord or any other interested party. The insurance required by this Section shall be written by companies and agencies reasonably satisfactory to Landlord. All policies of property insurance provided for herein shall name the Landlord and its Lender, as loss payee and additional insured, as their interest may appear. A certificate of insurance shall be delivered to Landlord upon or prior to delivery of possession of the Premises to Tenant and thereafter within thirty (30) days after the commencement of each Lease Year. Policies shall be made available to Landlord for review within ten (10) days of Landlord's written request. As often as any such policy shall expire or terminate, renewal or additional policies shall be procured and maintained by Tenant in like manner and to like extent.

In addition to Tenant's requirement to carry such insurance, Tenant shall pay, **as additional rent each month**, 100% of Landlord's reasonable expense incurred in Landlord's purchase of all risk property insurance, including fire and replacement insurance, covering the Improvements and Personalty, and all building materials and other property which constitute part of the Premises, **and** Tenant shall pay, **as additional rent each month**, 100% of Landlord's reasonable expense incurred in Landlord's purchase of comprehensive commercial general liability insurance against claims for bodily injury, death or property damage occurring on, in or about the Premises.

11. DESTRUCTION OF OR DAMAGE TO PREMISES. Tenant shall give immediate written notice to Landlord of any damage to the Premises caused by fire or other casualty, and if Landlord does not elect to terminate this Lease as hereinafter provided, Landlord shall proceed with reasonable diligence and at its sole cost and expense to rebuild and repair the Premises, provided that such casualty was not caused by the actions or inaction of Tenant. Notwithstanding the foregoing, in the event that (a) the insurance proceeds payable in connection with such damage and destruction shall be insufficient to make such restoration, (b) the Premises shall be destroyed or substantially damaged by casualty not covered insurance, (c) the Buildings at the Premises shall be destroyed or rendered untenantable by any casualty to the extent of at least fifty percent (50%) of the gross rental area of the Buildings, as determined by Landlord, (d) Landlord shall not have actual and unconditional receipt of the insurance proceeds payable in connection with such damage and destruction, (e) the holder of any Security Instrument require that such proceeds shall be applied against any indebtedness owed to such holder, Landlord may elect to terminate this Lease by giving notice to Tenant within ninety (90) days after the occurrence of such casualty. In the event the Premises are partially or totally damaged or destroyed by a casualty at any time during the last two (2) years of the Initial Term, or within two (2) years before the expiration of any Renewal Term, Landlord may elect to terminate this Lease by giving notice to Tenant within ninety (90) days after the occurrence of such casualty. Rent shall be adjusted as of the date of such termination. Landlord's obligation to rebuild and repair the Premises under this Section 11 shall in any event be limited to restoring the Premises to substantially the condition in which the same existed prior to the casualty, and Tenant agrees that promptly after the completion of such work by Landlord, Tenant will proceed with reasonable diligence and at its sole cost and expense to restore all alterations, additions and improvements done by Tenant within the Premises to substantially the condition in which the same existed prior to the casualty. Notwithstanding any of the provisions herein to the contrary, Landlord shall have no obligation to rebuild the Premises or the Improvements and may, at its option, terminate this Lease, unless the damage or destruction is a result of a casualty covered by an insurance policy and the proceeds from the insurance are made available to Landlord for rebuilding. All of the insurance proceeds, excluding proceeds for Tenant's trade fixtures, merchandise, signs and other personal property, shall be retained by and be the property of Landlord. Tenant agrees that during any period of reconstruction or repair of the Premises, it will continue the operation of its business within the Premises to the extent practicable. During the period from the occurrence of a casualty until Landlord's repairs are completed, the Base Rent and Additional Rent shall not abate. Tenant shall not be entitled to and hereby waives, releases, and relinquishes any and all claims against Landlord for any compensation or damage for loss of use of all or any part of the Premises or for any inconvenience or annoyance occasioned by any such damage, destruction, repair, or restoration of the Premises.

12. CONDEMNATION. If the whole of the Premises, or such portion thereof as will make the Premises unusable for the purposes herein leased (as reasonably determined by Landlord), are condemned by any legally constituted authority for any public use or purpose, then, in either of said events, the Term of this Lease shall cease from the date when possession thereof is taken by public authorities, and Rent and Additional Rent shall be accounted for as between Landlord and Tenant as of said date. If such partial taking is not extensive enough to render the Premises unusable for the purposes herein leased (as reasonably determined by Landlord), then this Lease shall continue in

effect, except that the Base Rent shall be reduced in the same proportion that the leasable floor area of the Premises taken bears to the original leasable floor area leased and Landlord shall, upon receipt of the award in condemnation, make all repairs or alterations to the Premises as are reasonably practical, but such work shall not exceed the scope of work in originally constructing the Premises, nor shall Landlord, in any event, be required to spend for such work an amount in excess of the amount received by Landlord as damages for the part of the Premises so taken. Tenant hereby irrevocably assigns to Landlord, any award or payment in respect of any condemnation; provided, that (except as hereinafter provided) nothing in this Lease shall be deemed to assign to Landlord any award relating to the taking of Tenant's own tangible property and damages for Tenant's loss of business, business interruption, or removal and relocation or any award or payment on account of the Tenant's moving expenses and out-of-pocket expenses incidental to the move, if available, to the extent Tenant shall have a right to make a separate claim therefor against the condemner, it being agreed, however, that Tenant shall in no event be entitled to any payment that reduces the award to which Landlord is or would be entitled for the condemnation of Landlord's interest in the Premises or for the taking of all or part of the fee simple estate.

13. ASSIGNMENT AND SUBLETTING. Tenant shall not, without the prior, written consent of Landlord, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion, assign, sublet, hypothecate, offer for management by another, or otherwise transfer this Lease or any interest hereunder, sell the business at the Premises or any part thereof, or permit the use of the Premises by any party other than Tenant (each of which shall be referred to as a "Lease Transfer"). A single transaction or a series of transactions in which more than a ten percent (10%) interest in Tenant, whether stock, partnership interest, limited liability company membership interest, or otherwise, is transferred, diluted, reduced or otherwise affected, shall constitute a Lease Transfer, requiring Landlord's prior written consent, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion. Landlord's consent to a Lease Transfer shall not impair this provision and all later Lease Transfers shall be made likewise only on the prior, written consent of Landlord, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion. The assignee of Tenant, at option of Landlord, shall become directly liable to Landlord for all obligations of Tenant hereunder, but no sublease or assignment by Tenant shall release or discharge Tenant of any liability hereunder. Any request by Tenant for approval for a Lease Transfer shall be accompanied by a processing charge, payable to Landlord, in the amount of Two Thousand and 00/100 Dollars (\$2,000.00). Landlord reserves the right to require a Security Deposit in an amount to be determined by Landlord in its sole and absolute discretion, if a Lease Transfer is approved by Landlord. Tenant may sublease the portion of the Premises dedicated solely to the operation of the car wash and retain all such income therefrom.

14. EVENTS OF DEFAULT.

(a) The occurrence of any one or more of the following events during the Term of this Lease shall constitute an event of default under this Lease on the part of the Tenant: (i) If the Base Rent or any part thereof, or any sum of money due or payable as Rent or Additional Rent under the provisions of this Lease, shall not be paid on any day whereon such payment is due and such default shall continue for a period of five (5) calendar days after notice of default; (ii) Tenant fails to be open for business as required by this Lease, or vacates or abandons the Premises; (iii) Tenant or any such Guarantor makes an assignment for the benefit of creditors, or admits in writing that it cannot meet its obligations as such obligations become due, or is adjudicated a bankrupt, or Tenant or any such Guarantor institutes any proceedings under any federal or state insolvency or bankruptcy law, or under any other act relating to the subject of bankruptcy wherein Tenant or any such Guarantor seeks to be adjudicated as bankrupt, or to be discharged of its debts, or to effect a plan of liquidation, composition or reorganization, or should any involuntary proceedings be filed against Tenant or any such Guarantor under any such insolvency or bankruptcy law and such proceeding not be removed within ninety (90) days thereafter. If any insolvency proceedings are instituted against Tenant, the Premises shall not become an asset in any such proceedings; (iv) a Lease Transfer shall occur without Landlord's prior written consent; (v) a Special Default Event shall occur; or (vi) Except for events enumerated in the other foregoing subsections of this Section 14(a), Tenant fails in the observance or performance of any of its other covenants, agreements or conditions provided for in this Lease, and said failure shall continue for a period of ten (10) days after written notice thereof from Landlord to Tenant, unless such failure cannot reasonably be cured within ten (10) days and Tenant shall have commenced to cure said failure within said ten (10) days and continues diligently to pursue the curing of the same, which cure shall occur no later than thirty (30)

days from the date of such notice from Landlord. The occurrence of any one or more of the following events during the Term of this Lease shall constitute an event of default under this Lease on the part of the Tenant:

- (b) Notwithstanding the foregoing provisions of Section 14(a), if a default by Tenant occurs four (4) or more times in any Lease Year, then, notwithstanding that each of such defaults have been cured by Tenant within the period for cure (if any) allowed in the Lease, any future default within such Lease Year shall be deemed an event of default without Landlord being required to give any further notice and opportunity to cure
- (c) A Lease Transfer shall occur without Landlord's prior written consent.
- (d) Tenant violates any material rules or requirements of Motor Fuel Supplier or the brand at the Premises.

15. REMEDIES UPON DEFAULT.

(a) Upon the occurrence of any event of default, Landlord shall have the option to pursue any one or more of the following rights and remedies without any notice or demand whatsoever except as otherwise indicated below:

(i) terminate this Lease by giving Tenant notice of termination, in which event this Lease shall expire and terminate on the date specified in such notice of termination, and Tenant shall remain liable for all obligations under this Lease arising up to the date of such termination, and Tenant immediately shall surrender the Premises to Landlord on the date specified in such notice; and/or

(ii) terminate Tenant's right of possession, without terminating this Lease, and Landlord may, as agent for Tenant, enter into and upon the Premises and take possession thereof, and Landlord may rent the Premises upon such terms and conditions as Landlord may deem necessary or desirable in order to relet the Premises. Upon each such reletting, all rents received by Landlord from such reletting shall be applied: first, to the payment of any indebtedness (other than any Rent due hereunder) from Tenant to Landlord; second, to the payment of any costs and expenses of such reletting, including, without limitation, brokerage fees and attorney's fees and costs of alterations and repairs; third, to the payment of Rent and any other charges and sums then due and unpaid hereunder; and fourth, the residue, if any, shall be held by Landlord to the extent of and for application in payment of future sums as the same may become due and payable hereunder. In reletting the Premises as aforesaid, Landlord may grant rent concessions and Tenant shall not be credited therefor. If such rentals received from such reletting shall at any time or from time to time be less than sufficient to pay to Landlord the entire sums then due from Tenant hereunder, Tenant shall pay any such deficiency to Landlord; and/or

(iii) terminate Tenant's right of possession, without terminating this Lease, and Landlord may, as agent for Tenant, enter into and upon the Premises, by force if necessary, and, at Landlord's election, under any available process, and do whatever Tenant is obligated to do under the terms of this Lease. Tenant shall pay Landlord promptly upon invoice any expenses, including attorney's fees, which Landlord incurs in thus effecting compliance with Tenant's obligations under this Lease, but Landlord shall not be liable for any damages resulting to Tenant from such action, whether caused by the negligence of Landlord or otherwise. No such entry or action by Landlord shall relieve Tenant of the liability for Rent or other sums then accrued or which thereafter accrue; and/or

(iv) terminate this Lease and recover from Tenant all damages Landlord may incur by reason of Tenant's event of default, including, without limitation, a sum which, at the date of such termination represents the present value (discounted at a rate equal to the then average rate for Moody's "AAA" rated corporate bonds) of the excess, if any, of (A) the Rent and all other charges and sums which would have been payable hereunder by Tenant for the period commencing with the day following the date of such termination and ending with the date of termination of the Lease Term over (B) the aggregate reasonable rental value of the Premises for the same period, all of which present value of such excess sum shall be deemed immediately due and payable. In determining the aggregate reasonable rental value pursuant to item (B) above, the parties hereby agree that all relevant factors shall be considered as of the time Landlord seeks to enforce such remedy, including, but not limited to, (A) the length of time remaining in the Term of the Lease, (B) the then-current market conditions in the general area in which the Premises are located, (C) the likelihood of reletting the Premises for a period of time equal to the remainder of the Term of the Lease, (D) the net effective rental rates (taking into account all concessions) then being obtained for space of similar type and size in similar type buildings in the general area in which the Premises are located, (E) the vacancy levels in comparable quality buildings in the general area in which the Building is located, (F) the anticipated duration of the period the Premises will be unoccupied

prior to reletting, (G) the anticipated cost of reletting, and (H) the current levels of new construction that will be completed during the remainder of the Term of the Lease and the degree to which such new construction will likely affect vacancy rates and rental rates in comparable quality buildings in the general area in which the Premises are located. Such payment shall be and constitute Landlord's liquidated damages, Landlord and Tenant acknowledging and agreeing that it is difficult to determine the actual damages Landlord would suffer from Tenant's breach hereof and that the agreed upon liquidated damages are not punitive or penalties and are just, fair and reasonable, all in accordance with O.C.G.A. §13-6-7; and/or

(v) pursue any and all other remedies provided or permitted by law or equity, all remedies being cumulative.

(b) Forbearance by Landlord to enforce one or more of the remedies herein provided upon an event of default shall not be deemed or construed to constitute a waiver of such default.

(c) Tenant hereby appoints as its agent to receive service of all dispossessory or distraint proceedings, together with notices thereunder, the person in charge of the Premises at the time, or occupying the Premises, and if no person is then in charge of or occupying the Premises, then such service or notice may be made by attaching the same to the main entrance of the Premises, provided that a copy of any such proceedings or notice shall be sent to Tenant in the manner provided for notices hereunder, at the address for notices to Tenant in Article 1.

(d) Any actual costs and expenses incurred by Landlord (including, without limitation, its reasonable, actual attorneys' fees) in enforcing any of its rights or remedies under this Lease shall be repaid to Landlord by Tenant upon ten (10) days written notice from Landlord. No termination of this Lease prior to the normal ending thereof, by lapse of time or otherwise, shall affect Landlord's right to collect Rent for the period prior to termination thereof.

16. SIGNAGE. Tenant will not place any sign, banner, decoration, lettering, advertising matter or other thing on the roof of the Building at the Premises. Tenant will not place any other sign, banner, advertising matter or any other thing of any kind on the exterior of the Premises, which violates Motor Fuel Supplier's rules and without first obtaining Landlord's prior, written consent, which consent may be granted, denied, withheld or conditioned by Landlord in the exercise of Landlord's reasonable discretion. Tenant will, at its sole cost and expense, maintain such sign, banner, decoration, lettering, advertising matter or other thing as may be permitted hereunder in good condition and repair at all times, and be responsible to Landlord for any damage caused by installation, use or maintenance of said signs, and all damage incident to such removal.

17. LANDLORD'S RIGHT OF ENTRY. Landlord shall not retain duplicate keys to all doors of the Premises but shall have the right to enter the Premises at reasonable hours to inspect and examine same, to make repairs, additions, alterations, and improvements, to exhibit the Premises to Landlord's Lenders and prospective Lenders, purchasers or tenants (with respect to tenants, only during the last four (4) months of the Term), and to inspect the Premises to ascertain that Tenant is complying with all of its covenants and obligations hereunder, all without being liable to Tenant in any manner whatsoever for any damages arising therefrom, unless such damages are a direct result of Landlord's gross negligence or willful misconduct. During the ninety (90) days prior to the expiration or earlier termination of the Lease Term, Landlord may place a "For Lease" or like sign at the Premises.

18. SUBORDINATION AND ATTORNTMENT; ESTOPPEL CERTIFICATE. Tenant agrees that this Lease shall remain subject and subordinate to all Security Instruments and the lien and security interest created thereby and the indebtedness owed to Landlord's Lender. The terms of this provision shall be self-operative and no further instrument of subordination shall be required by any Lender or Security Instrument, and Tenant shall promptly execute and deliver to Landlord such certificate or instrument in writing as Landlord may request, showing the subordination of the Lease to such Security Instrument. If Tenant shall fail at any time to execute and deliver any such certificate or instruments, an event of default shall be deemed to have occurred, and Landlord, in addition to any other remedies available to it in consequence thereof, may execute, acknowledge and deliver such certificate or instruments on behalf of Tenant as the agent and attorney-in-fact of Tenant, with full power and authority in its name, place and stead, Tenant having constituted and appointed Landlord, its successors and assigns, as its true and lawful attorney-in-fact for that purpose. This power of attorney is coupled with an interest and shall be irrevocable. If the holder of any Security Instrument shall hereafter succeed to the rights of Landlord under this Lease, whether through possession or foreclosure action or delivery of a new lease, then, at the option of such holder, Tenant shall attorn to and recognize such successor as Tenant's landlord under this Lease, and shall promptly execute and deliver

any instrument that may be necessary to evidence such attornment. Tenant shall upon request by Landlord, at any time and from time to time, execute, acknowledge and deliver to Landlord a written statement certifying as follows: (a) that this Lease is unmodified and in full force and effect (or if there has been modification thereof, that the same is in full force and effect as modified and stating the nature thereof); (b) that to the best of its knowledge there are no uncured defaults on the part of Landlord (or if any such default exists, the specific nature and extent thereof); (c) the date to which any Rent and other charges have been paid in advance, if any; and (d) such other matters as may reasonably be requested by the party requesting the certificate, without requiring Landlord to make alterations or improvements to the Premises or modifications to the Lease. Any such statements may be relied upon by Landlord's Lender, the recipient of such statements or their assignees or by any prospective purchaser, assignee or subtenant of the Premises.

19. QUIET ENJOYMENT; LANDLORD'S RIGHT TO CONVEY; SURVIVAL. This Lease shall create the relationship of landlord and tenant between the parties hereto. No estate shall pass out of Landlord. Tenant has only a usufruct, not subject to levy and sale, and not assignable by Tenant except by Landlord's prior, written consent, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion. So long as Tenant observes and performs the covenants and agreements contained herein, it shall at all times during the Lease Term peacefully and quietly have and enjoy possession of the Premises, but always subject to the terms hereof. Landlord shall be entitled to convey and otherwise dispose of the Premises and its entire interest under this Lease, at any time, and thereafter shall not be subject to any liability resulting from any act or omission or event occurring on or after such conveyance, provided that the purchaser, in connection with such conveyance, expressly assumes Landlord's agreements and covenants under this Lease accruing on or after the effective date of the conveyance. The provisions of this Lease with respect to any obligation of Tenant to pay any sum owing or in order to perform any act after the expiration or earlier termination of this Lease, including but not limited to the obligations to indemnify under this Lease, shall survive the expiration or earlier termination of the Term, notwithstanding the lack of presence of any express term or provision to that effect.

20. HOLDING OVER. In the event Tenant remains in possession of the Premises after the expiration of this Lease and without the execution of a written agreement relative to the possession, signed by Landlord and Tenant, Tenant shall be deemed to be occupying the Premises as a tenant at sufferance at a Base Rent equal to the Base Rent due for the last month of the Lease Term plus fifty percent (50%) of such amount, and Landlord may hold Tenant responsible for any damages that Landlord may sustain as a result of Tenant's failure to make proper delivery of the Premises to Landlord. In no event shall there be any renewal of this Lease by operation of law.

21. ATTORNEY'S FEES. If, because of any default in Tenant's obligations hereunder or if an event of default occurs hereunder, Landlord shall employ an attorney to enforce or defend any of the Landlord's rights or remedies hereunder, Tenant agrees to pay Landlord's actual legal fees and out of pocket expenses, including but not limited to filing fees and court costs, incurred by Landlord.

22. BROKER'S COMMISSION. Tenant and Landlord each represents and warrants to the other that no broker, agent, commission salesman or other person has represented the warranting party in the negotiations for and procurement of this Lease and of the Premises, and that no commissions, fees or compensation of any kind are due and payable in connection herewith to any such person or entity.

23. ENVIRONMENTAL COMPLIANCE. The term "Hazardous Materials" shall include, without limitation, any material, waste or substance which is (i) included within the definitions of "hazardous substances", "hazardous materials", "toxic substances" or "hazardous wastes" in or pursuant to any Environmental Laws. The term, "Environmental Laws", shall include any and all federal, state and municipal statutes, laws, regulations, ordinances, rules, judgments, orders, decrees, codes, plans, injunctions, permits, concessions, grants, franchises, licenses, agreements or other governmental restrictions relating to the environment or to emissions, discharges or releases of Hazardous Materials into the environment including, without limitation, ambient air, surface water, ground water or land, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials or the clean-up or other remediation thereof. Tenant shall maintain at Tenant's expense, insurance pursuant to the Georgia Underground Storage Tank Act (GUST). Tenant shall at all times abide by and comply with the Environmental Laws of any Governmental Authorities having jurisdiction over underground motor fuel storage tanks at the Premises. Tenant shall not store, handle, process, dispose of or otherwise use any Hazardous Materials at or on the Premises during the Term of the Lease that would lead

or is likely to lead to the imposition on Tenant, Landlord or the Premises of any liability or lien of any nature whatsoever under any Environmental Laws. Tenant shall test the underground fuel storage tanks, leak detectors, lines and dispensers as frequently as required by the Environmental Laws and in no event less than once each year pursuant to one of the approved methods of testing set forth in the Environmental Laws. Tenant shall provide to Landlord copies of all results from the tests, and Tenant agrees to correct promptly any leakage or release of contents, which is evidenced by any such tests. In the event Tenant fails to test as provided herein, Landlord shall have the right to do so and the expense in testing shall become immediately due and payable to Tenant upon demand by Landlord and shall be treated as Additional Rent under this Lease. Tenant agrees to notify promptly Landlord orally (a) of any sudden, unexplained variance from its normal inventory pattern, (b) when relatively small losses are occurring but trending larger; (c) of any large increase of water in an underground tank; and (d) of any other suspicious circumstances whatsoever indicating an unexplained loss of products. Tenant shall immediately notify Landlord of a loss of motor fuel variation of one hundred or more gallons on a daily or cumulative basis up to thirty (30) days as reflected in its daily inventory system, of presence of one (1) inch or more of water is found in any storage tank, or one-half (1/2) inch or more of water is found in any diesel fuel storage tank, but not later than the next day, by the fastest means available. Landlord shall have the sole right to determine what tests are required to confirm any leaks and what corrective measures are to be taken. Tenant shall deliver to Landlord copies of all material correspondence to and from Governmental Authorities regarding environmental activities at the Premises, including, without limitation, correspondence regarding notices of violations, releases (including new releases) and closure letters. Tenant shall deliver to Landlord, and require its environmental contractor(s) to deliver to Landlord, copies of all spill and release notifications and reports given to Governmental Authorities regarding the Premises. Tenant agrees to furnish to Landlord upon request therefore, copies of all corrective action plans, monitoring reports, tank, line and leak detection testing results, Stage II Vapor Recovery test results, fire suppression test results, cathodic protection test results, UST registrations and related documents, and reimbursement claims filed with the Governmental Authorities. Tenant shall immediately clean up and properly dispose of all Hazardous Materials, which were dumped, spilled or otherwise deposited into the ground of the Premises from whatever cause or source from and after the Effective Date. If Tenant shall fail, refuse or neglect to report and/or remediate the contamination or release, as the case may be, as mandated by governmental authorities, Landlord may report and/or remediate that contaminants or release at Tenant's cost and expense. Tenant covenants and agrees to reimburse and promptly pay to Landlord all costs paid or incurred by Landlord associated with the release, contaminants and remediation, together with interest thereon at the Default Rate. If Tenant fails to reimburse Landlord within ten (10) days of demand therefor, such unpaid amount shall become Additional Rent due hereunder. Nothing herein shall obligate Landlord to remediate or take any action with respect to any release of Hazardous Materials at the Premises. Tenant hereby indemnifies and holds Landlord and Landlord's officers, trustees, directors, partners, beneficiaries, ground Landlords, joint venturers, members, stockholders, or other principals or representatives, disclosed or undisclosed (and their respective successors and assigns) (collectively, the "**Landlord Parties**"), harmless from all losses, liabilities, damages, demands, claims, actions judgments, causes of action, assessments, penalties, costs and expenses (including all reasonable attorneys' fees, expenses and court costs and other costs of litigation), of any nature whatsoever, whether based on a statute, regulation, law, tort or contract, in law or in equity, arising from any and all enforcement, clean-up, removal, mitigation, third-party claims, remediation or other governmental or regulatory acts, instituted, contemplated or threatened pursuant to any Environmental Laws affecting the Premises which resulted from or are related to, any release of Hazardous Materials, at or emanating from the Premises during the Term of the Lease, whether known or unknown as of the Effective Date or the Expiration Date, and whether or not caused by Tenant, or any of Tenant's agents, employees, subtenants, assignees, licensees, contractors or invitees (collectively, "**Tenant Parties**").

24. SECURITY INTEREST. [Intentionally omitted].

25. GOVERNING LAW. This Lease shall be governed by and construed in accordance with the laws of the State of Georgia. No conflicts of law rules of any state or country (including, without limitation, State of Georgia conflicts of law rules) shall be applied to result in the application of any substantive or procedural laws of any state or country other than the State of Georgia. For the purposes of any suit, action or proceeding involving this Lease, the parties hereby expressly submit to the jurisdiction of the state or superior court located within the county where the Premises are situated (the "**Venue Area**") and consent that any order, process, notice of motion or other application to or by any such court or a judge thereof may be served within or without such court's jurisdiction by registered mail or by personal service, provided that a reasonable time for appearance is allowed. The parties agree that such courts shall have the exclusive jurisdiction over any such

suit, action or proceeding commenced by either or both of said parties. In furtherance of such agreement, the parties agree upon the request of any party to discontinue (or agree to the discontinuance of) any such suit, action or proceeding pending in any other jurisdiction. Landlord and Tenant hereby irrevocably waive any objection that it may now or hereafter have to the laying of venue of any suit, action or proceeding arising out of or relating to this Lease brought in any federal or state court sitting within the confines of the Venue Area and hereby further irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum.

26. NOTICES. All notices, demands, requests, consents, approvals, offers, statements and other instruments or communications required or permitted to be given pursuant to the provisions of this Lease (“notice” or “notices”) shall be in writing and shall be deemed to have been given, for all purposes (i) three (3) days after having been placed in the United States registered or certified mail, return receipt requested, postage prepaid, addressed to the other party; (ii) on the date of hand delivery by commercial courier service; or (iii) one (1) business day after having been deposited with FedEx or UPS or other nationally recognized express courier service, for next business day delivery. Notices shall be given to the parties, respectively, to the addresses set forth in Article 1 above. Any party may substitute its address by giving ten (10) days’ prior notice to the other party in the manner provided above. Rejection or other refusal to accept or inability to deliver because of changed address of which no notice has been received shall also constitute receipt. Refusal, rejection, or return of any notice otherwise properly delivered shall be deemed to constitute delivery of such notice. Any notice may be given on behalf of any party by its counsel.

27. ENTIRE AGREEMENT; AMENDMENTS; BINDING EFFECT. This Lease, and the exhibits and attachments hereto (if any), contain the entire agreement of the parties and no representations, inducements, promises, or agreements, oral or otherwise, between the parties not embodied herein shall be of any force or effect. No subsequent alteration, amendment, change or addition to this Lease shall be binding upon Landlord or Tenant unless reduced to writing and signed by Landlord and Tenant. It is understood and agreed that all the covenants, agreements, terms, conditions, provisions and undertakings in this Lease or in any renewals thereof contained, shall extend to and be binding upon the heirs, executors, administrators, successors and permitted assigns of the respective parties hereto, the same as if they were in every case named and expressed.

28. RIGHTS CUMULATIVE; SEVERABILITY; TIME OF THE ESSENCE. All rights, powers and privileges conferred hereunder upon parties hereto shall be cumulative and not restrictive of those given as a matter of laws. If any clause or provision of this Lease is or becomes illegal, invalid, or unenforceable because of present or future laws of any Governmental Authorities, the intention of the parties hereto is that the remaining parts of this Lease shall not be affected thereby, unless the amount of Rent payable hereunder is thereby decreased, in which event Landlord may terminate this Lease. Time is of the essence of this Lease.

29. WAIVER OF RIGHTS; NO RECORDATION; COUNTERPARTS. No failure of Landlord to exercise any power given Landlord hereunder or to upon strict compliance by Tenant of its obligations hereunder and no custom or practice of the parties at variance with the terms hereof shall constitute a waiver of Landlord’s right to demand exact compliance with the terms hereof. Neither this Lease nor any memorandum hereof may be recorded without the Landlord’s prior, written consent, which consent may be granted, denied, withheld or conditioned by Landlord in its sole and absolute discretion. This Lease may be executed in multiple facsimiles, photocopy, PDFs, electronic and/or original counterparts, each of which shall be deemed an original, and all such counterparts together shall constitute one and the same instrument.

30. LIMITATIONS ON LANDLORD’S LIABILITY. Tenant acknowledges and agrees that the liability of Landlord under this Lease shall be limited to its interest in the Premises and any judgments rendered against Landlord shall be satisfied solely out of Landlord’s interest in the Premises. No personal judgment shall lie against Landlord upon extinguishment of its rights in the Premises and any judgment so rendered shall not give rise to any right of execution or levy against Landlord’s assets. The provisions hereof shall inure to Landlord’s successors and assigns including any Lender.

31. LANDLORD INDEMNIFICATION. Tenant hereby agrees to indemnify, defend and save Landlord and Landlord Parties harmless from all claims, actions, judgments, suits, losses, fines, penalties, demands, costs and expenses and liability whatsoever, including reasonable attorneys’ fees, expert fees and court costs (the “**Indemnified Claims**”) on account of (i) any damage or liability occasioned in whole or in part by any use or occupancy of the Premises or by any

act or omission of Tenant or any of Tenant Parties; (ii) the use of the Premises by Tenant or any Tenant Parties and conduct of Tenant's business by Tenant or any Tenant Parties, or any other activity, work or thing done, permitted or suffered by Tenant or any Tenant Parties, in or about the Premises; or (iii) any breach by Tenant of any obligations on Tenant's part to be performed under the terms of this Lease. In case any action or proceeding is brought against Landlord or any Landlord Parties by reason of any such Indemnified Claims, Tenant, upon notice from Landlord, shall defend the same at Tenant's expense by counsel approved in writing by Landlord and Landlord's insurance carrier, which approval shall not be unreasonably withheld. Tenant shall not be liable for damage or injury occasioned by the gross negligence or willful acts of Landlord or its agents, contractors or employees. Tenant's indemnification obligation under this Section 31 shall survive the expiration or earlier termination of this Lease.

32. PERSONAL GUARANTY. In consideration of Landlord's execution of this Lease, the Guarantor(s) identified in Article 1 of this Lease shall personally guaranty the Tenant's obligations of payment and performance under the terms of the Lease by executing and delivering to Landlord a guaranty agreement contemporaneously with the execution and delivery of this Lease and in the form required by Landlord in its sole and absolute discretion

33. DEFINITIONS. The term, "**Landlord**", as used in this Lease, shall include the undersigned, its heirs, executors, probate administrators, assigns and successors-in-title to the Premises. The term, "**Tenant**", shall include the undersigned and its heirs, executors, legal representatives and successors, and if this Lease shall be validly assigned or sublet, shall also include Tenant's assignees or subtenants as to the Premises covered by such assignment or sublease. In the event that there is more than one entity or person, which is a Tenant to this Lease, then any reference to Tenant shall refer, jointly and severally, to such entities or persons. The terms, "**Landlord**" and "**Tenant**", include male and female, singular and plural, corporation, partnership or individual, as may fit the particular parties. The term "**law**" or "**laws**" shall mean any present and future laws, constitution, statutes, codes, ordinances, orders, judgments, decrees, injunctions, rules, regulations and requirements, even if unforeseen or extraordinary of any Governmental Authorities. The term, "**Governmental Authorities**", means any federal, state, county, municipal or other government or governmental or regulatory arbitrator, board, body, commission, court, instrumentality, or other administrative, judicial, quasi-governmental or quasi-judicial tribunal, authority or agency of competent authority that has jurisdiction or authority over the Premises. Further, references to "**person**" or "**persons**" in this Lease shall mean and include any natural person and any corporation, partnership, joint venture, limited liability company, trust or other entity whatsoever. Whenever the singular number is used in this Lease and when required by the context, the same will include the plural and vice versa, and the masculine gender will include the feminine and neuter genders and vice versa.

34. SPECIAL STIPULATIONS.

a) Tenant shall not be allowed to place any coin operated amusement machines (COAM) on the Premises. Since Tenant is not allowed to place any COAM's on the Premises, Tenant shall not be required to assume Landlord's current Location Agreement.

b) Tenant shall have the right to sublet the portion of the Premises connected with the carwash or emissions operation but cannot remove any of the equipment on the Premises at time of the execution of this Lease. Tenant understands that any such sublease will terminate upon the termination of this Lease or any extension thereunder.

c) Tenant shall comply with all environmental laws, rules and regulations pertaining to the operation of the business on the Premises including all the requirements pertaining to underground storage tanks. Further, without limiting the foregoing, Tenant agrees to the following:

(1) Tenant is involved in the sale of petroleum products upon the Premises. Tenant understands and acknowledges that the leakage of petroleum products from underground tanks and/or other petroleum dispensing equipment is a concern for which Tenant accepts responsibility as the operator of a retail facility. Tenant must take diligent and continual cautions to discover and stop any such leakage through adequate inventory control.

(2) Tenant agrees to notify promptly Landlord of any release or unexplained loss of products. Tenant shall confirm in writing to Landlord any such oral notification within twenty-four (24) hours. Tenant agrees to promptly notify Landlord orally of: (1) any sudden, unexplained variance from its normal inventory pattern; (2) relatively small losses are occurring but trending larger; (3) any large increase of water in an underground tank; and

(4) any other suspicious circumstances whatsoever indicating an unexplained loss of petroleum products. Tenant shall confirm in writing to Landlord any such oral notification within 24 hours.

(3) Tenant agrees to retain inventory control compliance records for all underground tanks for a minimum of three (3) years and to send to Landlord on a quarterly basis copies of all said records. In addition, Tenant shall make available to Landlord such records for inspection and copying during normal business hours. In no event shall Tenant destroy such inventory control compliance records without making them available to Landlord.

(4) Tenant agrees to inspect the petroleum product storage and handling facility, and surrounding areas, at least once a week for indications of possible leakage. This inspection should include, but is not limited to, careful visual review of the following areas: (1) around and under product dispensers; (2) inside remote pump access boxes; (3) inside product fill boxes; and (4) low areas, such as pumps, hillsides or culverts. Any indication of leakage (actual product or odors thereof) should be reported promptly as stated above.

(5) Tenant agrees to indemnify, defend, and hold Landlord harmless from all clean-up costs, personal injury, death or property damage claims, and fines or penalties which arise out of or are related to the leakage of petroleum products during the Lease Term or the Renewal Term(s), if any, of the Lease as the result of any acts or omissions of Tenant. Further, Tenant agrees to participate in the GUST Trust Fund and any successors or assigns of the GUST Trust Fund and take all actions necessary to maintain eligibility thereunder. Tenant shall be liable for the deductible under the GUST Trust Fund should a release occur. Tenant agrees that at all times during the Lease Term of this Lease that it shall maintain membership in and keep the Premises covered by the GUST Trust Fund and any successor or assigns of the GUST Trust Fund. Tenant also agrees to remit the GUST fees to the petroleum jobber and/or company that supplies petroleum products to the Premises.

(6) Tenant agrees to provide to Landlord upon demand, or at a minimum at least annually, copies of all leak detection or other compliance records. Tenant shall maintain such records for a minimum of three (3) years and shall not destroy said records without making them available to Landlord.

d) All equipment on Landlord's FFE shall be delivered to Tenant on the date of closing in working condition. After said date, it shall be Tenant's responsibility to maintain all equipment on FFE and if necessary, replace the same with equipment of similar quality. If there is no Event of Default, Tenant may remove from the Premises any trade fixtures, trade equipment, and moveable furniture placed in the Premises and paid for by the Tenant (except any replacement for Landlord's FFE shall remain Landlord's property and shall not be removed by Tenant at any time) and shall remove those items required to be removed by Landlord; provided, however, Tenant shall not remove any furniture, trade fixtures or equipment without Landlord's consent if same are used in the operation of the building on the Premises or if the removal of same will impair the structure of the building or such furniture, trade fixtures or equipment constitutes Landlord's FFE or being a replacement for the Landlord's FFE. Tenant may not remove any fixtures placed in premises by Landlord, without the written consent of the Landlord. All trade fixtures, equipment, furniture and other personal property not removed by the Expiration Date will conclusively be deemed abandoned by Tenant and may be appropriated, sold, destroyed, stored or otherwise disposed of without notice to Tenant and without any obligation to account for same. Tenant shall pay Landlord all expenses incurred in connection with any such disposal, including without limitation, repair and restoration of the Premises, and will hold Landlord harmless from any and all claims, loss, liability, or expense arising in connection therewith.

e) Tenant will be required to assume Landlord's Motor Supply Fuel Agreement with Wallace oil company and comply with all the terms and conditions therein; **provided however, Landlord will be entitled to any fees, rebates, sale incentives, commissions or other credits offset or paid by Wallace Oil Company for improvements, rebranding, sale of petroleum products or any other upgrades to the Premises or the fuel dispensing system. Landlord is currently receiving a 1cent per gallon rebate from Wallace Oil Company and shall continue receiving said rebate during the duration of this Lease or any extensions hereunder. Tenant shall remit any such rebates or incentives received by Wallace Oil Company within 15 days of receipt of such rebates or incentives. Tenant shall provide a monthly report of its sale of gasoline products to Landlord.** Upon the termination of this Lease, Landlord agrees to assume the Motor Supply Fuel Agreement with Wallace Oil Company, and obtain a full release of Tenant from its obligations under said fuel supply agreement, and Landlord agrees to indemnify Tenant from any claims arising from said fuel supply agreement arising after the termination of this Lease.

f) LANDLORD HEREBY GRANTS TO TENANT THE RIGHT OF FIRST REFUSAL TO PURCHASE FROM LANDLORD, THE FEE SIMPLE REAL PROPERTY MAKING UP THE PREMISES, EXHIBIT "A", TOGETHER WITH ALL BUILDINGS, EQUIPMENT AND IMPROVEMENTS OWNED BY LANDLORD WHICH ARE HEREAFTER LOCATED ON THE PROPERTY, HERINAFTER COLLECTIVELY THE "FIRST REFUSAL PROPERTY", IN ACCORDANCE WITH THE FOLLOWING TERMS AND CONDITIONS:

(i) Offer to Sell. If Landlord desires to sell all or part of its interest in the First Refusal Property, and Landlord receives a bona fide offer for the same which Landlord wishes to accept, Landlord shall notify Tenant in writing of the terms thereof and provide Tenant with a complete copy of the executed written agreement or other documents embodying such offer which contain all of the terms and conditions between the parties, with no material terms yet to be negotiated, together with copies of all information regarding the First Refusal Property.

(ii) Exercise of Right. Tenant shall have the right to acquire such interest of Landlord at the price and on the terms of such offer if Tenant, within fifteen (15) days after Tenant's receipt of such written notice from Landlord of any such offer, notifies Landlord in writing of Tenant's exercise of such option. If Tenant exercises such right, the transaction shall be consummated within thirty (30) days after delivery to Landlord of Tenant's notice of exercise or at such later date as may be specified in the offer and Landlord and Tenant shall perform such acts as are necessary to satisfy their obligations under the offer.

(iii) Completion of Sale. If Tenant does not exercise such right, Landlord may, at any time within three (3) months after the expiration of such fifteen (15) day period, but no later, sell, or otherwise transfer such interest, but only to the original offeror and only upon the terms of the offer submitted by Landlord to Tenant. Tenant's rights hereunder shall continue to apply until: (i) Landlord's entire interest is transferred in accordance herewith; or (ii) the Lease is terminated


g) Tenant agrees to reimburse Landlord for the value of the inventory of the business on the Premises. The inventory, cigarettes, beer and wine, groceries and other items shall be valued at retail price less Thirty (30%) percent; and fuel inventory shall be valued at Seller's cost of the last load delivered. Tenant shall receive a credit against the inventory value for the \$5,000 earnest money previously paid to Landlord. At the end of the Initial Term or Renewal Term, Landlord agrees to buy Tenant's inventory under the same valuation terms as set forth in this paragraph 34(g). Tenant's inventory at such time shall have a substantially similar makeup (e.g. beer, wine, novelty items, gasoline, etc...) as that received by Tenant upon the execution of this Lease.

(Signatures appear on next page)

IN WITNESS WHEREOF, the parties herein have hereunto set their hands and seals, as of the Effective Date.

LANDLORD:

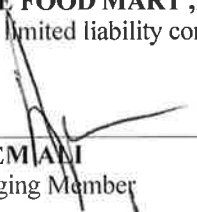
JASMINE BUSINESS INC
a Georgia corporation

By: 

JAMINE GADHA, Its President

Attest: _____
Secretary

TENANT:
JASMINE FOOD MART ,INC
a Georgia limited liability company

By: 

AZEEM ALI
Its: Managing Member

AZEEM ALI, individually

Social Security No. ~~000~~ 330-94-2269



**GEORGIA
CORPORATIONS
DIVISION**

GEORGIA SECRETARY OF
STATE
BRIAN P. KEMP

[HOME \(/\)](#)

BUSINESS SEARCH

BUSINESS INFORMATION

Business Name:	JASMINE FOOD MART INC	Control Number:	17091639
Business Type:	Domestic Profit Corporation	Business Status:	Active/Noncompliance
NAICS Code:	Real Estate and Rental and Leasing	NAICS Sub Code:	Lessors of Nonresidential Buildings (except Miniwarehouses)
Principal Office Address:	2019 SUGAR SPRING DR, LAWRENCEVILLE, GA, 30043, USA	Date of Formation / Registration Date:	8/22/2017
State of Formation:	Georgia	Last Annual Registration Year:	2017

REGISTERED AGENT INFORMATION

Registered Agent Name: **AZEEM A ALI**
 Physical Address: **2019 SUGAR SPRINGS DR, LAWRENCEVILLE, GA, 30043, USA**
 County: **Gwinnett**

OFFICER INFORMATION

Name	Title	Business Address
AZEEM A ALI	CEO	2019 SUGAR SPRINGS DR, LAWRENCEVILLE, GA, 30043, USA
AZEEM A ALI	CFO	2019 SUGAR SPRINGS DR, LAWRENCEVILLE, GA, 30043, USA
AZEEM A ALI	Secretary	2019 SUGAR SPRINGS DR, LAWRENCEVILLE, GA, 30043, USA

Office of the Georgia Secretary of State Attn: 2 MLK, Jr. Dr. Suite 313, Floyd West Tower Atlanta, GA 30334-1530, Phone: (404) 656-2817 Toll-free: (844) 753-7825, WEBSITE: <http://www.sos.ga.gov/>
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BUSINESS SEARCH

BUSINESS INFORMATION

Business Name: **JASMINE FOOD
MART INC**

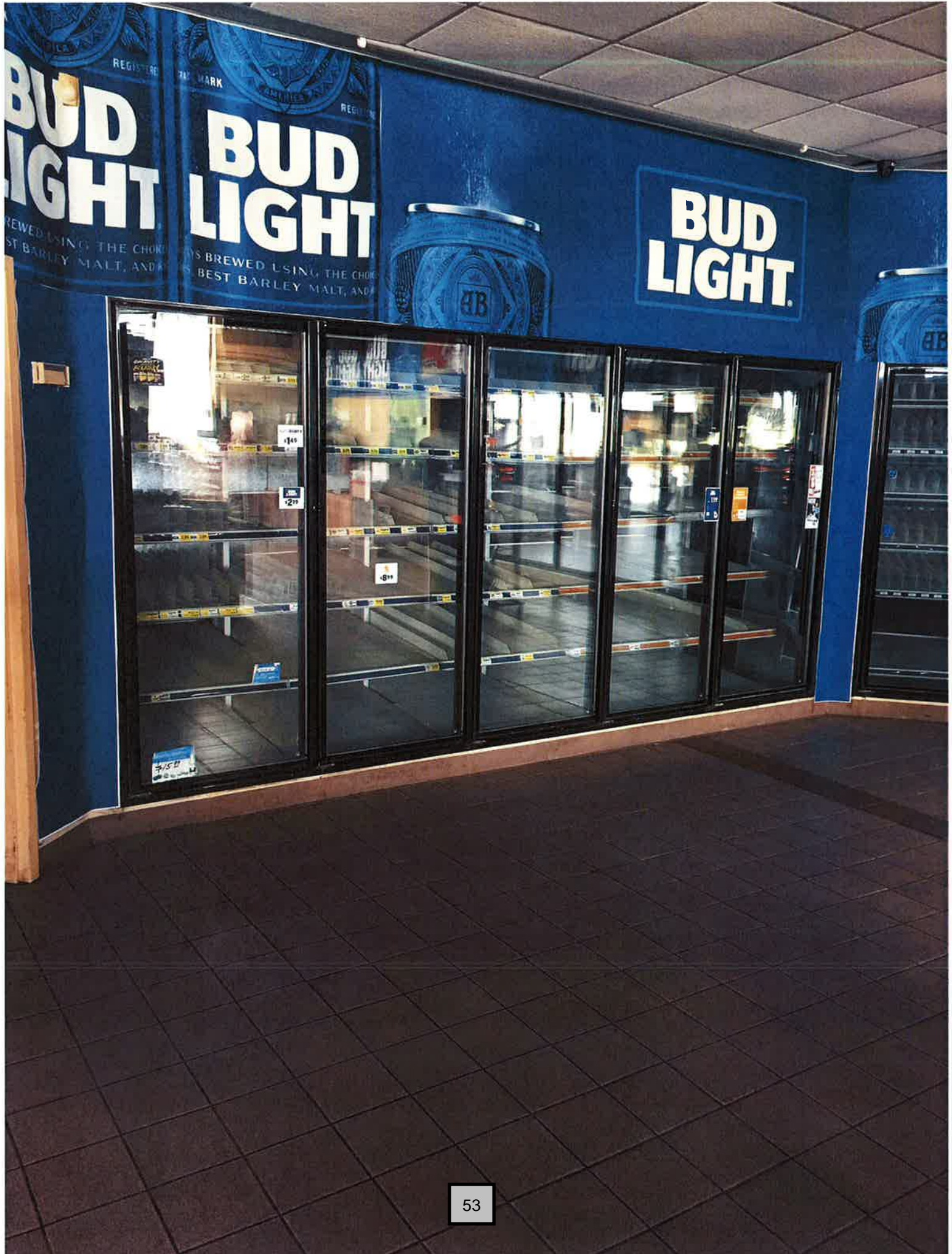
Control Number: **17091639**

FILING HISTORY

Filing Number	Filing Date Time	Effective Date	Filing Type
14801250	8/22/2017 4:18:28 PM	8/22/2017	Business Formation (/BusinessSearch/DownloadFile? filingNo=14801250)
14891694	8/31/2017 12:09:39 PM	8/31/2017	Annual Registration(2017) (/BusinessSearch/DownloadFile? filingNo=14891694)
15910694	6/30/2018 12:00:00 AM	6/30/2018	Notice of Admin. Dissolution/Revocation (/BusinessSearch/DownloadFile?filingNo=15910694)

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Backup material for agenda item:

1. Adoption of Impact Fees (*2nd of 2 hearings. 1st hearing was held on August 2, 2018.*)



Impact Fee Methodology Report



Dawson County Impact Fee Program

Including the following
public facility categories:

Library Services
Parks and Recreation
Fire Protection
Law Enforcement
Road Improvements

Final: July 12, 2018

ROSS+associates

urban planning & plan implementation

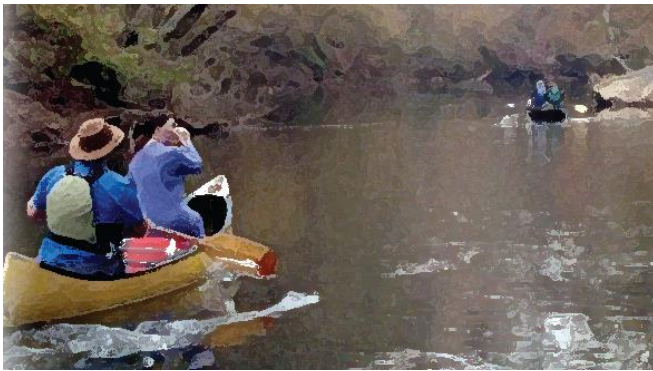
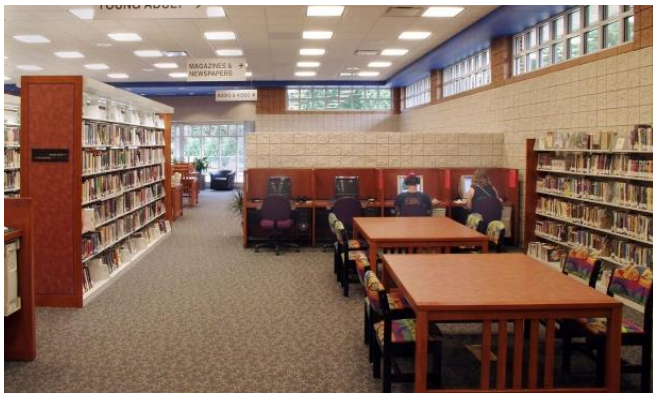


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Introduction

■ Looking Ahead

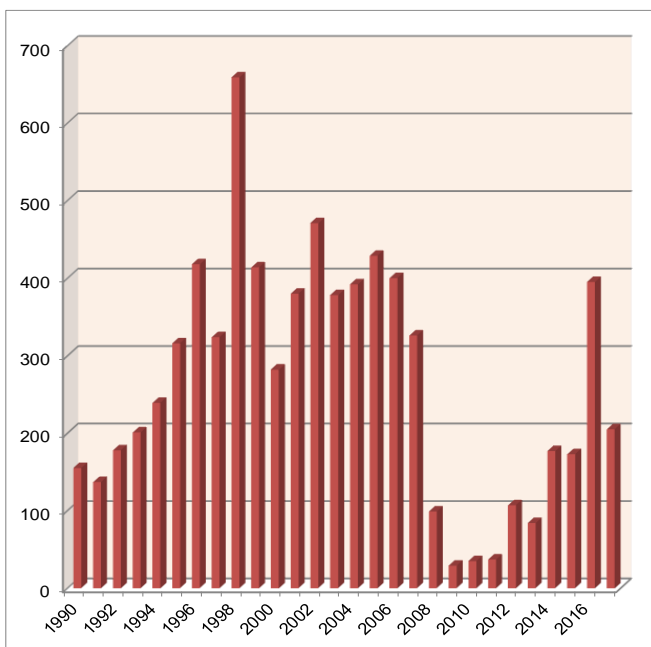
Forecasts indicate major growth ahead for Dawson County as people continue to move up the GA 400 corridor, propelled by growth in the Atlanta Metro Area, and attracted to favorable housing prices, a great school system, and avoiding the increasingly crowded, traffic congested Forsyth County. Over the next 22 years to 2040, it is expected that about one-half of the people that will be living in Dawson County and the housing they occupy are not here today. This equates to a doubling of the population and housing supply over 2017—2.04 times as many people and 1.95 times as many housing units as today (accompanied with an increase in average household size).

This is not as unprecedented as it seems. Looking back over the past 22 years, since 1995 the county's population has more than doubled, from 11,888 to 24,517—a 52% increase—in spite of the housing market crash of 2008 and the ensuing Great Recession.

Building permit data tell the story. 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.

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

Residential Building Permit Activity - Dawson County



Source: US Bureau of the Census, annual building permit data, 1990-2015; Dawson County 2016-2017.

Recovery from the crash was slow but steady—even outpacing the rebound in Gainesville-Hall County and the Atlanta Metro Area on an annual percent increase basis. Most recently, the county's housing industry has regained its footing and permits are clearly on the rise.

Though not as robust as population growth, nonresidential growth forecasts indicate an almost doubling in the number of private-sector jobs with a 41% growth and a 1.7 multiplier. (These numbers exclude government, construction and agricultural workers, since they are not assessed impact fees.) According to Woods & Poole Economics, Inc., the county will see its greatest

increase in retail trade, followed by service industries, insurance/finance and real estate, and health care.

What this means is that Dawson County will be called upon to expand its services and infrastructure if it is to maintain the quality of life and business environment enjoyed by its residents and workers today. Failing to keep up will bring an erosion of the lifestyles and employment opportunities that attracts new growth and investment tomorrow and that the population enjoys today.

■ Impact Fees

Impact fees present a potential revenue source in the on-going search for public facilities funding, which this report examines.

We identify the current levels of service provided throughout the county and the desired levels of service for the future in order to quantify the capital facilities needed to achieve the Dawson County's goals for the future. Based on that analysis, calculations have been carried out in order to identify what portion of future capital facilities could be funded through impact fee collections.

In this report capital costs have been examined for six public facility categories: library services, parks & recreation, public safety (including fire protection, emergency management, and law enforcement), and road improvements. Based on plans of the County and projections of future capital investment needs, the portion of future capital costs that could be met through impact fees has been calculated. In short, impact fees could be used to fund a large portion of the capital costs in these public facility categories, and at the desired Level of Service standards, over the next 22 years to 2040.

In the end, impact fees represent a potential funding source that must be balanced against other needs of the County. In this report the maximum allowable impact fee for each public facility category has been calculated; this is the most that could be charged. The impact fee amount ultimately charged will represent a shifting of the burden to fund these capital projects from the tax base as a whole, to the new growth and development actually demanding the services being added through these projects.

The goal is the essence and basis of impact fees: everyone pays their fair share of the capital improvements needed to serve them on an equal basis.

Impact Fees Authorized

Under State law, the County can collect money from new development based on that development's proportionate share—the 'fair share'—of the cost to provide the facilities it needs. The State law allows impact fees to be collected in the categories of libraries, public safety, parks, and roads, among others. 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.

Impact fees are authorized in Georgia under Code Section 37-71, the *Georgia Development Impact Fee Act* (DIFA), and are administered by the Georgia Department of Community Affairs (DCA) under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*. Impact fees are a form of revenue authorized by the State, and strictly defined and regulated through State law. The provisions of the DIFA are extensive, in order to assure that new development pays no more than its fair share of the costs and that impact fees are not used to solve existing service deficiencies.

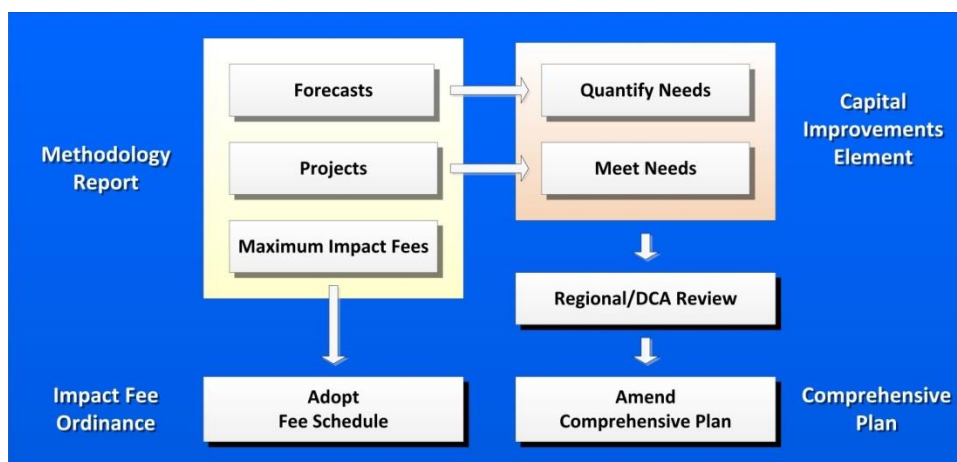
Impact Fee Documentation

One document required for the collection of impact fees is called the Capital Improvements Element (CIE), and is adopted as a chapter, or 'element', of the County's Comprehensive Plan. As defined by the Georgia Development Impact Fee Act (DIFA), the CIE must include certain calculations and information, and those are included in this report along with additional information regarding the amount that could be charged in an impact fee program. The calculations and information, repeated (as applicable) for each public facility category for which an impact fee will be charged, are:

- a **projection of needs** for the planning period of the adopted Comprehensive Plan;
- the designation of **service areas** - the geographic area in which a defined set of public facilities provide service to development within the area;

- the designation of **levels of service** (LOS) - the service level that will be provided;
- a **schedule of improvements** listing impact fee related projects and costs for the planning period of the adopted Comprehensive Plan;
- a description of **funding sources** for the planning period of the adopted Comprehensive Plan;
- The calculation of the gross impact of new development, credits, and **net impact cost**; and
- A schedule of **maximum impact fees** that could be adopted, by land use category.

The following diagram illustrates the documents and their interrelationship in an impact fee program.



This Methodology Report contains the growth forecasts for the county, identifies capital projects that would be needed to meet the County's Level of Service standards, and presents all of the calculations related to establishing the maximum impact fees that could be charged for each public facility category.

The forecasts and the identified capital improvement projects go into the Capital Improvements Element which, in turn, will be reviewed by the Georgia Mountains Regional Commission (GMRC) and DCA for compliance with the state's requirements. Once approved, the County would adopt the CIE as an amendment to its Comprehensive Plan.

The maximum impact fees established in this Methodology Report are intended to generate discussion and determination by the Board of Commissioners as to the appropriate fees to be charged. The state law provides that new growth and development may not be charged more than their 'fair share' of the cost of capital improvements that will serve them. The maximums establish that ceiling beyond which the County cannot go. Lower fees, however, are fully within the purview of the County Commission.

Once determined, the new fees are summarized in an Impact Fee Schedule and amended to the County's Impact Fee Ordinance to authorize their collection.

■ 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. An example is "the County has adopted an impact fee ordinance".
- The lower case word 'county' refers to the geographical area of Dawson County, as in "the population of the county has grown".

- The same conventions are applied to the words 'City' and 'city', 'State' and 'state'.
- 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.
- Numbers shown on tables 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, including its initial Capital Improvements Element, Impact Fee Ordinance and Impact Fee Schedule. Impact fee collections were suspended in 2009 in response to the worsening economic conditions brought on by the Great Recession. This Methodology Report updates the County’s documentation, including the recognition of current prices and costs for capital equipment and facilities, and extends the horizon of the program to 2040.

Adoption of a new CIE and fee schedule would therefore update the County’s program that has been in place for many years.

■ Eligible Facilities

The following table shows the facility categories that are eligible for impact fee funding under Georgia law and that are included in the County’s current impact fee program. 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. All the listed categories are considered in this report.

Table 1: Overview of Impact Fee Program - Facilities

	Eligible Facilities	Service Area	Level of Service Standard Based on ...	Historic Funding Sources
Library Services	Library facilities including collection materials	Countywide	Square footage and number of collection materials per dwelling unit	General Fund, State Grants, impact fees
Parks and Recreation	Park acres, recreation components	Countywide	Number of acres and recreation components per dwelling unit	General Fund, SPLOST and impact fees
Fire Protection	Fire stations, fire trucks & auxiliary vehicles	Countywide	Square footage and number of vehicles per day-night population	General Fund, SPLOST and impact fees
Law Enforcement	Sheriff's administration space and inmate detention	Countywide	Square footage of facilities per day-night population	General Fund, SPLOST and impact fees
Road Improvements	Road projects providing new trip capacity	Countywide	LOS "D" for entire road network	General Fund, SPLOST and impact fees

Terms used in Table 1:

Eligible Facilities under the State Act are limited to capital items having a life expectancy of at least 10 years, such as land, buildings and other facilities, and major rolling stock (such as fire trucks). 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 automobiles. None of these costs are included in the impact fee system.

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 type of facility 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.

■ Maximum Impact Fee Schedule

The summary fee schedule presented here shows the **maximum impact fee** for the public facility categories included in this report that could be charged in Dawson County for each of the land use categories shown, based on the calculations carried out in this report. The total impact fee shown for each public facility category is drawn from that public facility category's chapter and reflects the reductions for any applicable credit based upon anticipated tax contributions from new development, 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. The 'Total Maximum Fee' shown in the last column is a summary of all of the maximum fees allowed in each public facility category. As discussed below, the County could not charge more than the maximum in any given public facility category, only less.

To read the table, first find the land use you want to investigate. Land uses are listed on the left side of the table, and are grouped into categories. For example, industrial and warehouse uses are grouped together, as are all retail uses. Next, find the 'Total Maximum Fee' figure on the right of the row. This is the total impact fee per unit of measure. Finally, find the unit of measure—it is the last column of the land use category. The information can be read as follows: *this land use has a maximum impact fee of \$X per unit of measure.*

Adoption of Impact Fees

As noted, the fee schedule shows the **maximum** impact fee that could be adopted under State law. 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 for all land uses in the category), but individual land use categories within the particular public facility category cannot be individually reduced or deleted as part of the Impact Fee Schedule. (For alternatives, see the Reductions in Impact Fee Assessments section later in this chapter.)

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).

Table 2: Summary Maximum Impact Fee Schedule

Land Use	Library Services	Parks & Recreation	Fire Protection	Road Projects	Total Maximum Fee	Unit of Measure
Residential						
Single-Family Detached Housing	\$ 550.46	\$ 1,748.43	\$ 743.51	\$ 329.76	\$ 3,372.16	per dwelling
Apartment	\$ 550.46	\$ 1,748.43	\$ 743.51	\$ 230.35	\$ 3,272.75	per dwelling
Residential Condominium/Townhouse	\$ 550.46	\$ 1,748.43	\$ 743.51	\$ 201.26	\$ 3,243.66	per dwelling
Port and Terminal						
Intermodal Truck Terminal	\$ -	\$ -	\$ 0.44	\$ 0.31	\$ 0.76	per square foot
Industrial/Agricultural						
General Light Industrial	\$ -	\$ -	\$ 0.72	\$ 0.22	\$ 0.94	per square foot
General Heavy Industrial	\$ -	\$ -	\$ 0.57	\$ 0.05	\$ 0.62	per square foot
Manufacturing	\$ -	\$ -	\$ 0.56	\$ 0.12	\$ 0.68	per square foot
Warehousing	\$ -	\$ -	\$ 0.29	\$ 0.11	\$ 0.40	per square foot
Mini-Warehouse	\$ -	\$ -	\$ 0.02	\$ 0.08	\$ 0.10	per square foot
High-Cube Warehouse	\$ -	\$ -	\$ 0.02	\$ 0.05	\$ 0.08	per square foot
Lodging						
Hotel or Conference Motel	\$ -	\$ -	\$ 178.18	\$ 283.00	\$ 461.18	per room
All Suites Hotel	\$ -	\$ -	\$ 156.37	\$ 169.74	\$ 326.11	per room
Motel	\$ -	\$ -	\$ 137.45	\$ 195.02	\$ 332.47	per room
Recreational						
Golf Course	\$ -	\$ -	\$ 76.81	\$ 148.39	\$ 225.21	per acre
Bowling Alley	\$ -	\$ -	\$ 0.31	\$ 0.98	\$ 1.29	per square foot
Movie Theater	\$ -	\$ -	\$ 0.46	\$ 2.29	\$ 2.75	per square foot
Arena	\$ -	\$ -	\$ 1,042.38	\$ 981.34	\$ 2,023.73	per acre
Amusement Park	\$ -	\$ -	\$ 2,844.37	\$ 2,230.62	\$ 5,074.99	per acre
Tennis Courts	\$ -	\$ -	\$ 76.27	\$ 478.75	\$ 555.03	per acre
Racquet/Tennis Club	\$ -	\$ -	\$ 0.10	\$ 0.41	\$ 0.51	per square foot
Health/Fitness Center	\$ -	\$ -	\$ 0.22	\$ 0.97	\$ 1.19	per square foot
Recreational Community Center	\$ -	\$ -	\$ 0.39	\$ 0.99	\$ 1.38	per square foot
Institutional						
Private Elementary School	\$ -	\$ -	\$ 0.31	\$ 0.43	\$ 0.73	per square foot
Private High School	\$ -	\$ -	\$ 0.20	\$ 0.38	\$ 0.58	per square foot
Church/Place of Worship	\$ -	\$ -	\$ 0.11	\$ 0.28	\$ 0.39	per square foot
Day Care Center	\$ -	\$ -	\$ 0.88	\$ 0.27	\$ 1.16	per square foot
Cemetery	\$ -	\$ -	\$ 25.47	\$ 147.46	\$ 172.92	per acre
Medical						
Hospital	\$ -	\$ -	\$ 0.92	\$ 0.35	\$ 1.27	per square foot
Nursing Home	\$ -	\$ -	\$ 0.73	\$ 0.20	\$ 0.93	per square foot
Clinic	\$ -	\$ -	\$ 1.23	\$ 0.84	\$ 2.07	per square foot

Updating the Impact Fee Program

Land Use	Library Services	Parks & Recreation	Fire Protection	Road Projects	Total Maximum Fee	Unit of Measure
Office						
General Office Building	\$ -	\$ -	\$ 1.04	\$ 0.35	\$ 1.39	per square foot
Corporate Headquarters Building	\$ -	\$ -	\$ 1.07	\$ 0.25	\$ 1.32	per square foot
Single-Tenant Office Building	\$ -	\$ -	\$ 0.98	\$ 0.37	\$ 1.36	per square foot
Medical-Dental Office Building	\$ -	\$ -	\$ 1.27	\$ 1.15	\$ 2.42	per square foot
Research and Development Center	\$ -	\$ -	\$ 0.92	\$ 0.26	\$ 1.17	per square foot
Business Park	\$ -	\$ -	\$ 0.96	\$ 0.40	\$ 1.36	per square foot
Retail						
Building Materials and Lumber Store	\$ -	\$ -	\$ 0.44	\$ 1.26	\$ 1.70	per square foot
Free-Standing Discount Superstore	\$ -	\$ -	\$ 0.30	\$ 1.32	\$ 1.62	per square foot
Variety Store	\$ -	\$ -	\$ 0.30	\$ 1.08	\$ 1.38	per square foot
Free-Standing Discount Store	\$ -	\$ -	\$ 0.62	\$ 1.21	\$ 1.83	per square foot
Hardware/Paint Store	\$ -	\$ -	\$ 0.30	\$ 0.71	\$ 1.01	per square foot
Nursery (Garden Center)	\$ -	\$ -	\$ 0.98	\$ 1.91	\$ 2.88	per square foot
Nursery (Wholesale)	\$ -	\$ -	\$ 0.52	\$ 1.09	\$ 1.61	per square foot
Shopping Center	\$ -	\$ -	\$ 0.52	\$ 1.11	\$ 1.64	per square foot
Factory Outlet Center	\$ -	\$ -	\$ 0.52	\$ 0.74	\$ 1.27	per square foot
Specialty Retail Center	\$ -	\$ -	\$ 0.62	\$ 1.24	\$ 1.86	per square foot
Automobile Sales	\$ -	\$ -	\$ 0.48	\$ 0.88	\$ 1.36	per square foot
Auto Parts Store	\$ -	\$ -	\$ 0.30	\$ 0.94	\$ 1.24	per square foot
Tire Store	\$ -	\$ -	\$ 0.40	\$ 0.58	\$ 0.98	per square foot
Tire Superstore	\$ -	\$ -	\$ 0.40	\$ 0.58	\$ 0.98	per square foot
Supermarket	\$ -	\$ -	\$ 0.36	\$ 1.52	\$ 1.88	per square foot
Convenience Market (Open 24 Hrs)	\$ -	\$ -	\$ 0.56	\$ 5.11	\$ 5.68	per square foot
Convenience Market w/Gas Pumps	\$ -	\$ -	\$ 0.56	\$ 4.69	\$ 5.25	per square foot
Discount Supermarket	\$ -	\$ -	\$ 0.70	\$ 1.63	\$ 2.34	per square foot
Wholesale Market	\$ -	\$ -	\$ 0.26	\$ 0.14	\$ 0.40	per square foot
Discount Club	\$ -	\$ -	\$ 0.41	\$ 0.88	\$ 1.29	per square foot
Home Improvement Superstore	\$ -	\$ -	\$ 0.30	\$ 0.33	\$ 0.63	per square foot
Electronics Superstore	\$ -	\$ -	\$ 0.30	\$ 0.42	\$ 0.72	per square foot
Apparel Store	\$ -	\$ -	\$ 0.52	\$ 1.12	\$ 1.65	per square foot
Department Store	\$ -	\$ -	\$ 0.62	\$ 0.39	\$ 1.01	per square foot
Pharmacy/Drugstore	\$ -	\$ -	\$ 0.52	\$ 1.25	\$ 1.77	per square foot
Furniture Store	\$ -	\$ -	\$ 0.13	\$ 0.04	\$ 0.16	per square foot
Services						
Drive-in Bank	\$ -	\$ -	\$ 1.50	\$ 1.13	\$ 2.62	per square foot
Quality Restaurant	\$ -	\$ -	\$ 2.33	\$ 1.18	\$ 3.51	per square foot
High-Turnover (Sit-Down) Restaurant	\$ -	\$ -	\$ 2.33	\$ 1.67	\$ 4.00	per square foot
Fast-Food Restaurant	\$ -	\$ -	\$ 3.41	\$ 4.64	\$ 8.05	per square foot
Quick Lubrication Vehicle Shop	\$ -	\$ -	\$ 656.77	\$ 1,150.02	\$ 1,806.78	per service bay
Gasoline/Service Station	\$ -	\$ -	\$ 50.04	\$ 1,167.76	\$ 1,217.79	per pump
Gasoline Station w/Convenience Mkt	\$ -	\$ -	\$ 0.07	\$ 789.40	\$ 789.46	per pump
Self-Service Car Wash	\$ -	\$ -	\$ 62.55	\$ 1,496.41	\$ 1,558.96	per stall

"Square foot" means square foot of gross building floor area.

All figures shown rounded to whole cents for readability; actual fees generally run to multiple decimal places.

Interpretation

Listed in the fee schedule are the most common land uses as identified in the *Trip Generation Manual*, 9th Edition, 2012, Institute of Transportation Engineers (ITE). Persons per land use for residential uses are determined based on average numbers of persons per household; for non-residential land uses the average number of employees per unit of measure is based on data provided in the ITE *Trip Generation Manual*. As it is impossible, and impractical, to list every possible land use type, following is the methodology that will be used to determine employment for land uses that are not on the actual fee table.

The nomenclature used in the fee schedules may be different from that used by developers. For example, a developer may be building a 35,000 square foot grocery store, but does not see a grocery store on the fee schedule. In this situation, the applicable fee would be found under 'supermarket.' Simply inquiring to the County should clarify any such uncertainty. However, reference to a source document, such as the *North American Industrial Classification System* (from the U.S. Office of Management and Budget; latest edition available on the U.S. Census Bureau website), may be helpful as an objective means of distinguishing among the types of land uses set out in the schedules.

For land uses not specified, a simple approach may be the most useful for most situations: an office type operation can be set at the same rate as a general office building, various retail uses not listed can be set at the same rate as for specialty retail uses, and industrial uses are assumed to be the same as general light industry. For example, a retail land use that does not appear on the impact fee schedule, such as a stained-glass shop, would be assessed the same fee as 'specialty retail'.

■ Reductions in Impact Fee Assessments

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 it, 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. There are, however, several ways that a lower impact fee could be charged, either for a specific project, across the board for all projects, or for a group of specific that are of special benefit to the County. These are discussed below.

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.

Adoption of Reduced Impact Fees

As noted, the fee schedule shows the maximum impact fee that could be adopted under State law. 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.

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.

Credits

The County's Impact Fee Ordinance provides for credits against impact fee that can be applied for expenditures made by a development toward the construction or provision of facilities that are included for impact fee funding in the adopted Capital Improvements Element. These credits are often established through a private contractual agreement between the County and the developer or builder (as regulated by the Impact Fee Ordinance).

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 encourages affordable housing or represents 'extraordinary economic or employment growth'. The exemptions must be spelled out as part of the Impact Fee Ordinance and can be applied by the Board of Commissioners in whole or in part to specified uses based on standards included in the Ordinance. There are currently no exemptions in the Ordinance.

■ Limitations on Impact Fees

There are several requirements placed on impact fees by the Georgia Development Impact Fee Act and the rules and regulations of the Georgia Department of Community Affairs. These include:

- Impact fees must be spent in the same public facility category for which they were collected.
- Impact fees must be deposited into an interest bearing account.
- Impact fees not encumbered within six years must be refunded to the fee payer, with interest.
- The same Level of Service must be applied to both the existing population and to new growth.
- All calculations must be made in Net Present Value.
- Annual Financial Reporting and Community Work Program Update required.

■ Periodic Review Recommended

A number of the factors that form the base-line assumptions in this report's impact cost calculations may change over time. The impact fee methodologies for the service areas should be reviewed annually, 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 each year.

- The "planning horizon" of this methodology report is 2040; this is intended to match the "horizon" of the County's *Comprehensive Plan* when it is updated in 2018. When the *Comprehensive Plan* is again updated, the methodology report (and impact fee methodologies) should be reviewed and updated as needed to meet any new "horizon".
- The amount of future tax revenue generated by future growth is directly related to the County's population and employment projections. These projections should be reviewed every year against other data, such as building permits and utility hook-ups, to confirm continuing validity or to modify the methodologies.
- Any changes to the employment, dwelling unit and population forecasts in this report (i.e., figures used in future updates to the County's *Comprehensive Plan*) should be reflected in the impact cost calculations.
- Costs should be maintained in present value terms. The land costs for libraries, public safety facilities, roads and parks, as well as the various facility construction costs, should be updated annually. In addition, the cost of collection materials should also be updated to reflect current dollars.

- The library collection material “weed rate” and state contribution towards collection materials purchases should both be reviewed annually, and updated as necessary.
- Projections in tax base growth should be updated each year to reflect actual growth, and to update the average new house values and value/employee then current in future years.
- Any changes in funding strategy for the facilities included in the impact fee program should be reflected in the impact fee calculation.
- New revenue sources, such as implementation of a new SPLOST program, should be reviewed for potential tax credits against impact fees.

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 services demanded. If growth slows, the opposite occurs: reduced revenue and lowered demand for services.



Forecasts

Extensive growth and development is forecast for Dawson County over the coming 22 years to 2040 as expansion of the Atlanta Metro Area washes over Forsyth County into Dawson—a process that has already begun.

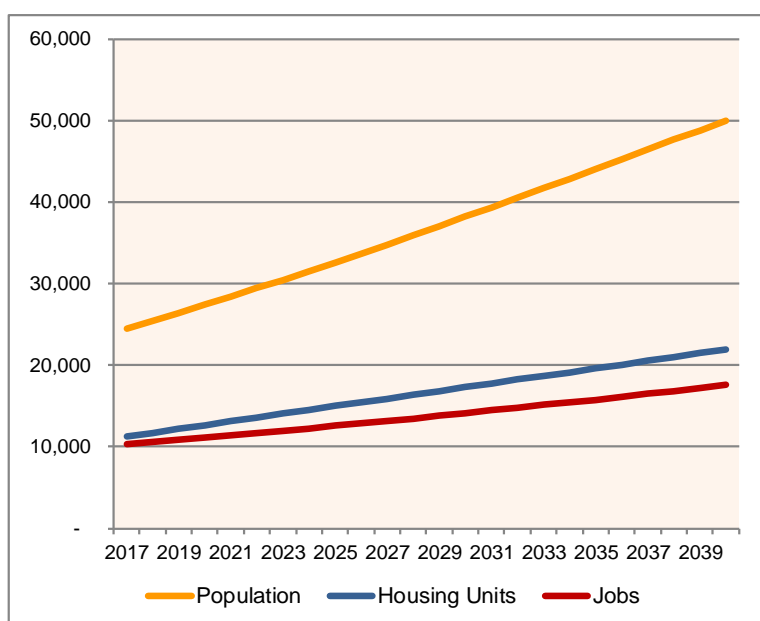


Population projections reflect this massive growth which is expected over the next 22 years. Based on the county’s rebound from the Great Recession and anticipated continuing growth in the housing market, the ultimate population forecast for 2040 is 50,000 people—a doubling of the number of people in the county today.

The numbers in the ‘jobs’ column are private sector, building occupying employment figures and exclude what are referred to as ‘non-building related’ jobs. ‘Non-building related’ jobs are those that do not normally require issuance of a building permit, and thus would not be assessed an impact fee. Such jobs include any employment that is considered to be transitory in nature, such as those working on construction sites, or are strictly land-based such as farming and other agricultural workers. In addition, the number of workers employed by governmental entities (city, county, state and federal) is excluded because governments are exempt from impact fees.

Table 3: Forecasts of Future Growth

	Population	Housing Units	Jobs
2017	24,517	11,262	10,290
2018	25,453	11,726	10,578
2019	26,412	12,190	10,857
2020	27,394	12,658	11,136
2021	28,396	13,127	11,414
2022	29,418	13,592	11,697
2023	30,459	14,052	11,981
2024	31,519	14,514	12,270
2025	32,595	14,975	12,567
2026	33,687	15,439	12,868
2027	34,794	15,905	13,175
2028	35,915	16,372	13,485
2029	37,048	16,838	13,802
2030	38,193	17,300	14,119
2031	39,348	17,763	14,442
2032	40,512	18,224	14,774
2033	41,684	18,683	15,106
2034	42,863	19,141	15,441
2035	44,047	19,597	15,780
2036	45,235	20,058	16,128
2037	46,425	20,526	16,478
2038	47,617	21,004	16,831
2039	48,809	21,490	17,196
2040	50,000	21,981	17,560



	Population	Housing Units	Jobs
2017	24,517	11,262	10,290
2040	50,000	21,981	17,560
Increase	25,483	10,719	7,270
Percent	51.0%	48.8%	41.4%

By 2040, about a half (51%) of the population in the county will have been generated by new growth; virtually the same is true for the number of housing units at 49%. In other words, population and housing units in 2040 will be about 2 times the numbers today (2.04 and 1.95 times, respectively). Growth in private sector jobs will comprise over 40% of all such jobs in the county today (somewhat less than doubling at 1.7 times 2017).

A much more extensive socioeconomic analysis and description of the growth projections is contained in the Appendix: Future Growth.

Cost Adjustments and Credits

■ Cost Adjustments

Calculations related to impact fees are made in terms of the 'present value' of past and future amounts of money, including project cost expenditures and credits for future revenue.

The Georgia Development Impact Fee Act defines 'present value' as "the current value of past, present, or future payments, contributions or dedications of goods, services, materials, construction, or money." This section describes the methodologies used to make appropriate adjustments to project cost figures, both past and future, to convert these costs into current dollars when such an adjustment is appropriate.

Calculations for present value (PV) differ when considering past expenditures versus future costs. In both cases, however, the concept is the same—the 'actual' expenditure made or to be made is adjusted to the current year using appropriate rates (an inflation rate for past expenditures and a deflator for future costs). In essence, the present value is considered in light of the value of money as it changes over time as the result of inflation.

Past Expenditures

Past expenditures are considered in impact fee calculations only for previous expenditures for projects that created excess capacity for new development and are being recouped. An expenditure that was made in the past is converted to PV using the inflation rate of money—in this case the Consumer Price Index (CPI). Although this approach ignores the value of technological innovation (i.e., better computers are available today for the same or lower historic prices) and evolving land prices (often accelerated beyond inflation by market pressures), the approach best captures the value of the money actually spent. For instance, it is not important that you can buy a better computer today for the same price that was paid five years ago; what is important is the money was spent five years ago and what that money would be worth today had it been saved instead of spent.

Future Project Costs

In order to determine the present value of a project expenditure that will be made in the future, the Net Present Value (NPV) of the expenditure is determined. To calculate the NPV of any project cost, two figures are needed—the future cost of the project anticipated in the year the expenditure will be made, and the Net Discount Rate. Given the current cost of a project, that cost is first inflated into the future to the target expenditure year to establish the estimated future cost. The future cost is then deflated to the present using the Net Discount Rate, which establishes the NPV for the project in current dollars. These two formulas are:

$$\text{Future Cost} = \text{Current Cost} \times (1 + \text{Inflation Rate})^{\text{Year of Expenditure} - \text{Current Year}}$$

$$\text{Net Present Value} = \text{Future Cost} \times (1 + \text{Net Discount Rate})^{\text{Current Year} - \text{Year of Expenditure}}$$

In this section two important adjustments are discussed that are required to convert current costs into future cost figures, and then back into current dollars. First, an appropriate cost inflator is identified. This adjustment factor is important in determining the future cost of a project, based on current cost estimates. The cost inflator may be based on anticipated inflation in construction or building costs, or on anticipated inflation in the value of money (for capital projects that do not include a construction component). In essence, costs increase over time. By identifying the appropriate inflation rate that is related to the type of project (building construction, project construction or non-construction), current 2017 estimates can be used to predict future costs in the year they are expected to occur.

The second cost adjustment is a deflator—the Net Discount Rate. Essentially, the Net Discount Rate is the interest rate that accrues to monies being held in escrow. That is, as impact fees are collected

and 'saved up' over the years for future expenditure, they increase at the rate that the account is accruing interest. Having determined the inflated cost of a project at some future date, the cost in today's dollars can be reduced to the extent that interest will increase the funds on hand as they build up. This calculation determines how much money needs to be added to the account so that, with interest, it will grow to the amount needed for that future expenditure at that time. This is the Net Present Value of that future expenditure. As will be seen below, the cost of project and building construction has been increasing faster than the CPI inflation rate over the past 10 years.

■ Cost Inflat

Three different cost inflators are used in the impact fee calculations, based on the type of project being considered. For infrastructure projects, such as roads or ball fields, a 'construction cost inflator' is used. For projects that require construction of a structure (such as a fire station), a 'building cost inflator' is used as the appropriate inflation rate. For all non-construction types of projects (such as a fire truck or park land), an inflation rate is used that is based on the Consumer Price Index. These different types of inflators are discussed below.

Engineering News Record's Cost Indexes

ENR publishes both a Construction Cost Index (CCI) and a Building Cost Index (BCI) that are widely used in the construction industry. The indexes are based on annual cost increases of various construction materials and applicable labor rates and calibrated regionally. For calculation of the CCI and the BCI, costs in 1913 are set at 100.

Construction Cost Inflat

Table 4 uses the example of a calculation of the annual average rate of increase reflected in construction costs. For this analysis, the 2006-2016 ten-year period is used as a base time period for an estimate of future construction cost increases due to inflation in labor and materials costs.

Table 4: Construction Cost Inflat – CCI

Year	Amount	CCI*		Effect of Inflation	
		1913=100	2006=1.0	CCI	Avg. Rate =
				3.3593423%	
2006	\$ 100,000	4,854.43	1.000000	\$ 100,000.00	\$ 100,000.00
2007		5,136.09	1.058021	105,802.15	103,359.34
2008		5,488.43	1.130604	113,060.39	106,831.54
2009		5,737.82	1.181978	118,197.78	110,420.37
2010		5,742.83	1.183009	118,300.88	114,129.77
2011		5,829.65	1.200893	120,089.33	117,963.78
2012		5,892.64	1.213869	121,386.95	121,926.59
2013		5,983.23	1.232531	123,253.13	126,022.52
2014		6,147.52	1.266375	126,637.47	130,256.05
2015		6,245.74	1.286607	128,660.72	134,631.79
2016		6,277.14	1.293075	129,307.49	139,154.54
				\$ 1,304,696.29	\$ 1,304,696.29

* Construction Cost Index, Atlanta Region, Engineering News Record.

The table shows a construction project that cost \$100,000 in 2006, and how much the same project would cost in each subsequent year using the Construction Cost Index published by Engineering

Cost Adjustments and Credits

News Record for the Atlanta area. Setting the 2005 Construction Cost Index (CCI) at '1.0,' the increase in the CCI as a multiple of 2006 is also shown on the table. The equivalent cost of the same project in each subsequent year is calculated by multiplying the CCI multiplier times \$100,000. When the total for all such projects is summed for the 2006-2016 period, the equivalent average annual rate of increase is calculated as the percentage that would produce the same total. This percentage is used in the text of this report as the applicable inflator for construction projects that will begin in future years.

Building Cost Inflator

The inflator for future construction costs for buildings is based on ENR's Building Cost Index (BCI) for each year from 2006 through 2016, and is calculated in the same manner as described above for the Construction Cost Inflator. Table 5 shows the results.

Table 5: Building Cost Inflator – BCI

Year	Amount	BCI*		Effect of Inflation	
		1913=100	2006=1.0	BCI	Avg. Rate =
				1.3671770%	
2006	\$ 100,000	3,611.02	1.000000	\$ 100,000.00	\$ 100,000.00
2007		3,623.91	1.003568	100,356.82	101,367.18
2008		3,721.86	1.030695	103,069.49	102,753.05
2009		3,715.58	1.028954	102,895.44	104,157.86
2010		3,736.56	1.034764	103,476.44	105,581.88
2011		3,837.47	1.062710	106,271.03	107,025.38
2012		3,970.93	1.099670	109,967.01	108,488.60
2013		4,022.11	1.113842	111,384.22	109,971.83
2014		4,076.81	1.128991	112,899.07	111,475.34
2015		4,108.05	1.137641	113,764.09	112,999.41
2016		4,126.72	1.142812	114,281.23	114,544.31
				\$ 1,178,364.84	\$ 1,178,364.84

* Building Cost Index, Atlanta Region, Engineering News Record.

CPI Inflator

For projects that do not involve construction, only the future value of money needs to be considered (without regard to inflation in labor or materials costs). For this calculation, the Consumer Price Index (CPI) is used, assuming past experience will continue into the foreseeable future.

Table 6 shows the CPI figures for every year since 1982, with the 1982-84 index being 100.

Table 6: Non-Construction Cost Inflater – CPI

Year	Amount	CPI*		Present Value: CPI	Long Term Inflater =	10-Year Inflater =
		1982-84=100	2016=1.0			
				2.365497%		
1982	\$ 10,000.00	96.5	2.48712	\$ 24,871.21	\$ 22,142.28	
1983	\$ 10,000.00	99.6	2.40971	\$ 24,097.11	\$ 21,630.61	
1984	\$ 10,000.00	103.9	2.30998	\$ 23,099.82	\$ 21,130.76	
1985	\$ 10,000.00	107.6	2.23055	\$ 22,305.50	\$ 20,642.46	
1986	\$ 10,000.00	109.6	2.18985	\$ 21,898.46	\$ 20,165.45	
1987	\$ 10,000.00	113.6	2.11274	\$ 21,127.39	\$ 19,699.46	
1988	\$ 10,000.00	118.3	2.02880	\$ 20,288.01	\$ 19,244.24	
1989	\$ 10,000.00	124.0	1.93554	\$ 19,355.42	\$ 18,799.54	
1990	\$ 10,000.00	130.7	1.83632	\$ 18,363.21	\$ 18,365.11	
1991	\$ 10,000.00	136.2	1.76217	\$ 17,621.67	\$ 17,940.72	
1992	\$ 10,000.00	140.3	1.71067	\$ 17,106.71	\$ 17,526.14	
1993	\$ 10,000.00	144.5	1.66095	\$ 16,609.49	\$ 17,121.14	
1994	\$ 10,000.00	148.2	1.61948	\$ 16,194.82	\$ 16,725.50	
1995	\$ 10,000.00	152.4	1.57485	\$ 15,748.50	\$ 16,339.00	
1996	\$ 10,000.00	156.9	1.52968	\$ 15,296.82	\$ 15,961.44	
1997	\$ 10,000.00	160.5	1.49537	\$ 14,953.72	\$ 15,592.59	
1998	\$ 10,000.00	163.0	1.47244	\$ 14,724.37	\$ 15,232.28	
1999	\$ 10,000.00	166.6	1.44062	\$ 14,406.19	\$ 14,880.28	
2000	\$ 10,000.00	172.2	1.39377	\$ 13,937.70	\$ 14,536.42	
2001	\$ 10,000.00	177.1	1.35521	\$ 13,552.07	\$ 14,200.51	
2002	\$ 10,000.00	179.9	1.33411	\$ 13,341.14	\$ 13,872.36	
2003	\$ 10,000.00	184.0	1.30439	\$ 13,043.87	\$ 13,551.79	
2004	\$ 10,000.00	188.9	1.27055	\$ 12,705.51	\$ 13,238.63	
2005	\$ 10,000.00	195.3	1.22892	\$ 12,289.15	\$ 12,932.71	1.479985%
2006	\$ 10,000.00	201.6	1.19051	\$ 11,905.12	\$ 12,633.86	\$ 11,582.54
2007	\$ 10,000.00	207.3	1.15754	\$ 11,575.42	\$ 12,341.91	\$ 11,413.62
2008	\$ 10,000.00	215.3	1.11474	\$ 11,147.41	\$ 12,056.71	\$ 11,247.17
2009	\$ 10,000.00	214.5	1.11872	\$ 11,187.22	\$ 11,778.10	\$ 11,083.14
2010	\$ 10,000.00	218.1	1.10067	\$ 11,006.68	\$ 11,505.93	\$ 10,921.50
2011	\$ 10,000.00	224.9	1.06699	\$ 10,669.88	\$ 11,240.04	\$ 10,762.22
2012	\$ 10,000.00	229.6	1.04535	\$ 10,453.55	\$ 10,980.30	\$ 10,605.27
2013	\$ 10,000.00	233.0	1.03026	\$ 10,302.64	\$ 10,726.57	\$ 10,450.60
2014	\$ 10,000.00	236.7	1.01382	\$ 10,138.18	\$ 10,478.69	\$ 10,298.19
2015	\$ 10,000.00	237.0	1.01262	\$ 10,126.16	\$ 10,236.55	\$ 10,148.00
2016	\$ 10,000.00	240.0	1.00000	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00
1982-16	\$350,000.00			\$ 535,450.12	\$ 535,450.12	
2006-16	\$110,000.00			\$ 118,512.25	\$ 118,512.25	



*Average annual Consumer Price Index data is from the U. S. Department of Labor, Bureau of Labor Statistics.

By 2016 the CPI had risen considerably over the 1982 CPI. The first column under the 'CPI' heading on the table shows the average annual CPI figures. Using 2016 as the base (2016=1.0), the second column under 'CPI' on the table shows the multipliers that would convert an amount of money spent in each year into current present value dollars.

Using an annual expenditure of \$10,000 as an example, the multipliers on Table 6 yield the figures shown for the CPI on the table under the 'present value' heading. Cumulatively, the \$350,000 spent

over the 1982-2016 period would have a total present value of \$535,450.12 in today's dollars. Considering the present value figures for the \$10,000 annual expenditures, an average annual inflation rate of over 2.365% yields the same total amount over the 1982-2016 period.

The 34-year average of annual CPI change (the period of 1982-2016) shown on Table 6 would be useful in estimating the present value (PV) of past expenditures, but would not be the best indicator of future change because of the long timeframe covered. While the historic CPI multipliers reflect the swings in inflation in the past, these rates have moderated somewhat in recent years as inflation has become a primary target of federal monetary policy. Looking only at the change in CPI for the ten years from 2006 to 2016, an average annual inflation rate of slightly under 1.48% best captures the change over that period. This lower inflation rate (compared to the 1982-2016 period) is assumed to be experienced 'on average' in future years, and is used for inflator calculations for future non-construction expenditures.

Calculating Net Present Value

Determining the NPV of future project expenditures depends on the type of 'project' being funded.

For a building construction project (such as a fire station), the current cost estimate for the project is inflated into the future using the average Building Cost Inflator (from Table 5) applied to the number of years until the year planned for its construction. This future cost is then deflated back to the present using the Net Discount Rate (currently 0.5%) since this reflects the present value of a future amount of money.

For other construction projects (such as recreation facilities and roads), the current cost estimate for the project is inflated into the future using the average Construction Cost Inflator (from Table 4) applied to the number of years until the year planned for its construction. Like building construction projects, this future cost is then deflated back to the present using the Net Discount Rate.

For non-construction capital projects (such as fire truck purchases or land acquisition), the 10-year average CPI inflator (from Table 6) is used to estimate the project expenditure in future dollars while the Net Discount Rate is applied to deflate that future cost to present value.

■ SPLOST Tax Credits

Given the County's past history with funding capital improvements through SPLOST sales taxes, bonds or a combination of both, it is assumed that similar funding approaches will be used in the future, instead of using property taxes through the General Fund.

Future SPLOST Financing

Some capital projects in the impact fee program have portions that are not impact fee eligible. These are situations in which a project serves both a future (impact fee eligible) need and a need to provide service to the current residents and businesses at the same Level of Service as new growth. These non-eligible portions are the responsibility of the current residents and businesses and are assumed to be financed by future SPLOST programs. However, both existing and future residents and businesses will be paying the SPLOST sales taxes.

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 against these fee collections in order to avoid new growth paying more than their 'fair share' of total costs.

As the county grows, new growth will be paying a larger proportion of the sales taxes each year.

Table 7: Future SPLOST Tax Generation - New Growth

Year	Day-Night Population			Residential Population		
	Total County	New Growth	% New Growth	Total County	New Growth	% New Growth
2017	34,807			24,517		
2018	36,031	1,224	3.40%	25,453	936	2.60%
2019	37,269	2,462	6.61%	26,412	1,895	5.08%
2020	38,530	3,723	9.66%	27,394	2,877	7.47%
2021	39,810	5,003	12.57%	28,396	3,879	9.74%
2022	41,115	6,308	15.34%	29,418	4,901	11.92%
2023	42,440	7,633	17.99%	30,459	5,942	14.00%
2024	43,789	8,982	20.51%	31,519	7,002	15.99%
2025	45,162	10,355	22.93%	32,595	8,078	17.89%
2026	46,555	11,748	25.23%	33,687	9,170	19.70%
2027	47,969	13,162	27.44%	34,794	10,277	21.42%
2028	49,400	14,593	29.54%	35,915	11,398	23.07%
2029	50,850	16,043	31.55%	37,048	12,531	24.64%
2030	52,312	17,505	33.46%	38,193	13,676	26.14%
2031	53,790	18,983	35.29%	39,348	14,831	27.57%
2032	55,286	20,479	37.04%	40,512	15,995	28.93%
2033	56,790	21,983	38.71%	41,684	17,167	30.23%
2034	58,304	23,497	40.30%	42,863	18,346	31.47%
2035	59,827	25,020	41.82%	44,047	19,530	32.64%
2036	61,363	26,556	43.28%	45,235	20,718	33.76%
2037	62,903	28,096	44.67%	46,425	21,908	34.83%
2038	64,448	29,641	45.99%	47,617	23,100	35.84%
2039	66,005	31,198	47.27%	48,809	24,292	36.80%
2040	67,560	32,753	48.48%	50,000	25,483	37.72%

Table 7 shows the percentage of the total that will be comprised of new growth for two scenarios:

On the left portion of the table, the countywide day-night population (i.e., resident population and employees combined; see Appendix: Future Growth for details) is shown and the proportion of the total that will be new growth. This would apply to credits for public facility categories that are countywide in nature and serve both residents and businesses—Fire Protection, Law Enforcement and Road Improvements.

The right-hand portion of the table shows only residential population growth on a countywide basis. These figures would apply to projects for which only residential land uses would be assessed impact fees—Library Services and Parks & Recreation.

■Funds on Hand

The County has impact fee monies from previous collections in its various impact fee accounts. To the extent that the funds have not been retained for previous on-going impact fee projects, the amounts will be applied to new impact fee costs as a credit. The most recently reported fund balances are shown on Table 8.

Table 8: Impact Fee Fund Balances

Libraries	Fire Protection	Detention*	Roads	Parks & Recreation
\$ 5,631.83	\$ 3,237.41	\$ 45,715.05	\$ 1,215.49	\$ 68,292.70

As of end of last fiscal year (12/31/2016).

* To be retained and expended on previous impact fee project (the new jail).

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 14,700 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 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. The library system serves all persons on an equal basis in meeting their educational, recreational, civic, economic and spiritual needs.

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

The year 2017 Level of Service (LOS) is determined by an inventory of the existing library facilities and collection materials, as shown in Table 9.

Table 9: Inventory of Library Facilities

Facility	Gross Floor Area in Square Feet	Collection Materials
Dawson County Library*	14,700	42,908

*Includes the main branch and the satellite facility.

Level of service calculations, shown in Table 10 below, determine that the facilities provide slightly more than 3.8 collection materials and 1.3 square feet of library space per dwelling unit to serve the current population.

Table 10: Current Level of Service Calculation

Facility	Current Service Population	Current Level of Service
Existing Square Feet	Number of Housing Units (2017)	Square Feet of Floor Area per Housing Unit
14,700	11,262	1.3053
Existing Collection Materials	Number of Housing Units (2017)	Collection Materials per Housing Unit
42,908	11,262	3.8100

■ **Forecasts for Service Area**

Future Demand

The County adopted a Level of Service for library facilities based on the current floor area of facility space, and the current number of collection materials, per dwelling unit. In Table 11, the Level of Service figures are used to calculate future demand in square feet and collection materials between 2017 and 2040. The additional number of forecasted dwelling units to the year 2040 is multiplied by the Level of Service to produce the future demand figures. Future growth will demand almost 14,000 additional square feet of library space by the year 2040 in order to maintain the current Level of Service for all county residents, both existing and future. In the same way, a net increase of almost 41,000 collection materials will need to be added.

Table 11: Future Demand Calculation

Current Level of Service	Service Population Growth	New Growth Demand
Square Feet of Floor Area per Housing Unit	Number of New Housing Units (2017-40)	Square Feet of New Floor Area Needed
1.3053	10,719	13,991
Collection Materials per Housing Unit	Number of New Housing Units (2017-40)	Collection Materials Needed
3.8100	10,719	40,839

Library Services

Table 12 presents the expected facility demand in an annual format. The table shows a future project roughly in pace with the anticipated growth in dwelling units (assuming that construction of a new library branch should begin when about one-half the service demand is reached). Alternately, an expansion of the current main library could be considered, and/or several smaller new branch libraries in various locations around the county. In whatever future configuration, it is the addition of 13,991 square feet that is impact fee eligible.

Table 12: Future Library Facility Projects

Year	New Dwelling Units	Running Total: SF Demanded	Project	Square Footage
2017	0			
2018	464	606		
2019	464	1,212		
2020	468	1,823		
2021	469	2,435		
2022	465	3,042		
2023	460	3,642		
2024	462	4,245		
2025	461	4,847		
2026	464	5,453	New Branch Library	13,991
2027	466	6,061		
2028	467	6,671		
2029	466	7,279		
2030	462	7,882		
2031	463	8,486		
2032	461	9,088		
2033	459	9,687		
2034	458	10,285		
2035	456	10,880		
2036	461	11,482		
2037	468	12,093		
2038	478	12,717		
2039	486	13,351		
2040	491	13,992		
Total	10,719			13,991

Table 13 presents the figures for collection material demand. Materials demanded by new growth are calculated in the first columns by multiplying the Level of Service standard (from Table 11) times the net new dwelling units each year (from Table 3). Thus the 'New Materials Needed (annual)' column represents the number of materials that must be purchased in order to meet new growth's demand in each year. The 'Running Total' column shows the accumulated number of new collection materials that will meet the needs of future residential growth in the county.

However, the Library System discards a few of its collection materials each year as they become worn out, disfigured, broken or out of date. To maintain the collection, these materials need to be replaced with new materials. Since these materials replenish the overall collection, the responsibility for these replacements falls to the current residents and not to new growth.

Over the past several years the discard rate has averaged 0.524% of all materials in the collection. As the collection grows in the future, this discard rate will continue relative to the new materials being acquired. By including the discarded materials for replacement each year, the resulting 'total materials needed (annual)' column reflects the total number of volumes required annually to maintain the LOS once these non-impact fee eligible volumes are discarded. Thus, the new materials that will be needed each year will meet both the demand of new growth and the replenishment of the current collection. A total of 41,048 collection materials will need to be purchased to maintain the Level of Service for new and existing development and to account for discarded volumes.



Table 13: Future Collection Materials Needed

Year	New Growth Demand			Plus Discarded Materials	Total Materials Needed (annual)
	New Dwelling Units	New Materials Needed (annual)	Running Total		
2017	0	0			
2018	464	1,768	1,768	9	1,777
2019	464	1,768	3,536	9	1,777
2020	468	1,783	5,319	9	1,792
2021	469	1,787	7,106	9	1,796
2022	465	1,772	8,878	9	1,781
2023	460	1,753	10,631	9	1,762
2024	462	1,760	12,391	9	1,769
2025	461	1,756	14,147	9	1,765
2026	464	1,768	15,915	9	1,777
2027	466	1,775	17,690	9	1,784
2028	467	1,779	19,469	9	1,788
2029	466	1,775	21,244	9	1,784
2030	462	1,760	23,004	9	1,769
2031	463	1,764	24,768	9	1,773
2032	461	1,756	26,524	9	1,765
2033	459	1,749	28,273	9	1,758
2034	458	1,745	30,018	9	1,754
2035	456	1,737	31,755	9	1,746
2036	461	1,756	33,511	9	1,765
2037	468	1,783	35,294	9	1,792
2038	478	1,821	37,115	10	1,831
2039	486	1,852	38,967	10	1,862
2040	491	1,871	40,838	10	1,881
Total	10,719	40,838		210	41,048

Note: Discard rate = 0.524%

■ Future Costs

New Library Space

The building floor area needed to serve new growth identified in Table 12 is used to calculate the future cost to meet service demand, as shown in Table 14. The costs are shown in current dollars, and then adjusted to reflect the Net Present Value based on the year in which the expenditure is anticipated. For facility construction, the estimated current cost of construction is adjusted using the BCI (building construction cost index), and then reduced by the Discount Rate to determine the Net Present Value.¹

Table 14: Facility Costs to Meet Future Demand

Year	Project	Square Footage	Cost (2017 Dollars)*	% for New Growth	Total New Growth Cost (NPV)**
2026	New Branch Library	13,991	\$ 4,365,192	100%	\$ 4,716,121
Total		13,991	\$ 4,365,192	100%	\$ 4,716,121

* Project cost based on \$312 per square foot, *Green Building Square Foot Costbook*, 2017 Edition, published by BNI Building News.

** Net Present Value = 2017 cost estimate inflated to target year using the Building Cost Index (BCI), reduced to NPV using the Discount Rate.

New Collection Materials

The new collection materials needed to serve new growth and to offset the discard rate, identified on Table 13, are used to calculate the future cost to meet service demand, as shown in Table 16.

The average cost of a collection material is based on the overall value of all of the materials in the current collection. The inventory of the current collection is shown on Table 15 by type of material, number of materials, the average cost to acquire a volume in each category, and the total value of all materials in each category. Overall, the system’s collection of 42,908 materials has a current (replacement) value of almost \$940,200. Dividing one by the other, and assuming the relative ratios will persist into the future, the average material in the collection is almost \$22.



¹ For more information on the cost inflator factor and net present value, see the 'Cost Adjustments and Credits' chapter of this report.

Table 15: Value of Collection Materials - 2017

Collection Materials	Number of Volumes	Avg Value per Volume	Total Value
Adult fiction books	1,220	\$ 23.33	\$ 28,462.60
Adult nonfiction books	10,431	\$ 24.09	\$ 251,282.79
Juvenile books	9,376	\$ 16.49	\$ 154,610.24
Easy books	7,638	\$ 15.73	\$ 120,145.74
EZ books	916	\$ 13.03	\$ 11,935.48
Magazines	1,108	\$ 22.00	\$ 24,376.00
Realia items	98	\$ 41.05	\$ 4,022.90
Large print books	1,616	\$ 27.17	\$ 43,906.72
Young adult books	2,585	\$ 16.17	\$ 41,799.45
Videogames	148	\$ 24.83	\$ 3,674.84
Music CDs	334	\$ 13.95	\$ 4,659.30
DVDs	3,129	\$ 22.84	\$ 71,466.36
Audiobooks	2,481	\$ 36.62	\$ 90,854.22
Ref/Georgianna	1,828	\$ 48.67	\$ 88,968.76
Total	42,908		\$ 940,165.40
	Overall Average per Volume		\$ 21.91

This average cost-per-material from Table 15 is used in Table 16 to calculate the total cost each year to acquire the needed number of materials (from Table 13). The costs are shown in current dollars, and then adjusted to reflect the Net Present Value based on the year in which the expenditure is anticipated. For the acquisition of collection materials, the current cost is adjusted to reflect the CPI (consumer price index) inflation factor, and then reduced by the Net Discount Rate to determine the Net Present Value.



In Table 16, the number of books needed each year is taken from Table 13. The total cost each year (in current 2017 dollars) is produced by multiplying the number of collection materials times the average per-volume cost calculated in Table 15. The percentage of the cost attributable to new growth in each year is based on the percentage of total volumes demanded that are attributable to new growth's demand (i.e., excluding the volumes needed to replace the discarded volumes).

This 'New Growth Cost (2017 \$)' is converted to Net Present Value as described above, using the CPI inflation rate to the future year indicated, and then reducing that figure using the Net Discount Rate back to present value of the future cost.

Table 16: Collection Material Costs to Meet Future Demand

Year	Total Materials Needed (annual)	Total Cost (2017 Dollars)	% for New Growth	New Growth Cost (2017 \$)	Net Present Value
2018	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 39,114.61
2019	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 39,496.02
2020	1,792	\$ 39,262.72	99.50%	\$ 39,065.53	\$ 40,219.50
2021	1,796	\$ 39,350.36	99.50%	\$ 39,153.17	\$ 40,702.80
2022	1,781	\$ 39,021.71	99.49%	\$ 38,824.52	\$ 40,754.71
2023	1,762	\$ 38,605.42	99.49%	\$ 38,408.23	\$ 40,710.86
2024	1,769	\$ 38,758.79	99.49%	\$ 38,561.60	\$ 41,271.99
2025	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 41,579.72
2026	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 42,272.08
2027	1,784	\$ 39,087.44	99.50%	\$ 38,890.25	\$ 42,853.28
2028	1,788	\$ 39,175.08	99.50%	\$ 38,977.89	\$ 43,368.66
2029	1,784	\$ 39,087.44	99.50%	\$ 38,890.25	\$ 43,693.09
2030	1,769	\$ 38,758.79	99.49%	\$ 38,561.60	\$ 43,746.30
2031	1,773	\$ 38,846.43	99.49%	\$ 38,649.24	\$ 44,273.27
2032	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 44,502.24
2033	1,758	\$ 38,517.78	99.49%	\$ 38,320.59	\$ 44,757.06
2034	1,754	\$ 38,430.14	99.49%	\$ 38,232.95	\$ 45,090.13
2035	1,746	\$ 38,254.86	99.48%	\$ 38,057.67	\$ 45,321.07
2036	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 46,263.58
2037	1,792	\$ 39,262.72	99.50%	\$ 39,065.53	\$ 47,432.98
2038	1,831	\$ 40,117.21	99.45%	\$ 39,898.11	\$ 48,916.27
2039	1,862	\$ 40,796.42	99.46%	\$ 40,577.32	\$ 50,234.11
2040	1,881	\$ 41,212.71	99.47%	\$ 40,993.61	\$ 51,244.33
Total	41,048	\$ 899,361.68		\$ 894,760.58	\$ 1,007,818.63

■ Credit Calculation

There is a credit calculation for this public facility category for SPLOST sales tax contributions generated from new growth and development.

Table 17 below shows the anticipated sales tax contribution from new residential growth towards the cost to replace discarded materials.

The sales tax information is taken from the Cost Adjustments and Credits chapter. The funding requirement for collection materials is the portion of the capital projects that are not impact fee eligible.

The 'Annual Funding Required (NPV)' column shows the cost (inflated to each year of purchase) of the discarded materials which have to be replaced, from the previous table. The 'SPLOST Percentage' is the percentage of the total countywide residential population that represents accumulated new growth for each designated year, taken from the Cost Adjustments and Credits chapter.

The 'Contribution from New Growth' column shows the cost of the replacement materials multiplied by the SPLOST percentage each year. (Residential population is used because the impact fee for library services will only be levied against residential growth.)

Table 17: New Growth Contribution from SPLOST Taxes

Year	Annual Funding Required (NPV)	SPLOST Percentage	Contribution from New Growth
2018	\$ 197.19	2.60%	\$ 5.12
2019	\$ 197.19	5.08%	\$ 10.03
2020	\$ 197.19	7.47%	\$ 14.72
2021	\$ 197.19	9.74%	\$ 19.21
2022	\$ 197.19	11.92%	\$ 23.51
2023	\$ 197.19	14.00%	\$ 27.61
2024	\$ 197.19	15.99%	\$ 31.53
2025	\$ 197.19	17.89%	\$ 35.27
2026	\$ 197.19	19.70%	\$ 38.84
2027	\$ 197.19	21.42%	\$ 42.25
2028	\$ 197.19	23.07%	\$ 45.50
2029	\$ 197.19	24.64%	\$ 48.59
2030	\$ 197.19	26.14%	\$ 51.55
2031	\$ 197.19	27.57%	\$ 54.37
2032	\$ 197.19	28.93%	\$ 57.05
2033	\$ 197.19	30.23%	\$ 59.61
2034	\$ 197.19	31.47%	\$ 62.05
2035	\$ 197.19	32.64%	\$ 64.37
2036	\$ 197.19	33.76%	\$ 66.58
2037	\$ 197.19	34.83%	\$ 68.68
2038	\$ 219.10	35.84%	\$ 78.53
2039	\$ 219.10	36.80%	\$ 80.64
2040	\$ 219.10	37.72%	\$ 82.64
Total New Residential Contribution			\$ 1,068.24

■ Net Impact Cost Calculation

Table 18: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Library Construction	\$ 4,716,121.25
+ Eligible Cost of New Materials	\$ 1,007,818.63
minus Credit for SPLOST Contributions	\$ (1,068.24)
minus Impact Fee Fund Balance	\$ (5,631.83)
= Net Eligible Library Project Costs	\$ 5,717,239.80
÷ Housing Unit Increase (2017-2040)	10,719
= Net Impact Cost per Housing Unit	\$ 533.37

Note that an administration fee and a fee for preparation of the CIE is added to the net cost figure to produce the gross fee, which is shown on the Maximum Impact Fee Schedule.

As noted, Library impact fees are collected from residential development only.

In calculating the net impact cost, the credit for future sales tax contributions (from Table 17) is subtracted from the total impact fee eligible cost, as discussed above. This figure is further reduced to the extent that previously collected Library impact fees are on hand, to produce a net impact-fee-eligible cost amount. This is shown on Table 18. Using the net eligible cost figure, the net impact cost per housing unit is calculated, based on the increase in dwelling units between 2017 and 2040.

■ **Impact Fee Schedule**

Table 18, therefore, presents the maximum net impact fee that could be charged in Dawson County for the library service category, based on the calculations carried out in this chapter.

The net impact fee per housing unit is transferred to Table 19: Maximum Impact Fee Schedule - Library Services below. The following are added to the net fee to produce the total maximum impact fee:

- An administrative fee (not to exceed 3%); and,
- A share of the cost of preparing the Capital Improvements Element (CIE).

The total impact fees on Table 19 are transferred to Table 2: Summary Maximum Impact Fee Schedule on page 7 of this report.

Table 19: Maximum Impact Fee Schedule - Library Services

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis- tration (3%)	CIE Preparation	Total Impact Fee
Net Fee per Housing Unit:				\$ 533.37			
<i>Residential (200-299)</i>							
210	Single-Family Detached Housing	n/a	per dwelling	\$ 533.37	\$ 16.00	\$ 1.09	\$ 550.46
220	Apartment	n/a	per dwelling	\$ 533.37	\$ 16.00	\$ 1.09	\$ 550.46
230	Residential Condominium/Townhouse	n/a	per dwelling	\$ 533.37	\$ 16.00	\$ 1.09	\$ 550.46

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual, by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee applies only to residential land uses.

Parks and Recreation Facilities

■ Introduction

Public recreational opportunities are available in Dawson County through a number of parks facilities and programs operated by the County. 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. Thus, the parks and recreation impact fee is limited to future residential growth. The County maintains and operates four parks.

Rock Creek Sports Complex



River Park



Veterans Memorial Park



War Hill Park



■ **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, children active in the little leagues play games at various locations throughout the county, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Dawson County resident can come. As a general rule, parks facilities are located throughout the county, and future facilities will continue to be located around the county so that all residents will have recreational opportunities available on an equal basis. Thus, the entire county is considered a single service area for parks & recreation.

■ **Level of Service**

The Level of Service (LOS) that the County’s parks and recreation components provide is viewed from two perspectives: the LOS that is provided by the current facilities to the current population, and the LOS adopted as part of the County’s Recreation Master Plan.

Table 20: Current Inventory of Parks and Recreation Components

Facility	Park Acreage	Recreation Component	Current Inventory
Rock Creek Park	50.8	Total Park Acres	202.9
Veterans Memorial Park	40.8	Baseball/Softball Fields	15
River Park	3.3	Basketball Courts (outdoor)	2
War Hill Park	108.0	Multi-Purpose Fields	4
Total Acres	202.9	Picnic Pavilions	4
		Playgrounds	3
		Restroom/Concession	3
		Swimming Pools	1
		Tennis Courts	6
		Buildings:*	
		Gymnasium	17,000
		Maintenance Sheds	4,200
		Office/Concession	2,500
		Recreation Center	36,000
		Senior Rec Center	5,000
		Maintenance Yards**	0.25
		Walking Trails***	1.90
		Parking Spaces	1,255

Footnotes:

* Floor area in square feet. Includes 1 indoor regulation basketball court at the Veterans Memorial Park gym and 2 at the Rock Creek Recreation Center.

** Total acres for 2 yards.

*** Trail miles.

Current Level of Service

Table 21 below provides the current Level of Service in park acreage and facilities per population, converts this to the Level of Service per the number of housing units occupied by that population, and then expresses the Level of Service per housing unit (since impact fees are assessed per housing unit when building permits are issued, not population).

For all facilities, the current Level of Service standards are expressed in terms of the number of people each recreation component serves.

Parks and Recreation Facilities

To determine the current LOS, the number of people served by each component is calculated using the current inventory for the component divided into the current population. These LOS 'per population' standards are then re-calculated as the number of housing units served by each component based on the county's number of people living in an average household (the average household size). Since impact fees are assessed at the time a building permit is issued (and the impact fee will be applied only to residential uses), the LOS then must be converted to a 'per housing unit' basis.

Table 21 shows how the current Level of Service for each recreation component is converted to a 'per housing unit' basis. To do this, the current LOS shown in the middle columns of 1 per a 'certain number of' housing units for each component is converted to the LOS per housing unit by dividing the number into '1', which produces the number of components serving one housing unit'.

Table 21: Current Level of Service Calculations

Component Type	Current Level of Service*	Level of Service per "X" Housing Units**	Level of Service per Each Housing Unit***
Total Park Acres	1 per 121 population =	1 per 55 Housing Units =	0.018182 for each Housing Unit
Baseball/Softball Fields	1 per 1,634 population =	1 per 751 Housing Units =	0.001332 for each Housing Unit
Basketball Courts (outdoor)	1 per 12,259 population =	1 per 5,631 Housing Units =	0.000178 for each Housing Unit
Multi-Purpose Fields	1 per 6,129 population =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Picnic Pavilions	1 per 6,129 population =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Playgrounds	1 per 8,172 population =	1 per 3,754 Housing Units =	0.000266 for each Housing Unit
Swimming Pools	1 per 24,517 population =	1 per 11,262 Housing Units =	0.000089 for each Housing Unit
Tennis Courts	1 per 4,086 population =	1 per 1,877 Housing Units =	0.000533 for each Housing Unit
Buildings:			
Gymnasium	1 sq ft per 1,442 population =	1 sq ft per 0.662 Housing Units =	1.509501 for each Housing Unit
Maintenance Sheds	1 sq ft per 5,837 population =	1 sq ft per 2.681 Housing Units =	0.372936 for each Housing Unit
Office/Concession	1 sq ft per 9,807 population =	1 sq ft per 4.505 Housing Units =	0.221985 for each Housing Unit
Recreation Center	1 sq ft per 0.681 population =	1 sq ft per 0.313 Housing Units =	3.196590 for each Housing Unit
Restroom/Concession	1 per 8,172 population =	1 per 3,754 Housing Units =	0.000266 for each Housing Unit
Senior Rec Center	1 sq ft per 4,903 population =	1 sq ft per 2.252 Housing Units =	0.443971 for each Housing Unit
Maintenance Yard acres	1 acre per 98,068 population =	1 acre per 45,048 Housing Units =	0.000022 for each Housing Unit
Walking Trail miles	1 mile per 12,904 population =	1 mile per 5,927 Housing Units =	0.000169 for each Housing Unit
Parking Spaces	1 space per 19,535 population =	1 space per 8,974 Housing Units =	0.111437 for each Housing Unit

* LOS is based on the current inventory divided by the current population.

** Converted using average population per housing unit in 2017.

*** "1" divided by the number of housing units for each component under 'Level of Service per "X" Housing Units' column.

By way of example, the current LOS for basketball courts is 1 court per 12,259 people. That number—12,259—is divided by the 2017 average household size to convert 'people' into 'housing units'. The result is the converted standard of 1 court per 5,631 housing units. By dividing the component (1) by the number of housing units it serves results in the portion of a basketball court that serves 1 housing unit (0.000178).

Master Plan Level of Service

In 2012 the County adopted a Master Plan for all recreation facilities operated by the County. Those LOS standards are shown in Table 22. By-and-large, the current LOS standards compare generally well to the adopted LOS standards, with some exceptions (such as baseball and softball fields, which far outnumber the adopted standard). In many cases, types of recreation components are not the same between the current inventory and the Master Plan facilities. In particular, adopted standards for various building types cannot be compared to the current LOS standards.

Table 22: Adopted Level of Service Calculations

Component Type	Adopted Level of Service*	Level of Service per "X" Housing Units	Level of Service per Each Housing Unit
Total Park Acres	1 per 100 population =	1 per 46 Housing Units =	0.021739 for each Housing Unit
Baseball/Softball Fields	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Basketball Courts (outdoor)	1 per 8,000 population =	1 per 3,675 Housing Units =	0.000272 for each Housing Unit
Football Fields	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Picnic Pavilions	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Playgrounds	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Soccer Fields	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Spraygrounds	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Swimming Pools	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Tennis Courts	1 per 3,500 population =	1 per 1,608 Housing Units =	0.000622 for each Housing Unit
Volleyball Courts	1 per 8,000 population =	1 per 3,675 Housing Units =	0.000272 for each Housing Unit
Buildings:			
Community/Cultural Ctrs	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Maintenance Facilities	1 per park =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Restroom/Concession	1 per 4 fields =	1 per 2371 Housing Units =	0.000422 for each Housing Unit
Recreation Center	1 per 10,000 population =	1 per 4,594 Housing Units =	0.000218 for each Housing Unit
Senior Rec Center	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Walking/jogging Trails	1 per park =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Multi-Purpose Trail System	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Parking	75 per field =	1 per 8 Housing Units =	0.126532 for each Housing Unit

* Dawson County System-Wide Recreation Master Plan: 2012-2017. Adopted February 2012.

Impact Fee LOS Standards

As will be seen below, the impact fee calculations use a combination of LOS standards reflecting current conditions and Master Plan standards where applicable, relevant and useful to the calculations.

First priority is given to the LOS standards adopted in the Master Plan, where those standards relate to actual facilities in the inventory and are based on population. Where an existing category (such as multi-purpose fields) has no comparable component in the Master Plan, the LOS for the current facilities is used. In the case of buildings, the categories between the Plan and actual facilities do not match, and/or the LOS standard differs as to its basis (floor area per population versus number per park). The same is true for maintenance sheds and maintenance yards versus 'maintenance facilities', and parking spaces. Lastly, the LOS for a 'multi-purpose trail system' is not quantified in terms of actual length; establishing an appropriate LOS in the future awaits a trail plan that will quantify this quantifiably.

The standards used in this Methodology Report provide greater clarity to future parks and recreation component development in terms of the County's current activities and planned improvements.

■ Forecasts for Service Area

Future Demand

As discussed above, the Level of Service standards used in this Report are an amalgam of standards established in the County’s *Systemwide Recreation Master Plan* (by preference) and current LOS standards in those cases where the Master Plan does not quantify future improvements in a useful way. The relevant LOS standards are shown on Table 23.

The table below applies the relevant Level of Service calculations to determine the facilities needed to meet the demand created by the existing residents of the county as well as the future demand for park lands and recreation components that will be generated by new growth and development.

Table 23: Existing and Future Demand (Parks)

Component Type	LOS per Housing Unit*	Existing Demand (2017)*	New Growth Demand (2017-40)**
Total Park Acres	0.021739	244.83	233.02
Baseball/Softball Fields	0.000435	4.90	4.67
Basketball Courts (outdoor)	0.000272	3.06	2.92
<i>Multi-Purpose Fields</i>	0.000355	4.00	3.81
Picnic Pavilions	0.000435	4.90	4.67
Playgrounds	0.000435	4.90	4.67
Swimming Pools	0.000109	1.23	1.17
Tennis Courts	0.000622	7.00	6.67
Buildings:			
<i>Gymnasium (sf)</i>	1.509501	17,000	16,180
<i>Maintenance Sheds (sf)</i>	0.372936	4,200	3,997
<i>Office/Concession (sf)</i>	0.221985	2,500	2,379
<i>Recreation Center (sf)</i>	3.196590	36,000	34,264
<i>Restroom/Concession (#)</i>	0.000266	3.00	2.86
<i>Senior Rec Center (sf)</i>	0.443971	5,000	4,759
<i>Maintenance Yard (acres)</i>	0.000022	0.25	0.24
<i>Walking Trails (miles)</i>	0.000169	1.90	1.81
<i>Parking (spaces)</i>	0.111437	1,255	1,194

* 2017 Housing Units = 11,262

** New Units (2017-2040) = 10,719

Notes:

All LOS figures from *Systemwide Recreation Master Plan* except those in italics, which are current LOS figures.

Multi-Purpose fields serve as football and soccer fields. Basketball courts double as volleyball courts.

Multi-Purpose Trail System not quantified, pending preparation of a trail system plan.

The current number of housing units (11,202) is multiplied by the LOS standard to determine the existing demand of today’s population. Since existing demand is used in the calculation of a few of

the LOS standards, some of the existing demand figures on Table 23 are the same as the 'current inventory' figures on Table 20; these facilities are those shown on Table 23 in italics.

The increase in housing units between 2017 and 2040 (10,719 - see Table 3) is multiplied by the same LOS to produce the future demand created by future growth.

Impact Fee Eligibility

New recreation components are eligible for impact fee funding only to the extent that the improvements are needed to specifically serve new growth and development, and only at the Level of Service applicable countywide. Table 24 shows the number of new recreation components that are needed to satisfy needs of the county's future residents, and the extent to which fulfillment of those needs will serve future growth demand.

The table begins with the current inventory of recreation components, and the 'existing demand' for those components to meet the needs of the current (2017) population based on the applicable Level of Service standards (shown on Table 23).

Table 24: Future Park Facility Impact Fee Eligibility

Component Type	Current Inventory	Existing Demand	Excess or (Shortfall)	New Growth Demand	Net Total Needed	Total Needed*	% Impact Fee Eligible
Total Park Acres	202.94	244.83	(41.89)	233.02	274.91	274.91	84.76%
Baseball/Softball Fields	15	4.90	10.10	4.67	(5.43)	-	
Basketball Courts (outdoor)	2	3.06	(1.06)	2.92	3.98	4.00	99.53%
Multi-Purpose Fields	4	4.00	0.00	3.81	3.81	4.00	95.16%
Picnic Pavilions	4	4.90	(0.90)	4.67	5.57	6.00	77.78%
Playgrounds	3	4.90	(1.90)	4.67	6.57	7.00	66.66%
Swimming Pools	1	1.23	(0.23)	1.17	1.39	2.00	58.34%
Tennis Courts	6	7.00	(1.00)	6.67	7.67	8.00	83.33%
Buildings:							
Gymnasium (sf)	17,000	17,000	0	16,180	16,180	16,180	100.00%
Maintenance Sheds (sf)	4,200	4,200	0	3,997	3,997	3,997	100.00%
Office/Concession (sf)	2,500	2,500	0	2,379	2,379	2,379	100.00%
Recreation Center (sf)	36,000	36,000	0	34,264	34,264	34,264	100.00%
Restroom/Concession (#)	3	3	0	2.86	2.86	3.00	95.18%
Senior Rec Center (sf)	5,000	5,000	0	4,759	4,759	4,759	100.00%
Maintenance Yard (acres)	0.25	0	0	0.24	0.24	0.24	100.00%
Walking Trails (miles)	1.9	1.9	0	1.81	1.81	1.81	100.00%
Parking (spaces)	1,255	1,255	0	1,194	1,194	1,194	100.00%

* For recreation components that can only be built in whole numbers: 'Net Total Needed' rounded up to next whole number. For park acres, building floor areas, maintenance yard acres, walking trails, and parking spaces, actual number shown.

The 'Excess or (Shortfall)' column compares the existing demand to the current inventory for each recreation component. If an 'excess' were to exist, that would mean that more components (or portions of components) exist than are needed to meet the demands of the current population, and those 'excesses' would create capacity to meet the recreational needs of future growth. This is the case for one component in Dawson County—baseball/softball fields.

Conversely, a 'shortfall' indicates that there are not enough components (or portions of components) to meet the recreational needs of the current population based on the Level of Service standard (e.g., park acres, basketball courts and playgrounds, etc.).

The column on Table 24, labeled 'New Growth Demand', shows the total demand for recreation components specifically to meet future growth needs (from Table 23), and the 'Net Total Needed' column shows all existing and future needs combined. The current 'shortfall' in park acres, playgrounds and several other components, is added to new growth's facility needs to bring the current population up to the current Level of Service required to be available to all—both current and future residents.

For many components, the 'Total Needed' column is rounded up to whole numbers. This is simply because the County cannot build a portion of a facility; it must build an entire facility. As a result, the '% Impact Fee Eligible' column may reflect a percentage less than 100%.

For example, existing residents suffer a 'shortfall' in playgrounds based on the LOS standard. New growth mathematically demands 4.67 new playgrounds; together, 6.57 playgrounds are needed to bring the current residents and future residents up to the same Level of Service. The County cannot build a portion of a playground; it must build an entire playground for it to be usable. Thus 7 playgrounds need to be added, and the portion of the 7 new playgrounds that is impact fee eligible (4.67) results in the percentage that is impact fee eligible (66.66%); 27.18% of the total goes to satisfy existing demand, and the remainder (6.15%) is excess capacity available to serve new growth beyond the current planning horizon. As such, the excess capacity could be recouped through impact fees at that time, but cannot be charged to new growth between now and 2040.

The outlier is baseball/softball fields. The 15 existing fields in the inventory provides an 'excess capacity' of about ten fields using the LOS standard adopted in the Master Plan. This 'excess capacity' exceeds the 'raw' demand created by new growth (4.67 fields). As a result, no additional fields will be needed in the foreseeable future.

Future Costs

Table 25 is a listing of the future capital project costs to provide the additional recreation components needed to attain or address the applicable Level of Service standards.

Costs are based on cost estimates provided in the *Systemwide Recreation Master Plan* for all recreation components except buildings. For new building construction, the actual amount spent by the County on each such facility in the past was raised to 2012 dollars using the Building Construction Index (BCI) from the actual year of each expenditure. All of these 2012 figures in the 'Net Cost per Unit' column are then increased to the gross cost to account for a contingency (10%) and professional services (7%)—a figure also taken from the Master Plan.

The cost estimates provided in the Master Plan were developed for the 2012 report; these are increased to current (2017) figures using the CPI inflation rate. In similar fashion, the building construction costs calculated in 2012 equivalent dollars are increased to 2017 values using the BCI inflation rate.

The 2017 figures in the 'Total Needed' column are drawn from the 'Total Needed' column in Table 24. These totals, multiplied by the 2017 per unit costs, establish the total cost in current dollars for each recreation component. These 'Total Cost (2017)' figures on the Table are converted to 'New Growth Share' dollars based on the percentage that each improvement is impact fee eligible (also from Table 24).

Amounts in the 'New Growth Share' column are reduced to the extent that certain projects are deferred from impact fee funding, as follows: The number of acres of park land and the number of parking spaces are deferred from impact fee parking to the extent of 50% of the impact fee eligible amount; while the total cost of the Aquatic Center is deferred in favor of alternate funding sources.

The calculation of Net Present Value is explained following the table.

Table 25: Future Costs to Meet Future Demand for Parks and Recreation

Component Type	2012 Cost Estimates		Current (2017) Cost Estimates			Percent Impact Fee Eligible	New Growth Share	2030 Net Present Value***
	Net Cost per Unit*	Gross Cost per Unit**	Per Unit Cost (2017)	Total Needed	Total Cost (2017)			
Park Acres****	\$ 18,000	\$ 21,060	\$ 22,665	274.91	\$ 6,230,786	84.76%	\$ 2,640,719	\$ 2,995,770
Baseball/Softball Fields	\$ 250,000	\$ 292,500	\$ 345,044	-	\$ -		\$ -	\$ -
Basketball Courts (outdoor)	\$ 50,000	\$ 58,500	\$ 69,009	4	\$ 276,036	99.53%	\$ 274,740	\$ 395,649
Multi-Purpose Fields	\$ 150,000	\$ 175,500	\$ 207,026	4	\$ 828,104	95.16%	\$ 788,037	\$ 1,134,839
Picnic Pavilions	\$ 50,000	\$ 58,500	\$ 69,009	6	\$ 414,054	77.78%	\$ 322,032	\$ 463,753
Playgrounds	\$ 75,000	\$ 87,750	\$ 103,513	7	\$ 724,591	66.66%	\$ 483,046	\$ 695,626
Aquatic Center (deferred)	\$ 11,000,000	\$ 12,870,000	\$ 13,774,166	1	\$ 13,774,166	58.34%	\$ -	\$ -
Tennis Courts	\$ 75,000	\$ 87,750	\$ 103,513	8	\$ 828,104	83.33%	\$ 690,022	\$ 993,690
Buildings:								
Gymnasium (sf)	\$ 113	\$ 132	\$ 141	16,180	\$ 2,281,380	100.00%	\$ 2,281,380	\$ 2,550,964
Maintenance Sheds (sf)	\$ 75	\$ 87	\$ 93	3,997	\$ 371,721	100.00%	\$ 371,721	\$ 415,646
Office/Concession (sf)	\$ 147	\$ 172	\$ 184	2,379	\$ 437,736	100.00%	\$ 437,736	\$ 489,462
Recreation Center (sf)	\$ 113	\$ 132	\$ 141	34,264	\$ 4,831,224	100.00%	\$ 4,831,224	\$ 5,402,116
Restroom/Concession (#)	\$ 200,000	\$ 234,000	\$ 250,439	3	\$ 751,317	95.18%	\$ 715,092	\$ 799,593
Senior Rec Center	\$ 186	\$ 218	\$ 233	4,759	\$ 1,108,847	100.00%	\$ 358,847	\$ 401,251
Maintenance Yard (acres)	\$ 18,000	\$ 21,060	\$ 22,665	0.24	\$ 5,393	100.00%	\$ 5,393	\$ 6,118
Walking Trails (miles)	\$ 158,400	\$ 185,328	\$ 218,620	1.81	\$ 395,375	100.00%	\$ 395,375	\$ 569,373
Parking (spaces)****	\$ 1,600	\$ 1,872	\$ 2,208	1,194	\$ 2,636,352	100.00%	\$ 1,318,176	\$ 1,898,284
Total					\$ 35,895,186		\$ 15,913,540	\$ 19,212,136

* Cost figures drawn from *Systemwide Recreation Master Plan* (2012 estimates) for all component types except buildings. Per square foot costs for buildings derived from actual costs from the Fixed Assets listing, raised to 2012 equivalent costs.

** Includes contingency at 10% and planning/architectural/engineering/legal services at 7%.

*** Actual construction dates will vary. NPV based on CPI, CCI or BCI as appropriate, in an average construction year of 2030. New Growth Share for the Senior Rec Center reflects a reduction for a \$750,000 grant.

**** Cost per park or maintenance yard acre includes land acquisition and site preparation. Impact fee funding for park land acquisition and new parking spaces partially deferred at 50%.

Note: All cost figures shown rounded to nearest whole dollar.

The Net Present Value of new growth’s share of the cost for each component is calculated as follows:

Since the annual ‘pace’ of component construction over the 2017-2040 period is not known, an ‘average’ year of 2030 is used for Net Present Value calculations—some improvements will occur earlier for less money, and some later at greater cost. All will average out.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the recreation components, the NPVs are calculated by increasing the current (2017) estimated costs using Engineering News Record’s (ENR) 10-year average building cost inflation (BCI) rate for buildings (such as gymnasiums) and the 10-year average CPI rate for all other projects. All project costs are then reduced to current NPV dollars using the Net Discount Rate.

■ Credit Calculation

There is a credit calculation for this public facility category for future SPLOST sales tax contributions from new residents. As indicated previously, financing through future SPLOST programs is assumed for the non-eligible impact fee project costs.

Table 26 shows the anticipated sales tax contribution from new residential growth towards the non-eligible costs for the new recreation components. The sales tax information is taken from the Cost

Adjustments and Credits chapter. The funding requirement for the recreation components is the portion of those capital projects that are not impact fee eligible.

Table 26: New Growth Contribution from SPLOST Taxes

Year	Annual Funding Required (NPV)	SPLOST Percentage	Contribution from New Growth
2018		2.60%	\$ -
2019		5.08%	\$ -
2020		7.47%	\$ -
2021		9.74%	\$ -
2022		11.92%	\$ -
2023		14.00%	\$ -
2024		15.99%	\$ -
2025		17.89%	\$ -
2026		19.70%	\$ -
2027		21.42%	\$ -
2028		23.07%	\$ -
2029		24.64%	\$ -
2030	\$ 3,764,808.04	26.14%	\$ 984,239.08
2031		27.57%	\$ -
2032		28.93%	\$ -
2033		30.23%	\$ -
2034		31.47%	\$ -
2035		32.64%	\$ -
2036		33.76%	\$ -
2037		34.83%	\$ -
2038		35.84%	\$ -
2039		36.80%	\$ -
2040		37.72%	\$ -
Total New Residential Contribution			\$ 984,239.08

The 'Annual Funding Required (NPV)' column shows the cost (inflated to 2030) of the non-eligible capital improvements, determined from Table 25. The 'SPLOST percentage' is the percentage of the total countywide residential population that represents accumulated new growth for each designated year, taken from the Cost Adjustments and Credits chapter.

The amount of the non-eligible portion of the new recreation components multiplied by the SPLOST percentage for that year produces the figures in the 'Contribution from New Growth' column. (Residential population is used because the Parks & Recreation impact fee will only be levied against residential growth.)

■ **Net Impact Cost Calculation**

In calculating the net impact cost, the credit for future sales tax contributions (from Table 26) is subtracted from the total impact fee eligible cost, as discussed above.

Table 27: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Parks & Rec Projects	\$ 19,212,135.65
minus Credit for SPLOST Contributions	\$ (984,239.08)
minus Impact Fee Fund Balance	\$ (68,292.70)
= Net Eligible Parks & Rec Project Costs	\$ 18,159,603.87
÷ Housing Unit Increase (2017-2040)	10,719
= Net Impact Cost per Housing Unit	\$ 1,694.15

This figure is further reduced to the extent that previously collected Parks & Recreation impact fees are on hand, to produce a net impact fee eligible cost amount. This is shown on Table 27.

Using the net eligible cost figure, the net impact cost per housing unit is calculated, based on the increase in housing units between 2017 and 2040.

Note that an administration fee and a fee for preparation of the CIE is added to the net cost figure to produce the gross fee, which is shown on the Maximum Impact Fee Schedule.

■ Impact Fee Schedule—Parks & Recreation

The maximum net impact fee that could be charged in Dawson County for the Parks & Recreation facility category, based on the calculations carried out in this chapter, is shown on Table 27.

The 'net impact cost per housing unit' is transferred to Table 28: Maximum Impact Fee Schedule - Parks & Recreation.

The following are added to the net fee to produce the total maximum impact fee:

- An administrative fee (not to exceed 3%); and,
- A share of the cost of preparing the Capital Improvements Element (CIE).

The total impact fees on the following table are transferred to Table 2: Summary Maximum Impact Fee Schedule on page 7 of this report.

Table 28: Maximum Impact Fee Schedule - Parks & Recreation

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis- tration (3%)	CIE Preparation	Total Impact Fee
Net Fee per Housing Unit:				\$ 1,694.15			
<i>Residential (200-299)</i>							
210	Single-Family Detached Housing	n/a	per dwelling	\$ 1,694.15	\$ 50.82	\$ 3.46	\$ 1,748.43
220	Apartment	n/a	per dwelling	\$ 1,694.15	\$ 50.82	\$ 3.46	\$ 1,748.43
230	Residential Condominium/Townhouse	n/a	per dwelling	\$ 1,694.15	\$ 50.82	\$ 3.46	\$ 1,748.43

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual, by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee applies only to residential land uses.

Fire Protection

■ Introduction

Fire protection services are provided to the entire county through the Dawson County 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 Emergency Services department provides service throughout Dawson County, including the City of Dawsonville, which overall totals 211 square miles of coverage area 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. Much of the data in this chapter is drawn from the *Fire Services Assessment* prepared by the Georgia Mountains Regional Commission published in November, 2016. As a convention, the term 'fire protection services' is used in this

chapter to apply to all fire and EMS services provided by the Emergency Services Department.



■ 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 and EMS services because all residents and employees within the county have equal access to the benefits of the program.



■ Level of Service

Current Inventory

Fire protection and emergency medical services are provided currently by 8 stations with a combined square footage of 26,016, comprising 25 bays and utilizing a total of 29 heavy vehicles. In addition, the department maintains a facility, which includes a burn building,



Fire Protection

for training. Table 29 presents the 2017 inventory of facilities and impact fee eligible apparatus in the county.

Table 29: Current Capital Improvements

Stations			Vehicles*							
Facility	Floor Area (Sq Ft)	Bays	Engine	Tender	Tanker	Brush	Battalion	Medic	Squad	Total
Station 1 - Memory Lane	7,632	3	1	1		1	1	1		5
Station 2 - Liberty Drive	3,900	4	1	1				1	1	4
Station 3 - Harmony Church Rd	2,784	3	1	1				1		3
Station 4 - Emma Terrace	2,100	3	1	1						2
Station 5 - Kelly Bridge Road	1,800	3	1	1	1					3
Station 6 - Hubbard Road	3,800	4	1	1		1		1	1	5
Station 7 - Dawson Forest Road	2,000	3	2	1				1	1	5
Station 8 - Monument Road	2,000	2	1	1						2
Total Existing System**	26,016	25	9	8	1	2	1	5	3	29

* Vehicles having a service life of 10 years or more.

** In addition to the stations, the department operates a fire training facility, which includes a burn building.

The current capital improvements from Table 29 are translated into the current Level of Service (LOS) for fire protection and emergency medical services in Dawson County on Table 30.

Table 30: Level of Service Calculations - 2017

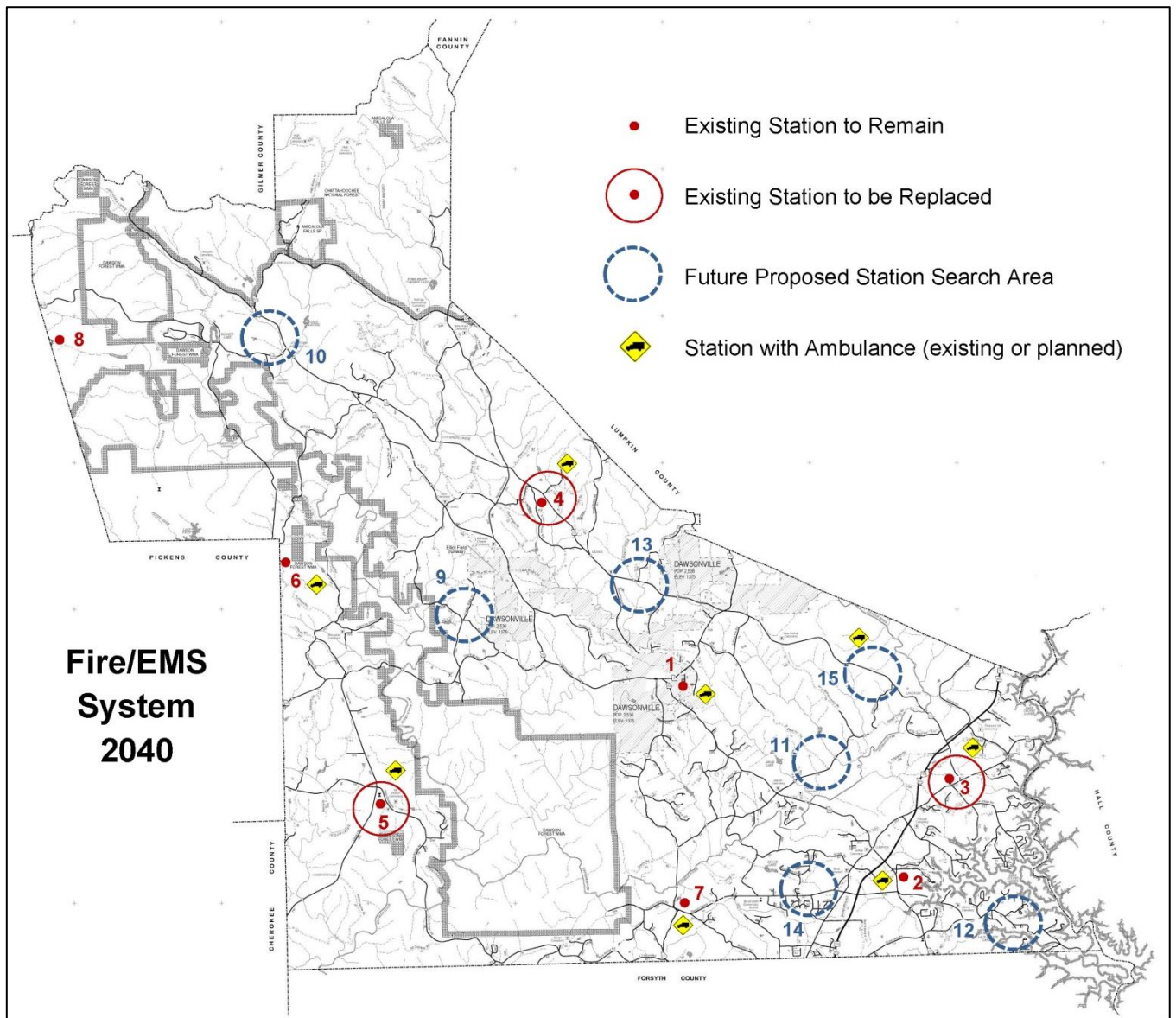
Facility	Current Service Population	Level of Service
Total Existing Floor Area	2017 Day-Night Population	Square Feet per 2017 Day-Night Population
26,016	34,807	0.747436
Total Existing Station Bays	2017 Day-Night Population	Bays per 2017 Day-Night Population
25	34,807	0.000718
Total Existing Vehicles	2017 Day-Night Population	Vehicles per 2017 Day-Night Population
29	34,807	0.000833

The current LOS is measured in terms of the number of vehicles (engines, tankers, medic units, etc.), and the number of square feet and vehicle bays in the fire stations, per day-night population in the service area. Day-night population is used as a measure in that fire protection services are available on a 24-hour basis, provided continuously to both residences and businesses throughout the county.

Future System

In order to adequately serve future growth and development in the county to 2040, a number of stations will need to be built and new vehicles purchased. Overall, future plans call for the replacement (and enlargement) of three aging and obsolete stations and the construction of ultimately seven new stations (four by 2040) strategically located throughout the county. Importantly, the current Fire/EMS system of facilities has capacity available to accommodate a portion of future growth, which reduces the overall need for new facilities.

The map below conceptualizes the future planned Fire/EMS system as currently envisioned. It is important to bear in mind that future growth patterns could produce changes in the location of some stations or the order in which construction would need to occur. Three stations (11, 13 and 14) will not be built before 2040, but land will be acquired for them before 2040.



Fire Protection

A key factor in determining future station locations is consideration of achieving ISO standards with regard to response times and road miles to be travelled within each fire service district. As the county grows, population concentrations will increase in high-growth areas, new commercial buildings and multi-family complexes will be built, and inevitably traffic congestion will mount on major roads. As a result, 'densification' of fire service districts in the growing areas of the county—primarily the GA 400/Lake Area and the area extending from there to Dawsonville and beyond (as shown on the County's Comprehensive Plan map)—will be needed to maintain and possibly increase service and decrease response times. This would have the added benefit of potentially reducing fire insurance premiums as a result.

Future System Improvements

The future system to be achieved by 2040, as currently envisioned, is summarized on the table below. The table excludes the construction of Stations 11, 13 and 14, and the acquisition of vehicles for those stations, which will be deferred until after 2040.

Table 31: Future Fire/EMS System - 2040

Stations			New Bays Added**	Vehicles Added*				Year of Addition
Facility	Existing Bays	Existing Vehicles		Engine	Tender	Medic	Ladder	
Station 1 - Memory Lane	3	5					1	2020
Station 2 - Liberty Drive	4	4					1	2023
Replace Station 3 - Harmony Church Rd	3	3	1	1				2023
Replace Station 4 - Emma Terrace	3	2	1	1		1		2022
Replace Station 5 - Kelly Bridge Road	3	3	1			1		2020
Station 6 - Hubbard Road	4	5						
Station 7 - Dawson Forest Road	3	5						
Station 8 - Monument Road	2	2						
New Stations:								
Station 9 - Sweetwater Juno Road			3	2	1			2019
Station 10 - SR 183 Area			2	1	1			2021
Station 11 - Etowah River Road Area			0	0	0			2025
Station 12 - War Hill Park Rd Area			1	1				2028
Station 13 - SR 136 at Shoal Creek Area			0	0	0			2031
Station 14 - Dawson Forest at Red Rider Area			0	0	0			2034
Station 15 - SR 136 at Cothran Road Area			4	2	1	1		2037
Total Future System (2040)***	25	29	13	8	3	3	2	

* Excludes vehicles relocated from Stations 3, 4 and 5 when the stations are replaced. Impact fee funding for equipment for Stations 11, 13 and 14 deferred. For all stations, types of vehicles may vary from the "standard complement" depending on the individual needs of each service area.

** Excludes replacement of 3 bays each at existing Stations 3, 4 and 5 when replacement stations built. Impact fee funding for construction of Stations 11, 13 and 14 deferred, except for land acquisition.

*** In addition to the stations, expansion of the training facility and burn building is proposed in 2024.

Note: New station search areas are approximate; specific station locations will reflect growth patterns and land availability, which may also affect the order of construction.

In summary, the future system is planned to include 15 existing and new stations (a net increase of 4 by 2040 and 7 eventually) and an expansion of the fire training center.

In addition, a net increase of 25 vehicles (16 by 2040 and 9 thereafter for a total of 54), including 2 new ladder trucks and an increase of 3 new ambulances are planned. As part of the program, three 3-bay existing but obsolete stations are proposed to be replaced with modern, 4-bay facilities.

Using the figures from Table 31 for both the existing facilities and planned improvements, Table 32 shows the resulting LOS calculations for the system as of 2040.

As can be seen on the table, the LOS standards for the future system are lower than for the current system, which is a result of taking advantage of the residual capacity in the existing system to provide service to at least a portion of anticipated growth. Applying the current LOS factors from Table 30 to all future growth, for instance, would have projected a future need for as many as 12 or 14 new stations, instead of 7, and as many as 56 more vehicles, not 25.

Table 32: Future Level of Service Calculations - 2040

Facility	Future Service Population	Level of Service
Total Future Floor Area	2040 Day-Night Population	Square Feet per 2040 Day-Night Population
34,090	67,560	0.504589
Total Future Station Bays	2040 Day-Night Population	Bays per 2040 Day-Night Population
38	67,560	0.000562
Total Future Vehicles	2040 Day-Night Population	Vehicles per 2017 Day-Night Population
45	67,560	0.000666

■ Future Costs

There are three categories of future costs: those for facilities (new station construction and the training center), those for new vehicle purchases, and those for the Fire Hydrant Extension program.

Table 33: Timing of Future Fire/EMS Facility Projects

Year	Day-Night Pop Increase over 2017	Incremental Demand		
		Station Number	New Bays Added *	New Vehicles
2017	34,807			
2018	1,224			
2019	2,462	9	3	3
2020	3,723	5**	1	2
2021	5,003	10	2	2
2022	6,308	4	1	2
2023	7,633	3***	1	2
2024	8,982			
2025	10,355	11****	0	0
2026	11,748			
2027	13,162			
2028	14,593	12	1	1
2029	16,043			
2030	17,505			
2031	18,983	13****	0	0
2032	20,479			
2033	21,983			
2034	23,497	14****	0	0
2035	25,020			
2036	26,556			
2037	28,096	15	4	4
2038	29,641			
2039	31,198			
2040	32,753			
Totals	32,753		13	16

* Excludes replacement of 3 bays each at existing Stations 3, 4 and 5 when replacement stations built.

** Includes one ladder truck for Station 1.

*** Includes one ladder truck for Station 2.

**** Impact fee funding for station construction (except land acquisition) and equipment deferred.

As a prologue to the **facility and system improvements**, Table 33 shows the anticipated timing of the projects and expenditures. Timing for near-term system improvements has been determined using two factors: first, immediate needs identified from the County’s Capital Improvements Program (CIP) and to meet growing service demands in areas experiencing much of the recent increases in development; and second, to extend service to the far northern portion of the county not currently well-served.

Once the immediate needs of the system are addressed, additional project are related to future increases in the day-night population—correlating increases in service to the growing demands of future growth and development—as well as increasing service into pockets of areas less served than others.

As to the **Fire Hydrant Extension Program**, the schedule of hydrant installations is closely coordinated with the extension of and upgrades to major water lines in high-growth areas by the Etowah Water and Sewer Authority.

The three categories—facility costs, vehicle costs, and the fire hydrant extension program—are discussed separately below.

Facility Costs

The estimated costs of the facility projects scheduled on Table 33 for the stations are shown on Table 34. Costs shown in the 'Current (2017) Dollars' columns are based on the current gross per-bay cost of a standard three-bay fire station (\$460,000 in total impact fee eligible capital cost per bay), drawn from the *Fire Services Assessment* report prepared by the Georgia Mountains Regional Commission (GMRC) in 2016. Since the 'per bay' costs are determined by dividing the total cost of construction of a standard station by the number of resulting bays, the gross cost per bay therefore includes a portion of the cost of administrative and other space in a standard station.

For Stations 11, 13 and 14, only land acquisition costs are considered for impact fee funding in the current program. These costs (\$125,000 per station in current dollars) are also drawn from the *Fire Services Assessment* report prepared by the GMRC in 2016. Four stations listed on the table (4, 5, 9 and 10) are needed to meet LOS standards but will be funded with SPLOST revenue instead of impact fees.

The 2017 total dollar amounts for impact fee funded projects are then converted to Net Present Value using ENR's 10-year average Building Construction Index (BCI) for the appropriate years. (NPV calculations are discussed fully in the Adjustments and Credits chapter).

The 'percent impact fee eligible' figure on Table 34 for Station 3 reflects the 3-bays that are not impact fee eligible because they will be replaced by the new 4-bay stations. Stations 11, 13 and 14 are 100% impact fee eligible and, thus, so are the land acquisition costs.

Table 34: Impact Fee Costs - Facilities

Facility	Current (2017) Dollars			Future Cost		Impact Fee Eligible	
	Replaced Bays	New Bays Added*	Total Cost	Year	Net Present Value**	Percent Eligible	Eligible Cost
Station 9		\$ 1,380,000	\$ 1,380,000	2019	n/a ***	n/a ***	\$ -
New Station 5	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2020	n/a ***	n/a ***	\$ -
Station 10		\$ 920,000	\$ 920,000	2021	n/a ***	n/a ***	\$ -
New Station 4	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2022	n/a ***	n/a ***	\$ -
New Station 3	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2023	\$ 1,937,339	25%	\$ 484,335
Station 11****		\$ -	\$ 125,000	2025	\$ 133,894	100%	\$ 133,894
Station 12		\$ 460,000	\$ 460,000	2028	\$ 505,594	100%	\$ 505,594
Station 13****		\$ -	\$ 125,000	2031	\$ 140,977	100%	\$ 140,977
Station 14****		\$ -	\$ 125,000	2034	\$ 144,658	100%	\$ 144,658
Station 15		\$ 1,840,000	\$ 1,840,000	2037	\$ 2,184,961	100%	\$ 2,184,961
Training Center		\$ 207,919	\$ 207,919	2024	\$ 220,807	100%	\$ 220,807
	\$ 4,140,000	\$ 6,187,919	\$ 10,702,919		\$ 5,268,229		\$ 3,815,226

* Based on an average cost per bay for a three-bay station of \$460,000.

** Net Present Value = 2017 cost estimate per fire station bay inflated to target year using the ENR Building Cost Index (BCI), reduced to NPV using Discount Rate.

*** Funded with SPLOST revenue.

**** Impact fee funding for station construction and equipment deferred; land acquisition estimated at \$125,000 in current (2017) dollars.

Fire Protection

Vehicle Costs

Vehicle costs are calculated in much the same way as the facility costs. The 2017 costs for a new engine, tender and medic vehicle (ambulance) are drawn from the *Fire Services Assessment* report. The current cost for a ladder truck is drawn from recent purchase history of other jurisdictions.

The vehicles to be purchased for Station 9, and one ladder truck, are scheduled to be purchased with SPLOST revenue. All other vehicles are 100% impact fee eligible in that they add new capacity to serve future growth and development.

The Net Present Value calculation, in this case, is based on the 10-year average CPI (as discussed in the Adjustments and Credits chapter).

Table 35: Impact Fee Costs - Vehicles

Facility	Engine	Tender	Medic	Ladder	Total Cost (2017)	Year	Net Present Value*
Station 9	n/a **	n/a **	\$ -	\$ -	\$ -	2019	\$ -
New Station 5	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	2020	\$ 257,385
Station 1	\$ -	\$ -	\$ -	n/a **	\$ -	2020	\$ -
Station 10	\$ 400,000	\$ 300,000	\$ -	\$ -	\$ 700,000	2021	\$ 727,705
New Station 4	\$ 400,000	\$ -	\$ 250,000	\$ -	\$ 650,000	2022	\$ 682,315
New Station 3	\$ 400,000	\$ -	\$ -	\$ -	\$ 400,000	2023	\$ 423,981
Station 2	\$ -	\$ -	\$ -	\$ 1,100,000	\$ 1,100,000	2023	\$ 1,165,947
Station 11***	\$ -	\$ -	\$ -	\$ -	\$ -	2025	\$ -
Station 12	\$ 400,000	\$ -	\$ -	\$ -	\$ 400,000	2028	\$ 445,059
Station 13***	\$ -	\$ -	\$ -	\$ -	\$ -	2031	\$ -
Station 14***	\$ -	\$ -	\$ -	\$ -	\$ -	2034	\$ -
Station 15	\$ 800,000	\$ 300,000	\$ 250,000	\$ -	\$ 1,350,000	2037	\$ 1,639,157
					\$ 4,850,000		\$ 5,341,548

* Net Present Value = 2017 cost estimate for vehicles inflated to target year using the Consumer Price Index (CPI), reduced to NPV using Discount Rate.

** Equipment funded with SPLOST revenue.

*** Impact fee funding for vehicle costs for Stations 11, 13 and 14 deferred.

Fire Hydrant Extensions

The Etowah Water and Sewer Authority is in the process of executing a program of extending new major water mains and replacing some undersized distribution water mains in various parts of the county. All of these mains will provide increased pressures and flows that will now support fire hydrants. 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.

The 15-year program is detailed on Table 36 as to the number of hydrants to be installed on an annual basis in coordination with the Authority’s scheduled extension and upgrade efforts.

Table 36: Fire Hydrant Extension Program

Year	Number of Hydrants	Cost (2017 \$)	Cost (NPV)
2017	3	\$ 11,895	\$ 11,895
2018	14	\$ 55,510	\$ 57,089
2019	11	\$ 43,615	\$ 46,132
2020	12	\$ 47,580	\$ 51,758
2021	11	\$ 43,615	\$ 48,794
2022	12	\$ 47,580	\$ 54,745
2023	18	\$ 71,370	\$ 84,454
2024	37	\$ 146,705	\$ 178,538
2025	22	\$ 87,230	\$ 109,178
2026	8	\$ 31,720	\$ 40,831
2027	10	\$ 39,650	\$ 52,490
2028		\$ -	\$ -
2029	18	\$ 71,370	\$ 99,936
2030		\$ -	\$ -
2031	12	\$ 47,580	\$ 70,469
2032	21	\$ 83,265	\$ 126,829
Total	209	\$ 828,685	\$ 1,033,137

The 2017 cost shown on the table is the average cost to add an elbow connection and a standard hydrant to a main as it is installed. The Net Present Value is the current cost inflated to each future year using the ENR’s Construction Cost Index (CCI), reduced by the discount rate to 2017 equivalent dollars.

Average Hydrant Cost = \$ 3,965.00

■ Credit Calculation

There is a credit calculation for this public facility category for future SPLOST sales tax contributions from new residents and employees. As indicated previously, financing through future SPLOST programs is assumed for the non-eligible impact fee project costs for the purpose of credit calculations. For projects that are 100% impact fee eligible but will be funded through a SPLOST program, there is no credit because new growth and development will be paying their 'fair share' of the facilities through their SPLOST taxes instead of impact fee revenue. In the case of fire protection facilities, new growth will receive a credit for SPLOST taxes it generates that will be applied to the non-eligible costs of the Station 3 replacement.

Table 37 shows the anticipated sales tax contribution from new residential and employment growth towards the non-eligible costs for the new Fire/EMS facility components. The 'Annual Funding Required (NPV)' column shows the cost (inflated to the appropriate year of expenditure) of the portion of Stations 3 that is not impact fee eligible (in this case, the gross cost of three of the four new bays to be constructed).

Table 37: New Growth Contribution from SPLOST Taxes

Year	Annual Funding Required (NPV)	SPLOST Percentage	Contribution from New Growth
2018		3.40%	\$ -
2019		6.61%	\$ -
2020		9.66%	\$ -
2021		12.57%	\$ -
2022		15.34%	\$ -
2023	\$ 1,453,003.74	17.99%	\$ 261,328.41
2024		20.51%	\$ -
2025		22.93%	\$ -
2026		25.23%	\$ -
2027		27.44%	\$ -
2028		29.54%	\$ -
2029		31.55%	\$ -
2030		33.46%	\$ -
2031		35.29%	\$ -
2032		37.04%	\$ -
2033		38.71%	\$ -
2034		40.30%	\$ -
2035		41.82%	\$ -
2036		43.28%	\$ -
2037		44.67%	\$ -
2038		45.99%	\$ -
2039		47.27%	\$ -
2040		48.48%	\$ -
Total New Growth Contribution			\$ 261,328.41

There are no credits for expenditures for the additional vehicles or the new fire hydrants because these system improvements are 100% impact fee eligible.

The sales tax information in the 'SPLOST Percentage' column is taken from the Cost Adjustments and Credits chapter. It is the projected percentage of the SPLOST collections each year that is expected to be generated specifically from new growth and development.

The amount of the non-eligible portion of the new Fire/EMS facility components multiplied by the SPLOST percentage for that year produces the figure in the 'Contribution from New Growth' column.

■ Net Impact Cost Calculation

The net impact cost per day-night population is calculated in Table 38.

The total cost figures are reduced by the credit for SPLOST contributions (from Table 37) and to the extent that previously collected Fire Protection impact fees are on hand (from Table 8), to produce a 'net eligible project cost' amount. This figure, divided by the future increase in day-night population, results in a 'net impact cost per person', which will be used to calculate impact fees for all nonresidential land uses.

Table 38: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Fire/EMS Facilities	\$ 3,815,226.00
Eligible Cost of Fire/EMS Vehicles	\$ 5,341,547.86
Eligible Cost of Fire Hydrant Program	\$ 1,033,136.91
minus Credit for SPLOST Contributions	\$ (261,328.41)
minus Impact Fee Fund Balance	\$ (3,237.41)
= Total Net Eligible Emergency Mgt Project Costs	\$ 9,925,344.96
÷ Day/Night Population Increase (2017-2040)	32,753
= Net Impact Cost per Person	\$ 303.04

Note that an administration fee and a fee for preparation of the CIE is added to the net cost figure to produce the gross fee, which is shown on the Maximum Impact Fee Schedule.

A final calculation is necessary in order to fairly distribute the portion of project costs that are attributable to residential growth. Impact fees for residential land uses are assessed not on the basis of family sizes but when building permits are issued. The per-person cost therefore does not apply.

Under the methodology followed here, this is only required in public facility categories that serve both residential and non-residential populations. (Dwelling units alone are already the Level of Service unit of measure for the Library Services and Parks & Recreation categories.)

Table 39: Calculation of Net Housing Unit Fee

Factor	Data
Residential Population Increase (2017-2040)	25,483
÷ Day/Night Population Increase (2017-2040)	32,753
= Residential Increase as % of Total Increase	77.804%
Total Net Eligible Emergency Mgt Project Costs	\$ 9,925,344.96
× % Cost Attributable to New Residential Growth =	\$ 7,722,271.72
÷ New Housing Units in Service Area (2017-2040)	10,719
= Net Impact Cost per Housing Unit	\$ 720.43

The portion of project costs that is attributable to new residential growth is calculated based on the percentage of the total day-night population increase that is comprised of new residents. This percentage is then applied to the 'total net eligible project costs' figure to produce a 'cost attributable to new

Fire Protection

residential growth' figure. Finally, the 'cost attributable to new residential growth' is divided by the number of new housing units projected to 2040 to produce a 'net impact cost per housing unit'.

■ Impact Fee Schedule—Fire Protection

The maximum net impact fees that could be charged in Dawson County for the Fire Protection category, based on the calculations carried out in this chapter, are shown on Table 38 and Table 39.

The net impact fees per person and per housing unit are transferred to Table 40.

The following are added to the net fee to produce the total maximum impact fee:

- An administrative fee (not to exceed 3%); and,
- A share of the cost of preparing the Capital Improvements Element (CIE).

The total impact fees on the following table are transferred to Table 2: Summary Maximum Impact Fee Schedule on page 7 of this report.



Table 40: Maximum Impact Fee Schedule - Fire Protection

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis- tration (3%)	CIE Preparation	Total Impact Fee
Net Fee per Day/Night Person (Employee):				\$ 303.0362			
Residential (200-299)							
210	Single-Family Detached Housing	n/a	per dwelling	\$ 720.43	\$ 21.61	\$ 1.47	\$ 743.51
220	Apartment	n/a	per dwelling	\$ 720.43	\$ 21.61	\$ 1.47	\$ 743.51
230	Residential Condominium/Townhouse	n/a	per dwelling	\$ 720.43	\$ 21.61	\$ 1.47	\$ 743.51
Port and Terminal (000-099)							
030	Intermodal Truck Terminal	0.001415	per square foot	\$ 0.4288	\$ 0.0129	\$ 0.0009	\$ 0.4426
Industrial/Agricultural (100-199)							
110	General Light Industrial	0.002308	per square foot	\$ 0.6994	\$ 0.0210	\$ 0.0014	\$ 0.7218
120	General Heavy Industrial	0.001829	per square foot	\$ 0.5543	\$ 0.0166	\$ 0.0011	\$ 0.5720
140	Manufacturing	0.001793	per square foot	\$ 0.5435	\$ 0.0163	\$ 0.0011	\$ 0.5609
150	Warehousing	0.000915	per square foot	\$ 0.2773	\$ 0.0083	\$ 0.0006	\$ 0.2862
151	Mini-Warehouse	0.000077	per square foot	\$ 0.0233	\$ 0.0007	\$ -	\$ 0.0240
152	High-Cube Warehouse	0.000076	per square foot	\$ 0.0230	\$ 0.0007	\$ -	\$ 0.0237
Lodging (300-399)							
310	Hotel or Conference Motel	0.569735	per room	\$ 172.6503	\$ 5.1795	\$ 0.3525	\$ 178.1823
311	All Suites Hotel	0.500000	per room	\$ 151.5181	\$ 4.5455	\$ 0.3093	\$ 156.3729
320	Motel	0.439500	per room	\$ 133.1845	\$ 3.9955	\$ 0.2719	\$ 137.4519
Recreational (400-499)							
430	Golf Course	0.245614	per acre	\$ 74.4299	\$ 2.2329	\$ 0.1520	\$ 76.8148
437	Bowling Alley	0.001000	per square foot	\$ 0.3030	\$ 0.0091	\$ 0.0006	\$ 0.3127
443	Movie Theater	0.001470	per square foot	\$ 0.4453	\$ 0.0134	\$ 0.0009	\$ 0.4596
460	Arena	3.333000	per acre	\$ 1,010.0197	\$ 30.3006	\$ 2.0620	\$ 1,042.3823
480	Amusement Park	9.094838	per acre	\$ 2,756.0652	\$ 82.6820	\$ 5.6267	\$ 2,844.3739
490	Tennis Courts	0.243888	per acre	\$ 73.9068	\$ 2.2172	\$ 0.1509	\$ 76.2749
491	Racquet/Tennis Club	0.000307	per square foot	\$ 0.0930	\$ 0.0028	\$ 0.0002	\$ 0.0960
492	Health/Fitness Center	0.000705	per square foot	\$ 0.2136	\$ 0.0064	\$ 0.0004	\$ 0.2204
495	Recreational Community Center	0.001241	per square foot	\$ 0.3761	\$ 0.0113	\$ 0.0008	\$ 0.3882

Fire Protection

Maximum Impact Fee Schedule - Fire Protection continued

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis- tration (3%)	CIE Preparation	Total Impact Fee
<i>Institutional (500-599)</i>							
520	Private Elementary School	0.000982	per square foot	\$ 0.2976	\$ 0.0089	\$ 0.0006	\$ 0.3071
530	Private High School	0.000653	per square foot	\$ 0.1979	\$ 0.0059	\$ 0.0004	\$ 0.2042
560	Church/Place of Worship	0.000347	per square foot	\$ 0.1052	\$ 0.0032	\$ 0.0002	\$ 0.1086
565	Day Care Center	0.002818	per square foot	\$ 0.8538	\$ 0.0256	\$ 0.0017	\$ 0.8811
566	Cemetery	0.081425	per acre	\$ 24.6748	\$ 0.7402	\$ 0.0504	\$ 25.4654
<i>Medical (600-699)</i>							
610	Hospital	0.002938	per square foot	\$ 0.8903	\$ 0.0267	\$ 0.0018	\$ 0.9188
620	Nursing Home	0.002331	per square foot	\$ 0.7065	\$ 0.0212	\$ 0.0014	\$ 0.7291
630	Clinic	0.003926	per square foot	\$ 1.1898	\$ 0.0357	\$ 0.0024	\$ 1.2279
<i>Office (700-799)</i>							
710	General Office Building	0.003322	per square foot	\$ 1.0068	\$ 0.0302	\$ 0.0021	\$ 1.0391
714	Corporate Headquarters Building	0.003425	per square foot	\$ 1.0379	\$ 0.0311	\$ 0.0021	\$ 1.0711
715	Single-Tenant Office Building	0.003149	per square foot	\$ 0.9542	\$ 0.0286	\$ 0.0019	\$ 0.9847
720	Medical-Dental Office Building	0.004055	per square foot	\$ 1.2288	\$ 0.0369	\$ 0.0025	\$ 1.2682
760	Research and Development Center	0.002928	per square foot	\$ 0.8872	\$ 0.0266	\$ 0.0018	\$ 0.9156
770	Business Park	0.003079	per square foot	\$ 0.9331	\$ 0.0280	\$ 0.0019	\$ 0.9630
<i>Retail (800-899)</i>							
812	Building Materials and Lumber Store	0.001406	per square foot	\$ 0.4261	\$ 0.0128	\$ 0.0009	\$ 0.4398
813	Free-Standing Discount Superstore	0.000960	per square foot	\$ 0.2909	\$ 0.0087	\$ 0.0006	\$ 0.3002
814	Variety Store	0.000960	per square foot	\$ 0.2909	\$ 0.0087	\$ 0.0006	\$ 0.3002
815	Free-Standing Discount Store	0.001985	per square foot	\$ 0.6014	\$ 0.0180	\$ 0.0012	\$ 0.6206
816	Hardware/Paint Store	0.000964	per square foot	\$ 0.2921	\$ 0.0088	\$ 0.0006	\$ 0.3015
817	Nursery (Garden Center)	0.003120	per square foot	\$ 0.9453	\$ 0.0284	\$ 0.0019	\$ 0.9756
818	Nursery (Wholesale)	0.001667	per square foot	\$ 0.5051	\$ 0.0152	\$ 0.0010	\$ 0.5213
820	Shopping Center	0.001670	per square foot	\$ 0.5061	\$ 0.0152	\$ 0.0010	\$ 0.5223
823	Factory Outlet Center	0.001670	per square foot	\$ 0.5061	\$ 0.0152	\$ 0.0010	\$ 0.5223
826	Specialty Retail Center	0.001982	per square foot	\$ 0.6007	\$ 0.0180	\$ 0.0012	\$ 0.6199
841	Automobile Sales	0.001528	per square foot	\$ 0.4630	\$ 0.0139	\$ 0.0009	\$ 0.4778

Maximum Impact Fee Schedule - Fire Protection continued

ITE Code	Land Use	Employees	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	CIE Preparation	Total Impact Fee
Retail Continued							
843	Auto Parts Store	0.000960	per square foot	\$ 0.2909	\$ 0.0087	\$ 0.0006	\$ 0.3002
848	Tire Store	0.001280	per square foot	\$ 0.3879	\$ 0.0116	\$ 0.0008	\$ 0.4003
849	Tire Superstore	0.001280	per square foot	\$ 0.3879	\$ 0.0116	\$ 0.0008	\$ 0.4003
850	Supermarket	0.001164	per square foot	\$ 0.3528	\$ 0.0106	\$ 0.0007	\$ 0.3641
851	Convenience Market (Open 24 Hours)	0.001800	per square foot	\$ 0.5455	\$ 0.0164	\$ 0.0011	\$ 0.5630
853	Convenience Market w/Gasoline Pumps	0.001800	per square foot	\$ 0.5455	\$ 0.0164	\$ 0.0011	\$ 0.5630
854	Discount Supermarket	0.002251	per square foot	\$ 0.6822	\$ 0.0205	\$ 0.0014	\$ 0.7041
860	Wholesale Market	0.000820	per square foot	\$ 0.2484	\$ 0.0075	\$ 0.0005	\$ 0.2564
857	Discount Club	0.001298	per square foot	\$ 0.3933	\$ 0.0118	\$ 0.0008	\$ 0.4059
862	Home Improvement Superstore	0.000960	per square foot	\$ 0.2909	\$ 0.0087	\$ 0.0006	\$ 0.3002
863	Electronics Superstore	0.000960	per square foot	\$ 0.2909	\$ 0.0087	\$ 0.0006	\$ 0.3002
876	Apparel Store	0.001670	per square foot	\$ 0.5061	\$ 0.0152	\$ 0.0010	\$ 0.5223
875	Department Store	0.001980	per square foot	\$ 0.6000	\$ 0.0180	\$ 0.0012	\$ 0.6192
880	Pharmacy/Drugstore	0.001670	per square foot	\$ 0.5061	\$ 0.0152	\$ 0.0010	\$ 0.5223
890	Furniture Store	0.000415	per square foot	\$ 0.1258	\$ 0.0038	\$ 0.0003	\$ 0.1299
Services (900-999)							
912	Drive-in Bank	0.004788	per square foot	\$ 1.4510	\$ 0.0435	\$ 0.0030	\$ 1.4975
931	Quality Restaurant	0.007460	per square foot	\$ 2.2607	\$ 0.0678	\$ 0.0046	\$ 2.3331
932	High-Turnover (Sit-Down) Restauant	0.007460	per square foot	\$ 2.2607	\$ 0.0678	\$ 0.0046	\$ 2.3331
934	Fast-Food Restaurant	0.010900	per square foot	\$ 3.3031	\$ 0.0991	\$ 0.0067	\$ 3.4089
941	Quick Lubrication Vehicle Shop	2.100000	per service bay	\$ 636.3760	\$ 19.0913	\$ 1.2992	\$ 656.7665
944	Gasoline/Service Station	0.160000	per pump	\$ 48.4858	\$ 1.4546	\$ 0.0990	\$ 50.0394
945	Gasoline Station w/Convenience Market	0.000216	per pump	\$ 0.0655	\$ 0.0020	\$ 0.0001	\$ 0.0676
947	Self-Service Car Wash	0.200000	per stall	\$ 60.6072	\$ 1.8182	\$ 0.1237	\$ 62.5491

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual, by the Institute of Transportation Engineers, 9th Edition.
n/a - not applicable. Fee taken from the *Calculation of Housing Unit Fee* table.

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

For impact fee purposes, this chapter focuses on the Law Enforcement Center and the operations contained within it. The current year (2017) Level of Service is based on the inventory of the number of inmate beds in the facility and the overall floor area of the Law Enforcement Center. Statistics for the facility are shown in Table 41.

Impact fees are based on increases in capacity to serve new growth and development in the county. Thus, utilization of the detention facility to specifically serve county residents and businesses is related directly to persons that have committed a crime in Dawson County punishable under County laws, and that are held in the jail at least overnight. Other detention activities, such as prisoners awaiting transfer to a State or federal facility, or housed under contract, while a legitimate law enforcement activity, are not occasioned by service directly provided to serve county residents and businesses.

Current utilization limited to Dawson County growth demands only is estimated at 50% of the beds on an average daily basis. This percentage is applied to the Center’s existing 192 beds and shown on Table 41.

Table 41: Inventory of Sheriff's Facilities

Facility	Square Feet	Beds*
County Sheriff's Headquarters and Jail	68,480	96

* Of the Detention Center's 192 beds, utilization by persons arrested, convicted or serving time for crimes committed in Dawson County is estimated at 50% on an average daily basis.

As noted, the Level of Service for law enforcement services in Dawson County is measured in terms of beds per day-night population. Day-night population is used as a measure in that the Sheriff’s Office provides its services on a 24-hour basis.

Table 42: Level of Service Calculation

Applicable Number of Beds	Current Day/Night Population	Beds per Day-Night Population
96	34,807	0.0028

The current LOS, shown in Table 42 is 0.0028 beds per day-night population, based on the Dawson County utilization of all beds available as discussed above.

■ **Forecasts for Service Area**

Future Demand

Table 43 presents the calculations carried out in order to determine the future service demand for detention facility beds in Dawson County. In this Table the current Level of Service from Table 42 is applied to future growth. The 'Day-Night Population Increase' figure is taken from the Day-Night Population table in the Future Growth appendix attached to this Report. The additional number of forecasted day-night population to the year 2040 is multiplied by the Level of Service to produce the future demand figure.

As discussed above, Dawson County utilization specifically for its residents and businesses leaves 96 beds available for non-county driven purposes. In effect, these beds represent a resource for increases in future county-driven utilization as the number of county residents and employees grows, along with the inevitable increase in crimes perpetrated within the county. While new growth will

Law Enforcement

generate a total need for 90 beds to serve the needs of growth and development in Dawson County, the 'residual' 96 beds currently available for non-county use today are available to meet county-driven needs in the future.

As can be seen on Table 43, only 90 beds are needed to meet future demand created by new growth and development. Since this is fewer than the beds available, no additional beds are specifically needed for Dawson County inmates, and no expansion of the jail for county-specific needs is proposed.



Table 43: Future Demand Calculation

Beds per Day-Night Population	Day-Night Pop Increase (2017-40)	New Beds Needed
0.0028	32,753	90
Less: Residual capacity in existing facility		(96)
Net new beds needed		-6

As noted above, an expansion of the Law Enforcement Center (or a stand-alone facility) would be justified and probable to cover all functions of the Sheriff’s Office, including beds available for non-county specific incarcerations. However, whatever final form and size a new project might take, none of the cost of a new, larger facility could be funded with impact fees.

Road Improvements

improve capacity will positively affect capacity and reduce congestion throughout the county.

■ Level of Service Standards

Two types of Level of Service standards are used for road improvements: one for the design of roadways at a designated operational level, and one for the actual accommodation of traffic to be generated by new growth and development. The latter standard allows the cost of improvements to the road system to be equitably allocated between improvements that accrue to existing traffic today and improvements that will accommodate traffic generated by future growth and development.

Operational Design Standards

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 roads operating with unencumbered travel; Level of Service F is the worst rating, representing operational conditions of 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 operational design 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', a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of 'D' will still provide traffic relief to current and future traffic alike and are thus eligible for impact fee funding.

Accommodating Future Traffic

Regardless of the design of roads in the system, the system must address the future traffic demands that will be created by new growth and development.

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 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of all road improvements in the system that create new capacity. This approach

Road Improvements

recognizes that some improvements to the road system do not create new capacity—such as resurfacing, road maintenance, bridge replacements with the same number of lanes, etc.

It is noted that the cost-impact of non-Dawson County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Dawson County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Dawson County residents and businesses.

The basis for the road impact fee would therefore be Dawson County's cost for the improvements that create new capacity divided by all traffic in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, the cost per trip (above) would be applied to the number of trips that will be generated by the new development when a building permit is issued, assuring that new growth would only pay its 'fair share' of the road improvements that serve it. All other (non-capacity) improvements would be the cost responsibility of the current base of residents and businesses, including the creation of new capacity that exceeds the needs of future 2040 traffic.

■ Forecasts for Service Area

Of the several road projects that are on-going, the County has identified those that provide an increase in road capacity that will serve new growth; these are shown on Table 44. This is not a list of all County road projects. These projects were selected for inclusion in the County's impact fee program because the specific improvements proposed will increase traffic capacity and reduce congestion to some extent, whether through road widening, improved intersection operations or upgraded signalization.

In addition, the County is currently preparing a Transportation Plan that will address all of the road system improvements needed to fully serve new growth and development to 2040. The challenge to the County is to address the identified future demand that will be placed on the road system in the future and to both serve it with new capacity created in its currently on-going projects and to fully plan additional improvements to the system to accommodate all future traffic.

Table 44: Road Projects and Estimated Costs

Project Description	Total County Cost*	Year of Completion	Net Present Value**
Kelly Bridge Road, full depth reclamation and widening both lanes	\$ 2,200,000.00	2018	\$ 2,262,592.57
Lumpkin Campground Road, lane addition and lane widening	\$ 4,000,000.00	2019	\$ 4,230,847.21
Red Rider Road, right-of-way acquisition and road widening	\$ 1,200,000.00	2019	\$ 1,269,254.16
Sweetwater Juno Road, road widening and resurfacing	\$ 1,300,000.00	2019	\$ 1,375,025.34
Couch Road, road widening and resurfacing	\$ 3,500,000.00	2020	\$ 3,807,317.28
Grant Road East, upgrade dirt to pavement and road widening	\$ 800,000.00	2020	\$ 870,243.95
Shoal Creek - Shoal Creek Road Bridge, replacement with additional lanes and weight	\$ 2,500,000.00	2020	\$ 2,719,512.35
Amicalola River - Goshen Church Bridge, replacement with additional lanes and weight	\$ 1,500,000.00	2021	\$ 1,678,131.39
Whitmire Drive West, add third (center turn) lane	\$ 800,000.00	2021	\$ 895,003.41
Prepare Transportation Plan (in house)	\$ -	2020	\$ -
Total	\$ 17,800,000.00		\$ 19,107,927.67

* Total cost of project less grants or other non-County assistance.

** Net Present Value = current cost inflated to target year using the ENR Construction Cost Index, (CCI) reduced to NPV using the Discount Rate.

The cost figures shown in the 'Total County Cost' column of Table 44 are the current project cost figures. These figures are then calculated in Net Present Value (as discussed in the Cost Adjustments and Credits chapter) and shown in the last column, based on the year of project expenditure.

■ Eligible Costs

As discussed thoroughly in the *Trip Generation* section of the Appendix, new residential and nonresidential growth and development will represent 44.68% of the traffic on Dawson County's road network in 2040. To that extent, new growth's fair share of the road project costs that are attributed to new growth are shown on the following table. This percentage represents new growth's portion of system improvements that create the capacity needed to serve it, while the remaining 55.32% represents that portion of those projects that do not create new capacity, such as resurfacing, road maintenance, lane replacements during bridge widenings, and so forth.

Table 45: Eligible Cost Calculations

Project*	Net Present Value	% Impact Fee Eligible*	New Growth Cost (NPV)
Kelly Bridge Road, full depth reclamation and widening both lanes	\$ 2,262,592.57	44.67786%	\$ 1,010,877.84
Lumpkin Campground Road, lane addition and lane widening	\$ 4,230,847.21	44.67786%	\$ 1,890,251.81
Red Rider Road, right-of-way acquisition and road widening	\$ 1,269,254.16	44.67786%	\$ 567,075.54
Sweetwater Juno Road, road widening and resurfacing	\$ 1,375,025.34	44.67786%	\$ 614,331.84
Couch Road, road widening and resurfacing	\$ 3,807,317.28	44.67786%	\$ 1,701,027.72
Grant Road East, upgrade dirt to pavement and road widening	\$ 870,243.95	44.67786%	\$ 388,806.34
Shoal Creek - Shoal Creek Road Bridge, replacement with additional lanes and weight	\$ 2,719,512.35	44.67786%	\$ 1,215,019.80
Amicalola River - Goshen Church Bridge, replacement with additional lanes and weight	\$ 1,678,131.39	44.67786%	\$ 749,753.12
Whitmire Drive West, add third (center turn) lane	\$ 895,003.41	44.67786%	\$ 399,868.33
Prepare Transportation Plan (in house)	\$ -	0%	\$ -
Total	\$ 19,107,927.67		\$ 8,537,012.34

* See the *Trip Generation* section in the Appendix. Actual % of trips: 44.6778557%

■ Credit Calculation

A credit is available for this public facility category for future SPLOST sales tax contributions from new residents and employees in the future. As indicated previously, financing through SPLOST programs is assumed for the non-eligible impact fee project costs.

Table 46 shows the anticipated sales tax contribution from new residential and employment growth towards the non-eligible costs for the road projects. The sales tax information is taken from the Cost Adjustments and Credits chapter. The funding requirement for the road projects is the portion of the construction cost that is not impact fee eligible, discussed above.

The 'Annual Funding Required (NPV)' column shows the cost (inflated to the construction year) of the non-eligible capital improvement costs. These figures include both projects that are included in the current SPLOST VI, as well as other projects that are not yet SPLOST funded.

The projects that are in the current SPLOST VI program are included on

Table 45. The first three years of this six-year program have already passed, and all of the SPLOST taxes have been derived from the current population and businesses so far. In the remaining three years, new growth and development will begin generating SPLOST taxes, for which a credit must be determined. Of the SPLOST VI projects, it is assumed that one-half of the average annual project costs have been funded during the three of six years that have passed, leaving the last three years to complete the funding of the projects.

Table 46: New Growth Contribution from SPLOST Taxes

Year	Annual Funding Required (NPV)	SPLOST Percentage	Contribution from New Growth
2018	\$ 208,619.12	3.40%	\$ 7,086.95
2019	\$ 4,012,086.65	6.61%	\$ 265,039.51
2020	\$ 4,300,838.84	9.66%	\$ 415,572.88
2021	\$ 928,378.27	12.57%	\$ 116,671.10
2022		15.34%	
2023		17.99%	
2024		20.51%	
2025		22.93%	
2026		25.23%	
2027		27.44%	
2028		29.54%	
2029		31.55%	
2030		33.46%	
2031		35.29%	
2032		37.04%	
2033		38.71%	
2034		40.30%	
2035		41.82%	
2036		43.28%	
2037		44.67%	
2038		45.99%	
2039		47.27%	
2040		48.48%	
Total New Growth Contribution			\$ 804,370.43

The 'SPLOST percentage' on Table 46 is the percentage of the total countywide day-night population that represents accumulated new growth for each designated year, taken from the Cost Adjustments and Credits chapter. The amount of the non-eligible portion of the new facility multiplied by the SPLOST percentage for that year produces the figures in the 'Contribution from New Growth' column.

■ Net Impact Cost Calculation

The net impact cost per primary trip end is calculated in Table 47.

The total cost figure is reduced by the credit for SPLOST contributions (from Table 46) and by the amount of previously collected Road Improvement impact fees that are on hand (from Table 8), to produce a 'net eligible project cost' amount. This figure, divided by the future increase in primary

Road Improvements

trip ends generated by new growth and development, results in a 'net impact cost per trip end', which will be used to calculate impact fees for all nonresidential land uses.

Table 47: Net Cost to Serve New Growth

Description	Total
Eligible Cost of Road Projects	\$ 8,537,012.34
minus Credit for Tax Contributions	\$ (804,370.43)
minus Impact Fee Fund Balance	\$ (1,215.49)
= Net Eligible Road Project Cost	\$ 7,731,426.42
÷ New Growth Primary Trip Ends*	230,351
= Net Impact Cost per Trip End	\$ 33.5637

* Primary trip ends attributed to new growth. See the *Trip Generation* section in the Appendix.

■ Fee Schedule

The maximum net impact fees that could be charged in Dawson County for the Road Improvements category, based on the calculations carried out in this chapter, are shown on Table 47. The net impact fees per trip end are transferred to Table 48: Maximum Impact Fee Schedule - Road Improvements.

The following are added to the net fee to produce the total maximum impact fee:

- An administrative fee (not to exceed 3%); and,
- A share of the cost of preparing the Capital Improvements Element (CIE).

The total impact fees on the following table are transferred to Table 2: Summary Maximum Impact Fee Schedule on page 7 of this report.

Table 48: Maximum Impact Fee Schedule - Road Improvements

ITE Code	Land Use	Trip Ends*	% New Trips	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	CIE Preparation	Total Impact Fee
Net Cost per Trip End:					\$ 33.5637			
Residential (200-299)								
210	Single-Family Detached Housing	9.52	100%	per dwelling	\$ 319.5266	\$ 9.5858	\$ 0.65	\$ 329.7624
220	Apartment	6.65	100%	per dwelling	\$ 223.1987	\$ 6.6960	\$ 0.46	\$ 230.3547
230	Residential Condominium/Townhouse	5.81	100%	per dwelling	\$ 195.0052	\$ 5.8502	\$ 0.40	\$ 201.2554
Port and Terminal (000-099)								
030	Intermodal Truck Terminal	9.89	92%	per square foot	\$ 0.3054	\$ 0.0092	\$ -	\$ 0.3146
Industrial/Agricultural (100-199)								
110	General Light Industrial	6.97	92%	per square foot	\$ 0.2152	\$ 0.0065	\$ -	\$ 0.2217
120	General Heavy Industrial	1.50	92%	per square foot	\$ 0.0463	\$ 0.0014	\$ -	\$ 0.0477
140	Manufacturing	3.82	92%	per square foot	\$ 0.1180	\$ 0.0035	\$ -	\$ 0.1215
150	Warehousing	3.56	92%	per square foot	\$ 0.1099	\$ 0.0033	\$ -	\$ 0.1132
151	Mini-Warehouse	2.50	92%	per square foot	\$ 0.0772	\$ 0.0023	\$ -	\$ 0.0795
152	High-Cube Warehouse	1.68	92%	per square foot	\$ 0.0519	\$ 0.0016	\$ -	\$ 0.0535
Lodging (300-399)								
310	Hotel or Conference Motel	8.17	100%	per room	\$ 274.2156	\$ 8.2265	\$ 0.56	\$ 283.0021
311	All Suites Hotel	4.90	100%	per room	\$ 164.4622	\$ 4.9339	\$ 0.34	\$ 169.7361
320	Motel	5.63	100%	per room	\$ 188.9638	\$ 5.6689	\$ 0.39	\$ 195.0227
Recreational (400-499)								
430	Golf Course	5.04	85%	per acre	\$ 143.7870	\$ 4.3136	\$ 0.29	\$ 148.3906
437	Bowling Alley	33.33	85%	per square foot	\$ 0.9509	\$ 0.0285	\$ -	\$ 0.9794
443	Movie Theater	78.06	85%	per square foot	\$ 2.2270	\$ 0.0668	\$ -	\$ 2.2938
460	Arena	33.33	85%	per acre	\$ 950.8770	\$ 28.5263	\$ 1.94	\$ 981.3433
480	Amusement Park	75.76	85%	per acre	\$ 2,161.3694	\$ 64.8411	\$ 4.41	\$ 2,230.6205
490	Tennis Courts	16.26	85%	per acre	\$ 463.8842	\$ 13.9165	\$ 0.95	\$ 478.7507
491	Racquet/Tennis Club	14.03	85%	per square foot	\$ 0.4003	\$ 0.0120	\$ -	\$ 0.4123
492	Health/Fitness Center	32.93	85%	per square foot	\$ 0.9395	\$ 0.0282	\$ -	\$ 0.9677
495	Recreational Community Center	33.82	85%	per square foot	\$ 0.9649	\$ 0.0289	\$ -	\$ 0.9938

Road Improvements

Maximum Impact Fee Schedule - Road Improvements continued

ITE Code	Land Use	Trip Ends*	% New Trips	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	CIE Preparation	Total Impact Fee
Institutional (500-599)								
520	Private Elementary School	15.43	80%	per square foot	\$ 0.4143	\$ 0.0124	\$ -	\$ 0.4267
530	Private High School	12.89	85%	per square foot	\$ 0.3677	\$ 0.0110	\$ -	\$ 0.3787
560	Church/Place of Worship	9.11	90%	per square foot	\$ 0.2752	\$ 0.0083	\$ -	\$ 0.2835
565	Day Care Center	79.26	10%	per square foot	\$ 0.2660	\$ 0.0080	\$ -	\$ 0.2740
566	Cemetery	4.73	90%	per acre	\$ 142.8808	\$ 4.2864	\$ 0.29	\$ 147.4572
Medical (600-699)								
610	Hospital	13.22	77%	per square foot	\$ 0.3417	\$ 0.0103	\$ -	\$ 0.3520
620	Nursing Home	7.60	75%	per square foot	\$ 0.1913	\$ 0.0057	\$ -	\$ 0.1970
630	Clinic	31.45	77%	per square foot	\$ 0.8128	\$ 0.0244	\$ -	\$ 0.8372
Office (700-799)								
710	General Office Building	11.03	92%	per square foot	\$ 0.3406	\$ 0.0102	\$ -	\$ 0.3508
714	Corporate Headquarters Building	7.98	92%	per square foot	\$ 0.2464	\$ 0.0074	\$ -	\$ 0.2538
715	Single-Tenant Office Building	11.65	92%	per square foot	\$ 0.3597	\$ 0.0108	\$ -	\$ 0.3705
720	Medical-Dental Office Building	36.13	92%	per square foot	\$ 1.1156	\$ 0.0335	\$ -	\$ 1.1491
760	Research and Development Center	8.11	92%	per square foot	\$ 0.2504	\$ 0.0075	\$ -	\$ 0.2579
770	Business Park	12.44	92%	per square foot	\$ 0.3841	\$ 0.0115	\$ -	\$ 0.3956
Retail (800-899)								
812	Building Materials and Lumber Store	45.16	81%	per square foot	\$ 1.2277	\$ 0.0368	\$ -	\$ 1.2645
813	Free-Standing Discount Superstore	50.75	75%	per square foot	\$ 1.2775	\$ 0.0383	\$ -	\$ 1.3158
814	Variety Store	64.03	49%	per square foot	\$ 1.0531	\$ 0.0316	\$ -	\$ 1.0847
815	Free-Standing Discount Store	57.24	61%	per square foot	\$ 1.1719	\$ 0.0352	\$ -	\$ 1.2071
816	Hardware/Paint Store	51.29	40%	per square foot	\$ 0.6886	\$ 0.0207	\$ -	\$ 0.7093
817	Nursery (Garden Center)	68.10	81%	per square foot	\$ 1.8514	\$ 0.0555	\$ -	\$ 1.9069
818	Nursery (Wholesale)	39.00	81%	per square foot	\$ 1.0603	\$ 0.0318	\$ -	\$ 1.0921
820	Shopping Center	42.94	75%	per square foot	\$ 1.0809	\$ 0.0324	\$ -	\$ 1.1133
823	Factory Outlet Center	26.59	81%	per square foot	\$ 0.7229	\$ 0.0217	\$ -	\$ 0.7446
826	Specialty Retail Center	44.32	81%	per square foot	\$ 1.2049	\$ 0.0361	\$ -	\$ 1.2410
841	Automobile Sales	32.30	79%	per square foot	\$ 0.8564	\$ 0.0257	\$ -	\$ 0.8821

Maximum Impact Fee Schedule - Road Improvements continued

ITE Code	Land Use	Trip Ends*	% New Trips	Unit of Measure	Net Fee per Unit	Adminis-tration (3%)	CIE Preparation	Total Impact Fee
Retail Continued								
843	Auto Parts Store	61.91	44%	per square foot	\$ 0.9143	\$ 0.0274	\$ -	\$ 0.9417
848	Tire Store	24.87	67%	per square foot	\$ 0.5593	\$ 0.0168	\$ -	\$ 0.5761
849	Tire Superstore	20.36	83%	per square foot	\$ 0.5672	\$ 0.0170	\$ -	\$ 0.5842
850	Supermarket	102.24	43%	per square foot	\$ 1.4756	\$ 0.0443	\$ -	\$ 1.5199
851	Convenience Market (Open 24 Hours)	737.99	20%	per square foot	\$ 4.9539	\$ 0.1486	\$ 0.01	\$ 5.1125
853	Convenience Market w/Gasoline Pumps	845.60	16%	per square foot	\$ 4.5410	\$ 0.1362	\$ 0.01	\$ 4.6872
854	Discount Supermarket	90.86	52%	per square foot	\$ 1.5858	\$ 0.0476	\$ -	\$ 1.6334
860	Wholesale Market	6.73	61%	per square foot	\$ 0.1378	\$ 0.0041	\$ -	\$ 0.1419
857	Discount Club	41.80	61%	per square foot	\$ 0.8558	\$ 0.0257	\$ -	\$ 0.8815
862	Home Improvement Superstore	29.80	32%	per square foot	\$ 0.3201	\$ 0.0096	\$ -	\$ 0.3297
863	Electronics Superstore	45.04	27%	per square foot	\$ 0.4082	\$ 0.0122	\$ -	\$ 0.4204
876	Apparel Store	66.40	49%	per square foot	\$ 1.0920	\$ 0.0328	\$ -	\$ 1.1248
875	Department Store	22.88	49%	per square foot	\$ 0.3763	\$ 0.0113	\$ -	\$ 0.3876
880	Pharmacy/Drugstore	90.06	40%	per square foot	\$ 1.2091	\$ 0.0363	\$ -	\$ 1.2454
890	Furniture Store	5.06	20%	per square foot	\$ 0.0340	\$ 0.0010	\$ -	\$ 0.0350
Services (900-999)								
912	Drive-in Bank	148.15	22%	per square foot	\$ 1.0939	\$ 0.0328	\$ -	\$ 1.1267
931	Quality Restaurant	89.95	38%	per square foot	\$ 1.1472	\$ 0.0344	\$ -	\$ 1.1816
932	High-Turnover (Sit-Down) Restaurant	127.15	38%	per square foot	\$ 1.6217	\$ 0.0487	\$ -	\$ 1.6704
934	Fast-Food Restaurant	496.12	27%	per square foot	\$ 4.4959	\$ 0.1349	\$ 0.01	\$ 4.6408
941	Quick Lubrication Vehicle Shop	40.00	83%	per service bay	\$ 1,114.3155	\$ 33.4295	\$ 2.27	\$ 1,150.0150
944	Gasoline/Service Station	168.56	20%	per pump	\$ 1,131.5002	\$ 33.9450	\$ 2.31	\$ 1,167.7552
945	Gasoline Station w/Convenience Market	162.78	14%	per pump	\$ 764.8904	\$ 22.9467	\$ 1.56	\$ 789.3971
947	Self-Service Car Wash	108.00	40%	per stall	\$ 1,449.9528	\$ 43.4986	\$ 2.96	\$ 1,496.4114

*Trip Ends are total trip ends per 1,000 square feet of floor area or other unit of measure as noted, per ITE *Trip Generation* manual.

Notes: ITE Code means the land use code assigned in the *Trip Generation* manual published by the Institute of Transportation Engineers, 9th Edition.

n/a - not applicable. Fee taken from the Calculation of Housing Unit Fee table.

"Square foot" means square foot of gross building floor area.

Appendix: 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.

Eligible facilities: 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 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 county 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, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas in Dawson may 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 county 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."

Appendix: Future Growth

In order to accurately calculate the demand for future services for 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 2040. These projections provide the base-line conditions from which the current (2017) Level of Service calculations are produced.

■ Types of Projections

Accurate projections of population, households, housing units, and employment are important in that:

- Population data and forecasts are used to establish current and future demand for services where the Level of Service (LOS) standards are per capita based.
- Household data and forecasts are used to forecast future growth in the number of housing units.
- Housing unit data and forecasts relate to certain service demands that are household based, such as parks, and are used to calculate impact costs when the cost is assessed when a building permit is issued. The number of households—defined as *occupied* housing units—is always smaller than the supply of available housing units. Over time, however, each housing unit is expected to become occupied by a household, even though the unit may become vacant during future re-sales or turnovers.
- Employment forecasts are refined to reflect 'value added' employment figures. This reflects an exclusion of jobs considered to be transitory or non-site specific in nature, and thus, not requiring building permits to operate (i.e., are not assessed impact fees).

'Value added' employment data is combined with population data to produce what is known as the 'day-night population.' These figures represent the total number of persons receiving services, both in their homes and in their businesses, to produce an accurate picture of the total number of persons that rely on certain 24-hour services, such as fire protection.

The projections used for each public facility category are specified in each public facility chapter.

■ Population and Housing Unit Forecasts

Population projections reflect the growth that is expected over the next 22 years. Based on the county’s rebound from the Great Recession and anticipated continuing growth in the housing market, the ultimate population forecast for 2040 is estimated at 50,000 people—basically a doubling of the number of people in the county today.

The most recent the population estimate for Dawson County published by the Census Bureau was published for 2016. This figure is used as the ‘starting point’ for the projections.

Between 2016 and the total population figure for 2040, the average annual increase is 0.9416%. This annual increase over each preceding year is applied to each year to calculate the intervening years throughout the forecast period.

The following table presents the forecast for population for each year from 2017 to 2040² and also provides a forecast for housing units over the same period. The figures shown are, in essence, mid-year estimates reflecting Census Bureau practice. In other words, the increase in population between 2017 and 2040 would actually be from July 1, 2017 to July 1, 2040.

Population and Housing Projections

	Total Population	Avg. Household Size	Occupied Housing Units	Occupancy Rate	Total Housing Units
2016	23,604	2.423	9,740	89.4%	10,897
2017	24,517	2.436	10,066	89.4%	11,262
2018	25,453	2.428	10,481	89.4%	11,726
2019	26,412	2.424	10,896	89.4%	12,190
2020	27,394	2.421	11,314	89.4%	12,658
2021	28,396	2.420	11,733	89.4%	13,127
2022	29,418	2.421	12,149	89.4%	13,592
2023	30,459	2.425	12,560	89.4%	14,052
2024	31,519	2.430	12,973	89.4%	14,514
2025	32,595	2.435	13,385	89.4%	14,975
2026	33,687	2.441	13,800	89.4%	15,439
2027	34,794	2.448	14,216	89.4%	15,905
2028	35,915	2.454	14,634	89.4%	16,372
2029	37,048	2.462	15,050	89.4%	16,838
2030	38,193	2.470	15,463	89.4%	17,300
2031	39,348	2.478	15,877	89.4%	17,763
2032	40,512	2.487	16,289	89.4%	18,224
2033	41,684	2.496	16,699	89.4%	18,683
2034	42,863	2.505	17,109	89.4%	19,141
2035	44,047	2.515	17,516	89.4%	19,597
2036	45,235	2.523	17,928	89.4%	20,058
2037	46,425	2.530	18,347	89.4%	20,526
2038	47,617	2.536	18,774	89.4%	21,004
2039	48,809	2.541	19,208	89.4%	21,490
2040	50,000	2.545	19,647	89.4%	21,981
Increase 2017-2040	25,483		9,581		10,719

To estimate the number of housing units each year, the number of occupied housing units is first determined. This is calculated by dividing the population each year by the average household size. For household sizes, estimates published this year by Woods & Poole Economics (a nationally recognized source also accepted by the State) were relied upon.

To find the total number of housing units, vacant units must be added in. This was determined by using an ‘occupancy rate’ based on the proportion of occupied units to vacant units for the last data point available—the American Community Survey published in 2015 by the Census Bureau. Dividing the number of occupied units by the occupancy rate produces the total number of housing units.

² 2016 is shown on the table for consistency with the Census Bureau’s estimate.

■ Employment Forecasts

The table below shows the forecasts for employment growth countywide in Dawson County, from 2017 to 2040. The employment figures for Dawson County are based on forecasts published by Woods & Poole Economics in their latest (2017) *Georgia Profile* for Dawson County. Woods & Poole counts jobs, not just employed people, which captures people holding two or more jobs, self-employed sole proprietors and part-time workers. This gives a more complete picture than Census figures (the number of people with jobs).

In the table below the total employment figures are refined to show what is referred to as ‘non-building related’ jobs. ‘Non-building related’ jobs are those that do not normally require issuance of a building permit, and thus would not be assessed an impact fee. Such jobs include any employment that is considered to be transitory in nature, such as those working on construction sites or are strictly land-based such as farming and other agricultural workers.

This is done to better measure the services being provided by the County, which in this report will be measured and, ultimately, assessed based on structures.

Employment Projections

	Total Employment	Non-Building Related*	Government	Private Sector Employment
2016	12,328	1,127	1,202	9,999
2017	12,652	1,144	1,218	10,290
2018	12,974	1,162	1,234	10,578
2019	13,283	1,176	1,250	10,857
2020	13,594	1,192	1,266	11,136
2021	13,903	1,208	1,281	11,414
2022	14,217	1,222	1,298	11,697
2023	14,531	1,237	1,313	11,981
2024	14,850	1,252	1,328	12,270
2025	15,172	1,263	1,342	12,567
2026	15,500	1,275	1,357	12,868
2027	15,832	1,286	1,371	13,175
2028	16,165	1,295	1,385	13,485
2029	16,505	1,305	1,398	13,802
2030	16,845	1,314	1,412	14,119
2031	17,189	1,322	1,425	14,442
2032	17,543	1,330	1,439	14,774
2033	17,895	1,337	1,452	15,106
2034	18,249	1,344	1,464	15,441
2035	18,607	1,350	1,477	15,780
2036	18,974	1,357	1,489	16,128
2037	19,342	1,363	1,501	16,478
2038	19,713	1,370	1,512	16,831
2039	20,095	1,375	1,524	17,196
2040	20,477	1,382	1,535	17,560
Increase 2017-2040	7,825	238	317	7,270

The table also shows the number of workers employed by governmental entities (county, state and federal) as estimated by Woods & Poole for each year. Governments are exempt from impact fees, whether a building is to be constructed or not.

The last column on the table shows what is called ‘private sector employment’, although it also includes nonprofits and institutions. The numbers are derived by subtracting the ‘non-building related’ workers and the ‘government’ workers from the total employment figures. Businesses employing these ‘private sector’ workers are the ones that would be most likely to be assessed an impact fee.

* Includes farm, forestry, mining and construction workers.
Source: 2017 Georgia Profile, Woods & Poole, Economists.

■ **Service Area Projections**

The entire county is a single service area because all Dawson County services being considered for impact fee funding serve all residents and business in the county, whether in the unincorporated area or within the City of Dawsonville.

As explained in the text of this report, impact fees for the library services and the parks & recreation facilities are paid exclusively by residential uses. Thus, the housing unit count and projections presented earlier form the basis for those impact fee calculations.

For the fire protection and law enforcement categories, the 24-hour service population—called the day-night population—is used for overall Level of Service calculations. Impact fees in these categories are assessed on a per-housing unit basis or on a per-nonresidential square foot basis, depending on the use.

The day-night population calculation is a combination of the population projections and future (‘private sector’) employment projections discussed earlier in this Appendix. The use of day-night population in impact fee calculations is based upon the clear rational nexus between persons and services demanded on a 24-hour basis.

Day-Night Population

	Total Population	Private Sector Employment	Total Day-Night Population
2016	23,604	9,999	33,603
2017	24,517	10,290	34,807
2018	25,453	10,578	36,031
2019	26,412	10,857	37,269
2020	27,394	11,136	38,530
2021	28,396	11,414	39,810
2022	29,418	11,697	41,115
2023	30,459	11,981	42,440
2024	31,519	12,270	43,789
2025	32,595	12,567	45,162
2026	33,687	12,868	46,555
2027	34,794	13,175	47,969
2028	35,915	13,485	49,400
2029	37,048	13,802	50,850
2030	38,193	14,119	52,312
2031	39,348	14,442	53,790
2032	40,512	14,774	55,286
2033	41,684	15,106	56,790
2034	42,863	15,441	58,304
2035	44,047	15,780	59,827
2036	45,235	16,128	61,363
2037	46,425	16,478	62,903
2038	47,617	16,831	64,448
2039	48,809	17,196	66,005
2040	50,000	17,560	67,560
Increase 2017-2040	25,483	7,270	32,753

The day-night population is used to determine Level of Service standards for facilities that serve both the resident population and business employment. The fire department, for instance, protects one’s house from fire whether or not they are at home, and protects stores and offices whether or not they are open for business. Thus, this ‘day-night’ population is a measure of the total services demanded of a 24-hour service provider facility and a fair way to allocate the costs of such a facility among all of the beneficiaries.

Impact fee calculations for road improvements, on the other hand, are based on the number of vehicle trips generated by homes and businesses onto the county’s road system. These trip generation figures are translated into per-housing unit and per-nonresidential floor area fees using the different trip rates specific to each type of land use.

This is discussed more thoroughly in the next Appendix Section.

Appendix: Trip Generation

In order to calculate new growth and development's fair share of the cost of road improvements, it is necessary to establish how much of the future traffic on Dawson County's roads will be generated by new growth, over and above the traffic generated by the county's residents and businesses today. This Appendix Section describes the process through which this determination is made.

■ Summary

A Level of Service must be established for road improvements in order to assure that, ultimately, existing development and new growth are served equally. This Section also presents the process through which new growth and development's 'fair share' of road improvement costs is calculated, and tables summarizing the technical portions of this methodology are included.

Level of Service

The County has set its Level of Service for road improvements at LOS "D", a level below which most roads in the county operate. Using this LOS maximizes roadway capacity before traffic conditions actually break down (LOS "F").

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 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Dawson County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Dawson County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Dawson County residents driving to and from their homes, and commuters that come in to work in the county.

The basis for the road impact fee would therefore be Dawson County's cost for the improvements divided by all traffic generated within the county in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, when a building permit is issued, the cost per trip would be applied to the number of trips that will be generated by the new development, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Approach

This methodology proceeds along the following lines:

- Total traffic currently generated by Dawson County residents and businesses in 2017 on the road system within the county is calculated from trip generation and commuting data. Various data sources are relied upon to determine current conditions, as explained in each appropriate section, below.
- Future Dawson County-generated traffic from new growth in the county is calculated from housing unit and employment forecasts to 2040.
- The portion of total 2040 traffic that is generated by new housing units and employment in the county establishes the percentage of Dawson County's cost of the future road improvements that can be included in an impact fee.

Summary Table

The table below shows how the portion of 2040 traffic generated by new growth is calculated. The figures represent all trips generated by land use, including pass-by and diverted trips.

Average Daily Trip Ends Generated by New Growth

	2017	2040	Increase	Percent New Growth Trip Ends
Residential Trips	105,056	205,046	99,990	↓
Nonresidential Trips	242,393	413,650	171,257	
Less: Internal Commutes*	(9,080)	(15,496)	(6,416)	
Net New Trip Ends	338,369	603,200	264,831	43.9%

* Residents who work in Dawson County. These trips to and from work are included in the residential trips, above.

The next table, below, calculates the Primary Trip Ends generated by existing and future traffic by deleting pass-by and diverted trips, as discussed below.

Primary Daily Trip Ends Generated by New Growth

	Percent Primary Trip Ends*	Primary Trip Ends			Percent New Growth Primary Trip Ends
		2017	2040	Increase	
Residential Trips	80%	83,619	163,207	79,587	↓
Commercial	51%	117,129	199,885	82,756	
Industrial+Utility	92%	11,222	19,148	7,926	
Less: Internal Commutes	100%	(9,080)	(15,496)	(6,416)	
Net New Primary Trip Ends		202,890	366,743	163,853	44.7%

* Derived from 'Trip Generation Handbook' chapter, *Trip Generation*, 9th Edition, Institute of Transportation Engineers.

Overall, new residents and businesses located within Dawson County will generate 53% (more accurately, 44.6778557%) of all Dawson County vehicles on its roads. Thus, new growth's 'fair share' of the cost to the County to provide road improvements to serve current and future traffic cannot exceed this figure.

■ Pass-by and Diverted Trips

The impact of new growth and development on Dawson County's road network is the increased traffic added to the system, expressed by transportation engineers as 'trips'. Every 'trip' has two ends—a beginning at its origin and an end at its destination (known as 'trip ends'). There are three types of trips, defined as:

A **Primary Trip** (and its trip ends)—a vehicle travelling from its original beginning to its intended final destination. Driving from one's home to one's place of work is an example of a primary trip.

A **Pass-by Trip**—a vehicle travelling along its usual route from its origin to its final destination that stops off at an intermediate location for any reason. A trip from home to work that stops along the way for gas, dropping off a child at daycare, picking up coffee or dinner, or for any other reason, represents a 'pass-by' trip at the intermediate location.

A **Diverted Trip** (previously called a diverted 'link' trip)—a vehicle that diverts from its normal primary route between its origin to its final destination, and takes a different route to stop off at an intermediate location for any reason. While a pass-by trip remains on its normal route, a diverted trip changes its route to other streets to arrive at the intermediate stop.

New primary trips add vehicles to the road network. Pass-by and diverted trips involve the same vehicles stopping off between their original beginnings and their final destinations, and therefore do not add new vehicles to the road network—the vehicles were already there on their way to their final destinations.

These different types of trips result in different types of 'trip ends'. On a home-to-daycare-to-work trip, for instance, there are two primary trip ends (home and work) and two pass-by or diverted trip ends: arriving at the daycare center and leaving from there to drive to work, for instance. The net impact on the road network, however, is created by the one vehicle and its two primary trip ends.

Impact fee calculations take note of these pass-by and diverted trip ends as not adding to the overall traffic on the road network, and deletes them from the total trip ends reported in ITE's *Trip Generation* manual. While the table above uses overall average percentages of primary trip ends derived from ITE for broad land use categories, the actual percentage for each land use listed on the impact fee schedule for roads is applied to the total trip ends to determine the primary trip ends attributed to that land use.

Although both summary tables above reflect about the same percentage of 2040 traffic that will be generated by new growth, the increase in primary trip ends from the second table will play an important role in calculating the per-trip road impact fee.

Residential Trip Generation

Average trip generation rates published by the Institute of Transportation Engineers (ITE) differentiate between 'single-family detached housing' and 'apartments'. The closest correlations with the US Census definitions are 'single-family units' and 'multi-family units', which are shown on the following table.

Residential Units by Type: 2017 and 2040


	2015*	Percent**	Total in 2017***	Increase 2017-2040	Total in 2040
Single-Family Units	9,837	93.3%	10,510	10,003	20,513
Multi-Family Units	704	6.7%	752	716	1,468
Total	10,541	100.0%	11,262	10,719	21,981

* Based on American Community Survey report (Census Bureau).
 ** Percent of 2015 total housing units.
 *** See Forecasts chapter for housing unit projections.

The 2015 breakdown of housing units by type on the table above are taken from the most recent American Community Survey for Dawson County (published by the Census Bureau). The 2015 percentage by housing type (single-family and multi-family) is calculated, and applied to the total number of housing units projected in 2017 (taken from the Future Growth Appendix of this report). It is assumed that these percentages will persist into the future, producing a breakdown of the projected 10,719 new housing units forecast for the 2017-2040 period.

The next table, below, calculates the amount of traffic that is generated by the county's housing stock today, and the amount that will be generated in 2040.

Residential Trip Generation: 2017-2040 New Growth Increase

	ADT* Trip Ends	2017 Units	2017 ADT Trip Ends	2040 Units	2040 ADT Trip Ends	Increase 2017-2040	Percent New Growth Trip Ends
Single-Family Units	9.52	10,510	100,055	20,513	195,284	95,229	
Multi-Family Units	6.65	752	5,001	1,468	9,762	4,761	
Total		11,262	105,056	21,981	205,046	99,990	

* Average Daily Traffic (trip ends) on a weekday; Institute of Transportation Engineers *Trip Generation*, 9th Edition. Total includes trips to/from work.

The calculations are made on the basis of 'average daily traffic' on a normal weekday, using average trip generation rates derived through multiple traffic studies (350 for single-family and 86 for apartments) and published by ITE. The rates are expressed for 'trip ends'—that is, traffic both leaving and coming to a housing unit.

Comparing traffic in 2017 to 2040, the future increase in trip ends can be calculated, which will represent 48.8% of all residential trip ends generated in the county.

It should be noted that the traffic generated includes trips to and from work and, more particularly, residents who work at a business within the county.

■ Nonresidential Trip Generation

Calculating traffic generated by businesses located in Dawson County is more problematical than residential trips because there is no breakdown of types of businesses in the county that is readily available. In addition, while employment forecasts have been made in terms of the number of jobs, there is no data available for floor areas, much less by detailed type of use.

The alternate is to view nonresidential traffic generation on a broad 'average' basis. For this, there is data available from ITE for a number of individual uses relating to the total number of trips generated per employee. These trips, of course, include not only trips taken by the employees (to/from work, lunch, etc.) but also customers and others that are attracted to the use, serve it or are served by it in some way.

The Average Daily Traffic (ADT) numbers on the following table, therefore, are calculated by dividing all trips to a use—employees, customers, deliveries to or from, etc.—by the number of employees alone. Since there is more data available for the average number of employees per 1,000 square feet of floor area, it enables a determination of the average total trips generated by the use by the same floor area (and thus the number per '1' square foot of floor area for impact fee calculations).

The table on the following page shows the 'trips per employee' per 1,000 square feet of floor area for those uses for which impact fees are commonly collected and for which the data is available.

Overall, the average trip generation rate of all uses shown on the following table is 10.21 trips per employee for 'industrial' uses and 25.31 for all 'commercial' uses. The 'industrial' category includes such uses as manufacturing and assembly, storage and transportation of goods; the 'commercial' category includes all sales and service uses such as stores, offices, motels, banks, amusements and private institutions). The last column shows the average rate for all 'commercial' uses listed, as opposed to the 'industrial' uses shown in the column on its left.

Although the 'overall' averages are useful for projecting total traffic generation, impact fees for particular uses will reflect the actual average trip generation rate for the specific use.

ITE Trips-per-Employee Data

			<u>ADT</u>		<u>Average</u>	<u>Average</u>
	ITE CODE	LAND USE	Trip Ends per Employee		by Category	All Commercial
<i>Port and Terminal (000-099)</i>	30	Intermodal Truck Terminal	6.99	}	10.21	}
<i>Industrial (100-199)</i>	110	General Light Industrial	3.02			
	120	General Heavy Industrial	0.82			
	140	Manufacturing	2.13			
	150	Warehousing	3.89			
	151	Mini-Warehouse	32.47			
	152	High-Cube Warehouse	22.13			
<i>Lodging (300-399)</i>	310	Hotel or Conference Motel	14.34	}	13.58	
	320	Motel	12.81			
<i>Recreational (400-499)</i>	430	Golf Course	20.52	}	34.79	
	443	Movie Theater	53.12			
	460	Arena	10.00			
	480	Amusement Park	8.33			
	490	Tennis Courts	66.67			
	491	Racquet/Tennis Club	45.71			
	492	Health/Fitness Center	46.71			
	495	Recreational Community Center	27.25			
<i>Institutional (500-599)</i>	520	Private Elementary School	15.71	}	29.58	
	530	Private High School	19.74			
	560	Church/Place of Worship	26.24			
	565	Day Care Center	28.13			
	566	Cemetery	58.09			
<i>Medical (600-699)</i>	610	Hospital	4.50	}	5.26	
	620	Nursing Home	3.26			
	630	Clinic	8.01			
<i>Office (700-799)</i>	710	General Office Building	3.32	}	4.18	
	714	Corporate Headquarters Building	2.33			
	715	Single-Tenant Office Building	3.70			
	720	Medical-Dental Office Building	8.91			
	760	Research and Development Center	2.77			
	770	Business Park	4.04			
<i>Retail (800-899)</i>	812	Building Materials and Lumber Store	32.12	}	32.86	
	814	Variety Store	66.70			
	815	Free-Standing Discount Store	28.84			
	816	Hardware/Paint Store	53.21			
	817	Nursery (Garden Center)	21.83			
	818	Nursery (Wholesale)	23.40			
	826	Specialty Retail Center	22.36			
	841	Automobile Sales	21.14			
	850	Supermarket	87.82			
	854	Discount Supermarket	40.36			
	860	Wholesale Market	8.21			
	861	Discount Club	32.21			
	875	Department Store	11.56			
	890	Furniture Store	12.19			
<i>Services (900-999)</i>	912	Drive-in Bank	30.94			

Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers, where survey results given for key land uses.

We know from the 2010 Census how many people worked in Dawson County based on commuting patterns. The next table provides a breakdown between commercial and industrial employment in the county and calculates trip ends generated by each.

Appendix: Trip Generation

Tax base valuations give us some clue as to the breakdown. When the County's 'industrial' and 'utility' tax valuations are combined, the figures suggest that a little over 88% of all uses are 'commercial' in nature, while almost 12% are industrial. These percentages, applied to total employment in the county, give us the estimated number of employees in 2010 in each category.

Nonresidential Trip Generation: 2010 Census


	Tax Base		Percent of Total	2010 Employees	Average ADT	Total Nonres Trip Ends
Commercial	\$ 235,135,994	\$ 235,135,994	88.4%	7,049	25.31	178,410
Industrial	\$ 6,269,281	\$ 30,892,635	11.6%	1,581	10.21	16,138
Utility	\$ 24,623,354					
Total Nonresidential	\$ 266,028,629	\$ 266,028,629		7,583		194,548
				Internal Commutes*	3,644 times 2 =	(7,288)
					Net Nonres Trips	187,260

* Residents who work in Dawson County. These trips are included in residential trip generation rate.

The table calculates the total number of trips using the average rates for commercial and industrial from the ITE Trips-per-Employee Data table on the previous page. From the total of all nonresidential trips is deducted the number of trips to/from work generated by county residents, since these trips have already been calculated as part of the residential trip generation rates (i.e., county residents driving to/from work at county establishments).

Lastly, the following table calculates the total number of trip ends that will be generated by new nonresidential growth in future traffic on Dawson County's roads.

Nonresidential Trip Generation: 2017-2040 New Growth Increase

	2017 Employees	2017 Trip Ends	2040 Employees	2040 Trip Ends	2017-2040 Increase	Percent New Growth Trip Ends	
Commercial	9,095	230,195	15,521	392,837	162,642		
Industrial+Utility	1,195	12,198	2,039	20,813	8,615		
Total	10,290	242,393	17,560	413,650	171,257		
Less: Internal Commutes at	3.75%	(9,080)		(15,496)	(6,416)		
Net Nonres Trip Ends		233,313		398,154	164,841		41.4%

The preceding table shows the number of trip ends currently generated by Dawson County businesses based on 2017 employment. The trip ends by use are distributed using the same percentages calculated on the previous table. The same calculations are made for the year 2040 based on projected employment in the county, and the difference between 2017 and 2040 represents trip ends generated by future growth and development. This totals 41.4% of all nonresidential 2040 trip ends.

The results of the residential and nonresidential trip generation analyses are combined on the Summary table at the beginning of this Appendix Section for an overall calculation of new growth's share of future traffic generated by Dawson County residents and businesses. From these figures, pass-by and diverted trip ends are then deleted to determine primary trip ends, which more closely relates to vehicles on the road and thus contribute to traffic congestion.

■ Terminology

This Methodology uses the term 'average daily traffic' (ADT) for a weekday, which is defined by ITE as the 'average weekday vehicle trip ends', which are "the average 24-hour total of all vehicle trips counted from a study site from Monday through Friday."

Additionally, ITE defines a 'trip or trip end' as "a single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site. For trip generation purposes, the total trip ends for a land use over a given period of time are the total of all trips entering plus all trips exiting a site during a designated time period".

Lastly, ITE defines 'average trip rate' as "the weighted average of the number of vehicle trips or trip ends per unit of independent variable (for example, trip ends per occupied dwelling unit or employee) using a site's driveway(s). The weighted average rate is calculated by dividing the sum of all independent variable units where paired data is available. The weighted average rate is used rather than the average of the individual rates because of the variance within each data set or generating unit. Data sets with a large variance will over-influence the average rate if they are not weighted.

ARTICLE III. - DEVELOPMENT IMPACT FEES

State Law reference— Development impact fees, O.C.G.A. § 36-71-1 et seq.

AS AMENDED, AS FOLLOWS:

Sec. 101-57. - Short title, authority, and applicability.

- (a) *Short title.* This article shall be known and may be cited as the Development Impact Fee Ordinance of Dawson County, Georgia, or for brevity the impact fee ordinance.
- (b) *Authority.* This article has been prepared and adopted by the board of commissioners of dawson county, georgia, in accordance with the authority provided by Article 9, Section 2, Paragraph 3 of the Constitution of the State of Georgia, the *georgia development impact fee act* O.C.G.A. § 36-71-1 et seq., as amended and such other laws as may apply to the provision of public facilities and the power to charge fees for such facilities.
- (c) *Applicability.*
 - (1) The provisions of this article shall not be construed to limit the power of ~~Dawson County, Georgia~~the county, to use any other legal methods or powers otherwise available for accomplishing the purposes set forth herein either in substitution of or in conjunction with this article.
 - (2) This article shall apply to all areas under the regulatory control and authority of ~~Dawson County, Georgia~~the county and such other areas as may be included by intergovernmental agreement.

(Ord. of 7-20-2006, § 1)

Sec. 101-58. - Findings, purpose, and intent.

- (a) *Findings.* The Board of Commissioners of Dawson County, Georgia, finds and declares:
 - (1) That an equitable program for planning and financing public facilities to serve new growth and development is necessary in order to promote and accommodate orderly growth and development and to protect the public health, safety and general welfare of the citizens of ~~Dawson County~~the county;
 - (2) That certain public facilities as herein defined have been and must be further expanded if new growth and development is to be accommodated at the same level of service available to existing development; and
 - (3) That it is fair and equitable that new growth and development shall bear a proportionate share of the cost of such public facilities necessary to serve new growth and development.
- (b) *Purpose.*
 - (1) The purpose of this article is to impose impact fees as hereinafter set forth for certain public facilities as hereinafter defined.
 - (2) It is also the purpose of this article to ensure that adequate public facilities are available to serve new growth and development in ~~Dawson County~~the county and to provide that new growth and development bears a proportionate share of the cost of new public facilities needed to serve them.
- (c) *Intent.* This article is intended to implement and be consistent with the *dawson county comprehensive plan*, as it may be adopted or amended in accord with the Georgia Comprehensive Planning Act (O.C.G.A. § 50-8-1 et seq.), and the applicable *Minimum Standards and Procedures for Local Comprehensive Planning* and the *Development Impact Fee Compliance Requirements* both as adopted by the georgia board of community affairs and amended from time to time.

(Ord. of 7-20-2006, § 2)

Sec. 101-59. - Rules of construction and definitions.

- (a) The provisions of this article shall be construed so as to effectively carry out its purpose in the interest of the public health, safety, and general welfare of the citizens of Dawson County.
- (b) Rules of construction. Unless otherwise stated in this article, the following rules of construction shall apply to the text of this article:
- (1) In the case of any difference of meaning or implication between words or phrases as used in this article and as used in other codes, regulations, or laws of Dawson County, such difference shall not affect the meaning or implication of such words or phrases as used in this article.
 - (2) In the case of any difference of meaning or implication between the text of this article and any caption illustration, summary table, or illustrative table, the text shall control.
 - (3) The word "shall" is always mandatory and not discretionary; the word "may" is permissive.
 - (4) Words used in the present tense shall include the future and words used in the singular number shall include the plural and the plural the singular, unless the context clearly indicates the contrary.
 - (5) The word "person" includes an individual, a corporation, a partnership, an incorporated association, or any other legal or similar entity.
 - (6) The conjunction "and" indicates that all the connected terms, conditions, provisions, or events shall apply.
 - (7) The conjunction "or" indicates that the connected items, conditions, provisions, or events may apply singly or in any combination.
 - (8) The use of "either . . . or" indicates that the connected items, conditions, provisions or events shall apply singly and not in combination.
 - (9) The word "includes" or "including" shall not limit a term to the specific example but is intended to extend its meaning to all other instances or circumstances of like kind or character.
 - (10) The article, section, and paragraph headings and enumerations used in this article are included solely for convenience and shall not affect the interpretation of this article.
- (c) Definitions. As used in this article, the following terms shall have the meanings set forth below:

Administrator means the County Manager of Dawson County, Georgia, or the county manager's designee, who is hereby charged with implementation and enforcement of this article.

Board of commissioners means the Board of Commissioners of Dawson County, Georgia.

Building permit is the permit required for new construction, completion of construction, or an interior finish pursuant to the applicable building code. As used herein the term shall not include permits required for remodeling, rehabilitation, or other improvements to an existing structure provided there is no increase in the demand placed on those public facilities as defined herein.

Capital improvement means an improvement with a useful life of ten years or more, by new construction or other action, which increases the service capacity of a public facility.

Capital improvements element means that portion of the *dawson county comprehensive plan* that sets out projected needs for system improvements during the planning horizon established therein, which provides a schedule that will meet the anticipated need for system improvements, and which provides a description of anticipated funding sources for each required improvement, as most recently adopted or amended by the board of commissioners.

Commencement of construction. For private development, means initiation of physical construction activities as authorized by a development or building permit and leading to completion of a foundation

inspection or other initial inspection and approval by a public official charged with such duties; and for public projects, means expenditure or encumbrance of any funds whether they be development impact fee funds or not. ~~For~~ for a public facilities project or advertising of bids to undertake a public facilities project.

Comprehensive plan means the dawson county plan or planning elements as adopted or amended in accord with the *georgia comprehensive planning act* (O.C.G.A. § 50-8-1 et seq.) and the applicable *minimum standards and procedures for local comprehensive planning* as adopted by the georgia board of community affairs.

County means Dawson County, Georgia, a legal subdivision of the State of Georgia, and also refers to the Board of Commissioners of Dawson County, Georgia, or the appropriate county official appointed by the Board of Commissioners, whenever official action is taken or required.

Day means a calendar day unless otherwise specifically identified as a work day or other designation when used in the text.

Developer means any person or legal entity undertaking development.

Development means any action which creates additional demand on or need for public facilities, as defined herein, and includes any construction or expansion of a building, structure, or use; any change in use of land, a building or structure; ~~or the connection of any building or structure to a public utility.~~

Development approval means any written authorization such as issuance of a building permit, land disturbance permit, or other approval for grading or site development, or other forms of official action required by local law or regulation prior to commencement of construction.

Development impact fee means the payment of money imposed upon and paid by new development as a condition of development approval as its proportionate share of the cost of system improvements needed to serve new growth and development.

Encumber means to legally obligate by contract or otherwise commit to use by appropriation or other official act of ~~Dawson County, Georgia~~ the county.

Excess capacity means that portion of the capacity of a public facility or system of public facilities which is beyond that necessary to provide adequate service to existing development at the adopted level of service standard.

Fee payor means that person or entity who pays a development impact fee or his or her legal successor in interest when the right or entitlement to any refund of previously paid development impact fees which is required by this article has been expressly transferred or assigned to the successor in interest. In the absence of an express transfer or assignment of the right or entitlement to any refund of previously paid development impact fees, the right or entitlement shall be deemed "not to run with the land."

Individual assessment means the engineering, financial, or economic documentation prepared by a fee payor or applicant to allow individual determination of a development impact fee other than by use of the applicable fee schedule.

Individual assessment determination means a finding by the administrator that an individual assessment study does or does not meet the requirements for such a study as established by this article or if the requirements are met, the fee calculated therefrom.

Level of service means a measure of the relationship between service capacity and service demand for specified public facilities as established by ~~Dawson County, Georgia~~ the county, in terms of demand to capacity ratios, ~~or~~ the comfort and convenience of use or service of such public facilities, or both.

Present value means the current value of past, present, or future payments, contributions, or dedications of goods, services, materials, construction, or money, as calculated using accepted methods of financial analysis for determination of net present value.

Project means a single improvement or set of interrelated improvements undertaken together within a finite time period at a specific location. ~~with~~ With regard to land development, a project may be identified as those construction activities authorized collectively by a single building permit or other development

approval or for an interrelated collection of buildings and common public facilities such as a residential subdivision or an office park.

Project improvements means site specific improvements or facilities that are planned, designed, or built to provide service for a specific development project and that are necessary for the use and convenience of the occupants or users of that project only and that are not "system" improvements. The character of the improvement shall control a determination of whether an improvement is a "project" improvement or a "system" improvement and the physical location of the improvement onsite or off-site shall not be considered determinative of whether an improvement is a "project" improvement or a "system" improvement. A project improvement may provide no more than incidental service or facility capacity to persons other than users or occupants of the particular project they serve. No improvement or facility included in a plan for public facilities and approved for public funding by Dawson County, Georgia the county, shall be considered a project improvement.

Property owner means that person or entity that holds legal title to property.

Proportionate share means that portion of the cost of system improvements that is reasonably and fairly related to the service demands and needs of a project.

Public facilities (and public facility categories) means:

- (1) Parks, open space, and recreation areas, and related facilities;
- (2) Public safety facilities including sheriff, inmate housing;
- (3) Fire, emergency medical, and rescue facilities;
- (4) Libraries and related facilities; and
- (5) Roads, streets, and bridges, including rights-of-way, traffic signals, landscaping, and any other local components of state or federal highways.

Service area means a geographically defined area as designated in the capital improvements element of the comprehensive plan in which a defined set of public facilities provide or are proposed to provide service to existing or future development.

System improvement costs means costs incurred to provide public facilities capacity to serve new growth and development, including the costs of planning, design, engineering, construction, land acquisition, and land improvement for the construction or reconstruction of facility improvements or expansion. System improvement costs include 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 improvements element, and administrative costs of up to three percent of the total of all other system improvement 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 to finance system improvements. ~~but such~~ System improvement costs do not include routine and periodic maintenance expenditures, personnel training and other operating costs.

System improvements means capital improvements that are public facilities and are designed to provide service to more than one project or to the community at large, in contrast to "project" improvements.

Unit of development means the standard governmental measure of land development activity for a specific type of land use upon which the rate of demand for public service and facilities is based, such as a dwelling unit, square foot of nonresidential floor area, motel room, etc.

Unused or excess impact fee means any individual impact fee payment from which no amount of money or only a portion thereof has been encumbered or expended according to the requirements of this article.

(Ord. of 7-20-2006, § 3)

Sec. 101-60. - Imposition of development impact fees.

- (a) *When required; amount.* Any person who after ~~the effective date of the ordinance from which this article July 20, 2006, is derived~~ engages in development shall pay a development impact fee in the manner and amount set forth in this article.
- (b) *Construction not subject to impact fees.* The following projects and construction activities do not constitute "development" as defined in this article, and are therefore not subject to the imposition of impact fees:
- (1) Rebuilding no more than the same number of units of development as defined ~~to~~ in this article that were removed by demolition or destroyed by fire or other catastrophe on the same lot or property.
 - (2) Remodeling or repairing a structure that does not result in an increase in the number of units of development.
 - (3) Replacing a residential housing unit with another housing unit on the same lot or property.
 - (4) Placing or replacing a manufactured home in a manufactured home park on a prepared manufactured home pad in existence and operation prior to the effective date of this article.
 - (5) Placing a temporary construction office or temporary sales office on a lot during the period of construction or build-out of a development project.
 - (6) Constructing an addition to or expansion of a residential housing unit that does not increase the number of housing units.
 - (7) Adding uses that are typically accessory to residential uses and intended for the personal use of the residents, such as a deck or patio, satellite antenna, pet enclosure, or private recreational facilities such as a swimming pool.
- (c) *Grandfathered projects.*
- (1) Notwithstanding any other provision of this article, ~~that portion of any~~ project for which a valid building permit has had been issued prior to ~~the effective date of this article July 20, 2006,~~ shall not be subject to development impact fees so long as the permit project remains valid and in its construction and land use is commenced and is pursued as authorized according to the terms of the such building permit.
 - (2) Any building for which a valid and complete application for a building permit has been received prior to the effective date of an amendment to this article may proceed without payment of additional impact fees otherwise imposed by this article, provided that:
 - a. All fees and development ~~exactions-impact fees~~ in effect prior to the effective date of ~~the ordinance from which this article is derived~~ shall be or have been paid in full; and
 - b. Said construction shall be commenced, pursued, and completed within the time established by the building permit or within 180 days, whichever is later.
 - ~~(3) Notwithstanding any other provision of this article, that portion of a project for which a foundation has been installed within 12 months of the issuance of a valid building permit and for which a certificate of occupancy is properly issued within 24 months of the issuance of a valid building permit shall not be subject to development impact fees.~~
- (d) *Method of calculation.*
- (1) Any development impact fee imposed pursuant to this article shall not exceed a project's proportionate share of the cost of system improvements, shall be calculated on the basis of the establishment of service areas, and shall be calculated on the basis of levels of service for public facilities that are the same for existing development as for new growth and development, as established in the capital improvements element of the comprehensive plan.

- (2) Notwithstanding anything to the contrary in this article, the calculation of impact fees shall be net of credits for the present value of ad valorem taxes or other revenues as established in the capital improvements element of the comprehensive plan and which:
 - a. Are reasonably expected to be generated by new growth and development; and
 - b. Are reasonably expected on the basis of historical funding patterns to be made available to pay for system improvements of the same category and in the same service area for which an impact fee is imposed.
- (3) The method of calculating impact fees for public facilities under this article shall be maintained for public inspection as a part of the official records of ~~Dawson County, Georgia~~the county, and may be amended from time to time by official act.
- (4) In addition to the cost of new or expanded system improvements needed to be built to serve new development, the cost basis of a development impact fee may also include the proportionate cost of existing system improvements to the extent that such public facilities have excess service capacity and new development will be served by such facilities as established in the capital improvements element ~~of the comprehensive plan~~.
- (5) Development impact fees shall be based on actual system improvement costs or reasonable estimates of such costs as set forth in the capital improvements element ~~of the comprehensive plan~~.

(Ord. of 7-20-2006, § 4; Ord. of 5-21-2009(1), § I)

Sec. 101-61. - Fee assessment and payment.

~~(a) Zero percent assessment. The fee assessment shall be zero percent of any amount owed pursuant to the fee schedules attached hereto and incorporated herein as attachment A, attachment B, and attachment C.~~

~~(b)~~ (ba) *Fee schedule.*

- (1) Payment of a development impact fee pursuant to the fee schedules attached hereto and incorporated herein as attachment A ~~for a property located inside of Dawson County and within the established GA 400 Corridor Study Area attachment C, and attachment B for property located inside of Dawson County but outside of the established corridor study area~~ shall constitute full and complete payment of the project's proportionate share of system improvements as individually levied by ~~Dawson County~~the county and shall be deemed to be in compliance with the requirements of this article.
- (2) When a land development activity for which an application for a building permit has been made includes two or more buildings, structures, or other land uses in any combination, including two or more uses within a building or structure, the total development impact fee shall be the sum of the fees for each and every building, structure, or use, including each and every use within a building or structure.
- (3) In the event that an applicant contends that the land use category of the proposed developments project is not shown on the fee schedule or fits within a different category, then:
 - a. The administrator in his or her sole discretion shall make a determination as to the appropriate land use designation and the appropriate development impact fee.
 - b. In making such determination, the administrator may require such additional information from the applicant as necessary to form a logical fee determination relative to the impact fees shown on the adopted fee schedule.
 - c. If a land use designation is not in a category contained in this article, then an appropriate new category may be added by the administrator and an appropriate fee established under

the county's current impact fee methodology, subject to annual confirmation by the board of commissioners.

- d. Appeals from the decision of the administrator shall be made to the board of commissioners in accordance with the administrative appeals section of this article.

(eb) *Timing of assessment and payment.*

- (1) Development impact fees shall be assessed at the time of application for a building permit.
- (2) All development impact fees shall be collected no earlier than the time of issuance of a building permit, and no later than as a prerequisite to issuance of a certificate of occupancy for the building.
- (3) For projects not involving issuance of a building permit, all development impact fees shall be collected at the time of approval of the development permit, or such other authorization, to commence construction or to commence use of a property.
- (4) If the final use of a building cannot be determined at the time of the initial building permit, the administrator shall have the authority to assess a development impact fee based on the most likely use of the building and shall adjust the fee in accordance with the actual use prior to issuance of an interior finishes permit or approval of a certificate of occupancy. An adjustment may result in a refund to the fee payor or payment of the marginal increase of the adjusted fee over the amount already paid.
- (5) Notwithstanding any other provision of this article, any future change in demand for public facilities in excess of the average demand anticipated at the time of issuance of the building permit shall be assessed such additional fee as would otherwise have been due. Future changes in demand may result from a change in the land use category of the occupant of the building or property, the expansion of a building, or the expansion of a land use on a property that results in an increase in the units of development (as defined herein), or the subsequent discovery of facts unknown or misrepresented at the time of issuance of the building permit.

(ec) *Individual assessment determinations.* Individual assessments of development impact fees may be established as follows:

- (1) At their option, an applicant for development approval may petition the administrator for an individual assessment determination of development impact fees due for their project in lieu of the fee established on the fee schedules attached hereto and incorporated herein as attachment A and attachment B, whichever fee schedule corresponds to the physical location of the property in question.
- (2) In the event that an applicant elects an individual assessment, the applicant shall submit an individual assessment study. Each individual assessment study shall:
 - a. Be based on relevant and credible information from an accepted standard source of engineering or planning data, or
 - b. Be based on actual, relevant, and credible studies or surveys of facility demand conducted in Dawson County or its region, carried out by qualified engineers or planners pursuant to an accepted methodology; and
 - c. Provide any other written specifications as may be reasonably required by the administrator to substantiate the individual assessment determination.
- (3) The administrator in his or her sole discretion shall determine whether the content of an individual assessment study satisfies the requirements of this article. A negative determination by the administrator may be appealed to the board of commissioners in accordance with the administrative appeals section of this article.
- (4) Any fee approved as an individual assessment determination shall have standing for 180 days following the date of approval. Payment of such an approved individual assessment determination shall constitute full and complete payment of the project's proportionate share of system

improvement as individually levied by ~~Dawson County~~the county, and shall be deemed to be in compliance with the requirements of this article.

- (e) *Fee certification.* Upon application to the administrator, a developer may receive a certification of the development impact fee schedules attached hereto and incorporated herein as attachment A ~~and attachment B~~, or a certified fee for a particular project, as applicable. Such certified schedule or fee shall establish the development impact fee due for a period of 180 days from the date of certification even if new or revised rate schedules are adopted in the interim.

(Ord. of 7-20-2006, § 5; Ord. of 5-9-2009(1), § II)

Sec. 101-62. - Exemptions.

Dawson County recognizes that certain office, retail trade, ~~lodging, service,~~ and industrial development projects provide extraordinary benefit in support of the economic advancement of the county's citizens over and above the access to jobs, goods and services that such uses offer in general. To encourage such development projects, the board of commissioners may consider granting a reduction in the impact fee for such a development project upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Dawson County in accordance with adopted exemption criteria. It is also recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees.

(Ord. of 7-20-2006, § 6)

Sec. 101-63. - Deposit and expenditure of fees.

(a) *Maintenance of funds.*

- (1) All development impact fee funds collected for future expenditure on construction or expansion of facilities pursuant to this article shall be maintained in one or more interest bearing accounts until encumbered or expended. ~~R~~estrictions on the investment of development impact fee funds shall be the same that apply to investment of all such funds generally.
- (2) Separate accounting records shall be maintained for each public facility category of system improvements ~~within each service area wherein fees are collected.~~
- (3) Interest earned on development impact fees shall be considered funds of the account on which it is earned and shall be subject to all restrictions placed on the use of development impact fees under this article. Interest earned each fiscal year shall be distributed among the various funds in proportion to their end-of-year balances on hand.

(b) *Expenditures; restrictions.*

- (1) Expenditures from the impact fee accounts shall be made only for the system improvements in the public facility category ~~of system improvements within the service area~~ for which the development impact fee was assessed and collected.
- (2) Expenditures from the impact fee account for a particular public facility category shall be made only for projects that are listed for that category in the most recently adopted capital improvements element.
 - a. Such expenditures for a specific project may be based on the amount of the actual cost of the project, but ...
 - b. Such expenditures may not exceed the percentage of impact fee eligibility established for such project in the capital improvements element.

c. Expenditures for projects not listed in the capital improvements element may be made only after they have been included in the capital improvements element by amendment adopted by the board of commissioners.

~~(2) Except as provided below, development impact fees shall not be expended for any purpose that does not involve building or expanding system improvements that create additional capacity available to serve new growth and development.~~

(3) Notwithstanding anything to the contrary in this article, the following shall be considered general revenue of ~~Dawson County~~the county and may be expended accordingly.

- a. Impact fees collected to recover the present value of excess capacity in existing system improvements;
- b. Any portion of an impact fee collected as a requirement for expenditures made by ~~Dawson County~~the county for system improvements intended to be funded by such impact fee; and
- c. Any portion of the impact fee ~~but not to exceed three percent of the total~~ collected ~~and allocated by the administrator~~ for administration of the impact fee ~~ordinance program~~ and such additional amount assessed for repayment of the cost of preparing the capital improvements element ~~(CIE) of the comprehensive plan~~or required annual CIE update reports to the state.

(c) *Annual report.*

(1) The administrator shall prepare an annual report to the board of commissioners ~~as part of~~based on the preceding annual audit describing the amount of any development impact fees collected, encumbered, and used during the preceding fiscal year by ~~category of public facility~~ category and service area.

(2) Such annual report shall be prepared following guidelines of the georgia department of community affairs (DCA) and submitted to ~~DCA~~the georgia mountains regional commission in conjunction with the annual update of the ~~capital improvements element~~community work program of the comprehensive plan.

(Ord. of 7-20-2006, § 7)

Sec. 101-64. - Credits.

When eligible, fee payors shall be entitled to a credit against impact fees otherwise due and owing under the circumstances and in the manner set forth in this section.

(1) *Credits; restrictions.*

- a. Except as provided in subsection (1)b of this section, no credit shall be given for construction, contribution, or dedication of any system improvement or funds for system improvements made before the effective date of this article.
- b. If the value of any construction, dedication of land, or contribution of money made by a developer (or his or her predecessor in title or interest) prior to the effective date of ~~the ordinance from which this article is derived~~ for system improvements that are included for impact fee funding in the most recently adopted capital improvements element ~~of the comprehensive land use plan~~, is greater than the impact fee that would otherwise ~~have been~~be paid for the project, then the developer shall be entitled to a credit for such excess construction, dedication, or funding. Notwithstanding anything to the contrary in this article, any credit due under this section shall not constitute a liability of ~~Dawson County~~the county, and shall accrue to the developer to the extent of impact fees assessed for new development for the same category of system improvements ~~within the same service area.~~

- c. In no event shall credit be given for project improvements or for system improvements not included for impact fee funding a the most recently adopted capital improvements element of the comprehensive plan.

(2) *Granting of credits.*

- a. Credit shall be given for the present value of any construction of improvements, contribution or dedication of land, or payment of money by a developer or his or her predecessor in title or interest for system improvements of the same public facilities category and to the same service area for which a development impact fee is imposed, provided that:
 - 1. The system improvement is included for impact fee funding in the most recently adopted capital improvements element of the comprehensive land use plan;
 - 2. The amount of the credit does not exceed the portion of the system improvement's cost that is eligible for impact fee funding as shown in the capital improvements element; and
 - 3. The board of commissioners shall have explicitly approved said improvement, contribution, dedication, or payment and the value thereof prior to its construction dedication or transfer.
- b. The credit allowed pursuant to this section shall not exceed the impact fee due for such system improvement unless a greater credit is authorized under a private agreement executed under the provisions of section 101-~~65~~66.

(3) *Guidelines for credit valuation.* Credits under this section shall be valued using the following guidelines:

- a. For the construction of any system improvements by a developer or his or her predecessor in title or interest and accepted by the county, the developer must present evidence satisfactory to the administrator of the original cost of the improvement, from which present value may be calculated.
- b. For any contribution or dedication of land for system improvements by a developer or his or her predecessor in title or interest and accepted by the county, the original value of the land shall be the same as that attributed to the property by the validated tax appraisal at the time of dedication, from which present value may be calculated.
- c. For any contribution of capital equipment that qualifies as a system improvement by a developer or his or her predecessor in title or interest and accepted by the county, the value shall be the original cost to the developer of the capital equipment or the cost that Dawson County, Georgia, the county would normally pay for such equipment, whichever is less.
- d. For any contribution of money for system improvements from a developer or his or her predecessor in title or interest accepted by the county, the original value of the money shall be the same as that at the time of contribution from which present value may be calculated.
- e. In making a present value calculation, the discount rate used shall be the net of the interest returned on a state of georgia, AA rated or better municipal bond, less average annual inflation, or such other discount rate as the board of commissioners in its sole discretion may deem appropriate.

(4) *Credits: application.*

- a. Credits shall be given only upon written request of the developer to the administrator. A developer must present written evidence satisfactory to the administrator at or before the time of development impact fee assessment.
- b. The administrator in his or her sole discretion shall review all claims for credits and make determinations regarding the allowance of any claimed credit, and the value of any allowed credit.

c. Any credit approved by the administrator shall be acknowledged in writing by the administrator and calculated at the time of impact fee assessment.

d. Credit denials by the administrator may be appealed to the board of commissioners in accordance with section 101-68, administrative appeals.

(5) *Credits; abandoned building permits.* In the event that an impact fee is paid but the building permit is abandoned, credit shall be given for ~~the present value of~~ the impact fee paid against future impact fees for the same parcel of land upon submission of adequate evidence to the administrator that an impact fee was received by the county, the amount paid, and that the building permit was abandoned.

(Ord. of 7-20-2006, § 8)

Sec. 101-65. - Refunds.

(a) *Eligibility for a refund.*

(1) Upon the request of a fee payor regarding a property on which a development impact fee has been paid, the development impact fee shall be refunded if:

- a. Capacity is available in the public facilities for which the fee was collected but service is permanently denied; or
- b. The development impact fee has not been encumbered or construction has not been commenced within six years after the date the fee was collected.

(2) In determining whether development impact fees have been encumbered, development impact fees shall be considered encumbered on a first-in first-out (FIFO) basis.

(b) *Notice of entitlement to a refund.* When the right to a refund exists due to a failure to encumber the development impact fees, the administrator shall provide written notice of entitlement to a refund to the fee payor who paid the development impact fee at the address shown on the application for development approval or to a successor in interest who has given adequate notice to the administrator of a legal transfer or assignment of the right to entitlement to a refund and who has provided a mailing address. Such notice shall also be published in a newspaper of general circulation in Dawson County within 30 days after the expiration of the six-year period after the date that the development impact fee was collected, and shall contain a heading notice of entitlement to development impact fee refund. No refund shall be made for a period of 30 days from the date of said publication.

(c) *Filing a request for a refund.* All requests for refunds shall be made in writing to the administrator within one year of the time the refund becomes payable or within one year of publication of the notice of entitlement to a refund, whichever is later. Failure to make a claim for a refund within said time period shall result in a waiver of all claims to said funds.

(d) *Payment of refunds.*

(1) All refunds shall be made to the fee payor within 60 days after it is determined by the administrator that a sufficient proof of claim for refund has been made, but no sooner than 30 days after publication of the notice of entitlement to the refund.

(2) A refund shall include a refund of a pro rata share of interest actually earned on the unused or excess impact fee collected.

(3) In no event shall a fee payor be entitled to a refund for impact fees assessed and paid to recover the cost of excess capacity in existing system improvements, for any portion of an impact fee collected as a repayment for expenditures made by ~~Dawson County~~ the county, for system improvements intended to be funded by such impact fee, or for that portion of the fee payment that was assessed for administration of the impact fee ordinance or for recovery of the cost of preparation of the capital improvements element ~~of the comprehensive plan~~.

(Ord. of 7-20-2006, § 9)

Sec. 101-66. - Private contractual agreements.

- (a) *Private agreements: authorized.* Nothing in this article shall prohibit the voluntary mutual approval of a private contractual agreement between the county and any developer or property owner or group of developers and/or property owners in regard to the construction or installation of system improvements, and providing for credits or reimbursement for system improvement costs incurred by a developer, including interproject transfers of credits or providing for reimbursement for project improvement costs which are used or shared by more than one development project, provided that:
- (1) The system improvements are included for impact fee funding in the most recently adopted capital improvements element ~~of the comprehensive plan~~; and
 - (2) The amount of any credit or reimbursement granted shall not exceed the portion of the system improvements cost that is eligible for impact fee funding.
- (b) *Private agreements; provisions.* A private contractual agreement for system improvements may include, but shall not be limited to, provisions ~~which~~that.
- (1) Modify the estimates of impact on public facilities according to the methods and provisions concerning the calculation of impact fees, provided that any such agreement shall allow the county to assess additional development impact fees after the completion of construction according to ~~the fee schedules~~ set forth in this article as attachment A.
 - (2) Permit construction of, dedication of property for, or other in-kind contribution for specific public facilities of the type for which development impact fees would be imposed ~~in the same service area~~ in lieu of or with a credit against applicable development impact fees.
 - (3) Permit a schedule and method of payment appropriate to particular and unique circumstances of a proposed project in lieu of the requirements for payment under this article, provided that acceptable security is posted ensuring payment of the development impact fees. Forms of security that may be acceptable include a cash bond, irrevocable letter of credit from a bank authorized to do business within the state of georgia, a surety bond, or lien or mortgage on lands to be covered by the building permit.
- (c) *Private agreements; procedure.*
- (1) Any private agreement proposed by an applicant pursuant to this section shall be submitted to the administrator for review, negotiation, and submission to the board of commissioners.
 - (2) Any such agreement must be presented to and approved by the ~~Board board of Commissioners commissioners of Dawson County, Georgia~~, prior to the issuance of a building permit.
 - (3) Any such agreement shall provide for execution by mortgages, lien holders, or contract purchasers in addition to the landowner, and shall require the applicant to submit such agreement to the clerk of superior court for recording.

(Ord. of 7-20-2006, § 10)

Sec. 101-67. - Periodic review and amendments.

- (a) *Ordinance amendments.*
- (1) This article may be amended from time to time as deemed appropriate or desirable.
 - (2) Interim amendments to the impact fee schedule regarding the establishment of new land use categories by the administrator under section ~~5-04.3~~101-61.(a)(3) are expressly authorized.
- (b) *Capital improvements element amendment.*

- (1) At least once each year in accordance with the annual review schedule established for the county by the georgia department of community affairs, the board of commissioners shall review and amend the capital improvements element so as to maintain, at a minimum, a schedule of system improvements for each of the subsequent five years.
 - (2) In conducting an annual review of the capital improvements element and calculation of development impact fees, the board of commissioners may determine to further amend the capital improvements element ~~itself.~~ ~~amendments~~ Amendments to the capital improvements element shall be required for any change ~~to the capital improvements element~~ that would:
 - a. Change the ~~funding sources or costs of system improvement projects or change the list or scheduling~~ of system improvement projects by adding, deleting or substantially modifying the projects;
 - b. Redefine or extend growth projections, land development assumptions, or goals or objectives that would affect system improvements proposed in the capital improvements element;
 - c. Add new public facility categories for impact fee funding ~~or modify impact fee service areas;~~
 - d. Change the level of service established for a public facility category ~~or for an impact fee service area;~~ or
 - e. Make any other revisions needed to keep the capital improvements element up to date.
 - (3) The capital improvements element amendment shall be submitted to the georgia mountains regional development center commission for their review in accordance with the *development impact fee compliance requirements* as adopted by the board of community affairs of the state of georgia.
- (c) *Continuation of validity.* Failure of the board of commissioners to undertake an annual review of the capital improvement element shall result in the continued use and application of the latest adopted development impact fee schedule and other data. The failure to annually review the capital improvements element shall not invalidate this article.

(Ord. of 7-20-2006, § 11)

Sec. 101-68. - Administrative appeals.

- (a) *Eligibility to file an appeal.* Only applicants or fee payors who have already been assessed an impact fee by the county or who have already received a written determination of individual assessment refund or credit amount shall be entitled to an appeal.
- (b) *Appeals process.*
 - (1) The aggrieved applicant or fee payor (hereinafter the "appellant") must file a written appeal with the administrator within 15 days of the decision or receipt of written determination from which the appeal is taken.
 - (2) Such written appeal shall constitute an application for relief shall state the basis for the appeal and the relief sought, and shall include:
 - a. The name and address of the appellant;
 - b. The location of the affected property;
 - c. A copy of any applicable written decision or determination made by the administrator from which the appeal is taken.
 - (3) Within 15 days after receipt of the appeal, the administrator shall make a written final decision with respect to the appeal. ~~such~~ Such decision ~~to shall~~ be of sufficient content to set forth the basis for the determination.

- (4) Appeals from the final decision of the administrator shall be made to the board of commissioners within 30 days of receipt by the appellant of the administrator's decision. Delivery by hand or certified mail to or posting upon the property at, the address given by the appellant in the application for relief shall constitute ~~receipt~~ "receipt" by the ~~appellant~~ "appellant" under this provision.
 - (5) The board of commissioners shall thereafter hold a hearing on the appeal within 30 days, provided that at least two weeks written notice thereof can be given to the appellant. The board of commissioners shall decide the issue within a reasonable time following the hearing, but in no case more than ~~45~~ 30 days following the hearing unless the appellant agrees to an extension to a later date. Any party making an appeal shall have the right to appear at the hearing to present evidence and may be represented by counsel.
- (c) *Payment of impact fee during appeal.*
- (1) The filing of an appeal shall not stay the assessment or collection of a development impact fee as a condition to the issuance of development approval.
 - (2) A developer may pay a development impact fee under protest to obtain a building permit or development approval and by making such payment shall not be estopped from exercising ~~this~~ his or her right of appeal or receiving a refund of any amount deemed to have been collected in excess.

(Ord. of 7-20-2006, § 12)

Sec. 101-69. - Enforcement and penalties.

(a) *Enforcement authority.*

- (1) The enforcement of this article shall be the responsibility of the administrator and such personnel as the administrator may designate from time to time.
- (2) The administrator shall have the right to inspect the lands affected by this article and shall have the right to issue a written notice, a stop work order, or citation for violations as the administrator in his or her sole determination may deem appropriate to the circumstances. ~~refusal~~ Refusal of written notice of violation, stop work order, or citation under this article shall constitute legal notice of service. The citation shall be in the form of a written official notice issued in person or by certified mail to the owner of the property or to his or her agent, or to the person performing the work. The receipt of a citation shall require that corrective action be taken within 30 days unless otherwise extended at the discretion of the administrator.
- (3) The administrator may suspend or revoke any building permit or withhold the issuance of other development approvals if the provisions of this article have been violated by the developer or the owner or their assigns.

(b) *Violations.*

- (1) Knowingly furnishing false information on any matter relating to the administration of an ordinance shall constitute an actionable violation.
- (2) Proceeding with construction of a project that is not consistent with the ~~project a~~ impact fee assessment, such as the use category claimed, or units of development indicated, shall constitute ~~as an~~ actionable violation.
- (3) Failure to take corrective action following the receipt of a citation shall constitute an actionable violation.
- (4) A violation of this article shall be a misdemeanor punishable according to law, including the general penalty provisions of the *dawson county code of ordinances*. In addition to or in lieu of criminal prosecution, the board of commissioners shall have the power to sue in law or equity for relief in civil court to enforce this article, including recourse to such civil and criminal remedies in

law and equity as may be necessary to ensure compliance with the provisions of this article, and including but not limited to injunctive relief to enjoin and restrain any person from violating the provisions of this article, and to recover such damages as may be incurred by the implementation of specific corrective actions.

(Ord. of 7-20-2006, § 13)

Sec. 101-70. - Incorporation by reference of Georgia laws.

It is the intent of the board of commissioners that the development impact fee ordinance ~~of Dawson County, Georgia,~~ comply with the terms and provisions of the *georgia development impact fee act* (O.C.G.A. § 36-71-1 et seq.) as amended. To the extent that any provision of this article is inconsistent with the provisions of said act, the latter shall control. Furthermore, to the extent that this article is silent as to any provision of said chapter that is otherwise made mandatory by said chapter, such provision shall control and shall be binding upon the county.

(Ord. of 7-20-2006, § 14.03)

Sec. 101-71. - Effective date.

This article or any amendments thereto shall take effect on adoption.

(Ord. of 7-20-2006, § 14.04)

Attachment A
Impact Fee Schedule

TO BE INSERTED

Georgia, Dawson County

**AN ORDINANCE
AMENDING THE DEVELOPMENT IMPACT FEE ORDINANCE
OF THE DAWSON COUNTY, GEORGIA**

WHEREAS, the Board of Commissioners of Dawson County, Georgia, under the Constitution and Laws of the State of Georgia is empowered by virtue of its police power to regulate the health, safety and welfare of the citizens of Dawson County; and

WHEREAS, the Board of Commissioners of Dawson County, Georgia, enacted a Development Impact Fee Ordinance of Dawson County, Georgia, on July 20, 2006, and last amended it on May 9, 2009, upon which Article III, Development Impact Fees, of the Dawson County Code of Ordinances is derived; and

WHEREAS, it is deemed by the Board of Commissioners of Dawson County, Georgia, that an amendment to the Development Impact Fees Article of the Dawson County Code of Ordinances is of substantial benefit to the public and in the promotion of the best interests and general welfare of its citizens;

NOW THEREFORE, IT SHALL BE AND IS HEREBY ORDAINED by the Board of Commissioners of Dawson County, Georgia, that Article III, Development Impact Fees, of the Official Code of Dawson County, Georgia, shall be and is hereby amended as follows:

Section 1: To delete the Development Impact Fee Ordinance of Dawson County, Georgia, codified in the Dawson County Code of Ordinances under Article III, Development Impact Fees, and to replace it in its entirety with a new Article III, Development Impact Fees, as attached hereto.

Section 2: To delete Attachments A, B and C of the Development Impact Fee Ordinance of Dawson County, Georgia, codified in the Dawson County Code of Ordinances as attachments to Article III, Development Impact Fees, and to replace them with a new Attachment A, as attached hereto, in its entirety.

Section 3: The foregoing amendment of the Development Impact Fee Ordinance of Dawson County, Georgia, shall become effective immediately upon adoption of this Ordinance.

Section 4: All Ordinances or resolutions in conflict herewith shall be and are hereby repealed to the extent of the conflict.

Adopted this ____ day of _____, 2018.

BY: _____
Billy Thurmond, Chairman

ATTEST: _____
Kristen Cloud, County Clerk



Capital Improvements Element



Dawson County Impact Fee Program

Including the following
public facility categories:

Library Services
Parks and Recreation
Fire Protection
Law Enforcement
Road Improvements

Adopted: July 19, 2018

ROSS+associates

urban planning & plan implementation

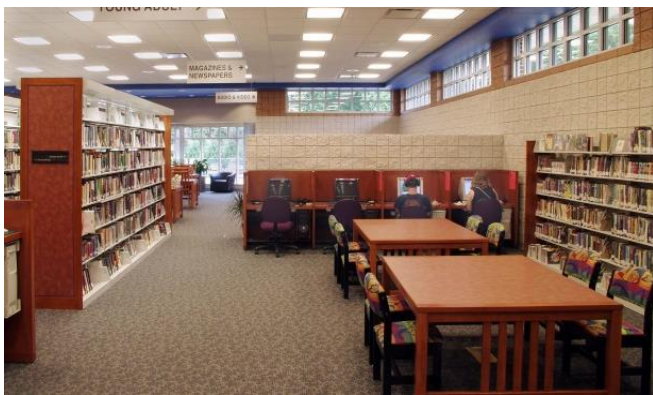


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Introduction

■ Looking Ahead

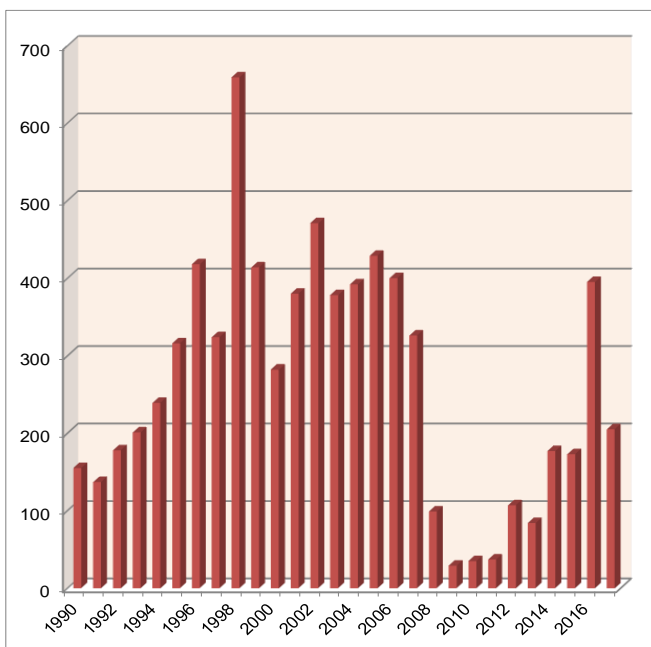
Forecasts indicate major growth ahead for Dawson County as people continue to move up the GA 400 corridor, propelled by growth in the Atlanta Metro Area, and attracted to favorable housing prices, a great school system, and avoiding the increasingly crowded, traffic congested Forsyth County. Over the next 22 years to 2040, it is expected that about one-half of the people that will be living in Dawson County and the housing they occupy are not here today. This equates to a doubling of the population and housing supply over 2017—2.04 times as many people and 1.95 times as many housing units as today (accompanied with an increase in average household size).

This is not as unprecedented as it seems. Looking back over the past 22 years, since 1995 the county's population has more than doubled, from 11,888 to 24,517—a 52% increase—in spite of the housing market crash of 2008 and the ensuing Great Recession.

Building permit data tell the story. 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.

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

Residential Building Permit Activity - Dawson County



Source: US Bureau of the Census, annual building permit data, 1990-2015; Dawson County 2016-2017.

Recovery from the crash was slow but steady—even outpacing the rebound in Gainesville-Hall County and the Atlanta Metro Area on an annual percent increase basis. Most recently, the county's housing industry has regained its footing and permits are clearly on the rise.

Though not as robust as population growth, nonresidential growth forecasts indicate an almost doubling in the number of private-sector jobs with a 41% growth and a 1.7 multiplier. (These numbers exclude government, construction and agricultural workers, since they are not assessed impact fees.) According to Woods & Poole Economics, Inc., the county will see its greatest

increase in retail trade, followed by service industries, insurance/finance and real estate, and health care.

What this means is that Dawson County will be called upon to expand its services and infrastructure if it is to maintain the quality of life and business environment enjoyed by its residents and workers today. Failing to keep up will bring an erosion of the lifestyles and employment opportunities that attracts new growth and investment tomorrow and that the population enjoys today.

■ Impact Fees

Impact fees present a potential revenue source in the on-going search for public facilities funding, which this report examines.

We identify the current levels of service provided throughout the county and the desired levels of service for the future in order to quantify the capital facilities needed to achieve the Dawson County's goals for the future. Based on that analysis, calculations have been carried out in order to identify what portion of future capital facilities could be funded through impact fee collections.

In this report capital costs have been examined for six public facility categories: library services, parks & recreation, public safety (including fire protection, emergency management/911 communications, and law enforcement), and road improvements. Based on plans of the County and projections of future capital investment needs, the portion of future capital costs that could be met through impact fees has been calculated. In short, impact fees could be used to fund a large portion of the capital costs in these public facility categories, and at the desired Level of Service standards, over the next 22 years to 2040.

Impact Fees Authorized

Under State law, the County can collect money from new development based on that development's proportionate share—the 'fair share'—of the cost to provide the facilities it needs. The State law allows impact fees to be collected in the categories of libraries, public safety, parks, and roads, among others. 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.

Impact fees are authorized in Georgia under Code Section 37-71, the *Georgia Development Impact Fee Act* (DIFA), and are administered by the Georgia Department of Community Affairs (DCA) under Chapter 110-12-2, *Development Impact Fee Compliance Requirements*. Impact fees are a form of revenue authorized by the State, and strictly defined and regulated through State law. The provisions of the DIFA are extensive, in order to assure that new development pays no more than its fair share of the costs and that impact fees are not used to solve existing service deficiencies.

Impact Fee Documentation

One document required for the collection of impact fees is called the Capital Improvements Element (CIE), and is adopted as a chapter, or 'element', of the County's Comprehensive Plan. As defined by the Georgia Development Impact Fee Act (DIFA), the CIE must include certain calculations and information, and those are included in this report along with additional information regarding the amount that could be charged in an impact fee program. The calculations and information, repeated (as applicable) for each public facility category for which an impact fee will be charged, are:

- a **projection of needs** for the planning period of the adopted Comprehensive Plan;
- the designation of **service areas** - the geographic area in which a defined set of public facilities provide service to development within the area;
- the designation of **levels of service** (LOS) - the service level that will be provided;
- a **schedule of improvements** listing impact fee related projects and costs for the planning period of the adopted Comprehensive Plan;
- a description of **funding sources** for the planning period of the adopted Comprehensive Plan;

■ Updating the Impact Fee Program

Dawson County adopted its impact fee program in 2006, including its initial Capital Improvements Element, Impact Fee Ordinance and Impact Fee Schedule. Impact fee collections were suspended in 2009 in response to the worsening economic conditions brought on by the Great Recession. This Methodology Report updates the County's documentation, including the recognition of current prices and costs for capital equipment and facilities, and extends the horizon of the program to 2040.

Adoption of a new CIE would therefore update the County's program that has been in place for many years.

The following table shows the facility categories that are eligible for impact fee funding under Georgia law and that are included in the County's current impact fee program. 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. All the listed categories are considered in this report.

Table 1: Overview of Impact Fee Program - Facilities

	Eligible Facilities	Service Area	Level of Service Standard Based on ...	Historic Funding Sources
Library Services	Library facilities including collection materials	Countywide	Square footage and number of collection materials per dwelling unit	General Fund, State Grants, impact fees
Parks and Recreation	Park acres, recreation components	Countywide	Number of acres and recreation components per dwelling unit	General Fund, SPLOST and impact fees
Fire Protection	Fire stations, fire trucks & auxiliary vehicles	Countywide	Square footage and number of vehicles per day-night population	General Fund, SPLOST and impact fees
Law Enforcement	Sheriff's administration space and inmate detention	Countywide	Square footage of facilities per day-night population	General Fund, SPLOST and impact fees
Road Improvements	Road projects providing new trip capacity	Countywide	LOS "D" for entire road network	General Fund, SPLOST and impact fees

Terms used in Table 1:

Eligible Facilities under the State Act are limited to capital items having a life expectancy of at least 10 years, such as land, buildings and other facilities, and major rolling stock (such as fire trucks). 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 automobiles. None of these costs are included in the impact fee system.

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 type of facility 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.

■ 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. An example is "the County has adopted an impact fee ordinance".
- The lower case word 'county' refers to the geographical area of Dawson County, as in "the population of the county has grown".
- The same conventions are applied to the words 'City' and 'city', 'State' and 'state'.
- 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.
- Numbers shown on tables 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.



Forecasts

Extensive growth and development is forecast for Dawson County over the coming 22 years to 2040 as expansion of the Atlanta Metro Area washes over Forsyth County into Dawson—a process that has already begun.



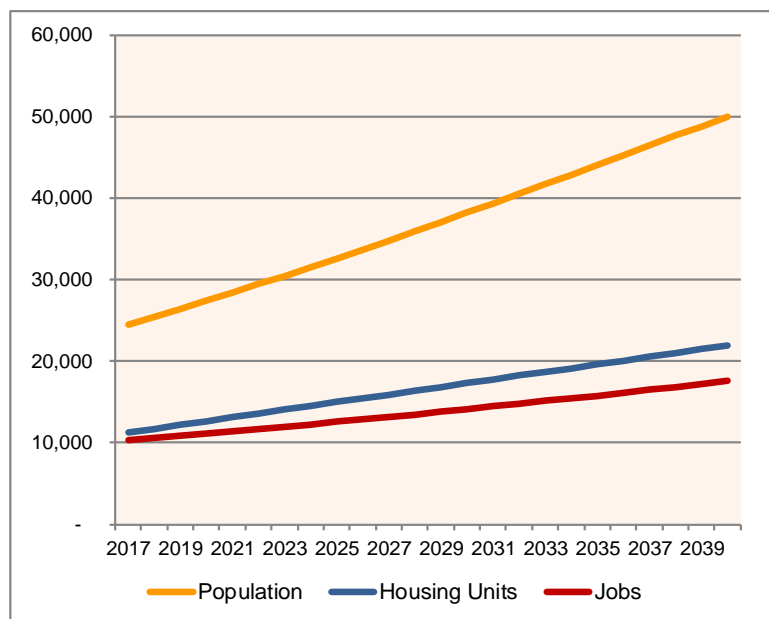
Forecasts

Population projections reflect this massive growth which is expected over the next 22 years. Based on the county's rebound from the Great Recession and anticipated continuing growth in the housing market, the ultimate population forecast for 2040 is 50,000 people—a doubling of the number of people in the county today.

The numbers in the 'jobs' column are private sector, building occupying employment figures and exclude what are referred to as 'non-building related' jobs. 'Non-building related' jobs are those that do not normally require issuance of a building permit, and thus would not be assessed an impact fee. Such jobs include any employment that is considered to be transitory in nature, such as those working on construction sites, or are strictly land-based such as farming and other agricultural workers. In addition, the number of workers employed by governmental entities (city, county, state and federal) is excluded because governments are exempt from impact fees.

Table 2: Forecasts of Future Growth

	Population	Housing Units	Jobs
2017	24,517	11,262	10,290
2018	25,453	11,726	10,578
2019	26,412	12,190	10,857
2020	27,394	12,658	11,136
2021	28,396	13,127	11,414
2022	29,418	13,592	11,697
2023	30,459	14,052	11,981
2024	31,519	14,514	12,270
2025	32,595	14,975	12,567
2026	33,687	15,439	12,868
2027	34,794	15,905	13,175
2028	35,915	16,372	13,485
2029	37,048	16,838	13,802
2030	38,193	17,300	14,119
2031	39,348	17,763	14,442
2032	40,512	18,224	14,774
2033	41,684	18,683	15,106
2034	42,863	19,141	15,441
2035	44,047	19,597	15,780
2036	45,235	20,058	16,128
2037	46,425	20,526	16,478
2038	47,617	21,004	16,831
2039	48,809	21,490	17,196
2040	50,000	21,981	17,560



	Population	Housing Units	Jobs
2017	24,517	11,262	10,290
2040	50,000	21,981	17,560
Increase	25,483	10,719	7,270
Percent	51.0%	48.8%	41.4%

By 2040, about a half (51%) of the population in the county will have been generated by new growth; virtually the same is true for the number of housing units at 49%. In other words, population and housing units in 2040 will be about 2 times the numbers today (2.04 and 1.95 times, respectively). Growth in private sector jobs will comprise over 40% of all such jobs in the county today (somewhat less than doubling at 1.7 times 2017).

A much more extensive socioeconomic analysis and description of the growth projections is contained in the Appendix: Future Growth.

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 14,700 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 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. The library system serves all persons on an equal basis in meeting their educational, recreational, civic, economic and spiritual needs.

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

The year 2017 Level of Service (LOS) is determined by an inventory of the existing library facilities and collection materials, as shown in Table 3.

Table 3: Inventory of Library Facilities

Facility	Gross Floor Area in Square Feet	Collection Materials
Dawson County Library*	14,700	42,908

*Includes the main branch and the satellite facility.

Level of service calculations, shown in Table 4 below, determine that the facilities provide slightly more than 3.8 collection materials and 1.3 square feet of library space per dwelling unit to serve the current population.

Table 4: Current Level of Service Calculation

Facility	Current Service Population	Current Level of Service
Existing Square Feet	Number of Housing Units (2017)	Square Feet of Floor Area per Housing Unit
14,700	11,262	1.3053
Existing Collection Materials	Number of Housing Units (2017)	Collection Materials per Housing Unit
42,908	11,262	3.8100

■ **Forecasts for Service Area**

Future Demand

The County adopted a Level of Service for library facilities based on the current floor area of facility space, and the current number of collection materials, per dwelling unit. In Table 5, the Level of Service figures are used to calculate future demand in square feet and collection materials between 2017 and 2040. The additional number of forecasted dwelling units to the year 2040 is multiplied by the Level of Service to produce the future demand figures. Future growth will demand almost 14,000 additional square feet of library space by the year 2040 in order to maintain the current Level of Service for all county residents, both existing and future. In the same way, a net increase of almost 41,000 collection materials will need to be added.

Table 5: Future Demand Calculation

Current Level of Service	Service Population Growth	New Growth Demand
Square Feet of Floor Area per Housing Unit	Number of New Housing Units (2017-40)	Square Feet of New Floor Area Needed
1.3053	10,719	13,991
Collection Materials per Housing Unit	Number of New Housing Units (2017-40)	Collection Materials Needed
3.8100	10,719	40,839

Table 6 presents the expected facility demand in an annual format. The table shows a future project roughly in pace with the anticipated growth in dwelling units (assuming that construction of a new library branch should begin when about one-half the service demand is reached). Alternately, an expansion of the current main library could be considered, and/or several smaller new branch libraries in various locations around the county. In whatever future configuration, it is the addition of 13,991 square feet that is impact fee eligible.

Table 6: Future Library Facility Projects

Year	New Dwelling Units	Running Total: SF Demanded	Project	Square Footage
2017	0			
2018	464	606		
2019	464	1,212		
2020	468	1,823		
2021	469	2,435		
2022	465	3,042		
2023	460	3,642		
2024	462	4,245		
2025	461	4,847		
2026	464	5,453	New Branch Library	13,991
2027	466	6,061		
2028	467	6,671		
2029	466	7,279		
2030	462	7,882		
2031	463	8,486		
2032	461	9,088		
2033	459	9,687		
2034	458	10,285		
2035	456	10,880		
2036	461	11,482		
2037	468	12,093		
2038	478	12,717		
2039	486	13,351		
2040	491	13,992		
Total	10,719			13,991

Table 7 presents the figures for collection material demand. Materials demanded by new growth are calculated in the first columns by multiplying the Level of Service standard (from Table 5) times the net new dwelling units each year (from Table 2). Thus the 'New Materials Needed (annual)' column represents the number of materials that must be purchased in order to meet new growth's demand in each year. The 'Running Total' column shows the accumulated number of new collection materials that will meet the needs of future residential growth in the county.

However, the Library System discards a few of its collection materials each year as they become worn out, disfigured, broken or out of date. To maintain the collection, these materials need to be replaced with new materials. Since these materials replenish the overall collection, the responsibility for these replacements falls to the current residents and not to new growth.

Library Services

Over the past several years the discard rate has averaged 0.524% of all materials in the collection. As the collection grows in the future, this discard rate will continue relative to the new materials being acquired. By including the discarded materials for replacement each year, the resulting 'total materials needed (annual)' column reflects the total number of volumes required annually to maintain the LOS once these non-impact fee eligible volumes are discarded. Thus, the new materials that will be needed each year will meet both the demand of new growth and the replenishment of the current collection. A total of 41,048 collection materials will need to be purchased to maintain the Level of Service for new and existing development and to account for discarded volumes.



Table 7: Future Collection Materials Needed

Year	New Growth Demand			Plus Discarded Materials	Total Materials Needed (annual)
	New Dwelling Units	New Materials Needed (annual)	Running Total		
2017	0	0			
2018	464	1,768	1,768	9	1,777
2019	464	1,768	3,536	9	1,777
2020	468	1,783	5,319	9	1,792
2021	469	1,787	7,106	9	1,796
2022	465	1,772	8,878	9	1,781
2023	460	1,753	10,631	9	1,762
2024	462	1,760	12,391	9	1,769
2025	461	1,756	14,147	9	1,765
2026	464	1,768	15,915	9	1,777
2027	466	1,775	17,690	9	1,784
2028	467	1,779	19,469	9	1,788
2029	466	1,775	21,244	9	1,784
2030	462	1,760	23,004	9	1,769
2031	463	1,764	24,768	9	1,773
2032	461	1,756	26,524	9	1,765
2033	459	1,749	28,273	9	1,758
2034	458	1,745	30,018	9	1,754
2035	456	1,737	31,755	9	1,746
2036	461	1,756	33,511	9	1,765
2037	468	1,783	35,294	9	1,792
2038	478	1,821	37,115	10	1,831
2039	486	1,852	38,967	10	1,862
2040	491	1,871	40,838	10	1,881
Total	10,719	40,838		210	41,048

Note: Discard rate = 0.524%

■ Future Costs

New Library Space

The building floor area needed to serve new growth identified in Table 6 is used to calculate the future cost to meet service demand, as shown in Table 8. The costs are shown in current dollars, and then adjusted to reflect the Net Present Value based on the year in which the expenditure is anticipated. For facility construction, the estimated current cost of construction is adjusted using the BCI (building construction cost index), and then reduced by the Discount Rate to determine the Net Present Value.¹

Table 8: Facility Costs to Meet Future Demand

Year	Project	Square Footage	Cost (2017 Dollars)*	% for New Growth	Total New Growth Cost (NPV)**
2026	New Branch Library	13,991	\$ 4,365,192	100%	\$ 4,716,121
Total		13,991	\$ 4,365,192	100%	\$ 4,716,121

* Project cost based on \$312 per square foot, *Green Building Square Foot Costbook*, 2017 Edition, published by BNI Building News.

** Net Present Value = 2017 cost estimate inflated to target year using the Building Cost Index (BCI), reduced to NPV using the Discount Rate.

New Collection Materials

The new collection materials needed to serve new growth and to offset the discard rate, identified on Table 7, are used to calculate the future cost to meet service demand, as shown in Table 10.

The average cost of a collection material is based on the overall value of all of the materials in the current collection. The inventory of the current collection is shown on Table 9 by type of material, number of materials, the average cost to acquire a volume in each category, and the total value of all materials in each category. Overall, the system's collection of 42,908 materials has a current (replacement) value of almost \$940,200. Dividing one by the other, and assuming the relative ratios will persist into the future, the average material in the collection is almost \$22.



¹ For more information on the cost inflator factor and net present value, see the 'Cost Adjustments and Credits' chapter of this report.

Table 9: Value of Collection Materials - 2017

Collection Materials	Number of Volumes	Avg Value per Volume	Total Value
Adult fiction books	1,220	\$ 23.33	\$ 28,462.60
Adult nonfiction books	10,431	\$ 24.09	\$ 251,282.79
Juvenile books	9,376	\$ 16.49	\$ 154,610.24
Easy books	7,638	\$ 15.73	\$ 120,145.74
EZ books	916	\$ 13.03	\$ 11,935.48
Magazines	1,108	\$ 22.00	\$ 24,376.00
Realia items	98	\$ 41.05	\$ 4,022.90
Large print books	1,616	\$ 27.17	\$ 43,906.72
Young adult books	2,585	\$ 16.17	\$ 41,799.45
Videogames	148	\$ 24.83	\$ 3,674.84
Music CDs	334	\$ 13.95	\$ 4,659.30
DVDs	3,129	\$ 22.84	\$ 71,466.36
Audiobooks	2,481	\$ 36.62	\$ 90,854.22
Ref/Georgianna	1,828	\$ 48.67	\$ 88,968.76
Total	42,908		\$ 940,165.40
	Overall Average per Volume		\$ 21.91

This average cost-per-material from Table 9 is used in Table 10 to calculate the total cost each year to acquire the needed number of materials (from Table 7). The costs are shown in current dollars, and then adjusted to reflect the Net Present Value based on the year in which the expenditure is anticipated. For the acquisition of collection materials, the current cost is adjusted to reflect the CPI (consumer price index) inflation factor, and then reduced by the Net Discount Rate to determine the Net Present Value.



In Table 10, the number of books needed each year is taken from Table 7. The total cost each year (in current 2017 dollars) is produced by multiplying the number of collection materials times the average per-volume cost calculated in Table 9. The percentage of the cost attributable to new growth in each year is based on the percentage of total volumes demanded that are attributable to new growth's demand (i.e., excluding the volumes needed to replace the discarded volumes).

This 'New Growth Cost (2017 \$)' is converted to Net Present Value as described above, using the CPI inflation rate to the future year indicated, and then reducing that figure using the Net Discount Rate back to present value of the future cost.

Table 10: Collection Material Costs to Meet Future Demand

Year	Total Materials Needed (annual)	Total Cost (2017 Dollars)	% for New Growth	New Growth Cost (2017 \$)	Net Present Value
2018	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 39,114.61
2019	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 39,496.02
2020	1,792	\$ 39,262.72	99.50%	\$ 39,065.53	\$ 40,219.50
2021	1,796	\$ 39,350.36	99.50%	\$ 39,153.17	\$ 40,702.80
2022	1,781	\$ 39,021.71	99.49%	\$ 38,824.52	\$ 40,754.71
2023	1,762	\$ 38,605.42	99.49%	\$ 38,408.23	\$ 40,710.86
2024	1,769	\$ 38,758.79	99.49%	\$ 38,561.60	\$ 41,271.99
2025	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 41,579.72
2026	1,777	\$ 38,934.07	99.49%	\$ 38,736.88	\$ 42,272.08
2027	1,784	\$ 39,087.44	99.50%	\$ 38,890.25	\$ 42,853.28
2028	1,788	\$ 39,175.08	99.50%	\$ 38,977.89	\$ 43,368.66
2029	1,784	\$ 39,087.44	99.50%	\$ 38,890.25	\$ 43,693.09
2030	1,769	\$ 38,758.79	99.49%	\$ 38,561.60	\$ 43,746.30
2031	1,773	\$ 38,846.43	99.49%	\$ 38,649.24	\$ 44,273.27
2032	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 44,502.24
2033	1,758	\$ 38,517.78	99.49%	\$ 38,320.59	\$ 44,757.06
2034	1,754	\$ 38,430.14	99.49%	\$ 38,232.95	\$ 45,090.13
2035	1,746	\$ 38,254.86	99.48%	\$ 38,057.67	\$ 45,321.07
2036	1,765	\$ 38,671.15	99.49%	\$ 38,473.96	\$ 46,263.58
2037	1,792	\$ 39,262.72	99.50%	\$ 39,065.53	\$ 47,432.98
2038	1,831	\$ 40,117.21	99.45%	\$ 39,898.11	\$ 48,916.27
2039	1,862	\$ 40,796.42	99.46%	\$ 40,577.32	\$ 50,234.11
2040	1,881	\$ 41,212.71	99.47%	\$ 40,993.61	\$ 51,244.33
Total	41,048	\$ 899,361.68		\$ 894,760.58	\$ 1,007,818.63

Parks and Recreation Facilities

■ Introduction

Public recreational opportunities are available in Dawson County through a number of parks facilities and programs operated by the County. 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. Thus, the parks and recreation impact fee is limited to future residential growth. The County maintains and operates four parks.

Rock Creek Sports Complex



River Park



Veterans Memorial Park



War Hill Park



■ 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, children active in the little leagues play games at various locations throughout the county, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Dawson County resident can come. As a general rule, parks facilities are located throughout the county, and future facilities will continue to be located around the county so that all residents will have recreational opportunities available on an equal basis. Thus, the entire county is considered a single service area for parks & recreation.

■ Level of Service

The Level of Service (LOS) that the County’s parks and recreation components provide is viewed from two perspectives: the LOS that is provided by the current facilities to the current population, and the LOS adopted as part of the County’s Recreation Master Plan.

Table 11: Current Inventory of Parks and Recreation Components

Facility	Park Acreage	Recreation Component	Current Inventory
Rock Creek Park	50.8	Total Park Acres	202.9
Veterans Memorial Park	40.8	Baseball/Softball Fields	15
River Park	3.3	Basketball Courts (outdoor)	2
War Hill Park	108.0	Multi-Purpose Fields	4
Total Acres	202.9	Picnic Pavilions	4
		Playgrounds	3
		Restroom/Concession	3
		Swimming Pools	1
		Tennis Courts	6
		Buildings:*	
		Gymnasium	17,000
		Maintenance Sheds	4,200
		Office/Concession	2,500
		Recreation Center	36,000
		Senior Rec Center	5,000
		Maintenance Yards**	0.25
		Walking Trails***	1.90
		Parking Spaces	1,255

Footnotes:

* Floor area in square feet. Includes 1 indoor regulation basketball court at the Veterans Memorial Park gym and 2 at the Rock Creek Recreation Center.

** Total acres for 2 yards.

*** Trail miles.

Current Level of Service

Table 12 below provides the current Level of Service in park acreage and facilities per population, converts this to the Level of Service per the number of housing units occupied by that population, and then expresses the Level of Service per housing unit (since impact fees are assessed per housing unit when building permits are issued, not population).

For all facilities, the current Level of Service standards are expressed in terms of the number of people each recreation component serves.

To determine the current LOS, the number of people served by each component is calculated using the current inventory for the component divided into the current population. These LOS 'per population' standards are then re-calculated as the number of housing units served by each component based on the county's number of people living in an average household (the average household size). Since impact fees are assessed at the time a building permit is issued (and the impact fee will be applied only to residential uses), the LOS then must be converted to a 'per housing unit' basis.

Table 12 shows how the current Level of Service for each recreation component is converted to a 'per housing unit' basis. To do this, the current LOS shown in the middle columns of 1 per a 'certain number of' housing units for each component is converted to the LOS per housing unit by dividing the number into '1', which produces the number of components serving one housing unit'.

Table 12: Current Level of Service Calculations

Component Type	Current Level of Service*	Level of Service per "X" Housing Units**	Level of Service per Each Housing Unit***
Total Park Acres	1 per 121 population =	1 per 55 Housing Units =	0.018182 for each Housing Unit
Baseball/Softball Fields	1 per 1,634 population =	1 per 751 Housing Units =	0.001332 for each Housing Unit
Basketball Courts (outdoor)	1 per 12,259 population =	1 per 5,631 Housing Units =	0.000178 for each Housing Unit
Multi-Purpose Fields	1 per 6,129 population =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Picnic Pavilions	1 per 6,129 population =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Playgrounds	1 per 8,172 population =	1 per 3,754 Housing Units =	0.000266 for each Housing Unit
Swimming Pools	1 per 24,517 population =	1 per 11,262 Housing Units =	0.000089 for each Housing Unit
Tennis Courts	1 per 4,086 population =	1 per 1,877 Housing Units =	0.000533 for each Housing Unit
Buildings:			
Gymnasium	1 sq ft per 1,442 population =	1 sq ft per 0.662 Housing Units =	1.509501 for each Housing Unit
Maintenance Sheds	1 sq ft per 5,837 population =	1 sq ft per 2.681 Housing Units =	0.372936 for each Housing Unit
Office/Concession	1 sq ft per 9,807 population =	1 sq ft per 4.505 Housing Units =	0.221985 for each Housing Unit
Recreation Center	1 sq ft per 0.681 population =	1 sq ft per 0.313 Housing Units =	3.196590 for each Housing Unit
Restroom/Concession	1 per 8,172 population =	1 per 3,754 Housing Units =	0.000266 for each Housing Unit
Senior Rec Center	1 sq ft per 4,903 population =	1 sq ft per 2.252 Housing Units =	0.443971 for each Housing Unit
Maintenance Yard acres	1 acre per 98,068 population =	1 acre per 45,048 Housing Units =	0.000022 for each Housing Unit
Walking Trail miles	1 mile per 12,904 population =	1 mile per 5,927 Housing Units =	0.000169 for each Housing Unit
Parking Spaces	1 space per 19,535 population =	1 space per 8,974 Housing Units =	0.111437 for each Housing Unit

* LOS is based on the current inventory divided by the current population.

** Converted using average population per housing unit in 2017.

*** "1" divided by the number of housing units for each component under 'Level of Service per "X" Housing Units' column.

By way of example, the current LOS for basketball courts is 1 court per 12,259 people. That number—12,259—is divided by the 2017 average household size to convert 'people' into 'housing units'. The result is the converted standard of 1 court per 5,631 housing units. By dividing the component (1) by the number of housing units it serves results in the portion of a basketball court that serves 1 housing unit (0.000178).

Master Plan Level of Service

In 2012 the County adopted a Master Plan for all recreation facilities operated by the County. Those LOS standards are shown in Table 13. By-and-large, the current LOS standards compare generally well to the adopted LOS standards, with some exceptions (such as baseball and softball fields, which far outnumber the adopted standard). In many cases, types of recreation components are not the same between the current inventory and the Master Plan facilities. In particular, adopted standards for various building types cannot be compared to the current LOS standards.

Table 13: Adopted Level of Service Calculations

Component Type	Adopted Level of Service*	Level of Service per "X" Housing Units	Level of Service per Each Housing Unit
Total Park Acres	1 per 100 population =	1 per 46 Housing Units =	0.021739 for each Housing Unit
Baseball/Softball Fields	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Basketball Courts (outdoor)	1 per 8,000 population =	1 per 3,675 Housing Units =	0.000272 for each Housing Unit
Football Fields	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Picnic Pavilions	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Playgrounds	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Soccer Fields	1 per 5,000 population =	1 per 2,297 Housing Units =	0.000435 for each Housing Unit
Spraygrounds	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Swimming Pools	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Tennis Courts	1 per 3,500 population =	1 per 1,608 Housing Units =	0.000622 for each Housing Unit
Volleyball Courts	1 per 8,000 population =	1 per 3,675 Housing Units =	0.000272 for each Housing Unit
Buildings:			
Community/Cultural Ctrs	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Maintenance Facilities	1 per park =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Restroom/Concession	1 per 4 fields =	1 per 2,371 Housing Units =	0.000422 for each Housing Unit
Recreation Center	1 per 10,000 population =	1 per 4,594 Housing Units =	0.000218 for each Housing Unit
Senior Rec Center	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Walking/jogging Trails	1 per park =	1 per 2,816 Housing Units =	0.000355 for each Housing Unit
Multi-Purpose Trail System	1 per 20,000 population =	1 per 9,187 Housing Units =	0.000109 for each Housing Unit
Parking	75 per field =	1 per 8 Housing Units =	0.126532 for each Housing Unit

* Dawson County System-Wide Recreation Master Plan: 2012-2017. Adopted February 2012.

Impact Fee LOS Standards

As will be seen below, the impact fee calculations use a combination of LOS standards reflecting current conditions and Master Plan standards where applicable, relevant and useful to the calculations.

First priority is given to the LOS standards adopted in the Master Plan, where those standards relate to actual facilities in the inventory and are based on population. Where an existing category (such as multi-purpose fields) has no comparable component in the Master Plan, the LOS for the current facilities is used. In the case of buildings, the categories between the Plan and actual facilities do not match, and/or the LOS standard differs as to its basis (floor area per population versus number per park). The same is true for maintenance sheds and maintenance yards versus 'maintenance facilities', and parking spaces. Lastly, the LOS for a 'multi-purpose trail system' is not quantified in terms of actual length; establishing an appropriate LOS in the future awaits a trail plan that will quantify this quantifiably.

The standards used in this Methodology Report provide greater clarity to future parks and recreation component development in terms of the County's current activities and planned improvements.

■ **Forecasts for Service Area**

Future Demand

As discussed above, the Level of Service standards used in this Report are an amalgam of standards established in the County’s *Systemwide Recreation Master Plan* (by preference) and current LOS standards in those cases where the Master Plan does not quantify future improvements in a useful way. The relevant LOS standards are shown on Table 14.

The table below applies the relevant Level of Service calculations to determine the facilities needed to meet the demand created by the existing residents of the county as well as the future demand for park lands and recreation components that will be generated by new growth and development.

Table 14: Existing and Future Demand (Parks)

Component Type	LOS per Housing Unit*	Existing Demand (2017)*	New Growth Demand (2017-40)**
Total Park Acres	0.021739	244.83	233.02
Baseball/Softball Fields	0.000435	4.90	4.67
Basketball Courts (outdoor)	0.000272	3.06	2.92
<i>Multi-Purpose Fields</i>	0.000355	4.00	3.81
Picnic Pavilions	0.000435	4.90	4.67
Playgrounds	0.000435	4.90	4.67
Swimming Pools	0.000109	1.23	1.17
Tennis Courts	0.000622	7.00	6.67
Buildings:			
<i>Gymnasium (sf)</i>	1.509501	17,000	16,180
<i>Maintenance Sheds (sf)</i>	0.372936	4,200	3,997
<i>Office/Concession (sf)</i>	0.221985	2,500	2,379
<i>Recreation Center (sf)</i>	3.196590	36,000	34,264
<i>Restroom/Concession (#)</i>	0.000266	3.00	2.86
<i>Senior Rec Center (sf)</i>	0.443971	5,000	4,759
<i>Maintenance Yard (acres)</i>	0.000022	0.25	0.24
<i>Walking Trails (miles)</i>	0.000169	1.90	1.81
<i>Parking (spaces)</i>	0.111437	1,255	1,194

* 2017 Housing Units = 11,262
 ** New Units (2017-2040) = 10,719

Notes:

All LOS figures from *Systemwide Recreation Master Plan* except those in italics, which are current LOS figures.
 Multi-Purpose fields serve as football and soccer fields. Basketball courts double as volleyball courts.
 Multi-Purpose Trail System not quantified, pending preparation of a trail system plan.

The current number of housing units (11,202) is multiplied by the LOS standard to determine the existing demand of today’s population. Since existing demand is used in the calculation of a few of

Parks and Recreation Facilities

the LOS standards, some of the existing demand figures on Table 14 are the same as the 'current inventory' figures on Table 11; these facilities are those shown on Table 14 in italics.

The increase in housing units between 2017 and 2040 (10,719 - see Table 2) is multiplied by the same LOS to produce the future demand created by future growth.

Impact Fee Eligibility

New recreation components are eligible for impact fee funding only to the extent that the improvements are needed to specifically serve new growth and development, and only at the Level of Service applicable countywide. Table 15 shows the number of new recreation components that are needed to satisfy needs of the county's future residents, and the extent to which fulfillment of those needs will serve future growth demand.

The table begins with the current inventory of recreation components, and the 'existing demand' for those components to meet the needs of the current (2017) population based on the applicable Level of Service standards (shown on Table 14).

Table 15: Future Park Facility Impact Fee Eligibility

Component Type	Current Inventory	Existing Demand	Excess or (Shortfall)	New Growth Demand	Net Total Needed	Total Needed*	% Impact Fee Eligible
Total Park Acres	202.94	244.83	(41.89)	233.02	274.91	274.91	84.76%
Baseball/Softball Fields	15	4.90	10.10	4.67	(5.43)	-	
Basketball Courts (outdoor)	2	3.06	(1.06)	2.92	3.98	4.00	99.53%
Multi-Purpose Fields	4	4.00	0.00	3.81	3.81	4.00	95.16%
Picnic Pavilions	4	4.90	(0.90)	4.67	5.57	6.00	77.78%
Playgrounds	3	4.90	(1.90)	4.67	6.57	7.00	66.66%
Swimming Pools	1	1.23	(0.23)	1.17	1.39	2.00	58.34%
Tennis Courts	6	7.00	(1.00)	6.67	7.67	8.00	83.33%
Buildings:							
Gymnasium (sf)	17,000	17,000	0	16,180	16,180	16,180	100.00%
Maintenance Sheds (sf)	4,200	4,200	0	3,997	3,997	3,997	100.00%
Office/Concession (sf)	2,500	2,500	0	2,379	2,379	2,379	100.00%
Recreation Center (sf)	36,000	36,000	0	34,264	34,264	34,264	100.00%
Restroom/Concession (#)	3	3	0	2.86	2.86	3.00	95.18%
Senior Rec Center (sf)	5,000	5,000	0	4,759	4,759	4,759	100.00%
Maintenance Yard (acres)	0.25	0	0	0.24	0.24	0.24	100.00%
Walking Trails (miles)	1.9	1.9	0	1.81	1.81	1.81	100.00%
Parking (spaces)	1,255	1,255	0	1,194	1,194	1,194	100.00%

* For recreation components that can only be built in whole numbers: 'Net Total Needed' rounded up to next whole number. For park acres, building floor areas, maintenance yard acres, walking trails, and parking spaces, actual number shown.

The 'Excess or (Shortfall)' column compares the existing demand to the current inventory for each recreation component. If an 'excess' were to exist, that would mean that more components (or portions of components) exist than are needed to meet the demands of the current population, and those 'excesses' would create capacity to meet the recreational needs of future growth. This is the case for one component in Dawson County—baseball/softball fields.

Conversely, a 'shortfall' indicates that there are not enough components (or portions of components) to meet the recreational needs of the current population based on the Level of Service standard (e.g., park acres, basketball courts and playgrounds, etc.).

The column on Table 15, labeled 'New Growth Demand', shows the total demand for recreation components specifically to meet future growth needs (from Table 14), and the 'Net Total Needed' column shows all existing and future needs combined. The current 'shortfall' in park acres, playgrounds and several other components, is added to new growth's facility needs to bring the current population up to the current Level of Service required to be available to all—both current and future residents.

For many components, the 'Total Needed' column is rounded up to whole numbers. This is simply because the County cannot build a portion of a facility; it must build an entire facility. As a result, the '% Impact Fee Eligible' column may reflect a percentage less than 100%.

For example, existing residents suffer a 'shortfall' in playgrounds based on the LOS standard. New growth mathematically demands 4.67 new playgrounds; together, 6.57 playgrounds are needed to bring the current residents and future residents up to the same Level of Service. The County cannot build a portion of a playground; it must build an entire playground for it to be usable. Thus 7 playgrounds need to be added, and the portion of the 7 new playgrounds that is impact fee eligible (4.67) results in the percentage that is impact fee eligible (66.66%); 27.18% of the total goes to satisfy existing demand, and the remainder (6.15%) is excess capacity available to serve new growth beyond the current planning horizon. As such, the excess capacity could be recouped through impact fees at that time, but cannot be charged to new growth between now and 2040.

The outlier is baseball/softball fields. The 15 existing fields in the inventory provides an 'excess capacity' of about ten fields using the LOS standard adopted in the Master Plan. This 'excess capacity' exceeds the 'raw' demand created by new growth (4.67 fields). As a result, no additional fields will be needed in the foreseeable future.

Future Costs

Table 16 is a listing of the future capital project costs to provide the additional recreation components needed to attain or address the applicable Level of Service standards.

Costs are based on cost estimates provided in the *Systemwide Recreation Master Plan* for all recreation components except buildings. For new building construction, the actual amount spent by the County on each such facility in the past was raised to 2012 dollars using the Building Construction Index (BCI) from the actual year of each expenditure. All of these 2012 figures in the 'Net Cost per Unit' column are then increased to the gross cost to account for a contingency (10%) and professional services (7%)—a figure also taken from the Master Plan.

The cost estimates provided in the Master Plan were developed for the 2012 report; these are increased to current (2017) figures using the CPI inflation rate. In similar fashion, the building construction costs calculated in 2012 equivalent dollars are increased to 2017 values using the BCI inflation rate.

The 2017 figures in the 'Total Needed' column are drawn from the 'Total Needed' column in Table 15. These totals, multiplied by the 2017 per unit costs, establish the total cost in current dollars for each recreation component. These 'Total Cost (2017)' figures on the Table are converted to 'New Growth Share' dollars based on the percentage that each improvement is impact fee eligible (also from Table 15).

Amounts in the 'New Growth Share' column are reduced to the extent that certain projects are deferred from impact fee funding, as follows: The number of acres of park land and the number of parking spaces are deferred from impact fee parking to the extent of 50% of the impact fee eligible amount; while the total cost of the Aquatic Center is deferred in favor of alternate funding sources.

The calculation of Net Present Value is explained following the table.

Table 16: Future Costs to Meet Future Demand for Parks and Recreation

Component Type	2012 Cost Estimates		Current (2017) Cost Estimates			Percent Impact Fee Eligible	New Growth Share	2030 Net Present Value***
	Net Cost per Unit*	Gross Cost per Unit**	Per Unit Cost (2017)	Total Needed	Total Cost (2017)			
Park Acres****	\$ 18,000	\$ 21,060	\$ 22,665	274.91	\$ 6,230,786	84.76%	\$ 2,640,719	\$ 2,995,770
Baseball/Softball Fields	\$ 250,000	\$ 292,500	\$ 345,044	-	\$ -		\$ -	\$ -
Basketball Courts (outdoor)	\$ 50,000	\$ 58,500	\$ 69,009	4	\$ 276,036	99.53%	\$ 274,740	\$ 395,649
Multi-Purpose Fields	\$ 150,000	\$ 175,500	\$ 207,026	4	\$ 828,104	95.16%	\$ 788,037	\$ 1,134,839
Picnic Pavilions	\$ 50,000	\$ 58,500	\$ 69,009	6	\$ 414,054	77.78%	\$ 322,032	\$ 463,753
Playgrounds	\$ 75,000	\$ 87,750	\$ 103,513	7	\$ 724,591	66.66%	\$ 483,046	\$ 695,626
Aquatic Center (deferred)	\$ 11,000,000	\$ 12,870,000	\$ 13,774,166	1	\$ 13,774,166	58.34%	\$ -	\$ -
Tennis Courts	\$ 75,000	\$ 87,750	\$ 103,513	8	\$ 828,104	83.33%	\$ 690,022	\$ 993,690
Buildings:								
Gymnasium (sf)	\$ 113	\$ 132	\$ 141	16,180	\$ 2,281,380	100.00%	\$ 2,281,380	\$ 2,550,964
Maintenance Sheds (sf)	\$ 75	\$ 87	\$ 93	3,997	\$ 371,721	100.00%	\$ 371,721	\$ 415,646
Office/Concession (sf)	\$ 147	\$ 172	\$ 184	2,379	\$ 437,736	100.00%	\$ 437,736	\$ 489,462
Recreation Center (sf)	\$ 113	\$ 132	\$ 141	34,264	\$ 4,831,224	100.00%	\$ 4,831,224	\$ 5,402,116
Restroom/Concession (#)	\$ 200,000	\$ 234,000	\$ 250,439	3	\$ 751,317	95.18%	\$ 715,092	\$ 799,593
Senior Rec Center	\$ 186	\$ 218	\$ 233	4,759	\$ 1,108,847	100.00%	\$ 358,847	\$ 401,251
Maintenance Yard (acres)	\$ 18,000	\$ 21,060	\$ 22,665	0.24	\$ 5,393	100.00%	\$ 5,393	\$ 6,118
Walking Trails (miles)	\$ 158,400	\$ 185,328	\$ 218,620	1.81	\$ 395,375	100.00%	\$ 395,375	\$ 569,373
Parking (spaces)****	\$ 1,600	\$ 1,872	\$ 2,208	1,194	\$ 2,636,352	100.00%	\$ 1,318,176	\$ 1,898,284
				Total	\$ 35,895,186		\$ 15,913,540	\$ 19,212,136

* Cost figures drawn from *Systemwide Recreation Master Plan* (2012 estimates) for all component types except buildings. Per square foot costs for buildings derived from actual costs from the Fixed Assets listing, raised to 2012 equivalent costs.

** Includes contingency at 10% and planning/architectural/engineering/legal services at 7%.

*** Actual construction dates will vary. NPV based on CPI, CCI or BCI as appropriate, in an average construction year of 2030. New Growth Share for the Senior Rec Center reflects a reduction for a \$750,000 grant.

**** Cost per park or maintenance yard acre includes land acquisition and site preparation. Impact fee funding for park land acquisition and new parking spaces partially deferred at 50%.

Note: All cost figures shown rounded to nearest whole dollar.

The Net Present Value of new growth’s share of the cost for each component is calculated as follows: Since the annual ‘pace’ of component construction over the 2017-2040 period is not known, an ‘average’ year of 2030 is used for Net Present Value calculations—some improvements will occur earlier for less money, and some later at greater cost. All will average out.

To calculate the Net Present Value (NPV) of the impact fee eligible cost estimate for the construction of the recreation components, the NPVs are calculated by increasing the current (2017) estimated costs using Engineering News Record’s (ENR) 10-year average building cost inflation (BCI) rate for buildings (such as gymnasiums) and the 10-year average CPI rate for all other projects. All project costs are then reduced to current NPV dollars using the Net Discount Rate.

Fire Protection

■ Introduction

Fire protection services are provided to the entire county through the Dawson County 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 Emergency Services department provides service throughout Dawson County, including the City of Dawsonville, which overall totals 211 square miles of coverage area 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. Much of the data in this chapter is drawn from the *Fire Services Assessment* prepared by the Georgia Mountains Regional Commission published in November, 2016. As a convention, the term 'fire protection services' is used in this

chapter to apply to all fire and EMS services provided by the Emergency Services Department.



■ 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 and EMS services because all residents and employees within the county have equal access to the benefits of the program.



■ Level of Service

Current Inventory

Fire protection and emergency medical services are provided currently by 8 stations with a combined square footage of 26,016, comprising 25 bays and utilizing a total of 29 heavy vehicles. In addition, the department maintains a facility, which includes a burn building,



Fire Protection

for training. Table 17 presents the 2017 inventory of facilities and impact fee eligible apparatus in the county.

Table 17: Current Capital Improvements

Stations			Vehicles*							
Facility	Floor Area (Sq Ft)	Bays	Engine	Tender	Tanker	Brush	Battalion	Medic	Squad	Total
Station 1 - Memory Lane	7,632	3	1	1		1	1	1		5
Station 2 - Liberty Drive	3,900	4	1	1				1	1	4
Station 3 - Harmony Church Rd	2,784	3	1	1				1		3
Station 4 - Emma Terrace	2,100	3	1	1						2
Station 5 - Kelly Bridge Road	1,800	3	1	1	1					3
Station 6 - Hubbard Road	3,800	4	1	1		1		1	1	5
Station 7 - Dawson Forest Road	2,000	3	2	1				1	1	5
Station 8 - Monument Road	2,000	2	1	1						2
Total Existing System**	26,016	25	9	8	1	2	1	5	3	29

* Vehicles having a service life of 10 years or more.

** In addition to the stations, the department operates a fire training facility, which includes a burn building.

The current capital improvements from Table 17 are translated into the current Level of Service (LOS) for fire protection and emergency medical services in Dawson County on Table 18.

Table 18: Level of Service Calculations - 2017

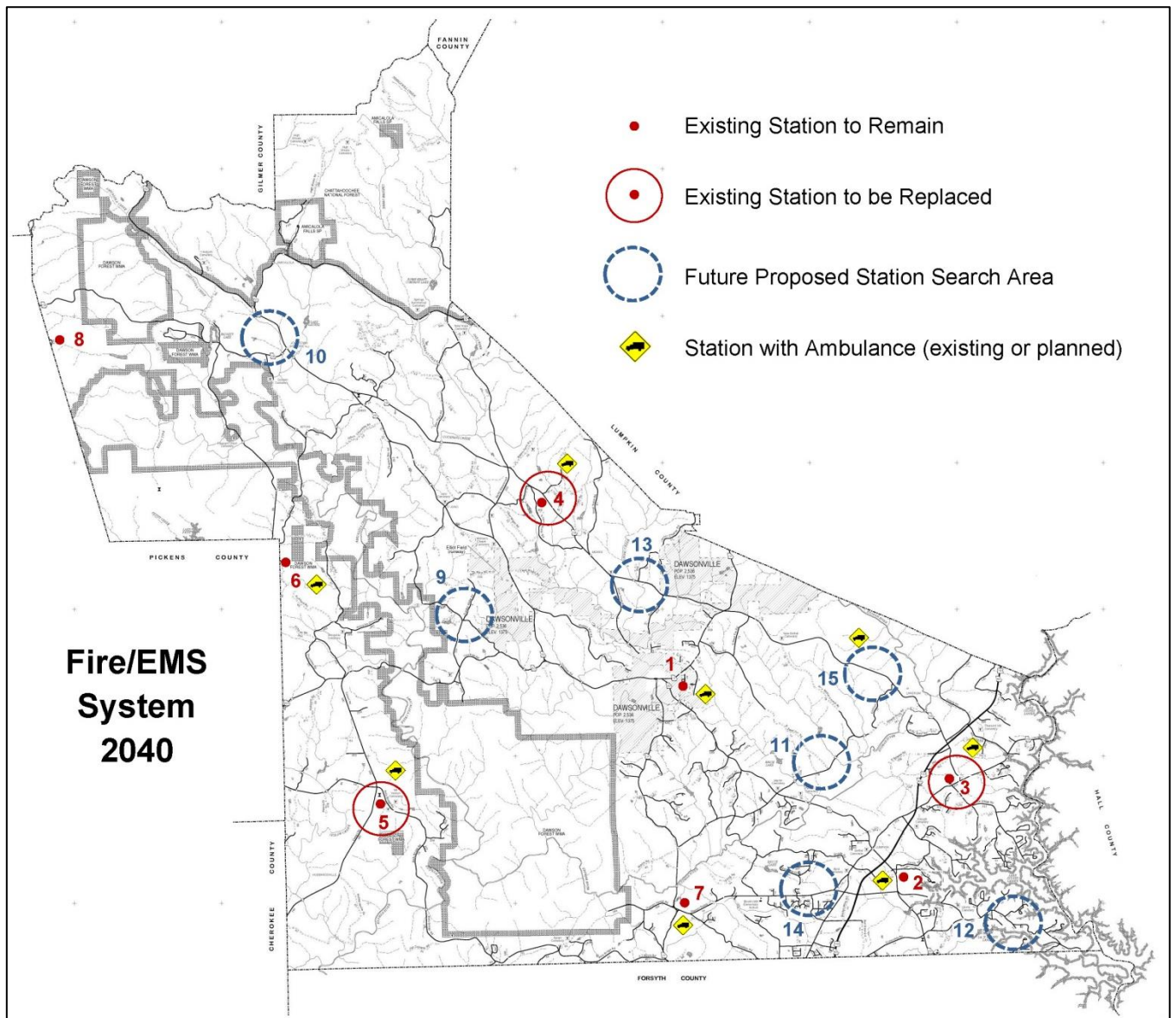
Facility	Current Service Population	Level of Service
Total Existing Floor Area	2017 Day-Night Population	Square Feet per 2017 Day-Night Population
26,016	34,807	0.747436
Total Existing Station Bays	2017 Day-Night Population	Bays per 2017 Day-Night Population
25	34,807	0.000718
Total Existing Vehicles	2017 Day-Night Population	Vehicles per 2017 Day-Night Population
29	34,807	0.000833

The current LOS is measured in terms of the number of vehicles (engines, tankers, medic units, etc.), and the number of square feet and vehicle bays in the fire stations, per day-night population in the service area. Day-night population is used as a measure in that fire protection services are available on a 24-hour basis, provided continuously to both residences and businesses throughout the county.

Future System

In order to adequately serve future growth and development in the county to 2040, a number of stations will need to be built and new vehicles purchased. Overall, future plans call for the replacement (and enlargement) of three aging and obsolete stations and the construction of ultimately seven new stations (four by 2040) strategically located throughout the county. Importantly, the current Fire/EMS system of facilities has capacity available to accommodate a portion of future growth, which reduces the overall need for new facilities.

The map below conceptualizes the future planned Fire/EMS system as currently envisioned. It is important to bear in mind that future growth patterns could produce changes in the location of some stations or the order in which construction would need to occur. Three stations (11, 13 and 14) will not be built before 2040, but land will be acquired for them before 2040.



Fire Protection

A key factor in determining future station locations is consideration of achieving ISO standards with regard to response times and road miles to be travelled within each fire service district. As the county grows, population concentrations will increase in high-growth areas, new commercial buildings and multi-family complexes will be built, and inevitably traffic congestion will mount on major roads. As a result, 'densification' of fire service districts in the growing areas of the county—primarily the GA 400/Lake Area and the area extending from there to Dawsonville and beyond (as shown on the County's Comprehensive Plan map)—will be needed to maintain and possibly increase service and decrease response times. This would have the added benefit of potentially reducing fire insurance premiums as a result.

Future System Improvements

The future system to be achieved by 2040, as currently envisioned, is summarized on the table below. The table excludes the construction of Stations 11, 13 and 14, and the acquisition of vehicles for those stations, which will be deferred until after 2040.

Table 19: Future Fire/EMS System - 2040

Stations			New Bays Added**	Vehicles Added*				Year of Addition
Facility	Existing Bays	Existing Vehicles		Engine	Tender	Medic	Ladder	
Station 1 - Memory Lane	3	5					1	2020
Station 2 - Liberty Drive	4	4					1	2023
Replace Station 3 - Harmony Church Rd	3	3	1	1				2023
Replace Station 4 - Emma Terrace	3	2	1	1		1		2022
Replace Station 5 - Kelly Bridge Road	3	3	1			1		2020
Station 6 - Hubbard Road	4	5						
Station 7 - Dawson Forest Road	3	5						
Station 8 - Monument Road	2	2						
New Stations:								
Station 9 - Sweetwater Juno Road			3	2	1			2019
Station 10 - SR 183 Area			2	1	1			2021
Station 11 - Etowah River Road Area			0	0	0			2025
Station 12 - War Hill Park Rd Area			1	1				2028
Station 13 - SR 136 at Shoal Creek Area			0	0	0			2031
Station 14 - Dawson Forest at Red Rider Area			0	0	0			2034
Station 15 - SR 136 at Cothran Road Area			4	2	1	1		2037
Total Future System (2040)***	25	29	13	8	3	3	2	

* Excludes vehicles relocated from Stations 3, 4 and 5 when the stations are replaced. Impact fee funding for equipment for Stations 11, 13 and 14 deferred. For all stations, types of vehicles may vary from the "standard complement" depending on the individual needs of each service area.

** Excludes replacement of 3 bays each at existing Stations 3, 4 and 5 when replacement stations built. Impact fee funding for construction of Stations 11, 13 and 14 deferred, except for land acquisition.

*** In addition to the stations, expansion of the training facility and burn building is proposed in 2024.

Note: New station search areas are approximate; specific station locations will reflect growth patterns and land availability, which may also affect the order of construction.

In summary, the future system is planned to include 15 existing and new stations (a net increase of 4 by 2040 and 7 eventually) and an expansion of the fire training center.

In addition, a net increase of 25 vehicles (16 by 2040 and 9 thereafter for a total of 54), including 2 new ladder trucks and an increase of 3 new ambulances are planned. As part of the program, three 3-bay existing but obsolete stations are proposed to be replaced with modern, 4-bay facilities.

Using the figures from Table 19 for both the existing facilities and planned improvements, Table 20 shows the resulting LOS calculations for the system as of 2040.

As can be seen on the table, the LOS standards for the future system are lower than for the current system, which is a result of taking advantage of the residual capacity in the existing system to provide service to at least a portion of anticipated growth. Applying the current LOS factors from Table 18 to all future growth, for instance, would have projected a future need for as many as 12 or 14 new stations, instead of 7, and as many as 56 more vehicles, not 25.

Table 20: Future Level of Service Calculations - 2040

Facility	Future Service Population	Level of Service
Total Future Floor Area	2040 Day-Night Population	Square Feet per 2040 Day-Night Population
34,090	67,560	0.504589
Total Future Station Bays	2040 Day-Night Population	Bays per 2040 Day-Night Population
38	67,560	0.000562
Total Future Vehicles	2040 Day-Night Population	Vehicles per 2017 Day-Night Population
45	67,560	0.000666



■ Future Costs

There are three categories of future costs: those for facilities (new station construction and the training center), those for new vehicle purchases, and those for the Fire Hydrant Extension program.

Table 21: Timing of Future Fire/EMS Facility Projects

Year	Day-Night Pop Increase over 2017	Incremental Demand		
		Station Number	New Bays Added *	New Vehicles
2017	34,807			
2018	1,224			
2019	2,462	9	3	3
2020	3,723	5**	1	2
2021	5,003	10	2	2
2022	6,308	4	1	2
2023	7,633	3***	1	2
2024	8,982			
2025	10,355	11****	0	0
2026	11,748			
2027	13,162			
2028	14,593	12	1	1
2029	16,043			
2030	17,505			
2031	18,983	13****	0	0
2032	20,479			
2033	21,983			
2034	23,497	14****	0	0
2035	25,020			
2036	26,556			
2037	28,096	15	4	4
2038	29,641			
2039	31,198			
2040	32,753			
Totals	32,753		13	16

* Excludes replacement of 3 bays each at existing Stations 3, 4 and 5 when replacement stations built.

** Includes one ladder truck for Station 1.

*** Includes one ladder truck for Station 2.

**** Impact fee funding for station construction (except land acquisition) and equipment deferred.

As a prologue to the **facility and system improvements**, Table 21 shows the anticipated timing of the projects and expenditures. Timing for near-term system improvements has been determined using two factors: first, immediate needs identified from the County’s Capital Improvements Program (CIP) and to meet growing service demands in areas experiencing much of the recent increases in development; and second, to extend service to the far northern portion of the county not currently well-served.

Once the immediate needs of the system are addressed, additional project are related to future increases in the day-night population—correlating increases in service to the growing demands of future growth and development—as well as increasing service into pockets of areas less served than others.

As to the **Fire Hydrant Extension Program**, the schedule of hydrant installations is closely coordinated with the extension of and upgrades to major water lines in high-growth areas by the Etowah Water and Sewer Authority.

The three categories—facility costs, vehicle costs, and the fire hydrant extension program—are discussed separately below.

Facility Costs

The estimated costs of the facility projects scheduled on Table 21 for the stations are shown on Table 22. Costs shown in the 'Current (2017) Dollars' columns are based on the current gross per-bay cost of a standard three-bay fire station (\$460,000 in total impact fee eligible capital cost per bay), drawn from the *Fire Services Assessment* report prepared by the Georgia Mountains Regional Commission (GMRC) in 2016. Since the 'per bay' costs are determined by dividing the total cost of construction of a standard station by the number of resulting bays, the gross cost per bay therefore includes a portion of the cost of administrative and other space in a standard station.

For Stations 11, 13 and 14, only land acquisition costs are considered for impact fee funding in the current program. These costs (\$125,000 per station in current dollars) are also drawn from the *Fire Services Assessment* report prepared by the GMRC in 2016. Four stations listed on the table (4, 5, 9 and 10) are needed to meet LOS standards but will be funded with SPLOST revenue instead of impact fees.

The 2017 total dollar amounts for impact fee funded projects are then converted to Net Present Value using ENR's 10-year average Building Construction Index (BCI) for the appropriate years. (NPV calculations are discussed fully in the Adjustments and Credits chapter).

The 'percent impact fee eligible' figure on Table 22 for Station 3 reflects the 3-bays that are not impact fee eligible because they will be replaced by the new 4-bay stations. Stations 11, 13 and 14 are 100% impact fee eligible and, thus, so are the land acquisition costs.

Table 22: Impact Fee Costs - Facilities

Facility	Current (2017) Dollars			Future Cost		Impact Fee Eligible	
	Replaced Bays	New Bays Added*	Total Cost	Year	Net Present Value**	Percent Eligible	Eligible Cost
Station 9		\$ 1,380,000	\$ 1,380,000	2019	n/a ***	n/a ***	\$ -
New Station 5	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2020	n/a ***	n/a ***	\$ -
Station 10		\$ 920,000	\$ 920,000	2021	n/a ***	n/a ***	\$ -
New Station 4	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2022	n/a ***	n/a ***	\$ -
New Station 3	\$ 1,380,000	\$ 460,000	\$ 1,840,000	2023	\$ 1,937,339	25%	\$ 484,335
Station 11****		\$ -	\$ 125,000	2025	\$ 133,894	100%	\$ 133,894
Station 12		\$ 460,000	\$ 460,000	2028	\$ 505,594	100%	\$ 505,594
Station 13****		\$ -	\$ 125,000	2031	\$ 140,977	100%	\$ 140,977
Station 14****		\$ -	\$ 125,000	2034	\$ 144,658	100%	\$ 144,658
Station 15		\$ 1,840,000	\$ 1,840,000	2037	\$ 2,184,961	100%	\$ 2,184,961
Training Center		\$ 207,919	\$ 207,919	2024	\$ 220,807	100%	\$ 220,807
	\$ 4,140,000	\$ 6,187,919	\$ 10,702,919		\$ 5,268,229		\$ 3,815,226

* Based on an average cost per bay for a three-bay station of \$460,000.

** Net Present Value = 2017 cost estimate per fire station bay inflated to target year using the ENR Building Cost Index (BCI), reduced to NPV using Discount Rate.

*** Funded with SPLOST revenue.

**** Impact fee funding for station construction and equipment deferred; land acquisition estimated at \$125,000 in current (2017) dollars.

Fire Protection

Vehicle Costs

Vehicle costs are calculated in much the same way as the facility costs. The 2017 costs for a new engine, tender and medic vehicle (ambulance) are drawn from the *Fire Services Assessment* report. The current cost for a ladder truck is drawn from recent purchase history of other jurisdictions.

The vehicles to be purchased for Station 9, and one ladder truck, are scheduled to be purchased with SPLOST revenue. All other vehicles are 100% impact fee eligible in that they add new capacity to serve future growth and development.

The Net Present Value calculation, in this case, is based on the 10-year average CPI (as discussed in the Adjustments and Credits chapter).

Table 23: Impact Fee Costs - Vehicles

Facility	Engine	Tender	Medic	Ladder	Total Cost (2017)	Year	Net Present Value*
Station 9	n/a **	n/a **	\$ -	\$ -	\$ -	2019	\$ -
New Station 5	\$ -	\$ -	\$ 250,000	\$ -	\$ 250,000	2020	\$ 257,385
Station 1	\$ -	\$ -	\$ -	n/a **	\$ -	2020	\$ -
Station 10	\$ 400,000	\$ 300,000	\$ -	\$ -	\$ 700,000	2021	\$ 727,705
New Station 4	\$ 400,000	\$ -	\$ 250,000	\$ -	\$ 650,000	2022	\$ 682,315
New Station 3	\$ 400,000	\$ -	\$ -	\$ -	\$ 400,000	2023	\$ 423,981
Station 2	\$ -	\$ -	\$ -	\$ 1,100,000	\$ 1,100,000	2023	\$ 1,165,947
Station 11***	\$ -	\$ -	\$ -	\$ -	\$ -	2025	\$ -
Station 12	\$ 400,000	\$ -	\$ -	\$ -	\$ 400,000	2028	\$ 445,059
Station 13***	\$ -	\$ -	\$ -	\$ -	\$ -	2031	\$ -
Station 14***	\$ -	\$ -	\$ -	\$ -	\$ -	2034	\$ -
Station 15	\$ 800,000	\$ 300,000	\$ 250,000	\$ -	\$ 1,350,000	2037	\$ 1,639,157
					\$ 4,850,000		\$ 5,341,548

* Net Present Value = 2017 cost estimate for vehicles inflated to target year using the Consumer Price Index (CPI), reduced to NPV using Discount Rate.

** Equipment funded with SPLOST revenue.

*** Impact fee funding for vehicle costs for Stations 11, 13 and 14 deferred.



Fire Hydrant Extensions

The Etowah Water and Sewer Authority is in the process of executing a program of extending new major water mains and replacing some undersized distribution water mains in various parts of the county. All of these mains will provide increased pressures and flows that will now support fire hydrants. 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.

The 15-year program is detailed on Table 24 as to the number of hydrants to be installed on an annual basis in coordination with the Authority’s scheduled extension and upgrade efforts.

Table 24: Fire Hydrant Extension Program

Year	Number of Hydrants	Cost (2017 \$)	Cost (NPV)
2017	3	\$ 11,895	\$ 11,895
2018	14	\$ 55,510	\$ 57,089
2019	11	\$ 43,615	\$ 46,132
2020	12	\$ 47,580	\$ 51,758
2021	11	\$ 43,615	\$ 48,794
2022	12	\$ 47,580	\$ 54,745
2023	18	\$ 71,370	\$ 84,454
2024	37	\$ 146,705	\$ 178,538
2025	22	\$ 87,230	\$ 109,178
2026	8	\$ 31,720	\$ 40,831
2027	10	\$ 39,650	\$ 52,490
2028		\$ -	\$ -
2029	18	\$ 71,370	\$ 99,936
2030		\$ -	\$ -
2031	12	\$ 47,580	\$ 70,469
2032	21	\$ 83,265	\$ 126,829
Total	209	\$ 828,685	\$ 1,033,137

The 2017 cost shown on the table is the average cost to add an elbow connection and a standard hydrant to a main as it is installed. The Net Present Value is the current cost inflated to each future year using the ENR’s Construction Cost Index (CCI), reduced by the discount rate to 2017 equivalent dollars.

Average Hydrant Cost = \$ 3,965.00

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

For impact fee purposes, this chapter focuses on the Law Enforcement Center and the operations contained within it. The current year (2017) Level of Service is based on the inventory of the number of inmate beds in the facility and the overall floor area of the Law Enforcement Center. Statistics for the facility are shown in Table 25.

Impact fees are based on increases in capacity to serve new growth and development in the county. Thus, utilization of the detention facility to specifically serve county residents and businesses is related directly to persons that have committed a crime in Dawson County punishable under County laws, and that are held in the jail at least overnight. Other detention activities, such as prisoners awaiting transfer to a State or federal facility, or housed under contract, while a legitimate law enforcement activity, are not occasioned by service directly provided to serve county residents and businesses.

Current utilization limited to Dawson County growth demands only is estimated at 50% of the beds on an average daily basis. This percentage is applied to the Center’s existing 192 beds and shown on Table 25.

Table 25: Inventory of Sheriff's Facilities

Facility	Square Feet	Beds*
County Sheriff's Headquarters and Jail	68,480	96

* Of the Detention Center's 192 beds, utilization by persons arrested, convicted or serving time for crimes committed in Dawson County is estimated at 50% on an average daily basis.

As noted, the Level of Service for law enforcement services in Dawson County is measured in terms of beds per day-night population. Day-night population is used as a measure in that the Sheriff’s Office provides its services on a 24-hour basis.

Table 26: Level of Service Calculation

Applicable Number of Beds	Current Day/Night Population	Beds per Day-Night Population
96	34,807	0.0028

The current LOS, shown in Table 26 is 0.0028 beds per day-night population, based on the Dawson County utilization of all beds available as discussed above.

■ **Forecasts for Service Area**

Future Demand

Table 27 presents the calculations carried out in order to determine the future service demand for detention facility beds in Dawson County. In this Table the current Level of Service from Table 26 is applied to future growth. The 'Day-Night Population Increase' figure is taken from the Day-Night Population table in the Future Growth appendix attached to this Report. The additional number of forecasted day-night population to the year 2040 is multiplied by the Level of Service to produce the future demand figure.

As discussed above, Dawson County utilization specifically for its residents and businesses leaves 96 beds available for non-county driven purposes. In effect, these beds represent a resource for increases in future county-driven utilization as the number of county residents and employees grows, along with the inevitable increase in crimes perpetrated within the county. While new growth will

Law Enforcement

generate a total need for 90 beds to serve the needs of growth and development in Dawson County, the 'residual' 96 beds currently available for non-county use today are available to meet county-driven needs in the future.

As can be seen on Table 27, only 90 beds are needed to meet future demand created by new growth and development. Since this is fewer than the beds available, no additional beds are specifically needed for Dawson County inmates, and no expansion of the jail for county-specific needs is proposed.



Table 27: Future Demand Calculation

Beds per Day-Night Population	Day-Night Pop Increase (2017-40)	New Beds Needed
0.0028	32,753	90
Less: Residual capacity in existing facility		(96)
Net new beds needed		-6

As noted above, an expansion of the Law Enforcement Center (or a stand-alone facility) would be justified and probable to cover all functions of the Sheriff’s Office, including beds available for non-county specific incarcerations. However, whatever final form and size a new project might take, none of the cost of a new, larger facility could be funded with impact fees.

Road Improvements

■ Introduction

The information in this chapter is derived from road project information reflecting currently on-going and proposed road projects.

■ 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 Standards

Two types of Level of Service standards are used for road improvements: one for the design of roadways at a designated operational level, and one for the actual accommodation of traffic to be generated by new growth and development. The latter standard allows the cost of improvements to the road system to be equitably allocated between improvements that accrue to existing traffic today and improvements that will accommodate traffic generated by future growth and development.

Operational Design Standards

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 roads operating with unencumbered travel; Level of Service F is the worst rating, representing operational conditions of 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 operational design 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.

Road Improvements

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', a level to which it will strive ultimately. However, interim road improvement projects that do not result in a LOS of 'D' will still provide traffic relief to current and future traffic alike and are thus eligible for impact fee funding.

Accommodating Future Traffic

Regardless of the design of roads in the system, the system must address the future traffic demands that will be created by new growth and development.

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 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of all road improvements in the system that create new capacity. This approach recognizes that some improvements to the road system do not create new capacity—such as resurfacing, road maintenance, bridge replacements with the same number of lanes, etc.

It is noted that the cost-impact of non-Dawson County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Dawson County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Dawson County residents and businesses.

The basis for the road impact fee would therefore be Dawson County's cost for the improvements that create new capacity divided by all traffic in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, the cost per trip (above) would be applied to the number of trips that will be generated by the new development when a building permit is issued, assuring that new growth would only pay its 'fair share' of the road improvements that serve it. All other (non-capacity) improvements would be the cost responsibility of the current base of residents and businesses, including the creation of new capacity that exceeds the needs of future 2040 traffic.

■ Forecasts for Service Area

Of the several road projects that are on-going, the County has identified those that provide an increase in road capacity that will serve new growth; these are shown on Table 28. This is not a list of all County road projects. These projects were selected for inclusion in the County's impact fee program because the specific improvements proposed will increase traffic capacity and reduce congestion to some extent, whether through road widening, improved intersection operations or upgraded signalization.

In addition, the County is currently preparing a Transportation Plan that will address all of the road system improvements needed to fully serve new growth and development to 2040. The challenge to the County is to address the identified future demand that will be placed on the road system in the future and to both serve it with new capacity created in its currently on-going projects and to fully plan additional improvements to the system to accommodate all future traffic.

Table 28: Road Projects and Estimated Costs

Project Description	Total County Cost*	Year of Completion	Net Present Value**
Kelly Bridge Road, full depth reclamation and widening both lanes	\$ 2,200,000.00	2018	\$ 2,262,592.57
Lumpkin Campground Road, lane addition and lane widening	\$ 4,000,000.00	2019	\$ 4,230,847.21
Red Rider Road, right-of-way acquisition and road widening	\$ 1,200,000.00	2019	\$ 1,269,254.16
Sweetwater Juno Road, road widening and resurfacing	\$ 1,300,000.00	2019	\$ 1,375,025.34
Couch Road, road widening and resurfacing	\$ 3,500,000.00	2020	\$ 3,807,317.28
Grant Road East, upgrade dirt to pavement and road widening	\$ 800,000.00	2020	\$ 870,243.95
Shoal Creek - Shoal Creek Road Bridge, replacement with additional lanes and weight	\$ 2,500,000.00	2020	\$ 2,719,512.35
Amicalola River - Goshen Church Bridge, replacement with additional lanes and weight	\$ 1,500,000.00	2021	\$ 1,678,131.39
Whitmire Drive West, add third (center turn) lane	\$ 800,000.00	2021	\$ 895,003.41
Prepare Transportation Plan (in house)	\$ -	2020	\$ -
Total	\$ 17,800,000.00		\$ 19,107,927.67

* Total cost of project less grants or other non-County assistance.

** Net Present Value = current cost inflated to target year using the ENR Construction Cost Index, (CCI) reduced to NPV using the Discount Rate.

The cost figures shown in the 'Total County Cost' column of Table 28 are the current project cost figures. These figures are then calculated in Net Present Value (as discussed in the Cost Adjustments and Credits chapter) and shown in the last column, based on the year of project expenditure.

■ Eligible Costs

As discussed thoroughly in the *Trip Generation* section of the Appendix, new residential and nonresidential growth and development will represent 44.68% of the traffic on Dawson County's road network in 2040. To that extent, new growth's fair share of the road project costs that are attributed to new growth are shown on the following table. This percentage represents new growth's portion of system improvements that create the capacity needed to serve it, while the remaining 55.32% represents that portion of those projects that do not create new capacity, such as resurfacing, road maintenance, lane replacements during bridge widenings, and so forth.

Road Improvements

Table 29: Eligible Cost Calculations

Project*	Net Present Value	% Impact Fee Eligible*	New Growth Cost (NPV)
Kelly Bridge Road, full depth reclamation and widening both lanes	\$ 2,262,592.57	44.67786%	\$ 1,010,877.84
Lumpkin Campground Road, lane addition and lane widening	\$ 4,230,847.21	44.67786%	\$ 1,890,251.81
Red Rider Road, right-of-way acquisition and road widening	\$ 1,269,254.16	44.67786%	\$ 567,075.54
Sweetwater Juno Road, road widening and resurfacing	\$ 1,375,025.34	44.67786%	\$ 614,331.84
Couch Road, road widening and resurfacing	\$ 3,807,317.28	44.67786%	\$ 1,701,027.72
Grant Road East, upgrade dirt to pavement and road widening	\$ 870,243.95	44.67786%	\$ 388,806.34
Shoal Creek - Shoal Creek Road Bridge, replacement with additional lanes and weight	\$ 2,719,512.35	44.67786%	\$ 1,215,019.80
Amicalola River - Goshen Church Bridge, replacement with additional lanes and weight	\$ 1,678,131.39	44.67786%	\$ 749,753.12
Whitmire Drive West, add third (center turn) lane	\$ 895,003.41	44.67786%	\$ 399,868.33
Prepare Transportation Plan (in house)	\$ -	0%	\$ -
Total	\$ 19,107,927.67		\$ 8,537,012.34

* See the *Trip Generation* section in the Appendix. Actual % of trips: 44.6778557%

Exemption Policy

The Dawson County Board of Commissioners adopted its initial statement on Exemptions in its Impact Fee Ordinance. The following updates that statement as part of the Capital Improvements Program:

Dawson County recognizes that certain office, retail trade, lodging, service and industrial development projects provide extraordinary benefit in support of the economic advancement of the county and its citizens over and above the access to jobs, goods and services that such uses offer in general.

To encourage such development projects, the board of commissioners may consider granting a reduction in the impact fee for such a development project upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Dawson County in accordance with adopted exemption criteria.

It is also recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees.

Community Work Program

In 2018, a new and complete Community Work Program within the Comprehensive Plan update will be prepared for all project activities, including the specific impact fee eligible projects below.

5-Year Work Program: Impact Fee Eligible Projects

Project Description	2018	2019	2020	2021	2022	Responsible Party	Cost Estimate	Funding Source	Notes/ Explanation
Library Services									
Purchase collection materials	X	X	X	X	X	Dawson Co. Library	\$195,503	99.5% impact fees; SPLOST	On-going annual purchases
Parks & Recreation									
Acquire park land			X			Parks & Recreation Dept.	\$800,000	84.76% impact fees; SPLOST	140 acres
Senior Rec Center		X	X			Senior Services	\$401,251	100% impact fees	Cost excludes \$750,000 grant
Law Enforcement									
New Jail	X					Sherriff's Office	\$45,715.05	100% impact fees	Wrap-up to previous new jail project identified in the 2006 CIE
Fire Protection									
Purchase fire engine for Station 4					X	Emergency Services	\$400,000	100% impact fees	
Purchase medic vehicle for Station 4					X	Emergency Services	\$250,000	100% impact fees	
Purchase medic vehicle for Station 5			X			Emergency Services	\$250,000	100% impact fees	
Purchase fire engine for Station 10				X		Emergency Services	\$400,000	100% impact fees	
Purchase tender for Station 10				X		Emergency Services	\$300,000	100% impact fees	

Project Description	2018	2019	2020	2021	2022	Responsible Party	Cost Estimate	Funding Source	Notes/ Explanation
Install fire hydrants	x	x	x	x	x	Etowah Water and Sewer Authority	\$237,900	100% impact fees	Annual installation in accordance with the Authority's schedule
Road Improvements									
Kelly Bridge Road, full depth reclamation and widening both lanes	x					Public Works	\$2,200,000	44.68% impact fees; SPLOST	
Lumpkin Campground Road, lane addition and lane widening		x				Public Works	\$4,000,000	44.68% impact fees; SPLOST	
Red Rider Road, right-of-way acquisition and road widening		x				Public Works	\$1,200,000	44.68% impact fees; SPLOST	
Sweetwater Juno Road, road widening and resurfacing		x				Public Works	\$1,300,000	44.68% impact fees; SPLOST	
Couch Road, road widening and resurfacing			x			Public Works	\$3,500,000	44.68% impact fees; SPLOST	
Grant Road East, upgrade dirt to pavement and road widening			x			Public Works	\$800,000	44.68% impact fees; SPLOST	
Shoal Creek – Shoal Creek Road Bridge, replacement with additional lanes and weight limit increase			x			Public Works	\$2,500,000	44.68% impact fees; SPLOST	
Amicalola River – Goshen Church Bridge, replacement with additional lanes and weight limit increase				x		Public Works	\$1,500,000	44.68% impact fees; SPLOST	
Whitmire Drive West, add third (center turn) lane.				x		Public Works	\$800,000	44.68% impact fees; SPLOST	
Transportation Plan	x	x	x			Public Works	\$0	Prepared by staff	

Community Work Program

Project Description	2018	2019	2020	2021	2022	Responsible Party	Cost Estimate	Funding Source	Notes/ Explanation
Update impact fee Capital Improvements Element with road improvements			x	x		Public Works	\$0	Prepared by staff	Consultant assistance, if needed, will not be charged to road impact fee fund

Appendix: 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.

Eligible facilities: 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 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 county 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, county, or intergovernmental agreement in which a defined set of public facilities provide service to development within the area. Service areas in Dawson may 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 county 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."

Appendix: Future Growth

In order to accurately calculate the demand for future services for 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 2040. These projections provide the base-line conditions from which the current (2017) Level of Service calculations are produced.

■ Types of Projections

Accurate projections of population, households, housing units, and employment are important in that:

- Population data and forecasts are used to establish current and future demand for services where the Level of Service (LOS) standards are per capita based.
- Household data and forecasts are used to forecast future growth in the number of housing units.
- Housing unit data and forecasts relate to certain service demands that are household based, such as parks, and are used to calculate impact costs when the cost is assessed when a building permit is issued. The number of households—defined as *occupied* housing units—is always smaller than the supply of available housing units. Over time, however, each housing unit is expected to become occupied by a household, even though the unit may become vacant during future re-sales or turnovers.
- Employment forecasts are refined to reflect 'value added' employment figures. This reflects an exclusion of jobs considered to be transitory or non-site specific in nature, and thus, not requiring building permits to operate (i.e., are not assessed impact fees).

'Value added' employment data is combined with population data to produce what is known as the 'day-night population.' These figures represent the total number of persons receiving services, both in their homes and in their businesses, to produce an accurate picture of the total number of persons that rely on certain 24-hour services, such as fire protection.

The projections used for each public facility category are specified in each public facility chapter.

■ Population and Housing Unit Forecasts

Population projections reflect the growth that is expected over the next 22 years. Based on the county’s rebound from the Great Recession and anticipated continuing growth in the housing market, the ultimate population forecast for 2040 is estimated at 50,000 people—basically a doubling of the number of people in the county today.

The most recent the population estimate for Dawson County published by the Census Bureau was published for 2016. This figure is used as the ‘starting point’ for the projections.

Between 2016 and the total population figure for 2040, the average annual increase is 0.9416%. This annual increase over each preceding year is applied to each year to calculate the intervening years throughout the forecast period.

The following table presents the forecast for population for each year from 2017 to 2040² and also provides a forecast for housing units over the same period. The figures shown are, in essence, mid-year estimates reflecting Census Bureau practice. In other words, the increase in population between 2017 and 2040 would actually be from July 1, 2017 to July 1, 2040.

Population and Housing Projections

	Total Population	Avg. Household Size	Occupied Housing Units	Occupancy Rate	Total Housing Units
2016	23,604	2.423	9,740	89.4%	10,897
2017	24,517	2.436	10,066	89.4%	11,262
2018	25,453	2.428	10,481	89.4%	11,726
2019	26,412	2.424	10,896	89.4%	12,190
2020	27,394	2.421	11,314	89.4%	12,658
2021	28,396	2.420	11,733	89.4%	13,127
2022	29,418	2.421	12,149	89.4%	13,592
2023	30,459	2.425	12,560	89.4%	14,052
2024	31,519	2.430	12,973	89.4%	14,514
2025	32,595	2.435	13,385	89.4%	14,975
2026	33,687	2.441	13,800	89.4%	15,439
2027	34,794	2.448	14,216	89.4%	15,905
2028	35,915	2.454	14,634	89.4%	16,372
2029	37,048	2.462	15,050	89.4%	16,838
2030	38,193	2.470	15,463	89.4%	17,300
2031	39,348	2.478	15,877	89.4%	17,763
2032	40,512	2.487	16,289	89.4%	18,224
2033	41,684	2.496	16,699	89.4%	18,683
2034	42,863	2.505	17,109	89.4%	19,141
2035	44,047	2.515	17,516	89.4%	19,597
2036	45,235	2.523	17,928	89.4%	20,058
2037	46,425	2.530	18,347	89.4%	20,526
2038	47,617	2.536	18,774	89.4%	21,004
2039	48,809	2.541	19,208	89.4%	21,490
2040	50,000	2.545	19,647	89.4%	21,981
Increase 2017-2040	25,483		9,581		10,719

To estimate the number of housing units each year, the number of occupied housing units is first determined. This is calculated by dividing the population each year by the average household size. For household sizes, estimates published this year by Woods & Poole Economics (a nationally recognized source also accepted by the State) were relied upon.

To find the total number of housing units, vacant units must be added in. This was determined by using an ‘occupancy rate’ based on the proportion of occupied units to vacant units for the last data point available—the American Community Survey published in 2015 by the Census Bureau. Dividing the number of occupied units by the occupancy rate produces the total number of housing units.

² 2016 is shown on the table for consistency with the Census Bureau’s estimate.

■ Employment Forecasts

The table below shows the forecasts for employment growth countywide in Dawson County, from 2017 to 2040. The employment figures for Dawson County are based on forecasts published by Woods & Poole Economics in their latest (2017) *Georgia Profile* for Dawson County. Woods & Poole counts jobs, not just employed people, which captures people holding two or more jobs, self-employed sole proprietors and part-time workers. This gives a more complete picture than Census figures (the number of people with jobs).

In the table below the total employment figures are refined to show what is referred to as 'non-building related' jobs. 'Non-building related' jobs are those that do not normally require issuance of a building permit, and thus would not be assessed an impact fee. Such jobs include any employment that is considered to be transitory in nature, such as those working on construction sites or are strictly land-based such as farming and other agricultural workers.

This is done to better measure the services being provided by the County, which in this report will be measured and, ultimately, assessed based on structures.

Employment Projections

	Total Employment	Non-Building Related*	Government	Private Sector Employment
2016	12,328	1,127	1,202	9,999
2017	12,652	1,144	1,218	10,290
2018	12,974	1,162	1,234	10,578
2019	13,283	1,176	1,250	10,857
2020	13,594	1,192	1,266	11,136
2021	13,903	1,208	1,281	11,414
2022	14,217	1,222	1,298	11,697
2023	14,531	1,237	1,313	11,981
2024	14,850	1,252	1,328	12,270
2025	15,172	1,263	1,342	12,567
2026	15,500	1,275	1,357	12,868
2027	15,832	1,286	1,371	13,175
2028	16,165	1,295	1,385	13,485
2029	16,505	1,305	1,398	13,802
2030	16,845	1,314	1,412	14,119
2031	17,189	1,322	1,425	14,442
2032	17,543	1,330	1,439	14,774
2033	17,895	1,337	1,452	15,106
2034	18,249	1,344	1,464	15,441
2035	18,607	1,350	1,477	15,780
2036	18,974	1,357	1,489	16,128
2037	19,342	1,363	1,501	16,478
2038	19,713	1,370	1,512	16,831
2039	20,095	1,375	1,524	17,196
2040	20,477	1,382	1,535	17,560
Increase 2017-2040	7,825	238	317	7,270

The table also shows the number of workers employed by governmental entities (county, state and federal) as estimated by Woods & Poole for each year. Governments are exempt from impact fees, whether a building is to be constructed or not.

The last column on the table shows what is called 'private sector employment', although it also includes nonprofits and institutions. The numbers are derived by subtracting the 'non-building related' workers and the 'government' workers from the total employment figures. Businesses employing these 'private sector' workers are the ones that would be most likely to be assessed an impact fee.

* Includes farm, forestry, mining and construction workers.
Source: 2017 Georgia Profile, Woods & Poole, Economists.

■ Service Area Projections

The entire county is a single service area because all Dawson County services being considered for impact fee funding serve all residents and business in the county, whether in the unincorporated area or within the City of Dawsonville.

As explained in the text of this report, impact fees for the library services and the parks & recreation facilities are paid exclusively by residential uses. Thus, the housing unit count and projections presented earlier form the basis for those impact fee calculations.

For the fire protection and law enforcement categories, the 24-hour service population—called the day-night population—is used for overall Level of Service calculations. Impact fees in these categories are assessed on a per-housing unit basis or on a per-nonresidential square foot basis, depending on the use.

The day-night population calculation is a combination of the population projections and future ('private sector') employment projections discussed earlier in this Appendix. The use of day-night population in impact fee calculations is based upon the clear rational nexus between persons and services demanded on a 24-hour basis.

Day-Night Population

	Total Population	Private Sector Employment	Total Day-Night Population
2016	23,604	9,999	33,603
2017	24,517	10,290	34,807
2018	25,453	10,578	36,031
2019	26,412	10,857	37,269
2020	27,394	11,136	38,530
2021	28,396	11,414	39,810
2022	29,418	11,697	41,115
2023	30,459	11,981	42,440
2024	31,519	12,270	43,789
2025	32,595	12,567	45,162
2026	33,687	12,868	46,555
2027	34,794	13,175	47,969
2028	35,915	13,485	49,400
2029	37,048	13,802	50,850
2030	38,193	14,119	52,312
2031	39,348	14,442	53,790
2032	40,512	14,774	55,286
2033	41,684	15,106	56,790
2034	42,863	15,441	58,304
2035	44,047	15,780	59,827
2036	45,235	16,128	61,363
2037	46,425	16,478	62,903
2038	47,617	16,831	64,448
2039	48,809	17,196	66,005
2040	50,000	17,560	67,560
Increase 2017-2040	25,483	7,270	32,753

The day-night population is used to determine Level of Service standards for facilities that serve both the resident population and business employment. The fire department, for instance, protects one's house from fire whether or not they are at home, and protects stores and offices whether or not they are open for business. Thus, this 'day-night' population is a measure of the total services demanded of a 24-hour service provider facility and a fair way to allocate the costs of such a facility among all of the beneficiaries.

Impact fee calculations for road improvements, on the other hand, are based on the number of vehicle trips generated by homes and businesses onto the county's road system. These trip generation figures are translated into per-housing unit and per-nonresidential floor area fees using the different trip rates specific to each type of land use.

This is discussed more thoroughly in the next Appendix Section.

Appendix: Trip Generation

In order to calculate new growth and development's fair share of the cost of road improvements, it is necessary to establish how much of the future traffic on Dawson County's roads will be generated by new growth, over and above the traffic generated by the county's residents and businesses today. This Appendix Section describes the process through which this determination is made.

■ Summary

A Level of Service must be established for road improvements in order to assure that, ultimately, existing development and new growth are served equally. This Section also presents the process through which new growth and development's 'fair share' of road improvement costs is calculated, and tables summarizing the technical portions of this methodology are included.

Level of Service

The County has set its Level of Service for road improvements at LOS "D", a level below which most roads in the county operate. Using this LOS maximizes roadway capacity before traffic conditions actually break down (LOS "F").

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 2040 will represent a certain portion of all 2040 traffic, new growth would be responsible for that portions' cost of the road improvements.

It is noted that the cost-impact of non-Dawson County generated traffic on the roads traversing the county (cross commutes) is off-set by state and federal assistance. The net cost of the road projects that accrues to Dawson County reasonably represents (i.e., is 'roughly proportional' to) the impact on the roads by Dawson County residents driving to and from their homes, and commuters that come in to work in the county.

The basis for the road impact fee would therefore be Dawson County's cost for the improvements divided by all traffic generated within the county in 2040 (existing today plus new growth)—i.e., the cost per trip—times the traffic generated by new growth alone. For an individual land use, when a building permit is issued, the cost per trip would be applied to the number of trips that will be generated by the new development, assuring that new growth would only pay its 'fair share' of the road improvements that serve it.

Approach

This methodology proceeds along the following lines:

- Total traffic currently generated by Dawson County residents and businesses in 2017 on the road system within the county is calculated from trip generation and commuting data. Various data sources are relied upon to determine current conditions, as explained in each appropriate section, below.
- Future Dawson County-generated traffic from new growth in the county is calculated from housing unit and employment forecasts to 2040.
- The portion of total 2040 traffic that is generated by new housing units and employment in the county establishes the percentage of Dawson County's cost of the future road improvements that can be included in an impact fee.

Summary Table

The table below shows how the portion of 2040 traffic generated by new growth is calculated. The figures represent all trips generated by land use, including pass-by and diverted trips.

Average Daily Trip Ends Generated by New Growth

	2017	2040	Increase	Percent New Growth Trip Ends
Residential Trips	105,056	205,046	99,990	↓
Nonresidential Trips	242,393	413,650	171,257	
Less: Internal Commutes*	(9,080)	(15,496)	(6,416)	
Net New Trip Ends	338,369	603,200	264,831	43.9%

* Residents who work in Dawson County. These trips to and from work are included in the residential trips, above.

The next table, below, calculates the Primary Trip Ends generated by existing and future traffic by deleting pass-by and diverted trips, as discussed below.

Primary Daily Trip Ends Generated by New Growth

	Percent Primary Trip Ends*	Primary Trip Ends			Percent New Growth Primary Trip Ends
		2017	2040	Increase	
Residential Trips	80%	83,619	163,207	79,587	↓
Commercial	51%	117,129	199,885	82,756	
Industrial+Utility	92%	11,222	19,148	7,926	
Less: Internal Commutes	100%	(9,080)	(15,496)	(6,416)	
Net New Primary Trip Ends		202,890	366,743	163,853	44.7%

* Derived from 'Trip Generation Handbook' chapter, *Trip Generation*, 9th Edition, Institute of Transportation Engineers.

Overall, new residents and businesses located within Dawson County will generate 53% (more accurately, 44.6778557%) of all Dawson County vehicles on its roads. Thus, new growth's 'fair share' of the cost to the County to provide road improvements to serve current and future traffic cannot exceed this figure.

■ Pass-by and Diverted Trips

The impact of new growth and development on Dawson County's road network is the increased traffic added to the system, expressed by transportation engineers as 'trips'. Every 'trip' has two ends—a beginning at its origin and an end at its destination (known as 'trip ends'). There are three types of trips, defined as:

A **Primary Trip** (and its trip ends)—a vehicle travelling from its original beginning to its intended final destination. Driving from one's home to one's place of work is an example of a primary trip.

A **Pass-by Trip**—a vehicle travelling along its usual route from its origin to its final destination that stops off at an intermediate location for any reason. A trip from home to work that stops along the way for gas, dropping off a child at daycare, picking up coffee or dinner, or for any other reason, represents a 'pass-by' trip at the intermediate location.

A **Diverted Trip** (previously called a diverted 'link' trip)—a vehicle that diverts from its normal primary route between its origin to its final destination, and takes a different route to stop off at an intermediate location for any reason. While a pass-by trip remains on its normal route, a diverted trip changes its route to other streets to arrive at the intermediate stop.

New primary trips add vehicles to the road network. Pass-by and diverted trips involve the same vehicles stopping off between their original beginnings and their final destinations, and therefore do not add new vehicles to the road network—the vehicles were already there on their way to their final destinations.

These different types of trips result in different types of 'trip ends'. On a home-to-daycare-to-work trip, for instance, there are two primary trip ends (home and work) and two pass-by or diverted trip ends: arriving at the daycare center and leaving from there to drive to work, for instance. The net impact on the road network, however, is created by the one vehicle and its two primary trip ends.

Impact fee calculations take note of these pass-by and diverted trip ends as not adding to the overall traffic on the road network, and deletes them from the total trip ends reported in ITE's *Trip Generation* manual. While the table above uses overall average percentages of primary trip ends derived from ITE for broad land use categories, the actual percentage for each land use listed on the impact fee schedule for roads is applied to the total trip ends to determine the primary trip ends attributed to that land use.

Although both summary tables above reflect about the same percentage of 2040 traffic that will be generated by new growth, the increase in primary trip ends from the second table will play an important role in calculating the per-trip road impact fee.

■ Residential Trip Generation

Average trip generation rates published by the Institute of Transportation Engineers (ITE) differentiate between ‘single-family detached housing’ and ‘apartments’. The closest correlations with the US Census definitions are ‘single-family units’ and ‘multi-family units’, which are shown on the following table.

Residential Units by Type: 2017 and 2040

	2015*	Percent**	Total in 2017***	Increase 2017-2040	Total in 2040
Single-Family Units	9,837	93.3%	10,510	10,003	20,513
Multi-Family Units	704	6.7%	752	716	1,468
Total	10,541	100.0%	11,262	10,719	21,981

* Based on American Community Survey report (Census Bureau).


** Percent of 2015 total housing units.

*** See Forecasts chapter for housing unit projections.

The 2015 breakdown of housing units by type on the table above are taken from the most recent American Community Survey for Dawson County (published by the Census Bureau). The 2015 percentage by housing type (single-family and multi-family) is calculated, and applied to the total number of housing units projected in 2017 (taken from the Future Growth Appendix of this report). It is assumed that these percentages will persist into the future, producing a breakdown of the projected 10,719 new housing units forecast for the 2017-2040 period.

The next table, below, calculates the amount of traffic that is generated by the county’s housing stock today, and the amount that will be generated in 2040.

Residential Trip Generation: 2017-2040 New Growth Increase

	ADT* Trip Ends	2017 Units	2017 ADT Trip Ends	2040 Units	2040 ADT Trip Ends	Increase 2017-2040	Percent New Growth Trip Ends
Single-Family Units	9.52	10,510	100,055	20,513	195,284	95,229	
Multi-Family Units	6.65	752	5,001	1,468	9,762	4,761	
Total		11,262	105,056	21,981	205,046	99,990	48.8%

* Average Daily Traffic (trip ends) on a weekday; Institute of Transportation Engineers *Trip Generation*, 9th Edition. Total includes trips to/from work.

The calculations are made on the basis of ‘average daily traffic’ on a normal weekday, using average trip generation rates derived through multiple traffic studies (350 for single-family and 86 for apartments) and published by ITE. The rates are expressed for ‘trip ends’—that is, traffic both leaving and coming to a housing unit.

Comparing traffic in 2017 to 2040, the future increase in trip ends can be calculated, which will represent 48.8% of all residential trip ends generated in the county.

It should be noted that the traffic generated includes trips to and from work and, more particularly, residents who work at a business within the county.

■ Nonresidential Trip Generation

Calculating traffic generated by businesses located in Dawson County is more problematical than residential trips because there is no breakdown of types of businesses in the county that is readily available. In addition, while employment forecasts have been made in terms of the number of jobs, there is no data available for floor areas, much less by detailed type of use.

The alternate is to view nonresidential traffic generation on a broad 'average' basis. For this, there is data available from ITE for a number of individual uses relating to the total number of trips generated per employee. These trips, of course, include not only trips taken by the employees (to/from work, lunch, etc.) but also customers and others that are attracted to the use, serve it or are served by it in some way.

The Average Daily Traffic (ADT) numbers on the following table, therefore, are calculated by dividing all trips to a use—employees, customers, deliveries to or from, etc.—by the number of employees alone. Since there is more data available for the average number of employees per 1,000 square feet of floor area, it enables a determination of the average total trips generated by the use by the same floor area (and thus the number per '1' square foot of floor area for impact fee calculations).

The table on the following page shows the 'trips per employee' per 1,000 square feet of floor area for those uses for which impact fees are commonly collected and for which the data is available.

Overall, the average trip generation rate of all uses shown on the following table is 10.21 trips per employee for 'industrial' uses and 25.31 for all 'commercial' uses. The 'industrial' category includes such uses as manufacturing and assembly, storage and transportation of goods; the 'commercial' category includes all sales and service uses such as stores, offices, motels, banks, amusements and private institutions). The last column shows the average rate for all 'commercial' uses listed, as opposed to the 'industrial' uses shown in the column on its left.

Although the 'overall' averages are useful for projecting total traffic generation, impact fees for particular uses will reflect the actual average trip generation rate for the specific use.

Appendix: Trip Generation

ITE Trips-per-Employee Data

			<u>ADT</u>		<u>Average</u>	<u>Average</u>
	<u>ITE</u>	<u>LAND USE</u>	<u>Trip Ends</u>		<u>by</u>	<u>All</u>
	<u>CODE</u>		<u>per Employee</u>		<u>Category</u>	<u>Commercial</u>
<i>Port and Terminal (000-099)</i>	30	Intermodal Truck Terminal	6.99	}	10.21	}
<i>Industrial (100-199)</i>	110	General Light Industrial	3.02			
	120	General Heavy Industrial	0.82			
	140	Manufacturing	2.13			
	150	Warehousing	3.89			
	151	Mini-Warehouse	32.47			
	152	High-Cube Warehouse	22.13			
<i>Lodging (300-399)</i>	310	Hotel or Conference Motel	14.34	}	13.58	
	320	Motel	12.81			
<i>Recreational (400-499)</i>	430	Golf Course	20.52	}	34.79	
	443	Movie Theater	53.12			
	460	Arena	10.00			
	480	Amusement Park	8.33			
	490	Tennis Courts	66.67			
	491	Racquet/Tennis Club	45.71			
	492	Health/Fitness Center	46.71			
	495	Recreational Community Center	27.25			
<i>Institutional (500-599)</i>	520	Private Elementary School	15.71	}	29.58	
	530	Private High School	19.74			
	560	Church/Place of Worship	26.24			
	565	Day Care Center	28.13			
	566	Cemetery	58.09			
<i>Medical (600-699)</i>	610	Hospital	4.50	}	5.26	
	620	Nursing Home	3.26			
	630	Clinic	8.01			
<i>Office (700-799)</i>	710	General Office Building	3.32	}	4.18	
	714	Corporate Headquarters Building	2.33			
	715	Single-Tenant Office Building	3.70			
	720	Medical-Dental Office Building	8.91			
	760	Research and Development Center	2.77			
	770	Business Park	4.04			
<i>Retail (800-899)</i>	812	Building Materials and Lumber Store	32.12	}	32.86	
	814	Variety Store	66.70			
	815	Free-Standing Discount Store	28.84			
	816	Hardware/Paint Store	53.21			
	817	Nursery (Garden Center)	21.83			
	818	Nursery (Wholesale)	23.40			
	826	Specialty Retail Center	22.36			
	841	Automobile Sales	21.14			
	850	Supermarket	87.82			
	854	Discount Supermarket	40.36			
	860	Wholesale Market	8.21			
	861	Discount Club	32.21			
	875	Department Store	11.56			
	890	Furniture Store	12.19			
<i>Services (900-999)</i>	912	Drive-in Bank	30.94			
						25.31

Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers, where survey results given for key land uses.

We know from the 2010 Census how many people worked in Dawson County based on commuting patterns. The next table provides a breakdown between commercial and industrial employment in the county and calculates trip ends generated by each.

Tax base valuations give us some clue as to the breakdown. When the County's 'industrial' and 'utility' tax valuations are combined, the figures suggest that a little over 88% of all uses are 'commercial' in nature, while almost 12% are industrial. These percentages, applied to total employment in the county, give us the estimated number of employees in 2010 in each category.

Nonresidential Trip Generation: 2010 Census

	Tax Base		Percent of Total	2010 Employees	Average ADT	Total Nonres Trip Ends	
Commercial	\$ 235,135,994	}	\$ 235,135,994	88.4%	7,049	25.31	178,410
Industrial	\$ 6,269,281		\$ 30,892,635	11.6%	1,581	10.21	16,138
Utility	\$ 24,623,354						
Total Nonresidential	\$ 266,028,629		\$ 266,028,629		7,583		194,548
				Internal Commutes*	3,644	times 2 =	(7,288)
					Net Nonres Trips		187,260

* Residents who work in Dawson County. These trips are included in residential trip generation rate.

The table calculates the total number of trips using the average rates for commercial and industrial from the ITE Trips-per-Employee Data table on the previous page. From the total of all nonresidential trips is deducted the number of trips to/from work generated by county residents, since these trips have already been calculated as part of the residential trip generation rates (i.e., county residents driving to/from work at county establishments).

Lastly, the following table calculates the total number of trip ends that will be generated by new nonresidential growth in future traffic on Dawson County's roads.

Nonresidential Trip Generation: 2017-2040 New Growth Increase

	2017 Employees	2017 Trip Ends	2040 Employees	2040 Trip Ends	2017-2040 Increase	Percent New Growth Trip Ends
Commercial	9,095	230,195	15,521	392,837	162,642	
Industrial+Utility	1,195	12,198	2,039	20,813	8,615	
Total	10,290	242,393	17,560	413,650	171,257	
Less: Internal Commutes at	3.75%	(9,080)		(15,496)	(6,416)	
Net Nonres Trip Ends		233,313		398,154	164,841	

The preceding table shows the number of trip ends currently generated by Dawson County businesses based on 2017 employment. The trip ends by use are distributed using the same percentages calculated on the previous table. The same calculations are made for the year 2040 based on projected employment in the county, and the difference between 2017 and 2040 represents trip ends generated by future growth and development. This totals 41.4% of all nonresidential 2040 trip ends.

The results of the residential and nonresidential trip generation analyses are combined on the Summary table at the beginning of this Appendix Section for an overall calculation of new growth's share of future traffic generated by Dawson County residents and businesses. From these figures, pass-by and diverted trip ends are then deleted to determine primary trip ends, which more closely relates to vehicles on the road and thus contribute to traffic congestion.

■ Terminology

This Methodology uses the term 'average daily traffic' (ADT) for a weekday, which is defined by ITE as the 'average weekday vehicle trip ends', which are "the average 24-hour total of all vehicle trips counted from a study site from Monday through Friday."

Additionally, ITE defines a 'trip or trip end' as "a single or one-direction vehicle movement with either the origin or the destination (exiting or entering) inside a study site. For trip generation purposes, the total trip ends for a land use over a given period of time are the total of all trips entering plus all trips exiting a site during a designated time period".

Lastly, ITE defines 'average trip rate' as "the weighted average of the number of vehicle trips or trip ends per unit of independent variable (for example, trip ends per occupied dwelling unit or employee) using a site's driveway(s). The weighted average rate is calculated by dividing the sum of all independent variable units where paired data is available. The weighted average rate is used rather than the average of the individual rates because of the variance within each data set or generating unit. Data sets with a large variance will over-influence the average rate if they are not weighted.

A RESOLUTION

ADOPTING CRITERIA FOR EXEMPTIONS TO BE CONSIDERED UNDER THE
DAWSON COUNTY DEVELOPMENT IMPACT FEE ORDINANCE

WHEREAS, the Dawson County Board of Commissioners has adopted a Development Impact Fee Ordinance in accordance with the Georgia Development Impact Fee Act (O.C.G.A. § 36-71-1 *et seq.*); and,

WHEREAS, said Development Impact Fee Ordinance provides for the granting of exemptions from the imposition of impact fees, in whole or in part, in accordance with adopted exemption criteria; and,

WHEREAS, the Dawson County Exemption Policy and Criteria attached hereto and incorporated herein, has been prepared in order to authorize and guide the granting or denial of exemptions from impact fees under the Exemption Policy established in the Dawson County Development Impact Fee Ordinance;

NOW THEREFORE BE IT RESOLVED, the Dawson County Board of Commissioners hereby adopts the Dawson County Exemption Policy and Criteria attached hereto and incorporated herein, to become effective upon the effective date of the Dawson County Development Impact Fee Ordinance.

Adopted this ____ day of _____, 2018.

BY: _____
Billy Thurmond, Chairman

ATTEST: _____
Kristan Cloud, County Clerk

DAWSON COUNTY EXEMPTION POLICY AND CRITERIA

Sec. 1. - EXEMPTION POLICY

The following Exemption Policy was adopted as part of the Dawson County Development Impact Fee Act:

Dawson County recognizes that certain office, retail trade, lodging, service and industrial development projects provide extraordinary benefit in support of the economic advancement of the county and its citizens over and above the access to jobs, goods and services that such uses offer in general.

To encourage such development projects, the board of commissioners may consider granting a reduction in the impact fee for such a development project upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Dawson County in accordance with adopted exemption criteria. [underlining added]

It is also recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees.

Sec. 2. - DAWSON COUNTY IMPACT FEE EXEMPTION CRITERIA

In furtherance of the Dawson County Development Impact Fee Ordinance adopted on ~~April 4, 2006~~ August 16, 2018, and as such ordinance may be amended from time to time, the Board of Commissioners do hereby adopt the following criteria to guide the granting of an exemption, in whole or in part, from the impact fees applicable to a particular development project in accordance with the Exemption Policy set forth above and contained in the latest adopted Capital Improvements Element.

Sec. 2.1. - Exemption Criteria: Services

(a) Findings

- (1) The Board of Commissioners of Dawson County finds that certain non-profit institutions foster and support extraordinary economic development and employment growth of public benefit to Dawson County through the provision of a stable and socially beneficent religious environment that will attract and support a highly qualified labor force, which in turn cultivates business development and expansion in the county.
- (2) The Board of Commissioners of Dawson County finds that certain non-profit, accredited educational institutions foster and support extraordinary economic development and employment growth of public benefit to Dawson County in an equal manner to public schools, and are instrumental in creating and attracting a highly qualified labor force in the county that will cultivate business development and expansion.
- (3) To encourage such service development projects, the Board of Commissioners has determined that churches and other places of religious worship, and accredited private non-profit schools, are always exempt, without the necessity of individual approval by

the Board of Commissioners otherwise required below. These administrative exemptions are based on the determination of the Board of Commissioners that the above uses always provide “extraordinary benefit” as set out above.

(b) Institutions

An institution shall be granted a 100% exemption by the Impact Fee Program Administrator from all applicable impact fees upon the determination that the new construction or expansion project meets all of the following criteria:

- (1) The institution that will own and occupy the new construction or expansion project is protected as a ‘religious institution’ under the federal Religious Land Use and Institutionalized Persons Act of 2000, 42 U.S.C.A. §§ 2000cc to—5 (West Supp. 2001).
- (2) The institution that will own and occupy the new construction or expansion project has been recognized as tax-exempt by the U.S. Internal Revenue Service as an organization operated exclusively for religious purposes under Section 501(c)(3) of the Internal Revenue Code.
- (3) The new construction or expansion project is clearly designed to accommodate the institution’s unique or individual occupancy and operational characteristics that are related to the religious exercise or assembly of the institution.

(c) Private Schools

A private school shall be granted a 100% exemption by the Impact Fee Program Administrator from all applicable impact fees upon the determination that the new construction or expansion project meets all of the following criteria:

- (1) The corporation or other entity that will own and occupy the new construction or expansion project has adopted articles of organization (as defined by and acceptable to the U.S. Internal Revenue Service) that limits it exclusively to education purposes, and to the primary purpose of educating children or young adults on its premises, and its tax-exempt status has been recognized by the U.S. Internal Revenue Service under Section 501(c)(3) of the of the Internal Revenue Code.
- (2) The new construction or expansion project is clearly designed to accommodate the private school’s unique or individual occupancy and operational characteristics, such as classroom space, congregate dining facilities, student residence/dormitory facilities, and/or sports/recreational activities.
- (3) The private school is an accredited school under rules of the State of Georgia, as follows:
 - a. For grades K-12, an accredited school shall mean one whose students are recognized and approved by the Georgia Department of Education for purposes of transferring credits to public schools on the same basis as students from one public school to another under Rule 160-5-1-.15 of the Department of Education, and/or whose graduates are recognized by the Georgia Board of Regents for college entrance to any institution of the University System of Georgia on the same basis as graduates from public schools.

b. For private collegiate institutions, an accredited school shall mean one that is accredited by the Southern Association of Colleges and Schools on the same basis as a public college or university in Georgia.

Sec. 2.2. - Exemption Criteria: Businesses

(a) Findings.

- (1) The Board of Commissioners of Dawson County finds that certain office, retail trade, or industrial uses that create unusually high investment, economic, or job creation benefits represent extraordinary economic development and employment growth of public benefit to Dawson County in proportion to the creation of such benefits.
- (2) The Board of Commissioners of Dawson County finds that certain development projects related to medical services, information technology, and research and development activities are of particular benefit as these fields are underrepresented in the county.
- ~~(3)~~ (3) The Board of Commissioners may consider granting a reduction in the impact fee for other such development projects upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Dawson County, in accordance with the adopted exemption criteria below.
- ~~(3)~~(4) The Board of Commissioners may in its sole discretion seek the advice and assistance of the Dawson County Development Authority prior to its final decision to grant, in whole or in part, or to deny any exemption request that comes before it.

(b) Medical facilities and information technology research and development businesses.

- ~~(1) Whether a~~ (1) A new construction or expansion project, for business enterprises as characterized and defined in the *Trip Generation Manual* published by the Institute of Transportation Engineers (ITE), 9th Edition, as a hospital (ITE Code 620), a clinic (ITE Code 630), a medical or dental office building (ITE Code 720), or a research and development center focused on information technology (ITE Code 760) shall be administratively granted a 25% reduction from applicable impact fees by the Impact Fee Program Administrator upon the determination that the new construction or expansion project qualifies as one of the business enterprises eligible for the exemption.
- (2) If such a business desires a greater reduction in its impact fee, such a request shall be referred to the Board of Commissioners and subject to an analysis of the criteria for Other Office, Retail Trade or Industrial Uses that follow.

(c) Other Office, Retail Trade or Industrial Uses.

A new construction or expansion project for an office, retail trade or industrial use may be granted an exemption from applicable impact fees, in whole or in part, by the Board of Commissioners. The extent of the grant of exemption shall be based on the extent to which the development project represents extraordinary economic development and employment growth of public benefit to Dawson County, over and above the access to jobs, goods and services that such uses offer in general, considering the following factors:

- (1) Use: ~~Preference~~In addition to medical and information technology business enterprises, preference will be given to the construction or expansion of national or regional corporate office facilities and to construction or expansion projects related to industries primarily involved in assembly or manufacturing.
- (2) Investment: The total amount of new private capital investment in taxable land, buildings, and equipment related to the project; ~~and plus~~ the total capital investment in current facilities if the project expands an existing business in the county. Minimum guideline: \$5,000,000.
- (3) Annual Economic Impact: The total annual amount of new wages, purchases and other expenditures that will be generated specifically as a result of the project; ~~and plus~~ the total annual economic impact of current facilities if the project expands an existing business in the county. Minimum guideline: \$1,500,000.
- (4) Job Creation:
 - a. The total number of jobs created and/or retained as a result of the project. Minimum guideline: 25 new employees or 25 retained employees.
 - b. The number of jobs created and/or retained paying at least 100% of the average wage for the county as established by the Georgia Department of Labor. Minimum guideline: 80% of total jobs.
 - c. The number of jobs created and/or retained that are exempt managerial and/or professional and/or senior executive jobs. Minimum guideline: 50% of total jobs.
- (5) The Board of Commissioners may consider other relevant factors of public benefit or disbenefit in addition to, as a modification of, or in lieu of the factors enumerated under items (1), (2), (3), or (4) of this subsection (c).

Sec. 3. - REIMBURSEMENT TO THE IMPACT FEE FUND

It is recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees. As part of the annual budgeting process, adequate funds shall be identified and transferred to the Impact Fee Fund Accounts equal to the amount of all exemptions granted by the Impact Fee Program Administrator and Board of Commissioners during the preceding year.

Backup material for agenda item:

2. 2018 Millage Rate and Property Tax (*3rd of 3 hearings. 1st hearing was held on August 2, 2018, and the 2nd hearing was held on August 9, 2018.*)



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: Finance

WorkSession:

Prepared By: Vickie Neikirk

Voting Session: 8.2.18

Presenter: Chairman Billy Thurmond

Public Hearing: Yes No

Agenda Item Title: First (of 3) Public Hearings for setting the County government millage rate for Tax year 2018

Background Information:

First required millage rate hearing for 2018 tax digest. Because of growth in the tax digest due to reevaluation, the rollback rate would be 7.393. The proposed millage rate of 8.138 is the same rate as the last 10 years. There will be 3 public hearings.

Current Information:

The Board of Commissioners is responsible for setting the millage rate for the County Government. The next 2 hearings will be Aug 9, at 4 pm and Aug 16 at 6 pm

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

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining
100						

Recommendation/Motion:

Department Head Authorization: _____

Date: _____

Finance Dept. Authorization: Vickie Neikirk

Date: 7.24.18

County Manager Authorization: [Signature]

Date: 7/26/18

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

NOTICE OF PROPERTY TAX INCREASE

The **Dawson County Board of Commissioners** has tentatively adopted a millage rate which will require an increase in property taxes by **10.08** percent.

All concerned citizens are invited to the public hearing on this tax increase to be held in the Commissioners Meeting Room at the Dawson County Courthouse/Administration Building located at 25 Justice Way, Dawsonville, Georgia on **August 2, 2018 at 6:00 pm.**

Times and places of additional public hearings on this tax increase will be held in the Commissioners Meeting Room at the Dawson County Courthouse/Administration Building located at 25 Justice Way, Dawsonville, Georgia on **August 9, 2018 at 4:00 pm, and August 16, 2018 at 6:00 pm.**

The tentative increase will result in a millage rate of **8.138 mills**, an increase of **0.745 mills**. Without this tentative tax increase, the millage rate will be no more than **7.393 mills**. The proposed tax increase for a home with a fair market value of **\$250,000** is approximately **\$74.50** and the proposed tax increase for non-homestead property with a fair market value of **\$200,000** is approximately **\$59.60**.

Publish on July 25, August 1, and August 8, 2018 as a display ad. Not in legal section.

Notice not to be less than 30 square inches

NOTICE

The Dawson County Board of Commissioners will be setting the millage rate for 2018 for Dawson County's purposes during a meeting in the Commissioners Meeting Room in the Dawson County Courthouse/Administration Building located at 25 Justice Way, Dawsonville, Georgia during a regularly scheduled meeting on August 16, 2018 that begins at 6:00 p.m. and pursuant to the requirements of O.C.G.A. Section 48-5-32, the Dawson County Board of Commissioners hereby publishes the current year's tax digest and levy, along with the history of the tax digest and levy for the past five (5) years. (ad publish 07/25/18, 08/01/18 & 08/08/18)

CURRENT 2018 TAX DIGEST AND 5 YEAR HISTORY OF LEVY

INCORPORATED	2013	2014	2015	2016	2017	2018
Real & Personal	72,497,801	79,404,687	83,214,836	91,187,440	102,426,129	122,042,206
Motor Vehicles	207,450	169,780	2,938	66,180	54,600	49,200
Mobile Homes	2,410	1,340	1,340			
Timber - 100%						
Heavy Duty Equipment						
Gross Digest	72,707,661	79,575,807	83,219,114	91,253,620	102,480,729	122,091,406
Less M & O Exemptions	8,859,483	9,629,715	10,462,211	12,671,621	13,990,679	17,519,295
Net M & O Digest	63,848,178	69,946,092	72,756,903	78,581,999	88,490,050	104,572,111
State Forest Land Assistance Grant Value						
Adjusted Net M&O Digest	63,848,178	69,946,092	72,756,903	78,581,999	88,490,050	104,572,111
Gross M&O Millage	13.618	13.194	13.009	12.896	14.425	14.599
Less Rollbacks	5.480	5.056	4.871	4.758	6.287	6.461
Net M&O Millage	8.138	8.138	8.138	8.138	8.138	8.138
Net Taxes Levied	\$519,596	\$569,221	\$592,096	\$639,500	\$720,132	\$851,008
UNINCORPORATED	2013	2014	2015	2016	2017	2017
Real & Personal	1,056,707,249	1,155,744,349	1,250,703,031	1,315,990,411	1,394,032,646	1,572,997,915
Motor Vehicles	72,598,180	61,251,430	46,193,350	35,695,240	28,320,790	22,736,970
Mobile Homes	940,069	892,818	889,289	955,649	952,109	1,493,910
Timber - 100%	385,486	146,332	5,272	88,593	96,561	190,449
Heavy Duty Equipment	0	0	0	0	0	0
Gross Digest	1,130,630,984	1,218,034,929	1,297,790,942	1,352,729,893	1,423,402,106	1,597,419,244
Less M & O Exemptions	169,116,969	176,050,212	186,124,433	193,872,574	201,405,457	222,450,006
Net M & O Digest	\$961,514,015	\$1,041,984,717	\$1,111,666,509	\$1,158,857,319	\$1,221,996,649	\$1,374,969,238
State Forest Land Assistance Grant Value	1,156,348	1,262,801	1,285,254	1,302,253	1,316,604	895,860
Adjusted Net M&O Digest	962,670,363	1,043,247,518	1,112,951,763	1,160,159,572	1,223,313,253	1,375,865,098
Gross M&O Millage	13.618	13.194	13.009	12.896	14.425	14.599
Less Rollbacks	5.480	5.056	4.871	4.758	6.287	6.461
Net M&O Millage	8.138	8.138	8.138	8.138	8.138	8.138
Net Taxes Levied	\$7,834,211	\$8,489,948	\$9,057,201	\$9,441,379	\$9,955,323	\$11,196,790
TOTAL COUNTY	2013	2014	2015	2016	2017	2017
Total County Value	1,026,518,541	1,113,193,610	1,185,708,666	1,238,741,571	1,311,803,303	1,480,437,209
Total County Taxes Levied	\$8,353,808	\$9,059,170	\$9,649,297	\$10,080,879	\$10,675,455	\$12,047,798
Net Taxes \$ Increase	-\$533,372	\$705,362	\$590,128	\$431,582	\$594,576	\$1,372,343
Net Taxes % Increase	-6.00%	8.44%	6.51%	4.47%	5.90%	12.86%

PRESS RELEASE ANNOUNCING A PROPOSED PROPERTY TAX INCREASE

The Dawson County Board of Commissioners today announces its intention to leave the current millage rate of 8.138 unchanged, which would increase the 2018 property taxes it will levy this year by 10.08 percent over the rollback millage rate.

All concerned citizens are invited to the public hearings on this matter to be held in the Commissioners Meeting Room at the Dawson County Courthouse/Administration Building located at 25 Justice Way, Dawsonville, Georgia at the following times:

Hearing 1: August 2, 2018 at 6:00 p.m.

Hearing 2: August 9, 2018 at 4:00 p.m.

Hearing 3: August 16, 2018 at 6:00 p.m.

Each year, the Board of Tax Assessors is required to review the assessed value for property tax purposes of taxable property in the County. When the trend of prices on properties that have recently sold in the County indicate there has been an increase in the fair market value of any specific property, the Board of Tax Assessors is required by law to re-determine the value of such property and adjust the assessment. This is called a reassessment.

When the total digest of taxable property is prepared, Georgia law requires that a rollback millage rate must be computed that will produce the same total revenue on the current year's digest that last year's millage rate would have produced had no reassessments occurred.

The FY 2019 budget tentatively adopted by the Dawson County Board of Commissioners requires a millage rate higher than the rollback millage rate to be able to maintain and continue to provide much needed services to the citizens of the County. Therefore, before the Dawson County Board of Commissioners may finalize the tentative budget and set a final millage rate, Georgia law requires three public hearings to be held to allow the public an opportunity to express their opinions on the increase.

Backup material for agenda item:

1. Consideration of Request to Adopt Hazard Mitigation Plan



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: **Emergency Services**

Work Session **08.09.18**

Prepared By: **Danny Thompson**

Voting Session: **08.16.18**

Presenter: **Danny Thompson & Katy Westbrook**

Public Hearing: Yes _____ No **X**

Agenda Item Title: **Hazard Mitigation Plan Adoption**

Background Information:

In accordance with the Disaster Mitigation Act of 2000, meeting the regulations will allow Dawson County to maintain eligibility and qualify to secure federal funding from declared events. This includes public assistance that is made available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act. This plan has to be updated every 5 years.

Current Information:

This Hazard Mitigation Plan is a revision to the 2012 version and ensures Dawson County is in compliance. The Dawson County Hazard Plan Committee identified five goals during plan development. 1. Protect public health and safety 2. Reduce and eliminate exposure to natural/manmade hazard events 3. Reduce the loss and damage to private property/public infrastructure resulting from these various disasters 4. Maintain continuity of public/private sector operations during disasters 5. Respond promptly, appropriately and efficiently in the time of an event.

Budget Information: Applicable: _____ Not Applicable: **X** Budgeted: Yes **X** No _____

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining

Recommendation/Motion: Approve agenda item

Department Head Authorization: **DT**

Date: **8.9.18**

Finance Dept. Authorization: **Vickie Neikirk**

Date: **7/31/18**

County Manager Authorization: **DH**

Date: **7/31/2018**

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

See PowerPoint and document.



DAWSON COUNTY HAZARD MITIGATION PLAN UPDATE 2018 - 2023

Dawson County Emergency Management Agency
Director Danny Thompson

Lux Mitigation and Planning Corp.

Dawson County, Georgia Hazard Mitigation Plan Update 2018 – 2023



DAWSON COUNTY, GA

Prepared for the Dawson County Board of Commissioners

25 Justice Way

Dawsonville, Georgia 30534

706.344.3501

www.Dawsoncounty.org

Dawson County's Hazard Mitigation Plan Update 2018

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 2012 was updated by the Dawson County Hazard Mitigation Plan Update Committee and was prepared by Lux Mitigation and Planning Corporation. For additional information, please contact Dawson County Emergency Management Agency.

Director Danny Thompson
Dawson County Emergency Management Agency
393 Memory Lane
Dawson, Georgia 30534
dthompson@Dawsoncounty.org
706.344.3666

Resolution – Dawson County

WHEREAS, Dawson County and the City of Dawsonville recognize that it is threatened by a number of different types of natural and man-made hazards that can result in loss of life, property loss, economic hardship and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans in order to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community’s plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage in order to protect the health, safety and welfare of the residents in the community; and

WHEREAS, the Dawson County Hazard Mitigation Plan Update 2018 - 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years;

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of Dawson County, Georgia and the Mayor and Council of the City of Dawsonville each meeting in respective session, that:

- 1) Dawson County, Georgia, the City of Dawsonville have adopted the Dawson County Hazard Mitigation Plan Update 2018 - 2023; and
- 2) It is intended that the Plan be a working document and is the first of many steps toward improving rational, long-range mitigation planning and budgeting for Dawson County and the City of Dawsonville.

PASSED, APPROVED AND ADOPTED by the Dawson County Board of Commissioners in regular session this _____ day of _____, 2018.

Chairperson

County Manager

Resolution – Dawson County Municipality

Requirement §201.6(c)(5)

WHEREAS, Dawson County and the City of Dawsonville recognize that it is threatened by a number of different types of natural and man-made hazards that can result in loss of life, property loss, economic hardship and threats to public health and safety; and

WHEREAS, the Federal Emergency Management Agency (FEMA) has required that every county and municipality have a pre-disaster mitigation plan in place, and requires the adoption of such plans in order to receive funding from the Hazard Mitigation Grant Program; and

WHEREAS, a Hazard Mitigation Plan is a community's plan for evaluating hazards, identifying resources and capabilities, selecting appropriate actions, and developing and implementing the preferred mitigation actions to eliminate or reduce future damage in order to protect the health, safety and welfare of the residents in the community; and

WHEREAS, the Dawson County Hazard Mitigation Plan Update 2018 - 2023 has been prepared in accordance with FEMA requirements at 44 CFR 201.6; and

WHEREAS, the Plan will be updated every five years;

NOW, THEREFORE, BE IT RESOLVED, by the Board of Commissioners of Dawson County, Georgia and the Mayor and Council of the City of Dawsonville each meeting in respective session, that:

- 1) Dawson County, Georgia, the City of Dawsonville have adopted the Dawson County Hazard Mitigation Plan Update 2018 - 2023; and
- 2) It is intended that the Plan be a working document and is the first of many steps toward improving rational, long-range mitigation planning and budgeting for Dawson County and the City of Dawsonville.

PASSED, APPROVED AND ADOPTED by the Mayor and City Council of Dawsonville in regular session this _____ day of _____, 2018.

Mayor

City Clerk

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 in an effort 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 One
-
Introduction

Summary of Updates for Chapter One

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 2012.

Chapter 1 Section	Updates
Introduction	<ul style="list-style-type: none"> • Identification of Mitigation Goals
Authority	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Funding	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Scope	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Purpose	<ul style="list-style-type: none"> • Updated from 2012 Mitigation plan
Consistency with Federal Guidelines	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Plan Review	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Hazard Mitigation Plan Update Committee	<ul style="list-style-type: none"> • Updated committee list to match the 2018 planning participants
Public Participation	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Multi-Jurisdictional Considerations	<ul style="list-style-type: none"> • Updated with requirement descriptions
Incorporation of Existing Plans, Studies, and Resources	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan

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 in an effort 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 Reduce and eliminate (to the extent possible) community exposure to natural and manmade hazard events
- GOAL 3 Reduce loss and damage to private property and public infrastructure resulting from natural or manmade hazards
- 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.

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 (HMGP). Section 322 of the Act identifies the new requirements for planning activities and increases the amount of HMGP 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 published in the Federal Register on February 26, 2002, at 44 CFR Part 201.

Funding

Dawson County was awarded a \$24,000 Hazard Mitigation Planning Grant by the Georgia Emergency Management Agency 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.

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 Interim Final Rule 44 CFR 201.4.

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 Interim Final Rule 44 CFR 201.4(c)(1).

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 Interim Final Rule 44 CFR 201.4(c)(2). 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 Interim Final Rule 44 CFR 201.4(c)(3).

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 Interim Final Rule 44 CFR 201.4(c)(4) and (5).

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.

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 that will 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 on a continual basis; 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:

- Develop mitigation incentives with insurance agencies and lending

institutions;

- Encourage the creation of a business continuity plan for the continuance of commerce during disasters; and,
- Partner with businesses in an effort 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 how to protect 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 in their community. 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, as well as themselves, prior to a disaster event.

Plan Review

Requirement §201.6(c)(1)

The contracted planner, Lux Mitigation and Planning, had the primary responsibility for collecting updated information and presenting data to the committee. The approved 2012 Hazard Mitigation Plan was provided to each member of the Hazard Mitigation Plan Update Committee. 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. Irregularly attending participants were kept informed with emails containing the updated version of the plan.

Dawson County Hazard Mitigation Plan Update Meeting Dates:

Thursday, August 10, 2017	Kick-Off Meeting
Thursday, September 21, 2017	Hazard Identification and Prioritization; Risk Assessment Analysis
Thursday, October 19, 2017	Analysis of Hazard Profile Research; Review and Edit of Current Hazard Mitigation Strategies
Thursday, November 16, 2017	Identification of New Hazard Mitigation Strategies
Thursday, January 18, 2018	Update of Critical Facilities; Presentation of Dawson County Hazard Mitigation Plan Rough Draft
Thursday, February 15, 2018	Review and Edit of Dawson County Hazard Mitigation Plan Final Draft

Each section of Dawson County's 2012 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 Tropical Cyclone to Natural Hazards
- Addition of Transportation Incident to Technological Hazards
- Addition of Terrorism to Technological Hazards
- Addition of Communications Failure to Technological Hazards
- Addition of Emergent Infectious Diseases to Technological Hazards

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 the update of Dawson County's 2012 Hazard Mitigation Plan.

Dawson County Hazard Mitigation Plan Update Committee – 45 participants

Brooke Anderson

General Manager

Etowah Water and Sewer Authority

Kristan Bean

911 Assistant Director

Dawson County Sheriff's Office

Bob Bolz

City Manager

City of Dawsonville

Kenneth W. Brooks

Ranger II

Georgia Forestry Commission

Rickey Dean Brown

Chief Operations Officer

Dawson County School System

Jason Brownell

Director of Operations

Big Canoe Property Owners Association

Jason Dooley

Battalion Chief

Dawson County Emergency Services

Sharon R. Fausett

County Commissioner – District One

Dawson County Board of Commissioners

Kevin Gibbs

Park Manager

Amicalola Falls State Park

Trampas Hansard

Operations Manager

City of Dawsonville Public Works

David Headley

County Manager

Dawson County Public Administration

Lisa Hensa

Director

Dawson County Parks and Recreation

Richard Jordan

Public Safety Director

Big Canoe Property Owners Association

Tim Joy

Chief Ranger

Georgia Forestry Commission

Dorothy Jubon

Lead – External Affairs

American Red Cross – Northeast Georgia Chapter

Clark MacAllister

Extension Coordinator

University of Georgia Extension

Stephen Maddox

Lieutenant/Assistant Patrol Commander

Dawson County Sheriff's Office

Casey Majewski

Planning Director

City of Dawsonville Planning and Zoning

David McKee

Director
Dawson County Public Works

Dick McNeill
Business Consultant
Citizen Representative

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

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

Dawn Pruett
Director
Dawson County Senior Services

Ricky Rexroat
Deputy Chief/Deputy EMA Director
Dawson County Emergency Services

Jim Rich
Director of Transportation
Dawson County Board of Education

Robin Roland
IT Coordinator
Dawson County Information Technology Department

Greg Rowan
Chief Deputy
Dawson County Sheriff's Office

Aleisha Rucker-Wright
Director
Dawson County E-911

Tim Satterfield
Deputy Chief

Dawson County Emergency Services

Danny Speaks

Assistant Chief

Dawson County Emergency Services

Jason Streetman

Planning Director

Dawson County Planning and Development

Lanier Swafford

Fire Chief; Director

Dawson County Emergency Services; Dawson County Emergency Management

Kurt Tangel

Chief Appraiser

Dawson County Tax Assessors Office

Billy Thurmond

Chairman

Dawson County Board of Commissioners

Jessica Whitmore

GIS Analyst/Appraiser

Dawson County Tax Assessors

Dawson County convened the Hazard Mitigation Plan Update Committee comprised of representatives from various participating jurisdictions. The Committee worked with Lux Mitigation and Planning and provided input at key stages of the process. Efforts were made to involve municipal, city, and county departments as well as community organizations which might have a role in the implementation of the mitigation actions or policies. These efforts included invitations to attend meetings, 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.

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Public Participation

Requirement §201.6(b)(1)

State Requirement Element F2

Public awareness is a key component of any community's overall mitigation strategy aimed at making a home, neighborhood, school, business, or city safer 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 includes:

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:

- Prior to every meeting, an email invitation was sent to all committee members and other stakeholders encouraging their attendance and encouraging them to pass along the invitation to any additional personnel within their organization or other organization that may benefit the update of the Franklin County Hazard Mitigation Plan.

Documentation of Public Meeting Notice

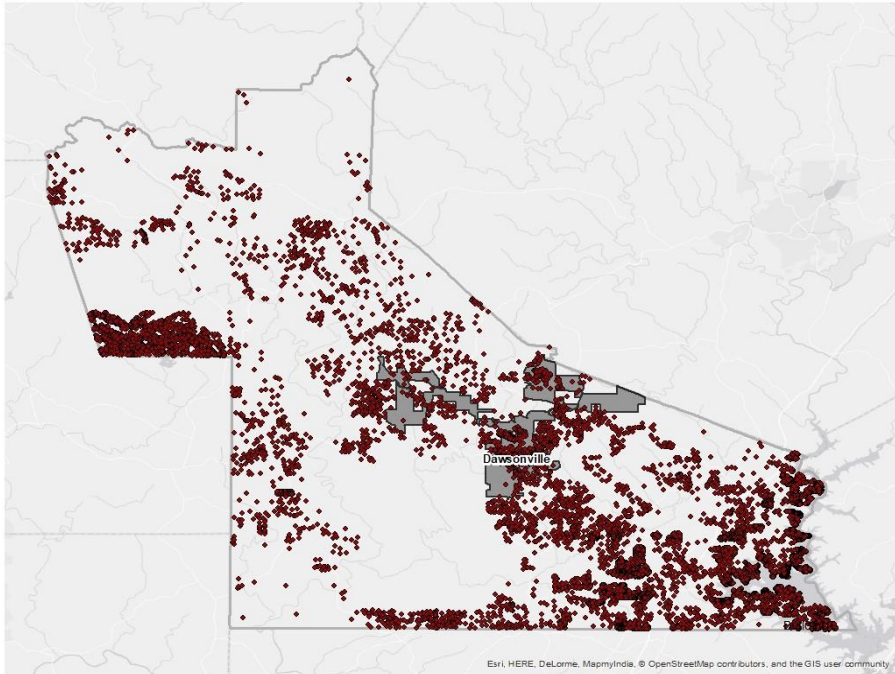
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Multi-Jurisdictional Considerations

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 provides the first five-year update. 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 work 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 following Dawson County city: 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.

Distribution of Buildings in Dawson County



Source: 2018 Dawson County HAZUS Report

Incorporation of Existing Plans, Studies, and Resources

Requirement §201.6(b)(3)

State Requirement Element F3

Existing Plans

2012 Dawson County Pre-Disaster Hazard Mitigation Plan
2014 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

2012 United States Department of Agriculture Ag Census
2010 United States Census
2015 United States Census Estimates
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 – www.Dawsoncountyga.gov
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

Application of Existing Plans and Studies

Existing Planning Mechanism	Reviewed?	Incorporation Into
-----------------------------	-----------	--------------------

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	Yes/No	Mitigation Plan
2012 Dawson County Hazard Mitigation Plan	Yes	Baseline for the 2018 Plan; updated mitigation strategies; updated hazards; updated Dawson County information
2014 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

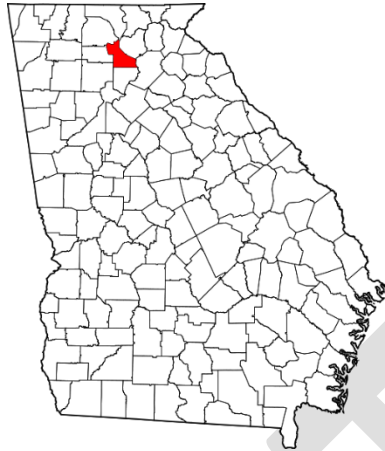
Chapter Two
-
Dawson County Profile

DRAFT

Summary of Updates for Chapter Two

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 2012.

Chapter 2 Section	Updates
Past Hazards	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan. This information involved a review of the hazards listed in the previous plan. • Information was updated for the last 50 years
History	<ul style="list-style-type: none"> • Expanded and updated from previous plan
Past Events	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan. Some of these events were listed in the hazard profiles in the previous plan.
Demographics	<ul style="list-style-type: none"> • Updated data to the 2010 Census information and 2015 Census Estimates
Economy	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Government	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Municipalities	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Transportation	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Climate	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
Utilities	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan
NFIP Compliance	<ul style="list-style-type: none"> • New Section – Not in 2012 Mitigation Plan as a standalone section



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 2 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 5 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 10 Federally Declared disasters. These events include tornadoes (1974), drought (1977), winter storms (1993, 2000, 2014, 2015), Tropical Cyclones (1995, 2004), and Storms/Flooding events (1998, 2009).

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.

Prior to the creation of Dawson County, the area enjoyed a rich history. Originally settled by the Cherokee Indians at about 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 over run much of the area and Georgia claimed the region as a new territory. During 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 1830's and 1840's 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 that were necessary for the records of the county, and these were placed in a log structure which had been built for the temporary use of the court and other officials of the county. The log courthouse was built by James Foster 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 window sills and steps were to be made of "good plant". The contract was made to Wesley McGuire, John Hockenhull and Anderson Wilson. In August of 1858 the plans were changed by 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 were 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 in to 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 Hockenhull 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 Hockenhull'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 around the courthouse and painted (there was no stock law 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 for the making of 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 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 in order 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.

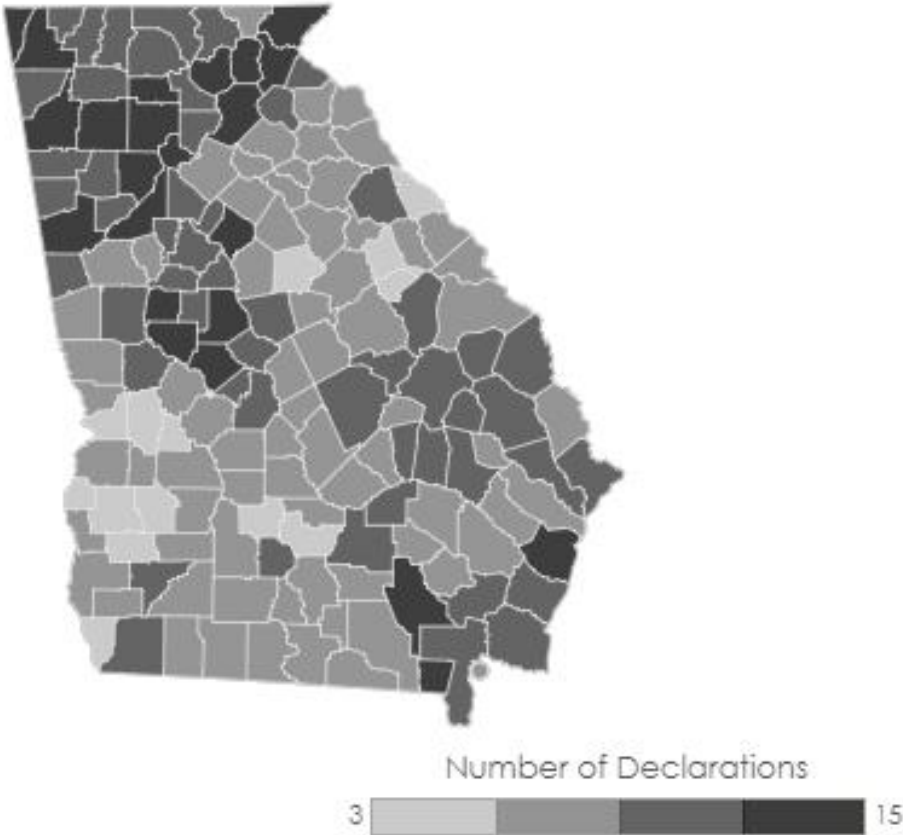
In 1957, the Appalachian Trail was re-routed to a new endpoint about 8 miles north of Amicalola Falls State Park, establishing the county as a major destination for hikers. At the same time, the flooding of the Chattahoochee River plain to form nearby Lake Lanier was completed, resulting in Georgia's 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 1980's, 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 have helped Dawson County transition from a quiet mountain enclave to one of Georgia's fastest growing communities.



Past Events

- **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)**



5 Hurricane

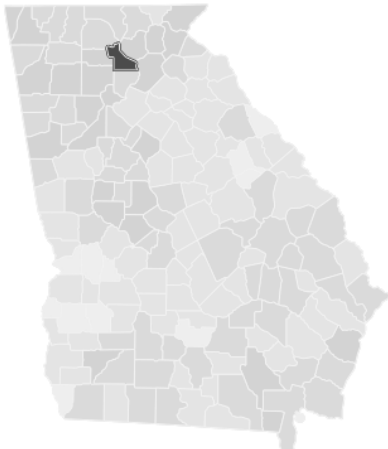
3 Severe Storm

2 Severe Ice Storm

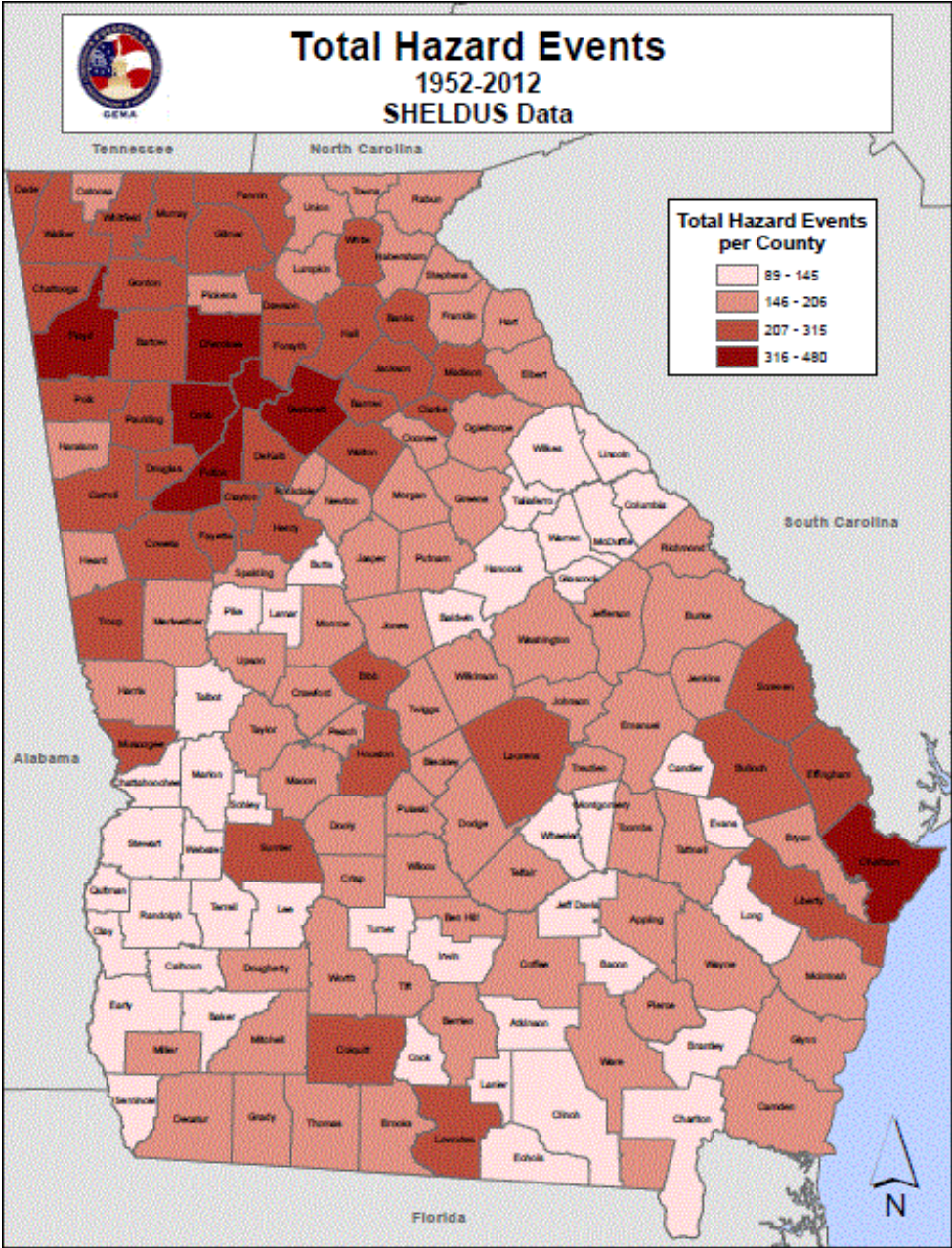
1 Drought

1 Snow

1 Tornado



Source: Federal Emergency Management Agency (FEMA) Disaster Declarations for State and Counties Data Visualization



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Demographics

	2010 Census	2015 Estimation
Population	22,330	22,673
White	95.6%	95.0%
African-American	0.5%	0.6%
Hispanic/Latino	4.1%	3.9%
Asian	0.6%	0.5%
American Indian	0.4%	0.4%
Two or More Races	1.4%	1.9%
Median Age	40.6	----
Median Household Income	\$56,943	----
Person Below Poverty Line	14.2%	----
Homeowners	80.3%	----

	2010 Census	2015 Estimation
Dawsonville	2,536	2,416

Economy

Dawson County's economy is primarily agricultural with some light industry. Dawson County's cost of living is 1.9% below the national average. The unemployment rate in Dawson County is 3.8%, which is below the State average of 4.7% and the National average of 4.1%. Dawson County has a median household income of \$33,816, which is well below the national average of \$56,943. Recent economic problems in Georgia and nationwide have affected these figures.

Dawson County's Largest Private Employers

North Georgia Premium Outlets = 1100 total employees (This is the seasonal average of all franchises combined. Simon Properties employs 15-20 people. Depending on the season most franchises employ 10 – 30 people.)

Gold Creek Foods LLC = 317 total employees; 317 full-time employees

Kroger = 303 total employees; 50-75 full-time employees; total employees varies seasonally

Wal-Mart = 300 total employees; 142 full time, 158 part-time; ~20 additional employees seasonally

BTD Manufacturing = 223 total employees; 223 full-time employees

Publix = 125 total employees; 75 part-time employees; 50-60 full-time employees; ~ 25 additional employees seasonally

Fort Dearborn = 125 total employees; 123 full-time employees; 2 part-time employees

Home Depot Inc. = 126 total employees; 63 full-time employees; 63 part-time employees

Premier Surplus = 70 total employees; 70 full-time employees

Atlanta Motorsports Park = 68 total employees; 20 full-time employees; 48 part-time employees

Ingles = 65 total employees; 20 full-time employees; 45 part-time employees

MESH Engineering = 65 total employees; 65 full-time employees

Worldwide Manufacturing Inc. = 53 total employees; 53 full-time employees

Five Star Architectural = 49 total employees; 47 full-time employees; 2 part-time employees

**All employment numbers were verified in August of 2017. This information is provided by Dawson County Chamber of Commerce.*

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 of its citizens. The Board of Commissioners appoint 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 is 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 is set by the Board of Education 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 each year and amends many others to reflect the changing times. Both require that a public hearing be held and these are 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 provide 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 of 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.

Transportation

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

Dawson County has one privately owned airport (Elliott Field). The City of Dawsonville is currently (2017) in negotiations to purchase this facility. There has never been a passenger or freight railroad located within Dawson County.

Climate

Dawson County, like much of Georgia, enjoys a temperate climate. As a result, Dawson County has four well-defined seasons: warm to hot summers; brisk fall temperatures; relatively brief, cool winters; and a warm spring season. As a result, there exists a long growing season in Georgia, perfect for ornamental and economic-boosting agricultural plants. Dawson County’s proximity to the Atlantic Ocean can affect the overall climate and create milder winters and warmer, wetter summers than other parts of the State of Georgia.

AVERAGE MONTHLY TEMPERATURES IN GEORGIA (FAHRENHEIT)

Month	Georgia Average Temperature	Dawson County Average Temperatures
January	46	42
February	49	45
March	56	53
April	63	62
May	70	70
June	77	78
July	80	79
August	79	78
September	74	73
October	64	61
November	56	52
December	48	46

Utilities

Dawson County’s utility needs are met by a variety of public and private entities.

Electrical power to Dawson County is provided by Amicalola EMC, Sawnee EMC, and Georgia Power.

Propane and natural gas is the primary source 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.

NFIP Compliance

JURISDICTION	PARTICIPATING?	PARTICIPATION DATE
DAWSON COUNTY	YES	12/15/1990
DAWSONVILLE	YES	5/21/1982

Chapter Three
-
hazard Profiles

Summary of Updates for Chapter Three

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 2012.

Chapter 3 Section	Updates
Risk Assessment	<ul style="list-style-type: none"> Expanded the explanation of the Risk Assessment Added an explanation of each part of the Hazard Information
Natural Hazard Thunderstorms	<ul style="list-style-type: none"> Updated hazard description to match Georgia State Hazard Mitigation Plan information Updated and consolidated hazard profile with new data Content revised
Natural Hazard Winter Storms	<ul style="list-style-type: none"> Updated hazard description to match Georgia State Hazard Mitigation Plan information Updated and consolidated hazard profile with new data Content revised
Natural Hazard Flooding	<ul style="list-style-type: none"> Updated hazard description to match Georgia State Hazard Mitigation Plan information Updated and consolidated hazard profile with new data Land Use and Development trends updated to include municipal NFIP information Content revised
Natural Hazard Tornado	<ul style="list-style-type: none"> Updated hazard description to match Georgia State Hazard Mitigation Plan information Updated and consolidated hazard profile with new data Content revised
Natural Hazard Drought	<ul style="list-style-type: none"> Updated hazard description to match Georgia State Hazard Mitigation Plan information Content revised

Natural Hazard Wildfire	<ul style="list-style-type: none"> • Updated hazard description to match information in the Georgia State Hazard Mitigation Plan • Updated and consolidated hazard profile data • Content revised
Natural Hazard Earthquake	<ul style="list-style-type: none"> • Updated hazard description to match information in the Georgia State Hazard Mitigation Plan • Updated and consolidated hazard profile data • Content revised
Natural Hazard Tropical Cyclone	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Technological Hazard Hazardous Materials	<ul style="list-style-type: none"> • Updated hazard description • Updated and consolidated hazard profile data • Content revised
Technological Hazard Dam Failure	<ul style="list-style-type: none"> • Updated hazard description • Updated and consolidated hazard profile data • Content revised
Technological Hazard Transportation	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Technological Hazard Terrorism	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Technological Hazard Communications Failure	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Technological Hazard Emergent Infectious Diseases	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan

Risk Assessment

Requirement §201.6(c)(2)(i and ii)

Requirement §201.6(d)(3)

The Dawson County Hazard Mitigation Planning Committee 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:

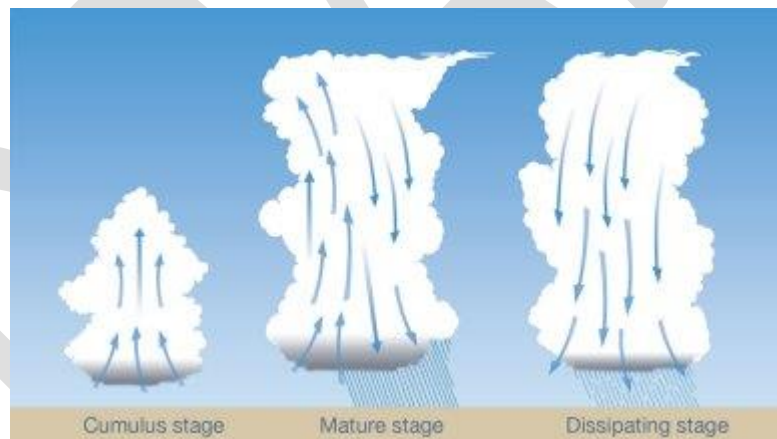
1. **Hazard Identification:** The Dawson County Hazard Mitigation Planning Committee identified seven natural hazards and four technological hazards for this Hazard Mitigation Plan. This is an increase of one natural hazard and four technological hazards from the previous iteration of the plan. Each hazard was identified by the use of statistical data and records from a variety of sources. The list of hazards is based upon frequency, severity of impact, probability, potential losses, and vulnerability.
2. **Hazard Description:** Each hazard was described in detail. Many hazard descriptions came from the Georgia Hazard Mitigation Plan since many of the hazards that could impact the state could also potentially impact Dawson County.
3. **Profile of Hazards:** Each hazard was profiled as to how it could potentially impact Dawson County.
4. **Assets Exposed to the Hazard:** The plan considers critical facilities and infrastructure as part of the vulnerability assessment. This assessment determines the vulnerability of the municipalities and attempts to identify the populations most vulnerable to each hazard, although many have potential countywide impacts.
5. **Estimated Potential Losses:** Using critical facility and past history data, an estimation of potential losses due to a particular hazard event were determined.
6. **Land Use and Development Trends:** Land use trends were considered when determining the potential future impacts of each hazard. This is of particular importance in regards to flooding and dam failure events.
7. **Multi-Jurisdictional Concerns:** Each jurisdiction was considered when determining the potential hazard impact.

Natural Hazard: Thunderstorms*Hazard Description*

This section provides general and historical information about thunderstorms, including high wind, lightning, and hail. Other elements of thunderstorms, such as tornadoes and flooding, are addressed in their own sections.

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."

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 has the ability to 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.

Natural Hazard: **Thunderstorms**

(Hazard Description Continued)

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.

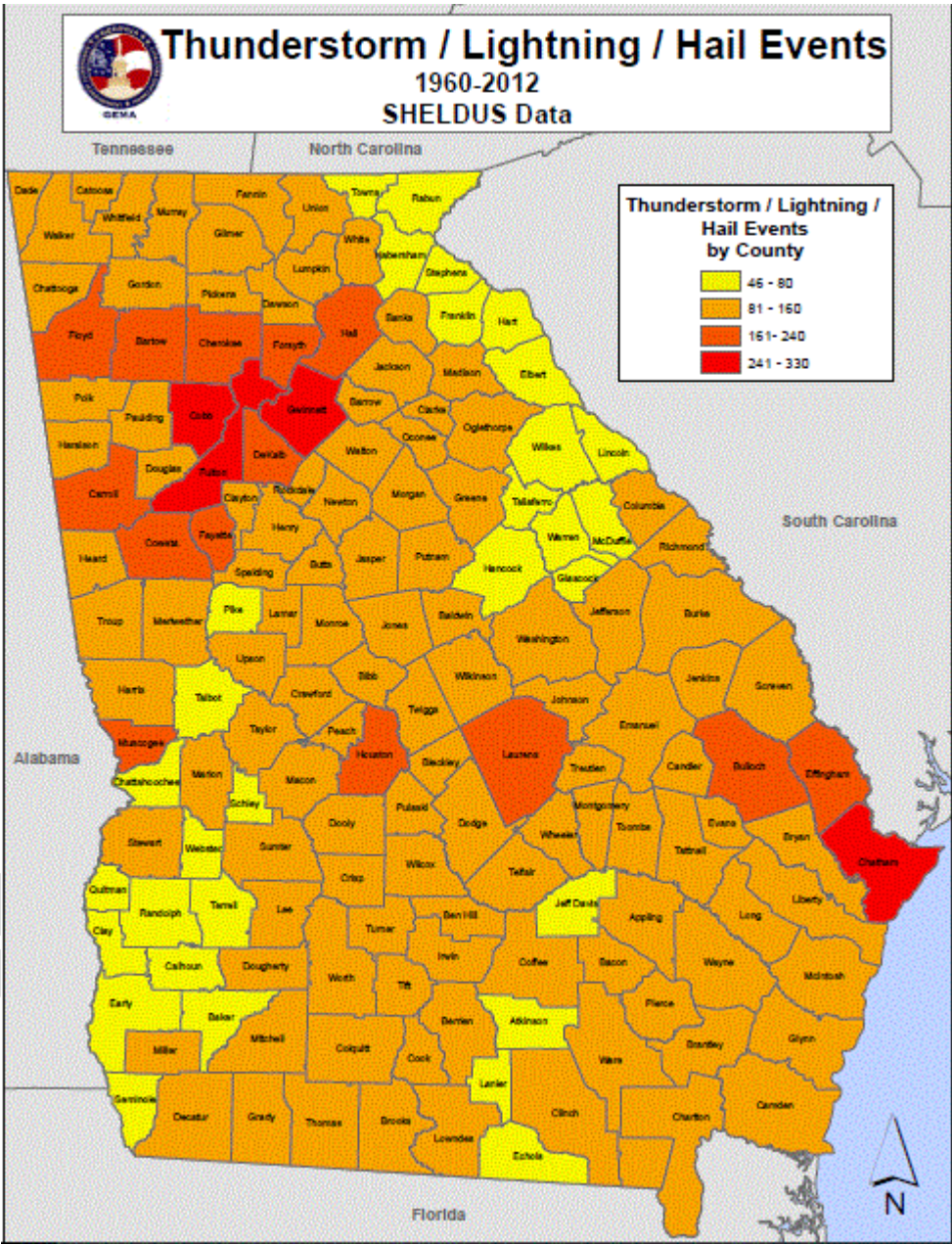
Natural Hazard: **Thunderstorms**

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

Hazard Profile

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. Many of these storms 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.

Natural Hazard: **Thunderstorms**



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: Thunderstorms*(Hazard Profile Continued)*

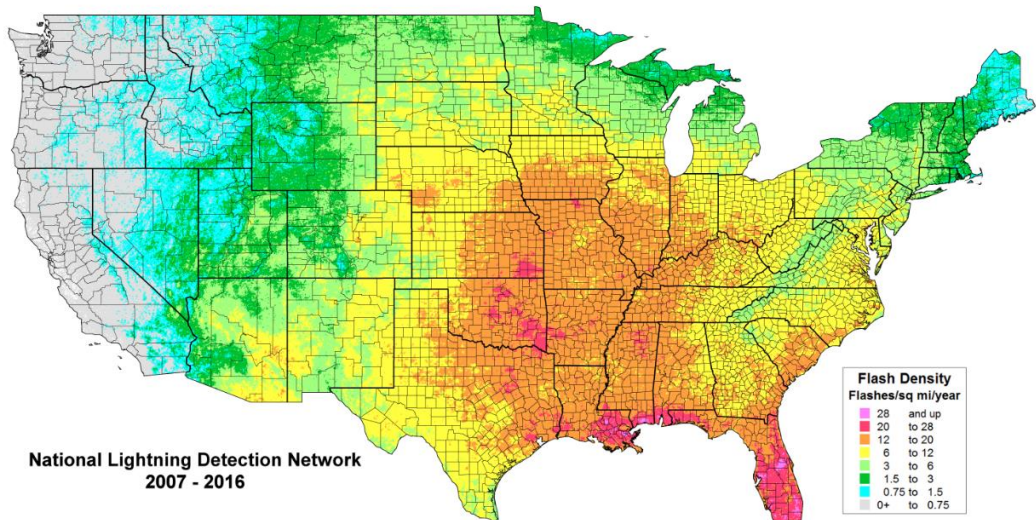
Most of the available information relating to severe thunderstorm events in Dawson County fails to describe damage estimates in any detail. With each thunderstorm event, there are likely unreported costs related to infrastructure costs, public safety response costs, utility repair costs, and personal home and business repair costs. Thunderstorms have occurred during all parts of the day and night and in every month in Dawson County.

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.

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. Over the last 10 years, Dawson County has averaged 3.4 thunderstorm events per year (34 events). This includes 1.6 hail events per year over the last 16 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 NCDC data numbers. For additional historical data, please see Appendix D.

As indicated by the below graphics, Dawson County averages between 6 and 12 flashes of cloud to ground lightning per square mile per year. That equals a 1.6% to 3.3% chance of a cloud-to-ground lightning strike on any given day. This shows a much higher indication of lightning occurrences than has been reported to the National Weather Service and the National Climatic Data Center. It is the determination of the Dawson County Hazard Mitigation Plan update Committee that this data shows a more accurate representation of the scope of the threat that lightning poses to the citizens and infrastructure of Dawson County.

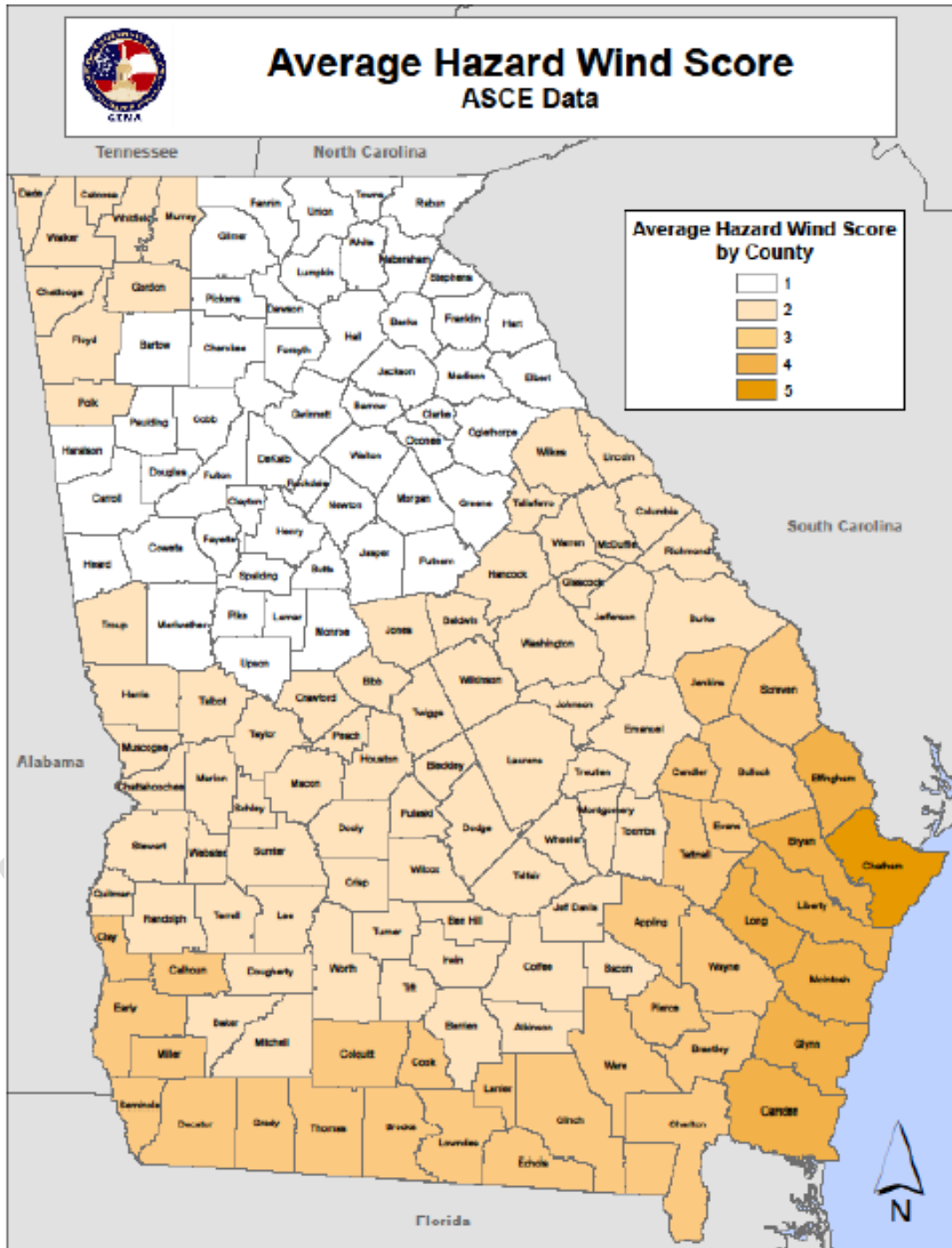
Natural Hazard: **Thunderstorms**



Severe thunderstorm winds, which are defined as winds of at least 58 mph in conjunction with a convective event, have occurred with many thunderstorms that have effected Dawson County. These winds can exceed 100 mph and cause damage comparable to weak tornadoes. Below are two maps that identify the wind risk and the hazard wind score for the State of Georgia, including Dawson County. The Hazard Wind Score maps uses the following scale:

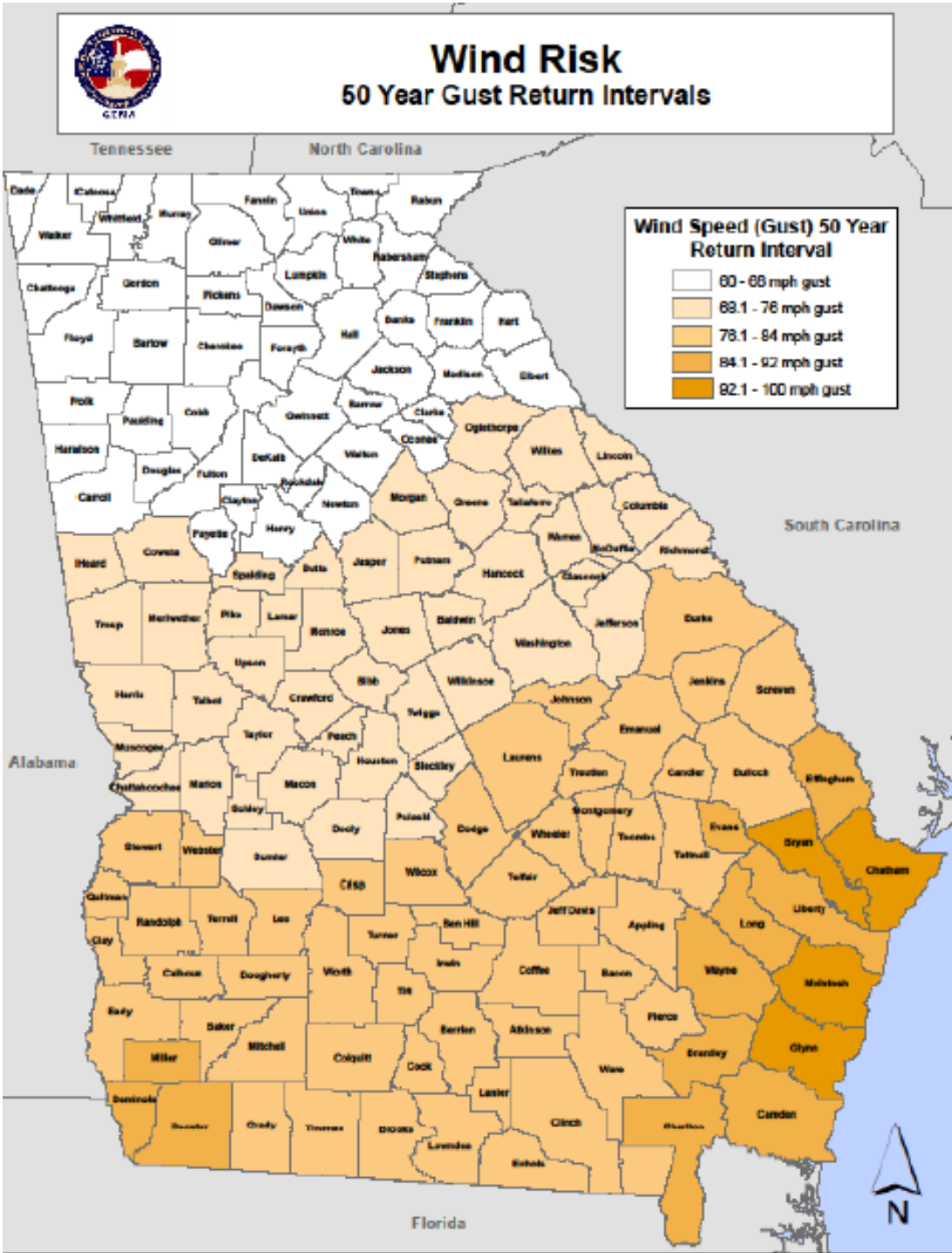
Hazard Score	Wind Speeds
1	<90 mph gust
2	91 – 100 mph gust
3	101 – 110 mph gust
4	111 – 120 mph gust
5	>120 mph gust

Natural Hazard: **Thunderstorms**



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: **Thunderstorms**



Natural Hazard: **Thunderstorms**

Assets Exposed to the Hazard

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 spatially prejudice of severe thunderstorm events.

Estimated Potential Losses

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.

Land Use & Development Trends

Dawson County currently has no land use trends related to Thunderstorms beyond continued population growth.

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 due to greater population density. Thunderstorms have the potential to impact all areas of Dawson County.

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.

Natural Hazard: Winter Storms*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.

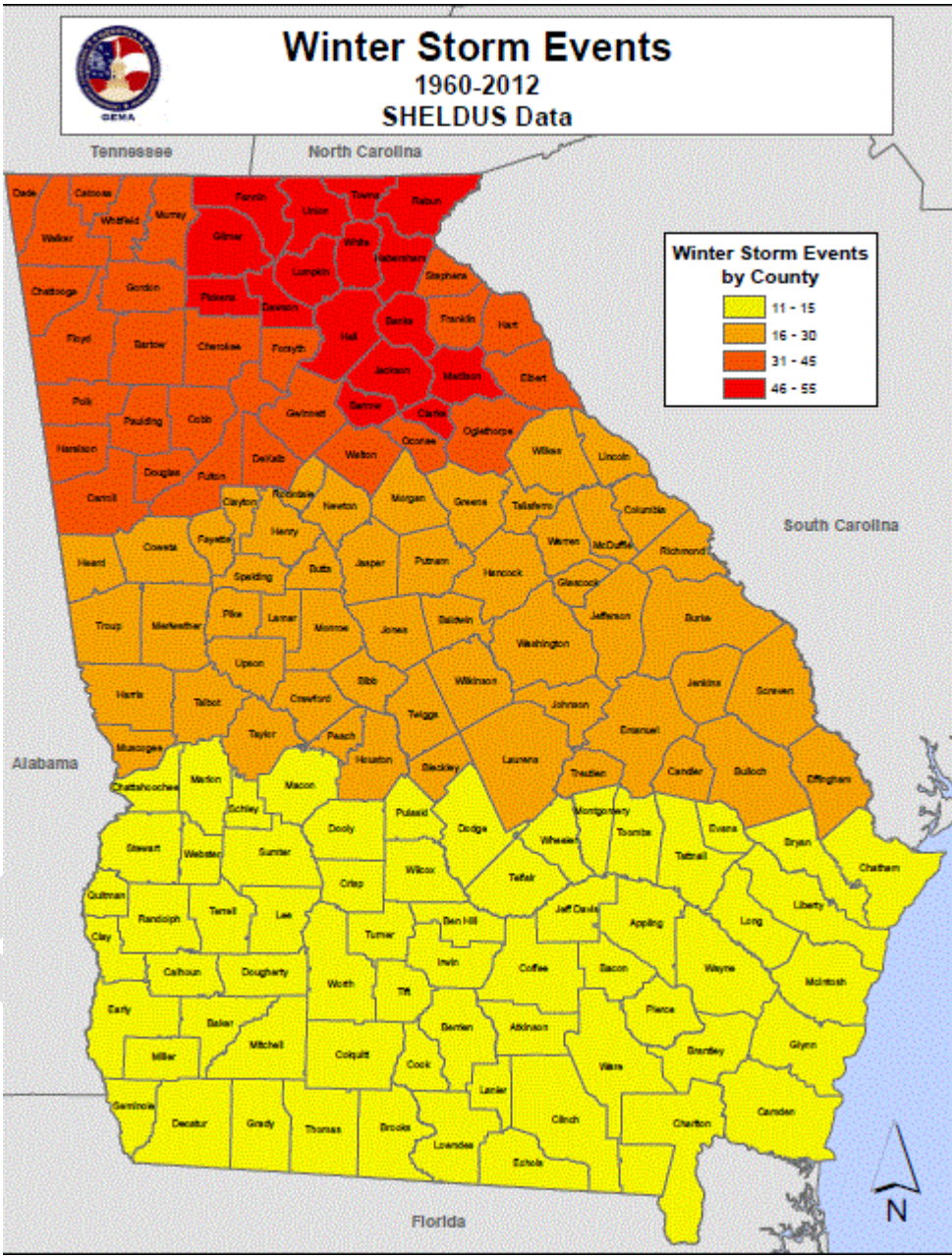
A heavy accumulation of ice, which is often accompanied by high winds, has the ability to devastate infrastructure and vegetation. Destructiveness in the southern states is often amplified due to the lack of preparedness and response measures. Also, the infrastructure was not designed to withstand certain 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.

Hazard Profile

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.

Natural Hazard: Winter Storms



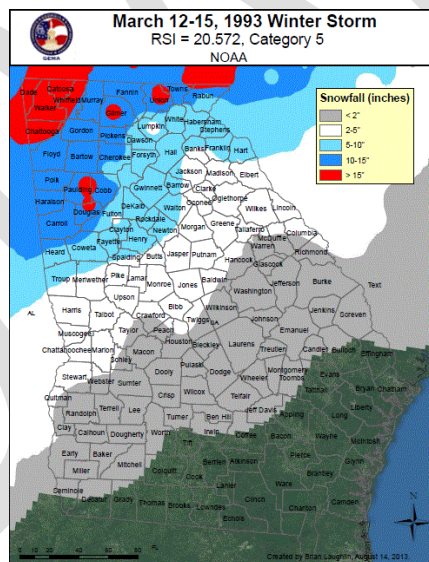
Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: **Winter Storms**

(Hazard Profile Continued)

During the past twenty years, documentation exists for 60 winter storm events in Dawson County. No data can be located prior to this timeframe. On average, a winter storm has occurred in Dawson County on a nearly annual basis. A 100% chance exists of a winter storm occurring in any given year in Dawson County. Due to improved record keeping techniques, the HMPC believes that looking at the record for the last 20-year period provides a more accurate representation of the threat of winter storms for Dawson County. For additional historical data, please see Appendix D.

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.



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: Winter Storms*Assets Exposed to the Hazard*

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

Estimated Potential Losses

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 of 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.

Land Use & Development Trends

Dawson County currently has no land use trends related to Winter Storms.

Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow. Therefore, all mitigation actions identified regarding winter storms should be pursued on a countywide basis and include the City of Dawsonville.

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.

Natural Hazard: Flooding

Requirement §201.6(c)(2)(ii)

Requirement §201.6(c)(3)(ii)

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.

Hazard Profile

The Dawson County HMPC researched flooding information for the last fifty years. The main sources of information used by the Dawson County HMPC came from the National Climatic Data Center, the Dawson County Emergency Operations Plan, and news media sources. It was determined that flooding has caused

Natural Hazard: Flooding*(Hazard Profile Continued)*

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, Georgia Highway 9 floods in low-lying areas and water levels reach the bottom of the Georgia 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).

Flood events within Dawson County are typically associated with areas of special flood hazard as identified on Flood Rate Insurance Maps (FIRMs) published by the Federal Emergency Management Agency. 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 as a result of flood waters.

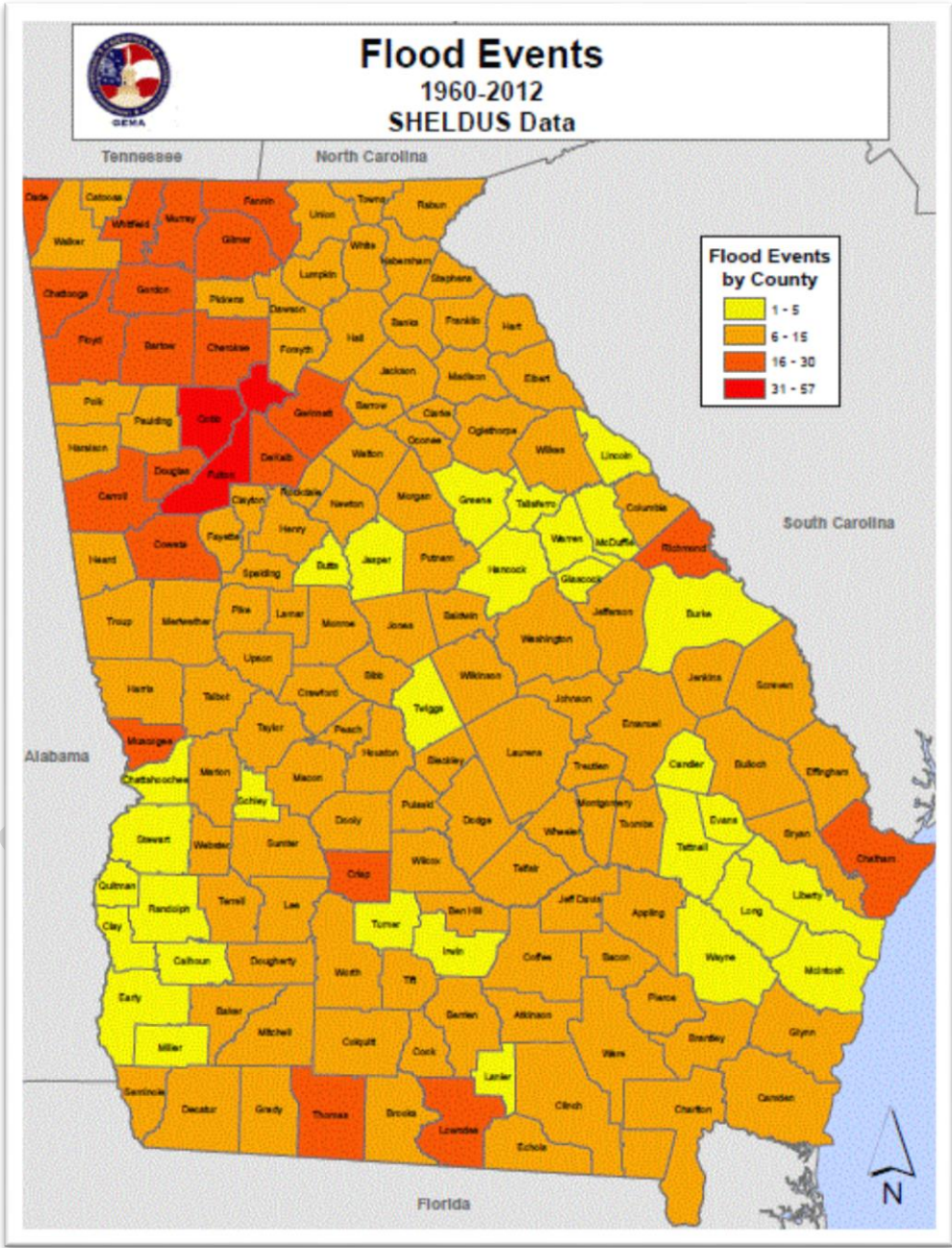
There are 13 documented flood events over the last 50 years. Based on the 50-year record, it can be inferred that such an event is likely to occur every 3.9 years in Dawson County. This relates to a 26% chance of a flood event occurring in a given year.

For additional historical data, please see Appendix D.

Assets Exposed to the Hazard

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.

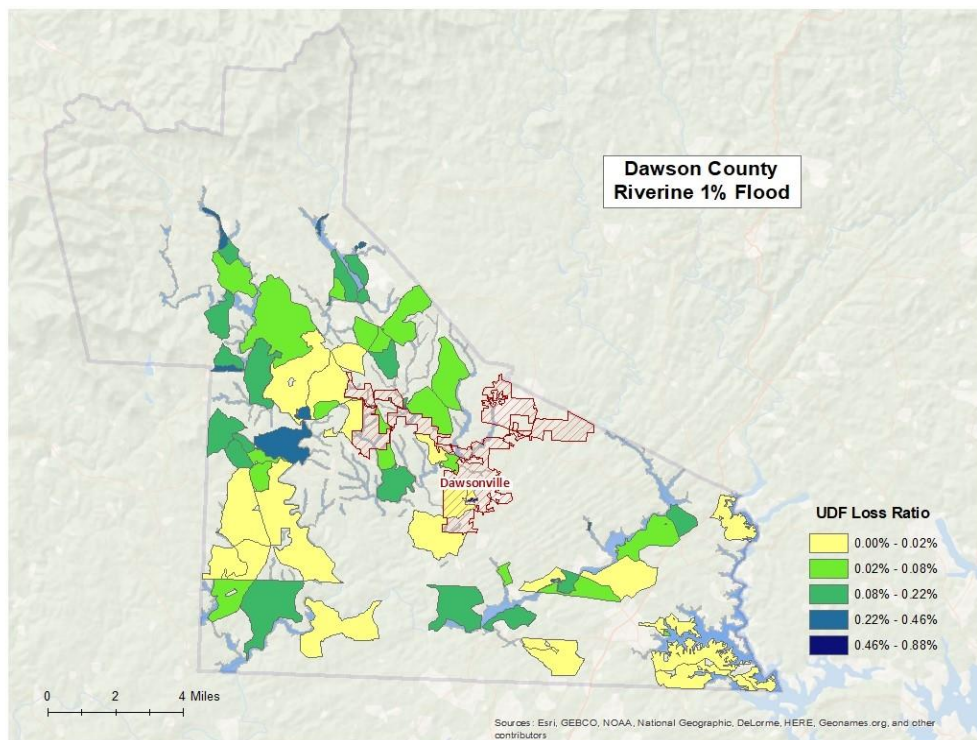
Natural Hazard: **Flooding**



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: Flooding*Estimated Potential Losses*

Based upon the 2018 Dawson County HAZUS report, a flood equivalent to the 1% riverine flood levels could result in losses in excess of \$9 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. Additionally, there are no critical facilities located in the 1% riverine flood areas.



Source: 2018 Dawson County HAZUS Report

Land Use & Development Trends

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

Natural Hazard: **Flooding**

adhere to the Georgia State Minimum Standard Codes and the International Building Codes. Currently, the Dawson County municipality of Dawsonville also participate in NFIP.

There are no repetitive loss properties identified in Dawson County.

Multi-Jurisdictional Considerations

During a large-scale flood event, many portions of Dawson County would potentially be impacted by flooding. However, the area's most prone to flooding have historically been those areas located within the 100-year floodplain. All of Dawson County and the City of Dawsonville could potentially be impacted.

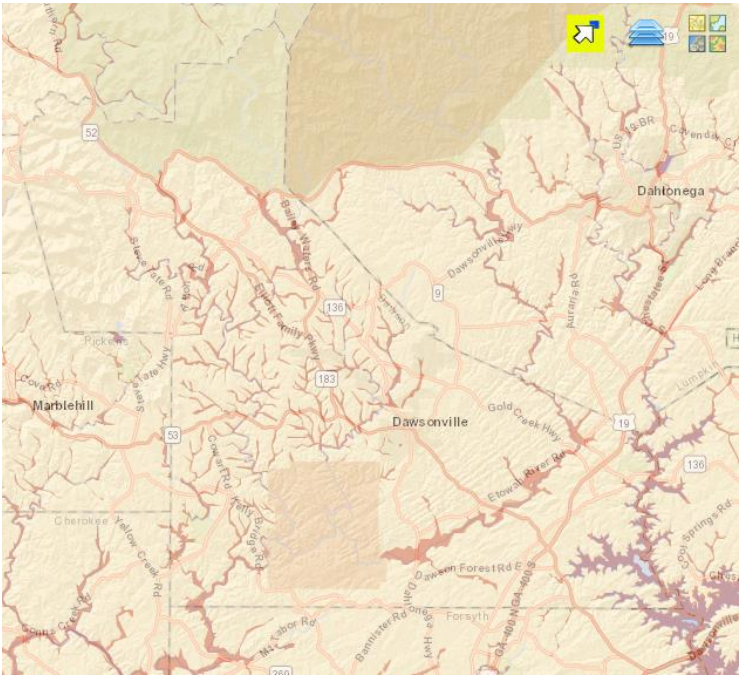
Hazard Summary

Flooding has the potential to inflict significant damage within Dawson County, particularly along Lake Lanier and its distributaries. 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.

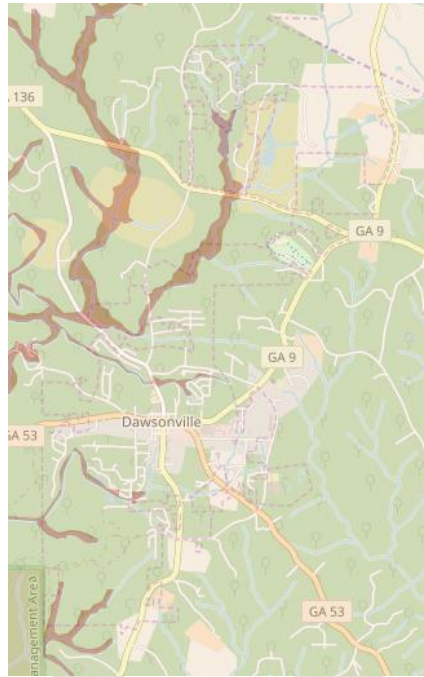
There are no repetitive loss properties identified in Dawson County.

Natural Hazard: **Flooding**

Dawson County



Dawsonville



All Flood Maps are from the GEMA Georgia Mitigation Information System (GMIS)

Natural Hazard: Tornado

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 fairly 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 range 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.

Natural Hazard: Tornado

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

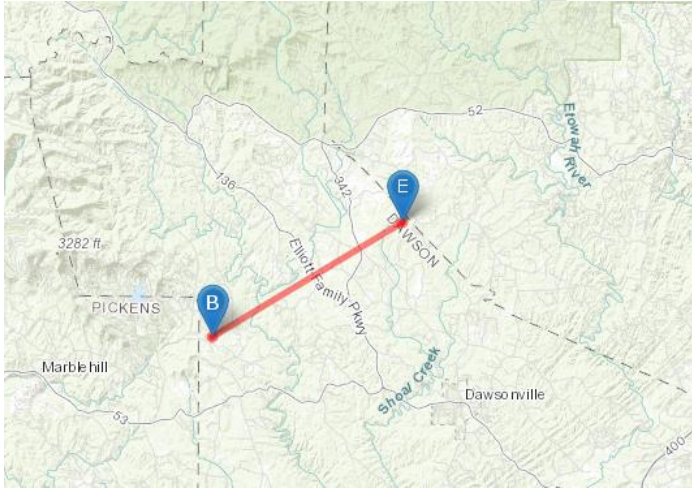
Hazard Profile

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 has been only 2 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.

Based on the 50-year information available for Dawson County, a tornado occurs every 50 years. On an annual basis, Dawson County has a 4% chance of being impacted from a tornado event. When only the last twenty years are considered, the

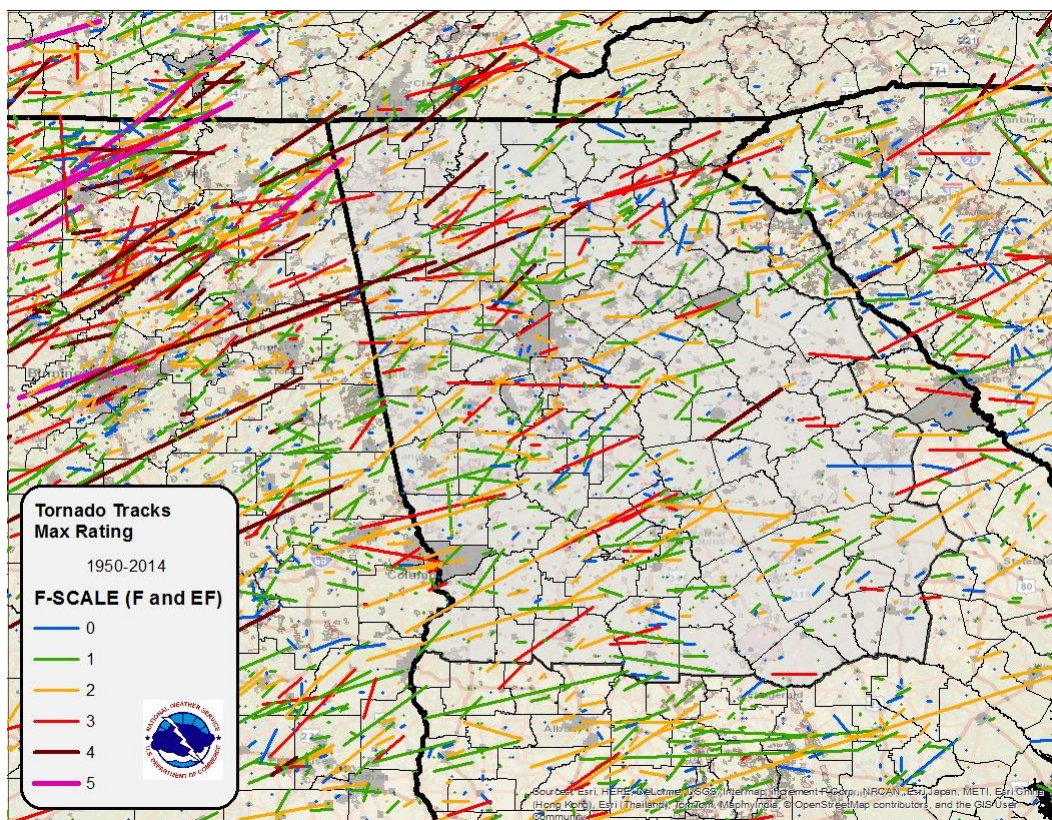
likelihood of a tornado affecting Dawson County increases to 5% (1 tornado since 1997).

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 F4 in 1974. This storm traveled through the community of Juno. The storm caused \$2.5 million in damages and led to 15 injuries and 3 deaths in Dawson County. For additional historical data, please see Appendix D.



1974 F4 Tornado Track (National Climactic Data Center)

Natural Hazard: **Tornado**



Assets Exposed to the Hazard

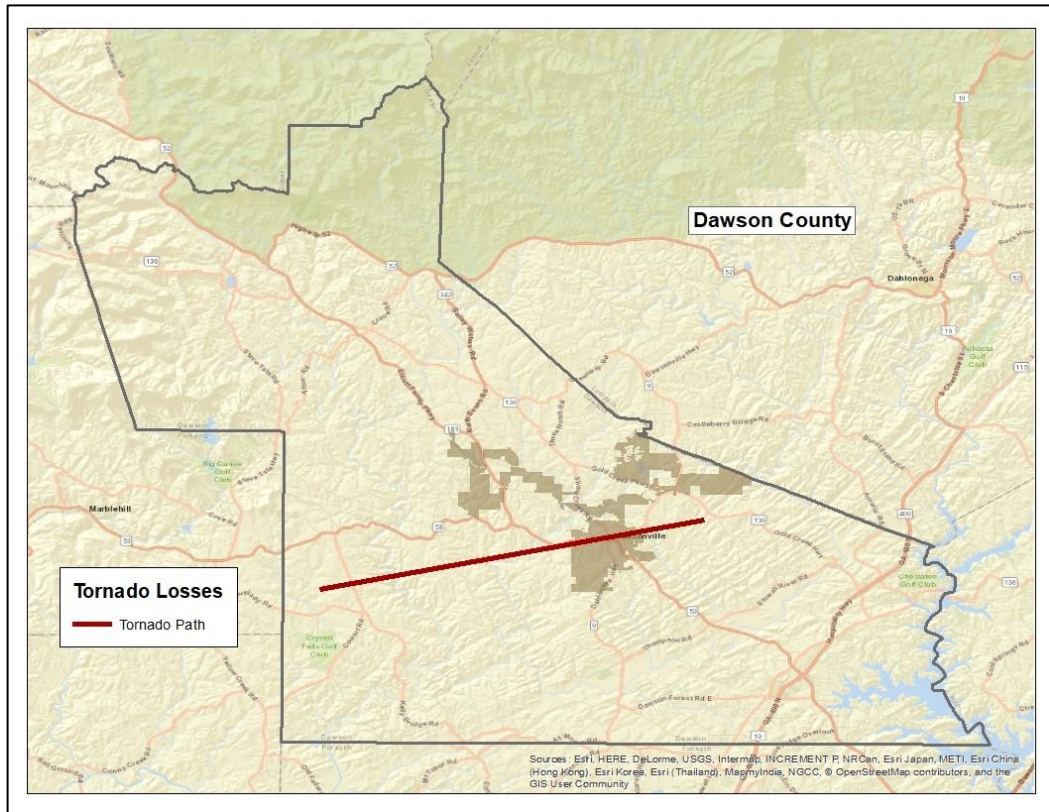
In evaluating assets that are susceptible to tornadoes, the Dawson County HMPC determined that all public and private property is threatened by tornadoes, including all critical facilities. This is due to the lack of spatial prejudice of tornadoes.

Estimated Potential Losses

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 20 years are considered, yearly estimations decrease dramatically to \$10,000 annually.

Within the HAZUS report, a theoretical tornado path for an EF3 was identified that would inflict maximum damage. HAZUS estimated that this theoretical tornado would cause damage to approximately 257 buildings and result in losses in excess of \$11 million with Dawsonville suffering the greatest economic impacts.

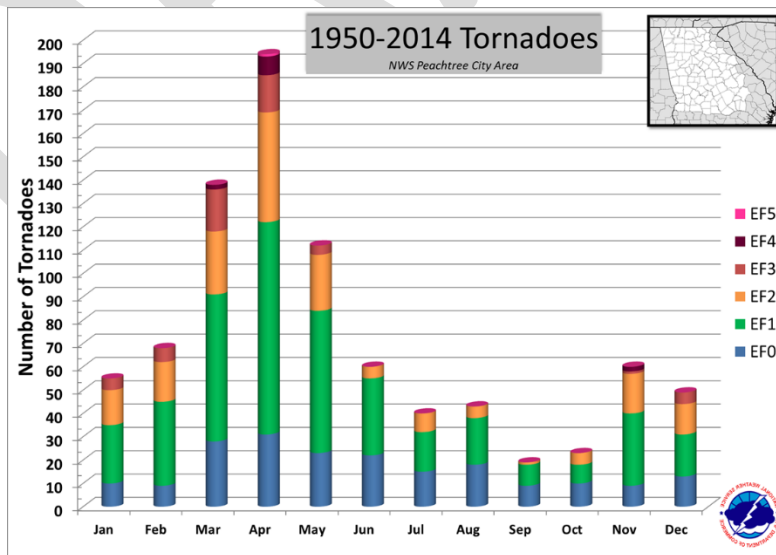
Natural Hazard: Tornado



Source: 2017 Dawson County HAZUS Report

Land Use & Development Trends

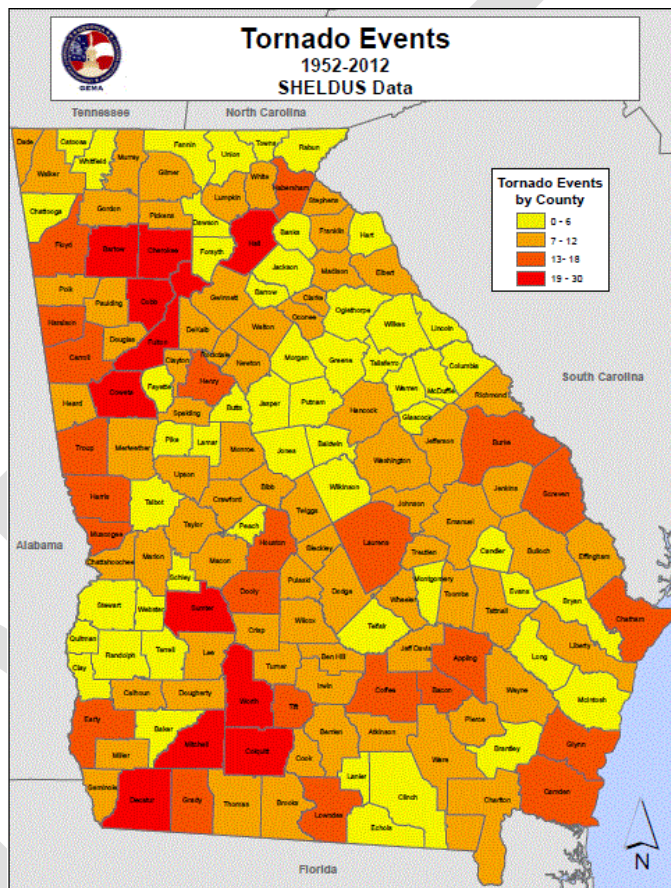
Dawson County currently has no land use trends related to Tornadoes.



Natural Hazard: **Tornado**

Multi-Jurisdictional Considerations

All portions of Dawson County could potentially be impacted by a tornado due to the indiscriminate nature of tornadic events. Therefore, all mitigation actions identified regarding tornadoes should be pursued on a countywide basis and include the City of Dawsonville.



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Hazard Summary

Dawson County remains at risk to potential damage from tornadoes, especially considering the average of one tornado every 50 years over the last 50 years. 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.

Natural Hazard: Drought*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 1 to 3 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 have to 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 due to the fact that 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.

Hazard Profile

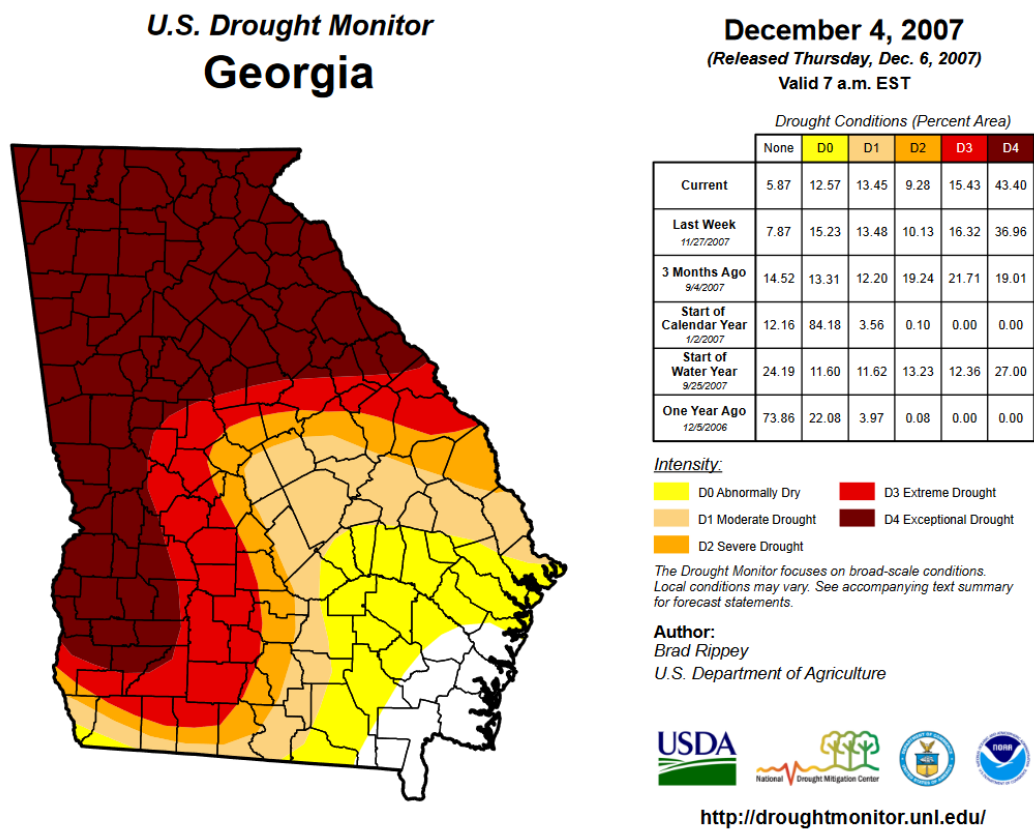
The Dawson County HMPC reviewed data for the last 50 years regarding drought conditions. Historically, agricultural losses have accounted for the vast amount of losses related to drought conditions.

Natural Hazard: **Drought**

(Hazard Profile Continued)

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. This amounts to a 50% chance of a drought for a given year over the last 20 years. The economic impact of these droughts, including crop damage, is not available.

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

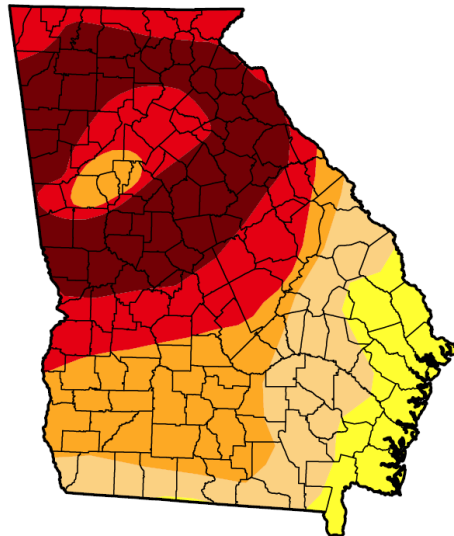


Source: USDA Drought Monitor – University of Nebraska-Lincoln

Natural Hazard: **Drought**

U.S. Drought Monitor
Georgia

December 6, 2016
(Released Thursday, Dec. 8, 2016)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	89.31	72.00	50.18	27.25
Last Week 11/29/2016	0.00	100.00	88.87	74.56	62.36	33.22
3 Months Ago 9/6/2016	41.84	58.16	39.80	27.26	5.27	0.00
Start of Calendar Year 12/29/2015	87.36	12.64	0.00	0.00	0.00	0.00
Start of Water Year 9/27/2016	35.37	64.63	45.84	34.50	14.67	1.58
One Year Ago 12/8/2015	88.59	11.41	0.00	0.00	0.00	0.00

Intensity:
 D0 Abnormally Dry D3 Extreme Drought
 D1 Moderate Drought D4 Exceptional Drought
 D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC



Source: USDA Drought Monitor – University of Nebraska-Lincoln

Events of this extent can cause water shortages for residential and corporate needs, as well as affecting the ability for firefighting operations to be properly effective. Drought conditions of this extent can have devastating effects on the local agricultural industries, which has occurred in previous D4 level droughts.

Assets Exposed to the Hazard

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. Water resources could also become scarce during a drought, a condition that would potentially affect all Dawson County residences and critical facilities.

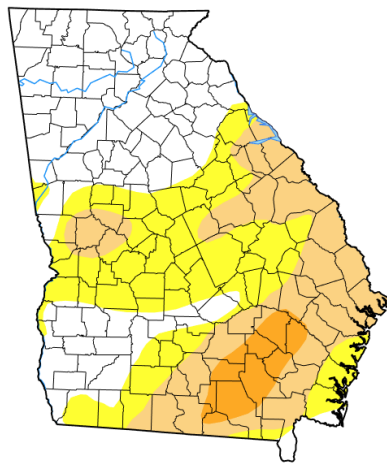
Estimated Potential Losses

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. Water system shortages and need for supply assistance for those systems could also lead to economic losses associated with the drought.

Natural Hazard: Drought

According to the 2012 Agriculture Census data, Dawson County’s market value of products sold was \$54,312,000. \$626,000 of that total represented crop sales, accounting for 1.2% of the total. Livestock sales accounted for 98.7%, or \$53,686,000, of the total value.

Georgia



Map released: Thurs. May 10, 2018
Data valid: May 8, 2018 at 8 a.m. EDT

Intensity:

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)

Author(s):

[David Simeral](#), Western Regional Climate Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Map Download

Map without text:

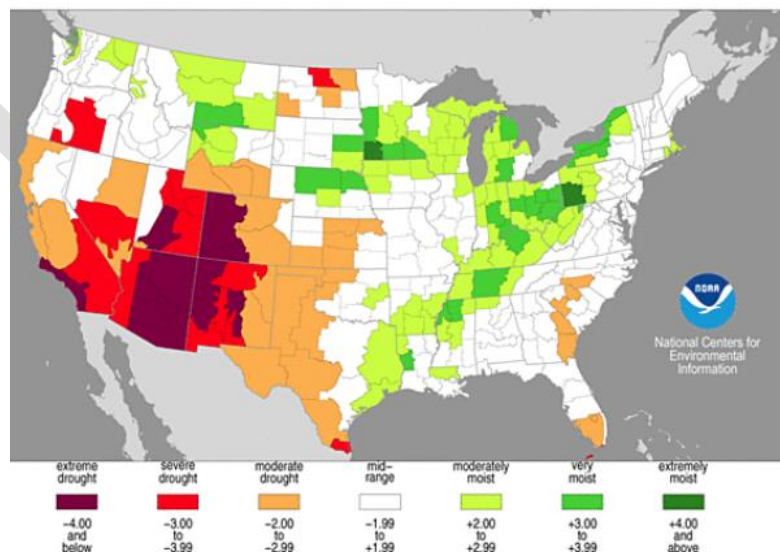


Map with legend:



Source: United States Drought Monitor (University of Nebraska-Lincoln)

Palmer Drought Severity Index
April, 2018



Source: National Integrated Drought Information System

Natural Hazard: Drought

Land Use & Development Trends

As growth continues, drought can become a larger threat for Dawson County due to the 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.

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. Therefore, all mitigation actions identified regarding drought should be pursued on a countywide basis and include the City of Dawsonville.

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.

Natural Hazard: Wildfire*Hazard Description*

A wildfire is an uncontained fire that spreads through the environment. Wildfires have the ability to 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 as long as 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.

Natural Hazard: Wildfire*(Hazard Description Continued)*

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 is 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.

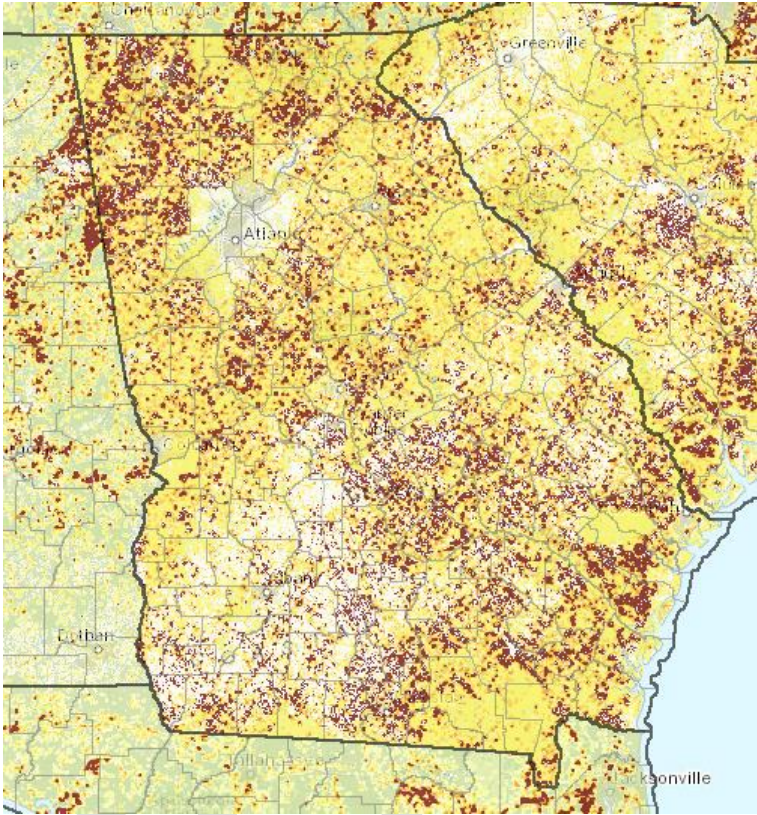
Hazard Profile

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.

Wildfire statistics were not available for the 50 year timeframe at the time of this profile. The Community Wildfire Protection Plan (CWPP) for Dawson County is currently under review and update by the Georgia Forestry Commission. This plan, once completed, will include statistics and mitigation strategies that can be incorporated into the Dawson County Hazard Mitigation Plan Update during annual reviews.

Natural Hazard: **Wildfire**

Georgia Wildfire Ignition Density



Source: Southern Group of State Foresters Wildfire Risk Assessment Portal

Assets Exposed to the Hazard

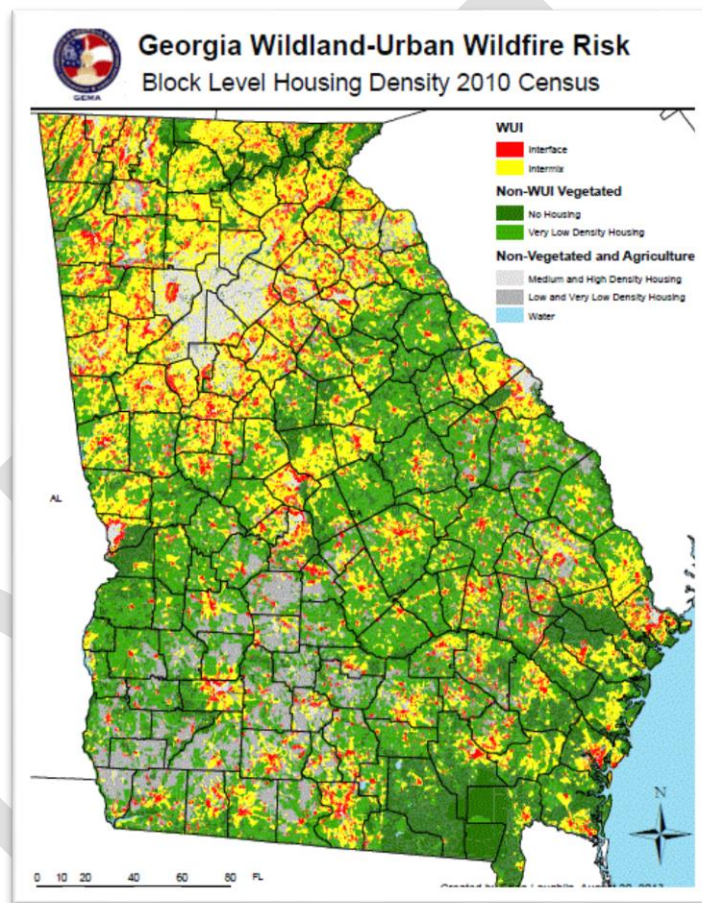
All public and private property located within the Wildland-Urban Interface, including critical infrastructures, are susceptible to impacts from wildfires. Due to the large area of wildland area in Dawson County and the large amount of WIU, all public and private property, including critical infrastructures,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

Estimated Potential Losses

Little information is available regarding damages, in terms of dollars, for wildfire losses in Dawson County. According to the 2012 Ag Census by the USDA, Dawson County has \$626,000 in annual crop sales. These areas would potentially be impacted by a wildfire event.

Natural Hazard: Wildfire*Land Use & Development Trends*

With the continued increase in population, Wildland-Urban Interface (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.

*Multi-Jurisdictional Considerations*

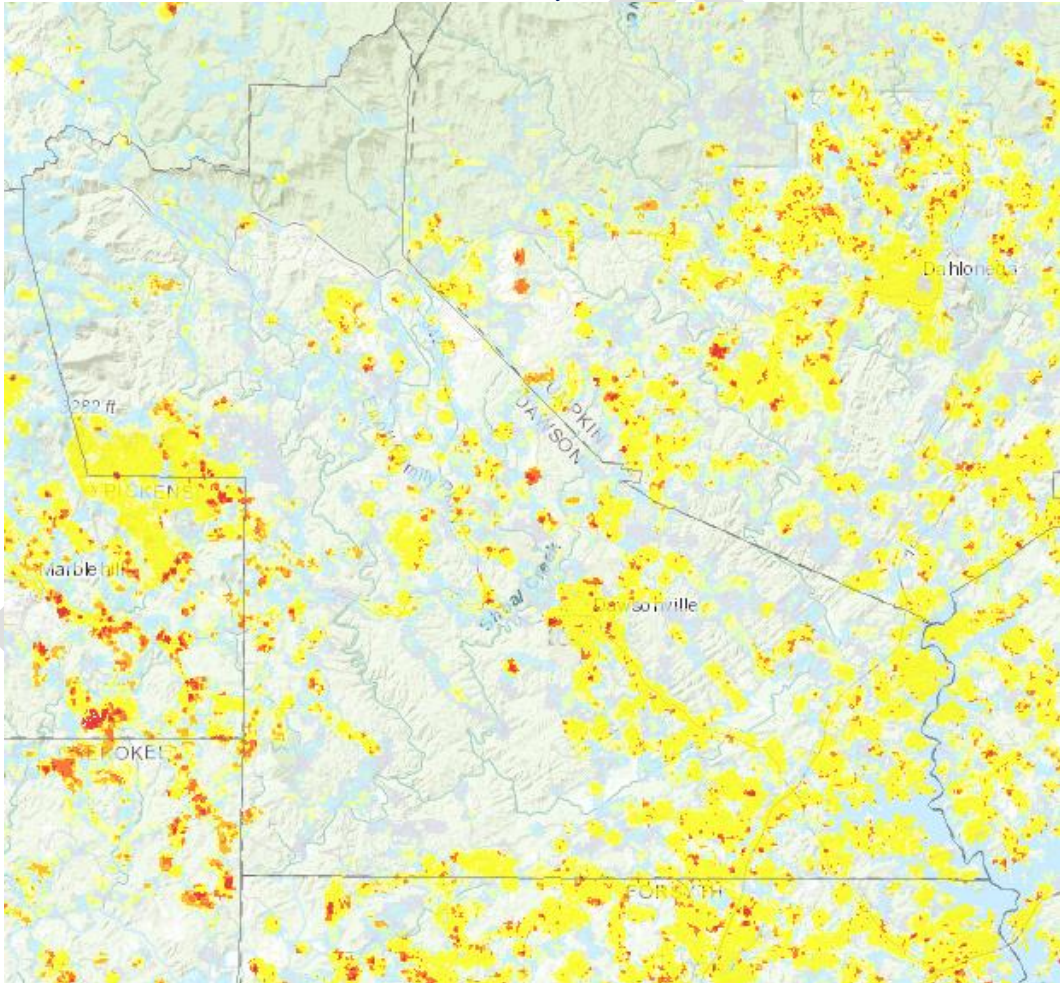
All portions of Dawson County, including the City of Dawsonville, could potentially be impacted by a wildfire due to the large amount of Wildland-Urban Interface, but the less developed areas of the county are more vulnerable. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and include the City of Dawsonville.

Natural Hazard: **Wildfire**

Hazard Summary

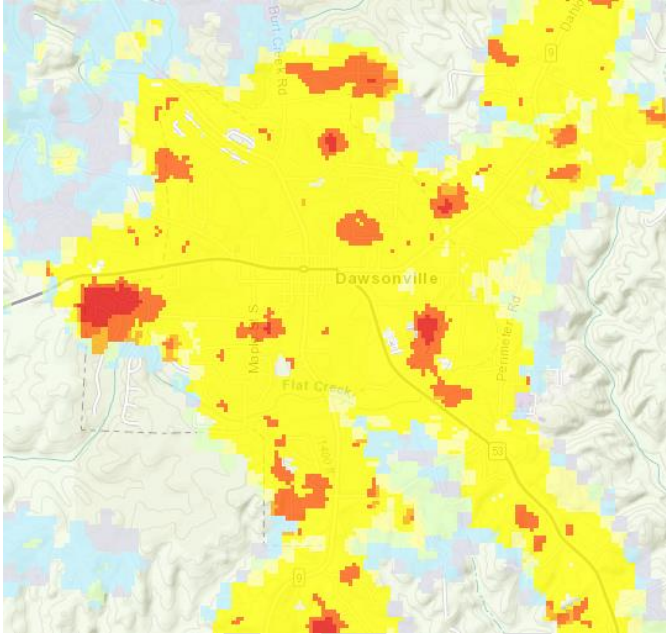
Wildfire is a significant threat to Dawson County due to the increased amount of Wildland-Urban Interface. The increasing amount of area where structures and other human development meets undeveloped, wildland property is where 98% of Dawson County’s population lives. The mitigation measures identified 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.

Dawson County WUI Risk

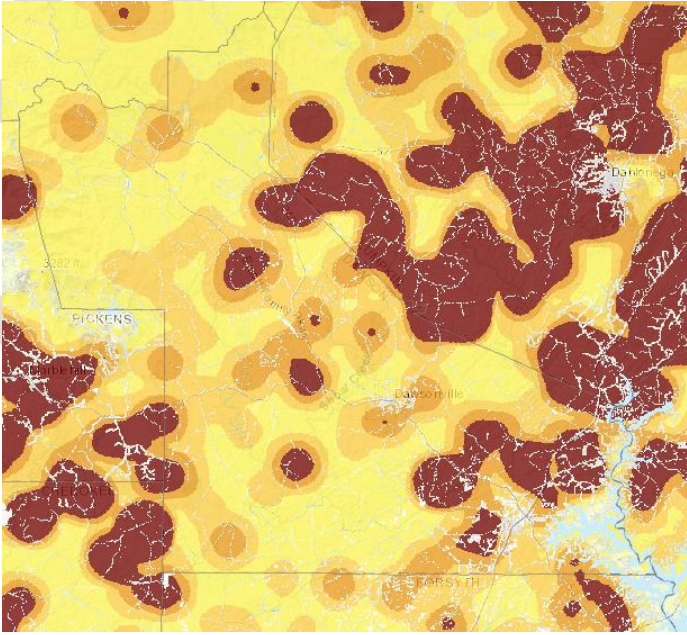


Natural Hazard: **Wildfire**

Dawsonville WUI Risk



Dawson County Wildfire Ignition Density



All maps in this section are from the Southern Group of State Foresters Wildfire Risk Assessment Portal

Natural Hazard: Earthquakes

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 the majority of 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.

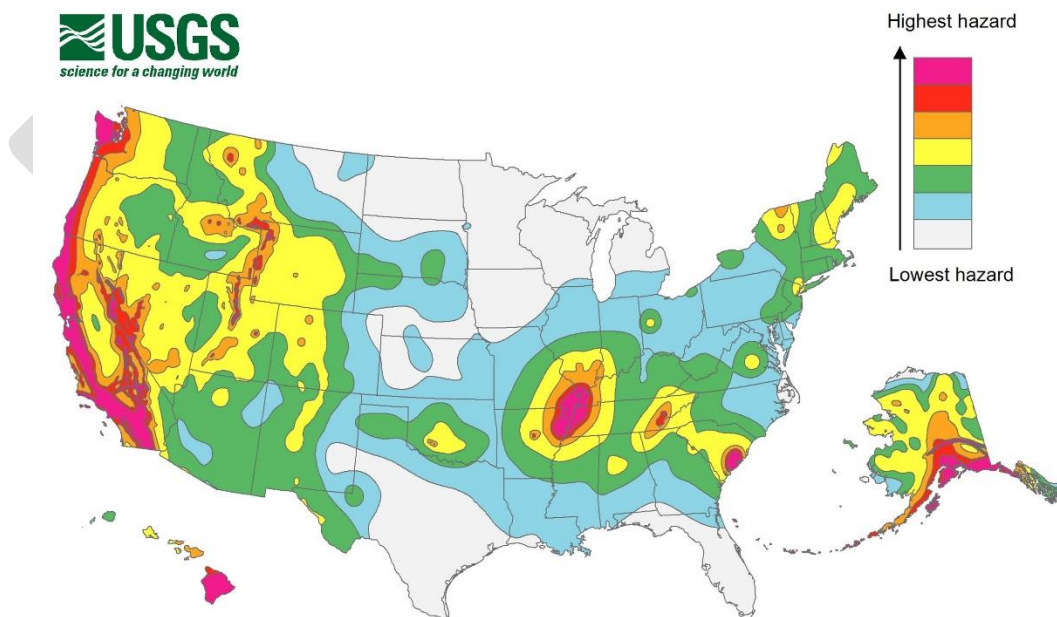
The fourth earthquake damage-causing phenomena are earthquake-induced ground failures, including liquefaction and landslides. During an earthquake, the areas that are rich in sand and silt have groundwater within 30 feet of the surface temporarily behave as viscous fluids during strong ground shaking. 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.

Natural Hazard: Earthquakes*(Hazard Description Continued)*

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.



Source: United States Geological Survey (USGS)

Natural Hazard: **Earthquakes**

Hazard Profile

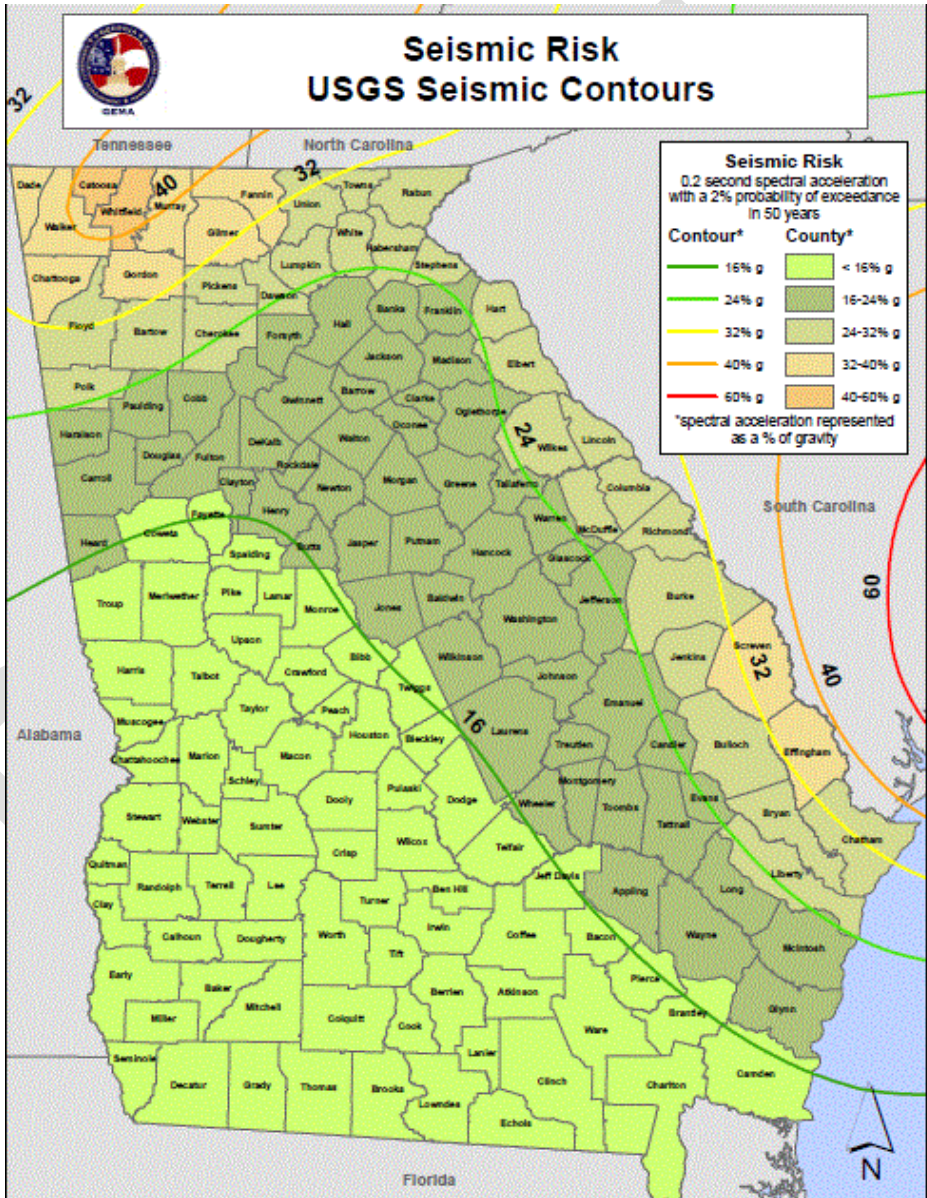
Dawson County is not one of the 37 Georgia counties with the highest earthquake risk, according to the Georgia Emergency Management Agency and Georgia Tech School of Earth and Atmospheric Sciences. In reviewing data of the last 50 years, no earthquakes have originated from within Dawson County. However, earthquakes with a magnitude of 2.0 or greater have occurred as close as McCaysville, GA. 7 earthquakes have originated within 50 miles of Dawsonville, GA in the last 50 years. The strongest earthquake to occur within this radius was a 3.2 that occurred in North Carolina, just north of McCaysville, GA. Historically, the 1886 Charleston, SC earthquake, estimated to be between 6.6 and 7.3 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.

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

Natural Hazard: Earthquakes

Assets Exposed to the Hazard

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



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Natural Hazard: **Earthquakes**

Estimated Potential Losses

Little information is available regarding damages, in terms of dollars, for earthquake losses in Dawson County. .

Land Use and Development Trends

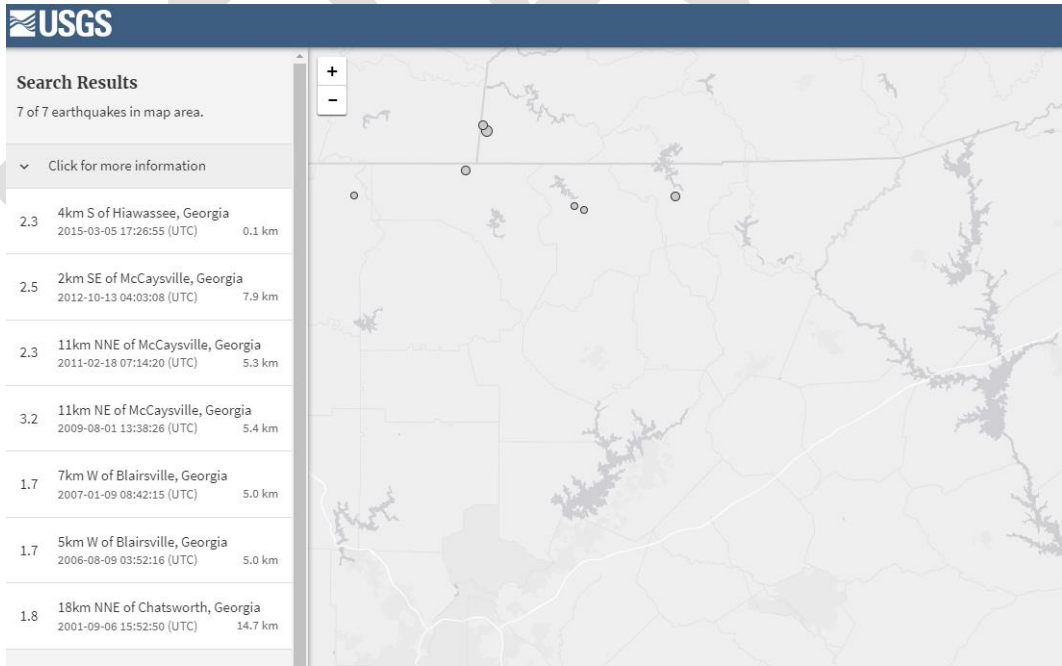
Dawson County currently has no land use trends related to Earthquakes.

Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, potentially could be threatened by earthquakes. As such, all earthquake mitigation actions should be pursued on a countywide basis and include the City of Dawsonville.

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.



Source: United States Geological Survey (USGS) Earthquake Hazards Program

Natural Hazard: Tropical Cyclone

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.

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			

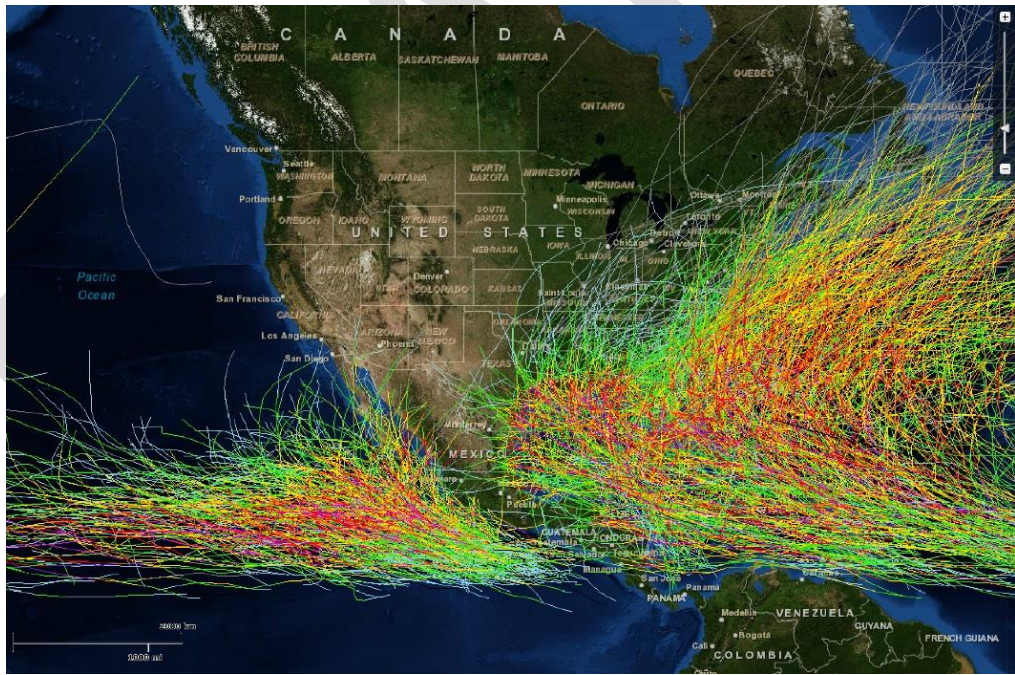
Natural Hazard: Tropical Cyclone

(Hazard Description Continued)

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.



Hazard Profile

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

Natural Hazard: Tropical Cyclone

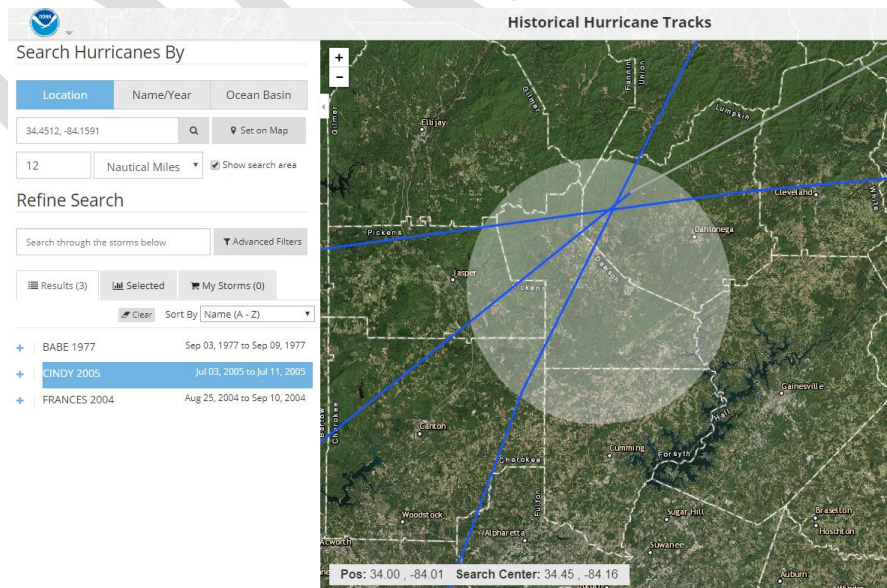
(Hazard Profile Continued)

have been fourteen documented impacts from Topical Cyclones in Dawson County. This equates to a 28% chance of a tropical cyclone impacting Dawson County in any given year. All of these impactful storms have occurred in the last 16 years, which equates to a 87% chance of a tropical cyclone impacting Dawson County in a given year. The Dawson County Hazard Mitigation Update Committee believes this percentage is more representative of the potential impact.

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.

Within the HAZUS report, a theoretical Tropical Cyclone impact was identified that matches the expected extent of a 100-year storm. This theoretical storm would maintain Tropical Storm force into Dawson County with maximum winds of 64 mph. HAZUS estimated that this theoretical storm would cause extensive damage to approximately 1 building and result in losses in excess of \$280,000 and a total loss ratio of 0.02%.

Even with the infrequent occurrences, the impacts that would result from hurricane or tropical storm forces on the citizens, infrastructure, and critical facilities of Dawson County could be potentially catastrophic in nature.



Source: Office of Coastal Management (NOAA)

Natural Hazard: **Tropical Cyclone**

Assets Exposed to the Hazard

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

Estimated Potential Losses

Little information is available regarding damages, in terms of dollars, is available for tropical cyclone losses in Dawson County. Most losses for these events have been labeled under other impacts, such as tornadoes and flooding.

Land Use and Development Trends

Dawson County currently has no land use trends related to Landslides.

Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, potentially could be threatened by tropical cyclones. As such, all tropical cyclone mitigation actions should be pursued on a countywide basis and include the City of Dawsonville.

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 four Federally Declared Disaster related to Tropical Cyclones, most recently in 2017 (Hurricane Irma).

Dawson County Tropical Storm Impacts

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Type</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>
Totals:					0	0	600.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/14/2002	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	07/01/2003	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/06/2004	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/16/2004	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/26/2004	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	06/12/2005	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	07/06/2005	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	07/10/2005	Hurricane (typhoon)	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	08/29/2005	Hurricane (typhoon)	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	10/05/2005	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/14/2007	Hurricane (typhoon)	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	08/21/2008	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	11/10/2009	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/04/2011	Tropical Storm	0	0	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	09/11/2017	Tropical Storm	0	0	600.00K
Totals:					0	0	600.00K

DRAFT

Technological Hazard: Hazardous Materials*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.

Hazard Profile

Data from the United States Coast Guard National Response Center was reviewed regarding hazardous materials spill history in Dawson County. Data is available from 1982 to 2016 and all available data was reviewed. There were 5 NRC reported hazardous materials spills or releases in Dawson County over a 25 year period. It is anticipated that many more hazardous materials incidents have occurred over the last 25 years, but have not been reported. According to the NRC data, Dawson County averages 0.2 hazardous materials incidents of a reportable amount in any given year or one incident every 5 years. The greatest threat for a hazardous materials spill comes from the transportation of materials through Dawson County. This is particularly true for the US Highway 19 corridor that runs through the center of the county.

Hazardous materials releases can also be the result of railway or fixed facility incidents. Fixed facilities continue to be an increasing concern due to Dawson County's growing industrial footprint. 40% of reported hazardous materials incidents have occurred at fixed facilities.

Technological Hazard: Hazardous Materials*Assets Exposed to Hazard*

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 particular 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.

Estimated Potential Losses

Estimation of potential losses is difficult with regard to 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.

Land Use and Development Trends

Dawson County currently has no land use trends related to Hazardous Materials.

Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, are vulnerable to both fixed facility and transportation-related hazardous materials releases.

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.

Technological Hazard: Dam Failure*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.

Hazard Profile

There are 6 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.

The threat of a dam failure in Dawson County could potentially lead to downstream flooding. This downstream flooding would have many of the same hazards as a flood event, but with the onset of such an event being much quicker than in a typical flood event.

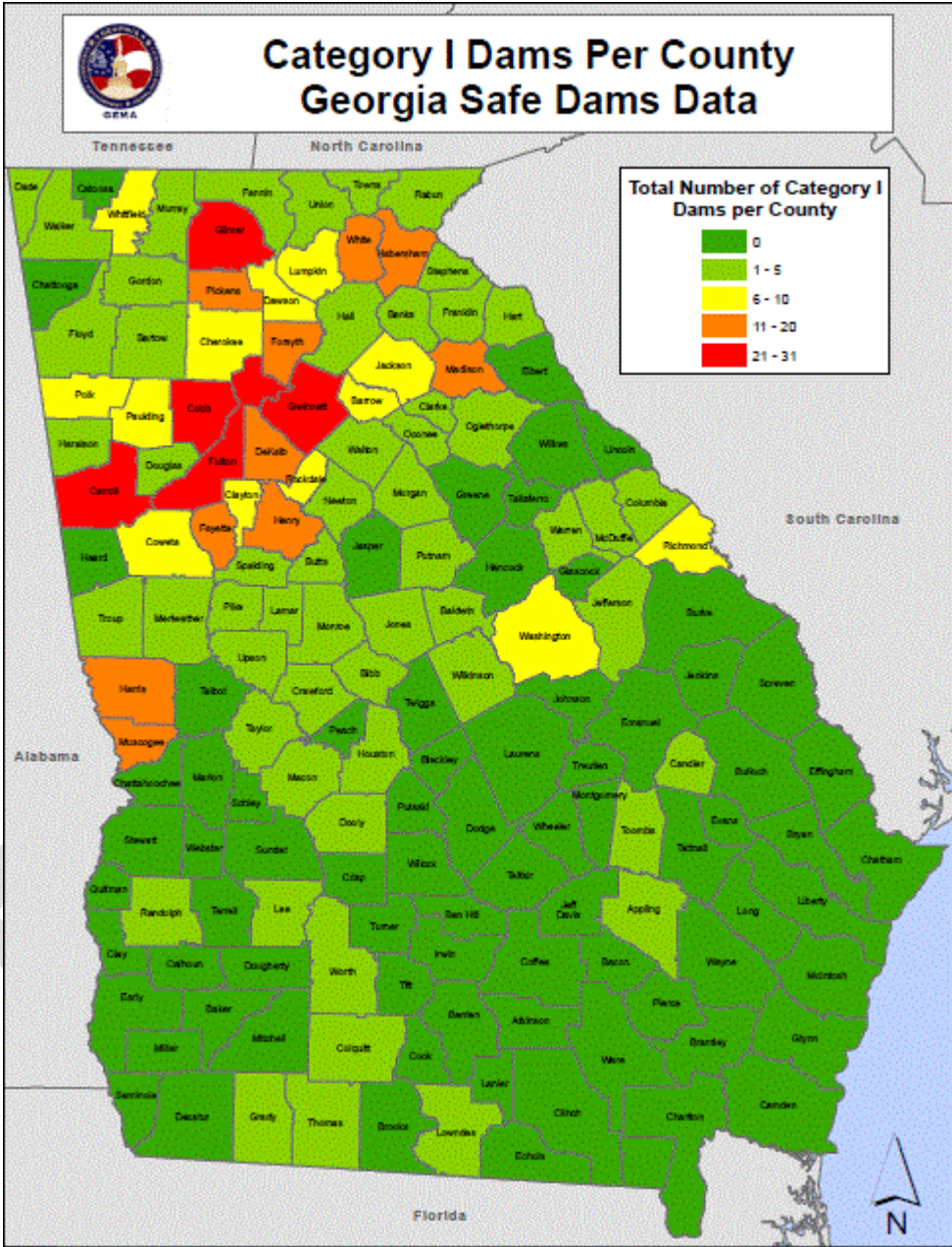
Assets Exposed to Hazard

To evaluate the assets that would potentially be impacted by a dam failure, the Dawson County HMPC attempted to identify known structures within, or close to, the 100-year floodplain. The City of Dawsonville could be exposed to the hazards of other dams or face secondary hazards from the category I dams.

Estimated Potential Losses

Loss estimations are not applicable since it is not known which dam will fail and how significant of failure will occur.

Technological Hazard: **Dam Failure**



Source: 2014 State of Georgia Hazard Mitigation Strategy (most up-to-date version)

Technological Hazard: Dam Failure*Land Use and Development Trends*

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.

Multi-Jurisdictional Considerations

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

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 six Category I dams located in Dawson County. As a result, mitigation efforts for dam failure should be focused in this potentially affected area.

Technological Hazard: Transportation Incident*Hazard Description*

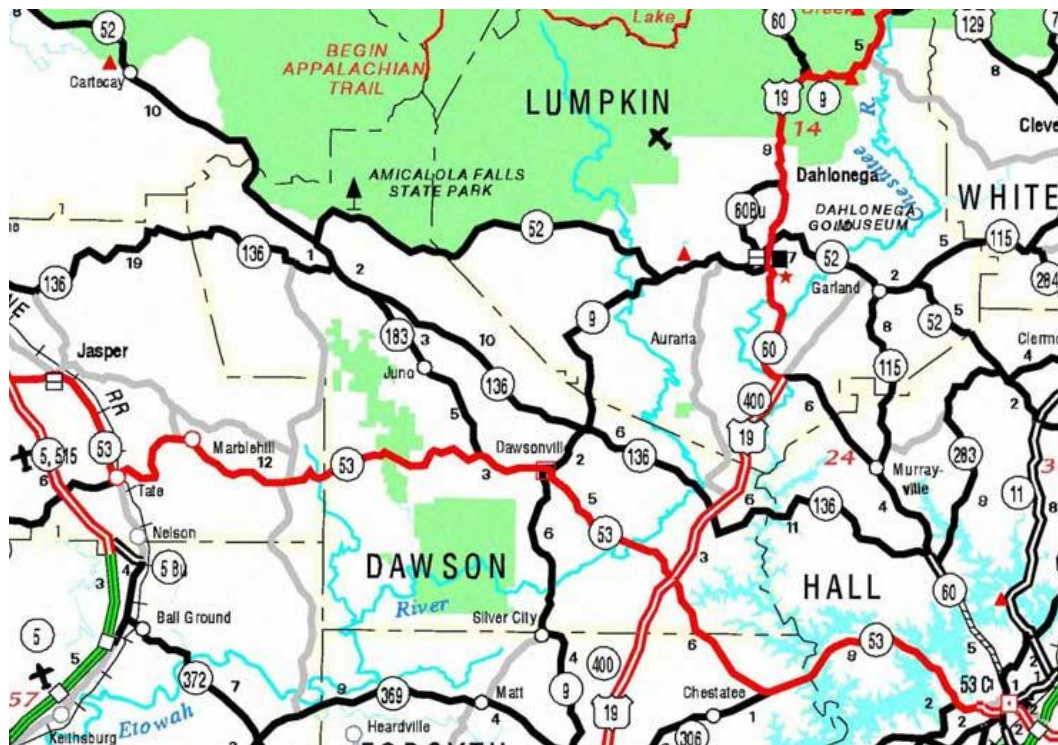
There are many secondary hazards that could be associated with transportation incidents. Injuries or deaths can occur as a result of the impact of a transportation accident, by a hazardous materials release as a result of a transportation incident, or by other related transportation hazards. Transportation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

Hazard Profile

Transportation incidents are of a significant concern in Dawson County. Passing through Dawson County are US Highway 19, and Georgia Highways 9, 52, 53, 136, 183, and 400.

Technological Hazard: Transportation Incident*Assets Exposed to Hazard*

All assets and critical facilities located along or near any transportation route could potentially be impacted by a transportation incident. Areas within Dawson County that are not located along or near a transportation route could still face residual impacts.

Estimated Potential Losses

Estimated potential losses cannot be anticipated with this event due to the vast number of differing scenarios regarding transportation incidents.

Land Use and Development Trends

Dawson County currently has no land use trends related to Transportation Incidents beyond an increase in overall population which, in turn, increases the likelihood and potential impact of a transportation incident.

Multi-Jurisdictional Considerations

Dawson County as well as the City of Dawsonville could potentially be impacted by a transportation incident. However, areas along US Highway 19 are the greatest at risk.

Technological Hazard: Transportation Incident*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.

Technological Hazard: Terrorism*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.

Hazard Profile

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. Terrorism includes a multitude of potential approaches, including agro-terrorism, which is terrorism targeted toward agriculture. Due to the high economic impact of agriculture in Dawson County, agro-terrorism could be of particular concern. Additionally, a terrorist contamination of Dawson County's water supply is also of particular concern.

Technological Hazard: **Terrorism**

While active shooter situations are not always classified as terrorism, for this plan, the Dawson County HMPC has chosen to classify them as such. Active shooter situations can occur in any location, including businesses, schools, government buildings, and public spaces. Schools are seen as particularly vulnerable to these types of situations due to the high publicity of recent active shooter events. While active shooter events and other acts of terrorism occur worldwide, they have low probability for Dawson County but would have devastating impacts if they were to occur. To help mitigate some of these impacts, Dawson County has exercised an active shooter response in the past to better prepare for any such event.

Assets Exposed to the Hazard

Due to the unpredictable nature of terrorism, all public and private structures are threatened by the terrorism hazard. This includes all critical facilities.

Estimated Potential Losses

Losses due to terrorism are difficult to estimate due to the unpredictable nature of terrorism. The type of terrorist act carried out, location of the act, and the impact of the act would all affect the potential losses. Please see the critical facilities information for estimated potential losses for each critical facility.

Land Use and Development Trends

Dawson County currently has no land use trends related to Terrorism.

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 considered to be at the greatest risk.

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.

Technological Hazard: Communications Failure*Hazard Description*

Communications infrastructures are particularly vulnerable to both natural and manmade hazards. 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 a solo incident itself.

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

Hazard Profile

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

Assets Exposed to Hazard

All assets and critical facilities within Dawson County could potentially be impacted by a transportation incident.

Estimated Potential Losses

Estimated potential losses cannot be anticipated with this event due to the vast number of differing scenarios regarding communications failure.

Land Use and Development Trends

Dawson County currently has no land use trends related to communications failures.

Multi-Jurisdictional Considerations

Dawson County as well as the City of Dawsonville could potentially be impacted by a communications failure. However, the City of Hiawassee is particularly vulnerable due to population density and higher reliability on technological communications.

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.

Technological Hazard: Emergent Infectious Diseases*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 actually beneficial. However, some of these organisms are pathogenic, meaning they cause or have the ability to 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 comes into contact with 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 one infectious diseases – seasonal influenza and pneumonia – ranks 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 of these.

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.

Technological Hazard: Emergent Infectious Diseases

During the last 25 years, emergent and re-emergent infectious diseases have been on the rise. The below table outlines some of the contributing factors to this rise:

Contributing Factors to Increasing Occurrence of Emergent Diseases	
Agent-Related Factors	
<ul style="list-style-type: none"> • Evolution of pathogenic infectious agents • Development of resistance to drugs • Resistance of disease carriers to pesticides 	
Host-Related Factors	
<ul style="list-style-type: none"> • Human demographic changes (humans inhabiting new areas) • Human behavior (sexual practices and drug use) • Human susceptibility to infection 	
Environment-Related Factors	
<ul style="list-style-type: none"> • 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.

CDC-Identified Emergent and Re-emergent Infectious Diseases	
Drug-resistant Infections	Mad Cow/Variant Creutzfeldt-Jakob Diseases
Campylobacteriosis	Chagas Disease
Cholera	Cryptococcosis
Cryptosporidiosis (Crypto)	Cyclosporiasis
Cysticercosis	Dengue Fever
Diphtheria	Ebola Hemorrhagic Fever
Group B Streptococcal Infection	Hantavirus Pulmonary Syndrome
Hepatitis C	Hendra Virus Infection
Histoplasmosis	HIV/AIDS
Influenza	Lassa Fever
Legionnaires' Disease and Pontiac Fever	Leptospirosis
Listeriosis	Lyme Disease
Malaria	Marburg Hemorrhagic Fever
Measles	Meningitis
Monkeypox	MRSA
Nipha Virus Infection	Norovirus Infection
Pertussis	Plague
Polio	Rabies
Rift Valley Fever	Rotavirus Infection
Salmonellosis	SARS
Shigellosis	Smallpox
Sleeping Sickness (Trypanosomiasis)	Tuberculosis
Tularemia	Valley Fever (Coccidioidomycosis)
VISA/VRSA	Staphylococcus Aureus
West Nile Virus Infection	Yellow Fever

Technological Hazard: Emergent Infectious Diseases*Hazard Profile*

Emergent Infectious diseases are of significant concern to the Dawson County HMPC, particularly those that would have an impact on the human population or animal population of Dawson County. Dawson County would 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. The most recent pandemic scare in the Central Georgia area was 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.

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)

Assets Exposed to the Hazard

Due to the unpredictable nature of emergent infectious diseases, all public and private structures are threatened by the hazard. This includes all critical facilities.

Estimated Potential Losses

Losses due to emergent infectious diseases are difficult to estimate due to the unpredictable nature of the hazard. The type of emergent infectious disease, location of the outbreak, and the impact of the outbreak would all affect the potential losses. Please see the critical facilities information for estimated potential losses for each critical facility.

Technological Hazard: Emergent Infectious Diseases*Land Use and Development Trends*

Dawson County currently has no land use trends directly related to emergent infectious diseases.

Multi-Jurisdictional Considerations

All of Dawson County, including the City of Dawsonville, are vulnerable to emergent infectious diseases. However, livestock and other farm animals are considered to be the greatest at risk, along with areas with large, concentrated populations, such as schools.

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.

Chapter Four
-
hazard mitigation strategies

Summary of Updates to Chapter Four

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 2012.

Chapter 4 Section	Updates
Goals and Objectives	<ul style="list-style-type: none"> • Updated goals to match the needs of Dawson County and the City of Dawsonville
Identification and Analysis of Mitigation Techniques	<ul style="list-style-type: none"> • The beginning of this section includes new information regarding rating the mitigation strategies based upon the EMAP Standard Hazard Mitigation Section • The Mitigation Strategies have been updated, reorganized by objective, and new strategies have been added • A chart of completed Mitigation Strategies has been added
Multi-Jurisdictional Considerations	<ul style="list-style-type: none"> • Revised • Multi-Jurisdictional considerations listed for each identified hazard

Goals and Objectives

Requirement §201.6(c)(3)

Requirement §201.6(c)(3)(i)

It is important 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 the development of 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, both for the general public and the response ability of local jurisdictions, including Dawson County. Because of the recentness of the impacts of these hazards and the devastation that occurred, these types of events have taken a greater priority, particularly in the increased priority of mitigation strategies directly related to these events and the development of new mitigation strategies related to these hazards.

Each jurisdiction covered by the Dawson County Hazard Mitigation plan update – Dawson County and the City of Dawsonville – has limited ability to fully implement the mitigation actions described in this plan. These jurisdictions are severely hampered by their small population and tax base when attempting to raise sufficient revenue to pursue many of these actions. All jurisdictions lack the needed financial strength and staffing to implement all of the actions described in this plan. Many of the actions will be pursued through grant programs and by partnering with public and private organizations who can supplement the needed resources to accomplish the goals outlined in this plan. For actions where grant funding or partnerships are not available, Dawson County or municipality revenue streams may be supplemented through Special Purpose Local Option Sales Tax (SPLOST) funds, which are 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 communities against the impacts of disasters through the development of new mitigation strategies and strict enforcement of current regulations that have proven effective

GOAL 3 Reduce and, where possible, eliminate repetitive damage, loss of life and property from disasters

GOAL 4 Bring greater awareness throughout the community about potential hazards and the need for community preparedness

These objectives state a more specific outcome that Dawson County strives to accomplish over the next five years. Action steps are the specific steps necessary to achieve these objectives. Objectives are not listed in order of importance.

OBJECTIVE 1 Reduce damage to property and loss of life from flooding

OBJECTIVE 2 Minimize the damage to property and loss of life resulting from high wind events

OBJECTIVE 3 Provide advanced severe weather warning

OBJECTIVE 4 Provide educational awareness to citizens regarding the dangers of natural hazards

OBJECTIVE 5 Implement initiatives for water conservation and wildfire protection

OBJECTIVE 6 Increase the ability of Dawson County, the City of Dawsonville, and its citizens to respond to natural and manmade hazards

OBJECTIVE 7 Maintain continuity of critical operations during and after hazard events

OBJECTIVE 8 Minimize damage to property and loss of life resulting from winter storm events

OBJECTIVE 9 Minimize the impacts on local citizens, industry, and infrastructure of a dam breach

OBJECTIVE 10 Implement additional protective measures and capabilities in response to manmade incidents

OBJECTIVE 11 Increase public awareness of local manmade hazards and proper response to those hazards

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, a wide range of activities were considered in order to help achieve the mitigation goals and objectives. This includes the following activities as 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.

Part of the prioritization includes a general assessment according to the STAPLEE criteria, which stands for Social, Technical, Administrative, Political, Legal, Economic and Environmental. This process led to three designated priorities: High, Medium, and Low. Most items that require grant funding must undergo a full Benefit Cost Analysis to determine the action’s actual cost effectiveness prior to funding. This process will be completed as part of the grant opportunity application process.

Strategy	Priority Description	Strategies within
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Priority		this priority
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.g; 2.h; 3.h; 6.m;
MEDIUM	Medium priority strategies are those strategies that will have a direct impact on mitigation Dawson County’s hazards, but will not have as large of an anticipated impact as High Priority strategies or may be focused on hazards that are not as potentially impactful or prevalent for Dawson County. These strategies may be in the earlier stages of development or score mediocre on a preliminary cost-benefit analysis	1.h; 1.i; 1.j; 1.k; 1.l; 2.a; 2.b; 2.c; 2.e; 2.f; 2.i; 3.b; 3.c; 3.g; 3.i; 4.a; 4.b; 4.c; 4.d; 4.j; 4.k; 5.a; 5.b; 5.d; 5.f; 5.g; 5.h; 5.i; 5.j; 5.k; 6.c; 6.d; 6.e; 6.f; 6.g; 6.h; 6.i; 6.j; 6.k; 6.l; 6.n; 6.o; 6.p; 6.t; 6.u; 6.v; 8.a; 8.d; 9.b; 10.a; 11.c
HIGH	High priority strategies are those strategies that would have a direct, large impact on mitigation Dawson County’s hazards. These strategies are oftentimes well-established needs of Dawson County and/or the City of Dawsonville and have score high on a preliminary cost-benefit analysis	1.a; 1.b; 1.e; 1.f; 1.g; 2.d; 3.a; 3.d; 3.e; 3.f; 3.j; 4.e; 4.f; 4.g; 4.h; 4.i; 5.c; 5.e; 5.l; 6.a; 6.b; 6.q; 6.r; 6.s; 7.a; 7.b; 7.c; 7.d; 7.e; 7.f; 8.b; 8.c; 9.a; 10.b; 10.c; 10.d; 10.e; 11.a; 11.b;

The lead agency listed in the Mitigation Strategy charts will be responsible for the jurisdictional administration and implementation of the mitigation strategy prioritization. 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-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:

Prevention

Requirement §201.6(c)(3)(ii)

Preventative activities are intended to keep hazard problems from getting worse and are typically administered through government programs or regulatory actions that influence the way land is developed and buildings are built. They are particularly effective in reducing a community’s future vulnerability, especially in areas where development has not occurred or capital improvements have not been substantial. Examples of preventative activities in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	5.c; 5.d
Earthquake	7.a
Flood	1.a; 1.b; 1.c; 1.d; 1.e; 1.f; 1.g; 1.h; 1.i; 7.a
Thunderstorms	1.a; 1.i; 2.g; 7.a
Tornadoes	2.c; 2.g; 7.a
Tropical Cyclone	1.a; 1.i; 2.c; 2.g; 7.a
Wildfire	5.c; 7.a
Winter Storms	7.a
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	9.a; 9.b
Emergent Inf. Disease	10.a
Hazardous Materials	10.a
Terrorism	9.a; 9.b; 10.a
Transportation	10.a

Property Protection

Property protection measures involve the modification of existing buildings and structures to help them better withstand the forces of a hazard, or involve the removal of the structures from hazardous locations. Examples of property protection in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	
Earthquake	
Flood	
Thunderstorms	2.a; 2.d; 2.e; 2.f; 2.i
Tornadoes	2.a; 2.d; 2.e; 2.f; 2.i
Tropical Cyclone	2.d; 2.e; 2.f; 2.i
Wildfire	
Winter Storms	
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

Natural Resource Protection

Natural resource protection activities reduce the impact of natural hazards by preserving or restoring natural areas (ex: floodplains, wetlands, steep slopes, sand dunes) and their protective functions. Parks, recreation, or conservation agencies and organizations often implement these protective measures. Examples of natural resource protection in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	
Earthquake	5.b
Flood	
Thunderstorms	5.b
Tornadoes	5.b
Tropical Cyclone	5.b
Wildfire	5.b
Winter Storms	5.b
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

Structural Projects

Structural mitigation projects are intended to lessen the impact of a hazard by modifying the environmental natural progression of the hazard event through construction. They are usually designed by engineers and managed or maintained by public works staff. Examples of structural projects in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	5.l; 6.p; 7.d; 7.e; 7.f
Earthquake	6.n; 6.o; 6.p; 7.d; 7.e; 7.f
Flood	1.j; 1.k; 1.l; 6.p
Thunderstorms	1.j; 1.k; 1.l; 2.b; 2.h; 6.n; 6.o; 6.p; 7.d; 7.e; 7.f
Tornadoes	2.b; 2.h; 6.n; 6.o; 6.p; 7.d; 7.e; 7.f
Tropical Cyclone	1.j; 1.k; 1.l; 2.b; 2.h; 6.n; 6.o; 6.p
Wildfire	5.l; 6.n; 6.o; 6.p; 7.d; 7.e; 7.f
Winter Storms	6.n; 6.o; 6.p
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	
Emergent Inf. Disease	
Hazardous Materials	
Terrorism	
Transportation	

Emergency Services

Although not typically considered a “mitigation” technique, emergency service measures do minimize the impact of a hazard event on people and property. These commonly are actions taken immediately prior to, during, or in response to a hazard event. Examples of emergency services in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	5.e; 5.f; 5.g; 6.c; 6.q; 7.c
Earthquake	5.g; 5.i; 6.a; 6.b; 6.c; 6.e; 6.f; 6.g; 6.h; 6.i; 6.j; 6.k; 6.l; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.c
Flood	5.g; 6.c; 6.d; 6.e; 6.f; 6.g; 6.l; 6.m; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.c
Thunderstorms	3.a; 3.b; 3.c; 3.d; 3.e; 3.f; 3.g; 3.h; 3.i; 3.j; 5.g; 5.i; 6.a; 6.b; 6.c; 6.d; 6.e; 6.f; 6.g; 6.h; 6.i; 6.j; 6.k; 6.l; 6.m; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.b; 7.c
Tornadoes	3.a; 3.b; 3.c; 3.g; 3.h; 3.i; 3.j; 5.i; 6.a; 6.b; 6.c; 6.d; 6.e; 6.f; 6.g; 6.h; 6.i; 6.j; 6.k; 6.l; 6.m; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.b; 7.c
Tropical Cyclone	3.d; 3.e; 3.f; 3.h; 3.i; 3.j; 5.i; 6.a; 6.b; 6.c; 6.d; 6.g; 6.l; 6.m; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.c
Wildfire	3.j; 5.g; 5.h; 5.i; 5.j; 5.k; 6.a; 6.b; 6.c; 6.e; 6.f; 6.l; 6.m; 6.q; 6.s; 6.t; 6.u; 6.v; 7.c
Winter Storms	3.a; 3.g; 3.h; 3.i; 3.j; 6.a; 6.b; 6.c; 6.e; 6.f; 6.g; 6.h; 6.i; 6.j; 6.k; 6.l; 6.m; 6.q; 6.r; 6.s; 6.t; 6.u; 6.v; 7.c; 8.a; 8.b; 8.c; 8.d
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	
Emergent Inf. Disease	10.b; 10.c; 10.d; 10.e; 11.b
Hazardous Materials	10.b; 10.c; 10.d; 10.e; 11.b
Terrorism	10.b; 10.c; 10.d; 10.e; 11.b
Transportation	10.b; 10.c; 10.d; 10.e

Public Education and Awareness

Public education and awareness activities are used to advise residents, elected officials, business owners, potential property buyers, and visitors about hazards, hazardous areas, and mitigation techniques that they can use to protect themselves and their property. Examples of public education and awareness strategies in this updated plan are listed in the following table:

Natural Hazards	Mitigation Strategies
Drought	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.k; 5.a
Earthquake	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.k
Flood	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.g; 4.h; 4.i; 4.k
Thunderstorms	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.g; 4.h; 4.i; 4.k
Tornadoes	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.g; 4.h; 4.i; 4.j; 4.k
Tropical Cyclone	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.g; 4.h; 4.i; 4.k
Wildfire	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.k; 5.a
Winter Storms	4.a; 4.b; 4.c; 4.d; 4.e; 4.f; 4.g; 4.h; 4.i; 4.k
Technological Hazards	Mitigation Strategies
Communications Failure	
Dam Failure	11.c
Emergent Inf. Disease	11.c
Hazardous Materials	11.a; 11.c
Terrorism	11.a; 11.c
Transportation	11.a; 11.c

Overall

Mitigation Technique	Percentage
Prevention	17.7%
Property Protection	5.2%
Natural Resource Protection	1.0%
Structural Projects	12.5%
Emergency Services	49.0%
Public Education and Awareness	14.6%

The following Mitigation Charts meet:

[Requirement §201.6\(c\)\(3\)\(ii\)](#)

[Requirement §201.6\(d\)\(3\)](#)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
OBJECTIVE ONE: Reduce damage to property and loss of life from flooding																	
1.a	Review flood ordinances every 3-5 years to include new flood zones, as necessary, and utilize most updated FEMA Flood Maps (2015-2016)	Planning and Development <i>Dawson County and City of Dawsonville</i>	X		X						local budgets	Staff time	3-5 years	Ongoing	High	2012 Plan	Flood 1(a) modified

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.b	Continue to employ the latest in recommended development regulations that manage land disturbances and constructions throughout the community, especially within environmentally sensitive areas	Planning and Development <i>Dawson County and City of Dawsonville</i>	X								Local Budgets	Staff time	12 months	Ongoing	High	2012 Plan	Flood 1 (b)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.c	Adopt building design standards to have residential structures elevated to a certain height above the floodplain	Planning and Development <i>Dawson County and City of Dawsonville</i>	X								Local budgets	Staff time	36 months	NEW	Low	NEW	NEW
1.d	Adopt building design standards to have non-residential structures elevated above the floodplain and flood-proofed	Planning and Development <i>Dawson County and City of Dawsonville</i>	X								Local Budgets	Staff Time	48 months	NEW	Low	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/Status	Priority	Source	Previous Strategy Number
1.e	Maintain NFIP Compliance	City of Dawsonville <i>City of Dawsonville</i>	X								Local budgets	Staff time	12 months	Ongoing	High	NEW	NEW
1.f	Maintain NFIP Compliance	Dawson County <i>Dawson County</i>	X								Local budgets	Staff time	12 months	Ongoing	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.g	Notify owners of structures on the National Historic Registry that are located in flood-prone areas to ensure they are protected from flooding	Dawson County EMA and Planning and Development <i>Dawson County and City of Dawsonville</i>	X								Local budgets	Staff time	18 months	NEW	High	NEW	NEW
1.h	Participate in NFIP Community Rating System	Planning and Development <i>Dawson County and City of Dawsonville</i>	X								Public and private grants and/or local budgets	Staff time	36 months	Ongoing	Med	2012 Plan	Flood 3

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.i	Determine level of risk to Dawson County's historic resources from flooding and identify viable measures that can be implemented to mitigate those risks	Dawson County and City of Dawsonville <i>Dawson County and City of Dawsonville</i>	X		X		X				Public and private grants and/or local budgets	\$15,000	48 months	Ongoing	Med	2012 Plan	Flood 6 (c)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.j	Develop a culvert plan to maintain information on all culverts in the county, including location, size, and type	Public Works <i>Dawson County and City of Dawsonville</i>	X		X		X				Local budgets	Staff time	60 months	NEW	Med	NEW	NEW
1.k	Continue to collaborate on a project to expand the data maintained for each culvert in the areas, including age, features, susceptibility to flooding, and improvement schedule	Public Works and GIS <i>Dawson County and City of Dawsonville</i>	X		X		X				Local budgets	Staff time	60 months	Ongoing	Med	2012 Plan	Flood 7(a)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
1.1	Upgrade and repair culverts in Dawson County and Dawsonville, as necessary	Public Works <i>Dawson County and City of Dawsonville</i>	X		X		X				Public and private grants and/or local budgets	TBD by data project listed in 1.k	60+ months	NEW	Med	NEW	NEW
OBJECTIVE TWO: Minimize the damage to property and loss of life resulting from high wind events																	
2.a	Create safe rooms within existing structures for vulnerable populations, including the elderly, children, and the sick	Dawson County EMA and facility owners/operators <i>Dawson County and City of Dawsonville</i>			X	X					Public and private grants and/or local budgets	\$ 5,000,000	60 months	Areas need to be identified	Med	2012 Plan	T'Storm 2(a)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
2.b	Construct separate storm shelters in areas not conducive to safe rooms for vulnerable populations, including the elderly, children, and the sick	Dawson County EMA and facility owners/operators <i>Dawson County and City of Dawsonville</i>			X	X	X				Public and private grants and/or local budgets	\$ 5,000,000	60 months	Locations to be determined	Med	2012 Plan	T'Storm 2(b)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
2.c	Continue to adopt the latest revision of building codes and require builders/developers to maintain standards and safe construction practices for the public	Planning and Development <i>Dawson County and City of Dawsonville</i>			X	X					Local budgets	Staff time	12 months	Ongoing	Med	2012 Plan	T'Storm 3 (mod)
2.d	Include a safe room into any fire department during rebuilds and new builds	Fire Department <i>Dawson County and City of Dawsonville</i>			X	X	X				Public and Private grants and/or local budgets	\$75,000 each	36 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
2.e	Build a safe room in new EOC building that is available to the public	EMA <i>Dawson County and City of Dawsonville</i>			X	X	X				Public and private grants and/or local budgets	\$100,000	60 months	NEW	Med	NEW	NEW
2.f	Install a safe room capable of housing at least 25 people in any new government building accessible by the public	Dawsonville and Dawson County Governments <i>Dawson County and City of Dawsonville</i>			X	X	X				Public and private grants and/or local budgets	\$75,000 each	48 months	NEW	Med	NEW	NEW
2.g	Consider an ordinance that requires all new construction to include a safe room	Planning and Development <i>Dawson County and City of Dawsonville</i>			X	X	X				Local budgets	Staff time	30 months	NEW	Low	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
2.h	Build a storm shelter as part of any large (50+ residences) residential communities, particularly if locations include slab homes	Property owners/ operators <i>Dawson County and City of Dawsonville</i>			X	X	X				Private budgets	\$100,000 each	60 months	NEW	Low	NEW	NEW
2.i	Build safe rooms at local fire stations and police stations	EMA, Fire Department, and Law enforcement			X	X	X				Public and private grants and/or local budgets	\$75,000 each	60 months	NEW	Med	NEW	NEW

OBJECTIVE THREE: Provide advanced severe weather warning

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
3.a	Ensure that all Schools, the courthouse, jail, fire stations, water plant, elderly living facilities, medical facilities, major employers, and other critical facilities and purchase NOAA radios for those areas identified above that do not have one	Dawson County EMA <i>Dawson County and City of Dawsonville</i>		X	X	X					Public and private grants and/or local budgets	\$20,000	36 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
3.b	Continue to install weather sirens with the goal of obtaining 100% coverage of highly populated areas in Dawson County	Dawson County EMA <i>Dawson County and City of Dawsonville</i>			X	X					Public and Private grants and/or Local budgets	\$200,000	48 months	Ongoing	Med	2012 Plan	T'Storm 4
3.c	Install Outdoor Warning Siren at Paradise Valley Resort	EMA <i>Dawson County and City of Dawsonville</i>			X	X					Public and Private grants and/or Local budgets	\$40,000	48 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
3.d	Install lightning detection systems at Veterans Memorial Park, Rock Creek Park, school athletic fields, and Amicalola Falls State Park	EMA and property owner/operators <i>Dawson County and City of Dawsonville</i>			X		X				Public and Private grants and/or Local budgets	\$20,000 each	48 months	NEW	High	NEW	NEW
3.e	Install lightning detection systems in other areas where large crowds gather for outdoor events	Property owners/operators <i>Dawson County and City of Dawsonville</i>			X		X				Public and private grants and/or local budgets	\$20,000 each	48 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
3.f	Promote weather apps for outdoor event locations without lightning detection systems	EMA <i>Dawson County and City of Dawsonville</i>			X		X				Local budgets Staff time		12 months	NEW	High	NEW	NEW
3.g	Purchase and distribute NOAA Weather Radios at County and municipal critical facilities	Dawson County EMA <i>Dawson County and the City of Dawsonville</i>		X	X	X					Public and private grants and/or local budgets	\$5,000	24 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
3.h	Continue to check senior's NOAA weather radios annually to ensure correct FIPS Codes and working batteries	Senior Services <i>Dawson County and City of Dawsonville</i>		X	X	X	X				Local budgets	Staff time	18 months	NEW	Low	NEW	NEW
3.i	Create a replacement plan for outdoor warning sirens and update, as necessary	EMA <i>Dawson County and City of Dawsonville</i>		X	X	X	X				Local budgets	Staff time	18 months	NEW	Med	NEW	NEW
3.j	Continue to encourage citizens to sign up for Swift 911 utilizing their mobile phone numbers	EMA <i>Dawson County and City of Dawsonville</i>		X	X	X	X		X		Local budgets	\$2,000	12 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
OBJECTIVE FOUR: Provide educational awareness to citizens regarding the dangers of natural hazards																	
4.a	Encourage all Dawson County Schools personnel to take the online FEMA Multi-Hazard Emergency Planning for Schools course	EMA and Dawson County Schools <i>Dawson County and the City of Dawsonville</i>	X	X	X	X	X	X	X	X	local budgets	Staff time	30 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.b	Encourage non-emergency employees of Dawson County and Dawsonville to participate in FIRST Program	Dawson County and Dawsonville governments <i>Dawson County and the City of Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	Staff time	24 months	NEW	Med	NEW	NEW (Mod from All-Hazards 6)
4.c	Encourage all elected officials and department heads to take ICS 100, 200, 700, and 800 courses	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	Staff time	36 months	New	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.d	Encourage all elected officials to take ICS 402 course	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X	X	X	X	Local Budgets	Staff Time	24 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.e	Implement a public awareness campaign, in conjunction with Dawson County's StormReady efforts and the American Red Cross, including public service announcements, community forums, flyers, mailers, and social media	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X	X	X	X	Public and private grants and/or local budgets	\$25,000	24 months	Ongoing	High	2012 Plan	Winter Weather 2

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.f	Promote severe weather awareness vial social media, the county website, and newsletter, including the promotion of NOAA radio usage	EMA and Dawson County <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	Staff time	18 months	NEW	High	NEW	NEW
4.g	Promote severe weather awareness to clients of North Georgia assisted living facility	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X				Local budgets	Staff time	24 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.h	Promote severe weather awareness to clients of Senior Center	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X				Local budgets	Staff time	24 months	NEW	High	NEW	NEW
4.i	Promote severe weather awareness to clients of DFCS	EMA <i>Dawson County and City of Dawsonville</i>	X	X	X	X	X				Local budgets	Staff time	24 months	NEW	High	NEW	NEW
4.j	Utilize social media to ensure sirens are working each month by asking citizens to report whether they heard the sirens or not	EMA <i>Dawson County and City of Dawsonville</i>				X					Local budgets	Staff time	12 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
4.k	Participate in National PrepareAthon/ National Preparedness Month	EMA <i>Dawson County and Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	\$5,000	12 months	NEW	Med	NEW	NEW
OBJECTIVE FIVE: Implement initiatives for water conservation and wildfire protection																	
5.a	Promote FireWise Community information in communities with a large number of residences in the Wildland-Urban Interface (WUI)	Fire Department <i>Dawson County and Dawsonville</i>						X	X		Local and State budgets	Staff Time	12 months	Ongoing	Med	2012 Plan	Wildfire 2 (mod)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.b	Perform proper tree maintenance around power lines to prevent power outages	Local power companies and Georgia Forestry Commission <i>Dawson County and City of Dawsonville</i>		X	X	X	X		X	X	Private and State budgets	\$100,000	36 months	Ongoing	Med	2012 Plan	Wildfire 3
5.c	Continue to follow state water use ordinances for time of drought and consider stricter guidelines, when necessary	Dawson County and Dawsonville governments <i>Dawson County and Dawsonville</i>						X	X		Local budgets	Staff Time	18 months	Ongoing	High	2012 Plan	Drought 2 (mod)

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.d	Routinely review and update the Water Conservation Plan, as needed	Dawson County government <i>Dawson County and Dawsonville</i>						X			Local budgets	Staff Time	36 months	Ongoing	Med	2012 Plan	Drought 3 (b)
5.e	Exercise and review components of the Water Conservation Plan, including water points of dispensing, annually	Dawson County EMA <i>Dawson County and Dawsonville</i>						X			Public and private grants and/or local budgets	\$5,000	12 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.f	Purchase portable electronic signage and pallet jack for point of dispensing	EMA <i>Dawson County and Dawsonville</i>						X			Public and private grants and/or local budgets	\$12,000	30 months	New	Med	NEW	NEW
5.g	Purchase barricades for points of dispensing traffic flow, evacuations, and other activities	EMA, Public Works, Dawsonville PD, and Dawson County Sheriff's Office <i>Dawson County and Dawsonville</i>	X			X		X	X	X	Public and private grants and/or local budgets	\$20,000	48 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.h	Purchase brush trucks	Fire Department <i>Dawson County and Dawsonville</i>							X		Public and private grants and/or local budgets	\$62,500	48 months	NEW	Med	NEW	NEW
5.i	Purchase ATV for wildland firefighting and search and rescue operations	Fire Department and EMA <i>Dawson County and Dawsonville</i>			X	X	X		X	X	Public and private grants and/or local budgets	\$20,000	24 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.j	Purchase wildland firefighting gear	Fire Department <i>Dawson County and Dawsonville</i>							X		Public and private grants and/or local budgets	\$8,000	18 months	NEW	Med	NEW	NEW
5.k	Perform wildland firefighting training for personnel	Fire Department <i>Dawson County and Dawsonville</i>							X		Public and private grants and/or local budgets	\$5,000	18 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
5.1	Build a drought contingency reservoir (aka Russell Creek Reservoir)	Etowah Water and Sewer Authority <i>Dawson County and Dawsonville</i>						X	X		Public and private grants and/or local budgets	\$ 4,000,000	60 months	NEW	High	NEW	NEW
OBJECTIVE SIX: Increase the ability of Dawson County, the City of Dawsonville, and its citizens to respond to natural hazards																	
6.a	Create chainsaw strike teams by equipping and training personnel	EMA and Public Works <i>Dawson County and Dawsonville</i>		X	X	X	X		X	X	Public and private grants and/or local budgets	\$10,000	36 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/Status	Priority	Source	Previous Strategy Number
6.b	Equip chainsaw strike team with chainsaws necessary for debris removal assistance	EMA and Public Works <i>Dawson County and Dawsonville</i>		X	X	X	X		X	X	Public and private grants and/or local budgets	\$15,000	36 months	NEW	High	NEW	NEW
6.c	Hold annual exercise with Dawson County schools to test school safety plan	EMA and Dawson County Schools <i>Dawson County and Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	\$2,500	12 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.d	Train and equip a Swift Water Rescue Team	Fire Department and EMA <i>Dawson County and Dawsonville</i>	X		X	X	X				Public and private grants and/or local budgets	\$50,000	48 months	NEW	Med	NEW	NEW
6.e	Purchase the most updated landline phone list from Windstream every 2-3 years	Dawson County 911 <i>Dawson County and Dawsonville</i>	X	X	X	X			X	X	Public and private grants and/or local budgets	TBD	24 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.f	Build a database of pre-recorded and pre-written mass notification messages for hazard events	EMA and 911 <i>Dawson County and Dawsonville</i>	X	X	X	X			X	X	Local budgets	Staff Time	24 months	NEW	Med	NEW	NEW
6.g	An accurate accounting of existing generators should be maintained followed by recommendation for adding generators to critical facilities	Critical facility operators and EMA <i>Dawson County and Dawsonville</i>	X	X	X	X	X			X	Local budgets	Staff time	24 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/Status	Priority	Source	Previous Strategy Number
6.h	Increase the number of American Red Cross identified and approved shelters	American Red Cross <i>Dawson County and Dawsonville</i>		X	X	X				X	Local budgets	Staff time	24 months	NEW	Med	NEW	NEW
6.i	Purchase cots, trailers, mats, household products, and hygiene products for shelter operations	EMA <i>Dawson County and Dawsonville</i>		X	X	X				X	Public and private grants and/or local budgets	\$70,000	60 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.j	Purchase portable cooking shelters and portable showers	EMA <i>Dawson County and Dawsonville</i>		X	X	X				X	Public and private grants and/or local budgets	\$150,000	60 months	NEW	Med	NEW	NEW
6.k	Identify local Good Samaritan shelter locations	EMA and Red Cross <i>Dawson County and Dawsonville</i>		X	X	X				X	Local budgets	Staff time	18 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.1	Purchase two electronic signs	Fire Department, Police Department, Sheriff's Office, and EMA <i>Dawson County and Dawsonville</i>	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$60,000	30 months	NEW	Med	NEW	NEW (Mod from All-Hazards 7)
6.m	Purchase equipment for an alternate 911 Center	911 <i>Dawson County and Dawsonville</i>	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$100,000	60 months	NEW	Low	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.n	Build an EOC and 911 Center in a hardened building for Dawson County and Dawsonville	EMA and 911 <i>Dawson County and Dawsonville</i>		X	X	X	X		X	X	Public and private grants and/or local budgets	\$ 2,500,000	60 months	NEW	Med	NEW	NEW
6.o	Build an alternate EOC and 911 with a safe room (or underground location)	EMA and 911 <i>Dawson County and Dawsonville</i>		X	X	X	X		X	X	Public and private grants and/or local budgets	\$ 1,000,000	60 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.p	Build redundant fiber rings for 911 lines in conjunction with surrounding jurisdictions	911 and surrounding jurisdictions <i>Dawson County, Dawsonville, and surrounding jurisdictions</i>	X	X	X	X	X	X	X	X	Public and private grants and/or local budgets	TBD	60 months	NEW	Med	NEW	NEW
6.q	Acquire VoIP at 911 to ensure lines continue to be answered	911 <i>Dawson County and Dawsonville</i>	X	X	X	X	X	X	X	X	Public and private grants and/or local budgets	\$100,000	30 months	NEW	High	NEW	NEW
6.r	Purchase a wheeled loader to move tree debris	Public Works <i>Dawson County and Dawsonville</i>	X	X	X	X	X			X	Public and private grants and/or local budgets	\$75,000	24 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.s	Replace county radio system	EMA, 911, and all public safety agencies <i>Dawson County and Dawsonville</i>	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$ 8,000,000	60 months	NEW	High	NEW	NEW
6.t	Purchase a Mobile Command Vehicle	EMA and 911	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$200,000	48 months	NEW	Med	NEW	NEW
6.u	Equip a Mobile Command Vehicle	EMA and 911 <i>Dawson County and Dawsonville</i>	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$100,000	48 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
6.v	Purchase mobile light units/ lighting system for disaster sites and large events	EMA <i>Dawson County and Dawsonville</i>	X	X	X	X	X		X	X	Public and private grants and/or local budgets	\$30,000	30 months	NEW	Med	NEW	NEW
OBJECTIVE SEVEN: Maintain continuity of critical operations during and after hazard events																	
7.a	Inventory Dawson County's historic resources and archive them on backup servers	Dawson County <i>Dawson County</i>	X	X	X	X	X		X	X	Local budgets	\$8,000	30 months	NEW	High	NEW	Flood 6(b) (mod)
7.b	Purchase a digital system to continuously monitor sirens to ensure proper functioning	EMA <i>Dawson County and Dawsonville</i>			X	X					Public and private grants and/or local budgets	\$50,000	30 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
7.c	Cross-train staff across multiple departments to serve in emergency-related positions that would be outside their normal job functions	Dawson County and Dawsonville governments <i>Dawson County and Dawsonville</i>	X	X	X	X	X	X	X	X	Local budgets	Staff time	60 months	NEW	High	NEW	NEW
7.d	Provide additional interconnection points between the City of Dawsonville and Etowah Water and Sewer Authority water systems	Etowah WSA and City of Dawsonville <i>Dawson County and Dawsonville</i>			X	X		X	X	X	Public and private grants and/or local budgets	\$150,000	36 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
7.e	Provide additional interconnection points between the Forsyth County and Etowah Water and Sewer Authority water systems	Etowah WSA and Forsyth County <i>Dawson County and Dawsonville</i>			X	X		X	X	X	Public and private grants and/or local budgets	\$ 1,500,000	60 months	NEW	High	NEW	NEW
7.f	Provide interconnection points between the City of Gainesville and Etowah Water and Sewer Authority water systems	Etowah WSA and City of Gainesville <i>Dawson County and Dawsonville</i>			X	X		X	X	X	Public and private grants and/or local budgets	\$ 1,750,000	60 months	NEW	High	NEW	NEW
OBJECTIVE EIGHT: Minimize damage to property and loss of life resulting from winter storm events																	

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
8.a	Purchase a brine truck	Public Works <i>Dawson County and Dawsonville</i>		X							Public and private grants and/or local budgets	\$70,000	30 months	NEW	Med	NEW	NEW
8.b	Purchase spreaders for salt/brine	Public Works <i>Dawson County and Dawsonville</i>		X							Public and private grants and/or local budgets	\$25,000	24 months	NEW	High	NEW	NEW
8.c	Purchase snow plow for the front of trucks	Public Works <i>Dawson County and Dawsonville</i>		X							Public and private grants and/or local budgets	\$15,000	24 months	NEW	High	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Flood	Winter Weather	Thunderstorm	Tornado	Tropical Cyclone	Drought	Wildfire	Earthquake	Funding Source	Estimated Cost	Completion Timeframe	Progress/ Status	Priority	Source	Previous Strategy Number
8.d	Purchase 4-wheel drive for staff vehicles during winter weather hazardous weather response	Dawsonville and Dawson County Governments <i>Dawson County and Dawsonville</i>		X							Public and private grant sand/or local budgets	\$45,000	30 months	NEW	Med	NEW	NEW

#	Mitigation Action	Lead Agency or Department <i>Jurisdiction</i>	Communications Fail	Emer. Infect. Disease	Hazardous Materials	Terrorism	Dam Failure	Transportation	Funding Source	Estimated Cost	Completion Timeframe	Progress/Status	Priority	Source	Previous Strategy Number
OBJECTIVE NINE: Minimize the impacts on local citizens, industry, and infrastructure of a dam breach															
9.a	Continue to support participation in the Georgia Safe Dams Program	EMA and Planning and Development <i>Dawson County and Dawsonville</i>				X	X		Local budgets	Staff Time	12 months	NEW	High	NEW	NEW
9.b	Establish a comprehensive inspection, maintenance, and enforcement program for dam structures	Georgia Department of Natural Resources <i>Dawson County and Dawsonville</i>				X	X		Public and private grants and/or local Budget	\$8,000	42 months	Ongoing	Med	2012 Plan	Dam Failure 2

OBJECTIVE TEN: Implement additional protective measures and capabilities in response to manmade incidents

10. a	Continue to enforce zoning ordinances that create separation and buffering between industrial areas and other land uses, including schools, nursing facilities, hospitals, and other facilities with large, vulnerable populations	Planning and Development <i>Dawson County and Dawsonville</i>		X	X	X		X	Local budgets	Staff time	12 months	Ongoing	Med	2012 Plan	HazMat 1
10. b	Train a HazMat Response Team to Technician level	Fire Department and EMA <i>Dawson County and Dawsonville</i>		X	X	X	X	Public and private grants and/or local budgets	\$10,000	30 months	NEW	High	NEW	NEW	
10. c	Equip a HazMat Response Team	Fire Department and EMA <i>Dawson</i>		X	X	X	X	Public and private grants and/or local	\$75,000	30 months	NEW	High	NEW	NEW	

		County and Dawsonville							budgets						
10. d	Hold an annual refresher HazMat training session for all Fire, EMS, and law enforcement personnel	Fire Department, EMA, EMS, and law enforcement agencies <i>Dawson County and Dawsonville</i>							Local budgets	Staff time	12 months	NEW	High	NEW	NEW
10. e	Develop a plan for a short-term contamination of the raw water supply	Etowah WSA and City of Dawsonville <i>Dawson County and Dawsonville</i>							Public and private grants and/or local budgets	\$10,000	24 months	NEW	High	NEW	NEW
OBJECTIVE ELEVEN: Increase public awareness of local manmade hazards and proper response to those hazards															
11. a	Encourage employers to communicate the hazards of workplace chemicals and	EMA and Fire Department <i>Dawson County and Dawsonville</i>							Local budgets	Staff time	12 months	Ongoing	High	2012 Plan	HazMat 2(b)

	ensure that workers receive proper training, in accordance with the Right To Know Act														
11. b	Ensure the labeling and placarding for identifying the types of hazardous materials at fixed facilities	Fire Department and EMA <i>Dawson County and Dawsonville</i>		X	X	X			Local budgets Staff time	12 months	Ongoing	High	2012 Plan	HazMat 2(c)	
11. c	Establish a Local Emergency Planning Committee (LEPC)	EMA <i>Dawson County and Dawsonville</i>	X	X	X	X	X	X	Public and private grants and/or local budgets \$5,000	24 months	Ongoing	Med	2012 Plan	HazMat 3	

Completed Strategies

Previous Strategy #	Strategy Description	Status
T'Storms 1	Weather Radios	COMPLETE
T'Storms 2	Access to shelters for vulnerable populations	COMPLETE prior to 2012 plan
T'Storms 3	Construction Standards and Techniques	COMPLETE; changed to "continue"
Winter Storms 4	Winter Storm Road Plan	COMPLETE prior to 2012 plan
Flood 2	Building Design Standards	COMPLETE
Flood 4	Update Floodplain Mapping	COMPLETE
Flood 5	Flat Creek Area	COMPLETE prior to 2012 plan
Flood 6	National Historic Registry	COMPLETE prior to 2012 plan
Tornado 2	Manufactured Homes adequate installation	COMPLETE
Wildfire 1	Defensible Space and Slopes	COMPLETE
Earthquake 2	School Survey Procedures	COMPLETE prior to 2012 plan
All Hazards 4	Water System Security	COMPLETE

Deleted Strategies

Previous Strategy #	Strategy Description	Reason
T'Storms 5	Lightning Detectors	Replaced by more specific strategies (3.d and 3.e)
Winter Storms 1	Road Maintenance	Replaced by more specific strategies (8.a, 8.b, 8.c, and 8.d)
Winter Storms 3	Snow and Ice Loads	Strategy is no longer relevant
Earthquake 3	Overlay Study	Strategy is no longer relevant
Dam Failure 1	Sound Design and Planning	Strategy is the responsibility of the Georgia Safe Dams Program (State)
All Hazards 2	Generators	Replaced by assessment strategy to determine generator needs (6.g)
All Hazards 3	Designated Shelters	Replaced by more specific strategies (6.h, 6.i, 6.j, and 6.k)
All Hazards 5	Multi-Hazard Emergency Planning for School Course	School Safety plans are updated annually and submitted to Dawson County; course no longer needed

Multi-Jurisdictional Considerations

Thunderstorms

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 due to greater population density. Thunderstorms have the potential to impact all areas of Dawson County.

Winter Storms

All portions of Dawson County could potentially be impacted by a winter storm, including freezing rain, sleet, and snow. Therefore, all mitigation actions identified regarding winter storms should be pursued on a countywide basis and include the City of Dawsonville.

Flooding

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. All of Dawson County and the City of Dawsonville could potentially be impacted.

Tornado

All portions of Dawson County could potentially be impacted by a tornado due to the indiscriminate nature of tornadic events. Therefore, all mitigation actions identified regarding tornadoes should be pursued on a countywide basis and include the City of Dawsonville.

Drought

All portions of Dawson County could potentially be impacted by a drought, but agricultural areas of the county are potentially more at risk. Therefore, all mitigation actions identified regarding drought should be pursued on a countywide basis and include the City of Dawsonville.

Wildfire

All portions of Dawson County, including the City of Dawsonville, could potentially be impacted by a wildfire due to the large amount of Wildland-Urban Interface, but the less developed areas of the county are more vulnerable. Therefore, all mitigation actions identified regarding wildfires should be pursued on a countywide basis and include the City of Dawsonville.

Earthquakes

All of Dawson County, including the City of Dawsonville, potentially could be threatened by earthquakes. As such, all earthquake mitigation actions should be pursued on a countywide basis and include the City of Dawsonville.

Tropical Cyclone

All of Dawson County and the City of Dawsonville could potentially be impacted by a tropical cyclone event. However, areas within the 100-year floodplain are at the greatest risk.

Hazardous Materials Incidents

All of Dawson County, including the City of Dawsonville, are vulnerable to both fixed facility and transportation-related hazardous materials releases.

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.

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 to be at the greatest risk.

Communications Failure

Dawson County, as well as the City of Dawsonville, could potentially be impacted by a communications failure.

Emergent Infectious Diseases

Dawson County, as well as the City of Dawsonville, are vulnerable to emergent infectious diseases.

Chapter Five

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Maintenance and implementation

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 2012.

Chapter 5 Section	Updates
Maintenance	<ul style="list-style-type: none"> • Content Revised
Plan Distribution	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Implementation	<ul style="list-style-type: none"> • Content expanded and revised from 2012 Plan
Evaluation	<ul style="list-style-type: none"> • Content Revised from Monitoring, Evaluating, and Updating the Mitigation Plan Section
Peer Review	<ul style="list-style-type: none"> • New Section – Not in 2012 Plan
Plan Update	<ul style="list-style-type: none"> • Content Revised
Conclusion	<ul style="list-style-type: none"> • Content Revised

Maintenance

Requirement §201.6(c)(4)(iii)

In order 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 was followed, to the best abilities of Dawson County. This most importantly included an increased attempt for public participation and inclusion in the planning process. The Dawson County Hazard Mitigation Plan Update Committee will reconvene annually in February to monitor and evaluate the progress of the mitigation strategies in the Plan. Dawson County's Emergency Management Director, Lanier Swafford, 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 for various mitigation strategies will provide a report during this annual meeting regarding the following:

- How well did the implementation processes work?
- Were any difficulties encountered during implementation?
- How successful was the coordination of efforts?
- Are there any suggestions for revision of any 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. All annual reviews of the Dawson County Hazard Mitigation Plan will be open to the public. These meetings will be advertised both in the local newspapers, but also on signage in the publicly-used facility hosting the meeting.

Plan Distribution

This Plan will be distributed, but not limited, to the following departments and organizations within Dawson County:

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 New.

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

Implementation

Requirement §201.6(c)(4)(ii)

Each jurisdiction participating in the Dawson County Hazard Mitigation Plan is responsible for implementing specific mitigation actions as prescribed in this plan. In the Mitigation Strategies section, every proposed strategy is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation.

In addition to the designation of a local lead department or agency, some strategies have secondary or assisting department or agencies listed as well. This allows for a sharing of responsibility and coordination of effort for some of the identified strategies that cross lines of departmental responsibility. The completion date has been assigned in order to assess whether identified mitigation strategies are being implemented in a timely fashion.

Dawson County and the City of Dawsonville will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified and targeted for the proposed actions listed in the mitigation strategies. It will be the responsibility of each participating jurisdiction to determine additional implementation procedures beyond those listed within 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 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. In particular, aspects of this plan will be integrated into the Dawson County Comprehensive Plan during the next planning cycle.

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

Regulatory Tools/Plans	Regulatory Type: Ordinance, Resolution, Codes, Plans, Etc.	Local Authority	State Prohibited	Higher Authority
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
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		No	No	No

Government/ Operations Plan				
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 offers many administrative and technical services to the community. City departments include: Administrative, Public Works, Utilities, and Planning and Zoning.

Opportunities to integrate the requirements of this Plan into other local planning mechanisms shall continue to be identified. Although it is recognized that there are many possible benefits to integrating components of this Plan into other local planning mechanisms, the development and maintenance of this stand-alone Hazard Mitigation Plan is deemed by the Dawson County Hazard Mitigation Planning Committee to be the most effective and appropriate method to implement local hazard mitigation actions at this time.

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 take into account 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 identified mitigation strategies for that hazard 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.

Peer Review

State Requirement Element F1

In order to maintain standards of quality, improve performance, and provide credibility to the Dawson County Hazard Mitigation Plan Update, representatives of local emergency management agencies bordering Dawson County conducted a peer review of the Plan. The peer review of this Plan constitutes a form of self-regulation, accountability, and new insights offered by qualified professionals in neighboring communities, which face many of the same natural and man-made hazards.

Dawson County Hazard Mitigation Plan Update was peer reviewed by:

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

Requirement §201.6(c)(4)(i)

The Federal Disaster Mitigation Act of 2000 requires that the Hazard Mitigation Plan be updated at least once every five years. The Dawson County Emergency Management Agency is the department responsible with ensuring this requirement is met. The Dawson County Hazard Mitigation Plan Update Committee will be involved in this future process and will aid the Dawson County Emergency Management Agency in ensuring that all jurisdictions provide input into the planning process. The public will be invited to participate in the planning process through public hearings to be held whenever major updates to this plan are needed and during annual review meetings. This plan will expire in the fourth quarter of 2022; therefore, the approval and adoption of the next plan update must be completed before that time.

In the fourth quarter of 2021, Dawson County plans to begin the Hazard Mitigation Plan Update process for the fourth time. This planning process will include bi-monthly meetings to accomplish the identified goals of the Dawson County Hazard Mitigation Plan Update. This process will be headed up by the Dawson County Emergency Management Agency. The Dawson County Hazard Mitigation Planning Committee will follow a similar process as was undertaken during this planning cycle to complete all FEMA and GEMA requirements for the Hazard Mitigation Plan Update. This process will be completed by the third quarter of 2022 to meet all identified planning deadlines.

Conclusion

As a result of the hazard mitigation planning process, Dawson County, and the City of Dawsonville, as well as additional participating organizations have obtained a great deal of information and knowledge regarding Dawson County's disaster history, natural and technological hazards, vulnerabilities, and potential strategies to lessen the impacts of the identified hazards.

One consistent theme identified by the Dawson County Hazard Mitigation Planning Committee was the inability to consistently identify geographic locations that were more vulnerable to most hazards due to the widespread potential effects and random impact areas each hazard could have. This was exceedingly true for most natural hazards. Recognizing this challenge, the Dawson County Hazard Mitigation Plan Update Committee determined it was best to identify many mitigation goals, objectives, and strategies that were both general and specific in nature. These strategies allow the Dawson County Hazard Mitigation Plan Update Committee to adopt strategies that will have the greatest positive effect on the greatest amount of the population.

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. Prevention and Emergency Services comprised the greatest number (over 66%) of the mitigation strategies identified by Dawson County.

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
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	31.00	33.00

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Appendix B – Dawson County Hazard Mitigation Plan Update Committee Sign In Sheets

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, August 10, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
David Newberry	<i>David Newberry</i>	dnewberry@dawsoncounty.ga	DC.
Jessie Henson, Senior Director	<i>Jessie Henson</i>	jhenson@dawsoncounty.ga	Dawson Co. Schools
Rick Brown / Chief of Police	<i>Rick Brown</i>	rbrown@dawson.k12.ga.us	Dawson Co. Schools
Dawn Pruett, Director	<i>Dawn Pruett</i>	dpruett@dawsoncounty.ga	Senior Service
Tim Satterfield, Deputy Mitigation Director	<i>Tim Satterfield</i>	tsatterfield@dawsoncounty.org	ES
Kristina Bean / All Asst. Dir. City of Dawsonville	<i>Kristina Bean</i>	kbean@dawsoncountysheriff.org	DCSO 911
Thompson Hays, Sr. Dawsonville	<i>Thompson Hays</i>	ROADS(H)@dawsonville-ga.gov	OPERATION MANGEMENT
Brianne Rogers, Hazard Mit. Planner	<i>Brianne Rogers</i>	brianne.rogers@gema.ga.gov	GEMA/HS
Kevin Gibbs	<i>Kevin Gibbs</i>	k.g.gibbs@dawsonvillefalls.ledgac.com	AFSP
Kurt Angell	<i>Kurt Angell</i>	kangell@dawsoncounty.org	Trip Assessor
DAVE PALMER	<i>Dave Palmer</i>	dave.palmer@dph.ga.gov	DISTRICT 2 Public Health

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Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, August 10, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Allie Dean Reporter		adeane@dawsonnews.com	Dawson County News
Clarke MacHlister		clarkm@lga.gov	Dawson Co. Extension
Jason Streetman		jstreetm@dawsonnews.com	Dawson Co. P&P
Billy Thurmond		thurmond@chicksonline.org	Thurmond Co. Chamber
David McKeel		dmcKeel@dawsoncounty.org	Dawson Co.
Breese Anderson		banderson@ctowaterworks.com	Evans Water
DANNY SPEARS		dspears@dawsoncounty.org	Dawson Co. Fire
Julie McNeil		julie@jmcneill.com	Dawson Co. Fire
DICK MCNEILL		RRMCNEILL@EMAIL.GA SURPRISE TGA	
Jason Brownell		jbrownell@bigcaneppa.org	Big Cane PAH
Richard Jordan		jordan@bigcaneppa.org	Big Cane PAH

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, August 10, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Greg Rowan / Major	<i>[Signature]</i>	rowan@dawsoncountyga.gov	D.L. Smith office
Hamier Swafford - EMS Dund	<i>[Signature]</i>	Swafford@dawsoncountyga.gov	DCES

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, September 21, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
KEN BROOKS / RANGER	<i>[Signature]</i>	K.BROOKS@GHC.STATE.GA.US	GA. FORESTRY COMMISSION
Jessica Whitmore	<i>[Signature]</i>	Jwhitmore@dawsoncounty.org	Dawson County IA
Dawn Fryet City Manager	<i>[Signature]</i>	dpruet@dawsoncounty.org	Dawson County
Bob Bolz Dawsonville	<i>[Signature]</i>	citymanager@dawsonvillega.org	City of Dawsonville
Lamier Swafford	<i>[Signature]</i>	lswafford@dawsoncounty.org	DCES
Jason Streetman	<i>[Signature]</i>	jstreetman@dawsoncounty.org	P&P
David Headley	<i>[Signature]</i>	dheadley@dawsoncounty.org	Candy Mof.
Dorothy Tubor	<i>[Signature]</i>	dorothy.tubor@redcross.org	Red Cross
David Mckeel	<i>[Signature]</i>	d.mckeel@dawsoncounty.org	Dawson Co.
ALISON RICHMOND	<i>[Signature]</i>	arichmond@shawmut.org	shawmut 911
Jim Rich	<i>[Signature]</i>	jrich@dawsonkingens.com	TBOE

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Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, September 21, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Billy Thompson Chairman	<i>[Signature]</i>	chairman@dawsoncounty.org	Dawson Co.
Jason Doolley/ Batt. Chief	<i>[Signature]</i>	jdooly@dawsoncounty.org	DCEs
Rick Brown / Ch. op. officer	<i>[Signature]</i>	rbrown@dawson.k12.ga.us	Dawson Co. Schools
Kevin Gibbs / Park Mgr.	<i>[Signature]</i>	kgibbs@parks.colo.k12.ga.us	AFSP
TRAVIS HANSON City of Dawsonville	<i>[Signature]</i>	roads@dawsonville-ga.gov	City of Dawsonville
Lisa Hanson Park + Rec	<i>[Signature]</i>	lhanson@dawsonville-ga.gov	Park + Rec.
Sharon Lassett Co. Commissioner	<i>[Signature]</i>	lassett@farms@windstream.net	Dawson County
Stephen Mackley / Ass'n. Puhl/Command	<i>[Signature]</i>	smackley@dawsoncountysheriff.org	Dawson County Sheriff's Office
Robin Roland / IT Dept	<i>[Signature]</i>	roland@dawsoncounty.org	Dawson Co.
Ricky Rountree / Deputy Chief	<i>[Signature]</i>	rroundree@dawsoncounty.org	DCEs

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

(19)

Thursday, October 19, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Debbie Hays TRAMPAS HAYS (A)	Director APR OPERATION MANAGER Public Works	hays@dawsoncounty.org	DCPR
Bob Boltz	Bob Boltz	ROADS(A)@dawsonville-ga.gov	City of Dawsonville
Laurie Swafford	Laurie Swafford	citymanager@dawsonville-ga.gov	City of Dawsonville
DANNY SPEAKS	Danny Speaks	lswafford@dawsoncounty.org	Dawson County Engineering
Ricky Rexroat	Ricky Rexroat	dspeaks@dawsoncounty.org	Dawson Co. Em. Serv.
		rrrexroat@dawsoncounty.org	Dawson County Emergency Ser.

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, October 19, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Robin Roland IT	<i>R Roland</i>	rroland@dawsoncounty.org	Dawson BOC
Julie Neil BC	<i>Julie Neil</i>	jneling@windstream.net	Dawson Comm
Doug Bundy	<i>Doug Bundy</i>	d.bundy@dawsoncounty.org	Dawson County
Rick Brown	<i>Rick Brown</i>	rbrown@dawson.k12.ga.us	Dawson Co. School
Clark MacAllister	<i>Clark MacAllister</i>	clmac@uga.edu	UGA Extension
Aaron Sawsett	<i>Aaron Sawsett</i>		Dawson Co. Commission
Billy Thurmond	<i>Billy Thurmond</i>		Dawson Co. Commission
Allyda Miller-Niquest	<i>Allyda Miller-Niquest</i>	allyda@niquest.com	PCSO
Jessica Whitmore	<i>Jessica Whitmore</i>	whitmore@dawsoncounty.org	Dawson County TA

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, October 19, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Casey Mopuski / Planning	<i>[Signature]</i>	Planning@dawsoncountygovernor.ga.gov	Dawsonville
BROOKE ANDERSON / GENERAL MANAGER	<i>[Signature]</i>	banderson@eburnswater.com	Eburne Water & Sewer Assoc.
DAWN PRUITT / Sr. Services Director	<i>[Signature]</i>	apruitt@dawsoncounty.ga.gov	Dawson Co.
Kent Taylor / Chief Appraiser	<i>[Signature]</i>	ktaylor@dawsoncounty.ga.gov	Dawson Co.

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, November 16, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Laurier Swafford	<i>Laurier Swafford</i>	lswafford@dawsoncounty.ga.gov	DCES
Beauze Anderson	<i>Beauze Anderson</i>	banderson@dawsoncounty.ga.gov	Eust
Clark MacAllister	<i>Clark MacAllister</i>	clarkmac@uga.edu	Extension
David Miller	<i>David Miller</i>	dmiller@dawsoncounty.ga.gov	Dawson Co.
Sharon Lauseth	<i>Sharon Lauseth</i>	sharon.lauseth@windstream.net	Dawson Co.
Billy Burnard	<i>Billy Burnard</i>	billyburnard@icloud.com	Dawson Co.
David Neaveley	<i>David Neaveley</i>	dneaveley@dawsoncounty.ga.gov	Dawson County
Dawn Pruett	<i>Dawn Pruett</i>	dpruett@dawsoncounty.ga.gov	Dawson
Hunt Jorgel	<i>Hunt Jorgel</i>	horgel@dawsoncounty.ga.gov	BOA
Jessica Whitmore	<i>Jessica Whitmore</i>	whitmore@dawsoncounty.ga.gov	Bot
Tyson Stratman	<i>Tyson Stratman</i>	tstratman@dawsoncounty.ga.gov	BOE/Planning

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet






Thursday, November 16, 2017

Name/Title	Signature	E-mail Address	Agency/Organization
Robin Roland IT	<i>[Signature]</i>	rroland@dawsoncounty,ga	IT-BOC
Carey Majewski	<i>[Signature]</i>	pmanning@dawsonville-ga.gov	CITY
Rick Brown	<i>[Signature]</i>	rbrown@dawson.k12.ga.us	D.P. Schools
Alfonia Tucker-Night	<i>[Signature]</i>	anigel_wright@dawsoncounty,ga.gov	911
Ricky Rexroat	<i>[Signature]</i>	rrexroat@dawsoncounty.org	DCES

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, January 18, 2018

Name/Title	Signature	E-mail Address	Agency/Organization
Dawn Pruitt / State Director		dpruett@dawsoncounty.org	SC CR
Tyson Streetman P.D.		jstreetman@dawsoncounty.org	PSD
Cindy Majewski Beavole Avenue		pmajew@dawsonvillega.gov	City
Lisa Hanson		lhanson@etahuman.com	EMSA
Kurt (Ansel)		lhanson@dawsoncounty.org	ADCR
		khanje@dawsoncounty.net	Tax Assessor

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, January 18, 2018

Name/Title	Signature	E-mail Address	Agency/Organization
Lamier Swinstead		lswinstead@dawsoncounty.org	Dawson Co ES
Billy Thurmond		thurmond@dawsoncounty.org	K-12
Danny Speaks		dyspeaks@dawsoncounty.org	Dawson Co. ES.
David Headley		dheadley@dawsoncounty.org	Dawson county
David McKee		dcmckee@dawsoncounty.org	Dawson County
Robin Roland		rroland@dawsoncounty.org	Dawson County
Rick Brown		rbrown@dawsoncounty.org	Dawson Co. Schools
Thomas Hancock		THANP@thomas-hancock.com	City of Dawsonville
Bob Bok		bob.bok@dawsonville-georgia.gov	City of Dawsonville
Sharon Sawett		sharon@sawettfarms.com	Dawson County
Gary Rame		ramedawsoncounty.org	D.C. Sheriff

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, February 15, 2018

Name/Title	Signature	E-mail Address	Agency/Organization
Lauri Smithel Federal/Env Dir		lsmithel@dawsoncounty.org	Dawson County Emergency Services
Rick Beech/ Chief of Police		rbbeech@dawson.k12.ga.us	Dawson County Schools
Danny Speaks/ Deputy Chief		dlspeaks@dawsoncounty.org	Dawson County Emergency Services
Jessica Williams/ GIS Analyst		jsmithmore@dawsoncounty.org	Dawson County IT
Sharon Zawatt/ Commissioner		sharon.zawatt@industriecom.net	Dawson County
Robin Roland/ IT		roland@dawsoncounty.org	IT - County
Hunt Dangel/ Asst Appraiser		hdangel@dawsoncounty.org	Tax Assessor Office
David Mike/ PW Director		dsmike@dawsoncounty.org	Dawson County
Travis Hanson/ Bob Bob		BOB@Dawsonville-GA.gov	City of Dawsonville
Dawn Pruett		b.b.bob@dawsonville-ga.gov	City of Dawsonville
		dpruett@dawsoncounty.org	Se. App.

Lux Mitigation and Planning Corp.

Dawson County Hazard Mitigation Plan Update Committee Meeting

Sign-In Sheet

Thursday, February 15, 2018

Name/Title	Signature	E-mail Address	Agency/Organization
Julie Hughes New Jason Streetman	<i>[Handwritten Signatures]</i>	julie@newwidetown.net jstreetman@dawsoncountyga.gov	Dawson Co Bd. Comm Dawson Co Boz

Appendix C – Dawson County Critical Facilities

Facility	Jurisdiction	Facility Type
Dawson County Middle School	<i>Dawson County</i>	Education, K - 12
Robinson Elementary School	<i>Dawson County</i>	Education, K - 12
Black's Mill Elementary School	<i>Dawson County</i>	Education, K - 12
DAWSON CO-SHOAL HOLE RD (SL)	<i>Dawson County</i>	Government, Water/Sewer
Dawson County Jail	<i>Dawsonville town</i>	Law Enforcement, Jails
Dawson County Fire Department Station 02	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Fire Department Station 04	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Fire Department Station 05	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Fire Department Station 03	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Volunteer Fire/Rescue Department Station 01	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Courthouse	<i>Dawsonville town</i>	Law Enforcement, Court House
Dawson County Magistrate	<i>Dawson County</i>	Law Enforcement, Court House
Dawsonville Pond	<i>Dawson County</i>	Government, Water/Sewer
Etowah Water and Sewer Authority	<i>Dawsonville town</i>	Government, Water/Sewer
Dawsonville City Hall	<i>Dawson County</i>	Government, Private
Dawson County High	<i>Dawson County</i>	Education, K - 12
Dawson County Public Library	<i>Dawson County</i>	Education, Library
Dawson County Sheriff's Office	<i>Dawson County</i>	Law Enforcement, Sheriff
Big Canoe Fire Dept 2	<i>Dawson County</i>	Emergency Services, Fire Fighters
Vet.Treatment Center Mills Brandon K DVM	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Vet. Treatment Center Dawson Forest Animal	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Vet.Treatment Center Jordan John F	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Veteriarian Treatment Center Steve Landreth G	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Dawsonville Post Office	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Shoal Creek Building Supply	<i>Dawsonville town</i>	Emergency Services, Fire Fighters

ACCG Rock Creek Park	<i>Dawson County</i>	Law Enforcement, Court House
Dawson County Historic Courthouse	<i>Dawson County</i>	Law Enforcement, Court House
Chelsea GCA Realty Partnership Limited LP	<i>Dawson County</i>	Medical, Hospital
NEGA Primary Care Inc.	<i>Dawsonville town</i>	Medical, Hospital
Eden's & Avant Financing (Kroger)	<i>Dawsonville town</i>	Medical, Hospital
Kilough Elementary	<i>Dawsonville town</i>	Medical, Hospital
Ingles Market Inc	<i>Dawsonville town</i>	Education, Jr Colleges
Home Depot USA	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
City of Atlanta Dept (Lockheed)	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
State of Ga Forestry Dept	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
State of Ga HWY Dept	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Etowah Water & Sewer Authority	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Etowah water & Wastewater Treatment Sewer Authority	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Fire Station#6 Big Canoe	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Liberty Fire Station	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
ACCG Fire Dept Headquarters	<i>Dawson County</i>	Emergency Services, Fire Fighters
Annex&Public Works	<i>Dawson County</i>	Education, Library
Senior Center Park	<i>Dawsonville town</i>	Education, Library
Library	<i>Dawsonville town</i>	Education, Library
Board of Education 2	<i>Dawsonville town</i>	Medical, Hospital
Health Dept.	<i>Dawsonville town</i>	Medical, Hospital
Board of Education	<i>Dawsonville town</i>	Medical, Hospital
DEFACS	<i>Dawsonville town</i>	Medical, Hospital
Daycare CE	<i>Dawsonville town</i>	Medical, Hospital
Foothills Vet. Associates PC	<i>Dawsonville town</i>	Emergency Services, Fire Fighters
Dawson County Admin Offices (Future)	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawson County Agriculture Center	<i>Dawson County</i>	Emergency Services, Fire Fighters
ST of GA DNR Falls Lodge	<i>Dawson County</i>	Emergency Services, Fire Fighters

Vaughters Albert & Ted BE Bearden Funeral Home	<i>Dawson County</i>	Emergency Services, Fire Fighters
Chestatee Emergency Center	<i>Dawson County</i>	Emergency Services, EMS
Antioch Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Bethel Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Calvary Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Crosspoint Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Dawsonville Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
First Baptist Church of Dawsonville GA INC	<i>Dawson County</i>	Emergency Services, Fire Fighters
Old First Baptist	<i>Dawson County</i>	Emergency Services, Fire Fighters
Faith Baptist Church of Dawsonville	<i>Dawson County</i>	Emergency Services, Fire Fighters
Gateway Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Goshen Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Harmony Baptist Church	<i>Dawson County</i>	Emergency Services, Fire Fighters
Juno Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Kilough Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Lebanon Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Liberty Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Liberty Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Mt Vernon Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
New Bethel Church	<i>Dawsonville town</i>	Government, Water/Sewer
New Hope Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Pleasant Union Church	<i>Dawsonville town</i>	Government, Water/Sewer
Sweetwater Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Trinity Baptist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Cornerstone Christian	<i>Dawsonville town</i>	Government, Water/Sewer
New Life Church of God	<i>Dawsonville town</i>	Government, Water/Sewer
Church of God of Prophecy	<i>Dawsonville town</i>	Government, Water/Sewer
New Life Church of God	<i>Dawsonville town</i>	Government, Water/Sewer
Bethel Methodist	<i>Dawsonville town</i>	Government, Water/Sewer
Dawsonville Methodist Church	<i>Dawsonville town</i>	Government, Water/Sewer

Mckees Chapel United Methodist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Salem Methodist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Salem Methodist Church	<i>Dawsonville town</i>	Government, Water/Sewer
Martin Allen Sr Jehovah Witness	<i>Dawsonville town</i>	Government, Water/Sewer
Christ Fellowship Church of Dawson County	<i>Dawsonville town</i>	Government, Water/Sewer
Grace & Truth Revival Center	<i>Dawsonville town</i>	Government, Water/Sewer
Jesus Name Apostlic Church Inc	<i>Dawsonville town</i>	Government, Water/Sewer
North Georgia Bible Chapel	<i>Dawsonville town</i>	Government, Water/Sewer
Pleasant Hill Church	<i>Dawsonville town</i>	Government, Water/Sewer
War Hill Fellowship	<i>Dawsonville town</i>	Government, Water/Sewer
Swan Center Star RT	<i>Dawsonville town</i>	Government, Water/Sewer
Winds of Peace Fellowship	<i>Dawsonville town</i>	Government, Water/Sewer
Etowah River W/S Str No. 26	<i>Dawsonville town</i>	Government, Water/Sewer
Fausett Lake Dam	<i>Dawson County</i>	Government, Water/Sewer
Etowah River Reach W/S Str #22	<i>Dawson County</i>	Government, Water/Sewer
Etowah River W/S Str #22	<i>Dawson County</i>	Government, Water/Sewer
Etowah River W/S Str #9	<i>Dawson County</i>	Government, Water/Sewer
Etowah W/S Str #10	<i>Dawson County</i>	Government, Water/Sewer
Etowah River Reach Sub W/S Str #12	<i>Dawson County</i>	Government, Water/Sewer
Etowah River W/S Str #13	<i>Dawson County</i>	Government, Water/Sewer
Amicalola Creek W/S Str #1	<i>Dawson County</i>	Government, Water/Sewer
Amicalola Creek W/S Str #2	<i>Dawson County</i>	Government, Water/Sewer
Amicalola Creek W/S Str #3	<i>Dawson County</i>	Government, Water/Sewer
Amicalola Creek W/S Str #4	<i>Dawson County</i>	Government, Water/Sewer
Etowah River Reach W/S Str #23	<i>Dawson County</i>	Government, Water/Sewer
Etowah River W/S Str #24	<i>Dawson County</i>	Government, Water/Sewer
Rainbow Lake Dam	<i>Dawson County</i>	Government, Water/Sewer
Thomas Lake Dam	<i>Dawson County</i>	Government, Water/Sewer
Southmark Dam	<i>Dawson County</i>	Government, Water/Sewer
Toto Estates (lower)	<i>Dawson County</i>	Government, Water/Sewer
Toto Estates (upper)	<i>Dawson County</i>	Government, Water/Sewer
Yellow Creek Reservoir Dam	<i>Dawson County</i>	Government, Water/Sewer
Scott Lake Dam	<i>Dawson County</i>	Government, Water/Sewer

Appendix D – Hazard Data Tables

Thunderstorms

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Totals:								1	1	3.534M	15.00K
DAWSON CO.	DAWSON CO.	GA	04/01/1974	23:50	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/08/1974	13:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	09/13/1979	16:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/26/1982	18:27	CST	Hail	1.75 in.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	05/18/1982	12:45	CST	Hail	1.00 in.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	07/01/1983	13:25	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	03/28/1984	12:40	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	05/07/1984	20:45	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	05/07/1984	20:45	CST	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/05/1985	19:20	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/05/1985	19:30	CST	Hail	1.50 in.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	06/06/1985	16:44	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K

DAWSON CO.	DAWSON CO.	GA	05/26/1986	23:00	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	05/26/1986	23:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/15/1987	01:45	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/04/1989	14:10	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/28/1990	12:50	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	04/29/1991	11:30	CST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	07/02/1992	07:00	PST	Thunderstorm Wind	0 kts.	0	0	0.00K	0.00K
Dawsonville	DAWSON CO.	GA	04/15/1993	19:55	EST	Thunderstorm Wind	0 kts.	0	0	0.50K	0.00K
Dawsonville	DAWSON CO.	GA	05/21/1994	15:00	EST	Thunderstorm Wind	0 kts.	0	0	5.00K	0.00K
Dawsonville	DAWSON CO.	GA	06/27/1994	01:00	EST	Thunderstorm Wind	0 kts.	0	0	5.00K	0.00K
Dawsonville	DAWSON CO.	GA	01/19/1995	15:55	EST	Thunderstorm Wind	0 kts.	0	0	500.00K	0.00K
DAWSON CO.	DAWSON CO.	GA	06/11/1995	19:05	EST	Hail	0.75 in.	0	0	0.00K	0.00K
Dawsonville	DAWSON CO.	GA	08/19/1995	17:27	EST	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/27/1996	21:00	EST	Thunderstorm Wind		0	0	2.50K	0.00K
COUNTYWIDE	DAWSON CO.	GA	01/24/1997	23:47	EST	Hail	0.75 in.	0	0	0.00K	0.00K

DAWSONVILLE	DAWSON CO.	GA	03/05/1997	18:36	EST	Thunderstorm Wind		0	0	2.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/03/1997	02:24	EST	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/04/1997	18:45	EST	Thunderstorm Wind		0	0	2.00K	0.00K
JUNO	DAWSON CO.	GA	07/28/1997	22:30	EST	Thunderstorm Wind	50 kts. EG	0	0	125.00K	15.00K
JUNO	DAWSON CO.	GA	04/17/1998	00:50	EST	Thunderstorm Wind		0	0	2.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/07/1998	15:28	EST	Hail	0.75 in.	0	0	0.00K	0.00K
JUNO	DAWSON CO.	GA	05/07/1998	16:30	EST	Hail	1.00 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/07/1998	16:45	EST	Hail	1.00 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/20/1998	13:44	EST	Thunderstorm Wind		0	0	2.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/07/1999	18:00	EST	Thunderstorm Wind		0	0	0.50K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/13/1999	19:58	EST	Hail	0.88 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/22/1999	14:42	EST	Hail	0.88 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/23/1999	18:30	EST	Thunderstorm Wind		0	0	0.50K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/21/1999	15:30	EST	Thunderstorm Wind		0	0	0.20K	0.00K
JUNO	DAWSON	GA	07/22/1999	16:35	EST	Thunderstorm		0	0	1.00K	0.00K

	CO.					Wind					
DAWSONVILLE	DAWSON CO.	GA	05/25/2000	16:23	EST	Thunderstorm Wind		0	0	0.50K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/23/2000	12:26	EST	Thunderstorm Wind		0	0	70.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/23/2000	12:26	EST	Hail	1.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	08/10/2000	23:01	EST	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	02/16/2001	19:00	EST	Thunderstorm Wind		0	0	5.00K	0.00K
LANDRUM	DAWSON CO.	GA	05/24/2001	18:10	EST	Hail	1.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	06/04/2001	20:30	EST	Lightning		0	0	15.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	06/04/2001	20:30	EST	Lightning		0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	06/04/2001	20:30	EST	Thunderstorm Wind		0	0	5.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/13/2002	14:49	EST	Thunderstorm Wind		0	0	2.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/01/2002	17:50	EST	Thunderstorm Wind		0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/01/2002	18:12	EST	Lightning		0	0	1.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/02/2002	14:05	EST	Hail	1.00 in.	0	0	0.00K	0.00K
EMMA	DAWSON CO.	GA	07/03/2002	13:45	EST	Hail	0.75 in.	0	0	0.00K	0.00K

DAWSONVILLE	DAWSON CO.	GA	11/11/2002	02:15	EST	Lightning		0	0	250.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/07/2003	02:17	EST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
COUNTYWIDE	DAWSON CO.	GA	07/10/2003	10:00	EST	Lightning		0	0	150.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/22/2003	13:00	EST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	05/22/2004	15:25	EST	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/14/2004	00:41	EST	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/14/2004	16:38	EST	Hail	0.75 in.	0	0	0.00K	0.00K
LANDRUM	DAWSON CO.	GA	07/14/2004	16:45	EST	Thunderstorm Wind	50 kts. EG	0	0	1.00K	0.00K
COUNTYWIDE	DAWSON CO.	GA	11/24/2004	10:27	EST	Thunderstorm Wind	50 kts. EG	0	0	15.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	12/09/2004	06:30	EST	Thunderstorm Wind	35 kts. EG	0	0	0.25K	0.00K
AMICALOLA	DAWSON CO.	GA	01/13/2005	16:50	EST	Thunderstorm Wind	50 kts. EG	0	0	20.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	02/21/2005	12:15	EST	Lightning		0	0	600.00K	0.00K
DAWSONVILLE	DAWSON	GA	02/21/2005	17:30	EST	Hail	1.00	0	0	0.00K	0.00K

	CO.						in.				
DAWSONVILLE	DAWSON CO.	GA	03/27/2005	15:08	EST	Hail	1.75 in.	0	0	0.00K	0.00K
AMICALOLA	DAWSON CO.	GA	03/27/2005	16:24	EST	Hail	1.75 in.	0	0	0.00K	0.00K
AMICALOLA	DAWSON CO.	GA	04/22/2005	12:10	EST	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/02/2005	14:15	EST	Lightning		0	0	8.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/02/2005	14:21	EST	Thunderstorm Wind	56 kts. EG	0	0	60.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	04/20/2006	15:29	EST	Hail	0.75 in.	0	0	0.00K	0.00K
AMICALOLA	DAWSON CO.	GA	05/20/2006	16:25	EST	Hail	1.00 in.	0	0	0.00K	0.00K
LUMPKIN	DAWSON CO.	GA	05/27/2006	16:30	EST	Hail	0.75 in.	0	0	0.00K	0.00K
JUNO	DAWSON CO.	GA	06/25/2006	10:01	EST	Thunderstorm Wind	39 kts. EG	0	0	1.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	08/04/2006	18:20	EST	Thunderstorm Wind	35 kts. EG	0	0	0.75K	0.00K
DAWSONVILLE	DAWSON CO.	GA	04/03/2007	16:48	EST-5	Hail	1.25 in.	0	0	0.00K	0.00K
AMICALOLA	DAWSON CO.	GA	04/04/2007	00:45	EST-5	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
JUNO	DAWSON	GA	05/12/2007	13:58	EST-	Thunderstorm	50 kts.	0	0	6.00K	0.00K

	CO.				5	Wind	EG				
DAWSONVILLE	DAWSON CO.	GA	06/11/2007	15:24	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	06/11/2007	15:30	EST-5	Thunderstorm Wind	36 kts. EG	0	0	1.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	06/12/2007	16:00	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/01/2007	12:20	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/01/2007	12:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	50.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	03/15/2008	12:25	EST-5	Hail	1.75 in.	0	0	300.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	03/15/2008	14:43	EST-5	Hail	2.75 in.	0	0	1.000M	0.00K
DAWSONVILLE	DAWSON CO.	GA	04/11/2008	18:39	EST-5	Thunderstorm Wind	56 kts. EG	0	0	100.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	04/11/2008	18:51	EST-5	Lightning		0	0	10.00K	0.00K
LUMPKIN	DAWSON CO.	GA	08/07/2008	14:29	EST-5	Thunderstorm Wind	52 kts. EG	0	0	5.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	02/11/2009	17:30	EST-5	Thunderstorm Wind	39 kts. EG	0	0	1.00K	0.00K
JUNO	DAWSON CO.	GA	04/10/2009	17:20	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
DAWSONVILLE	DAWSON	GA	09/09/2009	15:50	EST-	Hail	0.88	0	0	0.00K	0.00K

	CO.				5		in.					
MC KEE	DAWSON CO.	GA	09/09/2009	16:50	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	05/15/2010	17:34	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	06/28/2010	19:51	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K	
BRIGHT	DAWSON CO.	GA	07/26/2010	13:59	EST-5	Thunderstorm Wind	39 kts. EG	0	1	25.00K	0.00K	
JUNO	DAWSON CO.	GA	02/28/2011	16:44	EST-5	Thunderstorm Wind	54 kts. MG	0	0	0.00K	0.00K	
JUNO	DAWSON CO.	GA	03/26/2011	22:35	EST-5	Thunderstorm Wind	52 kts. EG	0	0	25.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	04/25/2011	13:15	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	04/27/2011	22:49	EST-5	Thunderstorm Wind	52 kts. EG	0	0	10.00K	0.00K	
AMICALOLA	DAWSON CO.	GA	05/26/2011	15:23	EST-5	Hail	0.88 in.	0	0	0.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	05/26/2011	16:40	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K	
LUMPKIN	DAWSON CO.	GA	05/26/2011	16:50	EST-5	Thunderstorm Wind	50 kts. EG	0	0	2.00K	0.00K	
JOHNTOWN	DAWSON CO.	GA	06/18/2011	16:31	EST-5	Thunderstorm Wind	51 kts.	0	0	15.00K	0.00K	

							EG					
AMICALOLA	DAWSON CO.	GA	08/07/2011	17:05	EST-5	Thunderstorm Wind	52 kts. EG	0	0	25.00K	0.00K	
BARRETTSVILLE	DAWSON CO.	GA	04/17/2012	17:00	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K	
BRIGHT	DAWSON CO.	GA	05/17/2012	20:20	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K	
LUMPKIN	DAWSON CO.	GA	06/04/2012	01:15	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K	
LUMPKIN	DAWSON CO.	GA	08/10/2012	21:00	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K	
HUBBARDSVILLE	DAWSON CO.	GA	08/10/2012	21:05	EST-5	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	03/18/2013	17:25	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	01/11/2014	07:55	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.50K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	05/14/2014	19:20	EST-5	Thunderstorm Wind	50 kts. EG	0	0	0.75K	0.00K	
DAWSONVILLE	DAWSON CO.	GA	07/11/2014	18:25	EST-5	Lightning		1	0	0.00K	0.00K	
LUMPKIN	DAWSON CO.	GA	08/20/2014	12:54	EST-5	Thunderstorm Wind	50 kts. EG	0	0	1.50K	0.00K	
MC KEE	DAWSON CO.	GA	10/14/2014	05:40	EST-5	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K	

DAWSONVILLE	DAWSON CO.	GA	04/20/2015	11:51	EST-5	Hail	0.75 in.	0	0	0.00K	0.00K
SILVER CITY	DAWSON CO.	GA	06/24/2015	17:15	EST-5	Hail	1.00 in.	0	0	0.00K	0.00K
AMICALOLA	DAWSON CO.	GA	06/24/2015	17:45	EST-5	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K
AFTON	DAWSON CO.	GA	06/26/2015	16:15	EST-5	Thunderstorm Wind	50 kts. EG	0	0	6.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	07/13/2015	14:30	EST-5	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
JUNO	DAWSON CO.	GA	08/10/2015	15:36	EST-5	Thunderstorm Wind	50 kts. EG	0	0	10.00K	0.00K
JUNO	DAWSON CO.	GA	03/21/2017	19:14	EST-5	Thunderstorm Wind	60 kts. EG	0	0	40.00K	0.00K
JOHNTOWN	DAWSON CO.	GA	06/23/2017	18:06	EST-5	Thunderstorm Wind	45 kts. EG	0	0	1.00K	0.00K
DAWSONVILLE	DAWSON CO.	GA	09/05/2017	17:40	EST-5	Thunderstorm Wind	55 kts. EG	0	0	20.00K	0.00K
Totals:								1	1	3.534M	15.00K

Winter Storms

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Totals:								0	0	1.297M	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/06/1996	15:00	EST	Winter Storm		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/11/1996	16:00	EST	Heavy Snow		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	02/02/1996	10:00	EST	Winter Storm		0	0	5.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	03/20/1996	16:00	EST	Heavy Snow		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/08/1997	19:00	EST	Ice Storm		0	0	1.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	12/23/1998	12:00	EST	Ice Storm		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	12/23/1998	12:00	EST	Ice Storm		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/02/1999	18:00	EST	Ice Storm		0	0	3.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/31/1999	15:00	EST	Winter Weather		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	02/01/1999	00:00	EST	Sleet		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	02/23/1999	11:00	EST	Winter Weather		0	0	0.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/22/2000	13:00	EST	Ice Storm		0	0	980.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	01/28/2000	19:00	EST	Ice Storm		0	0	32.79K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	12/03/2000	05:00	EST	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/17/2000	07:30	EST	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/19/2000	00:00	EST	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/20/2001	12:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/02/2002	06:00	EST	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/04/2002	14:00	EST	Ice Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/23/2003	00:00	EST	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/06/2003	15:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/25/2004	05:00	EST	Ice Storm		0	0	10.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/26/2004	00:00	EST	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/19/2004	17:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/28/2005	20:00	EST	Winter Storm		0	0	250.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	04/02/2005	10:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/15/2005	00:00	EST	Ice Storm		0	0	15.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/06/2006	04:00	EST	Winter Weather		0	0	0.00K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	02/12/2006	00:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/18/2006	12:00	EST	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/01/2007	04:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/16/2008	21:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/19/2008	12:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/22/2008	09:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/08/2008	06:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/01/2008	06:30	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/07/2010	16:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/29/2010	21:00	EST-5	Ice Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/04/2010	13:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/12/2010	14:30	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/02/2010	06:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/12/2010	12:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/15/2010	19:25	EST-5	Winter Weather		0	0	0.00K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	12/25/2010	12:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/09/2011	21:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/03/2011	16:30	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/09/2011	22:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	11/29/2011	06:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/25/2013	07:00	EST-5	Ice Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/06/2013	03:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/28/2014	12:00	EST-5	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/11/2014	07:00	EST-5	Heavy Snow		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	11/01/2014	00:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/16/2015	14:00	EST-5	Ice Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/20/2015	15:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/25/2015	14:00	EST-5	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/20/2016	06:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/22/2016	00:00	EST-5	Winter Storm		0	0	0.00K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	02/15/2016	02:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/03/2016	13:30	EST-5	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/06/2017	17:00	EST-5	Winter Weather		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/08/2017	10:00	EST-5	Winter Storm		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	01/16/2018	18:00	EST-5	Winter Weather		0	0	0.00K	0.00K
Totals:								0	0	1.297M	0.00K

Tornadoes

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Totals:								5	16	2.700M	0.00K
<u>DAWSON CO.</u>	DAWSON CO.	GA	04/03/1974	18:45	CST	Tornado	F4	5	13	2.500M	0.00K
<u>JUNO</u>	DAWSON CO.	GA	11/11/2002	02:20	EST	Tornado	F2	0	3	200.00K	0.00K
Totals:								5	16	2.700M	0.00K

Drought

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Totals:								0	0	0.00K	1.260M
DAWSON (ZONE)	DAWSON (ZONE)	GA	09/01/1997	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	05/01/1999	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	08/01/1999	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/01/2000	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	05/01/2000	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	06/01/2000	00:00	EST	Drought		0	0	0.00K	1.260M
DAWSON (ZONE)	DAWSON (ZONE)	GA	07/01/2000	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	10/01/2000	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	10/01/2001	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	11/01/2001	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/01/2001	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	04/01/2002	00:00	EST	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	08/01/2002	00:00	EST	Drought		0	0	0.00K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	01/01/2003	00:00	EST	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/01/2004	00:00	EST	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	05/01/2007	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	09/01/2007	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	10/01/2007	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	11/01/2007	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/01/2007	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	09/01/2011	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	06/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	07/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	08/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	09/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	10/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	11/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	12/01/2016	00:00	EST-5	Drought	0	0	0.00K	0.00K

DAWSON (ZONE)	DAWSON (ZONE)	GA	01/01/2017	00:00	EST-5	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	02/01/2017	00:00	EST-5	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	03/01/2017	00:00	EST-5	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	04/01/2017	00:00	EST-5	Drought		0	0	0.00K	0.00K
DAWSON (ZONE)	DAWSON (ZONE)	GA	05/01/2017	00:00	EST-5	Drought		0	0	0.00K	0.00K
Totals:								0	0	0.00K	1.260M

Flooding

<u>Location</u>	<u>County/Zone</u>	<u>St.</u>	<u>Date</u>	<u>Time</u>	<u>T.Z.</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
Totals:								0	0	447.00K	1.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	02/27/1997	22:00	EST	Flood		0	0	0.00K	0.00K
<u>JUNO</u>	DAWSON CO.	GA	04/17/1998	03:00	EST	Flash Flood		0	0	10.00K	0.00K
<u>DAWSONVILLE</u>	DAWSON CO.	GA	09/21/2002	15:30	EST	Flash Flood		0	0	50.00K	0.00K
<u>WEST PORTION</u>	DAWSON CO.	GA	07/10/2003	08:30	EST	Flash Flood		0	0	25.00K	0.00K
<u>WEST PORTION</u>	DAWSON CO.	GA	07/10/2003	14:00	EST	Flash Flood		0	0	0.00K	1.00K
<u>COUNTYWIDE</u>	DAWSON CO.	GA	09/16/2004	18:45	EST	Flash Flood		0	0	250.00K	0.00K
<u>DAWSON (ZONE)</u>	DAWSON (ZONE)	GA	02/21/2005	17:30	EST	Flood		0	0	5.00K	0.00K
<u>NORTHEAST PORTION</u>	DAWSON CO.	GA	06/25/2006	11:30	EST	Flash Flood		0	0	2.00K	0.00K
<u>AFTON</u>	DAWSON CO.	GA	07/09/2008	02:00	EST-5	Flash Flood		0	0	5.00K	0.00K
<u>HUBBARDSVILLE</u>	DAWSON CO.	GA	09/21/2009	13:55	EST-5	Flood		0	0	10.00K	0.00K
<u>LUMPKIN</u>	DAWSON CO.	GA	05/19/2013	04:00	EST-5	Flash Flood		0	0	50.00K	0.00K
<u>AMICALOLA</u>	DAWSON CO.	GA	07/03/2013	14:45	EST-5	Flash Flood		0	0	5.00K	0.00K
<u>BRIGHT</u>	DAWSON CO.	GA	08/07/2013	04:10	EST-5	Flash Flood		0	0	5.00K	0.00K

HUBBARDSVILLE	DAWSON CO.	GA	08/07/2013	06:36	EST-5	Flash Flood	0	0	5.00K	0.00K
JUNO	DAWSON CO.	GA	08/22/2013	16:30	EST-5	Flash Flood	0	0	25.00K	0.00K
Totals:							0	0	447.00K	1.00K

Amicalola Creek near Dawsonville

Flood Categories (in feet)
 Major Flood Stage: 17
 Moderate Flood Stage: 13
 Flood Stage: 10
 Action Stage: 8
 Low Flow (in CFS): 37.1

Historic Crests
 (1) 7.00 ft on 02/17/1942
 (2) 6.10 ft on 02/03/1982
 (3) 6.10 ft on 03/11/1952

(P): Preliminary values subject to further review.

Recent Crests
 (1) 6.10 ft on 02/03/1982
 (2) 6.10 ft on 03/11/1952
 (3) 7.00 ft on 02/17/1942

(P): Preliminary values subject to further review.

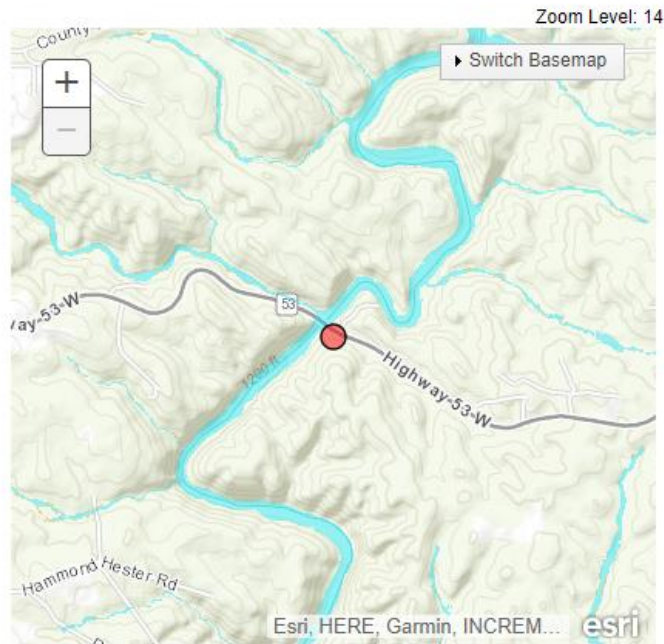
Low Water Records
 (1) 0.27 ft on 10/01/2007
 (2) 0.28 ft on 09/10/2007



FEMA

For more information on your flood risk go to www.floodsmart.gov.

Show FEMA's National Flood Hazard Layers



Legend

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

Etowah River near Dawsonville

Flood Categories (in feet)

Major Flood Stage:	21
Moderate Flood Stage:	16
Flood Stage:	13
Action Stage:	11
Low Stage (in feet):	0

Historic Crests

- (1) 16.20 ft on 01/07/1946
 - (2) 16.03 ft on 01/16/1954
 - (3) 15.90 ft on 05/19/2013
 - (4) 15.78 ft on 09/17/2004
 - (5) 15.72 ft on 03/11/1952
- [Show More Historic Crests](#)

(P): Preliminary values subject to further review.

Recent Crests

- (1) 13.78 ft on 12/24/2015
 - (2) 14.12 ft on 01/04/2015
 - (3) 13.06 ft on 04/07/2014
 - (4) 15.41 ft on 08/07/2013
 - (5) 15.90 ft on 05/19/2013
- [Show More Recent Crests](#)

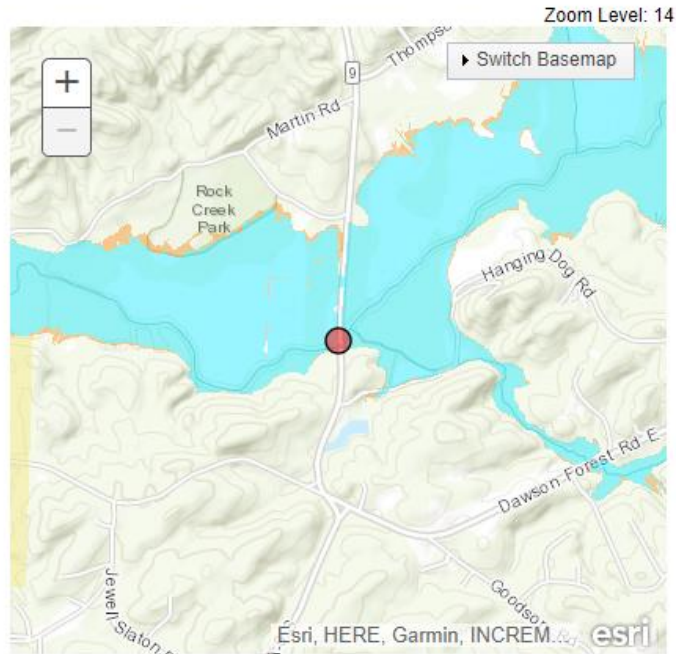
(P): Preliminary values subject to further review.

Low Water Records

- (1) 2.92 ft on 09/13/2002
- (2) 3.01 ft on 10/01/2007



For more information on your flood risk go to www.floodsmart.gov.



Legend

- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

FEMA Layer

Appendix E – Dawson County Worksheet 3As

GEMA Worksheet #3a Inventory of Assets

**Jurisdiction: Dawson County
Hazard: Non-Spatially Defined Hazard**

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	11,189	11,189	100.000%	1,589,852,442	1,589,852,442	100.000%	22,673	22,673	100%
Commercial	1,953	1,953	100.000%	279,640,570	279,640,570	100.000%	0	0	#DM/0!
Industrial	70	70	100.000%	17,135,175	17,135,175	100.000%	0	0	#DM/0!
Agricultural	1,035	1,035	100.000%	131,392,765	131,392,765	100.000%	0	0	#DM/0!
Religious / Non-profit	321	321	100.000%	38,007,633	38,007,633	100.000%	0	0	#DM/0!
Government	352	352	100.000%	180,129,223	180,129,223	100.000%	0	0	#DM/0!
Education	179	179	100.000%	59,801,053	59,801,053	100.000%	0	0	#DM/0!
Utilities	22	22	100.000%	89,145,300	89,145,300	100.000%	0	0	#DM/0!
Total	15,121	15,121	100.000%	2,345,104,161	2,345,104,161	100.000%	22,673	22,673	100%

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | | |
|---|----------|----------|
| | Y | N |
| 1. Do you know where the greatest damages may occur in your area? | | N |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | | N |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | | N |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | | N |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | | N |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |

GEMA Worksheet #3a Inventory of Assets
Jurisdiction: Dawson County
Hazard: Wildfire Hazard

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	11,189	10,421	93.136%	1,589,852,442	1,480,728,812	93.136%	22,673	21,117	93%
Commercial	1,953	1,578	80.799%	279,840,570	225,946,144	80.799%	0	0	#DM/0!
Industrial	70	64	91.429%	17,135,175	15,666,446	91.429%	0	0	#DM/0!
Agricultural	1,035	998	96.425%	131,392,765	128,695,832	98.425%	0	0	#DM/0!
Religious/ Non-profit	321	295	91.900%	38,007,633	34,929,133	91.900%	0	0	#DM/0!
Government	352	305	86.648%	160,129,223	138,748,332	86.648%	0	0	#DM/0!
Education	179	166	92.737%	59,801,053	55,457,960	92.737%	0	0	#DM/0!
Utilities	22	21	95.455%	69,145,300	66,002,332	95.455%	0	0	#DM/0!
Total	15,121	13,646	91.581%	2,345,104,161	2,144,172,791	91.432%	22,673	21,117	93%

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | | |
|---|----------|----------|
| | Y | N |
| 1. Do you know where the greatest damages may occur in your area? | | N |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | | N |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | | N |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | | N |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | | N |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |

GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Dawson County

Hazard: Flood Hazard

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	11,189	132	1.180%	1,589,852,442	18,755,968	1.180%	22,673	267	1%
Commercial	1,953	0	0.000%	279,640,570	0	0.000%	0	0	#DM/OI
Industrial	70	3	4.286%	17,135,175	734,365	4.286%	0	0	#DM/OI
Agricultural	1,035	0	0.000%	131,392,765	0	0.000%	0	0	#DM/OI
Religious / Non-profit	321	0	0.000%	38,007,633	0	0.000%	0	0	#DM/OI
Government	352	0	0.000%	180,129,223	0	0.000%	0	0	#DM/OI
Education	179	0	0.000%	59,801,053	0	0.000%	0	0	#DM/OI
Utilities	22	0	0.000%	69,145,300	0	0.000%	0	0	#DM/OI
Total	15,121	135	0.893%	2,345,104,161	19,490,332	0.831%	22,673	267	1%

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | | |
|---|----------|----------|
| | Y | N |
| 1. Do you know where the greatest damages may occur in your area? | Y | |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | Y | |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | Y | |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | Y | |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | Y | |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |

GEMA Worksheet #3a **Inventory of Assets**
Jurisdiction: Dawsonville
Hazard: Non-Spatially Defined Hazard

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,173	1,173	100.000%	119,904,233	119,904,233	100.000%	2,416	2,416	100%
Commercial	466	466	100.000%	41,051,885	41,051,885	100.000%	0	0	#DM/OI
Industrial	0	0	#DIV/OI	0	#DM/OI	#DIV/OI	0	#DIV/OI	#DM/OI
Agricultural	26	26	100.000%	4,236,003	4,236,003	100.000%	0	0	#DM/OI
Religious/ Non-profit	74	74	100.000%	8,671,763	8,671,763	100.000%	0	0	#DM/OI
Government	99	99	100.000%	48,778,078	48,778,078	100.000%	0	0	#DM/OI
Education	70	70	100.000%	30,033,596	30,033,596	100.000%	0	0	#DM/OI
Utilities	9	9	100.000%	5,977,250	5,977,250	100.000%	0	0	#DM/OI
Total	1,917	1,917	100.000%	258,654,810	#DM/OI	#DM/OI	2,416	#DIV/OI	#DM/OI

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | Y | N |
|---|---|---|
| 1. Do you know where the greatest damages may occur in your area? | N | |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | | N |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | | N |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | | N |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | | N |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |



GEMA Worksheet #3a

Inventory of Assets

Jurisdiction: Dawsonville

Hazard: Wildfire Hazard

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,173	1,065	92.498%	119,904,233	110,908,860	92.498%	2,416	2,235	92%
Commercial	486	425	91.202%	41,051,885	37,440,024	91.202%	0	0	#DM/OI
Industrial	0	0	#DIV/OI	0	#DM/OI	#DIV/OI	0	#DIV/OI	#DM/OI
Agricultural	26	24	92.308%	4,238,003	3,912,003	92.308%	0	0	#DM/OI
Religious/ Non-profit	74	71	95.946%	8,671,763	8,320,205	95.946%	0	0	#DM/OI
Government	99	92	92.929%	48,778,078	45,329,123	92.929%	0	0	#DM/OI
Education	70	66	94.286%	30,033,998	28,317,392	94.286%	0	0	#DM/OI
Utilities	9	9	100.000%	5,977,250	5,977,250	100.000%	0	0	#DM/OI
Total	1,917	1,772	92.436%	258,654,810	#DM/OI	#DIV/OI	2,416	#DIV/OI	#DM/OI

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | | |
|---|----------|----------|
| | Y | N |
| 1. Do you know where the greatest damages may occur in your area? | | N |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | | N |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | Y | |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | | N |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | Y | |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |

GEMA Worksheet #3a
Jurisdiction: Dawsonville
Hazard: Flood Hazard

Inventory of Assets

Task A. Determine the proportion of buildings, the value of buildings, and the population in your community or state that are located in hazard areas.

Type of Structure (Occupancy Class)	Number of Structures			Value of Structures			Number of People		
	# in Community of State	# in Hazard Area	% in Hazard Area	\$ in Community or State	\$ in Hazard Area	% in Hazard Area	# in Community or State	# in Hazard Area	% in Hazard Area
Residential	1,173	13	1.108%	119,904,233	1,320,862	1.108%	2,418	27	1%
Commercial	466	425	91.202%	41,051,885	37,440,024	91.202%	0	0	#DM/0!
Industrial	0	0	#DIV/0!	0	#DM/0!	#DIV/0!	0	#DIV/0!	#DM/0!
Agricultural	26	24	92.308%	4,238,003	3,912,003	92.308%	0	0	#DM/0!
Religious/ Non-profit	74	71	95.946%	8,671,763	8,320,205	95.946%	0	0	#DM/0!
Government	99	92	92.929%	48,778,078	45,329,123	92.929%	0	0	#DM/0!
Education	70	66	94.286%	30,033,598	28,317,392	94.286%	0	0	#DM/0!
Utilities	9	9	100.000%	5,977,250	5,977,250	100.000%	0	0	#DM/0!
Total	1,917	700	36.515%	258,654,810	#DM/0!	#DIV/0!	2,418	#DIV/0!	#DM/0!

Task B. Determine whether (and where) you want to collect additional inventory data.

- | | | |
|---|----------|----------|
| | Y | N |
| 1. Do you know where the greatest damages may occur in your area? | Y | |
| 2. Do you know whether your critical facilities will be operational after a hazard event? | | N |
| 3. Is there enough data to determine which assets are subject to the greatest potential damages? | Y | |
| 4. Is there enough data to determine whether significant elements of the community are vulnerable to potential hazards? | Y | |
| 5. Is there enough data to determine whether certain areas of historic, environmental, political, or cultural significance are vulnerable to potential hazards? | Y | |
| 6. Is there concern about a particular hazard because of its severity, repetitiveness, or likelihood of occurrence? | Y | |
| 7. Is additional data needed to justify the expenditure of community or state funds for mitigation initiatives? | | N |

Appendix F – Documentation of Peer Review

DRAFT

Appendix G – Dawson County HAZUS Report



Hazard Risk Analyses
Supplement to the Dawson County
Joint Hazard Mitigation Plan



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Introduction

The Federal Disaster Mitigation Act of 2000 (DMA2K) requires state, local, and tribal governments to develop and maintain a mitigation plan to be eligible for certain federal disaster assistance and hazard mitigation funding programs.

Mitigation seeks to reduce a hazard’s impacts, which may include loss of life, property damage, disruption to local and regional economies, and the expenditure of public and private funds for recovery. Sound mitigation must be based on a sound risk assessment that quantifies the potential losses of a disaster by assessing the vulnerability of buildings, infrastructure, and people.

In recognition of the importance of planning in mitigation activities, FEMA created Hazus-MH, a powerful disaster risk assessment tool based on geographic information systems (GIS). This tool enables communities of all sizes to predict estimated losses from floods, hurricanes, earthquakes, and other related phenomena and to measure the impact of various mitigation practices that might help reduce those losses.

In 2017, the Georgia Department of Emergency Management partnered with the Carl Vinson Institute of Government at the University of Georgia to develop a detailed risk assessment focused on defining hurricane, riverine flood, and tornado risks in Dawson County, Georgia. This assessment identifies the characteristics and potential consequences of the disaster, how much of the community could be affected by the disaster, and the impact on community assets.

Risk Assessment Process Overview

Hazus-MH Version 2.2 SP1 was used to perform the analyses for Dawson County. The Hazus-MH application includes default data for every county in the US. This Hazus-MH data was derived from a variety of national sources and in some cases the data are also several years old. Whenever possible, using local provided data is preferred. Dawson County provided building inventory information from the county’s property tax assessment system. This section describes the changes made to the default Hazus-MH inventory and the modeling parameters used for each scenario.

County Inventory Changes

The default Hazus-MH site-specific point inventory was updated using data compiled from the Georgia Emergency Management Agency (GEMA). The default Hazus-MH aggregate inventory (General Building Stock) was also updated prior to running the scenarios. Reported losses reflect the updated data sets.

General Building Stock Updates

General Building Stock (GBS) is an inventory category that consists of aggregated data (grouped by census geography — tract or block). Hazus-MH generates a combination of site-specific and aggregated loss estimates based on the given analysis and user input.

The GBS records for Dawson County were replaced with data derived from parcel and property assessment data obtained from Dawson County. The county provided property assessment data was current as of November 2015 and the parcel data current as of September 2015. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary; then, each parcel point was linked to an assessor record based upon matching parcel numbers. The parcel assessor match-rate for Dawson

County is 84.3%. The generated building inventory represents the approximate locations (within a parcel) of structures. The building inventory was aggregated by census block. Both the tract and block tables were updated. Table 1 shows the results of the changes to the GBS tables by occupancy class.

Table 1: GBS Building Exposure Updates by Occupancy Class*

General Occupancy	Default Hazus-MH Count	Updated Count	Default Hazus-MH Exposure	Updated Exposure
Agricultural	40	0	\$12,296,000	\$0
Commercial	474	331	\$272,489,000	\$78,044,000
Education	21	12	\$14,849,000	\$37,983,000
Government	12	15	\$7,389,000	\$9,058,000
Industrial	166	131	\$94,421,000	\$35,183,000
Religious	44	25	\$21,251,000	\$14,761,000
Residential	10,163	9,041	\$2,238,756,000	\$1,463,597,000
Total	10,920	9,555	\$2,661,451,000	\$1,638,626,000

*The exposure values represent the total number and replacement cost for all Dawson County Buildings

For Dawson County, the updated GBS was used to calculate hurricane wind losses. The flood losses and tornado losses were calculated from building inventory modeled in Hazus-MH as User-Defined Facility

(UDF)³, or site-specific points. Figure 1 shows the distribution of buildings as points based on the county provided data.

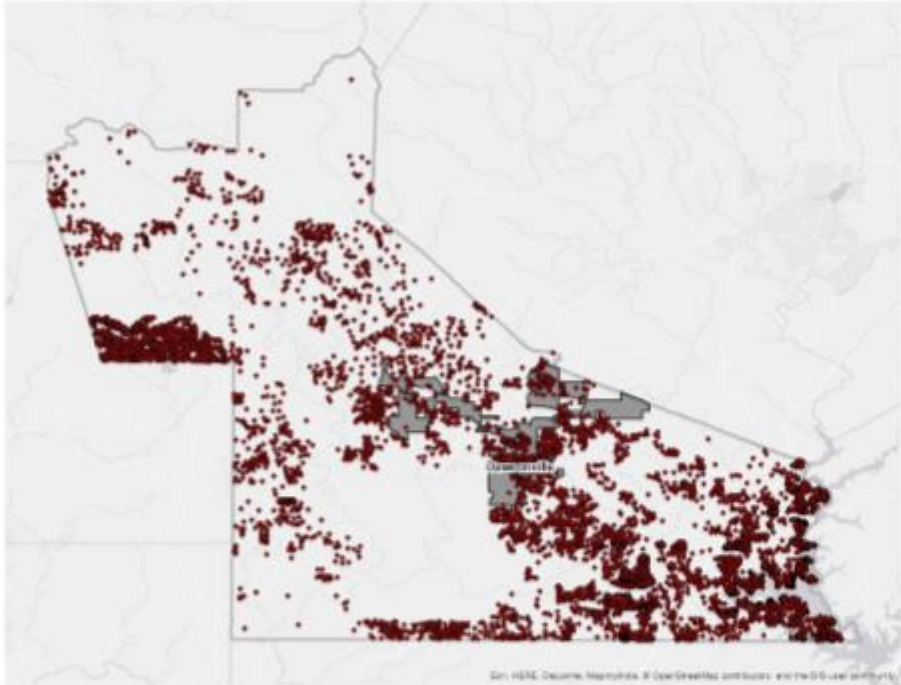


Figure 1: Dawson County Overview

Essential Facility Updates

The default Hazus-MH essential facility data was updated to reflect improved information available in the Georgia Mitigation Information System (GMIS) as of April 12th, 2017. For these risk analyses, only GMIS data for buildings that Hazus-MH classified as Essential Facilities was integrated into Hazus-MH because the application provides specialized reports for these five facilities. Essential Facility inventory was updated for the analysis conducted for this report. The following table summarizes the counts and exposures, where available, by Essential Facility classification of the updated data.

- Essential facilities include:
- Care facilities
 - EOCs
 - Fire stations
 - Police stations
 - Schools

³ The UDF inventory category in Hazus-MH allows the user to enter site-specific data in place of GBS data.

Table 2: Updated Essential Facilities

Classification	Updated Count	Updated Exposure
Dawsonville		
EOC	1	\$880,000
Care	1	\$268,000
Fire	1	\$171,000
Police	1	\$708,000
School	3	\$22,332,000
Total	7	\$24,359,000
Unincorporated Areas of Dawson County		
EOC	0	\$0
Care	2	\$1,609,000
Fire	6	\$1,646,000
Police	0	\$0
School	4	\$25,690,000
Total	12	\$28,945,000

Assumptions and Exceptions

Hazus-MH loss estimates may be impacted by certain assumptions and process variances made in this risk assessment.

- The Dawson County analysis used Hazus-MH Version 2.2 SP1, which was released by FEMA in May 2015.
- County provided parcel and property assessment data may not fully reflect all buildings in the county. For example, some counties do not report not-for-profit buildings such as government buildings, schools and churches in their property assessment data. This data was used to update the General Building Stock as well as the User Defined Facilities applied in this risk assessment.
- Georgia statute requires that the Assessor’s Office assign a code to all of the buildings on a parcel based on the buildings primary use. If there is a residential or a commercial structure on a parcel and there are also agricultural buildings on the same parcel Hazus-MH looks at the residential and commercial “primary” structures first and then combines the value of all secondary structures on that parcel with the value of the primary structure. The values and building counts are still accurate but secondary structures are accounted for under the same classification as the primary structure. Because of this workflow, the only time that a parcel would show a value for an agricultural building is when there are no residential or commercial structures on the parcel thus making the agricultural building the primary structure. This is the reason that agricultural building counts and total values seem low or are nonexistent.
- GBS updates from assessor data will skew loss calculations. The following attributes were defaulted or calculated:

Foundation Type was set from Occupancy Class

First Floor Height was set from Foundation Type

Content Cost was calculated from Replacement Cost

- It is assumed that the buildings are located at the centroid of the parcel.
- The essential facilities extracted from the GMIS were only used in the portion of the analysis designated as essential facility damage. They were not used in the update of the General Building Stock or the User Defined Facility inventory.
- Typically, Hazus analysis uses the default GBS if the match rate between a county's CAMA and parcel data is not at least 85%. For Dawson County, the match rate was 84.3%. While this falls below the 85% threshold it was decided that since it was so close to the threshold, being able to use the local data albeit in a lessened state of completeness was preferable to using the Federally supplied data.

The hazard models included in this risk assessment included:

- Hurricane assessment which was comprised of a wind only damage assessment.
- Flood assessment based on the 1% annual chance event that includes riverine assessments.
- Tornado assessment based on GIS modeling.

Hurricane Risk Assessment

Hazard Definition

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)². 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 (Table 3). 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 are considered.

Table 3: 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. Since 1902, Dawson County has had 15 tropical systems within 20 miles of its county borders (Table 4).

Table 4: Tropical Systems affecting Dawson County³

YEAR	MONTH	DAY	NAME	LAT	LONG	WIND(Knots)	PRESSURE	CAT
1902	October	11	NOTNAMED	33.700	-84.800	35	0	E
1907	September	23	NOTNAMED	33.800	-84.700	35	0	E
1911	August	30	NOTNAMED	34.000	-84.000	30	0	E

² 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.

³ Atlantic Oceanic and Meteorological Laboratory (2012). "Data Center." National Oceanic and Atmospheric Administration. http://www.aoml.noaa.gov/hrd/data_sub/re_anal.html. Retrieved 7-20-2015.

YEAR	MONTH	DAY	NAME	LAT	LONG	WIND(Knots)	PRESSURE	CAT
1928	August	15	NOTNAMED	34.400	-84.800	30	0	TD
1939	August	18	NOTNAMED	34.400	-85.300	20	0	TD
1939	August	18	NOTNAMED	34.700	-84.600	25	0	TD
1977	September	8	BABE	34.500	-84.800	25	1010	TD
1977	September	8	BABE	34.600	-83.900	25	0	TD
1997	July	23	DANNY	34.100	-85.200	20	1012	TD
1997	July	23	DANNY	34.200	-84.500	20	1012	TD
1997	July	23	DANNY	34.300	-83.700	20	1012	TD
2004	September	8	FRANCES	33.400	-84.700	25	998	TD
2004	September	8	FRANCES	34.300	-84.300	25	1000	TD
2005	July	7	CINDY	33.200	-86.200	20	1008	TD
2005	July	7	CINDY	34.600	-84.100	20	1009	E

Category Definitions:

TS – Tropical storm

TD – Tropical depression

H1 – Category 1 (same format for H2, H3, and H4)

E – Extra-tropical cyclone



Figure 2: Continental United States Hurricane Strikes: 1950 to 2011⁴

⁴ Source: NOAA National Climatic Data Center

Probabilistic Hurricane Scenario

The following probabilistic wind damage risk assessment modeled a Tropical Storm with maximum winds of 64 mph.

Wind Damage Assessment

This section describes the wind-based losses to Dawson County. Wind losses were determined from probabilistic models run for the Tropical Storm which equates to the 1% chance storm event. Figure 3 shows wind speeds for the modeled Tropical Storm.

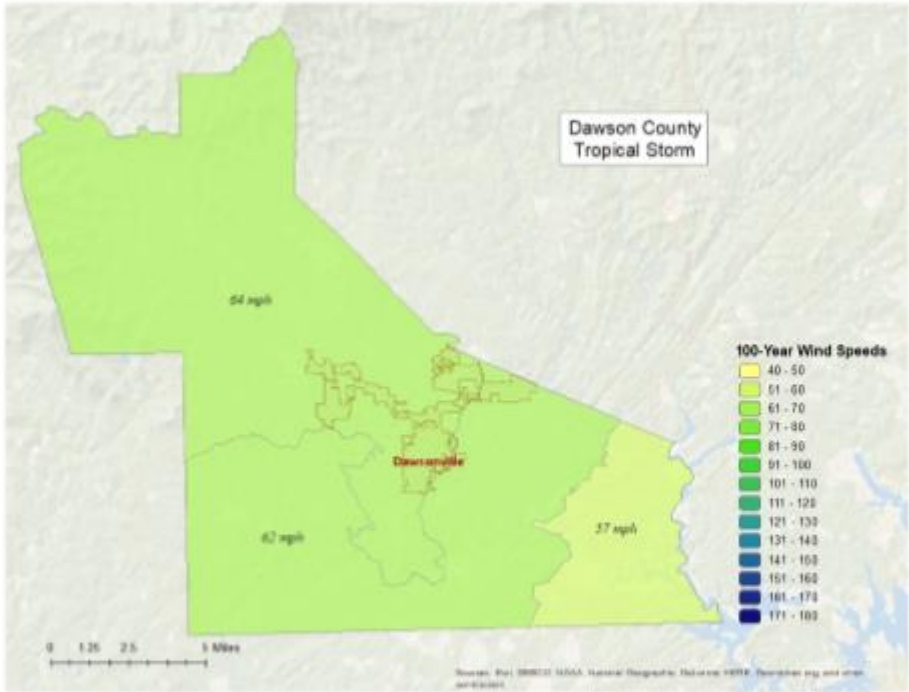


Figure 3: Wind Speeds by Storm Category

Wind-Related Building Damages

Buildings in Dawson County are vulnerable to storm events, and the cost to rebuild may have significant consequences to the community. The following table shows a summary of the results of wind-related building damage in Dawson County for the Tropical Storm (100 Year Event). The loss ratio expresses

building losses as a percentage of total building replacement cost in the county. Figure 4 illustrates the building loss ratios of the modeled Tropical Storm.

Table 5: Hurricane Wind Building Damage

Classification	Number of Buildings Damaged	Total Building Damage	Total Economic Loss ⁵	Loss Ratio
Tropical Storm	1	\$280,170	\$280,860	0.02%

Note that wind damaged buildings are not reported by jurisdiction. This is due to the fact that census tract boundaries – upon which hurricane building losses are based – do not closely coincide with jurisdiction boundaries.

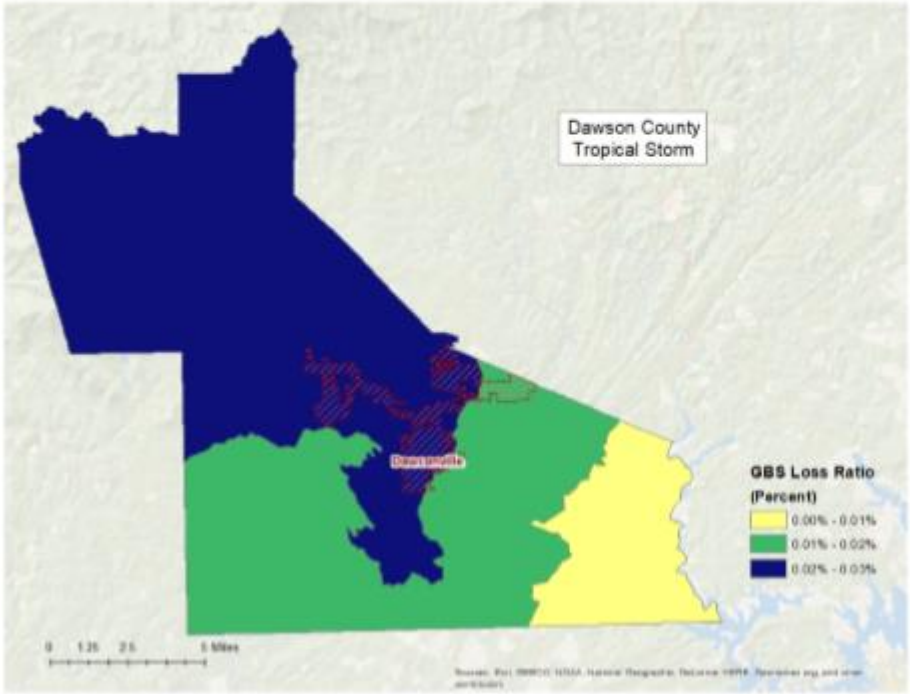


Figure 4: Hurricane Wind Building Loss Ratios

⁵ Includes property damage (infrastructure, contents, and inventory) as well as business interruption losses.

Essential Facility Losses

Essential facilities are also vulnerable to storm events, and the potential loss of functionality may have significant consequences to the community. Hazus-MH identified the essential facilities that may be moderately or severely damaged by winds. The results are compiled in Table 6.

There are 19 essential facilities in Dawson County.

Classification	Number
EOCs	1
Fire Stations	7
Care Facilities	3
Police Stations	1
Schools	7

Table 6: Wind-Damaged Essential Facility Losses

Classification	Facilities At Least Moderately Damaged > 50%	Facilities Completely Damaged > 50%	Facilities with Expected Loss of Use (< 1 day)
Tropical Storm	0	0	19

Shelter Requirements

Hazus-MH estimates the number of households evacuated from buildings with severe damage from high velocity winds as well as the number of people who will require short-term sheltering. Since the 1% chance storm event for Dawson County is a Tropical Storm, the resulting damage is not enough to displace Households or require temporary shelters as shown in the results listed in Table 7.

Table 7: Displaced Households and People

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

Debris Generated from Hurricane Wind

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

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

Different material handling equipment is required for each category of debris. The estimates of debris for this scenario are listed in Table 8. The amount of hurricane wind related tree debris that is estimated to require pick up at the public's expense is listed in the eligible tree debris column.

Table 8: Wind-Related Debris Weight (Tons)

Classification	Brick, Wood, and Other	Reinforced Concrete and Steel	Eligible Tree Debris	Other Tree Debris	Total
Tropical Storm	19	0	0	0	19

Figure 5 shows the distribution of all wind related debris resulting from a Tropical Storm. Each dot represents 10 tons of debris within the census tract in which it is located. The dots are randomly distributed within each census tract and therefore do not represent the specific location of debris sites.

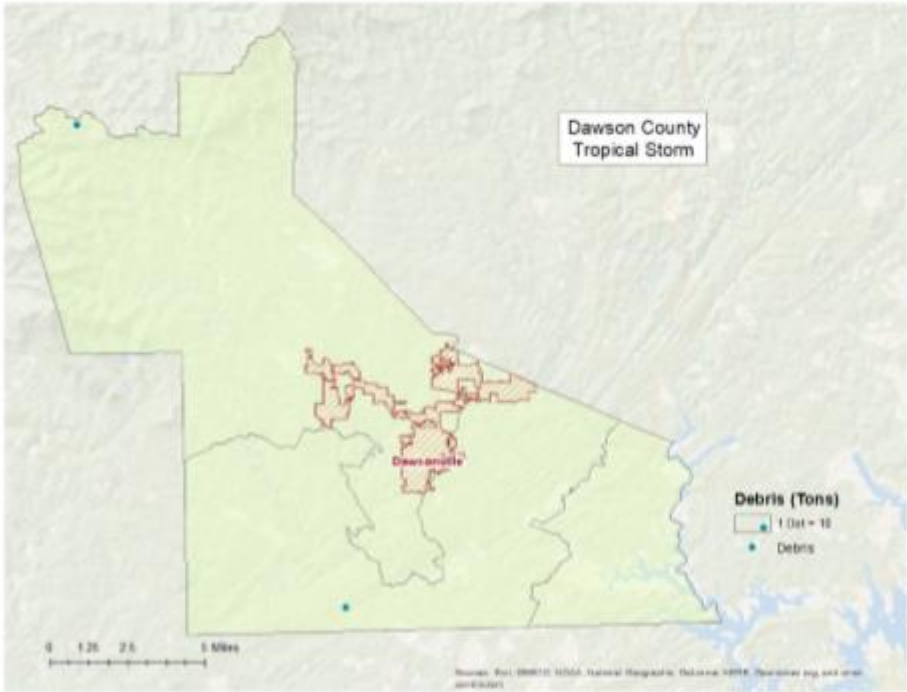


Figure 5: Wind-Related Debris Weight (Tons)

Flood Risk Assessment

Hazard Definition

Flooding is a significant natural hazard throughout the United States. The type, magnitude, and severity of flooding are functions of the amount and distribution of precipitation over a given area, the rate at which precipitation infiltrates the ground, the geometry and hydrology of the catchment, and flow dynamics and conditions in and along the river channel. Floods can be classified as one of three types: upstream floods, downstream floods, or coastal floods.

Upstream floods, also called flash floods, occur in the upper parts of drainage basins and are generally characterized by periods of intense rainfall over a short duration. These floods arise with very little warning and often result in locally intense damage, and sometimes loss of life, due to the high energy of the flowing water. Flood waters can snap trees, topple buildings, and easily move large boulders or other structures. Six inches of rushing water can upend a person; another 18 inches might carry off a car. Generally, upstream floods cause damage over relatively localized areas, but they can be quite severe in the local areas in which they occur. Urban flooding is a type of upstream flood. Urban flooding involves the overflow of storm drain systems and can be the result of inadequate drainage combined with heavy rainfall or rapid snowmelt. Upstream or flash floods can occur at any time of the year in Georgia, but they are most common in the spring and summer months.

Downstream floods, also called riverine floods, refer to floods on large rivers at locations with large upstream catchments. Downstream floods are typically associated with precipitation events that are of relatively long duration and occur over large areas. Flooding on small tributary streams may be limited, but the contribution of increased runoff may result in a large flood downstream. The lag time between precipitation and time of the flood peak is much longer for downstream floods than for upstream floods, generally providing ample warning for people to move to safe locations and, to some extent, secure some property against damage.

Coastal floods occurring on the Atlantic and Gulf coasts may be related to hurricanes or other combined offshore, nearshore, and shoreline processes. The effects of these complex interrelationships vary significantly across coastal settings, leading to challenges in the determination of the base (1-percent-annual-chance) flood for hazard mapping purposes. Land area covered by floodwaters of the base flood is identified as a Special Flood Hazard Area (SFHA).

The SFHA is the area where the National Flood Insurance Program's (NFIP) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The owner of a structure in a high-risk area must carry flood insurance, if the owner carries a mortgage from a federally regulated or insured lender or servicer.

The Dawson County flood risk assessment analyzed at risk structures in the SFHA.

The following probabilistic risk assessment involves an analysis of a 1% annual chance riverine flood event.

Riverine 1% Flood Scenario

Riverine losses were determined from the 1% flood boundaries downloaded from the FEMA Flood Map Service Center in May 2017. The flood boundaries were overlaid with the USGS 10 meter DEM using

the Hazus-MH Enhanced Quick Look tool to generate riverine depth grids. The riverine flood depth grid was then imported into Hazus-MH to calculate the riverine flood loss estimates. Figure 6 illustrates the riverine inundation boundary associated with the 1% annual chance.

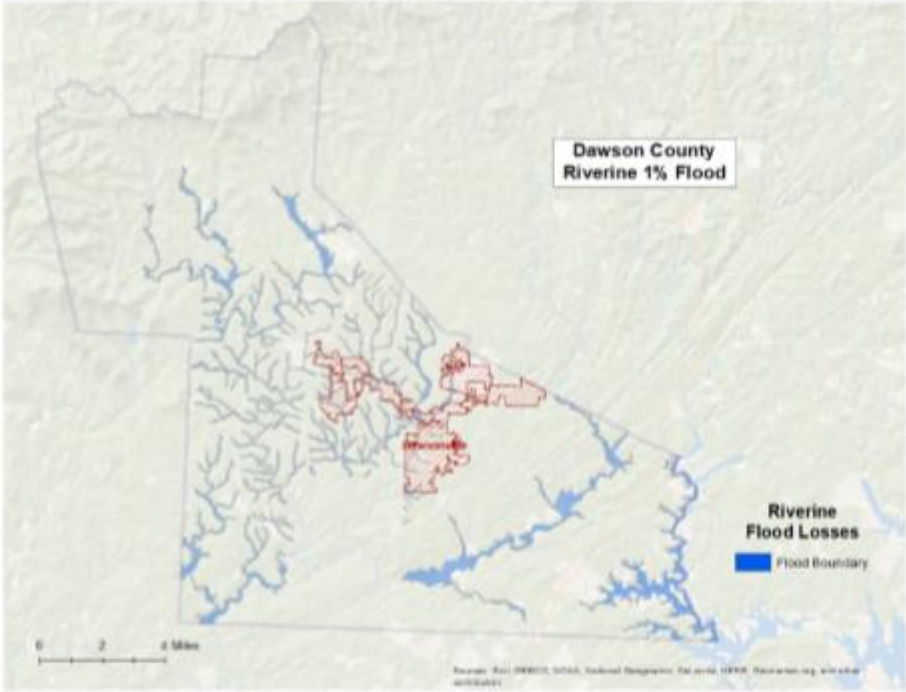


Figure 6: Riverine 1% Flood Inundation

Riverine 1% Flood Building Damages

Buildings in Dawson County are vulnerable to flooding from events equivalent to the 1% riverine flood. The economic and social impacts from a flood of this magnitude can be significant. Table 9 provides a summary of the potential flood-related building damage in Dawson County by jurisdiction that might be experienced from the 1% flood. Figure 7 maps the potential loss ratios of total building exposure to losses sustained to buildings from the 1% flood by 2010 census block and Figure 8 illustrates the relationship of building locations to the 1% flood inundation boundary.

Table 9: Dawson County Riverine 1% Building Losses

Occupancy	Total Buildings in the Jurisdiction	Total Buildings Damaged in the Jurisdiction	Total Building Exposure in the Jurisdiction	Total Losses to Buildings in the Jurisdiction	Loss Ratio of Exposed Buildings to Damaged Buildings in the Jurisdiction
Dawsonville					
Residential	628	13	\$98,335,212	\$433,825	0.44%
Unincorporated					
Residential	8,413	132	\$1,365,268,787	\$8,346,202	0.61%
Industrial	100	3	\$31,247,872	\$249,259	0.80%
County Total					
	9,141	148	\$1,494,851,871	\$9,029,286	

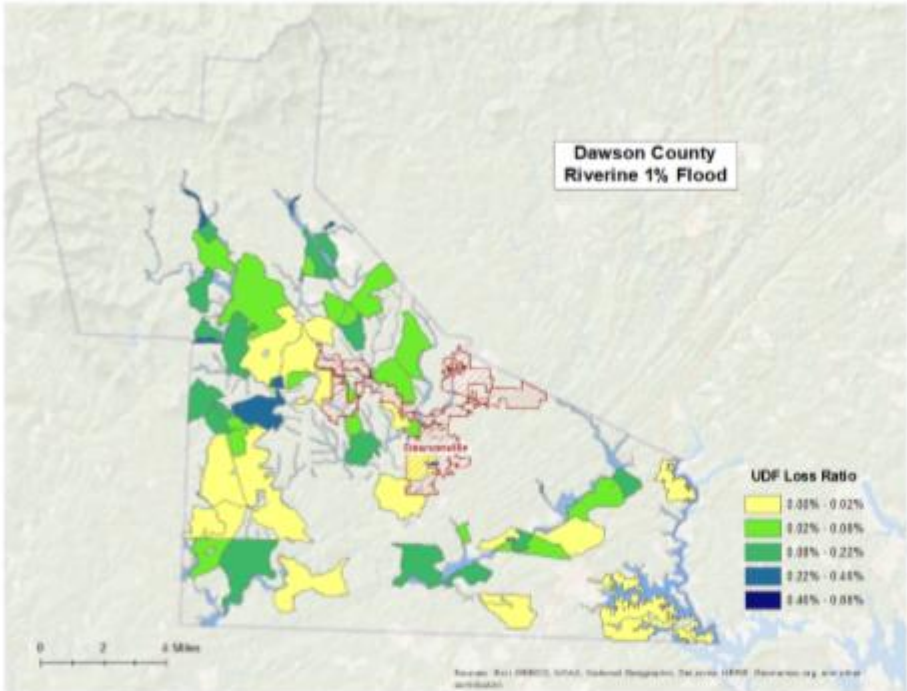


Figure 7: Dawson County Potential Loss Ratios of Total Building Exposure to Losses Sustained to Buildings from the 1% Riverine Flood by 2010 Census Block

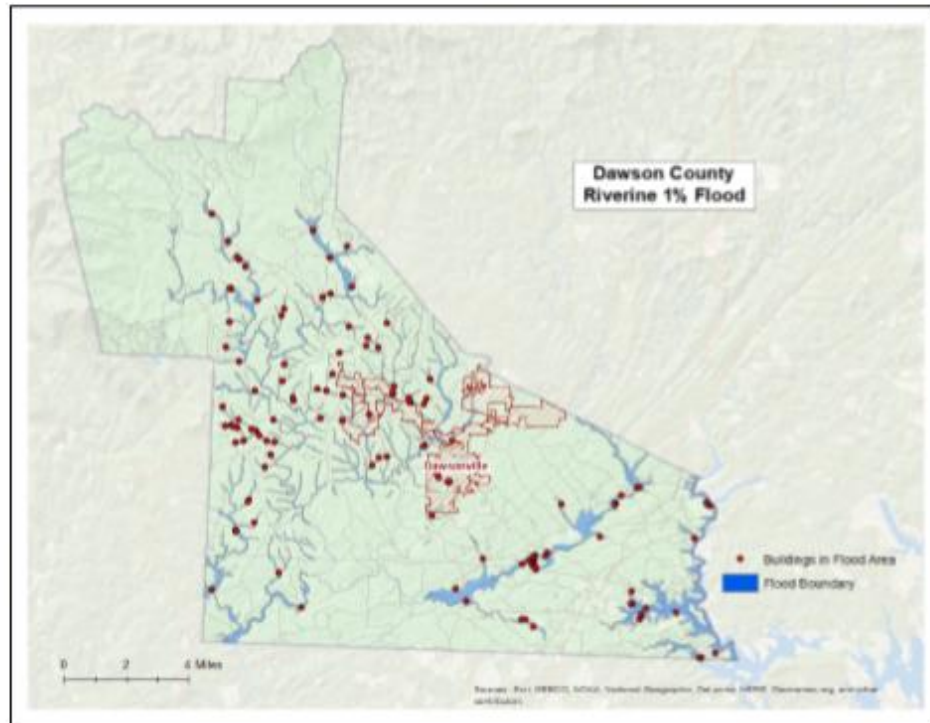


Figure 8: Dawson County Damaged Buildings in Riverine Floodplain (1% Flood)

Riverine 1% Flood Essential Facility Losses

An essential facility may encounter many of the same impacts as other buildings within the flood boundary. These impacts can include structural failure, extensive water damage to the facility and loss of facility functionality (e.g. a damaged police station will no longer be able to serve the community). The analysis identified no essential facilities that were subject to damage in the Dawson County riverine 1% probability floodplain.

Riverine 1% Flood Shelter Requirements

Hazus-MH estimates that the number of households that are expected to be displaced from their homes due to riverine flooding and the associated potential evacuation. The model estimates 297 households might be displaced due to the flood. Displacement includes households evacuated within or very near to the inundated area. Displaced households represent 892 individuals, of which 279 may require short term publicly provided shelter. The results are mapped in Figure 9.

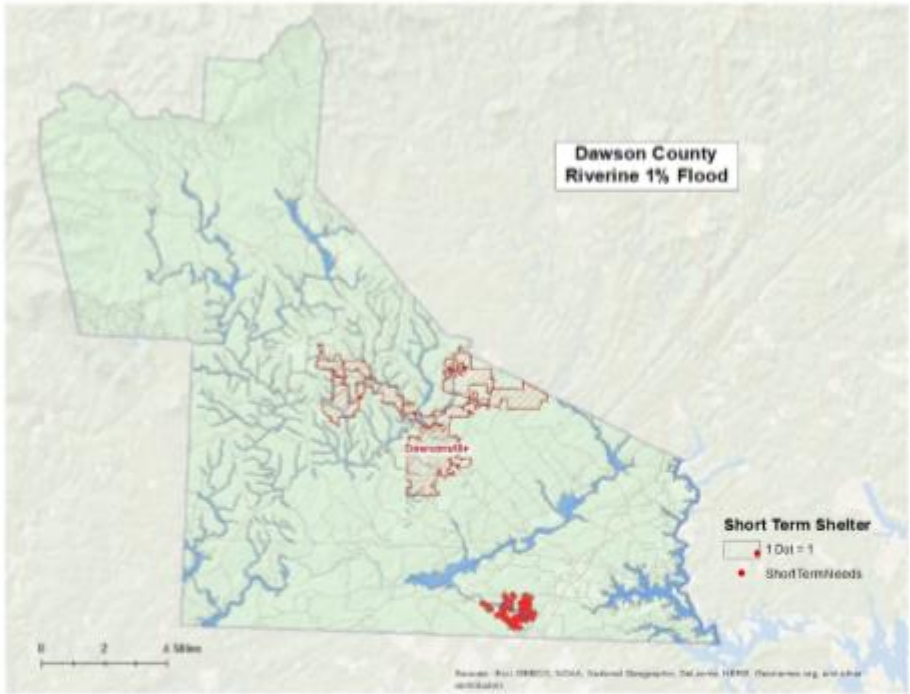


Figure 9: Riverine 1% Estimated Flood Shelter Requirements

Riverine 1% Flood Debris

Hazus-MH estimates the amount of debris that will be generated by the flood. The model breaks debris into three general categories:

- Finishes (dry wall, insulation, etc.)
- Structural (wood, brick, etc.)
- Foundations (concrete slab, concrete block, rebar, etc.)

Different types of material handling equipment will be required for each category. Debris definitions applied in Hazus-MH are unique to the Hazus-MH model and so do not necessarily conform to other definitions that may be employed in other models or guidelines.

The analysis estimates that an approximate total of 6,594 tons of debris might be generated: 1) Finishes- 1,591 tons; 2) Structural – 2,331 tons; and 3) Foundations- 2,672 tons. The results are mapped in Figure 10.

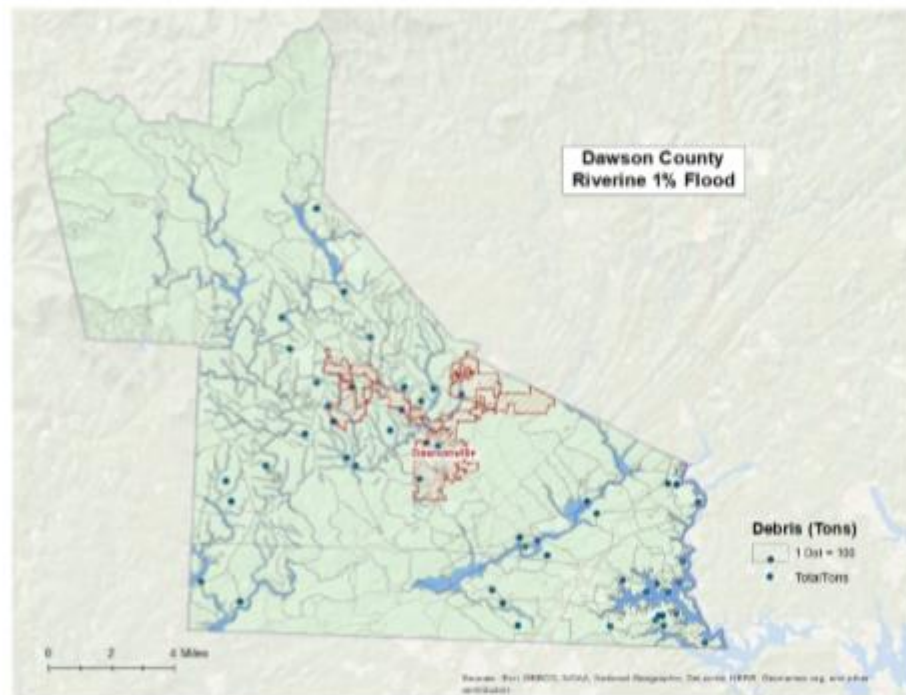


Figure 10: Riverine 1% Flood Debris Weight (Tons)

Tornado Risk Assessment

Hazard Definition

Tornadoes pose a great risk to the state of Georgia and its citizens. Tornadoes can occur at any time during the day or night. They can also happen during any month of the year. The unpredictability of tornadoes makes them one of Georgia’s most dangerous hazards. Their extreme winds are violently destructive when they touch down in the region’s developed and populated areas. Current estimates place the maximum velocity at about 300 miles per hour, but higher and lower values can occur. A wind velocity of 200 miles per hour will result in a wind pressure of 102.4 pounds per square foot of surface area—a load that exceeds the tolerance limits of most buildings. Considering these factors, it is easy to understand why tornadoes can be so devastating for the communities they hit.

Tornadoes are defined as violently-rotating columns of air extending from thunderstorms and cyclonic events. Funnel clouds are rotating columns of air not in contact with the ground; however, the violently-rotating column of air can reach the ground very quickly and become a tornado. If the funnel cloud picks up and blows debris, it has reached the ground and is a tornado.

Tornadoes are classified according to the Fujita tornado intensity scale. Originally introduced in 1971, the scale was modified in 2006 to better define the damage and estimated wind scale. The Enhanced Fujita Scale ranges from low intensity EF0 with effective wind speeds of 65 to 85 miles per hour, to EF5 tornadoes with effective wind speeds of over 200 miles per hour. The Enhanced Fujita intensity scale is included in Table 10.

Table 10: Enhanced Fujita Tornado Rating

Fujita Number	Estimated Wind Speed	Path Width	Path Length	Description of Destruction
EF0 Gale	65-85 mph	6-17 yards	0.3-0.9 miles	Light damage, some damage to chimneys, branches broken, sign boards damaged, shallow-rooted trees blown over.
EF1 Moderate	86-110 mph	18-55 yards	1.0-3.1 miles	Moderate damage, roof surfaces peeled off, mobile homes pushed off foundations, attached garages damaged.
EF2 Significant	111-135 mph	56-175 yards	3.2-9.9 miles	Considerable damage, entire roofs torn from frame houses, mobile homes demolished, boxcars pushed over, large trees snapped or uprooted.
EF3 Severe	136-165 mph	176-566 yards	10-31 miles	Severe damage, walls torn from well-constructed houses, trains overturned, most trees in forests uprooted, heavy cars thrown about.
EF4 Devastating	166-200 mph	0.3-0.9 miles	32-99 miles	Complete damage, well-constructed houses leveled, structures with weak foundations blown off for some distance, large missiles generated.
EF5 Incredible	> 200 mph	1.0-3.1 miles	100-315 miles	Foundations swept clean, automobiles become missiles and thrown for 100 yards or more, steel-reinforced concrete structures badly damaged.

Source: <http://www.srh.noaa.gov>

Hypothetical Tornado Scenario

For this report, an EF3 tornado was modeled to illustrate the potential impacts of tornadoes of this magnitude in the county. The analysis used a hypothetical path based upon an EF3 tornado event running along the predominant direction of historical tornados (southeast to northwest). The tornado path was placed to travel through Dawsonville. The selected widths were modeled after a re-creation of the Fujita-Scale guidelines based on conceptual wind speeds, path widths, and path lengths. There is no guarantee that every tornado will fit exactly into one of these categories. Table 11 depicts tornado path widths and expected damage.

Table 11: Tornado Path Widths and Damage Curves

Fujita Scale	Path Width (feet)	Maximum Expected Damage
EF-5	2,400	100%
EF-4	1,800	100%
EF-3	1,200	80%
EF-2	600	50%
EF-1	300	10%
EF-0	300	0%

Within any given tornado path there are degrees of damage. The most intense damage occurs within the center of the damage path, with decreasing amounts of damage away from the center. After the hypothetical path is digitized on a map, the process is modeled in GIS by adding buffers (damage zones) around the tornado path. Figure 11 describes the zone analysis.

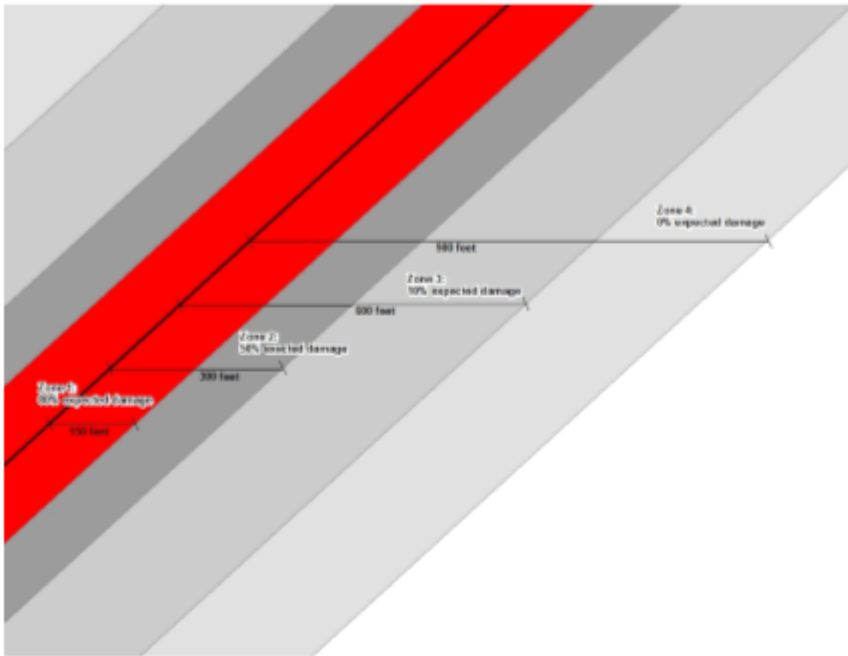


Figure 11: EF Scale Tornado Zones

An EF3 tornado has four damage zones, depicted in Table 12. Major damage is estimated within 150 feet of the tornado path. The outer buffer is 900 feet from the tornado path, within which buildings will not experience any damage. The selected hypothetical tornado path is depicted in Figure 12 and the damage curve buffer zones are shown in Figure 13.

Table 12: EF3 Tornado Zones and Damage Curves

Zone	Buffer (feet)	Damage Curve
1	0-150	80%
2	150-300	50%
3	300-600	10%
4	600-900	0%

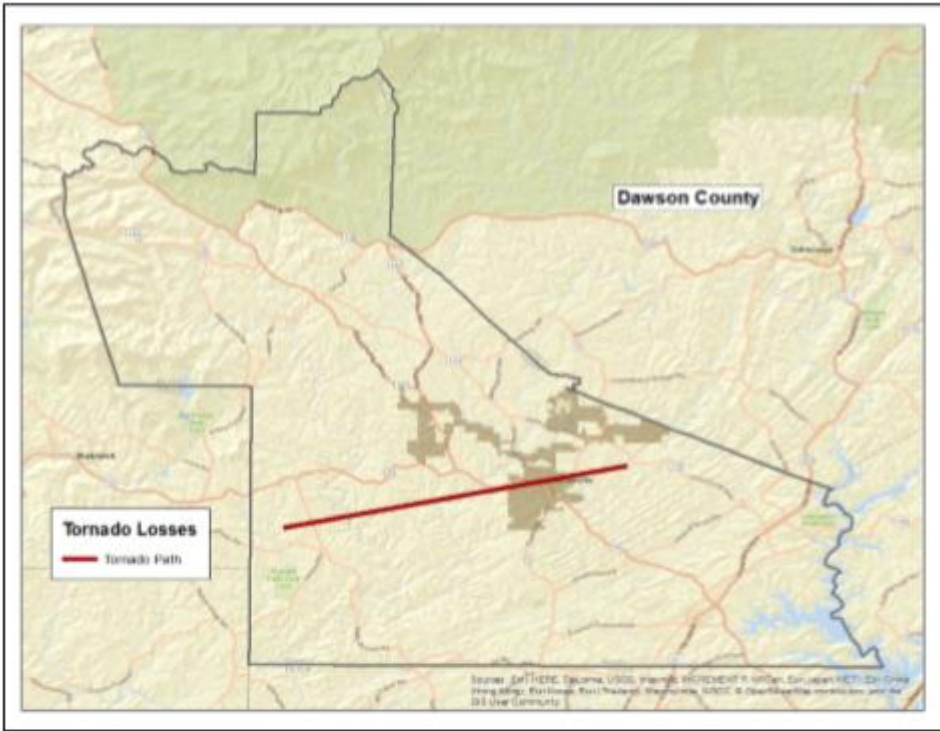


Figure 12: Hypothetical EF3 Tornado Path in Dawson County

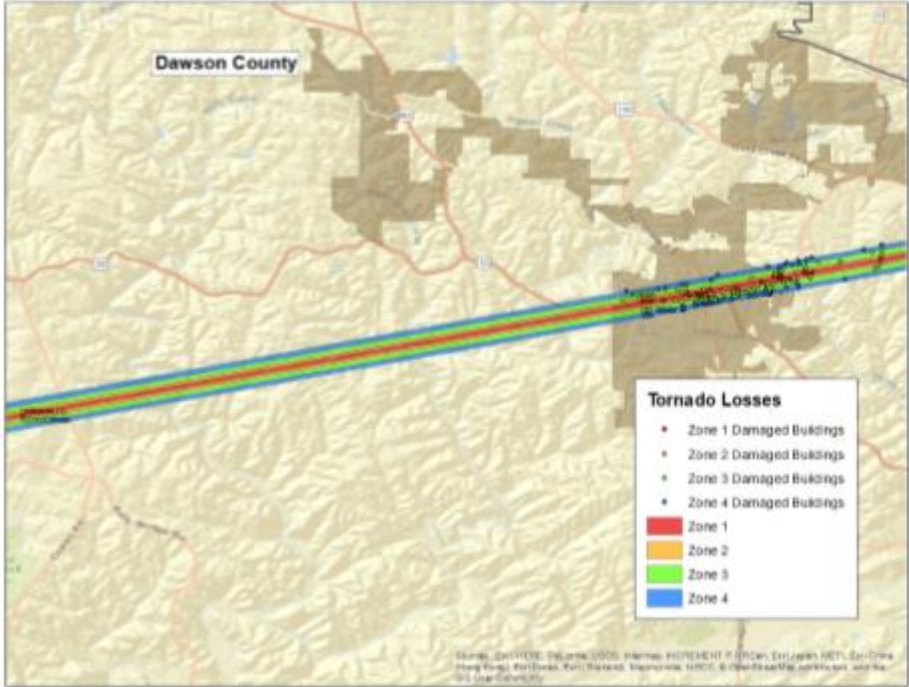


Figure 13: Modeled EF3 Tornado Damage Buffers in Dawson County

EF3 Tornado Building Damages

The analysis estimated that approximately 257 buildings could be damaged, with estimated building losses of \$11 million. The building losses are an estimate of building replacement costs multiplied by the percentages of damage. The overlay was performed against parcels provided by Dawson County that were joined with Assessor records showing estimated property replacement costs. The Assessor records often do not distinguish parcels by occupancy class if the parcels are not taxable and thus the number of buildings and replacement costs may be underestimated. The results of the analysis are depicted in Table 13.

Table 13: Estimated Building Losses by Occupancy Type

Occupancy	Buildings Damaged	Building Losses
Residential	185	\$5,646,199
Commercial	56	\$1,427,447
Government	6	\$3,309,247
Industrial	7	\$66,110
Religious	3	\$708,075
Total	257	\$11,157,077

EF3 Tornado Essential Facility Damage

There were two essential facilities located in the tornado path – one police station and one care facility. Table 14 outlines the specific facilities and the amount of damage under the scenario.

Table 14: Estimated Essential Facilities Damaged

Facility	Amount of Damage
Dawson County Sheriff's Office/Jail	Major Damage
Dawson County Health Dept.	Minor Damage

Exceptions Report

Hazus Version 2.2 SP1 was used to perform the loss estimates for Dawson County, Georgia. Changes made to the default Hazus-MH inventory and the modeling parameters used to setup the hazard scenarios are described within this document.

Reported losses reflect the updated data sets. Steps, algorithms and assumptions used during the data update process are documented in the project workflow named PDM_GA_Workflow.doc.

Statewide Inventory Changes

The default Hazus-MH Essential Facility inventory was updated for the entire state prior to running the hazard scenarios for Dawson County.

In addition, Dawson County provided the Carl Vinson Institute of Government updated Critical Facility information in April of 2017. Table 15 summarizes the difference between the original Hazus-MH default data and the updated data for Dawson County.

Table 15: Essential Facility Updates

Site Class	Feature Class	Default Replacement Cost	Default Count	Updated Replacement Cost	Updated Count
EF	Care	\$0	0	\$1,877,000	3
EF	EOC	\$880,000	1	\$880,000	1
EF	Fire	N/A	6	\$1,817,000	7
EF	Police	\$1,232,000	1	\$708,000	1
EF	School	\$51,019,000	6	48,022,000	7

County Inventory Changes

The GBS records for Dawson County were replaced with data derived from parcel and property assessment data obtained from Dawson County. The county provided property assessment data was current as of November 2015 and the parcel data current as of September 2015.

General Building Stock Updates

The parcel boundaries and assessor records were obtained from Dawson County. Records without improvements were deleted. The parcel boundaries were converted to parcel points located in the centroids of each parcel boundary. Each parcel point was linked to an assessor record based upon matching parcel numbers. The generated Building Inventory represents the approximate locations (within a parcel) of building exposure. The Building Inventory was aggregated by Census Block and imported into Hazus-MH using the Hazus-MH Comprehensive Data Management System (CDMS). Both the 2010 Census Tract and Census Block tables were updated.

The match between parcel records and assessor records was based upon a common Parcel ID. The Parcel-Assessor hit rate for Dawson County was 84.3%.

Adjustments were made to records when primary fields did not have a value. In these cases, default values were applied to the fields. Table 16 outlines the adjustments made to Dawson County records.

Table 16: Building Inventory Default Adjustment Rates

Type of Adjustment	Building Count	Percentage
Area Unknown	448	5%
Construction Unknown	539	6%
Condition Unknown	217	2%
Foundation Unknown	530	6%
Year Built Unknown	65	1%
Total Buildings	9,568	4%

Approximately 4% of the CAMA values were either missing (<Null> or '0'), did not match CAMA domains or were unusable ('Unknown', 'Other', 'Pending'). These were replaced with 'best available' values. Missing YearBuilt values were populated from average values per Census Block. Missing Condition, Construction and Foundation values were populated with the highest-frequency CAMA values per Occupancy Class. Missing Area values were populated with the average CAMA values per Occupancy Class.

The resulting Building Inventory was used to populate the Hazus-MH General Building Stock and User Defined Facility tables. The updated General Building Stock was used to calculate flood and tornado losses. Changes to the building counts and exposure that were modeled in Dawson County are sorted by General Occupancy in Table 1 at the beginning of this report. If replacements cost or building value were not present for a given record in the Assessor data, replacement costs were calculated from the Building Area (sqft) multiplied by the Hazus-MH RS Means (\$/sqft) values for each Occupancy Class.

Differences between the default and updated data are due to various factors. The Assessor records often do not distinguish parcels by occupancy class when the parcels are not taxable; therefore, the total number of buildings and the building replacement costs for government, religious/non-profit, and education may be underestimated.

User Defined Facilities

Building Inventory was used to create Hazus-MH User Defined Facility (UDF) inventory for flood modeling. Hazus-MH flood loss estimates are based upon the UDF point data. Buildings within the flood boundary were imported into Hazus-MH as User Defined Facilities and modeled as points.

Table 17: User Defined Facility Exposure

Class	Hazus-MH Feature	Counts	Exposure
BI	Building Exposure	9,555	\$1,638,653,103
Riverine UDF	Structures Inside 1% Annual Chance Riverine Flood Area	158	\$23,661,618

Assumptions

- Flood analysis was performed on Building Inventory. Building Inventory within the flood boundary was imported as User Defined Facilities. The point locations are parcel centroid accuracy.
- The analysis is restricted to the county boundary. Events that occur near the county boundary do not contain loss estimates from adjacent counties.
- The following attributes were defaulted or calculated:
 First Floor Height was set from Foundation Type
 Content Cost was calculated from Building Cost



Dawson County Hazard Mitigation Plan Update

Overview

- 45 Participants in the planning process
 - Over 20 local and state agencies, private entities, and non-profit organizations
- Six meetings
- Committee-driven Process

Meetings

- August 10, 2017 – Kick-Off Meeting with GEMA
- September 21, 2017 – Hazard Identification and Prioritization; Risk Assessment Analysis
- October 19, 2017 – Analysis of Hazard Profile Research; Review and Edit of Current Hazard Mitigation Strategies
- November 16, 2017 – Identification of New Hazard Mitigation Strategies
- January 18, 2018– Presentation of Rough Draft
- February 15, 2018 – Review and Edit of Final Draft (Public Meeting)

Plan Layout

- Chapter One: Introduction
 - Scope and Purpose, Committee Members, Federal and State Mitigation guidelines, etc.
- Chapter Two: Dawson County Profile
 - Past Hazards and Events, Demographics, Economy, Climate, NFIP Compliance Information

Plan Layout (cont.)

- Chapter Three: Hazard Profiles

Natural Hazards	Technological Hazards
Thunderstorms	Hazardous Materials Incident
Winter Storms	Dam Failure
Flooding	Transportation Incident *
Tornado	Terrorism *
Drought	Emergency Infectious Diseases *
Wildfire	Communications Failure *
Earthquake	
Tropical Cyclone *	* - Hazard was not included in previous plan

Plan Layout

- Chapter Four: Hazard Mitigation Strategies
 - Updates of previous strategies and identification of new strategies for natural and technological hazards
- Chapter Five: Plan Implementation and Maintenance
 - Evaluation, Peer Review, Plan Update timelines, and Conclusion

The Process

- Plan sent to GEMA for their Review and Approval in May
 - **GEMA is supposed to have the plan reviewed in 30 business days*
- After GEMA has approved the plan, it will be sent for FEMA's Review and Approval (Up to 45 business days)
 - **GEMA/FEMA Approval processes can take from two weeks to six months depending on their work load*

Up Next . . .

- Adoption of the Plan by Dawson County and City of Dawsonville
- GEMA Approval
- FEMA Approval
- Financial Closeout Paperwork
- Grant Close Out

Summary

- The Plan is currently at GEMA for Review and Approval and will be submitted to FEMA after GEMA completes their process
- Dawson County is nearing the finish line for this project!

Backup material for agenda item:

2. Consideration of Request to Apply for Georgia Firefighter Standards and Training Council Fireworks Tax Grant



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: **Emergency Services**

Work Session: **08.09.18**

Prepared By: **Danny Thompson**

Voting Session: **08.16.18**

Presenter: **Danny Thompson**

Public Hearing: Yes _____ No **X**

Agenda Item Title: **Fireworks Tax Grants**

Background Information:

The Georgia Fireworks Tax Monies Grant is to provide Georgia fire departments, with current certificates of compliance, funding to maintain compliance or to improve the ISO ratings. These grants are funded through monies collected from taxes levied on the sale of fireworks in Georgia.

Current Information:

This grant is a 10% match grant that goes to Georgia Firefighter Standards and Training Council. It is to be used for equipment-related items for fire departments in Georgia that are in compliance. Dawson County Emergency Services would like to purchase ten sets of firefighter personal protective ensemble (PPE). This will enable us to update some older PPE and provide state-of-the-art PPE. The current cost of a set of PPE is approximately \$3,000, with a total request from the grant of \$30,000. The 10% match obligation for the county would be \$3,000.

Budget Information: Applicable: **X** Not Applicable: _____ Budgeted: Yes _____ No **X**

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining

Recommendation/Motion: Approve agenda item

Department Head Authorization: **DT**

Date: **7.31.18**

Finance Dept. Authorization: **Vickie Neikirk**

Date: **8/2/18**

County Manager Authorization: **DH**

Date: **8/2/18**

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

Request to move needed monies from contingency.

Backup material for agenda item:

3. Consideration of Options for the County's Multi-Functional Printers



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: Multiple

Work Session: 08/09/2018

Prepared By: Melissa Hawk

Voting Session: 08/16/2018

Presenter: Melissa Hawk

Public Hearing: Yes No

Agenda Item Title: Multi-functional Printers Presentation

Background Information:

In 2011, the county contracted with Standard Office Systems for the purchase and service/maintenance of 30 copiers. Contract's five (5)-year term expired December 31, 2017, with one (1) extension that expires on December 31, 2018.

Current Information:

Extensive research shows the GA DOAS Statewide Contract is the best avenue for replacements, cost per copy, supplies and service/maintenance for the county. BOC will need to approve one of the following options: replace all copiers, replace only those recommended or replace only those requested to be replaced and the provider to deliver equipment and services.

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

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining
TBD	Multiple		TBD			

Recommendation/Motion: To utilize the GA DOAS Statewide MFPs contract for service/maintenance, supplies and cost per copy for county copiers, to determine the option the county will pursue and to choose the provider to deliver equipment and services.

Department Head Authorization: Vickie Neikirk

Date: 7.31.18

Finance Dept. Authorization: _____

Date: _____

County Manager Authorization: DH

Date: 7/31/2018

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

Presentation



War Hill Park

Photo by: Michelle Wittmer Grabowski



MULTI-FUNCTIONAL PRINTERS

COUNTY BID VS GA STATEWIDE CONTRACT

LEASE VS PURCHASE

WORK SESSION – AUGUST 9, 2018



Background – Current Copier Contract



- ❖ The County released a RFP for photocopiers on May 25, 2011 for the following options:
 1. Purchase Option
 2. Lease Option
 3. Split Option (purchase & lease combined)

- ❖ An award was made to Standard Office Solutions of Duluth for the purchase of 30 machines over 3 fiscal years with a cost per copy (CPC) including toner/staples and service/maintenance. Some additions and replacements have been made throughout the contract. All County copiers are Canon.

- ❖ The current service/maintenance contract exhausted all renewal options in 2017 (effective 01/01/2012 – 12/31/2017).

- ❖ The County opted to extend the contract for one fiscal year, at same terms, conditions and pricing. A second extension is not an option for this contract.

Internal Study Approach/Results



- ❖ Purchasing reviewed the following avenues for products and services:
 - Georgia DOAS Statewide Contract
 - National Joint Purchasing Association (NJPA) Contract
 - Other County-released IFBs/RFPs Results within the last year

- ❖ Results proved the best recourse was to pursue pricing from the DOAS Statewide Contract due to the following:
 - The NJPA contract was for equipment only. This contract does not include CPC or service/maintenance.
 - Other County-released IFBs/RFPs documented:
 - Xerox lease costs were \$50.00 to \$90.00 more per month than DOAS
 - Xerox CPC costs were approximately \$.020 more for color copies
 - Canon lease costs were \$39.00 to \$41.00 more per month than DOAS
 - Canon CPC costs were approximately \$.010 more for color copies

 - No outright purchase contract information found where award was later than 2014.

Internal Study Approach



- ❖ The GA DOAS Statewide Contract has agreements with Canon, Ricoh, Sharp, Toshiba and Xerox.
 - ❖ Each manufacturer has a list of approved providers assigned to our area.
 - ❖ Duplicating Products (Gainesville) is approved by Canon and Ricoh.
 - ❖ McGarity Business Products (Gainesville) is approved by Xerox.
 - ❖ Standard Office Systems (Duluth) is approved by both Canon and Sharp.
- ❖ The contract covers purchases and leases/CPC and service/maintenance agreements with or without supplies.
- ❖ Discussions between IT and Purchasing lead to requests for options for Canon and Xerox.

Points of Interest



- ❖ Sixteen out of the thirty-four County owned Canon copiers are in immediate need of replacement.
- ❖ Superior Court requested an additional copier.
- ❖ GA DOAS Printers, MFP and Related Technologies contract is effective through June 30, 2019 with the potential of four (4) annual renewals.
- ❖ Any increase in pricing, if any, will be nominal.
- ❖ Poll taken from neighboring counties revealed that City of Dawsonville, Dawson County Board of Education, Hall County BOC and Lumpkin County BOC were contracted with Duplicating Products. Conversations with all stated that the service was phenomenal and all were very satisfied with the account representative.
- ❖ Xerox authorized provider does not have on-site technicians. If chosen, service would be coordinated from the Xerox Corporation Office in Atlanta.
- ❖ Dawson County IT and other departments are very satisfied with the service provided by SOS as well as with our account representative, our current Contractor.

Results Summary



Recommended Copiers Replacement List

The copiers recommended for replacement due to age, total copy count or number of service calls are listed below:

Public Defender's Office
Detention Center 911
Patrol Dept. Administration
Magistrate Court
DA's Office
Tax Assessor's Office
Extension Office
Parks (Rock Creek)
BOC Suite

Drug Court
Detention Center Jail Booking
Clerk of Court, Room 1325
Clerk of Court, Room 1307.2
Planning
County Administration
EMS Station 1
Additional Copier for Superior Court

Results Summary (Continued)



REPLACE ALL COPIERS (34 plus one additional)

Manufacturer & Provider	Equipment Cost	Lease Cost	Extra Maintenance Cost	B/W Copy Service & Maintenance Cost	Color Copy Service & Maintenance Cost	Total Purchase Annual Cost	Total Lease Annual Cost	Total Five Year Purchase Cost	Total Five Year Lease Cost
Standard Office Solution - Canon	\$172,621.00	\$42,879.60	\$0.00	\$5,491.62	\$4,639.11	\$182,751.73	\$53,010.33	\$223,274.65	\$265,051.65
Duplicating Products - Canon	\$165,451.00	\$41,046.84	\$0.00	\$5,533.55	\$4,731.27	\$175,715.82	\$51,311.66	\$216,775.10	\$256,558.30
McGarity Business Products - Xerox	\$147,857.00	\$37,001.28	\$240.00	\$6,781.82	\$5,683.15	\$160,321.97	\$49,706.25	\$211,381.85	\$248,531.25

REPLACE RECOMMENDED AND ADDITIONAL ONE COPIERS (17)

Manufacturer & Provider	Equipment Cost	Lease Cost	Extra Maintenance Cost	B/W Copy Service & Maintenance Cost	Color Copy Service & Maintenance Cost	Total Purchase Annual Cost	Total Lease Annual Cost	Total Five Year Purchase Cost	Total Five Year Lease Cost
Standard Office Solution - Canon	\$101,763.00	\$25,278.48	\$0.00	\$5,491.62	\$4,639.11	\$111,893.73	\$35,409.21	\$152,416.65	\$177,046.05
Duplicating Products - Canon	\$94,593.00	\$23,445.72	\$0.00	\$5,533.55	\$4,731.27	\$104,857.82	\$33,710.54	\$145,917.10	\$168,552.70

Difference between SOS and Duplicating Products is due to the higher costs of service maintenance for new Superior Court Copier: Duplicating Products is \$3.97 more monthly for b/w and \$7.68 more

Staff Recommendation



Staff recommends that the Board utilize the GA DOAS Statewide MFP contract for service/maintenance, supplies and cost per copy for the County copiers AND for the Board to determine whether the County will replace all copiers, only those recommended or the two replacements plus the one additional copier requested during initial budget meetings to allow for costs to be added to the 2019 budget hearings process.

NOTE: The cost will not be known until such time that Board determines which option it will take for equipment and services.

THANK YOU

Backup material for agenda item:

4. Consideration of Red Rider Road Traffic Change Request



DAWSON COUNTY BOARD OF COMMISSIONERS AGENDA FORM

Department: Public Works

Work Session: 8/09/18

Prepared By: D. McKee

Voting Session: 8/16/18

Presenter: David McKee

Public Hearing: Yes _____ No x

Agenda Item Title: Red Rider Road Traffic Change Request

Background Information:

Red Rider Road has become a safety concern. New development along Red Rider Road and commercial development along Whitmire have created an increase in traffic along the roadway. Red Rider Road is very narrow and pavement edges are significantly worn from the heavy thru truck traffic. Current ROW on Red Rider Road is 30' prescriptive. Staff has received several complaints.

Current Information:

Red Rider road does not have sufficient ROW to widen the road to accommodate two traffic lanes. Staff continues to work through resolutions both long and short term for this challenge. Heavy truck traffic, and thru traffic continues to degrade the crumbling roadway. Staff requests to close the road to thru traffic from the intersection of Lumpkin Campground and Red Rider to a point approximately 1300' from the intersection. Long term, staff will work with local property owners on a solution for widening, closing, turn around, and intersection improvements.

Budget Information: Applicable: x Not Applicable: _____ Budgeted: Yes x No _____

Fund	Dept.	Acct No.	Budget	Balance	Requested	Remaining
	Public Works					

Recommendation/Motion: Approve the traffic change request to thru traffic and sign appropriately.

Department Head Authorization: David McKee

Date: 8/1/2018

Finance Dept. Authorization: Vickie Neikirk

Date: 7/18/18

County Manager Authorization: DH

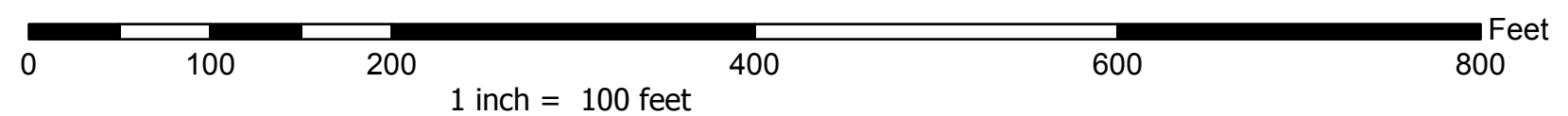
Date: 7/31/2018

County Attorney Authorization: _____

Date: _____

Comments/Attachments:

All work for the proposed improvements will be performed in house and can be completed with proper signage notice, and will be covered within the limits of my current operating budget.



Red Rider Road

525

Legend
 [] Parcels
 --- County Line

