



## CITY COUNCIL AGENDA April 3, 2023

J. Lloyd Snook, III, Mayor  
Juandiego Wade, Vice Mayor  
Michael K. Payne, Councilor  
Brian R. Pinkston, Councilor  
Leah Puryear, Councilor  
Kyna Thomas, Clerk

### 4:00 PM OPENING SESSION

Register at [www.charlottesville.gov/zoom](http://www.charlottesville.gov/zoom). The public may view this portion of the meeting electronically by registering in advance for the Zoom webinar or on the City's streaming platforms and local government Channel 10. Individuals with disabilities who require assistance or special arrangements to participate in the public meeting may call (434) 970-3182 or submit a request via email to [ada@charlottesville.gov](mailto:ada@charlottesville.gov). The City of Charlottesville requests that you provide a 48-hour notice so that proper arrangements may be made.

### Call to Order/Roll Call

### Agenda Approval

### Reports

1. Report: The Center at Belvedere Annual Report
2. Report: UVA Law review for City Boards and Commissions

### 5:30 PM CLOSED SESSION pursuant to Sections 2.2-3711 and 2.2-3712 of the Virginia Code (TBD)

### 6:30 PM BUSINESS SESSION

This portion of the meeting will accommodate a limited number of in-person public participants in City Council Chamber at City Hall as we employ a hybrid approach to public meetings. Registration is available for a lottery-based seating selection at [www.charlottesville.gov/1543/Reserve-a-Seat-for-City-Council-Meeting](http://www.charlottesville.gov/1543/Reserve-a-Seat-for-City-Council-Meeting). Reservation requests may also be made by contacting the Clerk of Council office at [clerk@charlottesville.gov](mailto:clerk@charlottesville.gov) or 434-970-3113.

### Moment of Silence

### Announcements

### Recognitions/Proclamations

### Consent Agenda\*

The consent agenda consists of routine, non-controversial items whereby all items are passed with a single motion and vote. After the reading of the consent agenda, the mayor will open the floor for comments from the public on the items that were read. Speakers will have up to three minutes each to make comments before City Council votes on the consent agenda. Speakers must state their name and locality for the record.

3. Minutes: March 16 budget work session, March 20 regular meeting, March 22 budget public hearing
4. Resolution: Appropriating funding from the Virginia Land Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (2nd reading)
5. Resolution: Appropriating funding from the Land and Water Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (2nd reading)
6. Ordinance: Consideration of a Zoning Text Amendment – Planned Unit Developments – Development Size for Urban Corridor Mixed Use District (URB) (1 of 2 readings)
7. Resolution: Appropriating funding for the Runaway Emergency Shelter Program Grant - \$209,444 (1 of 2 readings)
8. Resolution: Appropriating funding from the Batten Family Fund Grant Award - \$40,000 (1 of 2 readings)

### City Manager Report

- Report: April 2023 City Manager's Report

## Community Matters

Public comment for up to 16 speakers (limit 3 minutes per speaker). Preregistration available for first 8 spaces at <https://www.charlottesville.gov/692/Request-to-Speak>; speakers announced by Noon on meeting day (9:00 a.m. sign-up deadline). Additional public comment at end of meeting. Comments on Public Hearing items are heard during the public hearing only.

## Action Items

9. Public Hearing/Ord.: FY2024 City Budget and Annual Tax Levy for Tax Year 2023
  - a. Ordinance: Establishing the Annual Tax Levy for Tax Year 2023 (1 of 2 readings)
  - b. Ordinance: Approving a budget and annual appropriation of funding for the City of Charlottesville for the Fiscal Year ending June 30, 2024 (1 of 2 readings)
10. Public Hearing/Res.: Approval of Lease Agreement with Virginia Soccer Alliance, Inc. d/b/a Soccer Organization of the Charlottesville Area, Inc. (SOCA) for lease of Unity Field (1 Reading Resolution - Public Hearing)
11. Ordinance: Thomas Jefferson Planning District Commission 2023 Regional Natural Hazard Mitigation Plan update (1 reading)
12. Public Hearing/Ord.: Adopting a new fee schedule for building permits and related fees (1 of 2 readings-Public Hearing)
13. Resolution: Supplemental Appropriation of Federal Transit Operating and State and Federal Capital Grants - \$7,886,856 (1 of 2 readings)
14. Resolution: Appropriating \$5,000,000 to Charlottesville Redevelopment and Housing Authority for acquisition of Dogwood Properties (1 of 2 readings)

## General Business

## Other Business

## Community Matters (2)

## Adjournment



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                         |                                              |
|-------------------------|----------------------------------------------|
| <b>Agenda Date:</b>     | April 3, 2023                                |
| <b>Action Required:</b> | No Council Action Required                   |
| <b>Presenter:</b>       | Peter Thompson, Executive Director           |
| <b>Staff Contacts:</b>  | Samuel Sanders, Jr., Deputy City Manager     |
| <b>Title:</b>           | <b>The Center at Belvedere Annual Report</b> |

### **Background**

The Center is a nationally-accredited, award-winning nonprofit organization that creates opportunities for healthy aging through social engagement, physical well-being, civic involvement, creativity, and lifelong learning. With opportunities for good health, seniors increase their social and economic participation in our community while reducing healthcare costs. Since opening in 1960 (originally as the Senior Center), we have never stopped growing and evolving to meet the changing needs of older adults, becoming along the way a national model for senior health and independence.

The Center's values are:

**Healthy Aging for All:** Everyone should have the opportunities that aging brings. In our work to extend healthy life expectancy and quality of life for everyone, The Center is committed to creating an environment that is welcoming, just, equitable, and inclusive, without biases or discrimination based on differences of any kind. Because the only healthy environment is one that reflects and respects the rich diversity of the communities we serve.

**Community Impact:** We are an indispensable resource committed to being the nexus for the transformative power of healthy aging, serving the needs and harnessing the energy and experience of our participants to enrich the community in which we live.

**Holistic Wellness:** We consider it a privilege and responsibility to provide a diversity of programs and activities centered on holistic wellness and proven to promote longer, healthier, happier lives.

**Industry Leadership:** We aspire to be a recognized expert and leader in the field of aging based on our innovative programming and talented, motivated staff.

**Excellence:** We strive for excellence and inclusiveness in the management and governance of our organization and in the execution of our programs and activities.

**Fiscal Responsibility:** We are committed to a self-supporting, non-profit business model. We manage our finances responsibly and work collaboratively to achieve our mission and ensure the future financial security of the organization.

### **Discussion**

This is an annual report to Council.

### **Alignment with City Council's Vision and Strategic Plan**

### **Community Engagement**

This presentation provides an opportunity for Council to gain an understanding of matters facing our senior population in the city.

**Budgetary Impact**

There is no budgetary impact to this presentation.

**Recommendation**

There are no recommendations and the presentation is intended to update City Council on the programs and operations of the organization.

**Alternatives**

**Attachments**

1. TheCenterAtBelvedere\_Report to the City 040323



# THE CENTER AT BELVEDERE



## Report to the City of Charlottesville

April 3, 2023



THE  
CENTER  
AT BELVEDERE

# ANNUAL REPORT



# 20 22



# ADVANCING HEALTHY AGING FOR ALL

After a year in which the opening of The Center at Belvedere was postponed, operating hours were cut, and programs moved online, the start of fiscal year 2022 felt like a new beginning. Thanks to the rapid development and deployment of highly effective COVID-19 vaccines, restrictions on gatherings eased, and more and more people found their way to The Center at Belvedere to discover—or rediscover—a resource for healthy aging and a hub for community interaction.

Working with stakeholders from across the community, we launched two initiatives aimed at maximizing our impact on community health: a new strategic plan and a racial equity action plan. Everything you read below and in the accompanying member and volunteer vignettes speaks to the different ways we are working to ensure that every senior in our community has access to the most effective and achievable means for improving their health and well-being.

## 2022–2025 STRATEGIC PLAN

At its core, the Strategic Plan focuses on a progression of programming and practices to bring healthy aging opportunities to every older adult in our area. Guided by this plan, we will work to increase understanding of aging issues and promote changes in attitudes, policies, and actions; to provide increased value through collaboration, exploration, advocacy, access, outreach, and partnerships; and to strengthen the organizational, financial, and technological resources needed to achieve these outcomes. [Click here to read the plan.](#)

## RACIAL EQUITY ACTION PLAN

The vision we hold for our community—to understand and embrace the power of healthy aging to positively transform all lives—can never be fully realized without the forever work of ensuring people from all walks of life have a place to connect, challenge, and contribute. With goals embedded in the Strategic Plan, our Racial Equity Action Plan will integrate diversity, equity, and inclusion into The Center’s core mission of healthy aging; effect a greater sense of belonging and inclusion among all members of The Center community; increase ownership of and commitment to DEI efforts by members, staff, Board, and volunteers; increase the diversity of participants; and enhance accountability, effectiveness, and collaboration. [Click here to read the plan.](#)

# BY THE NUMBERS

**969**  
MADE A GIFT  
TO SUPPORT  
HEALTHY  
AGING

THIS YEAR THE CENTER OFFERED

**6,715**

CLASSES, EVENTS,  
PROGRAMS, AND TRIPS

**283**  
VOLUNTEERS

MORE THAN  
**\$75,000**

WORTH OF COMMUNITY SPACE  
DONATED OR DISCOUNTED

CENTER VOLUNTEERS  
CONTRIBUTED  
**24,707**  
HOURS TO AREA  
NONPROFITS

**77**  
VOLUNTEER  
PROGRAM LEADERS

**\$38,842**  
MEMBER  
SCHOLARSHIPS

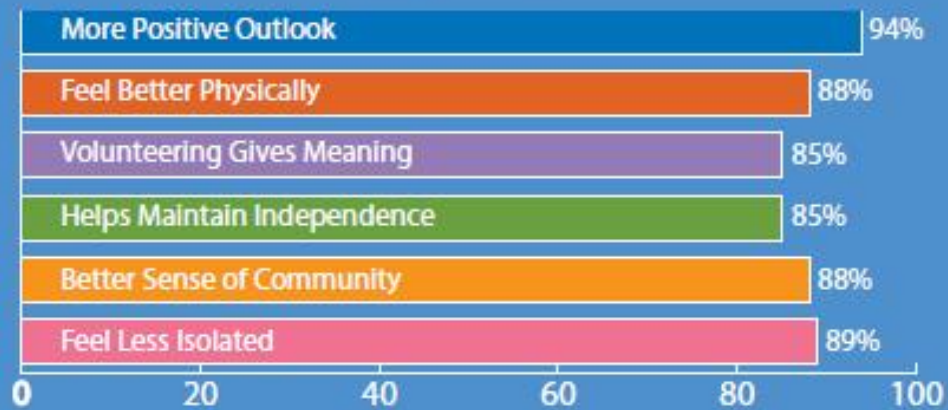
**23**  
NONPROFITS  
SUPPORTED BY CENTER  
VOLUNTEERS

## IMPACT

The Center's mission is to positively impact our community by creating opportunities for healthy aging through social engagement, physical well-being, civic involvement, creativity, and lifelong learning.

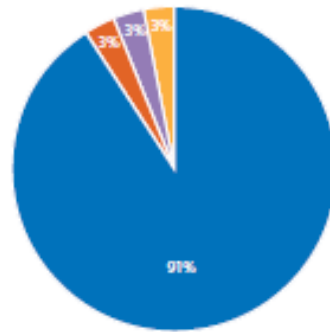
Research proves that people who participate in programs like those at The Center incur lower health care costs, have a more positive outlook on life, and give back to the community as volunteers.

*FY22 Survey respondents who Agree or Strongly Agree that  
Center programs accomplish core objectives*



## FY22 FINANCIAL DATA

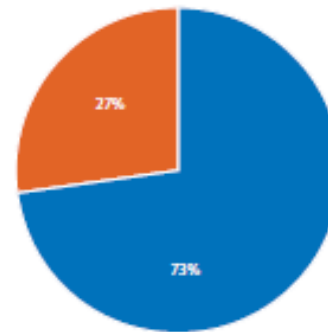
The Center receives no regular funding from local, state, or federal governments and is sustained financially through diverse revenue streams from both philanthropy and earned income.



### ASSETS

|                              |              |
|------------------------------|--------------|
| • Land & Facility            | \$20,566,049 |
| • Cash & Cash Equivalents    | 647,400      |
| • Other                      | 706,980      |
| • Seabrook & Fell Endowments | 689,244      |

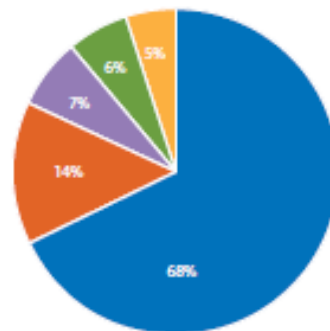
**Total Assets** **\$22,609,673**



### LIABILITIES & EQUITY

|               |              |
|---------------|--------------|
| • Equity      | \$20,566,049 |
| • Liabilities | 647,400      |

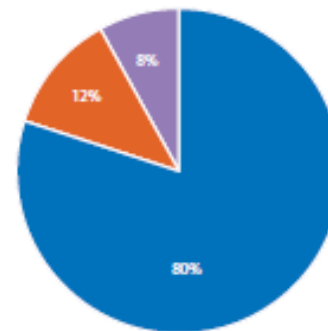
**Total Liabilities & Equity** **\$22,609,673**



### REVENUE

|                     |             |
|---------------------|-------------|
| • Contributions     | \$1,375,466 |
| • Membership Dues   | 293,354     |
| • Rentals & Leases  | 142,654     |
| • Programs & Travel | 114,969     |
| • Other*            | 110,678     |

**Total Revenue** **\$2,037,121**



### EXPENSES

|                                  |             |
|----------------------------------|-------------|
| • Healthy Aging Program Services | \$2,043,660 |
| • Supporting Services            | 311,579     |
| • Fundraising                    | 209,451     |

**Total Expenses\*\*** **\$2,564,689**



# PROGRAMMING HIGHLIGHTS IN FY22

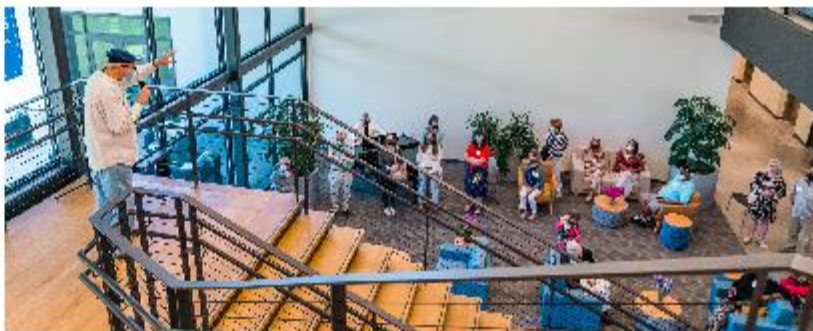
- Dozens of new programs offered community members fresh ways to pursue wellness in all its dimensions.
- Evening hours on Tuesdays and Thursdays expanded capacity for and access to healthy aging resources and amenities.
- Topics ranged from local (History and Stories of the Original Communities of Free State, Belvedere, and Dunlora) to international (Global Flashpoints: The Korean Peninsula). From timeless (Archaeology, Myths, and Customs of Rome) to timely (Global Viral Pandemics: We Should be Better Prepared for the Next One"). And from community planning (Rio Corridor Plan Community Pop-up) to retirement planning (Plan for a Financially Secure Retirement).
- Special programs and exhibits for Native American Heritage Month, Black History Month, Women's History Month, and Pride Month.





## PERMANENT ART EXHIBIT

The Center is pleased to have acquired *The African Violin*, a painting by Charlottesville native Frank Walker. This work is part of a collection that will focus on local artists and represent the diversity of the visual arts and of the Albemarle-Charlottesville area relating to our demographics, cultures, geography, and history. We are grateful to Center friend and local artist Linda Verhagen for underwriting the purchase of *The African Violin*, the first piece in our permanent art collection.





# THE RALPH FEIL ENDOWED SCHOLARSHIP FUND

- Ensuring that every older adult has the opportunity to live more years in good health is fundamental to The Center's mission and values.
- We provide scholarships to anyone who requests assistance to pay for Center membership.
- In FY22, scholarship requests exceeded \$38,000.



- Support for scholarships comes from individuals, foundations, churches, and corporations. When requests exceed donated funds, The Center redirects money from operations to ensure all needs are met.
- In FY22, The Center was able to provide 25 scholarships using funds drawn from a new source of support—an endowed scholarship fund named to honor the legacy of community leader and Center friend Ralph Feil.

## CHARMAINE CROWELL-WHITE

Charmaine Crowell-White is a storyteller first.

Her work and life's passion as a Living History Interpreter brought her to The Center in 2021 and she calls it "an absolute positive savior in my life."

After 25 years teaching Theater Arts in public schools and a slate of theater, film, and television credits, Charmaine retired and found living history to be "such a fine companion" to her lifelong interest in acting.

She traveled to schools, colleges, museums, libraries, and churches to present the lives of women such as Harriet Tubman, Sojourner Truth, Suky (personal servant to Dolly Madison), and Maggie Walker, among others. "I'm just a vessel... [to] run all these amazing women through me," she says.

A friend encouraged her to bring a living history program to The Center and the result was an unexpected turning point.

Although Charmaine was born and raised in Charlottesville, she had spent 40 years away, only returning to care for her aging mother. "I came back to this new Charlottesville [and] I was a bit lost," she says, noting connections left behind in Richmond and a new home in Keswick that was beautiful but quiet and removed.

When she first arrived at The Center, she was astounded by "the newness, the freshness, [and] the invigorating energy of the people I met."

Charmaine spoke so effusively of the programming and the people she found at The Center, her daughter gifted her a membership – one Charmaine has made the most of at every opportunity.

Over the months, she has taken Tai Chi, had a hearing test, gone on day trips to Smith Mountain Lake and a Potomac River cruise, and become a regular at the Move to Rhythm Dance Party, which she calls "a lifesaver [that will] move you from the top of your head to the bottom of your feet."

"I'm a walker and my goal is 10,000 steps a day... On Tuesdays, I know I'm going to get it!" she laughs. "I look forward to it every single week. We just have a ball!"

Charmaine has even brought her own programming to The Center, teaching a storytelling class in March and April 2022. She got an amazing response with 12 participants, one of whom was so inspired, they are now collaborating on a storytelling festival to take place sometime in 2023.

Even as she strengthens her roots in storytelling, for Charmaine, the possibilities at The Center are endless. She says, "I could learn a different language or study yoga... [have] the possibility to travel abroad and meet amazing people."

What Charmaine most loves about The Center are its many different outlets and its "wonderful, well-rounded group of people" where you'll meet "everyone from artists to academics."

"It's diverse in so many ways [and] it's like a second home!"



## JIM HASSMER

Scrabble is fundamentally a game of making connections, putting pieces together so that they have meaning, so perhaps it is fitting that the game is what first drew Jim Hassmer to The Center. "A connector" is how many describe him, and the retired Methodist minister is driven by his genuine interest in other people and a desire to help his community.

Pastoring across Virginia for 30 years shaped Jim's perspective, instilling a passion for reducing hunger and poverty – he is now the gleaning coordinator for the Charlottesville area – as well as for furthering racial equity and social justice.

Among his many commitments to community organizations, Jim serves on the education committee of the NAACP. He says, "I feel the earth is here for all people to enjoy equally, and any disparity is unfair and unjust."

A conversation with The Center's executive director about six years ago regarding the need he saw for more diversity at the organization eventually led to Jim co-chairing the Racial Equity Special Committee and serving as a member of the Diversity, Equity, and Inclusion Committee.

"The Center has made progress in programming," Jim says, adding that "Approval of the Racial Equity Action Plan is a great step forward in some specific ways."

His motto is "Find a need and fill it."

Meeting needs and making connections permeates so much of Jim's activity both at The Center and in the greater community, and those needs can be serious or lighthearted. All foster wellness and well-being.

As President of the Charlottesville Square Dance Club, he has brought his love of square dancing to The Center, where he teaches twice a week. "It's a way of moving to music that engages with other people, exercising body and mind," he explains. "And it's fun. A lot of fun!" He appreciates the pleasure people get from participating and says that "teaching the class has opened me up."

Jim continues to play Scrabble at The Center, too, where he sees that connections go beyond letters and words. Players "talk about what's going on in each other's lives, they show concern for one another."

"The Center is a gathering place for people 50 and over, but with an amazing variety of programs; it's a place where people can connect on an ongoing basis and develop relationships that deepen."







## MARIA CHEE

Every Monday, Center members don their ballet slippers for Silver Swans, improving their flexibility, strength, and coordination through the art of ballet. Unlike other Center programs, however, this one comes from a valuable community partnership with Charlottesville Ballet.

Program leader Maria Chee comes to The Center as a faculty volunteer from Charlottesville Ballet to teach two levels of Silver Swans as one of the Ballet's five free outreach programs.

"Each reinforces the mission of the other," she says of the two nonprofits, noting the importance of physical well-being and wellness, civic involvement, lifelong learning, and creativity to both organizations.

Maria is well poised to lead lessons with multiple degrees in dance, a Ph.D and more than ten years of teaching experience in adult education, and a stint at the Martha Graham School in New York. That's not all she brings to Center members, though. She adds, "Being a mature adult [myself] helps a lot in sharing dance with them. It gives me a certain understanding of their bodies!"

Maria has enjoyed her own time at The Center since 2014, joining an international folk dance group, watching documentaries about Native Americans, learning bridge and computer skills, and even getting her CPR certification.

"I count my blessings, because I truly enjoy it, especially [now that] The Center [has] moved to its current location with beautiful ballet studios!" she says. "The architecture and facilities are truly uplifting... It's a vibrant hub of diverse activities to its constituents!"

Silver Swans alone has much to offer its students, and it's not just about the physical benefits that lead to healthy aging.

Maria says, "This class offers social connection, cognitive exercises, physical activities, and aesthetic experiences, as well as a return to their youth... Doing ballet makes them feel good and young at heart."

"[When] one hears beautiful music and moves to it, it elicits positive inner emotional responses to the beauty in both movement and sound," she continues. "That's ambrosia for one's body and soul!"

Ballet is often a less accessible, and even elitist, art form, requiring money for lessons, costumes, and performance tickets. Young children need a parent with enough free time to drive them to and from class, leaving ballet the typical purview of wealthy families. Through programs like Silver Swans, Charlottesville Ballet and The Center are "democratizing ballet."

Maria says, "For those who had taken ballet lessons [at] a young age, they have a chance to be in touch with their youthful days and become that younger self again. For those who had never taken ballet classes but always wanted to, they have this chance to make their dreams come true."

The goal is not to become a professional, but simply to enjoy the beauty, meditation, and other benefits of ballet, or as Maria puts it, "to be in touch with the artistic elements within everyone's psyche."

"For one hour of class," she concludes, "you become the ballerina that you are within yourself and experience your own artistic temperament. That is truly a finer moment of life."

## The Center at Belvedere Earns Prestigious National AIA Award

- The American Institute of Architects (AIA) awarded Bushman Dreyfus Architects the Design for Aging Review 2021 Award of Merit (its top award) for The Center at Belvedere.
- AIA representatives hailed The Center as a new prototype and model for similar centers. The jury calling the robust offering of activities and layout, and detailed design “exceptional.”

## C3’s Better Business Challenge Award Recognizes Commitment to Sustainability

- The Center’s win was powered by building design, which prioritized features for energy efficiency, including solar panels, LED lighting and sensors, and water bottle filling stations.
- We are reducing and greening energy use, water use, and waste; cutting our carbon footprint with an enhanced recycling program; and spreading community awareness with environmental program offerings.

## Interior Design Excellence Award Celebrates Innovate, Smart Design

The ASID and IIDA recognized CIRCLE Design Studio with a statewide Interior Design Excellence Award (IDEA) for The Center at Belvedere, which earned First Place in its category.





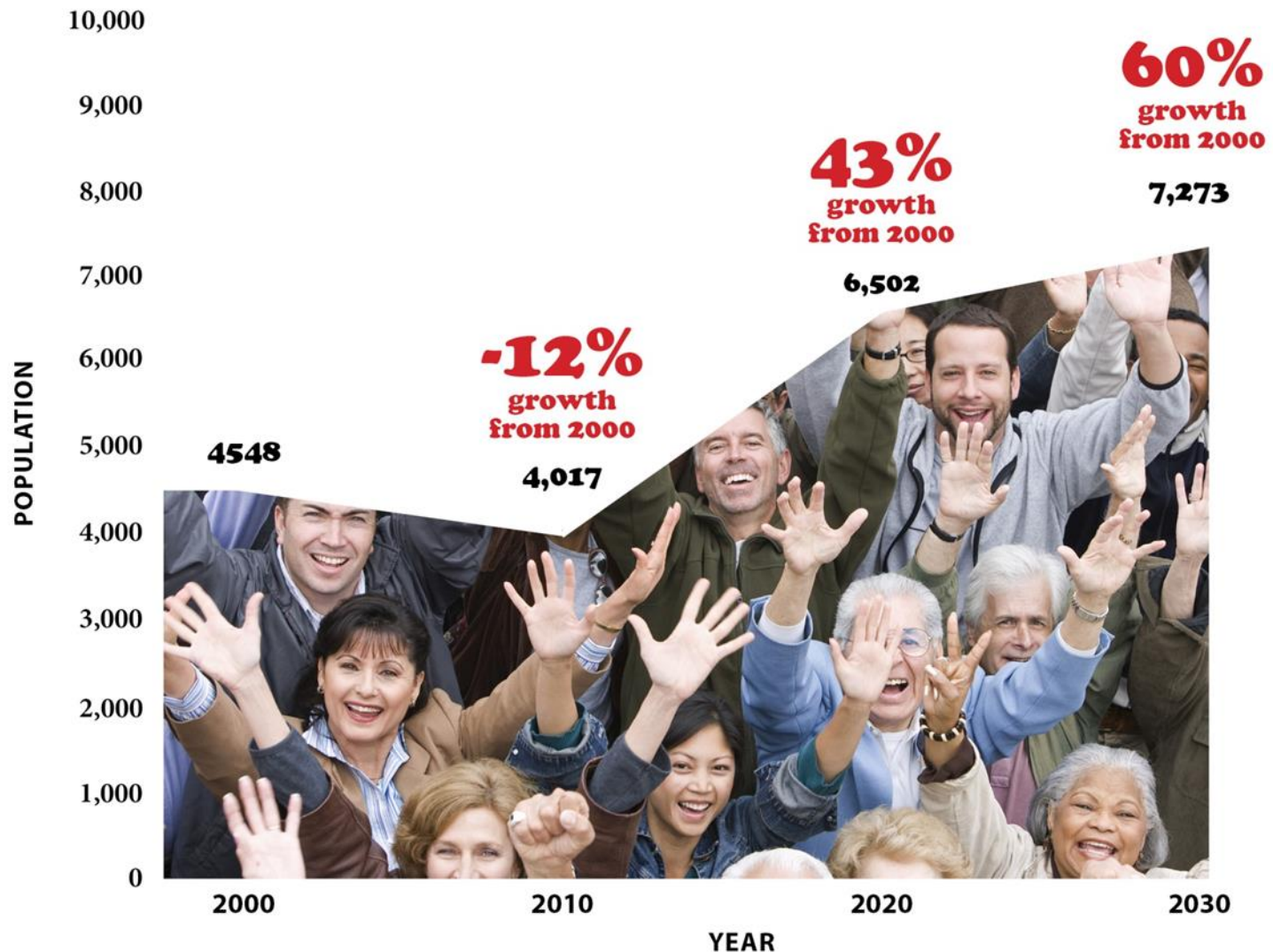
# Aging Impacts on Charlottesville

- community planning
- economic development
- work force
- social services
- health care
- families



# CITY OF CHARLOTTESVILLE

## Projected Growth in Senior Population 65 and Older, 2000–2030





# Vision Areas & Strategic Goals Alignment



## A Connected Community

## Commitment to Connection & Accessibility



- CAT Route 11 & JAUNT
- proximity to City center, seniors, and affordable housing
- Mary P. Reese Scholarship Fund (approx. 10% of members)
- capacity for satellite delivery



# Pending: CAT Service to The Center



- Section 8E: ‘...make and designate a bus stop to assist with access for City residents...’
- Public transit is critical to ensure accessibility for people who do not drive or do not have a car
- Two-way service necessary
- Parking lot designed and constructed to accommodate CAT service
- Impacts environment
- Impacts parking

# Vision Areas & Strategic Goals Alignment



.....➔  
**A Community of Mutual  
Respect** ➔.....

.....➔  
**Contributions to Partnerships &  
Engagement** ➔.....



- mission & programs
- collaborations to serve more people
- multigenerational reach
- volunteer resources
- civic engagement
- support for community nonprofits





# Community Partners



COMMUNITY CLIMATE  
COLLABORATIVE



African  
American  
Authors Book  
Club



*Piedmont Pastelists*



# Serving Charlottesville

- **Current Membership**

25.7% City residents  
62.5% Albemarle County  
11.8% Other

- **Scholarships**

- **Guests**

- **Community Partners**

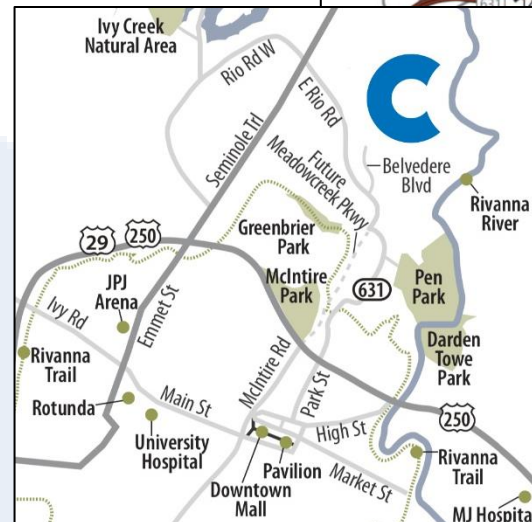
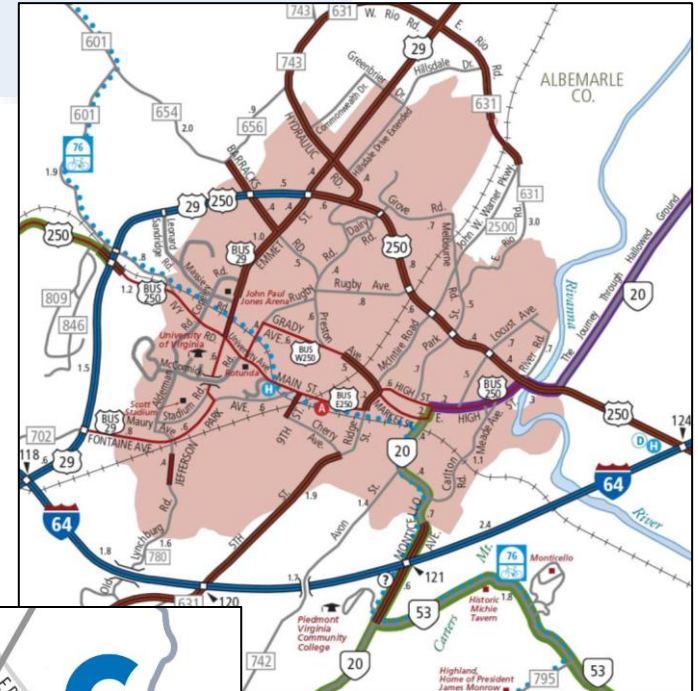
- **Outreach** e.g.

Friendship Court, Piedmont Housing Alliance, City of Promise, City Social Services, Ebenezer Baptist Church

- **Easy Access**

Conveniently located just off Rio Road close to US29 and the 250 Bypass—handy to downtown, UVA, and other neighborhoods

For walkers and bikers, Belvedere links to Rivanna Trail and John Warner Parkway's 2.5-mile trail from downtown





# City Return on Investment

- **Proven benefits for community health**

Cost-effective health promotion strategy

Reduced demand for social services

Lower health and long-term care costs

- **Improved quality of life for all ages**

Support for an age-friendly community

More volunteers for area nonprofits

Community access to multidimensional programs

- **More contributors to the local economy**

Promotes independence / aging in place





# Thank you!



[thecentercville.org](http://thecentercville.org)

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                               |
| Action Required: | Consider recommendations                                                                                                    |
| Presenter:       | UVA School of Law - State and Local Government Policy Clinic (Madison Clark, McKayla Riter, Andy Block)                     |
| Staff Contacts:  | Kyna Thomas, Clerk of Council<br>Maxicelia Robinson, Deputy Clerk of Council<br>Allyson Davies, Senior Deputy City Attorney |
| Title:           | <b>UVA Law review for City Boards and Commissions</b>                                                                       |

**Background**

At the request of Mayor Lloyd Snook, the UVA School of Law State and Local Government Clinic accepted a project to review ways to improve the organization and management of City of Charlottesville boards and commissions. The original request was that the Clinic look into how these processes could be improved by making changes to board and commission by-laws.

**Discussion**

After researching board and commission, the Clinic became aware of other concerns that they believe must be addressed in order to make meaningful change. The attached memo seeks to provide recommendations on how to address some central problems contributing to the lack of board and commission consistency and efficiency. It will begin by providing an overview of the current legal and policy structure governing Charlottesville's boards and commissions. Next, the memo will discuss the gaps in the existing framework and outline a model approach taken by the City of Hampton. It then suggests which issues the City should consider addressing and outlines the different legal methods that can be used to achieve these goals, noting the relative strengths and weaknesses of each approach. Finally, the memo concludes with suggestions for further research.

**Alignment with City Council's Vision and Strategic Plan**

**Community Engagement**

**Budgetary Impact**

**Recommendation**

Recommendations listed in attachment

## **Alternatives**

## **Attachments**

1. C'ville Boards Commissions Memo



**TO:** The City of Charlottesville  
**FROM:** Madison Clark, McKayla Riter, Andy Block  
**DATE:** March 29, 2023  
**RE:** Charlottesville Boards and Commissions

## **INTRODUCTION**

The City of Charlottesville has tasked the State and Local Government Clinic with improving the organization and management of its boards and commissions. Originally, the City requested that the Clinic look into how these processes could be improved by making changes to board and commission by-laws. However, after researching these issues, we became aware of other concerns that we believe must be addressed in order to make meaningful change.

This memo seeks to provide recommendations on how to address some of these central problems contributing to the lack of board and commission consistency and efficiency. It will begin by providing an overview of the current legal and policy structure governing Charlottesville's boards and commissions. Next, the memo will discuss the gaps in the existing framework and outline a model approach taken by the City of Hampton. It then suggests which issues the City should consider addressing and outlines the different legal methods that can be used to achieve these goals, noting the relative strengths and weaknesses of each approach. Finally, the memo concludes with suggestions for further research.

## **RESEARCH METHODS**

The findings contained in this memo are the products of a thorough review of the following sources: state law, local ordinances, City Council's Rules and Procedures, the city Charter, the boards and commissions documents provided by City Clerks, conversations with actors from other municipalities and local government-oriented organizations, and webpages for specific boards and commissions.

We have also had regular meetings with staff from the City Attorney's office and the Clerk's office to review our approach and progress.

## **EXECUTIVE SUMMARY**

This section provides a brief overview of some of our key findings and recommendations. While it is clear that city personnel are working hard to fulfill their board management responsibilities, structural issues get in the way. Some of these issues include the following:

580 Massie Road, Charlottesville, VA 22903-1738 | P 434.243.4320 | F 434.924.7315 | E

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[www.law.virginia.edu](http://www.law.virginia.edu)

- A lack of guidance and consistency regarding what Council must include in an ordinance creating a new commission.
- Inconsistent appointment timing and procedures.
- Minimal on-boarding training or common training and guidelines across all boards and commissions.
- A lack of a city-wide record keeping and management system which may result in FOIA violations and City liability.
- Divided responsibilities in terms of board and commission management and support between staff in the Clerk's office, and staff liaisons, resulting in uneven communication and information sharing and oversight.

To address these issues we respectfully recommend that Council, either through ordinance or procedure, or some other written communication, do the following:

- Create uniform board and commission requirements and guidelines and retroactive amendments to existing ordinances, as necessary, to create a more uniform process.
- Create universal appointment schedules for all new members and maintain adherence to these unless new appointments are required by statute or ordinance or to reach a quorum.
- Create an in-person training conducted by relevant city staff, for all new board members to occur just prior to, or just after, the scheduled appointment times.
- Create a new, or better utilize the existing, information management system regarding board and commission operations, to give staff in Clerk's office, City Attorney's office, staff liaisons, the City Manager, and City Council members, access to real-time information on the work of the boards and commissions.
- Give Council authority to remove board and commission members for various objective factors such as too many absences.
- Assess the current management of boards and commissions and consider a more efficient support structure. More specifically, consider moving more board management authority directly under the City Manager as almost all staff liaisons, who have the most ongoing contact with each board and commission, work for the Manager.

## **CURRENT BOARDS & COMMISSIONS ORGANIZATION**

### **• Introduction**

In order to understand the gaps and inconsistencies in the operation and management of the various boards and commissions, and any recommendations to address these issues, it is helpful to first understand the range of boards and commissions as well as the existing organizational structure.

The City of Charlottesville currently has forty boards, commissions, and advisory groups which are governed by different legal rules, bylaws, and practices.<sup>1</sup> This section will provide an overview of the City’s current system for organizing and managing boards and then highlight places where further guidance from Council will be most impactful. To this end, this section will first outline the existing ordinances, policies, and other informal rules currently governing these entities. Second, it will summarize the gaps in this framework and problems that have arisen. Finally, this section concludes with examples of policies used by other cities in the Commonwealth to manage their boards and commissions.

- **Existing Governing Laws & Procedures**

Charlottesville’s boards and commissions serve many different functions and can largely be divided into two categories: advisory agencies and sovereign agencies. Advisory agencies are bodies created to advise Council on specific policy matters. Sovereign agencies are those that perform a delegated function of Council.<sup>2</sup> Both sovereign and advisory agencies can be created by state statute or local ordinance.<sup>3</sup>

- ***Advisory agencies***

The Virginia Code defines advisory agencies as “any board or commission, committee or post which does not exercise any sovereign power or duty but is appointed [...] for the purpose of making studies or recommendations or advising or consulting with governmental agency.”<sup>4</sup> These boards are commonly created to research and advise Council on specific policy matters. Members of advisory agencies are appointed by Council and can be compensated for their attendance at regularly scheduled meetings and in training, but only if the city council action which established the group (1) specifically authorizes the amount of compensation to be paid (2) designates the manner of payment (3) identifies the fund or budget expenditure line item from which the compensation is to be paid.<sup>5</sup>

Examples of advisory agencies in Charlottesville include the Tree Commission, Housing Advisory Committee, the Human Rights Commission, and the Social Services Advisory Board.

- ***“Sovereign” Agencies***

For purposes of this memo, we are using the term Sovereign Agencies to refer to all boards and commissions that cannot be categorized as advisory agencies. These organizations tend to operate with greater independence from Council and have more features unique to the specific mandate of each board. Members of sovereign agencies are also appointed by Council. Their

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<sup>1</sup> <https://www.charlottesville.gov/777/More-Boards-and-Commissions>.

<sup>2</sup> The term “sovereign agency” was created by the State and Local Government Clinic to refer to all boards and commissions that cannot be categorized as “advisory agencies.” There is currently no widely accepted term for such bodies at the state or local level.

<sup>3</sup> The distinction between entities created by state mandate and those created by local ordinance has the strongest impact on Council’s discretion over creation and oversight. The implications on both functions of Council are discussed in greater detail later in this section.

<sup>4</sup> Va. Code §15.2-1411.

<sup>5</sup> Va. Code §15.2-1411.



membership can be paid or unpaid. In contrast to advisory agencies, however, the process for determining compensation is not clearly defined by ordinance.

Examples of Sovereign Agencies in Charlottesville include the Personnel Appeals Board, the Redevelopment and Housing Authority, the Building Code Appeals Board, and the Economic Development Association.

- **Board Creation**

State law delegates to localities the power to “establish, consolidate, abolish or change departments, offices, boards, commissions and agencies of the municipal corporation and prescribe the powers, duties and functions thereof, except where such [bodies] or the powers, duties and functions thereof are specifically established or prescribed by its charter or otherwise by law.”<sup>6</sup> In practice, this law allows for Council to create bodies under its own authority and to establish bodies required by state law. Advisory agencies and sovereign agencies can be creations of local ordinance or state law, and in all cases, Council is responsible for appointing officers and regulating the activities of the bodies.<sup>7</sup> The principal difference between locally created and state-mandated boards is Council’s degree of control over the boards’ operation and dissolution.

- ***State-mandated boards***

When the Commonwealth mandates the creation of a board, a similar board creation process occurs. City Council members establish the board via ordinance, incorporating the required language from state law. As with boards created by the Council, the local government has discretion over appointments and finance, and may provide additional guidance where state law is silent.

In addition to the formal state and local laws regulating board creation, Charlottesville’s board creation process also appears to be regulated by informal procedures. One example of informal procedures concerns the contents of ordinances. As mentioned above, the contents of an ordinance establishing a board is not prescribed by law. Council is free to articulate a number of factors relating to the board’s composition or function. These informal procedures are not recorded. Nor are they uniform across boards. This lack of uniformity may hinder board effectiveness by making it more likely that boards will perform tasks and expend City resources in a way that is not beneficial to City Council’s oversight duties.

- ***Council-created boards***

When Council creates a board under its own authority, state law provides it with certain specified powers. Council may provide financial support to all boards via (i) reimbursement of the actual expenses incurred by members while serving on such advisory boards, committees, and commissions and (ii) compensation to members for their services for attendance at regularly

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<sup>6</sup> § 15.2-1107.

<sup>7</sup> *See id.*

scheduled meetings, and for training in an amount determined appropriate by the governing body from available funds.<sup>8</sup> State law also gives Council broad discretion to appoint advisory boards, committees, and commissions as it deems necessary to advise the governing body about any matter of concern to the locality and to staff those boards as Council deems appropriate.<sup>9</sup>

Boards of this kind are typically established via city ordinance. There is no rule prescribing the content of such ordinances. But these instruments usually outline the general powers and duties, number of members, and structure of leadership. Some ordinances also include reporting requirements<sup>10</sup>, quorum requirements<sup>11</sup>, and meeting procedures.<sup>12</sup> Lacking more robust guidance addressing the contents of enacting ordinances, Council has occasionally left open important questions regarding boards' obligations and procedures, such as a board's need for bi-laws and funding requirements. We believe that this inconsistency contributes to confusion and inefficiencies among board members and staff.

- ***Individual councilor-created boards***

It is worth noting here, that individual Council members can also establish advisory groups on their own.<sup>13</sup> These groups are established to research specific issues concerning Council. The Councilor seeking to create the board does not need to do so via ordinance; however, the council member is required to advise the City Manager, Clerk of Council and other Councilors of the date, time and purpose of any gathering that will involve spending city money.<sup>14</sup> These groups present unique challenges for Council oversight. It is unclear whether the oversight powers of the Council and City Manager's office apply to these groups. It is also unknown whether these boards can continue to operate after the enacting Councilor leaves office. More research is needed in this area determine how these boards should be regulated.

- **Board Management and Oversight**

Once a board has been created, several officers and official bodies take on oversight roles. These actors are situated in the City Council's and City Manager's offices. We briefly described the roles and responsibilities of each below.

- ***City Council***

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<sup>8</sup> Va. Code § 15.2-1411.

<sup>9</sup> Va Code §15.2-1411.

<sup>10</sup> E.g., Charlottesville Code Ch.5 Sec. 5-195(b) ("The planning commission shall report its findings and recommendations concerning the repair or other disposition of the blighted property to the city council."); Charlottesville Code Ch 25 Sec. 25-1 (giving the Social Services and Community Attention Advisory Board the power to "make an annual report to the city council, concurrent with the presentation of the annual budget, concerning the information of the public welfare and community attention programs").

<sup>11</sup> E.g., Charlottesville Code Ch 15, Sec. 15-412 {"A quorum will consist of a towing member, a law enforcement member and a citizen member."}; Charlottesville Code Ch. 19, Art II Sec. 19-35 ("Two (2) members of the personnel appeals board shall constitute a quorum.").

<sup>12</sup> E.g., Charlottesville Code, Ch. 2 Art. XI Sec. 2-420

<sup>13</sup> See Council Policies and Procedures, § II (C)

<sup>14</sup> Council Policies and Procedures, § II (C).

While not overseeing the daily operations of any specific board or commission, Council is responsible for making appointments, defining the policy, and allocating the budget. Ordinances, and appointments are the main tools Council uses to regulate the day-to-day operation of boards. Their oversight function occurs primarily during their formal sessions, and several considerations have a defined place in Council's Order of Business.<sup>15</sup> During business sessions, Council's Policies and Procedures require Council to make appointments to boards and commissions.<sup>16</sup> During this time Council may also "conduct business and vote upon any matter properly before it, at any meeting at which a quorum is present."<sup>17</sup> Such business can include the removal of members, the passing and amending of ordinances establishing boards and commissions, and the consideration of appropriations to the board.<sup>18</sup> Council may also take this time to take part in an informal discussion of a subject without taking action.<sup>19</sup> This informal discussion can include reviewing reports from advisory agencies or discussing other matters related to board oversight.<sup>20</sup>

It is worth noting here that Council's formal oversight authority, including the ability to remove board members, varies depending on the boards' authorizing ordinances. Council has less authority to oversee or make changes to the operations of boards created by state mandate. For example, the City cannot require actions that are inconsistent with a board's mandate under state law. Additionally, Council cannot make appointments or removals that conflict with state requirements. Sovereign boards also have a greater degree of independence from Council. Once their powers have been delegated, commissions serving a sovereign purpose tend to act with greater independence. Their functions prescribed by ordinance and oversight may be delegated to other bodies in the local or regional government.

In contrast, Council has more formal oversight authority over advisory boards. Advisory agencies exist to support the work of Council and report directly to the body. As such, Council maintains a closer relationship with these organizations and can oversee their activities more directly. Furthermore, advisory agencies have a relatively more flexible mandate. Their missions are less prescribed by law and have fewer restrictions on their composition and the subject matter they can work on.

Taken together, Council's formal oversight authority exists on a spectrum: state-mandated sovereign boards have the fewest opportunities for oversight from Council, and locally-created, advisory agencies have the most opportunities for Council involvement.

It is important to note, however, that council does not engage in day to day oversight of the various boards and commission. Instead, both departmental staff, and the Clerk and her staff, exercise aspects of this responsibility.

- ***City Manager***

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<sup>15</sup> Council Procedures 1(B)(2)(3).

<sup>16</sup> *Id.*

<sup>17</sup> Council Policies and Procedures, (C)(1)(A)

<sup>18</sup> *See id.*

<sup>19</sup> Council Policies and Procedures, (C)(1)(b)

<sup>20</sup> *See id.*

The City Manager has “full executive and administrative authority and shall have the right to employ and discharge all employees under his control.”<sup>21</sup> This control over employees does not extend to the members of boards and commissions themselves, but it does extend to employees who provide administrative support to boards such as the staff liaisons, staff in the City Attorney’s office, some staff in the Clerk’s office, and any employee that coordinates their work with a board or commission. It is important to note that with few exceptions, it is departmental staff who, in their capacity as staff liaisons, have the most ongoing contact with the various boards and commissions, who publicize and attend their meetings, set agendas, record minutes, respond to questions, onboard new members, and provide other kinds of daily support. It is also important to note, however, that they have little to no involvement in the application or appointment process, and must relay necessary information to the office of the Clerk to communicate to Council.

- ***Clerk of Council***

The clerk’s office is a hybrid between Council and City Manager appointed officials. The Clerk of Council serves at the pleasure of City Council and reports directly to it. Staff in the clerk’s office are hired and supervised by the Clerk of Council. However, as hired employees, they fall under the executive leadership of the City Manager. The Clerk of Council maintains the General Ordinance Book, which contains all ordinances and resolutions of a general and permanent character, properly indexed and open to public inspection.<sup>22</sup>

Informally, the clerk’s office performs some oversight for boards and commissions. Staff publicize board vacancies and process all applications. They also must keep track of all terms of all members of boards and commission, and take on baseline onboarding for new members, which currently consists of providing written information regarding FOIA, Conflicts of Interests Act, and Public Records Act.

Unlike staff liaisons, however, staff from the Clerk’s office do not attend meetings of the various boards or commissions, unless they have been designated as the staff liaison. Nevertheless, staff are still expected to serve as a liaison between the boards and Council. If they receive information from department staff liaisons, they are able to alert Council to oversight problems or concerns from body members. Clerks’ informal oversight abilities are supplemented by the common practice of having some clerks serve as Staff Liaisons for specific boards.

Since most of their involvement with boards comes from informal practices and their formal roles as record keepers and liaisons, the Clerks’ main tools for regulating boards’ activities are less defined than Council, and not as regular as that of staff liaisons.

- ***City Attorney***

The City Attorney reports to the City Manager. Attorneys in this office have the management, charge and control of all legal business of the city and are the legal advisers to the city council, any committee thereof, the city officers and the several departments of the city government.

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<sup>21</sup> Charlottesville Charter, Sec 502.

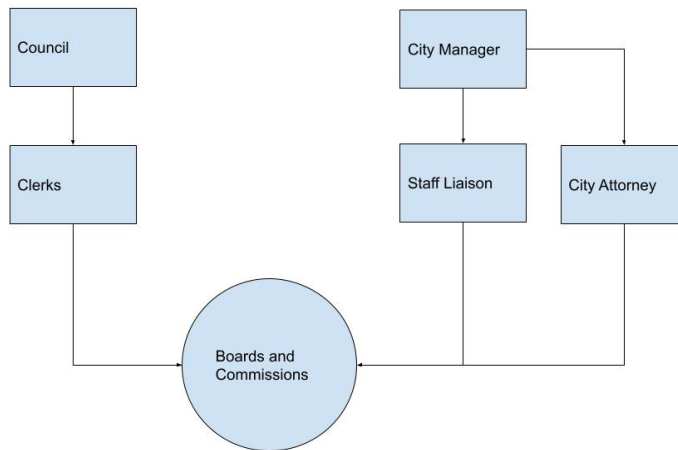
<sup>22</sup> Charlottesville Charter, Sec 6.



When required, they also furnish written or verbal opinions upon any subject involving questions of law submitted to them by any of them.<sup>23</sup>

In their advisory role, staff attorneys can influence the oversight of boards and commissions by reviewing the actions of boards and commissions to ensure they are complying with state and local law. The City Attorney is also in a position to provide training and guidance on members' duties and obligation but, as far as we know, does not, or at least not regularly.

**Figure 1.1 depicts the City of Charlottesville's current organizational structure as it relates to board and commission governance.**



- **Board Dissolution**

Unless specified in the ordinance that created the board, Charlottesville has no formal procedure regulating the dissolution of boards. This occurs at the discretion of Council or as mandated by state statute.

## **CONCERNS WITH CURRENT STRUCTURE**

Our research into the existing legal and policy framework, and conversations with City employees, have helped us identify the following issues contributing to Charlottesville's difficulty managing boards and commissions.

- **Board Creation**

Beyond the laws requiring appointments to be made on a regular schedule and funding to be dictated at a board's creation, Charlottesville currently has no other policies in place that dictate what Council must consider and address when creating a new board or commission. This has

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<sup>23</sup> Charlottesville Code, Article V, Sec 2-213(a).

led to inconsistent requirements among existing boards and commissions and informational gaps.

Some city staff are also concerned that the city has too many council created boards or commissions and that some of the work might be better left to department led workgroups.

- **Board On-Boarding**

Training

Charlottesville board and commission appointees do not go through a formal training process before they begin their terms. Clerks do provide literature on FOIA requirements, but in-person on-boarding, and the content of such orientation, is dependent on staff liaisons and individual board processes. This is in part because terms are staggered and also because the city lacks a uniform approach to working with new appointees. Without proper training, board members are unlikely to understand their responsibilities, making more involved oversight necessary.

- **Board Oversight**

Appointments

Currently Charlottesville's boards and commissions do not run on a standardized appointment schedule. The Clerk of Council has attempted to establish a policy calling for appointments to be handled on a quarterly basis. However, it appears that Council does not adhere to this policy. Instead, positions are being filled on a rolling, as-needed basis. This is preventing the Clerks and Council from keeping track of when terms expire. Additionally, the staggered appointment schedules frustrate any efforts for more involved and consistent training.

Transparent Record Keeping

Charlottesville does not maintain a city-wide, centralized record keeping system which makes it difficult for clerks to review important documents. The City does have some online tools to store and organize information, but City employees lack the technical training needed to use these tools effectively. Without a centralized, and accessible, information management system, it is difficult to ensure that boards and commissions are following reporting requirements and abiding by City guidelines.

Divided, and Uneven, Oversight Responsibilities

The City's current organizational structure splits board management and oversight between city staff, and the Clerk of Council. The former, while having the most daily contact with the various boards and commissions, and being responsible for orienting new members, must depend on the Clerk and Council for critical aspects of their functioning – like new members and FOIA training. One staff liaison describe the application and appointment process as a “black box,” which provided no opportunity to input from the staff most familiar with the work.

Likewise, the Clerk must depend on the staff liaisons for critical information regarding member attendance and vacancies, and meeting minutes, in order to fulfill their responsibilities to Council. These split responsibilities, despite the best efforts and intentions of staff, can lead to inconsistent processes, incomplete information, and frustration.

### Progress Reports and Updates to Council

Charlottesville has no uniform, formal guidelines in place that require boards and commissions to provide progress reports and updates to City employees at regular intervals. This makes general oversight and compliance checks difficult. Significantly, failure to address this issue may also make it hard for Council to assess a board's continued utility. Given the high numbers of boards and commissions, and the significant staff time devoted to managing and supporting these entities, it will be important to Council to establish a regular review process.

### Removal

Currently, removal procedures for boards and commissions must be initiated by those entities themselves. Council does not have the independent authority to do so in most circumstances. Because removing members is politically difficult for boards, removal, even when necessary, is nearly impossible. Council's lack of authority in this area may frustrate effective oversight efforts.

- **Board Dissolution**

Charlottesville currently has no policies or procedures that govern the dissolution of boards. This means that boards with limited purposes may continue to exist even after accomplishing their goals, and may also begin to take on tasks outside their original scope of duties. If boards are allowed to continue existing in this way, it will be difficult for the City to maintain compliance with uniform procedures.

## **A POINT OF COMPARISON: HAMPTON, VA**

Our research into effective board and commission management involved inquiries into how other municipalities organize and manage their boards. This section analyzes the relevant policies and procedures adopted by the City of Hampton, which has thirty-three boards and commissions<sup>24</sup> and which local government experts consider to be a locality that efficiently and effectively manages its many boards and commissions. While Charlottesville may ultimately decide to implement different measures, these practices may still provide helpful guidance.

- **Board Creation**

Like Charlottesville, Hampton's creation of boards and commissions must comply with state statutes and the general provisions found in ordinance, and like Charlottesville, Hampton also lacks guidance through an ordinance of what issues Council must address when creating a new board or commission. However, unlike Charlottesville, Hampton has created what it calls a Consensus of Council document (discussed further below) which dictates certain appointment terms and requirements for new boards.

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<sup>24</sup> <https://hampton.gov/170/Hampton-Boards-Commissions>.

- **Board Oversight**

#### Appointments

Hampton conducts all appointments by adhering to Council guidelines known as the “Consensus of Council Document.” This document, among other things, covers topics such as standard term length, the reappointment process, and mid-term appointments. While this document is not legally binding, it is consistently utilized. The Full Consensus of Council document can be viewed in Appendix A. Some highlights include:

- appointments to boards are generally for one term
- reappointment is not automatic
- term limits start over after one year lapses
- unexpired portions of a term of more than 50% constitute a full term.

#### Training

In Hampton, the City Clerks, Manager, and Attorney meet with all new board and commission appointees for formal training at the start of their terms. Part of this training includes one-on-one guidance. Additionally, Hampton supplies each appointee with a packet called the “Commitment to Excellence.” This packet details the Code of Ethics appointees must adhere to, the scope of duties, standards of conduct, and best practices for communicating with the media and citizens. The full document can be found in Appendix B.

#### Accountability

To oversee its boards and commissions, Hampton utilizes a computer software program that allows Clerks to manage appointment applications and oversee board attendance and agendas. Board members are expected to upload this attendance and agenda information for each meeting. If clerks notice an issue based on this data, they will alert Council who then addresses the problem.

#### Progress Reports and Updates to Council

Hampton has no known formal policies in place that require boards and commissions to provide formal progress reports and updates to City employees. Hampton did previously require boards and commissions to present this information formally at Council meetings, however the City found that this was not effective and discontinued the practice.

#### Removal

In Hampton, City Council has the authority to remove board and commission members in most circumstances.<sup>25</sup> However, there is no uniform guidance that details when removal is appropriate. Instead, these requirements seem to be board-specific.<sup>26</sup>

- **Board Dissolution**

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<sup>25</sup> See, e.g., Bylaws of the Economic Development Authority of the City of Hampton (<https://hampton.gov/170/Hampton-Boards-Commissions>).

<sup>26</sup> *Id.*



From what we could tell, Hampton has no known policies in place that govern the dissolution of obsolete boards and commissions.

## **RECOMMENDATIONS**

In response to the issues outlined in Section II, this Section provides recommendations on how the City of Charlottesville may address existing problems.

### **• Board Creation**

Where boards are state-mandated, City Council will have to abide by distinct enabling legislation. However, Council should provide a list of factors that must be addressed in every enacting ordinance for discretionary advisory boards. It should also review existing ordinances to determine if amendments are necessary to detail these requirements. Factors should include:

- *Mission Statement and/or Purposes.*
  - Articulates the general task to be accomplished by the new board or commission
  - This will help focus the work of the group and help Council to identify instances where boards are experiencing mission creep or when they are no longer necessary
- *Duties and powers.*
  - Details the expectations of the board and their delegated powers.
  - This will help ensure that boards are operating within the scope of their responsibilities
- *Bylaw requirement.*
  - Requires boards to adopt bylaws and present them for Council's approval within a reasonable time after the board's creation
- *Membership.*
  - Detail how many members a board should have, membership terms, and the skills, licenses, or experiences that shall be required for membership
- *Attendance.*
  - Explicitly articulate an attendance requirement
  - This will help improve accountability and empower Council to remove board members who fail to attend board meetings
- *Staffing of Boards and Commissions.*
  - Each ordinance should specify whether the board or commission will be assigned a staff liaison or other staff person
  - It should also detail whether the board or commission may hire additional staff and whether the City Manager may appoint or remove additional staff
- *Funding and Compensation.*
  - Detail whether board members or support staff will receive compensation, and whether the board will have an additional budget to fund its activities

- *Sunset provisions.*
  - Establish dates to assess the continued need for a new board or commission or state that a board should continue to operate indefinitely
- *FOIA and other disclosure obligations.*
  - Identify relevant disclosure laws that the board must follow
- *Confidentiality Obligations.*
  - Boards intended to handle confidential or privileged information should also have language in the enacting ordinance, formalizing these obligations
- *Meeting Requirements.*
  - Set a meeting requirement to formalize the functions of boards and commissions or articulate the specific structure of board activities if meetings not required

## - **Board Oversight**

### Appointments

- *Recommendation 1: Adopt Specified Appointment Dates.*

To reduce confusion over when terms expire and provide an opportunity for more structured appointee trainings, the City should consider adopting an ordinance or other policy that specifies certain, limited, times throughout the year that appointments will take place. We recommend that the City handle appointments every four months.

- *Recommendation 2: Adopt Standardized Appointment Guidelines.*

To provide further consistency on appointment terms, the City should consider adopting guidance that standardizes all appointment processes. At a minimum, this guidance should, unless otherwise controlled by state code, consider instituting a standard term length for all appointees and should address the reappointment process and mid-term appointments procedures to ensure that all appointments stay on schedule and no member serves more terms than permitted.

### Training

- *Recommendation 1: Implement In-Person, Standardized Training.*

After choosing those dates on which appointments will be made, the City should consider implementing a formal training program for all new appointees. At a minimum, this training should cover statutory requirements, such as FOIA, scope of duties, and reporting requirements to ensure that members understand the City's role in oversight. It also should identify and cover aspirational goals for board or commission membership. Staff from the City Manager's office, the Clerk of Councils office, and the City Attorney's office, should provide this training in order to cover all aspects of the process.

- *Recommendation 2: Develop Training Resources to Distribute to Members.*

In addition to providing formal in-person training to each appointee, the City should consider compiling training materials into a handbook that members could reference throughout their term if questions arose. This could take the form of a physical packet or an online reference page with links to information. Doing so would lessen the burden on Clerks who have to field questions from members. While the Clerk currently provides all new board members with a manual regarding FOIA, we would recommend expanding these materials, which can also help to ensure that all governing practices and procedures are followed.

### Record Keeping

- *Recommendation 1: Develop & Institute Trainings for Online Record System.*

Charlottesville currently uses CivicClerk to maintain its public records, and the City website on the CivicPlus platform to host the appointee application pool. Online tools such as this can be valuable to regulate the administration of boards and commissions. However, without having gone through comprehensive training on these portals, the Clerk has been unable to determine if these systems will be able to provide the transparency necessary for effective oversight. Implementing tech training on this system would help clerks and staff liaisons use the system more effectively and potentially reveal useful features. Additional staffing would also likely be required to import historical data. Hampton credits its own use of the system Granicus with improving oversight of matters such as attendance. Once the boards uploaded the attendance records after each meeting, the town clerks were better able to track absences and report absentee members to Council.

- *Recommendation 2: Improve Coordination Between Clerks of Council and Staff Liaison.*

While the Clerk of Council and the staff liaisons each have oversight/record keeping responsibilities for boards and commissions, they do not have any formal channels of communication. We recommend creating a formal process that requires staff liaisons to report records including attendance records, meeting minutes, and agendas to the city clerks. Doing so will centralize records into an office that reports directly to Council, improving both the Clerks' and Council's ability to monitor the activities of the boards and commissions.

### Removal

- *Recommendation 1: Give Council Removal Authority.*

Because it is politically difficult for boards to remove their own members, Council should consider adopting rules allowing it to independently remove members for such cause as violating attendance requirements. This would help ensure that member conduct conforms to City standards and help increase Council's oversight authority.

- *Recommendation 2: Institute Code of Ethics Detailing Criteria for Removal.*

To help standardize the removal process, Council should consider adopting guidance that details substantive grounds for member removal and the procedures that will be followed when

removing a member. This will help set expectations for board members and ensure fair and consistent treatment. Grounds for removal criteria might include things such as breach of ethical duties or attendance requirements.

### Organizational Efficiency

- *Recommendation 1: Increase Oversight Discretion of the City Manager.*

Council should consider increasing the oversight capacity of the City Manager, specifically vesting this office with formal responsibilities for board member applications, training, appointment, removal, record keeping, and status reports to Council. Doing so would align with the existing chain of command since the City Manager's office oversees the work of both the staff liaisons and the departments working with particular boards.

- **Board Dissolution**

- *Recommendation 1: Include a Status Review Date When Creating New Boards.*

To ensure that boards and commissions which have completed their intended functions will not unnecessarily continue to exist or improperly take on new tasks, Council should consider adopting a rule that, unless otherwise set by statute, requires it to specify a tentative date for dissolution at the time each new board is created. This could either be done by inserting a sunset clause, which would automatically dissolve the board at a specified date, or through the use of a status review date, which would require Council to discuss each board's continued utility and provide reauthorization if necessary. Ideally, these requirements would be included in the legal authorities pertaining to board creation requirements.

- *Recommendation 2: Create a Process to Review the Continued Utility of all Non-mandated Boards or Commissions.*

Given the lack of ongoing oversight and assessment, and the time the staff must spend supporting boards and commissions, Council should create a process to review the ongoing value of each non-mandated board or commission and, when appropriate, dissolve, consolidate, or downgrade some of these entities.

- *Recommendation 3: Downgrade Boards to the Departmental Level Where Necessary.*

When the use of a board is no longer clear, or a board's mission has significant overlap with that of another board, Council should consider downgrading this board to the departmental level for the creation of a departmental workgroup. Doing so will continue valued community input, while also increasing efficiencies and the role of departmental staff.

## **POTENTIAL POLICY IMPLEMENTATION METHODS**

The policy suggestions outlined above may take different legal forms, depending on the City's goals in implementing them. This section provides an overview of the two most common legal



authorities used to manage boards and commissions – ordinances, or some less binding form such as written procedures or memoranda – and suggests which authority might be best for each suggested policy.

- **Ordinances**

The most binding source of law that the Virginia Code gives Council the authority to enact is an ordinance. Unless otherwise provided for, an ordinance may only be enacted if adopted by a majority of Councilors present and voting at a lawful meeting.<sup>27</sup> Once enacted, an ordinance has the force and effect of law within the locality governed by the voting body. Because of this, any policy implemented via ordinance will be binding not only on board and commission members but on Council itself. Council would not have the flexibility to change or depart from these requirements without changing the ordinance.

Based on these characteristics, we recommend that Council use ordinances in the following ways. First, Council should adopt an ordinance that mandates what factors it must consider and include when creating a new board or commission. The ordinance would not mandate the substance of these requirements but would rather broadly mandate that such decisions be made. For example, the ordinance would mandate that Council include a mission statement when creating a new board but would not mandate what that mission statement was. This would encourage consistency despite Council turnover yet allow for flexibility in handling more individualized, substantive decisions.

Second, Council should consider adopting an ordinance broadly mandating minimum training and record-keeping requirements. This would bind other City employees tasked with oversight of boards and commissions and ensure that Council's judgment on the best way to handle these issues was effectuated.

Finally, Council should consider adopting an ordinance that asserts its authority to remove members of boards and commissions. Like board creation requirements, the substantive requirements for removal would likely be better addressed through non-binding council guidelines. However, if Council believes that its removal authority is an integral part of effective board management, it should consider memorializing this power in a legal authority that will apply to future governing Councilors as well.

- **Policies & Procedures**

Council could also implement some of the recommended policy changes through the use of non-binding policies and procedures. This could be accomplished by adopting a Consensus of Council document, such as used by Hampton, which is a non-binding resolution that reflects the Council's current policy on a particular issue. Alternatively, Council could amend their existing procedures to accomplish the same goal.

These policies would provide a series of recommendations that guide Council's decisions when establishing boards and commissions. Non-binding policies and procedures are more flexible

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<sup>27</sup> Va. Code. 15.2-1427.

than an ordinance and would be easier to amend if the circumstances or needs of Council changed. As non-binding documents, however, they would lack the force of an ordinance. Council would be free to ignore them, and it would not be binding on any other officials in the local government. The City Manager and all employees that report to him would not be bound to follow its recommendations.

If Council chooses to address concerns using policies and procedures, we recommend that the instrument used focuses primarily on substantive board creation and removal matters. This process is almost entirely under the discretion of Council and would benefit the most from greater flexibility.

- **Curriculum**

Some of the issues addressed in this memo concern inconsistent and incomplete training for new board and commission members. Board members, and in turn the City itself, will benefit from a more involved curriculum addressing statutory requirements, such as FOIA, scope of duties, and reporting requirements. Staff from the city, including the City Attorney's office, could create and deliver these trainings.

## **CONCLUSION**

In order to improve the quality of work of Charlottesville's boards and commissions, and to ensure that city staff are spending their time wisely and efficiently, Council should create more formal procedures and guidance for board creation, oversight, and dissolution. Doing so will create a more professionalized board process, and, hopefully, improve the performance of the boards and the staff that support them.

We understand that this will be a time consuming process, but we believe that it will help with overall government performance and service delivery. We should also note that, if it is the pleasure of Council, the Clinic is willing to continue to support this effort.

# APPENDIX A

## SUMMARY OF COUNCIL CONSENSUS ON BOARDS AND COMMISSIONS PRACTICES

The Hampton City Council had several conversations concerning the practices used in making citizen appointments to boards, commissions and committees. These conversations took place at a Council retreat held on August 2, 2016, and at its meetings on October 12 and 26, 2016.

The City Attorney read Section 3.12 of the Hampton City Charter: "No person, except a member of council, officer, or employee of the city, who is to be appointed to a term exceeding one year by the city council shall be eligible to serve more than two (2) complete terms in succession and the portion of an unexpired term occurring by reason of a vacancy."

Notwithstanding this guidance, the current Council wishes to institute guidelines and practices to utilize when making these political appointments to bodies. It is important to note that this summary serves to express Council's intent, but recognizes that specific circumstances may require Council to deviate from these guidelines.

It is Council's goal to offer Hampton citizens more opportunities to serve their city and to develop leadership for Hampton's future. Council desires to cast a wider net and to engage more citizens for service opportunities and to provide a means to develop talents for future service to the city.

The following summarizes the Council's intended practices:

Appointments to boards, commissions and committees (hereinafter referred to collectively as boards), are political appointments.

Appointments to boards are generally for one term and reappointment to an additional term is not automatic.

It is specifically stated that no stigma should be attached to individuals who are serving as an appointee and who are not reappointed in furtherance of Council's goal to provide opportunities for more citizens to serve.

A citizen who has served the limit of terms available on a particular board may be reappointed to that board after a period of one year has elapsed.

An unexpired portion of a term of more than 50% shall constitute a full term. A citizen may serve on up to two boards.

To be considered for appointment, a citizen must have an application on file in the city's Board Bank. These applications may be filed online or a member of the City Council staff will assist citizens in making application.

Council may choose to conduct interviews of potential appointees.

A citizen appointee may only serve in a leadership role on one board.

Staff will develop for Council's consideration a list of the basic expectations of citizen appointees, such as routine attendance, participation, required specific training, etc.

Council may also attach additional expectations to certain boards which require specific education, talent and/or skill sets.

The expectations shall be communicated in the board information provided online so applicants are aware of those expectations in advance of filing an application. Expectations will also be reiterated when a citizen is appointed by way of their formal notification of appointment and will be communicated by the staff administrative support at the appointee's orientation to the board.

Staff will develop a standard report to be used by city staff, providing administrative support to boards to report annually to Council with respect to appointees' adherence to the expectations mentioned above.

While Council values board recommendations on board vacancies, any such recommendation is not binding on Council's appointment.

Staff will work toward having each board post its minutes on the city's website.

This collective guidance shall be communicated to the citizens of Hampton via e-news, the city's website, the Council's minutes, and also by distribution to the chair and staff administrative support for each board in Hampton.

It should be reiterated that the foregoing is Council's expression of its intent and provides guidelines as to its policy and is always subject to various City ordinances and the State Code.



## **APPENDIX B**

# COMMITMENT TO EXCELLENCE



City of Hampton Boards,  
Commissions, and  
Committees



November 2020

**Message from the Hampton City Council:**

Thank you for your interest in serving on a board, commission, or committee and welcome to Team Hampton! Every day we strive to improve our citizens' lives and we are grateful for your assistance in making that happen. Our vision is: "We are Hampton, a vibrant waterfront community celebrating and embracing more than 400 years of history and innovation to create an even more dynamic future."

In your capacity as an appointee, it is important to remember you have a duty to act in the best interest of the people of Hampton. Transparency and accountability are important, so we have adopted by resolution this Commitment to Excellence for boards, commissions, and committees to formally recognize certain principles and standards that every member should follow to ensure that Hampton continues to thrive for future generations.

This Commitment to Excellence includes a Code of Ethics, Scope of Duties, Standards of Conduct, and Best Practices for Communicating with the Media and Citizens. These documents are designed to establish the standards expected to be followed as our appointee. Many of these items are requirements pursuant to the Virginia Conflict of Interests Act and the Virginia Freedom of Information Act, for which you will also receive in-person and/or virtual training from a member of City staff. Please note that in the event that provisions in this Commitment to Excellence are not adhered to – for example, posting racially insensitive statements on social media or accepting gifts in your official capacity for personal gain – the Council reserves the right to end your appointment.

We appreciate that you have chosen to devote your time by making a difference in our City. We cannot serve the people of Hampton to the best of our ability without your continual collaboration and support. Thank you for choosing Hampton!

Sincerely,

Donnie R. Tuck  
Mayor

James A. Gray  
Vice Mayor

Chris L. Bowman  
Councilmember

Eleanor Weston Brown  
Councilmember

Steven L. Brown  
Councilmember

Billy Hobbs  
Councilmember

Chris O. Snead  
Councilmember



## **Message from the City Manager, Clerk of Council, and City Attorney**

"We are Hampton, a vibrant waterfront community celebrating and embracing 400 years of innovation to create an even more dynamic future." We as staff honor Council's vision statement for our great City every day through our collective efforts. As a board, commission, or committee member, you, too, play a critical role in the realization of that even more dynamic future. Thank you for agreeing to be a major player in our work!

This Commitment to Excellence outlines the operational norms that help guide us in this work. These norms – some of which are legal in nature, such as the mandatory Conflict of Interest and Freedom of Information Act requirements, and some of which are Hampton-centric – ensure that we all know what is expected of us during our service. While training will be provided to all newly appointed members as they are selected to serve, we expect each member to periodically review and remain knowledgeable of these norms. We thus ask that you take time to review this Commitment to Excellence as you embark on or continue your service to our community. By signing your declaration of commitment, you agree to adhere to our communal standards each year of your service.

We are so glad to have you join Team Hampton! If any of us – or our staff – can help to enrich your volunteer service, please do not hesitate to contact us!

Mary B. Bunting  
City Manager

Katherine K. Glass  
Clerk of Council

Cheran Cordell Ivery  
City Attorney



**CITY OF HAMPTON BOARDS, COMMISSIONS, AND COMMITTEES  
COMMITMENT TO EXCELLENCE**

## **CODE OF ETHICS**

Recognizing that individuals who are appointed by City Council are viewed by the community as influencers, they should display the highest levels of moral and ethical conduct, and any person serving on a City of Hampton board, commission, or committee shall comply with the following Code of Ethics:

1. Uphold the laws and regulations of the Commonwealth of Virginia and the City of Hampton, including the Code of Virginia, the Hampton City Code, and the Charter of the City of Hampton, and never intentionally violate them.
2. Give a full measure of service and effort to the position of trust for which guardianship has been granted, giving best thought and sincere effort in the performance of your duties.
3. Avoid adopting policies, engaging in activities, or supporting programs that discriminate against individuals on the basis of race, color, religion or creed, sex, national origin, age, or any other protected characteristic.
4. Comply with all provisions of the State and Local Conflict of Interests Act and Ethics in Public Procurement Act, including, but not limited to, those sections that regulate the solicitation and acceptance of money, gifts, or other things of value for services completed during the performance of your official duties.
5. Attend all Virginia Conflict of Interests Act, Freedom of Information Act, and Ethics in Public Procurement Act training sessions if required by your appointment.
6. Seek out legal counsel in the City Attorney's Office if you have any question about a potential conflict of interest.
7. Ensure the integrity of actions performed by boards, commissions, or committees by avoiding the disbursement of unfair privileges or special favors to anyone. You should never receive, for family members or yourself, favors or benefits or gifts under circumstances that might be interpreted by a reasonable person as influencing the performance of your governmental duties.





**CITY OF HAMPTON BOARDS, COMMISSIONS, AND COMMITTEES  
COMMITMENT TO EXCELLENCE**

## **SCOPE OF DUTIES**

1. Make no promises binding upon the duties of any office.
2. Do not use information learned confidentially during the performance of governmental duties to make a private profit for your family, employees, close family relations, yourself, or any business where you have a personal fiscal interest.
3. Report to the Hampton City Attorney's Office any misconduct, neglect of duty, or corruption when discovered.
4. Comply with the provisions of the Virginia Freedom of Information Act, including, but not limited to:
  - Not discussing public business outside of an open meeting in a group of three or more members of your body.
  - Complying with the principle that the public's business should be conducted openly by following and observing the spirit and letter of the Virginia Freedom of Information Act, using closed sessions only to deal with matters properly exempted under the law.
  - Maintaining confidentiality of all matters discussed during closed session and personnel matters.
  - Using City of Hampton email for official City business purposes in serving the interests of the City, and to correspond with our citizens in the course of normal operations.
5. When presenting individual positions and opinions, you shall purposefully state that you are not representing the City of Hampton or your body, nor will you convey an inference that you do. When you are speaking in your official capacity, you shall also not use the media or social media to criticize, question the integrity, or vilify the personal beliefs of citizens, City employees, or colleagues.
6. When responding to the media, you must make a clear distinction between personal belief or opinion and a decision made by your body.
7. Be an active listener, carefully considering all points of view and opinions.
8. If appropriate, work in partnership with other political subdivisions, organizations, and governmental agencies to further the interest of the City of Hampton.



**CITY OF HAMPTON BOARDS, COMMISSIONS, AND COMMITTEES  
COMMITMENT TO EXCELLENCE**

## **STANDARDS OF CONDUCT**

Recognizing that individuals holding public office are under continuous observation by interested City residents and the media, and recognizing that maintaining the dignity and integrity of public office is vital for maintaining high levels of public confidence in governmental institutions, every member of a board, commission, or committee shall adhere to the following Standards of Conduct:

1. Avoid the use of intimidating, abusive, or threatening gestures or language directed at citizens, colleagues, or City employees during the performance of public duties and public meetings.
2. Stay current on all tax obligations.
3. Adhere to the following Social Media Policy:  
Members who use social media shall not do the following:
  - Post any materials of a sexually graphic nature;
  - Promote violence or suppression;
  - Post any materials that encourage or show illegal activity;
  - Use any speech containing obscene or sexually explicit language, images, acts, statements, or other forms of speech that ridicule, malign, disparage, or otherwise express bias against any race, any religion or any other protected class; and,
  - Use speech that could reasonably be considered as reckless.
4. Attend all scheduled meetings of your board, commission, or committee, resigning whenever personal circumstances preclude regular attendance. Refer to the bylaws of your particular board, commission, or committee for specific attendance requirements.
5. Make a diligent effort to be well prepared for every meeting.
6. Avoid criticism or personal attacks on City employees or colleagues that are unrelated to the public business before your board, commission, or committee. Maintain an attitude of consideration and courtesy toward all City employees and colleagues during every deliberation and discussion.
7. Refrain from the use of personal devices during meetings.
8. Dress Code: During board, commission, and committee meetings, all members should dress appropriately for the business environment.



CITY OF HAMPTON BOARDS, COMMISSIONS, AND COMMITTEES  
COMMITMENT TO EXCELLENCE

## **BEST PRACTICES FOR COMMUNICATING WITH THE MEDIA AND CITIZENS**

1. When responding to questions from citizens or the media, you should:
  - Remind the listener that you do not speak for the entire board, commission, or committee;
  - Clarify your position on a specific item; and,
  - Not comment on closed session matters unless and until the item is discussed in an open session meeting.
2. Every member shall acknowledge that personnel matters must remain confidential and the board, commission, or committee has an obligation to protect individual privacy.
3. Members will concentrate on issues and avoid making public comments about City employees, individuals, fellow board, commission, or committee members, media representatives, or community residents. The City Manager should be the primary contact for City matters. When requested to give an interview, the member asked should contact the City Manager's Office and she will, in turn, contact the Mayor and City Council to inform them of the subject matter of the interview. In addition, the staff liaison to that particular board, commission, or committee shall update the other members regarding the circumstances and substance of the interview as soon as practicable. This procedure does not prevent any member from responding to questions from the media.



CITY OF HAMPTON BOARDS, COMMISSIONS, AND COMMITTEES  
COMMITMENT TO EXCELLENCE

## ACKNOWLEDGMENT FORM

As a member of a City of Hampton board, commission, or committee, I agree to uphold and affirm the City of Hampton Boards, Commissions, and Committees Commitment to Excellence as articulated in the Code of Ethics, Scope of Duties, Standards of Conduct, and Best Practices for Communication with the Media and Citizens. In furtherance of that pledge, I will:

- Appreciate the individual contributions, perspectives, and talents of individual members;
- Help create an environment of civility and respect where individual members, the public, and City employees are free to work to their full potential and express their ideas;
- Conduct my public and private affairs with integrity, fairness, honesty, and respect for others;
- Respect the privacy and dignity of organizations and individuals;
- Focus on achieving meaningful solutions for the public benefit and strive to uphold the common good;
- Avoid and discourage actions that are harmful or divisive to the best interest of the City of Hampton; and,
- Treat everyone that I meet the same way that I wish to be treated.

I affirm that I have read and comprehend the City of Hampton Boards, Commissions, and Committees Commitment to Excellence. Failure to adhere to the policies articulated in this document may result in removal from the board, commission, or committee by the City Council.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

\_\_\_\_\_  
Board/Commission/Committee

## **CHARLOTTESVILLE CITY COUNCIL**

### **Budget Development Work Session**

**March 16, 2023, at 6:00 PM**

**In person: CitySpace, 100 5<sup>th</sup> Street NW**

**Electronic: Zoom, [www.charlottesville.gov/zoom](http://www.charlottesville.gov/zoom)**

The Charlottesville City Council met on Thursday, March 16, 2023, in a budget work session to discuss Fiscal Year 2024 City budget Outside and Non-profit agencies funding. The meeting was held in hybrid format with Council members and public seating in CitySpace and electronic participation on the Zoom webinar platform. Mayor Lloyd Snook called the meeting to order at 6:03 p.m. Clerk of Council Kyna Thomas called the roll, noting all councilors present: Michael Payne, Brian Pinkston, Leah Puryear, Lloyd Snook, and Juandiego Wade.

### **FY 2024 Budget Development – Outside and Non-profit agencies**

Krisy Hammill, Budget Director began the meeting with a presentation on tax relief, specifically the following programs:

- **Real Estate Tax Relief (RETR) for the Elderly and Disabled Persons**  
Found in Chapter 30, Article IV of the Charlottesville City Code and authorized by §58.1-3210 et seq of the Code of Virginia
- **Charlottesville Homeowner Assistance Program (CHAP)**  
Re-authorized by City Council each year under authority provided by §63.2-314 of the Code of Virginia
- **Rental Relief for the Elderly and Disabled Persons**  
Found in Chapter 25, Article III of the Charlottesville City Code and authorized under §63.1-106 of the Code of Virginia (possibly recodified as §63.2-314). Almost one out of every twenty households in the city benefitted from RETR or CHAP in 2022.

Hunter Smith, Human Services Planner, presented a report on the Vibrant Community Fund (VCF) process. He stated that the FY24 process continued to develop on previous years' adjustments and changes and that equity continues to be a focus area for all applicants. Questions around how organizations are working toward equity were part of the application process. For FY24 the total request for funding was \$4,342,459.25 and the total VCF budget was \$2,175,000. There were a total of 71 program applications submitted and 59 of those received between 22% and 90% of their request.

Brenda Kelley, Redevelopment Manager, walked through Housing Operations and Program Support (HOPS) process. Previously the affordable housing applications came in through the VCF; however, based on the city's new Affordable Housing Plan, the Office of Community Solutions now addresses affordable housing programs in all categories. This competitive



application process is open to not-for-profit organizations that engage in affordable housing related activities that may be requesting operational or program type funding. Organizations must have substantial presence in the City of Charlottesville and engage in affordable housing activities within the City limits. Applications were due December 31, 2022 and funding was not guaranteed. There were 14 applications received, requesting \$1,344,072. Total funding available for distribution through the Charlottesville Affordable Housing Fund (CAHF) was \$575,000, and Ms. Kelley shared the CAHF recommendation to fund a list of programs at 90% of their requests.

Kristy Hammill reviewed proposed funding for a number of intergovernmental agencies.

Misty Graves reviewed the budget for the Pathways assistance program, which decreased from the FY23 budget to the FY24 proposed budget. In FY22 disbursements totaled \$657,285 to City residents and projected disbursement for FY2023 are \$1.24 Million. She described the Beyond Pathways program which is separate allocation of American Rescue Plan funds to provide emergency hotel stays for people with medical vulnerabilities and/or family who are experiencing homelessness, as well as flexibility to help with other financial and material needs.

Deputy City Manager Sam Sanders informed Council of a support request from the Jefferson School African American Heritage Center (AAHC). At the request of staff, the AAHC submitted a funding request through the Vibrant Community Fund for programming and rent support. Councilors individually expressed ways to address the funding requests and to have further conversations about sustainability. Mr. Sanders stated that he will prepare an agenda item to present to Council on April 3.

Interim City Manager Michael C. Rogers presented the budget request from JAUNT and summarized JAUNT's balance sheet.

- Ted Rieck, JAUNT CEO, spoke about JAUNT paratransit services provided on behalf of the City of Charlottesville, and updates to JAUNT's financial reporting.

Mr. Rogers referenced upcoming budget meetings and public hearings.

Councilor Payne asked several clarifying questions about specific line items.

### **Public Comment**

Mayor Snook opened the floor for public comment.

- Asia Green, city resident, and organizer for the PHAR (Public Housing Association of Residents) youth program, spoke in support of Vibrant Community funding for PHAR.
- Elizabeth Stark, city resident, requested additional funding for the Pathways program.

- Jon Nafziger, Executive Director for Child Health Partnership, requested funding support for Child Health Partnership.
- Shelby Edwards, former Executive Director of PHAR, requested funding for PHAR to support youth programming.
- Taylor Frome, Interim Executive Director of PHAR, requested funding support for PHAR youth programming from the Vibrant Community Fund.
- Gwendolyn Allen, PHAR intern, spoke in support of funding for PHAR youth programs.
- Paola Covarrubius, Community Organizer with PHAR, spoke in support of funding for PHAR youth programs.
- Cam Gaillard, city resident, spoke in support of funding for PHAR youth programs.
- Michelle Stinnie, city resident, spoke in support of funding for PHAR youth programs.
- Cory Demchak, Director of Programs for the Albemarle Housing Improvement Program (AHIP), requested continued funding support through the HOPS process.
- Elise Noyes, Client Advocate with AHIP, requested funding support for home rehabilitation and repair services.

With no additional speakers coming forward, Mayor Snook closed the public comment period.

Councilor Payne requested clarification on ways that Council can provide budget feedback to staff.

Mayor Snook adjourned the meeting at 7:51 p.m.

BY Order of City Council

BY Kyna Thomas, Clerk of Council

## **CHARLOTTESVILLE CITY COUNCIL MEETING**

**March 20, 2023 at 4:00 p.m.**

**In person: Council Chamber, 605 E. Main Street**

**Virtual/electronic: Zoom**

The Charlottesville City Council met on Monday, March 20, 2023. The meeting was held in hybrid format with Council members and public seating in Council Chamber, and electronic participation on the Zoom webinar platform. Mayor Lloyd Snook called the meeting to order at 4:03 p.m., and Clerk of Council Kyna Thomas called the roll, noting the following councilors present: Mayor Lloyd Snook, Vice Mayor Juandiego Wade and Councilors Michael Payne, Brian Pinkston. Councilor Leah Puryear was absent and gave advance notice that she had a scheduling conflict prior to being appointed to City Council.

On motion by Pinkston, seconded by Wade, Council by the following vote **ADOPTED** the meeting agenda: 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear).

### **REPORTS**

#### **1. PRESENTATION: Decarbonization Study Kickoff**

Lauren Hildebrand, Director of Utilities, began the presentation with background on the decarbonization initiative.

The City of Charlottesville's natural gas utility is one of three municipally owned gas utilities in the Commonwealth of Virginia. The City of Charlottesville has provided reliable natural gas to the residents and businesses of Charlottesville and Albemarle County, including the University of Virginia, for over 150 years. The City operates and maintains a natural gas distribution system comprised of 340 miles of natural gas main lines and serves over 21,500 customers. The City of Charlottesville, Albemarle County and other local municipalities have made commitments to community-wide greenhouse gas emissions reduction goals. On July 1, 2019, City Council adopted the goal of a 45% reduction in community-wide greenhouse gas emissions by 2030 and a goal of carbon neutrality by 2050. Both reduction measures will be based on the 2011 inventory year. Albemarle County has made the same level of emissions reduction commitments, measured from its 2008 inventory year. As a result of the City of Charlottesville owning, operating and maintaining a natural gas utility, the utility's role and responsibilities regarding community-wide greenhouse gas reductions must be thoroughly evaluated. The Department of Utilities solicited the expertise of an outside consulting firm, Black & Veatch Corporation, in order to responsibly and accurately determine how the gas utility can be a part of the solution in achieving and aligning itself with the community's greenhouse gas reduction goals.

Dr. Hua Fang, Managing Director, provided introductory information about Black & Veatch Corporation. She explained the decarbonization goals, objectives, scope of work, and timeline. The Study will determine the legality, under federal, state and local laws, of potentially discontinuing the natural gas system, and/or discontinuing future residential, commercial, industrial connections to the gas system. If one or both of these scenarios are determined to be legal, the impact to existing and future customers and the City of Charlottesville will be evaluated. The Study will also model various scenarios in which the City's gas utility can achieve

or exceed the greenhouse gas emissions reduction goals. The modeling will evaluate cost impacts and resiliency implications to customers by looking at technology and energy efficiency improvements in order to reduce greenhouse gas emissions. In addition, the study will evaluate and make recommendations to improve the Charlottesville Gas Energy Efficiency Program and the operations and maintenance of the natural gas system. The anticipated completion of the project is one year from this City Council meeting date.

Councilors Pinkston and Payne requested periodic updates on the project. Dr. Fang stated that she would be able to report quarterly, and the final deliverable will be a report.

Vice Mayor Wade requested that the study indicate what resources would be needed to support Charlottesville capacity to carry out the goals.

## **2. REPORT: Charlottesville Redevelopment and Housing Authority update on sustainability and status with the Department of Housing and Urban Development**

John Sales, Charlottesville Redevelopment and Housing Authority (CRHA) Executive Director, introduced Dr. Gina Merritt with Northern Real Estate Urban Ventures, who made the presentation providing an update to the CRHA Sustainability Plan. The Sustainability Study process will incorporate physical conditions assessment, market analysis, best practice research, road map, conceptual designs, and redevelopment strategy.

Mr. Sales stated that CRHA is dedicated to redeveloping Westhaven and open to Avon/Levy redevelopment but expects that it would be expensive. Just managing existing housing is not enough to address housing needs. He mentioned a new mode of operation using transitional vouchers. The Sustainability Study is expected to be completed in June or July 2023.

Vice Mayor Wade requested that the Study include a definition of "affordable housing".

Mr. Sales answered questions from Council and shared a handout pro forma for development acquisition. He listed barriers to housing for people with vouchers.

Regarding CRHA's status with the Department of Housing and Urban Development (HUD), Mr. Sales stated that since his tenure, the status has exited from Trouble status and upgraded into Physical Substandard status because of the physical condition of old buildings and other challenges. He expects CRHA to exit substandard status because they have implemented a maintenance plan that requires quarterly inspections. The financial score and management score both showed improvements, subsequent to new financial practices put in place.

Council requested an agenda item on the April 3 agenda for consideration in order to work within the timeline established.

## **CLOSED SESSION**

On motion by Pinkston, seconded by Payne, Council voted 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear) to meet in closed session:

- as authorized by Virginia Code Section 2.2-3711(A)(1), to discuss the following appointments: Board of Architectural Review, Charlottesville Affordable Housing Fund Committee, Charlottesville Economic Development Authority, Community Development Block Grant Task Force, Citizen's Transportation Advisory Committee, Community Policy and Management Team, Historic Resources Committee, Housing Advisory Committee, Jefferson Area Community Criminal Justice Board, Jefferson-Madison Regional Library Board, Local Board of Building Code Appeals, Minority Business Commission, Region Ten Community Services Board, Social Services Advisory Board, Towing Advisory Board, Tree Commission, Vendor Appeals Board, and Youth Council

On motion by Pinkston, seconded by Wade, Council certified by the following vote: 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear), that to the best of each Council member's knowledge only public business matters lawfully exempted from the open meeting requirements of the Virginia Freedom of Information Act and identified in the Motion convening the closed session were heard, discussed or considered in the closed session.

## **BUSINESS SESSION**

City Council began the Business Session by observing a moment of silence.

## **RECOGNITIONS/PROCLAMATIONS**

- **PROCLAMATION: Women's History Month**

Mayor Snook proclaimed March as Women's History Month.

## **BOARD/COMMISSION APPOINTMENTS**

On motion by Pinkston, seconded by Payne, Council by the following vote APPOINTED members to board and commission seats: 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear).

- Board of Architectural Review – Kevin Badke
- Charlottesville Affordable Housing Fund Committee – LD Perry
- Charlottesville Economic Development Authority – Steven Johnson, Jay O'Donnell
- Citizen's Transportation Advisory Committee – Patrick Healy, Ethan Heil, Sarah Medley
- Jefferson-Madison Regional Library Board – Anne Hemenway
- Minority Business Commission – Teira Farley, Nicole Hawker
- Region Ten Community Services Board - Francesca Diggs
- Tree Commission – JD Brown, Susan McKinnon, Tyler Miller, Jeff Pacelli, Makshya Tolbert

## **CONSENT AGENDA\***

Clerk of Council Kyna Thomas read the following Consent Agenda items into the record:

### **3. MINUTES: February 21 regular meeting; March 6 regular meeting, March 9 Budget Work Session**

#### **4. RESOLUTION: Settlement for Opioid Related Claims (2nd reading)**

##### **RESOLUTION**

**A RESOLUTION OF THE CHARLOTTESVILLE CITY COUNCIL APPROVING OF THE CITY'S PARTICIPATION IN THE PROPOSED SETTLEMENT OF OPIOID-RELATED CLAIMS AGAINST TEVA, ALLERGAN, WALMART, WALGREENS, CVS, AND THEIR RELATED CORPORATE ENTITIES, AND DIRECTING THE CITY MANAGER AND THE CITY ATTORNEY TO EXECUTE THE DOCUMENTS NECESSARY TO EFFECTUATE THE CITY'S PARTICIPATION IN THE SETTLEMENTS**

WHEREAS, the opioid epidemic that has cost thousands of human lives across the country also impacts the Commonwealth of Virginia and its counties and cities, including the City of Charlottesville, by adversely impacting the delivery of emergency medical, law enforcement, criminal justice, mental health and substance abuse services, and other services by the City of Charlottesville's various departments and agencies; and

WHEREAS, the Commonwealth of Virginia and its counties and cities, including the City of Charlottesville, have been required and will continue to be required to allocate substantial taxpayer dollars, resources, staff energy and time to address the damage the opioid epidemic has caused and continues to cause the citizens of the Commonwealth and the City; and

WHEREAS, settlement proposals have been negotiated that will cause Teva, Allergan, Walmart, Walgreens, and CVS to pay billions of dollars nationwide to resolve opioid-related claims against them; and

WHEREAS, the City has approved and adopted the Virginia Opioid Abatement Fund and Settlement Allocation Memorandum of Understanding (the "Virginia MOU") by resolution dated December 6, 2021, and affirms that these pending settlements with Teva, Allergan, Walmart, CVS, and Walgreens shall be considered "Settlements" that are subject to the Virginia MOU, and shall be administered and allocated in the same manner as the opioid settlements entered into previously with opioid distributors McKesson, Cardinal Health, and AmerisourceBergen, and opioid manufacturer Janssen Pharmaceuticals;

WHEREAS, the City Manager's Office requests the authority to execute the attached Participation Agreement and to participate in the proposed settlements in order to recover the City's share of the funds that such settlement would provide; and

WHEREAS, the City Attorney's Office has reviewed the available information about the proposed settlements and the attached Participation Agreement and has approved such documents as to form and recommends that the City can participate in the settlements in order to recover its share of the funds that the settlement would provide.

NOW THEREFORE BE IT RESOLVED that the Charlottesville City Council, this 20th day of March, 2023, hereby authorizes the City Manager to execute the attached Participation Forms and approves of the City's participation in the proposed



settlement of opioid-related claims against Teva, Allergan, Walmart, Walgreens, CVS, and their related corporate entities, and directs the City Manager and the City Attorney to execute the documents necessary to effectuate the City's participation in the settlements, including the required release of claims against settling entities.

Mayor Snook opened the floor for public comment on the Consent Agenda. No speakers came forward.

On motion by Pinkston, seconded by Payne, Council by a vote of 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear) ADOPTED the Consent Agenda.

## COMMUNITY MATTERS

Mayor Snook opened the floor for comments from the public.

1. Susan Kruse, Executive Director of the Community Climate Collaborative, spoke in support of the First United Methodist Church (FUMC) appeal to install solar panels.
2. Matthew Gillikin, on behalf of Livable Cville, spoke in favor of solar panels for FUMC. He also requested a review of the Board of Architectural Review guidelines. Regarding the Zoning rewrite project, he expressed thanks.
3. Martha Smythe, city resident, asked for clarification on what numbers are used for the calculation of taxes. She also endorsed the appeal of the FUMC for solar panels.
4. Peter Krebs, Piedmont Environmental Council and city resident, spoke in support of the grants for Moores Creek being discussed later in the meeting.
5. Rory Stolzenberg, city resident, expressed support of the FUMC appeal of the BAR denial of a Certificate of Appropriateness. He recommended that the BAR review and update their guidelines.
6. Kimber Hawkey, city resident, spoke about the calculation of real estate taxes and some perceived inconsistencies. She asked for clarity. She spoke about seating in Council meetings.
7. Robin Hoffman, city resident, spoke about the BAR denial of solar panels on FUMC. She encouraged people to join the Chamber of Commerce.
8. Lisa Torres, city resident, spoke about the local crisis of gun violence and requested accountability in setting aside funding to support local youth.
9. Katrina Turner, city resident, asked about the opening of Council Chamber without a seat reservation list.
10. Rosia Parker, city resident, spoke about violence as an outcome resulting from the impacts of trauma. She demanded that the City of Charlottesville do something to help children succeed.

## ACTION ITEMS

5. **APPEAL: Appeal of BAR (Board of Architectural Review) denial of Certificate of Appropriateness: First United Methodist Church solar panel project**

Jeff Werner, Historic Preservation and Design Planner serving as staff for the BAR, introduced the appeal. He stated that the BAR approved 15 solar panel projects before denying this project. On January 18, 2023, the City's Board of Architectural Review by a vote of 4-3 denied a certificate of appropriateness (CoA) for installation of rooftop photovoltaic/solar panels at 101 East Jefferson Street, pursuant to the details set forth within City application BAR 22-10-02. The parcel is within the North Downtown ADC District and the structures are designated as contributing.

The owner of 101 East Jefferson Street on January 30, 2023, appealed the BAR's decision to City Council, pursuant to City Code §34-285(b).

Bill Owens, the architect shepherding the solar panel project, presented the appeal on behalf of FUMC. He stated that the BAR's decision was based on outdated criteria. ADC guidelines were last updated in 2012 and BAR guidelines were last updated in 2011. He suggested that BAR guidelines should be brought into alignment with the City of Charlottesville's values and goals related to climate action and sustainable energy. The solar panel project grew out of the congregation's desire for good stewardship, and they sought a weather-tight solution to prevent leaking underneath the solar panels.

Alex Joyner, pastor at FUMC, spoke about the congregation's desire to be good stewards of the existing building instead of building a modern facility.

Fred Schneider, FUMC member, spoke about the historic church building, and the need to balance preservation goals with the needs of the occupant.

Breck Gastinger, Chair of the BAR, stated that historic preservation is a sustainability practice. He described the factors that were considered in the BAR's deliberations. There were concerns about preservation of the slate roof and the lifecycle of the panels which would require replacing slate shingles with asphalt shingles.

Councilors asked clarifying questions.

On motion by Payne, seconded by Pinkston, Council by the following vote APPROVED the Certificate of Appropriateness for solar panels on First United Methodist Church at 101 East Jefferson Street: 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear).

## **6. PUBLIC HEARING: Proposed real estate tax rate for the FY 2024 City Manager's Proposed Budget**

Interim City Manager Michael Rogers summarized the Fiscal Year 2024 Budget Proposal, which did not include a proposal for an increase to the real estate tax rate.

Mayor Snook opened the public hearing.

- Tom Gallagher, city resident, presented a graph to City Council demonstrating a typical tax versus inflation over several years and comparing typical inflation to the inflation of real estate values. He requested a reduction in the tax rate, expressing concern for residents

living on fixed income and low income.

- Jane Evans, city resident, spoke about the increase in property taxes over the last few years and she requested a tax rate reduction.
- Holly Mason, city resident, spoke in favor of a real estate tax reduction.
- John Hossack, city resident, spoke in opposition to the existing tax rate and in support of a reduction.
- Kimber Hawkey, city resident, spoke in support of a tax rate reduction and an increase in tax relief for elderly and disabled programs.
- Brandon Collins, city resident, spoke in support of the proposed tax rate to fund services.

## **7. PUBLIC HEARING/RESOLUTION: Approving Lease Agreement with Albemarle Charlottesville Historical Society for lease of 200 Second Street NE**

Brenda Kelley, Redevelopment Manager with the Office of Community Solutions, presented the request. She summarized lease terms and answered clarifying questions for City Council.

Tom Chapman acknowledged that the Albemarle-Charlottesville Historical Society agreed to the terms presented to Council.

Mayor Snook opened the public hearing.

- Phyllis Lefler, Chair of the ACHS, made comments in support of the five-year lease agreement.
- Professor Ervin Jordan, city resident, archivist and historian, and member of the ACHS, spoke in support of the lease agreement.

The mayor closed the public hearing.

Councilor Payne asked about making the space more available for public use. Mr. Chapman said that work is in progress to make the space more inviting, and he noted that there have been several public uses of the space.

On motion by Payne, seconded by Pinkston, Council by the following vote APPROVED the lease of property at 200 Second Street, NE to the Albemarle Charlottesville Historical Society: 4-0 (Ayes: Payne, Pinkston, Snook, Wade; Noes: none; Absent: Puryear).

### **RESOLUTION**

#### **Approving a lease of property at 200 Second Street, NE to the Albemarle Charlottesville Historical Society**

WHEREAS, the Albemarle County Historical Society d/b/a Albemarle Charlottesville Historical Society desires to lease certain City-owned property for a term of five (5) years, and City Council has considered the terms of the proposed lease, and has

conducted a public hearing in accordance with the requirements of Virginia Code Sec. 15.2-1800(B); NOW, THEREFORE,

BE IT RESOLVED by the Council of the City of Charlottesville, Virginia, that the lease of City-owned property located at 200 Second Street, NE, Charlottesville, Virginia, to the Albemarle County Historical Society d/b/a Albemarle Charlottesville Historical Society, presented to Council this same date for consideration, is hereby APPROVED and the City Manager is hereby authorized to execute the approved lease on behalf of City Council.

**8. RESOLUTION: Appropriating funding from the Virginia Land Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (carried)**

Chris Gensic, Park and Trail Planner presented the appropriation request.

Vice Mayor Wade requested that the garden space remain accessible. Council unanimously agreed to move the resolution to the April 3 Consent Agenda for second reading and vote.

**9. RESOLUTION: Appropriating funding from the Land and Water Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (carried)**

Chris Gensic, Park and Trail Planner presented the appropriation request.

Council unanimously agreed to move the resolution to the April 3 Consent Agenda for second reading and vote.

**GENERAL BUSINESS**

**10. WRITTEN REPORT: Land Use and Environmental Planning Committee Semi-Annual Report (written report only)**

This report was submitted as written-only.

In 1986, the Planning and Coordination Council (PACC) was established with the purpose of promoting cooperation in planning and community development among the City of Charlottesville, Albemarle County and the University of Virginia (UVA). As an advisory body, PACC fostered cooperative planning and provided guidance and recommendations for decisions made by the City, the County and UVA.

In November 2019, City Council, the Albemarle County Board of Supervisors and UVA approved dissolution of the PACC and established the Land Use and Environmental Planning Committee (LUEPC) in order to broaden PACC's collaboration beyond land use and to include environmental topics and sustainability. Also, LUEPC would allow professional staff to develop solutions on a continuous basis with regularly scheduled reports to leadership of all three entities. LUEPC is intended to be a vehicle to collaborate and coordinate land use and development plans and projects and to consider environmental and infrastructure issues facing the community.

LUEPC met virtually for the second half of 2022. The committee continued concentrating on

project discussion and coordination. The agendas for the monthly meetings were developed around themes – either geographical areas or specific topics. LUEPC’s Semi-Annual Report for the second half of 2022 was compiled and includes the highlights of the meetings.

Councilor Payne stated for the record that he was uncomfortable with having no public body to evaluate the planning future of UVA.

## **OTHER BUSINESS**

Councilor Payne stated that he agreed with comments from the public about the removal of restrictions for seating in Council Chamber. Mr. Rogers stated that he will present an item for Council consideration at the April 3 meeting.

Mayor Snook expressed concern about errors on the City’s GIS (Geographic Information System). He requested a data cleanup and suggested that a summer intern could work on the system.

Vice Mayor Wade stated that the project would require more than a summer intern and that a company may be able to conduct a quality check.

## **COMMUNITY MATTERS (2)**

- Robin Hoffman, city resident, spoke about roof leaking from solar panels.
- Rosia Parker, city resident, expressed concerns about the posting of vacancies for the Police Civilian Oversight Board.
  - Mayor Snook clarified that the resignations were publicized as well as vacancies advertised.

With no additional speakers coming forward, Mayor Snook adjourned the meeting at 8:49 p.m.

BY Order of City Council

BY Kyna Thomas, Clerk of Council

**CHARLOTTESVILLE CITY COUNCIL**  
**Community Budget Forum and FY24 Budget Public Hearing**  
**March 22, 2023, at 6:00 PM**

**In person: CitySpace, 100 5<sup>th</sup> Street NW**  
**Electronic: Zoom, [www.charlottesville.gov/zoom](https://www.charlottesville.gov/zoom)**

The Charlottesville City Council met on Wednesday, March 22, 2023, to hold a community budget forum and budget public hearing regarding the Fiscal Year 2024 City Budget. The meeting was held in hybrid format with Council members and public seating in CitySpace and electronic participation on the Zoom webinar platform. Mayor Lloyd Snook called the meeting to order and Clerk of Council Kyna Thomas called the roll, noting the following councilors present: Michael Payne, Brian Pinkston, Lloyd Snook, and Juandiego Wade. Councilor Leah Puryear was absent and gave advance notice that she had a scheduling conflict prior to being appointed to City Council.

Interim City Manager Michael C. Rogers summarized the purpose of the meeting and acknowledged the public input that his office and City Council continue to receive regarding proposed allocations for the FY24 City Budget. He emphasized the tough decisions that City Council will need to make.

Kevin Rotty (PFM Financial Advisors Managing Director), the city's financial advisor, reported on the condition of the City's finances. He began with a review of U.S. economic trends and then shared information specific to Charlottesville, stating that the City's tax sensitive revenues are performing well and solid FY 2023 financial results are projected. The City is targeting early June for its annual bond issuance and staff will host the rating agencies for a visit in May. Mr. Rotty stated that rating agencies will inquire about potential financial impacts of Collective Bargaining on Virginia issuers. Mr. Rotty concluded:

- City leadership should continue exercising financial discipline.
- A majority of economists forecast an economic slowdown is coming.
- The City still has a significant Capital Improvements Program ahead.
- Hopefully slower economy will result in lower interest rates for the majority of the school financing and favorable future construction bids.
- Although internal forecasts are showing that the City does have capacity to fund the proposed CIP and stay within its debt ratios, the City will need to maintain its focus on affordability (i.e., fitting the debt service expense within the City's overall budget).

Council asked clarifying questions.

Mr. Rogers encouraged Council to be aware of future projects and to continue the financial practices that have kept the city's finances strong.



## **FY2024 Budget Public Hearing**

Mayor Snook opened the public hearing.

- Kristin Szakos, city resident, spoke in support of funding for AHIP (Albemarle Housing Improvement Program).
- Ashley Palmer, local realtor, small business owner and former resident of Charlottesville spoke in support of funding for Child Health Partnership.
- Lisa Larson-Torres, city resident, thanked Council for budget support for city schools. She acknowledged how taxes will help with the revitalization of schools. She spoke in support of funding for affordable housing, housing rehabilitation and other housing support, as well as funding and space to support youth programs.
- Mark Rylander, member of the Charlottesville Tree Commission, requested reinstatement of \$75,000 to mitigate invasive plant species.
- Larry Brown, Charlottesville Police Foundation, spoke in support of funding for police. He listed specific needs.
- Holly Lafferty, member of the Charlottesville Tree Commission, requested reinstatement of \$75,000 to address invasive plants.
- Scott Williams, city resident, spoke in support of funding for the Charlottesville Police Department, in particular to address the increase in gun violence.
- Annie Kim, city resident, spoke in support of funding for the police department, and acknowledged the nationwide struggle to hire police officers.
- Benjamin Heller, city resident, asked that tax projections not be overly conservative.
- Toya Trager, city resident, spoke in support of funding for Child Health Partnership.

With no additional speakers coming forward, Mayor Snook closed the public hearing.

In response to Mr. Heller's comment, Mr. Rogers described the makeup of the City's Revenue Team and stated that revenue projections are fair and evaluated throughout the year.

In response to questions from Councilor Payne, Budget Director Krisy Hammill provided an explanation of revenue growth rates.

Mayor Snook asked for clarity about funding for Therapeutic Drug Court. Ms. Hammill stated that she would follow up with Human Services, and that Council would need to consider a policy for establishing payment practices for these types of programs with Memoranda of Understanding.

Councilor Payne asked for Council to agree on how to categorize Charlottesville Redevelopment and Housing Authority for funding. He also asked about the budget for LED street lighting. Mr. Sanders stated that the discussion is ongoing, and he will get an update from Kristel Riddervold

regarding feasibility and any climate budget availability.

Council and staff discussed establishing by Council resolution a figure for “affordable housing”. The Zoning Rewrite Project Module 2 will preview the recommendation.

Vice Mayor Wade left the meeting at 7:19 p.m.

Regarding annual funding housing rehabilitation, Mr. Sanders stated that the new Housing Program Coordinator will begin in May and will begin work on assessments. He also stated that making changes to the affordable housing targets will require City Council to endorse a change to the Affordable Housing Plan.

Councilor Payne listed his additional areas of priority and Mayor Snook expressed concerns about housing subsidies in the Inclusionary Zoning program. Councilor Payne suggested that Council consider sustainable ways to increase future funding of the Vibrant Community Fund.

Deputy City Manager Ashley Marshall explained the difference in competitiveness for this year’s Vibrant Community Fund process, causing certain applicants to receive different funding from prior years.

Staff discussed the CAHF funding considerations still in process.

Councilor Pinkston requested to participate electronically at the March 30 Budget work session.

Mayor Snook adjourned the meeting at 7:43 p.m.

BY Order of City Council

BY Kyna Thomas, Clerk of Council

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                       |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                         |
| Action Required: | Approve resolution for second reading                                                                                                 |
| Presenter:       | Chris Gensic, Park and Trail Planner                                                                                                  |
| Staff Contacts:  | Chris Gensic, Park and Trail Planner                                                                                                  |
| Title:           | <b>Appropriating funding from the Virginia Land Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (2nd reading)</b> |

**Background**

The City of Charlottesville, through Parks and Recreation, has been awarded funding from the Virginia Land Conservation Fund (VLCF) to assist with the acquisition of an 8.6 acre property along Moores Creek adjacent to Azalea Park. The property will be used for general park use, trail development, and to support urban agriculture and community gardens.

**Discussion**

This property is being funded with a matching grant from the federal Land and Water Conservation Fund (LWCF), so the purchase price is fully covered with grant funds. Local trail and land acquisition CIP funding has been used for the legal and appraisal work to date and will be used to record the deed. Acquisition will provide parks and recreation space as well as opportunities for stream and forest restoration work. Use of LWCF and VLCF funds will require the property to be placed in permanent open space public use status with deed language and easements. This property is located just across the city limit and is beneficial to the City as it eliminates the need for a bridge over Moores Creek to continue the Moores Creek Trail towards 5th Street, a bridge which would most likely cost more than the acquisition price of the property and would require regular maintenance.

**Alignment with City Council's Vision and Strategic Plan**

Acquisition of the property will further council goals of being a Green City by protecting the Moores Creek watershed and providing for urban forest and trail opportunities.

**Community Engagement**

The Bicycle, Pedestrian and Trail master plan and the Azalea Park Master Plans were developed through multiple public meetings and were approved by the City Council.

**Budgetary Impact**

Existing allocated Capital Improvement Program funds were used for legal and appraisal/title/survey fees.

**Recommendation**

Staff recommends appropriation of grant funds.

**Alternatives**

If grants funds are not appropriated, the property will not be purchased.

**Attachments**

1. City Council Resolution - VLCF Grant Appropriation - Moores Creek Land Acq
2. ProposedPropertyAcquisitionCasonVLCFWithAzalea

**APPROPRIATION**  
**Virginia Land Conservation Fund**  
**Moore's Creek Land Acquisition**  
**\$175,000**

**WHEREAS**, the City of Charlottesville, through Parks and Recreation, has been awarded funding from the Virginia Land Conservation Fund to acquire land along Moore's Creek

**NOW, THEREFORE BE IT RESOLVED** by the Council of the City of Charlottesville, Virginia, that the sum of \$175,000 is hereby appropriated in the following manner:

**REVENUE**

|           |           |             |                     |
|-----------|-----------|-------------|---------------------|
| \$175,000 | Fund: 426 | WBS: PR-001 | G/L Account: 430080 |
|-----------|-----------|-------------|---------------------|

**EXPENDITURES**

|           |          |             |                     |
|-----------|----------|-------------|---------------------|
| \$175,000 | Fund 426 | WBS: PR-001 | G/L Account: 599999 |
|-----------|----------|-------------|---------------------|

**BE IT FURTHER RESOLVED**, that this appropriation is conditioned upon the receipt of \$175,000 from the Virginia Land Conservation Fund.



Proposed acquisition of 8.6 acres of parkland property  
Moore's Creek near Azalea Park - 410 Old Lynchburg Road  
City of Charlottesville - VLCF 2022



Total Proposed and Existing LWCF  
Section 6(f)(3) protected area outlined in orange and red

0 100 200 400 600  
Feet

8.6 acres will be placed under section 6f protection is this property is funded with LWCF money.

SIGNED: \_\_\_\_\_ DATE \_\_\_\_\_



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                        |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                          |
| Action Required: | Approve Resolution for second reading                                                                                                  |
| Presenter:       | Chris Gensic, Park and Trail Planner                                                                                                   |
| Staff Contacts:  | Chris Gensic, Park and Trail Planner                                                                                                   |
| Title:           | <b>Appropriating funding from the Land and Water Conservation Fund for Moores Creek Parkland Acquisition - \$175,000 (2nd reading)</b> |

**Background**

The City of Charlottesville, through Parks and Recreation, has been awarded funding from the federal Land and Water Conservation (LWCF) to assist with the acquisition of an 8.6 acre property along Moores Creek adjacent to Azalea Park. The property will be used for general park use, trail development, and to support urban agriculture and community gardens.

**Discussion**

This property is being funded with a matching grant from the Virginia Land Conservation Fund, so the purchase price is fully covered with grant funds. Local trail and land acquisition CIP funding has been used for the legal and appraisal work to date and will be used to record the deed. Acquisition will provide parks and recreation space as well as opportunities for stream and forest restoration work. Use of LWCF and VLCF funds will require the property to be placed in permanent open space public use status with deed language and easements. This property is located just across the city limit and is beneficial to the City as it eliminates the need for a bridge over Moores Creek to continue the Moores Creek Trail towards 5<sup>th</sup> Street, a bridge which would most likely cost more than the acquisition price of the property and would require regular maintenance.

**Alignment with City Council's Vision and Strategic Plan**

Acquisition of the property will further council goals of being a Green City by protecting the Moores Creek watershed and providing for urban forest and trail opportunities.

**Community Engagement**

The Bicycle, Pedestrian and Trail master plan and the Azalea Park Master Plans were developed through multiple public meetings and were approved by the City Council.

**Budgetary Impact**

Existing allocated CIP funds were used for legal and appraisal/title/survey fees.

**Recommendation**

Staff recommends appropriation of grant funds.

**Alternatives**

If grants funds are not appropriated, the property will not be purchased.

**Attachments**

1. City Council Resolution - LWCF Grant Appropriation - Moores Creek Land Acq

**APPROPRIATION**  
**Virginia Land Conservation Fund**  
**Moores Creek Land Acquisition**  
**\$175,000**

**WHEREAS**, the City of Charlottesville, through Parks and Recreation, has been awarded funding from the Virginia Land Conservation Fund to acquire land along Moores Creek

**NOW, THEREFORE BE IT RESOLVED** by the Council of the City of Charlottesville, Virginia, that the sum of \$175,000 is hereby appropriated in the following manner:

**REVENUE**

|           |           |             |                     |
|-----------|-----------|-------------|---------------------|
| \$175,000 | Fund: 426 | WBS: PR-001 | G/L Account: 430080 |
|-----------|-----------|-------------|---------------------|

**EXPENDITURES**

|           |          |             |                     |
|-----------|----------|-------------|---------------------|
| \$175,000 | Fund 426 | WBS: PR-001 | G/L Account: 599999 |
|-----------|----------|-------------|---------------------|

**BE IT FURTHER RESOLVED**, that this appropriation is conditioned upon the receipt of \$175,000 from the Virginia Land Conservation Fund.

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                                                |
| Action Required: | Consideration of a Zoning Text Amendment                                                                                                                     |
| Presenter:       | Dannan OConnell, Planner                                                                                                                                     |
| Staff Contacts:  | Dannan OConnell, Planner                                                                                                                                     |
| Title:           | <b>Consideration of a Zoning Text Amendment – Planned Unit Developments – Development Size for Urban Corridor Mixed Use District (URB) (1 of 2 readings)</b> |

**Background**

At their January 3, 2023 regular session, City Council moved to initiate a Zoning Text Amendment to modify the required development size for Planned Unit Development Districts (PUDs) for properties currently zoned Urban Corridor Mixed Use District (URB). City Code Sec. 34-492 currently requires PUD sites to contain two or more acres of land. The proposed amendment would remove this acreage requirement for parcels currently zoned Urban Corridor Mixed Use District, making lots or parcels less than two acres within that district eligible for rezoning to Planned Unit Developments.

**Discussion**

The Planning Commission held a hybrid virtual and in-person joint Public Hearing with City Council on March 14, 2023 on this matter. The Planning Commission and City Council had the following comments and concerns:

- Questions on the additional number of PUDs expected if this Ordinance was approved
- Noting that the PUD rezoning process requires public hearings and review by the Planning Commission and City Council
- Allowing private PUD development on Ivy Road could benefit the City

The Planning Commission generally agreed that the change could be accommodated in the short term, pending the adoption of a new Zoning Ordinance which could eliminate the PUD rezoning process.

Staff note: A recording of the meeting can be found at the following link. Discussion starts at the 38:00 mark.

[Link to Recording of Public Hearing](#)

Staff note: The full application for this project can be found at the following link. Materials start on

page 367.

[Link to Staff Report and Application Materials](#)

### **Alignment with City Council's Vision and Strategic Plan**

If City Council approves this Zoning Text Amendment, the Ordinance could align with Goal 3: A Beautiful and Sustainable Natural and Built Environment; 3.1: Engage in robust and context sensitive urban planning and implementation

### **Community Engagement**

On March 14, 2023 the Planning Commission and City Council held a joint Public Hearing. The Public Hearing was a hybrid meeting with the public able to join online and in person. During the Public Hearing one member of the public participated and voiced opposition to this Zoning Text Amendment.

### **Budgetary Impact**

This has no impact on the General Fund.

### **Recommendation**

The Planning Commission voted 6-0 to recommend the application be approved.

### **Alternatives**

City Council may deny the proposed Zoning Text Amendment.

### **Attachments**

1. PUD Acreage Change Proposed Ordinance

**AN ORDINANCE AMENDING AND RE-ENACTING CHAPTER 34 (ZONING) OF THE  
CODE OF THE CITY OF CHARLOTTESVILLE (1990), AS AMENDED, TO REMOVE  
A MINIMUM ACREAGE REQUIREMENT FOR PLANNED UNIT DEVELOPMENTS  
WITHIN PARCELS ZONED URBAN CORRIDOR.**

**WHEREAS**, upon the recommendation of City staff, the City Council initiated a zoning text amendment proposing an amendment to the City’s zoning ordinance, to remove the minimum acreage requirement for Planned Unit Development rezonings, for properties currently zoned Urban Corridor Mixed-Use District (“Proposed Zoning Text Amendment”); and

**WHEREAS**, a Joint public hearing on the Proposed Zoning Text Amendment was held by the Planning Commission and City Council on March 14, 2023, after notice to the public and to adjacent property owners as required by law, and following conclusion of the public hearing the Planning Commission voted to recommend approval of the Proposed Zoning Text Amendment of Sec. 34-492 of the City’s Zoning Ordinance, to remove the minimum acreage requirement for Planned Unit Developments within parcels zoned Urban Corridor; and

**WHEREAS**, After consideration of the Planning Commission’s recommendation, and the recommendations given by staff, this Council is of the opinion that that the Proposed Zoning Text Amendment, as recommended by the Planning Commission, has been designed to give reasonable consideration to the purposes listed in Sec. 15.2-2283 of the Code of Virginia (1950), as amended, and this Council hereby finds and determines that: (i) the public necessity, convenience, general welfare and good zoning practice require the Proposed Zoning Text Amendment, as recommended by the Planning Commission, and (ii) the Proposed Zoning Text Amendment, as recommended by the Planning Commission, is consistent with the Comprehensive Plan; now, therefore,

**BE IT ORDAINED** by the Council of the City of Charlottesville, Virginia that Chapter 34 of the Code of the City of Charlottesville (1990), as amended, is hereby amended and re-enacted as follows:

***1. Amend the provisions of Sec. 34-492, as follows:***

**Sec. 34-492. Configuration.**

A PUD shall contain two (2) or more acres of land, **except for parcels zoned Urban Corridor (URB) which shall have no minimum acreage requirement.** A PUD may be comprised of one (1) or more lots or parcels of land. The lots or parcels proposed for a PUD, and all acreage(s) contained therein, shall either be contiguous, or shall be within close proximity to one another and integrated by means of pedestrian walkways or trails, bicycle paths, and/or streets internal to the development. City council may vary or modify the proximity requirement.



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                         |                                                                                                            |
|-------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Agenda Date:</b>     | April 3, 2023                                                                                              |
| <b>Action Required:</b> | Appropriation                                                                                              |
| <b>Presenter:</b>       | Misty Graves, Director of Human Services                                                                   |
| <b>Staff Contacts:</b>  | Hunter Smith, Human Services Planner                                                                       |
| <b>Title:</b>           | <b>Appropriating funding for the Runaway Emergency Shelter Program Grant - \$209,444 (1 of 2 readings)</b> |

**Background**

In FY2020 the Human Services Department, in partnership with ReadyKids, applied for and received a 3 year grant from the Department of Health and Human Services Administration for Children and Families in the amount of \$200,000 in federal funds and \$22,222 in local matching funds. In FY2023, the third and final year of the grant, the local match will be met with a transfer of \$9,444 from the Human Services Department for a total appropriation of \$209,444. An in-kind match of \$12,778 from ReadyKids, to provide Runaway Emergency Shelter Program (RESP) services, will be applied to the grant as well.

**Discussion**

The funds support services that provide emergency shelter, counseling and after care services for youth in crisis for the purpose of keeping them safe and off the streets, with a goal of reunification with family. Funded services will include: emergency shelter available 24 hours per day, 7 days a week; individual and family counseling to help resolve conflict and develop new communication skills to facilitate reunification with the family; and additional support services that help youth build meaningful connections with their community and encourage positive youth development.

**Alignment with City Council's Vision and Strategic Plan**

The Runaway Emergency Services Program grant aligns with the City of Charlottesville's Strategic Plan – Goal 2: A Healthy and Safe City; Objective 2.3: Improve community health and safety outcomes by connecting residents with effective resources.

The Human Service Department's programs, including the Runaway Emergency Shelter Program, provide residential and community based services that prevent delinquency and promote the healthy development of youth.

**Community Engagement**

In order to increase prevention services, (RESP), staff conduct extensive outreach efforts, particularly in area schools reaching out to youth through a variety of activities including presentations to health classes and at tables during lunch.

**Budgetary Impact**

There is no impact to the General Fund. There is a local match that the Human Service's Department and ReadyKids will provide (cash match of \$9,444 – Human Services Fund and in-kind match \$12,778 – ReadyKids). This grant will be appropriated into a grants fund.

**Recommendation**

Staff recommends approval and appropriation of funds.

**Alternatives**

If the funds are not appropriated, the grant would not be received and the Runaway Emergency Shelter Program services would not be provided.

**Attachments**

1. Resolution\_FY23 RHY Appropriation

**RESOLUTION APPROPRIATING FUNDS for  
Runaway Emergency Shelter Program  
\$209,444**

**WHEREAS**, the City of Charlottesville has been awarded \$200,000 from the Department of Health and Human Services Administration for Children and Families with cash match of \$9,444 provided by the Human Services Fund and in-kind match of \$12,778 provided by ReadyKids;

**WHEREAS**, the funds will be used to operate the Runaway Emergency Shelter Program through a partnership between the Human Services Department and ReadyKids. The grant award covers the period from September 30, 2022 through September 29, 2023;

**NOW, THEREFORE BE IT RESOLVED** by the Council of the City of Charlottesville, Virginia, that the sum of \$209,444 is hereby appropriated in the following manner:

**Revenue – \$209,444**

|           |           |                         |                     |
|-----------|-----------|-------------------------|---------------------|
| \$200,000 | Fund: 211 | Internal Order: 1900447 | G/L Account: 431110 |
| \$ 9,444  | Fund: 211 | Internal Order: 1900447 | G/L Account: 498010 |

**Expenditures - \$209,444**

|           |           |                         |                     |
|-----------|-----------|-------------------------|---------------------|
| \$ 69,948 | Fund: 211 | Internal Order: 1900447 | G/L Account: 519999 |
| \$125,000 | Fund: 211 | Internal Order: 1900447 | G/L Account: 530010 |
| \$ 14,496 | Fund: 211 | Internal Order: 1900447 | G/L Account: 599999 |

**Transfer - \$9,444**

|          |           |                         |                     |
|----------|-----------|-------------------------|---------------------|
| \$ 9,444 | Fund: 213 | Cost Center: 3413003000 | G/L Account: 561211 |
|----------|-----------|-------------------------|---------------------|

**BE IT FURTHER RESOLVED**, that this appropriation is conditioned upon the receipt of \$200,000 from the Department of Health and Human Services Administration for Children and Families.

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                     |
| Action Required: | Appropriation                                                                                     |
| Presenter:       | Misty Graves, Director of Human Services                                                          |
| Staff Contacts:  | Hunter Smith, Human Services Planner                                                              |
| Title:           | <b>Appropriating funding from the Batten Family Fund Grant Award - \$40,000 (1 of 2 readings)</b> |

**Background**

The Department of Human Services applied for and received a grant from the Batten Family Fund in the amount of \$40,000. This grant is designated to support C.A.Y.I.P. (Community Attention Youth Internship Program), a program that offers local youth the opportunity to apply for and participate in a paid internship with local businesses, organizations and city departments.

**Discussion**

The funds support stipends that interns receive from participating in the program and meeting basic program goals and objectives. Funds have been received and deposited.

**Alignment with City Council's Vision and Strategic Plan**

C.A.Y.I.P. aligns with the City of Charlottesville's Strategic Plan Goal 1: An Inclusive Community of Self-sufficient Residents; Objective 1.1: Prepare students for academic and vocational success.

**Community Engagement**

In order to successfully operate C.A.Y.I.P., staff conduct extensive outreach efforts in the community to develop internship sites and also conduct extensive outreach into schools to promote and educate students about the opportunity.

**Budgetary Impact**

There is no impact to the General Fund. This grant will be appropriated into a grants fund.

**Recommendation**

Staff recommends approval and appropriation of funds.

**Alternatives**

If the funds are not appropriated, the grant would not be received and C.A.Y.I.P. would provide services to fewer students.

## **Attachments**

1. Resolution\_FY23 Batten Appropriation

**RESOLUTION APPROPRIATING FUNDS for  
Batten Family Fund Award  
\$40,000**

**WHEREAS**, the City of Charlottesville has been awarded \$40,000 from the Batten Family Fund;

**WHEREAS**, the funds will be used to support C.A.Y.I.P., a program operated by the Department of Human Services. The grant award covers the period from November 1<sup>st</sup>, 2022 through October 31<sup>st</sup>, 2023;

**NOW, THEREFORE BE IT RESOLVED** by the Council of the City of Charlottesville, Virginia, that the sum of \$40,000 is hereby appropriated in the following manner:

**Revenue – \$40,000**

Fund: 213      CostCenter: 3413003000      G/L Account: 451020

**Expenditures - \$40,000**

Fund: 213      CostCenter: 3413003000      G/L Account: 530450

**BE IT FURTHER RESOLVED**, that this appropriation is conditioned upon the receipt of \$40,000 from the Batten Family Fund.





# **City Manager's Report**

## **April 2023**

## UPDATES FROM INTERIM CITY MANAGER MICHAEL ROGERS

- **Gun Violence Intervention**

- With the increase in gun shots and killings over the last several months, Chief Kochis and the City Manager have been collaborating with our partners in Albemarle County and the University to share information and understand resources available to address issues around community safety. President Ryan has announced Albemarle County, the City of Charlottesville, and the University of Virginia are undertaking a joint effort to convene local partners in a working group to develop recommendations for short- and medium-term measures that create tangible impact in the areas of mental and behavioral health, youth programming, and public safety agency coordination, in an effort to enhance community safety and reduce gun violence in our community. The working group will meet for as long as they produce actionable ideas and identify pathways for implementation.
- Facilitated by UVA's Equity Center and co-chaired by UVA and community representatives, the working group will include representation from the City of Charlottesville, Albemarle County, UVA, nonprofit organizations, and other groups from across the community.
- Internally, I have formed a Gun violence intervention and reduction Task Force with key lead team members who will work across the organization to identify strategies and resources that can be deployed to help our community safer by providing increased program for our youth and collaborating throughout the community with groups committed to improving the safety in our city by serving the needs of our residents. The work of this task force will help inform our collaboration with the County and the University.

- **Reopening Council Chambers**

- We are currently working to remove the continuing resolution which has been active since September 6, 2022. That resolution was issued to preserve council's ability to maintain safety protocols for all meetings of the government while balancing the ongoing concerns with COVID-19.
- The Deputy City Attorney is working with me to prepare an Agenda Memo for your April 17th meeting. This will redefine operational procedures that not only govern the use of Council Chambers but sets a protocol for the meetings of all Boards and Commissions.
- We will propose the return to in person meetings effective May 1, your first meeting of that month. An internal update to our Standard Operating Procedures will be released to all staff liaisons to guide the meetings of all other bodies.

#### **UPDATES FROM DEPUTY CITY MANAGER ASHLEY MARSHALL**

- **Parks and Recreation Holiday Event**
  - The Eggstravaganza Egg Hunt event is on April 1 and will be held at McIntire Park. The event starts at 9:30 – 11:00 am. The staff is ready for a fun morning!
- **Parks and Recreation City Market Spring Opening**
  - The City Market Opens on April 1, 9:00 am – 1:00 pm, 100 Water Street.
- **Community Attention Youth Internship Program (CAYIP) Applications are Now Open**
  - The Community Attention Youth Internship Program (CAYIP) is a Council funded initiative to support youth ages 14 - 21 in meaningful work experiences with an earned stipend, skill development, and connection to positive mentors in the community. The summer application process for City residents opens on April 2, 2023. Recruitment has already started for both sites and youth. The session dates are June 26, 2023- August 6, 2023. Youths can apply at [www.charlottesville.gov/256](http://www.charlottesville.gov/256)

#### **UPDATES FROM DEPUTY CITY MANAGER SAMUEL SANDERS**

- **Charlottesville Leads The Way!**
  - The City of Charlottesville will soon lead the way with the completion of an upgrade to 26 pedestrian signals that will include audio indicators for visually impaired persons that are functional from any smartphone. Charlottesville will have the most pedestrian signals operational from any smartphone in the United States! These upgrades are with the help of the Polara app (<https://polara.com/pedapp>), which is designed for people with vision impairments.
  - This new system provides the opportunity for a person approaching an intersection to listen to a voice that speaks with the pedestrian signal, giving off a sound indicator to assist with finding the signal button. This allows anyone to virtually activate the pedestrian signal from their phone within five feet of the signal. The City will upgrade the remaining 50 pedestrian signals over the next six months.
  - More information on how these upgraded pedestrian signals work with Polara can be found here: [youtube.com/watch?v=x5Thqk2rOb4](https://www.youtube.com/watch?v=x5Thqk2rOb4) .
  - We will soon publish a map of the active locations once the initial phase is completed.

## CITY MANAGER'S OFFICE UPDATES

- **Office of the City Manager** – Executive Assistant Terry Bentley (she/her)  
The Office of the City Manager would like to remind the public that they continue to provide support as the main information line for the community. To reach them, please call 434-970-3333, but also, the public should be aware that the phone tree system is active to ensure quick transfer to the proper departments.
- **Office of Budget and Management** – Director Krisy Hammill (she/her)  
The Office of Budget and Management continues to work on the Fiscal Year 2024 budget with the Interim City Manager. There are a few more opportunities for the public to comment on the FY 2024 budget. On April 3, 2023, at 6:30 PM, during the normal City Council business meeting, there will be the first reading of the budget ordinance. Thursday, April 6, 2023, there will be Council's final work session on the budget before final adoption on April 11, 2023. Members of the Community can find dates of upcoming budget work sessions and meetings on the Budget webpage at: <https://www.charlottesville.gov/169/Budget>
- **Office of Communications & Public Engagement** – Deputy Director David Dillehunt (he/him)  
**Staffing:** The search for a new Director of Communications is now in the final stage, and a formal offer will likely be made soon.  
**Production:** Caroline Rice is producing short video vignettes with various department heads in a series called "Get To Know Your Government," which will be posted to social media and aired on our PEG-TV stations. Remy Trail continues to handle hybrid meetings at CitySpace and maintains the setup and schedule for our Zoom accounts. Kyle Erving has been working with Chief Kochis on public safety forums and community awareness. David Dillehunt has been working with other department heads, attending the Executive Leadership Academy, and continuing to assist with the regular City Council broadcasts and off-site streaming needs. Our Media Center has nearly 30 active members and continues to facilitate the production of quality content for the community.
- **Office of Community Solutions** – Director Alex Ikefuna (he/him)  
**Grants:** Our Grants Program Manager has recently completed a project to review and update our Grants Administration Process so all requests for external funding can be coordinated through our office and tracked accordingly. In addition to the Grants Administration Process being better defined, we added additional procedures for requesting Memorandums of Understanding and Letters of Support Requests from the city. This also ensures we have a repository of this information.  
**Entitlements:** Staff has supported the CDBG Task Force in considering funding requests for the annual allocation of Community Development Block Grant funding. The recommendations will be coming to Council in April for approval.  
**Housing:** Staff supported the first meeting of the Housing Advisory Committee, which held its first meeting on March 15<sup>th</sup> as the newly organized body where seats have been designated for affordable housing beneficiaries. We congratulate Joy Johnson on her selection as the Chair of the HAC. Staff has supported the CAHF Subcommittee in reviewing proposals for grants from the Housing Operations & Program Support funding. This funding was previously a part of the Vibrant Community Fund and has been reallocated to the CAHF so all housing investments can be considered and awarded from a single source. The recommendations for funding are being presented to the City Council in April, with awards being available on July 1, 2023. The CAHF Subcommittee also reviewed proposals for grants from the

FY23 Charlottesville Affordable Housing Fund. Those recommendations will be going to the City Council in April for approval and will be available for immediate distribution.

**Redevelopment:** We continue working on updating and presenting for City Council's consideration various leases of city-owned properties.

**Neighborhood Services:** Our staff hosted the first Quarterly Neighborhood Leaders Meeting on Thursday, March 23. (See attached Q&A Report provided for this meeting.)

- **Office of Emergency Management – Coordinator Jeremy Evans (he/him)**

**Planning:** The City's Emergency Operations Basic Plan (EOP) was recently completed and will be coming to the City Council for approval in April. The plan is divided into Annexes (aka sections) that make up the responsibilities of emergency management which we call: Emergency Support Functions. We will bring forward the Annexes for Hazardous Incidents and Policy for update and adoption by the City Manager in the coming weeks.

**Mass Notification Meetings:** We are currently planning Mass Notification and EM Steering Committee meetings to review options for a new mass notification system and to provide direction for regional emergency management.

**Emergency Software:** Four representatives from the City will be attending Veoci Admin training. (Virtual Emergency Operations Management Software). These members can build out the City's portion of the VEOCI System. Future training will be conducted for key City personnel with specific roles during an emergency.

**Partnering with City Schools:** The Office of Emergency Management staff will join Charlottesville City Schools for their annual Safety Summit. This will support our ongoing alignment for regional safety and response planning.

**Funding:** Several grants have been submitted on behalf of the city and are still under review by each funding agency. We recently received notice that our request for a Local Emergency Management Performance Grant (LEMPG) was approved for \$7,500.00.

- **Office of Economic Development – Director Chris Engel (he/him)**

**Strategic Planning:** The City's Economic Development Strategic Planning process continues. A second meeting of the 16-member steering committee was held recently to receive an overview of the research phase completed by the Resonance consulting team. This includes a Community and Business survey to gather feedback provided by 280 participants. In addition, 9 stakeholder focus groups were conducted to gain a deeper understanding of the issues and opportunities across key economic sectors. The plan is expected to leverage existing assets and envision a future that builds a more inclusive, resilient business and entrepreneurial community. The project is expected to conclude in July 2023.

**Staffing:** The Office of Economic Development recently recognized the retirement of Rick Siebert, who had filled the position of Parking Manager for the past 6 years. The position is responsible for managing the City's public parking program and, specifically, the City's off-street parking assets. A new hire has been made and will begin work in April 2023.

- **Office of Human Rights – Director Todd Niemeier (he/him)**

**Service Provision:** The Office of Human rights has engaged in 591 incoming and outgoing contacts from January 1, 2023, through March 24, 2023. Incoming contacts totaled 390 of the 591 total contacts. Of those contacts, 409 (69%) were classified as "Navigation" service requests and provisions. *Navigation refers to individual service involving tasks other than those related to addressing a complaint of discrimination. The Office currently has seven (7) open complaint cases and two (2)*

*new complaints pending assessment.*

**Outreach Updates:** Victoria McCullough, Community Outreach and Administrative Specialist, continues to connect with and develop relationships with community partners while contributing significant time to assisting with incoming inquiries and individual service follow-up. She has been attending and tabling community events, including One Stop, the Regional Housing Partner Conference, and events coordinated with the Region Ten Community-based Recovery and Support Advisory Group. The Office submitted a script to animator Ceindy Nuñez for an upcoming animated PSA about the function of the Office of Human Rights. The intent is to publish the short video on the City website and other platforms to raise awareness about the services provided by the Office.

**Administrative Updates:**

- **Fair Housing Assistance Program (FHAP):** The Federal Housing and Urban Development office has requested that the Office of Human Rights make additional revisions to the Human Rights Ordinance before moving to the next step of becoming a Fair Housing Assistance Program (FHAP). The Office, in conjunction with the City Attorney's Office, is working on those edits.
- **Staffing:** The Office of Human Rights is proud to announce the hiring of Saad Khalifa. They will begin work in early April 2024.
- **Reporting:** The Office is busy preparing the Calendar Year 2022 Human Rights Commission and Office of Human Rights annual report. The report is anticipated to be submitted and presented to Council in June of 2023.

**Human Rights Commission Updates**

The Commission held its annual retreat and strategic planning meeting on March 16, 2023. The Commission will be focusing on housing concerns for the remainder of 2023 and will be narrowing its focus to specific issues on which to advise Council from a Human Rights perspective.

• **Office of Equity and Inclusion**

- **Americans with Disability Act (ADA)–** ADA Coordinator Paul Rudacille (he/him)  
The City of Charlottesville's ADA Coordinator can be reached by email at [ada@charlottesville.gov](mailto:ada@charlottesville.gov) or by phone at 434-970-3182. Information is on our website about the ADA grievance procedures, and our ADA complaint procedures at <https://charlottesville.org/274/Americans-with-Disabilities-Act-ADA-Coor>.
- **Home to Hope Program –** Employment & Financial Opportunity Manager Roy Fitch Jr. (he/him)  
Home To Hope staff has attended several community events, including attendance at three (3) Community One Stop Shop events. The four (4) Peer Navigators are also working to achieve their Virginia state certification as Peer Support Specialists or Recertification as Virginia state Peer Support Specialists.
  - The Home to Hope program is free of charge for members of the community who are reentering the community after "time-served." For assistance, please email Home to Hope at [hometohope@charlottesville.org](mailto:hometohope@charlottesville.org), call them at 434-970-3601, visit their office on the Pedestrian Mall at 507 E. Main Street, or you can fill out an intake form online at: <https://www.surveymonkey.com/r/HometoHopeIntake>
- **Downtown Job Center –** Employment & Financial Opportunity Manager Roy Fitch Jr. (he/him)  
The Downtown Job Center is pleased to report their attendance for Region Ten's Opioid Stakeholder's Meeting, the GO Cook Program Cohort 14 Graduation, Civilian Response & Casualty Care Training, Revive Training, and City of Promise DreamBuilders Orientation. They look forward to continuing to serve the community through employment and financial opportunities.
  - The City of Charlottesville Downtown Job Center is now located on the Pedestrian Mall at 507 E. Main Street. Assistance is free of charge to anyone who visits the center. For



more information, please call them at 434-970-3933 or visit Tuesday-Thursday from 9:30-4:30pm. Mondays and Wednesdays are by appointment.

- **Charlottesville Area Transit** – Director Garland Williams (he/him)  
**Staffing:** CAT is still looking for bus drivers to join its team.  
**RFP for Microtransit:** CAT released the RFP for the Microtransit Program for the Albemarle County transportation project.  
**Performance Improvements:** CAT is currently planning expenditures for the \$3M allocated by the council to support performance improvements across the system, with a specific focus on Route 6.
- **Charlottesville Fire Department** – Interim Chief Michael Thomas (he/him)  
 The Charlottesville Fire Department, in the last 30 days, has actively responded to multiple critical incidents throughout the city, including but not limited to firearm emergencies, weapon emergencies, provision of both Advanced and Basic medical care, as well as structural fires. In addition, CFD trained approximately 75 staff and volunteers from the downtown Paramount Theater on topics such as General Fire safety, Crowd Management, Hands on CPR, AED review, and Fire extinguisher training. This is the third time this training has taken place to reinforce the skills and to educate new members. Also, CFD continues to install smoke alarms and stove-top fire stops throughout the city.
- **Charlottesville Police Department** – Chief Michael Kochis (he/him)  
**Community Partnerships/ Gun Violence:** The Charlottesville Police Department has begun the Development of a Community Action Team by identifying key stakeholders. This team will guide our community involvement initiatives. In addition, the department will continue to do Weekly “Walk and Talks” every Thursday. CPD has assigned a Sargent as our Community Involvement Coordinator. For events, the department has begun discussions on the 2023 National Night Out, and we are putting together a Youth explorer/pathways program presentation to the schools (like a Youth Explorer Program). The City Attorney is in the process of writing an ordinance to facilitate a Gun buyback program.  
**Gun Violence:** In response to the incidents in the community, CPD has adjusted the hours of the evening shift to ensure the overlap with the day shift and night shift during our peak calls for service that include shots fired reports. Additionally, we have created three zones with a Lieutenant assigned to each within the City, allowing for greater accountability and strategic planning to address issues as they emerge. CPD continues to be involved in regional data sharing and strategic planning to address emerging crime trends.
- **Department of Human Resources** – Director Mary Ann Hardie (she/her)  
 The Department of Human Resources is thrilled to announce the hiring of their final team member, HR Specialist Mary Alyce Stephens, on March 16, 2023. With the completion of this hire, the department is now properly staffed for the current budget period. This will also help with our department reorganization, which has been in process since the late fall of 2022.

  - The Department of Human Resources continues to work on completing many hires in multiple departments. Please go to our website to see all openings and encourage eligible applicants to apply: <https://www.charlottesville.gov/695/Employment-with-the-City-of-Charlottesville>
- **Department of Human Services** – Director Misty Graves (she/her)  
**Westhaven Nursing Clinic Name Change:** The Westhaven Nursing Clinic, supported in part by the Department of Human Services with the position of Program Coordinator, has recently changed its name to describe the purpose and activities more fully. It is now known as the **Westhaven CARES**

Center and C.A.R.E.S stands for Consultation, Assessment, Resources and Referrals, and Support. The Steering Committee is a multidisciplinary group composed on organizations and community leaders dedicated to the operation and sustainability of the Westhaven CARES Center. They are currently rolling out several initiatives, which include offering free CPR/First Aid Certifications, CNA licensure courses, and massages offered in partnership with Region Ten and Common Ground.

**Community Attention Youth Internship Program (CAYIP):** The Community Attention Youth Internship Program (CAYIP) is a Council funded initiative to support youth ages 14 - 21 in meaningful work experiences with an earned stipend, skill development, and connection to positive mentors in the community. The summer application process for City residents opens on April 2, 2023. Recruitment has already started for both sites and youth. The session dates are June 26, 2023- August 6, 2023.

Youths can apply at [www.charlottesville.gov/256](http://www.charlottesville.gov/256)

**Community Attention Foster Families:** The Community Attention Foster Families program was recognized for its engagement in a regional rollout of a foster parent portal program by being the first in the region to enroll 17 families. Additionally, CAFF facilitates informational sessions monthly for any prospective foster parent to attend. The next session is on April 12th. Our Information Sessions are held every second Wednesday of the month via Zoom from 6:00-7:00 PM. You must register to attend: <https://charlottesville.org/260/Become-a-Foster-Parent>

- **Department of Information Technology – Director Steve Hawkes (he/him)**

**Cybersecurity:** On the Cybersecurity side, our monthly Phishing email training campaign is almost complete for March. We have seen a 4 percent drop in our ‘phish-prone’ score this month, which is an improvement. We're hoping that through efforts such as this, the organization will reduce the score even more. The annual cybersecurity training campaign will also be launched at the beginning of April, and all staff with City email addresses are required to complete the training. Having staff up-to-date and knowledgeable about cybersecurity threats helps create a first line of defense against cyber attackers. Finally, the annual network penetration test was recently completed, and, like previous years, we were provided with a few items to remediate. Our security team is working on the remediation and hopes to complete it next month.

**iTeam:** The iTeam/IT's third What's In It For Me (WIIFM) workshop took place on March 15 at Cityspace. Approximately 25 employees throughout the organization were given a presentation on features and functionality they may not be familiar with in Microsoft Outlook. Following the presentation, attendees participated in small group labs to help provide hands-on experience. The last WIIFM Workshop covers Microsoft OneDrive and is scheduled for April 19.

**Operations:** In Operations, there are several large projects underway in IT, including two involving the City's ERP solution, SAP. The first project is upgrading our current version of SAP to the new version, S4Hana. Glen Pack is leading the project with Chris Cullinan, Almas Hasan, and Steve Hawkes as other core team members. The first objective of the team is to develop an RFP for the implementation of S4Hana as well as selecting an implementation partner for the project. Once those items are completed, the project's implementation phase will start. This phase will require substantial resources and include many staff members throughout the organization. It is difficult to underestimate the amount of time and resources required for a successful implementation so having all stakeholders committed, engaged and available will be critical. The second SAP project is focused on implementing the product SuccessFactors with the initial rollout to include the two modules: Performance Management and Learning and Training management.

**Applications:** On the Applications side, we are working with the Treasurer and Public Works to enhance the Treasurer Umbrella system to accommodate some enhancements needed for Annual Trash. Another item from the Applications team in March was enhancing the Helpdesk system to

include inventory functionality. We will now be able to better track IT resources in the City and better manage the City's PC replacement program.

- **Neighborhood Development Services** – Director James Freas (he/him)  
**Planning:** Module 2 of the Zoning Rewrite was released on March 29<sup>th</sup>. Dates for upcoming public events can be found at <https://cvilleplanstogether.com/>. We encourage the public to continue to engage with the CVille Plans Together website for additional information and opportunities to comment on the materials under review.  
**Hiring:** NDS is pleased to share that we have filled our GIS Analyst position. Marina Winkler started with us in early March.
- **Parks & Recreation** – Director Dana Kasler (he/him)  
**Community Events:** The Eggstravaganza Egg Hunt event is on April 1 and will be held at McIntire Park. The event starts at 9:30 – 11:00 am. The staff is ready for a fun morning!  
**Market:** The City Market Opens on April 1, 9:00 am – 1:00 pm, 100 Water Street.  
**Aquatics:** Summer Pool Passes are on sale for the 2023 season on April 1. Purchase before May 26 and save. Scholarships are available for City Residents. More information on our website at: <https://www.charlottesville.gov/1010/Outdoor-Pool-Passes>  
**Golf:** Spring Golf Programs and lessons are available at Meadowcreek Golf Course. More information on programs/dates/times is on our website at: <https://www.meadowcreekgolf.org/instruction.html>. New artificial turf driving range mats were also installed at Meadowcreek Golf Course. New mats have the natural turf feel and emulate a true fairway shot experience. Finally, Spring Scramble at Meadowcreek Golf Course is May 6th. Registration information is coming soon.  
**Trails:** Staff has established a safe and well-marked pathway through a short stretch of the Meadow Creek golf course at Pen Park to connect the Meadow Creek trail to the Rivanna River trail at Pen Park. This will be a natural surface trail and passes between two golf holes, so trail users and golf users will not be crossing each other's paths and will be constructed in April.  
**Recreation:** The Programs Division is proud to hold its annual Spring Break Camp starts April 3-7. Camp is at capacity with 75 kids registered, and it will be held at Carver Recreation Center.
- **Police Civilian Oversight Board** – Deputy City Manager Ashley Marshall (she/her)  
The Office of Civilian Oversight is finalizing its hire for the new Executive Director. More information will be forthcoming.  
**Police Civilian Oversight Board:** The Board will host a retreat session on Saturday, April 1, 2023, in CitySpace. The retreat will be recorded for the public and conforms to all open meeting laws. The purpose of the retreat is to provide education about Civilian Oversight to new members within 90 days of their appointment as required by the PCOB Ordinance.
- **Public Works** – Director Stacey Smalls (he/him)  
**Administration:** Public Works is hiring! Further, we provide this summary of our process improvement as we strive to reach higher degrees of efficiency to meet the needs of the community:
  - Create a city-owned trash receptacle app.
    - Purpose: To collect data, map the location, and assess the condition of city-owned trash receptacles for inventory and maintenance.

- Status: Complete and currently being used.
- Create a city-owned guardrail and handrail app.
  - Purpose: To collect data, map the location, and assess the condition of city-owned guardrails for inventory and maintenance.
  - Status: Complete and will be used soon.
- Create a Field Map app for Traffic sign maintenance.
  - Purpose: Create an app that will allow field maintenance crews direct access to the enterprise database to update when signs are being maintained or new signs installed.
  - Status: Complete and ready to use after training field crews.
- Create Field Map app for ADA ramp maintenance.
  - Purpose: Create an app that will allow field maintenance crews direct access to the enterprise database to update when ADA ramps are being maintained or new ramps installed.
  - Status: Complete and ready to use after training field crews.
- Create Field Map app for Traffic equipment maintenance.
  - Purpose: Create an app that will allow field maintenance crews direct access to the enterprise database to update when Traffic equipment (signal heads, control boxes, mast arms, etc.) are being maintained or equipment installed.
  - Status: Complete and ready to use after training field crews.

**Facilities Development:** Buford bids were opened two weeks ago, and Nielsen Construction is the apparent low bidder with a base bid of \$71.4M with a desired additive bid item 2 making total construction value of \$71.8M. This equates to a project cost of \$84.3M. \$5.5M of this has already been allocated in previous fiscal budgets, so the needed FY24 funding amount would be \$78.8M. This option does not include renovation and expansion of the arts/ auditorium building. That additional scope would be \$6.8M.

**Facilities Maintenance:** Graffiti from the sidewalk and area of the Mural at the City Hall Annex has delicately been removed. The mural is aged and very delicate. Extreme caution was taken to ensure the soft and porous material of the mural was not adversely affected with good results. Graffiti on the sidewalk needs additional remediation as this material is not releasing the painted graffiti in a manner we would like. Currently looking at a contracted service to possibly use a muriatic acid treatment and extraction. Regine Wright, the new Coordinator for Security and Safety, has been hired at the schools. FM Security and Maintenance staff will work with Ms. Wright on school security issues, including the access control system.

**Environmental Sustainability:** A community event, Acting on Climate Together, was held on March 15 at Carver Recreation Center from 4-7pm. High energy participation by around 90 individuals representing community organizations, City staff, Albemarle County and UVA colleagues, and elected officials contributed to a body of information representing existing and potential climate actions and initiatives supporting the recently adopted Climate Action Plan.

- Fix a Leak Month: The Water Conservation Program just ended its large spring outreach campaign, Fix a Leak Month. This campaign is hosted with RWSA and ACSA to bring attention to the importance of finding and fixing water leaks in your home. This year the program hosted 2 events, a Home Scavenger Hunt to find and fix water leaks and the Virtual Fix a Leak Family 5K.
- After submitting a concept paper for the Department of Energy's Renew America's

Schools funding opportunity, we have received a notice of encouragement to submit a full application, due April 21, 2023. The proposed project involves substantial energy efficiency upgrades and expands solar energy generation at Charlottesville High School.

- DEQ's Director recently authorized Stormwater Local Assistance Fund (SLAF) grants from the latest solicitation round. SLAF provides matching grants to local governments for the planning, design, and implementation of stormwater best management practices (BMPs) that address cost efficiency and commitments related to reducing water quality pollutant loads. Two Charlottesville projects are included: Riverview Park Outfall Restoration and Kenwood Circle Bioretention Retrofit.

**Public Service:** The Woodlawn project is complete, with all concrete, paving, and crosswalk marking work finished. PW Engineering will be moving forward with the formal street acceptance process in the near future, which will bring about the availability of City services to these residents. The City's curbside trash and recycling services are not handled by RSWA, and both services are currently contracted through GFL Environmental, who have held both contracts for several years. And yes, plastics #1-#7 are currently accepted via the curbside service and can be placed in your recycling bins for collection. The source-separated recycling offerings provided by RSWA at the McIntire Recycling Center; however, currently, only accept plastics #1-#2. For quick reference, please use the following links for information links detailing the City and RSWA's recycling services, as well as the attached informational flyer: City of Charlottesville - <https://www.charlottesville.gov/397/Recycling>; RSWA - <https://www.rivanna.org/recyclables-accepted/>

- **Utilities** – Director Lauren Hildebrand (she/her)  
The Department of Utilities offered 200 free trees to residents through the Arbor Day Foundation's Energy-Saving Trees Program. This marks the second year Utilities has offered the Energy-Saving Trees Program, which aims to educate residents on strategic tree planting to encourage energy conservation and to reduce energy bills. This program also serves to reinforce safe digging practices by having residents contact Virginia 811 before planting their tree. The Department of Utilities worked with the arborist from Parks & Rec. to determine the most suitable tree species for the community to plant, offering five species to choose from. Tree reservations opened to the community on March 6th. Within the first 48 hours, 175 trees had been reserved, and all remaining trees were reserved by March 10th. The tree pick-up event is March 24th and 25th at the Utilities Administration Building, and any unclaimed trees will be donated by Utilities to Parks & Rec. The Department of Utilities thanks the community for their enthusiastic support and is excited to see the Energy-Saving Trees Program continue to grow into a tree-mendous success!
- **Social Services** – Director Sue Moffett (she/her)  
Staff from CRHA and the Charlottesville Department of Social Services collaborated on an application for housing choice vouchers targeting older youth leaving foster care. We received notice that we were awarded 25 vouchers and are in the process of identifying eligible youth.

More than 60 staff members from DSS completed Revive Opioid Overdose Training at our staff meeting this month. The training was presented by Virginia Leavell, Chief of the Charlottesville Albemarle Rescue Squad.



The In-Home Services Team at CDSS was selected by the Virginia Department of Social Services to pilot the Motivational Interviewing model. 14 child welfare workers will receive training on this evidence-based best practice through the pilot.

- Should any member of the Charlottesville community need assistance, please get in touch with the Department of Social Services at 434-970-3400 for additional information/  
Comuníquese con el Departamento de Servicios Sociales al 434-970-3400 para obtener información adicional.

## APPOINTEES AND ELECTED OFFICIAL UPDATES

- **Circuit Court** – Honorable Lizelle Dugger, Clerk of Circuit Court (she/her)  
The Circuit Court Clerk spent Monday, March 27, 2023, at Charlottesville High School distributing the “So You're 18” pamphlet to numerous history and government classes. She held Q&A sessions in five (5) different classes throughout the day. The students and the Clerk spoke about voting, jury duty, criminal charges, drinking, driving, credit, POAs, advance directives, etc. . . . including the students challenging her with interesting hypotheticals throughout the day.
- **Commissioner of the Revenue** – Commissioner Todd Divers (he/him)  
The Commissioner of the Revenue’s Office is hard at work on the following critical tasks:
  - (1) Preparation of the 2023 Personal Property Book is ongoing. This involves a great deal of detailed work assessing tangible personal property (mostly vehicles) and business tangible property. Data must be meticulously entered, systems checked and double-checked to ensure that the book posts properly and that files transfer correctly to the Treasurer.
  - (2) We are accepting applications for Rental Relief for the Elderly and Disabled through May 1st. For more information on this program, visit <https://www.charlottesville.gov/192/Rent-Relief>.
  - (3) Customer service is an ongoing priority. A personal property tax supplemental billing went in the mail a few weeks ago, creating an uptick in taxpayer calls, for which staff is ready to assist.
  - (4) At this time of year, particularly, the Commissioner of Revenue is heavily engaged with the City’s Revenue Team. As we approach the budget deadline, it is vitally important that we closely monitor the City’s revenue sources – to provide revenue forecasts that are as accurate as possible (absent a crystal ball).
- **Finance Office** – Director Chris Cullinan (he/him)
  - Utility Billing Office** - UBO continues to support the Commonwealth's Low Income Water Assistance Program (LIWAP) efforts to assist eligible water and sewer customers with paying their utility bill. To date, \$48,000 of assistance has been awarded to 77 accounts.
  - Risk Management** - Implement a new Risk Management Information System (RMIS), to streamline incident reporting and claims management processes. The Centralized Safety Coordinator position has been filled. This position leads and coordinates safety efforts across the organization.
  - Administration** - The Comptroller is leading the development of an RFP for an implementation consultant to assist the City with upgrading its financial management system.
  - Procurement - Procurement has filled several vacancies while continuing to support the needs of City departments.
  - City Assessor's Office** - The City Assessor's Office continues reviewing formal reassessment appeals before the April 14 deadline.
- **Sheriff's Office** – Sheriff James Brown (he/him)  
*No update at this time*
- **Treasurer's Office** - Treasurer Jason Vandever (he/him)  
The Treasurer's Office has been busy processing business license payments, working on FY24 revenue projections, and preparing to mail personal property supplement bills. Additionally, we have been working with Information Technology and Public Service on some enhancements to the annual trash decal system that will improve service delivery and expedite the renewal process in June.
- **Voter Registrar** – Registrar Taylor Yowell (she/her)

*No update at this time*

# **City of Charlottesville, VA**

## **2022 Classification & Compensation Study**

### **Final Report**

Gallagher Human Resources & Compensation Consulting Practice  
April 2023



**Gallagher**

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## Project Background & Objectives

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# Project Background & Objectives

- The City of Charlottesville (the City) contracted with Gallagher Benefit Services, Inc. (Gallagher) to conduct a comprehensive classification and compensation study for approximately **225 job titles** within the City covering approximately 993 employees.
- The primary objectives of the study were to:
  - Evaluate jobs to determine relative worth, internal equity, pay ranges, and range progressions.
  - Review job classifications and recommend changes to hierarchical order.
  - Analyze and recommend changes to the City's current compensation structure.
  - Identify pay compression issues and recommend solutions.





# Current System Assessment: SWOT

## Classification System Issues

- Classification specifications out-of-date
- Inconsistent job descriptions and job titles
- Misalignment of jobs internally
- Excessive reclassification requests

## Compensation Issues

- Perception that range minimums are too low
- Perception that current base salaries are too low
- Perception of pay compression issues
- Alignment with market trends



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# Methodology Classification Study



# Classification Study

## Development of PDQs

- Position Description Questionnaires (PDQs) were utilized as the basis for the analysis of classification structure.
- Employee submitted PDQs were reviewed by supervisors and department heads
  - Approximately 679 PDQs completed by individuals and groups, represent 68% of the employee population.
  - PDQ's were reviewed for FLSA status.

## Occupational Panels and Interviews

- Conducted 12 panels by random sampling of selected groups of employees across different functional areas and levels of work.
  - ~85 employees were included in the occupational panels



# Classification Methodology and Results

- Developed classification structure defining job families, series and levels of work reviewed by Project Team
  - Review included condensing current job titles performing similar type and level of work where applicable
  - Similar “bodies of work” assigned to job family and series regardless of department where work is performed
    - ❑ 40 Job Families
    - ❑ 91 Job Series
- Facilitates career path and framework for job titles



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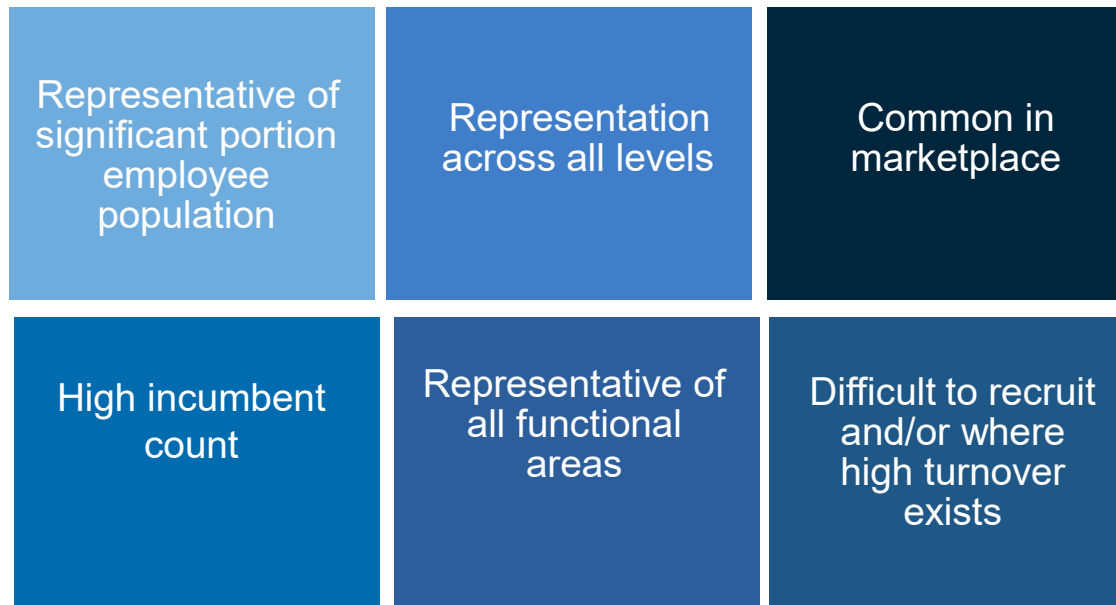
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# Methodology Compensation Study



# Compensation Study - Methodology

Benchmark jobs selected by the City were reviewed by Gallagher to ensure representation utilizing the below criteria:



# Compensation Study - Methodology



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## Custom Survey

- 26 organizations were asked to participate; 4 organizations responded by completing the survey or providing data for Gallagher to make appropriate job matches (15% response rate). Gallagher data mined information for the remaining 20 organizations using published salary ranges and job descriptions on participant website. Resulting in 85% representation of the custom labor market.

## Labor Market

| List of Participant Organizations (26 Total) |                      |                       |                    |
|----------------------------------------------|----------------------|-----------------------|--------------------|
| Cities                                       |                      | Counties              | Towns              |
| City of Alexandria                           | City of Richmond     | Albemarle County      | Town of Blacksburg |
| City of Danville                             | City of Roanoke      | Arlington County      | Town of Leesburg   |
| City of Fredericksburg                       | City of Salem        | Fairfax County*       |                    |
| City Harrisonburg                            | City of Staunton     | Fauquier County*      |                    |
| City of Lynchburg*                           | City of Suffolk      | Greene County         |                    |
| City of Manassas                             | City of Williamsburg | Hanover County        |                    |
| City of Petersburg*                          | City of Winchester   | Henrico County        |                    |
| City of Portsmouth                           |                      | Loudon County         |                    |
|                                              |                      | Prince William County |                    |

\* Did not participate



# Compensation Study - Methodology

## Published Survey Sources

- Utilized to collect private sector market data for benchmark jobs
- Published sources utilized met following criteria:
  - Conducted by reputable salary survey firm
  - Conducted on continual basis
  - Data not self-reported
  - Data sources reported, effective date identified, and data tested to ensure accurate matches
- Market data collected from the published survey sources represent local, regional, and national geographic labor markets where applicable.

| Published Surveys           |
|-----------------------------|
| CompData                    |
| Mercer                      |
| Willis Towers Watson        |
| Economic Research Institute |

## Aging Salary Data

- Survey data was aged to a common effective date, December 1, 2022 using the *WorldatWork* prevailing market trend of 4% per year for actual salaries, 2% for salary ranges.

## Geographic Adjustments

- Survey data was adjusted geographically to reflect the “cost of labor” for Charlottesville, VA area as calculated by the Economic Research Institute (ERI).
  - “Cost of labor” refers to the difference in pay or labor market for a job from one location to another. The cost of labor is what a particular geographic market offers as the “going rate” or compensation for its jobs and reflects the local demand for and supply of labor.

## Outlier Analysis

- Gallagher applied statistical tools to identify and review any outliers.
  - Data points which did not meet the job matching criteria, or identified as statistical outliers were excluded from the analysis.



# Compensation Study

## Market Comparisons

- Compared average or actual City salaries to market for 145 benchmark jobs.
- For each benchmark comparison, the percentage difference was calculated between City's actual salary and market:
  - Positive (+) figures indicate City pays above market.
  - Negative (-) figures indicate City pays below market.
- The following guidelines are used when determining competitive nature of current actual compensation:



- Benchmark jobs that had a greater than 15% difference with the market are not necessarily misalignment. Factors such as performance, turnover, longevity, and job change would impact actual salaries and might explain some of the differences between the City and the market actual salaries for individual jobs.

# Compensation Study Findings



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## Actual Salary Comparison to Market

- City's **current salaries** are **2.2% above 50<sup>th</sup> percentile** of **custom market**, which is considered highly competitive.
- City's **current salaries** are **5.6% below private sector market**.
- Overall the City's current salaries are **highly competitive** with the **combined market** at the 50<sup>th</sup> percentile – **within +/-5% difference** when compared to the 50<sup>th</sup> percentile rate.

| Comparison to Market - Actual Pay |                                                             |                                                                     |                                                   |
|-----------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------|
|                                   | Custom Labor Market <sup>1</sup><br>(# benchmark jobs = 54) | Private Sector Labor Market <sup>2</sup><br>(# Benchmark Jobs = 93) | Combined Labor Market<br>(# Benchmark Jobs = 145) |
| 25 <sup>th</sup> Percentile       | 12.7%<br>Potentially Misaligned                             | 8.4%<br>Competitive                                                 | 10.3%<br>Competitive                              |
| 50 <sup>th</sup> Percentile       | 2.2%<br>Highly Competitive                                  | -5.6%<br>Competitive                                                | -2.3%<br>Highly Competitive                       |
| 75 <sup>th</sup> Percentile       | -7.9%<br>Competitive                                        | -18.1%<br>Misaligned                                                | -14.1%<br>Potentially Misaligned                  |

<sup>1</sup> Custom Survey labor market includes data from custom survey only

<sup>2</sup> Private Sector Labor market includes private sector data cuts from published survey sources

<sup>3</sup> Combined Labor Market includes and average of custom survey data and private sector data



# Compensation Study Findings

## Salary Range Comparison to Market

- Overall the City's **current salary ranges** are **5.5% below the combined labor market**, which is considered **competitive – within +/-5% difference**.

| Comparison to Market – Salary Range |                                                             |                                                                     |                                                  |
|-------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------|
|                                     | Custom Labor Market <sup>1</sup><br>(# benchmark jobs = 54) | Private Sector Labor Market <sup>2</sup><br>(# Benchmark Jobs = 93) | Combined Labor Market<br>(# Benchmark Jobs = 93) |
| Minimum                             | -11.9%<br>Potentially Misaligned                            | -9.6%<br>Competitive                                                | -10.2%<br>Potentially Misaligned                 |
| Midpoint                            | -6.5%<br>Competitive                                        | -5.5%<br>Competitive                                                | -5.5%<br>Competitive                             |
| Maximum                             | 2.4%<br>Highly Competitive                                  | 6.9%<br>Competitive                                                 | 4.9%<br>Highly Competitive                       |

<sup>1</sup> Custom Survey labor market includes data from custom survey only

<sup>2</sup> Private Sector Labor market includes private sector data cuts from published survey sources

<sup>3</sup> Combined Labor Market includes and average of custom survey data and private sector data

# Compensation Study Findings

## Compared to the market 50th percentile

- 26 job titles have salaries that are significantly below (- 49.3% to -16.1%) salaries reported for market comparable jobs.
- 15 jobs titles have salaries that are significantly above (15.7% to 43.4%) salaries reported for market comparable jobs.

## Comparing the City's pay range midpoint to market 50th percentile

- 40 jobs titles have salaries that are significantly below (- 39.6% to -15.4%) salaries reported for market comparable jobs.
- 21 jobs titles have salaries that are significantly above (15.9% to 42.4%) salaries reported for market comparable jobs.
- Job titles to be reviewed more closely by City HR to confirm appropriate salary range placement based on a combination of external competitiveness and internal equity.



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# Recommended Salary Structure & Implementation Cost



# Proposed Salary Structure Considerations



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## Goals of the Proposed Salary Structures

- Comply with the City's strategy to stay competitive with the combined market at the 50<sup>th</sup> percentile.
- Develop a 20 pay grade structure.
- Maintain appropriate midpoint differentials to avoid cross grade compression.
  - Market best practice suggests midpoint differentials between 8% to 15% and up to 25% total midpoint differential between supervisor and subordinates would be efficient
- Minimum range starts at \$15/hour or \$31,200/year (2,080 hours).
- Starting pay for Transit Operators to be \$21/hour or \$43,680/year (2,080 hours), which is 14.3% above the market 50<sup>th</sup> percentile.

## Proposed Recommended Structure

- The proposed structure was developed using actual salary data at the 50th percentile of the combined labor market to determine the midpoints of the new structure. Minimums and maximums were calculated based on midpoints.
- Proposed structure has 20 pay grades.
- Midpoint differentials of 10% is implemented across grades.

## Implementation Method & Cost

- The proposed salary structure based on the 50<sup>th</sup> percentile of the market was run through two cost implementation options:
  - Bring to Minimum: Identifies any employees below the minimum and determines the cost to move all employees to the new minimum.
  - Bring to Midpoint: If an employee is at the midpoint of the current structure, the calculation maintains them at the midpoint of the new range.

| All Groups        | Count of Employees | Cost Projection | % of Salary Budget |
|-------------------|--------------------|-----------------|--------------------|
| To New Minimum    | 202                | \$665,752       | 0.9%               |
| To Range Midpoint | 666                | \$7,446,482     | 9.7%               |



# Implementation Cost

| General Government | Count of Employees | Cost Projection | % of Salary Budget |
|--------------------|--------------------|-----------------|--------------------|
| To New Minimum     | 140                | \$548,936       | 0.7%               |
| To Range Midpoint  | 410                | \$3,623,784     | 4.7%               |

| Transit           | Count of Employees | Cost Projection | % of Salary Budget |
|-------------------|--------------------|-----------------|--------------------|
| To New Minimum    | 0                  | \$0             | 0%                 |
| To Range Midpoint | 73                 | \$560,841       | 0.7%               |

| Public Safety     | Count of Employees | Cost Projection | % of Salary Budget |
|-------------------|--------------------|-----------------|--------------------|
| To New Minimum    | 62                 | \$116,816       | 0.2%               |
| To Range Midpoint | 183                | \$3,261,857     | 4.3%               |



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# Pay Practices and Benefits Summary

# Pay Practices and Benefits Summary



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- Overall, the City is consistent with the market in its compensation philosophy, compensation administration and benefits.
- Some differences include:

## Medical Coverage:

**For EE only coverage**, the City's employer contributions are greater than the comparator organizations and for **and EE + Children** employee contributions are slightly higher than comparator organizations.

**For EE + Spouse and Family coverage**, the City's employer and employee contributions are the same as the comparator organizations.

# Pay Practices and Benefits Summary



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## Dental Coverage:

**For all levels of coverage,** the City's employer contributions are greater than the comparator organizations.

**For all levels of coverage,** the City's employee contributions are less than the comparator organizations.

## Vision Coverage:

**For all levels of coverage,** the City's employer and employee contributions are consistent with comparator organizations.



# Pay Practices and Benefits Summary

## **Paid time off (Vacation and Sick Leave)**

- Based on years of services, the City offers more sick and vacation leave than comparator organizations.

## **Paid time off (Holiday)**

- The City offers more paid holidays provided to employees leave than comparator organizations.





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# Recommendations

# Recommendations



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- Implement the proposed salary structure.
- Select an implementation option for updating employee salaries.
- The salary structure should be adjusted by a structure movement trend factor every year to remain competitive with the market.
- In addition to adjusting the salary structure each year to keep pace with the market, the City should continue to conduct a comprehensive compensation study at least every three years.
- Revise and modernize the City's Pay Policies and Practices to promote compensation best practices, support employee retention and recruitment objectives.

# On-Going System Management



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## Pay Administration Guidelines

- Pay administration guidelines should be implemented for placing and moving employees through the structure, Gallagher recommends the following:
  - The hiring range should be from the range minimum for minimally acceptable qualified individuals to the first quartile (25th percentile) for well qualified individuals.
  - Appointment above the first quartile should require the approval of Human Resources; Appointment above the midpoint should require the approval of the City Manager/Designee.
- The City should annually review its internal alignment and classification of jobs to ensure proper leveling between jobs.
- Individual salary advancement (base pay increase) through the ranges should be based on competent performance in the job class.
- Individual salary should increase at a higher rate than the salary range adjustment.
  - If the City increases the salary ranges for 2% for 2022, employees' base salary increase should be higher than 2%. E.g., 2.5% or 3%.

# Thank you!

Consulting and insurance brokerage services to be provided by Gallagher Benefit Services, Inc. and/or its affiliate Gallagher Benefit Services (Canada) Group Inc. Gallagher Benefit Services, Inc. is a licensed insurance agency that does business in California as "Gallagher Benefit Services of California Insurance Services" and in Massachusetts as "Gallagher Benefit Insurance Services." Neither Arthur J. Gallagher & Co., nor its affiliates provide accounting, legal or tax advice.



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## Final Benchmark Summary for the City of Charlottesville, VA

| Implementation Option   |                    | General     | Transit   | Public Safety | Total       |
|-------------------------|--------------------|-------------|-----------|---------------|-------------|
| To New Min              | Cost               | \$559,768   | \$0       | \$116,816     | \$676,583   |
|                         | Count of Employees | 144         | 0         | 62            | 206         |
|                         | % of Group Payroll | 0.7%        | 0.0%      | 0.2%          | 0.9%        |
| To Range Midpoint       | Cost               | \$3,863,094 | \$560,841 | \$3,261,857   | \$7,685,792 |
|                         | # Increases        | 419         | 73        | 183           | 675         |
|                         | % of Group Payroll | 5.1%        | 0.7%      | 4.3%          | 10.1%       |
| To Time-in-Organization | Cost               | \$3,873,444 | \$470,138 | \$1,746,351   | \$6,089,933 |
|                         | # Increases        | 369         | 55        | 201           | 625         |
|                         | % of Group Payroll | 5.1%        | 0.6%      | 2.3%          | 8.0%        |

Note: Temporary/Seasonal employees are excluded from the costing.

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                         |                                                                 |
|-------------------------|-----------------------------------------------------------------|
| <b>Agenda Date:</b>     | April 3, 2023                                                   |
| <b>Action Required:</b> | Approval of Appropriation and Ordinance                         |
| <b>Presenter:</b>       | Michael Rogers, City Manager, Krisy Hammill, Director of Budget |
| <b>Staff Contacts:</b>  | Krisy Hammill, Director of Budget                               |
| <b>Title:</b>           | <b>FY2024 City Budget and Annual Tax Levy for Tax Year 2023</b> |

**Background**

Pursuant to Section 5 of the Charter of the City of Charlottesville, and Virginia Code Title 15.2, Chapter 25, a proposed budget was prepared by the City Manager and presented to City Council for consideration. After public notice was given in accordance with the law, public hearings were conducted by City Council on the City Manager's proposed budget and on the proposed equalized tax rate to be adopted in order to levy taxes in support of the adopted budget, Council is required to vote on these matters.

**Discussion**

Following the public hearings, City Council may deliberate and consider any additions, deletions or modifications of the items presented within the City Manager's proposed budget, and consider the proposed annual tax rates. City Council must consider and vote upon three items:

1. Ordinance approving the FY-2024 Budget and Annual Appropriation,
2. Ordinance Establishing the Annual Tax Levy for Tax Year 2023, and
3. Resolution Establishing the Personal Property Tax Relief Percentage for Tax Year 2023 [a separate agenda memo and Resolution provided by Commissioner Divers will be presented at the Special Meeting to be held on April 11, 2023].

Note the Budget Ordinance authorizes a total General Fund Budget of \$227,696,055, a difference of \$1,456,900 from the \$226,239,155 presented in the City Manager's Proposed Budget. This amount represents the estimated account balances below that are projected to remain unspent as of June 30, 2023, and will be authorized for expenditure during FY 2024:

|                                                             |         |                |
|-------------------------------------------------------------|---------|----------------|
| Total FY 24 City Manager Proposed General Fund Expenditures |         | \$ 226,239,155 |
| Historic Resources                                          | 49,839  |                |
| Sister City                                                 | 43,748  |                |
| Citywide Reserve                                            | 500,000 |                |
| Council Strategic Initiatives                               | 394,436 |                |
| DEI                                                         | 197,181 |                |
| Grand Illumination                                          | 3,550   |                |
| Councilor Discretionary Funds                               | 5,000   |                |
| Minority Business Fund                                      | 12,604  |                |
| Job Fair                                                    | 54,019  |                |
| Police Civilian Oversight Board (Original Start-up Funding) | 196,523 |                |
|                                                             |         | \$ 1,456,900   |
| Total General Fund Budget Authorized per the Ordinance      |         | \$ 227,696,055 |

### **Alignment with City Council's Vision and Strategic Plan**

Alignment with Council's Vision and Strategic Plan are highlighted throughout the City Manager's Proposed Budget.

### **Community Engagement**

Council has held a series of budget work sessions and public hearings on the City Manager's Proposed Budget throughout the month of March. There is one remaining work session will be held on April 6, 2023, 6:00 PM at City Space. The public will have the opportunity to provide comments to City Council on the budget at the end of that work session.

### **Budgetary Impact**

Council approval of these items will set forth the tax rates and government spending plans for the 2024 fiscal year (July 1, 2023 - June 30, 2024).

### **Recommendation**

### **Alternatives**

### **Attachments**

1. Tax ORDINANCE
2. FY 24 Budget Appropriation\_



**ORDINANCE**  
**To Establish the Annual Tax Levy for Tax Year 2023**

**BE IT ORDAINED** by the Council of the City of Charlottesville **THAT** in order to pay the general operating expenses of the City, including local support for the City's schools; to provide funding for other public purposes; and to pay interest on and to provide funding for retirement of City debt, taxes are hereby levied at the rates set forth within this Ordinance, for the current Tax Year (beginning at midnight on January 1, 2023 and ending December 31, 2023), and for each succeeding Tax Year during which this Ordinance continues in effect:

**1. Section 1—Real Property and Mobile Homes**

On real estate, including land and improvements thereon and mobile homes, the tax rate shall be \$0.96 on every \$100 of the assessed value thereof.

**2. Section 2—Personal Property**

On all automobiles, trucks, motorcycles and other motor vehicles; boats and aircraft; and on all tangible personal property used or held in connection with any mining, manufacturing, or other business, trade, occupation or profession (excluding furnishings, furniture and appliances in rental units of 30 days or longer) the tax rate shall be \$4.20 on every \$100 of the assessed value thereof.

**3. Section 3—Public Service Corporation Property**

- (a) On that portion of the real estate and tangible personal property of public service corporations which has been equalized as provided in Sec. 58.1-2604 of the Virginia Code, the tax rate shall be \$0.96 on every \$100 of the assessed value thereof determined by the Virginia State Corporation Commission, and
- (b) Notwithstanding the foregoing, on automobiles and trucks belonging to public service corporations, the tax rate shall be \$4.20 on every \$100 of the assessed value thereof.

**4. Section 4—Machinery and Tools**

On machinery and tools used in a manufacturing or mining business, the tax rate shall be \$4.20 on every \$100 of the assessed value thereof.

**5. Section 5—Energy Efficient Buildings**

On energy efficient buildings the tax rate shall be \$0.48 on every \$100 of the assessed value thereof, subject to the limitations set forth within Chapter 30, Article V, Division 4 of the Code of the City of Charlottesville (1990), as amended, and applies only to buildings and not to the land on which such buildings are located.

**BE IT FURTHER ORDAINED THAT** the Ordinance adopted April 12, 2022 establishing local tax rates for the Tax Year beginning January 1, 2022 and ending on December 31, 2022 is hereby repealed, effective at midnight on January 1, 2023.

**ORDINANCE**  
**APPROVING A BUDGET AND ANNUAL APPROPRIATION OF FUNDING**  
**FOR THE CITY OF CHARLOTTESVILLE FOR THE FISCAL YEAR ENDING**  
**JUNE 30, 2024**

**Section 1. Approval of the FY-2024 Budget**

The City Manager submitted to the City Council a proposed budget for the fiscal year commencing July 1, 2023, as deemed necessary for the provision of City services.

A duly advertised public hearing was held on April 03, 2023. Thereafter, the City Council may review and make revisions to the proposed budget, which contains an itemized and classified plan of all contemplated expenditures, and all estimated revenues and borrowings for the City, for the fiscal year ending June 30, 2024 (“FY-2024”), including reasonable reserves for contingencies and capital improvements. The FY-2024 Budget also sets forth capital expenditures for vehicles, equipment, public street improvements and other transportation projects, and the means of financing them, for capital expenditures to be undertaken in FY-2024 and in a period of the next four (4) fiscal years. NOW, THEREFORE

BE IT ORDAINED by the Council of the City of Charlottesville that the final Budget for the Fiscal Year commencing on July 1, 2023 and ending June 30, 2024 (“FY-2024 Budget”) is hereby approved, containing total estimated expenditures in the amount of **\$599,503,645**.

**Section 2. Annual Appropriation**

**BE IT ORDAINED** by the Council of the City of Charlottesville that the annual GENERAL FUND (Fund 105) budget for Fiscal Year 2024 shall be \$227,696,055. City Council further ordains that an appropriation of \$227,696,055 be made in the General Fund, as more particularly set forth below:

**Operating Expenditures**

**Management**

|                                                                  |           |
|------------------------------------------------------------------|-----------|
| Mayor and City Council                                           | 1,132,822 |
| Office of the City Manager/Administration/Budget and Performance | 1,912,671 |
| Office of the City Manager/Communications                        | 904,190   |
| Office of the City Manager/Economic Development                  | 708,955   |
| Office of the City Manager/Community Solutions                   | 928,432   |
| Office of the City Manager/Office of Equity and Inclusion        | 815,383   |
| Office of the City Manager/Home to Hope                          | 368,124   |
| Office of the City Manager/Job Center                            | 204,718   |
| Office of the City Manager/Emergency Management                  | 499,143   |
| Office of the City Attorney                                      | 1,058,506 |
| Office of General Registrar                                      | 696,412   |

**Contributions to Organizational Memberships and Workforce Development Programs**

|                                                       |        |
|-------------------------------------------------------|--------|
| Virginia Municipal League                             | 20,000 |
| Chamber of Commerce                                   | 15,000 |
| Thomas Jefferson Planning District Commission         | 98,881 |
| Virginia Career Works - Piedmont Region               | 10,215 |
| Virginia Institute of Government                      | 2,500  |
| Alliance for Innovation                               | 2,550  |
| Virginia First Cities Coalition                       | 18,200 |
| Central Virginia Partnership for Economic Development | 25,539 |
| Thomas Jefferson Soil and Water Conservation District | 13,440 |
| Central Virginia Small Business Development Center    | 27,215 |
| Rivanna Conservation Alliance                         | 15,000 |
| National League of Cities                             | 5,000  |
| Community Investment Collaborative                    | 23,000 |
| Center for Nonprofit Excellence                       | 1,000  |

**Non Departmental Activities**

|                                                             |            |
|-------------------------------------------------------------|------------|
| City Strategic Plan/P3: Plan, Perform, Perfect              | 130,000    |
| Participatory Budgeting                                     | 15,000     |
| Virginia Juvenile Community Crime Control Act (Local Match) | 108,415    |
| Citizen Engagement Opportunities                            | 15,000     |
| Food Equity                                                 | 155,000    |
| Innovation Fund                                             | 20,000     |
| Sister City Committee                                       | 58,748     |
| Performance Agreement Payments                              | 300,000    |
| Citywide Reserve                                            | 764,210    |
| Ivy Landfill                                                | 500,000    |
| Transfer to Debt Service Fund                               | 10,671,584 |
| Transfer to Fund Balance Target Adjustment Fund             | 500,000    |
| Employee Compensation and Training                          | 2,900,281  |

**Internal and Financial Services**

|                                                         |           |
|---------------------------------------------------------|-----------|
| Finance Department - Administration/Purchasing/Assessor | 3,022,983 |
| Human Resources                                         | 1,869,836 |
| Commissioner of Revenue                                 | 1,598,332 |
| Treasurer                                               | 1,688,697 |
| Information Technology                                  | 4,101,178 |

**Healthy Families and Community**

|                                                     |            |
|-----------------------------------------------------|------------|
| Transfer to Children's Services Act Fund            | 1,904,722  |
| Transfer to Social Services Fund                    | 3,602,777  |
| Transfer to Human Services/Community Attention Fund | 1,506,362  |
| Neighborhood Development Services                   | 3,022,922  |
| Office of Human Rights/Human Rights Commission      | 487,553    |
| Police Civilian Oversight Board                     | 674,973    |
| Parks and Recreation                                | 12,896,374 |
| Transfer to Convention and Visitors' Bureau         | 1,354,258  |

| <b>Community Events and Festivals</b>                                 |           |
|-----------------------------------------------------------------------|-----------|
| Virginia Film Festival                                                | 13,500    |
| Virginia Festival of the Book                                         | 11,585    |
| Charlottesville Festival of Cultures                                  | 2,100     |
| City Supported Events (Other)                                         | 15,000    |
| <b>Contributions to Children, Youth, and Family Oriented Programs</b> |           |
| Big Brothers/Big Sisters                                              | 46,000    |
| Birth Sisters                                                         | 46,000    |
| Boys and Girls Club                                                   | 62,100    |
| The BridgeLine                                                        | 44,620    |
| Charlottesville Abundant Life Ministries                              | 9,200     |
| Blue Ridge Health Department                                          | 674,940   |
| Charlottesville Free Clinic                                           | 92,430    |
| Computers 4 Kids                                                      | 14,720    |
| Emergency Assistance Program Support                                  | 500,000   |
| Foothills Child Advocacy Center                                       | 46,493    |
| Fountain Fund                                                         | 23,000    |
| Home Visiting Collaborative                                           | 154,100   |
| Jefferson Area Board for Aging (JABA)                                 | 335,152   |
| Local Food Hub                                                        | 12,746    |
| MACAA                                                                 | 16,560    |
| Music Resource Center                                                 | 10,500    |
| On Our Own                                                            | 6,900     |
| Partner for Mental Health                                             | 21,000    |
| Piedmont Family YMCA                                                  | 61,200    |
| ReadyKids                                                             | 109,299   |
| Region Ten Community Services Board                                   | 1,180,092 |
| Sexual Assault Resources Agency (SARA)                                | 23,100    |
| Shelter for Help in Emergency (SHE)                                   | 171,169   |
| Sin Barreras                                                          | 12,848    |
| United Way - Thomas Jefferson Area                                    | 192,504   |
| Virginia Cooperative Extension Program                                | 72,476    |
| Women's Initiative                                                    | 35,000    |
| Loaves and Fishes Food Pantry, Inc                                    | 45,000    |
| Reclaimed Hope House                                                  | 90,000    |
| Central Virginia Clinicians of Color Network                          | 28,000    |
| Social and Environmental Entrepreneurs                                | 35,000    |
| New Hill Development                                                  | 52,500    |
| 100 Black Men of Central Virginia                                     | 19,665    |
| City of Promise, Inc.                                                 | 69,000    |
| The Buck Squad                                                        | 161,000   |
| Welcoming Greater Charlottesville                                     | 3,300     |
| Love No Ego Foundation                                                | 4,400     |
| Wartime Fitness Heroes                                                | 27,500    |

| <b>Contributions to Education and the Arts</b>                                                                    |            |
|-------------------------------------------------------------------------------------------------------------------|------------|
| City Center for Contemporary Arts                                                                                 | 63,157     |
| Historic Preservation Task Force                                                                                  | 54,839     |
| Jefferson Madison Regional Library                                                                                | 2,134,657  |
| Jefferson School African American Heritage Center                                                                 | 42,000     |
| Lighthouse Studio                                                                                                 | 36,000     |
| Literacy Volunteers                                                                                               | 16,800     |
| McGuffey Art Center                                                                                               | 31,462     |
| New City Arts                                                                                                     | 27,000     |
| Piedmont Virginia Community College                                                                               | 12,006     |
| The Paramount Theater/Arts Education Program                                                                      | 0          |
| Virginia Discovery Museum                                                                                         | 17,500     |
| WTJU                                                                                                              | 9,000      |
| Live Arts                                                                                                         | 18,000     |
| Front Porch                                                                                                       | 10,500     |
| <b>Contributions to Housing Programs</b>                                                                          |            |
| Charlottesville Housing Affordability Tax Grant Program                                                           | 1,360,000  |
| Rent Relief for Disabled, a sum sufficient estimated at                                                           | 190,000    |
| Rent Relief for Elderly, a sum sufficient estimated at                                                            | 35,000     |
| Stormwater Fee Assistance Program                                                                                 | 20,000     |
| Tax Relief for Disabled, a sum sufficient estimated at                                                            | 290,000    |
| Tax Relief for Elderly, a sum sufficient estimated at                                                             | 750,000    |
| <b>Infrastructure and Transportation</b>                                                                          |            |
| Public Works: Administration, Facilities Development, Facilities Maintenance, Engineering, Climate Sustainability | 6,897,795  |
| Public Works: Hedgerow Properties                                                                                 | 105,913    |
| Public Works: Public Service                                                                                      | 8,680,554  |
| Transfer to Charlottesville Area Transit Fund                                                                     | 2,825,000  |
| JAUNT Paratransit Services                                                                                        | 1,443,081  |
| <b>Public Safety and Justice</b>                                                                                  |            |
| City Sheriff                                                                                                      | 1,735,780  |
| Commonwealth's Attorney                                                                                           | 1,326,861  |
| Clerk of Circuit Court                                                                                            | 890,772    |
| Circuit Court Judge                                                                                               | 91,335     |
| General District Court                                                                                            | 25,522     |
| Juvenile and Domestic Relations Court/Court Services Unit                                                         | 365,462    |
| Magistrate                                                                                                        | 10,610     |
| Fire Department                                                                                                   | 15,552,906 |
| Police Department                                                                                                 | 20,458,669 |
| <b>Contributions to Programs Supporting Public Safety and Justice</b>                                             |            |
| Legal Aid Justice Center                                                                                          | 35,000     |
| Albemarle Charlottesville Regional Jail                                                                           | 3,801,804  |
| Blue Ridge Juvenile Detention Center                                                                              | 1,150,008  |

|                                                  |           |
|--------------------------------------------------|-----------|
| Emergency Communications Center                  | 1,985,491 |
| Offenders Aid and Restoration                    | 358,968   |
| Society for the Prevention of Cruelty to Animals | 306,806   |
| Public Defender's Office                         | 89,614    |

#### **Local Contribution to Public Schools**

|                     |            |
|---------------------|------------|
| Operational Support | 67,092,134 |
|---------------------|------------|

**Total Operating Expenditures    \$208,275,806**

#### **Designated Expenditures**

|                                                      |             |
|------------------------------------------------------|-------------|
| City/School Contracts: Pupil Transportation          | \$3,982,490 |
| City/School Contracts: School Building Maintenance   | 4,768,096   |
| Transfer to Capital Projects Fund                    | 7,464,391   |
| Transfer to Capital Projects Fund - Mall Vendor Fees | 78,000      |
| Transfer to Facilities Repair Fund                   | 400,000     |
| Transfer to Debt Service Fund - Meals Tax Revenue    | 2,727,272   |

**Total Designated Expenditures    \$19,420,249**

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|                                        |                      |
|----------------------------------------|----------------------|
| <b>Total General Fund Expenditures</b> | <b>\$227,696,055</b> |
|----------------------------------------|----------------------|

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**The City Council further ordains** that at the close of FY-2024 the City Manager is authorized to maintain appropriations for encumbrances, grants, capital projects and programs.

**The City Council further ordains** that the City Manager is authorized to make line-item changes within department budgets and allocate salary lapse between department budgets and the lump sum merit pool budgeted with the Employee Compensation and Benefits budget program, and such changes shall be reported to the City Council by way of periodic financial reports.

**The City Council further ordains** that the City Manager is authorized to increase the budget and to expend the following funds for the following items of non-budgeted restricted revenue that may occur during FY-2024, which are hereby appropriated for expenditure within the budget program(s) designated by the City Manager, as of the date of receipt thereof by the City:

1. Insurance recoveries received for damages to City properties for which City funds have been expended to make repairs.,
2. Defaulted builder and developer securities to be used for uncompleted projects,
3. Parking Development Fees,
4. Asset forfeiture, Courthouse Security fees and \$4 for Life funds,
5. Donations under \$10,000 given to the City for a specific purpose,
6. Revenues received in excess of this annual appropriation, by the following funds: Transit Fund (Fund 245), Information Technology Fund (Fund 705), Warehouse Fund (Fund 706), Communications Fund (Fund 755), Fleet Maintenance Fund

(Fund 753), Joint Health Department Building Fund (Fund 982), Retirement Benefits Fund (869), Parking Fund (Fund 650), Golf Fund (Fund 609), and the Utility Enterprise Funds (Water, Wastewater, Gas and Stormwater), and Landfill Reserve funds for use to cover costs associated with landfill remediation

**The City Council further ordains** that the appropriations made herein as Councilor Discretionary Funds will be spent in accordance with the guidelines set forth within City Council's adopted Policies and Procedures.

**The City Council further ordains** that the Employee Classification and Pay Plan for the City of Charlottesville dated July 1, 2023 and effective on that same date, which assigns salary ranges to each class or position in the City service is hereby approved pursuant to Section 19-3 and 19-4 of the City Code, 1990, as amended and a copy of the same shall be kept on file with the records of the meeting at which this resolution is approved.

**The City Council further ordains** that the annual appropriation in the sum of \$107,128,647 for FY-2024 for annual SCHOOL OPERATIONS is made, which monies are to be expended in accordance with law for purposes authorized and approved by the Charlottesville City School Board. (The City's local contribution to the School Operations is hereinabove appropriated by transfer from the General Fund).

**The City Council further ordains** that the annual appropriation in the sum of \$19,478,407 for FY-2024 be made from the HEALTH BENEFITS FUND (Fund 718), which monies are to be expended for the payment of health and medical benefit program costs, and for insurance covering such costs, and in addition, for the accumulation of a reserve for future expenditures to pay for such health and medical benefit program costs.

**The City Council further ordains** that the annual appropriation in the sum of \$35,271,228 or the amount of revenue received by such fund, whichever shall be the greater amount, be made from the RETIREMENT BENEFITS FUND (Fund 869), which monies are to be expended for the payment of retirement benefit program costs, and for insurance covering such costs, and in addition, for the accumulation of a reserve for future expenditures. The City Council further ordains that the Retirement Plan Commission is authorized and directed to provide for the payment from the Retirement Fund of a post-retirement supplement of 3% of the current retirement pay of each eligible retired employee effective July 1, 2023.

**The City Council further ordains** that the annual appropriation in the sum of \$4,240,188 for FY-2024 be made from the RISK MANAGEMENT FUND (Fund 711), which monies are to be expended for the uses prescribed for such fund, pursuant to the terms of, and subject to the limitations imposed by Article V of Chapter 11 of the Code of the City of Charlottesville, 1990, as amended.

**The City Council further ordains** that the annual appropriation in the sum of \$2,767,950 for FY-2024 be made from the EQUIPMENT REPLACEMENT FUND (Fund 106), which monies are to be expended for the lease, financing or purchase of motor vehicles and related equipment and for accumulation of a reserve for future equipment purchases.

**The City Council further ordains** that the annual appropriation in the sum of \$627,981 be made from the FACILITIES REPAIR FUND (Fund 107), which monies are to be expended for carrying out the purposes of repairs to facilities and for accumulation of a reserve for future repairs to facilities.

**The City Council further ordains** that the annual appropriation in the sum of \$906,941 or the amount of revenue received for FY-2024 be made from the JOINT HEALTH DEPARTMENT BUILDING FUND (Fund 982), which monies are to be expended for general improvements, maintenance, small capital projects and for the accumulation of a reserve to be used for expenses for the Thomas Jefferson Health District building.

**The City Council further ordains** that the annual appropriation in the sum of \$13,236,558, or as much thereof as may be necessary, be made from the DEBT SERVICE FUND (Fund 302), which monies to be expended for the payment of principal and interest of bonds, notes and other evidence of indebtedness and the cost of issuance thereof issued by the City pursuant to its Charter and/or the Virginia Public Finance Act.

**The City Council further ordains** that the annual appropriation in the sum of \$6,928,697, or the amount of revenue received by such fund, whichever shall be the lesser amount, be made from the HUMAN SERVICES/COMMUNITY ATTENTION FUND (Fund 213), which monies are to be expended for the operation of the Community Attention Homes and related programs during such fiscal year.

**The City Council further ordains** that the annual appropriation in the sum of \$15,907,753 or the amount of revenue received by such fund, whichever shall be the lesser amount, be made from the SOCIAL SERVICES FUND (Fund 212), which monies are to be expended for the operation of the Department of Social Services during such fiscal year,

**The City Council further ordains** that the annual appropriation in the sum of \$8,344,864, or the amount of revenue received by such fund, whichever shall be the lesser amount, be made from the CHILDREN'S SERVICES ACT FUND (Fund 215), which monies are to be expended for the operation of the Children's Services Act entitlement program,

**The City Council further ordains** that the annual appropriation in the sum of \$14,286,170, or the amount of revenue received by such fund, whichever shall be the greater amount, be made from the TRANSIT FUND (Fund 245), which monies are to be expended for the operation of the public transit system.

**The City Council further ordains** that the annual appropriation in the sum of \$1,978,346, or the amount of revenue received by such fund, whichever shall be the greater amount be made from the INFORMATION TECHNOLOGY FUND (Fund 705), which monies are to be expended for the operation of the various information technology functions.



**The City Council further ordains** that the annual appropriation the sum of \$201,779, or the amount of revenue received by such fund, whichever shall be the greater amount, be made from the WAREHOUSE FUND (Fund 706), which monies are to be expended for the operation of the Warehouse.

**The City Council further ordains** that the annual appropriation in the sum of \$1,527,332 be made from the FLEET MAINTENANCE FUND (Fund 753), which monies are to be expended for the operation of the Central Garage, Vehicle Wash and Fuel System.

**The City Council further ordains** that the annual appropriation in the sum of \$591,114 be made from the COMMUNICATIONS SYSTEM FUND (Fund 755), which monies are to be expended for the operation of the citywide phone system and mailroom operations during such fiscal year.

**The City Council further ordains** that the annual appropriation in the sum of \$1,206,440, or the amount of revenue credited to such fund, whichever shall be the greater amount be made from the GOLF FUND (Fund 609), which monies are to be expended for the operation of the golf course during such fiscal year.

**The City Council further ordains** that the annual appropriation in the sum of \$4,009,730, or the amount of revenue credited to such fund, whichever shall be the greater amount, be made from the PARKING FUND (Fund 650), which monies are to be expended for the operation of the parking operations during such fiscal year.

**The City Council further ordains** that the appropriations made herein shall become available for expenditures July 1,2023 and shall expire June 30, 2024 (FY-2024).

## Section 2. Operating Fund Revenues

It is estimated that local revenues and other sources of revenue will be available during FY-2024 to meet the needs of the FY-2024 Budget approved within Section 1 of this Appropriation Ordinance, according to the following sources:

### General Fund

|                                         |                       |
|-----------------------------------------|-----------------------|
| Local Sources                           | \$ 213,072,767        |
| The Commonwealth and Federal Government | 12,666,388            |
| Transfers from Other Funds              | 500,000               |
| Fund Balance Committed/Assigned         | 1,456,900             |
| Fund Balance (Unassigned)               | -                     |
| <b>Total</b>                            | <b>\$ 227,696,055</b> |

### School Operations

|                                               |                       |
|-----------------------------------------------|-----------------------|
| Local Contribution/Transfer from General Fund | \$ 67,092,134         |
| The Commonwealth and Federal Government       | 35,755,506            |
| Miscellaneous Revenue                         | 1,979,579             |
| Fund Balance                                  | 2,301,428             |
| <b>Total</b>                                  | <b>\$ 107,128,647</b> |

### Health Benefits Fund

|                                     |                      |
|-------------------------------------|----------------------|
| Member Contributions                | \$ 18,526,851        |
| Miscellaneous Revenue               | \$ 15,000            |
| Balance of the Health Benefits Fund | \$ 936,556           |
| <b>Total</b>                        | <b>\$ 19,478,407</b> |

### Retirement Benefits Fund

|                                |                      |
|--------------------------------|----------------------|
| City Contributions (All Funds) | \$ 17,146,228        |
| Member Contributions           | 2,500,000            |
| Investment Income              | 15,625,000           |
| <b>Total</b>                   | <b>\$ 35,271,228</b> |

### Risk Management Fund

|                                |                     |
|--------------------------------|---------------------|
| City Contributions (All Funds) | \$ 4,140,188        |
| Other Local Sources            | 100,000             |
| <b>Total</b>                   | <b>\$ 4,240,188</b> |

|                                           |                      |
|-------------------------------------------|----------------------|
| <u>Equipment Replacement Fund</u>         |                      |
| Transfer from the General Fund            | \$ 2,767,950         |
| Balance of the Equip. Repl. Fund          | -                    |
| <b>Total</b>                              | <b>\$ 2,767,950</b>  |
| <br><u>Facilities Repair Fund</u>         |                      |
| Transfer from the General Fund            | \$ 400,000           |
| Balance of the Fac. Repair Fund           | 227,981              |
| <b>Total</b>                              | <b>\$ 627,981</b>    |
| <br><u>Joint Health Building Fund</u>     |                      |
| Rent Income                               | \$ 251,655           |
| Balance of the Joint Health Bldg Fund     | 654,953              |
| <b>Total</b>                              | <b>\$ 906,941</b>    |
| <br><u>Debt Service Fund</u>              |                      |
| Transfers from the General Fund           | \$ 10,509,286        |
| Meals Tax Transfer (equivalent to \$0.01) | 2,727,272            |
| <b>Total</b>                              | <b>\$ 13,236,558</b> |
| <br><u>Human Services Fund</u>            |                      |
| Transfers from the General Fund           | \$ 1,506,362         |
| Intergovernmental Revenue                 | 5,354,335            |
| Miscellaneous Revenue                     | 68,000               |
| <b>Total</b>                              | <b>\$ 6,928,697</b>  |
| <br><u>Social Services Fund</u>           |                      |
| Transfers from the General Fund           | \$ 3,602,777         |
| Intergovernmental Revenue                 | 11,026,731           |
| Other Sources                             | 1,278,245            |
| <b>Total</b>                              | <b>\$ 15,907,753</b> |
| <br><u>Children's Services Act Fund</u>   |                      |
| Transfers from the General Fund           | \$ 1,904,722         |
| Intergovernmental Revenue                 | 6,440,142            |
| <b>Total</b>                              | <b>\$ 8,344,864</b>  |

Transit Fund

|                                 |                      |
|---------------------------------|----------------------|
| Transfers from the General Fund | \$ 2,825,000         |
| Intergovernmental Revenue       | 11,351,270           |
| Miscellaneous Revenue           | <u>109,900</u>       |
| <b>Total</b>                    | <b>\$ 14,286,170</b> |

Information Technology

|                                 |                     |
|---------------------------------|---------------------|
| Transfers from the General Fund | \$ 444,600          |
| User Fees                       | 1,508,384           |
| Miscellaneous Revenue           | <u>25,362</u>       |
| <b>Total</b>                    | <b>\$ 1,978,346</b> |

Warehouse Fund

|              |                   |
|--------------|-------------------|
| User Fees    | <u>\$ 201,779</u> |
| <b>Total</b> | <b>\$ 201,779</b> |

Fleet Fund

|              |                     |
|--------------|---------------------|
| User Fees    | <u>\$ 1,527,332</u> |
| <b>Total</b> | <b>\$ 1,527,332</b> |

Communications Fund

|                                    |                   |
|------------------------------------|-------------------|
| User Fees                          | \$ 356,466        |
| Balance of the Communications Fund | <u>234,648</u>    |
| <b>Total</b>                       | <b>\$ 591,114</b> |

Golf Fund

|              |                     |
|--------------|---------------------|
| User Fees    | <u>\$ 1,206,440</u> |
| <b>Total</b> | <b>\$ 1,206,440</b> |

Parking Fund

|                             |                     |
|-----------------------------|---------------------|
| Parking Revenues            | \$ 2,642,658        |
| Balance of the Parking Fund | <u>1,367,072</u>    |
| <b>Total</b>                | <b>\$ 4,009,730</b> |

**Section 3. FY-2024 Capital Budget**

**The City Council ordains** that the annual appropriation in the sum of \$98,912,381 for FY-2024 be made from the CAPITAL FUND (Funds 424, 425, 426, 427, 428 and 429 combined) which monies are to be expended in accordance with law for the following purposes authorized and approved by City Council and as more particularly set forth by specific project in the FY-2024 Budget. City Council intends that the adoption of this resolution (1) confirms the “official intent” within the meaning of Treasury Regulations

Section 1.150-2 promulgated under the Internal Revenue Code of 1986, as amended. and (2) that the funds designated for the respective capital purchases or projects as set forth shall hereby made available for expenditure until the project is deemed to be complete.

The estimated revenues and appropriation categories are as follows:

**Revenues**

|                                                      |    |            |
|------------------------------------------------------|----|------------|
| Transfer from General Fund                           | \$ | 6,889,391  |
| Transfer from General Fund - Mall Vendor Fees        |    | 78,000     |
| Transfer from General Fund - VCF Allocation          |    | 575,000    |
| Contribution from Schools (Small Cap Program)        |    | 200,000    |
| Contribution from Schools - FY 22 Gainshare          |    | 1,042,414  |
| Contribution from Schools - Construction Grant Funds |    | 1,474,519  |
| CIP Contingency (from prior year surplus)            |    | 6,902,150  |
| PEG Fee Revenue                                      |    | 40,000     |
| CY 2024 Bond Issue                                   |    | 81,710,907 |

|                                 |           |                   |
|---------------------------------|-----------|-------------------|
| <b>TOTAL AVAILABLE REVENUES</b> | <b>\$</b> | <b>98,912,381</b> |
|---------------------------------|-----------|-------------------|

**Expenditures**

**EDUCATION**

**Project**

|                                              |    |            |
|----------------------------------------------|----|------------|
| Lump Sum to Schools (City Contribution)      | \$ | 1,200,000  |
| City Schools HVAC Replacement                |    | 750,000    |
| City Schools Priority Improvement Projects   |    | 1,250,000  |
| Charlottesville High School Roof Replacement |    | 541,060    |
| Charlottesville City School Reconfiguration  |    | 72,839,612 |
| School Small Capital Improvements Program    |    | 200,000    |

|                 |           |                   |
|-----------------|-----------|-------------------|
| <b>SUBTOTAL</b> | <b>\$</b> | <b>76,780,672</b> |
|-----------------|-----------|-------------------|

**FACILITIES CAPITAL PROJECTS**

**Project**

|                                         |    |           |
|-----------------------------------------|----|-----------|
| Lump Sum to Facilities Capital Projects | \$ | 1,045,491 |
| City Facility HVAC Replacement          |    | 250,000   |
| City and Schools Solar PV Program       |    | 75,000    |
| IT Data Center AC Units                 |    | 318,386   |
| RSWA Baler and Baling Facility          |    | 132,000   |
| Climate Action Initiatives              |    | 1,000,000 |
| HVAC Contingency Fund - City Facilities |    | 25,000    |

|                                                 |           |                  |
|-------------------------------------------------|-----------|------------------|
| HVAC Contingency Fund - School Facilities       |           | 25,000           |
| <b>SUBTOTAL</b>                                 | <b>\$</b> | <b>2,870,877</b> |
| <b>PUBLIC SAFETY AND JUSTICE</b>                |           |                  |
| <u>Project</u>                                  |           |                  |
| Replacement Fire Apparatus                      | \$        | 1,152,415        |
| Police Mobile Data Terminals                    |           | 45,000           |
| Police Portable Radio Replacement               |           | 45,000           |
| Fire Portable Radio Replacement                 |           | 45,000           |
| Sheriff Portable Radio Replacement              |           | 18,800           |
| <b>SUBTOTAL</b>                                 | <b>\$</b> | <b>1,306,215</b> |
| <b>TRANSPORTATION AND ACCESS</b>                |           |                  |
| <u>Project</u>                                  |           |                  |
| New Sidewalks                                   | \$        | 100,000          |
| Sidewalk Repair                                 |           | 500,000          |
| SIA Immediate Implementation                    |           | 200,000          |
| Small Area Plans                                |           | 100,000          |
| Street Milling and Paving                       |           | 1,000,000        |
| ADA Pedestrian Signal Upgrades                  |           | 240,000          |
| Minor Bridge Repairs                            |           | 225,000          |
| Citywide ADA Improvements - Sidewalks and Curbs |           | 100,000          |
| Traffic Signal Infrastructure Replacement       |           | 3,700,000        |
| State Bridge and Highway Inspections            |           | 80,000           |
| CAT Transit Bus Replacement Match               |           | 239,936          |
| Intelligent Transportation System               |           | 185,000          |
| City Wide Traffic Engineering Improvements      |           | 150,000          |
| Neighborhood Transportation Improvements        |           | 100,000          |
| Bicycle Infrastructure                          |           | 100,000          |
| Right of Way Appurtenance                       |           | 50,000           |
| Traffic Sign Retro Reflective Compliance        |           | 100,000          |
| <b>SUBTOTAL</b>                                 | <b>\$</b> | <b>7,169,936</b> |
| <b>PARKS AND RECREATION</b>                     |           |                  |
| <u>Project</u>                                  |           |                  |
| Key Recreation Slate Roof Replacement           | \$        | 712,000          |
| Parks and Recreation Lump Sum Account           |           | 400,000          |
| Parks and Schools Playground Renovations        |           | 112,000          |
| Urban Tree Planting                             |           | 100,000          |

|                                                             |         |
|-------------------------------------------------------------|---------|
| Parkland and Trails Acquisition and Development             | 225,000 |
| Downtown Mall Infrastructure Repairs                        | 78,000  |
| Oakwood Cemetery Drainage and Road Issues                   | 175,000 |
| Hazard and Liability Ash Tree Removal                       | 100,000 |
| City/County - Ivy Creek Preservation Study and Construction | 82,681  |
| Downtown Mall Trees Active Lifecycle Management             | 100,000 |

|                 |                     |
|-----------------|---------------------|
| <b>SUBTOTAL</b> | <b>\$ 2,084,681</b> |
|-----------------|---------------------|

#### **AFFORDABLE HOUSING**

##### Project

|                                                |              |
|------------------------------------------------|--------------|
| Public Housing Redevelopment - (CRHA)          | \$ 3,000,000 |
| Charlottesville Affordable Housing Fund (CAHF) | 1,500,000    |
| Supplemental Rental Assistance (CSRAP)         | 900,000      |
| PHA - MACAA Project Apartments                 | 1,885,000    |
| PHA - Park Street Apartments                   | 1,125,000    |

|                 |                     |
|-----------------|---------------------|
| <b>SUBTOTAL</b> | <b>\$ 8,410,000</b> |
|-----------------|---------------------|

#### **TECHNOLOGY INFRASTRUCTURE**

##### Project

|                                                 |           |
|-------------------------------------------------|-----------|
| Communications Technology Account/Public Access | \$ 40,000 |
| City Wide IT Strategic Infrastructure           | 250,000   |

|                 |                   |
|-----------------|-------------------|
| <b>SUBTOTAL</b> | <b>\$ 290,000</b> |
|-----------------|-------------------|

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|                       |                      |
|-----------------------|----------------------|
| <b>Total Projects</b> | <b>\$ 98,912,381</b> |
|-----------------------|----------------------|

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**The City Council further ordains** that at the close of the fiscal year the City Manager is authorized to maintain appropriations for encumbrances and grants.

**The City Council further ordains** that at the close of the fiscal year the City Manager is authorized to administratively approve the close out of capital projects and transfer any unencumbered residual funds to the balance within the Capital Improvement Fund.

#### **Section 4. Utility Enterprise Funds**

**The City Council further ordains** that the annual appropriation in the sum of \$20,770,991; or the amount of revenue received by such fund, whichever shall be the greater amount, for the WATER UTILITY FUNDS (Funds 611 and 612), which monies are to be expended for the operation of the water utility.

**The City Council further ordains** that the annual appropriation in the sum of \$20,926,007; or the amount of revenue received by such fund, whichever shall be the greater amount, for the WASTEWATER UTILITY FUNDS (Funds 621 and 622), which monies are to be expended for the operation of the wastewater utility.

**The City Council further ordains** that the annual appropriation in the sum of \$32,632,290; or the amount of revenue received by such fund, whichever shall be the greater amount, for the GAS UTILITY FUNDS (Funds 631 and 634), which monies are to be expended for the operation of the gas utility.

**The City Council further ordains** that the annual appropriation in the sum of \$4,174,255; or the amount of revenue received by such fund, whichever shall be the greater amount, for the STORMWATER UTILITY FUNDS (Funds 641,642 and 643), which monies are to be expended for the operation of the stormwater utility.

#### Operating Revenues

##### **WATER (OPERATIONAL AND DEBT SERVICE FUNDS)**

|                           |              |
|---------------------------|--------------|
| Water Sales Revenue       | \$12,995,991 |
| Other Fees                | 200,000      |
| Bond Proceeds             | 5,775,000    |
| Transfer from Other Funds | 1,800,000    |

|                                 |                     |
|---------------------------------|---------------------|
| <b>WATER FUND REVENUE TOTAL</b> | <b>\$20,770,991</b> |
|---------------------------------|---------------------|

##### **WASTEWATER (OPERATIONAL AND DEBT SERVICE FUNDS)**

|                           |              |
|---------------------------|--------------|
| Wastewater Sales Revenue  | \$15,926,007 |
| Bond Proceeds             | 2,000,000    |
| Transfer from Other Funds | 3,000,000    |

|                                 |                     |
|---------------------------------|---------------------|
| <b>WASTEWATER REVENUE TOTAL</b> | <b>\$20,926,007</b> |
|---------------------------------|---------------------|

##### **GAS (OPERATIONAL AND DEBT SERVICE FUNDS)**

|                   |              |
|-------------------|--------------|
| Gas Sales Revenue | \$29,793,234 |
| Other Fees        | 342,000      |
| Misc. Revenue     | 2,497,056    |

|                          |                     |
|--------------------------|---------------------|
| <b>GAS REVENUE TOTAL</b> | <b>\$32,632,290</b> |
|--------------------------|---------------------|

##### **STORMWATER (OPERATIONAL AND DEBT SERVICE FUNDS)**

|                           |             |
|---------------------------|-------------|
| Stormwater Fee Revenue    | \$1,944,572 |
| Bond Proceeds             | 1,550,000   |
| Transfer from Other Funds | 679,683     |

|                                 |                    |
|---------------------------------|--------------------|
| <b>STORMWATER REVENUE TOTAL</b> | <b>\$4,174,255</b> |
|---------------------------------|--------------------|



**The City Council further ordains** that at the close of the fiscal year the City Manager is authorized to maintain appropriations within the City's enterprise funds for encumbrances, grants, capital projects and programs.

**The City Council further ordains** that the annual appropriations for the City's Utility Enterprise Funds are subject to amendment based on Council's subsequent review and approval of the Annual Utility Rate Report which sets forth the annual spending plan and establishes the annual customer rates for each utility. By definition, the term "operation" is herein defined to include any self-supporting enterprise expenditures including those for capital outlay and for the payment of principal and interest of bonds, notes and other evidence of indebtedness and the cost of issuance thereof issued by the City pursuant to its Charter and/or the Virginia Public Finance Act.

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                                                                                            |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                                                                                              |
| Action Required: | Approve Resolution (1 reading – Public Hearing)                                                                                                                                                            |
| Presenter:       | Brenda Kelley, Redevelopment Manager, Riaan Anthony, Deputy Director - Parks Division                                                                                                                      |
| Staff Contacts:  | Brenda Kelley, Redevelopment Manager<br>Riaan Anthony, Deputy Director - Parks Division<br>Samuel Sanders, Jr., Deputy City Manager                                                                        |
| Title:           | <b>Approval of Lease Agreement with Virginia Soccer Alliance, Inc. d/b/a Soccer Organization of the Charlottesville Area, Inc. (SOCA) for lease of Unity Field (1 Reading Resolution - Public Hearing)</b> |

**Background**

The Soccer Organization of the Charlottesville Area (SOCA) wishes to continue to lease a 1.844 acre portion of Unity Field (f/k/a Davis Field). The most recent Lease Agreement with SOCA was effective for ten (10) years, from March 1, 2013 through March 31, 2023.

The history of the field is that it was originally the football field for the private school Rock Hill Academy in the 1960s and 70s. When that school went away it became the property of a local family headed by George Coles. He leased it to SOCA for many years for the price of the taxes. SOCA also handled the upkeep of the property. When his family wanted to sell the property, the neighbors lobbied for the field to stay as open space instead of becoming an infill development of some sort (apartments, etc). SOCA and the City both investigated the potential and the City acquired the property as part of its parks system and then leased it to SOCA along similar terms to what SOCA had been leasing from the Coles family previously.

**Discussion**

According to the website, SOCA, a nonprofit organization, was founded in 1982. The organization was formed to provide appropriate soccer programming for the Charlottesville and Albemarle community with the goal of fostering a greater love for a sport that had little history in the area. Initially offering youth recreational soccer programming, the organization has grown through the years to become the preeminent soccer provider in this region of Virginia. With soccer programming offered for young and old, novice to advanced players, SOCA now serves over 6,000 local soccer players seasonally.

More information about SOCA and the programs they provide can be found here: <https://www.socaspot.org/about/>

City staff provides the following information relative to this lease approval request:

|                                                   |                           |
|---------------------------------------------------|---------------------------|
| Portion of Unity Field leased:                    | approximately 1.844 acres |
| Current Assessed Value of the 1.844-acre portion: | \$548,600                 |
| Current Lease Rate:                               | \$10,000/annually         |

The general terms of the Lease Agreement are:

|               |                                                                                                                     |
|---------------|---------------------------------------------------------------------------------------------------------------------|
| Lease period: | 5 years, with option for five additional one year terms<br>(ultimately if option exercised, expires March 31, 2033) |
| Lease rate:   | \$12,000/annually, with no more than 2% annual increase                                                             |

Use of property:

- for the purposes of conducting youth recreational sports activities
- only used during the following hours: 7am – 9pm EDT; 7am – 6pm EST
- no parking of vehicles or vehicular access within the Leased area
- no promotion of commercial businesses, except with prior written consent of the City
- no conducting business or raising funds, except with prior written consent of the City
- no admission fee shall be charged
- Lessee has exclusive right to formal use of the leased property
- When not in active use by the Lessee, the public shall have the right to use the property
- Lessee is responsible for safety and supervision while participating in events, programs and activities

Lessee Responsibilities: responsible for all costs associated with the ongoing maintenance, operation and repair of the Leased Property; placing trash in approved receptacles and removing trash from the site on at least a weekly basis; maintenance of all turf and forested areas; Lessee accepts Leased Property “as-is”

**Alignment with City Council’s Vision and Strategic Plan**

This lease aligns with City Council’s “Green City” vision and contributes to Goal 2 of the Strategic Plan: Be a safe, equitable, thriving and beautiful community; and objective 2.5: to provide natural and historic resources stewardship; 5.2: Build collaborative partnerships; 5.3: Promote community engagement.

**Community Engagement**

This Lease Agreement has been reviewed by SOCA representative(s).

**Budgetary Impact**

This request does not require any funding from the City budget.

**Recommendation**

Staff recommends that City Council approve the attached Resolution following Public Hearing.

**Alternatives**

City Council could choose to not approve this Resolution which will result in the current lease to expire.

**Attachments**

1. Resolution SOCA Lease Agreement 040323
2. Unity Field SOCA Lease draft revMarch2023

## **RESOLUTION**

### **Approving a lease of a portion of Unity Field to the Virginia Soccer Alliance, Inc. d/b/a Soccer Organization of the Charlottesville Area, Inc.**

WHEREAS, the Soccer Organization of the Charlottesville Area (SOCA) desires to lease certain City-owned property for a term of five (5) years, and with option for renewal for up to five additional one year terms, and City Council has considered the terms of the proposed lease, and has conducted a public hearing in accordance with the requirements of Virginia Code Sec. 15.2-1800(B); NOW, THEREFORE,

BE IT RESOLVED by the Council of the City of Charlottesville, Virginia, that the lease of a portion of City-owned property known as Unity Field, Charlottesville, Virginia, to SOCA, presented to Council this same date for consideration, is hereby APPROVED and the City Manager is hereby authorized to execute the approved lease on behalf of City Council.

Approved by Council  
April 3, 2023

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Kyna Thomas, CMC  
Clerk of Council

## AGREEMENT OF LEASE

THIS LEASE AGREEMENT is made as of the \_\_\_\_\_ day of \_\_\_\_\_, 2023, by and between the CITY OF CHARLOTTESVILLE, a municipal corporation ("City"), and VIRGINIA SOCCER ALLIANCE, INC. d/b/a SOCCER ORGANIZATION OF THE CHARLOTTESVILLE AREA, INC. a charitable non-profit organization authorized to do business in the Commonwealth of Virginia ("Lessee").

### WITNESSETH:

- 1. Leased Property.** The City, as the title holder of the subject property, in consideration of the rents and covenants to be paid and performed by Lessee, hereby leases to the Lessee the Property which consists of a 1.844 acre portion of City parkland commonly known as Unity Field (f/k/a Davis Field) in the City of Charlottesville, being more particularly described on Exhibit A as the "Leased Property", which exhibit is attached and incorporated herein by reference.
- 2. Condition of Leased Property.** The Leased Property is currently used as public recreational areas under the supervision of the City Department of Parks and Recreation. The City makes no representation or warranty as to the condition or suitability of the Leased Property for the intended purpose of this Lease prior to or at the time of the execution of this Lease. Lessee accepts the Leased Property "as is" on the effective date hereof.
- 3. Term.** The initial term of this Lease shall be for a period of five (5) years ("Initial Lease Term"), which shall begin on April 1, 2023 and expiring at midnight on March 31, 2028 ("Expiration Date"), unless sooner terminated as provided herein.
- 4. Option to Renew.** Provided that Lessee is not in default in the performance of this Lease, Lessee shall have the option to renew the Lease for up to five (5) additional one-year terms (each, a "Renewal Term"). Each of Lessee's Renewal Term options must be exercised by giving written notice to the Landlord at least sixty (60) days prior to the expiration of the Initial Lease Term, or the then-applicable Renewal Term, as applicable. A Renewal Term shall commence on April 1 following the Expiration Date of the Initial Lease term, or a Renewal Term, as applicable. All of the terms and conditions of the Lease shall apply throughout the Initial Lease Term and each Renewal Term.
- 5. Rent.** The Lessee shall pay to the City rent at the rate of \$12,000 per year. The first rent payment of \$6,000 shall be due to the City within thirty (30) days after execution of the lease. The second rent payment of \$6,000 shall be due five (5) months after the first payment. Thereafter each subsequent payment shall be due in two equal installments on the first day of May and October respectively.

**Rent payments shall be delivered by check, cash or wire transfer to:**

Mail Check:

Office of the City Manager  
City of Charlottesville  
P.O. Box 911  
Charlottesville, VA 22902  
Attn: Lease – SOCA

In Person (cash or check):

City of Charlottesville  
Customer Service, 1<sup>st</sup> Floor  
600 E. Main Street  
Charlottesville, VA 22902  
Attn: Lease – SOCA

Wire Transfer:

Information provided upon request.

Tenant is responsible for ensuring that payment is received by the City by the Due Date.

6. **Adjustment in basic annual rent.** The basic annual rent shall be subject to adjustment for increase upon each Renewal Term. Each annual rent shall be adjusted by an increase of two percent (2%) per annum of the annual rent for the immediately preceding year.
7. **Use.** Subject to the Lessee's compliance with all applicable laws, the City hereby grants permission to the Lessee to occupy the Leased Property for the purposes of conducting youth recreational sports activities. Use of the Leased Property shall occur during the following hours: 7 am – 9 pm during Eastern Daylight Time; 7am – 6pm during Eastern Standard Time. There shall be no parking of vehicles within the Leased Property or vehicular access to or within the Leased Property. The Lessee shall not promote commercial businesses or corporations in outside signage on the Leased Property or in advertising circulated to the general public, except with prior written consent of the City. Lessee shall not use the Leased Property for the purpose of conducting business or raising funds, except with prior written consent of the City.
8. **Purpose.** Unless otherwise agreed by the parties, the use of the Leased Property shall be for the purpose of conducting youth recreational sports activities and shall benefit the youth of the community.
9. **Public Admittance and Access.** No admission fee to the Leased Property shall be charged to any members of the public desiring to participate in or observe youth sporting activities. When not in active use by the Lessee, members of the public shall have the right to walk across the Leased Property and use the Leased Property for recreational purposes. The City agrees that Lessee has exclusive right to formal use of the leased property and the City shall not allocate this athletic field for formal use by athletic organizations other than the Lessee. Lessee agrees to make the Leased Property available for limited City sponsored recreational events, only after coordination and written agreement with City Parks and Recreation staff,

and such events may not conflict with regular programming conducted by the Lessee. Lessee will be solely responsible for making field closure decisions due to weather and field conditions, and will be responsible to determine its own uses of the facility within the Lessee's mission.

**10. Zoning.** The City's zoning administrator has verified that the uses authorized within this Lease are allowed by right at the Property under the City's zoning ordinance.

**11. Nonprofit status.** If Lessee is required by this Lease to pay only nominal rent for the Leased Property, Lessee represents and warrants that it is a charitable organization, institution or corporation authorized to receive appropriations, gifts or donations of money or property, real or personal, from the City, under the provisions of Virginia Code Sec. 15.2-953. Records which document Lessee's nonprofit status are attached as **Exhibit B** (if applicable).

**12. Maintenance/Operational Expenses.**

- a. The Lessee shall, at its own cost and expense during the term of this Lease, maintain and keep the Leased Property in a reasonably clean, attractive condition, and not commit or allow any waste or damage to be committed on or to any portion of the Leased Property. This includes but is not limited to placing trash in approved receptacles at the conclusion of each day's activities and removing trash from the site on at least a weekly basis. The Lessee shall be responsible for all costs associated with the ongoing maintenance, operation and repair of the Leased Property. Lessee is also responsible for maintenance of all turf and forested areas on the Leased Property, including but not limited to landscaping and cutting of turf on at least a weekly basis, during the growing season. Lessee further agrees to abide by any duly adopted City policies, present or future, governing the use of pesticides, cleaners, fertilizers or other products at the Leased Property. Lessee agrees to coordinate with City Parks and Recreation staff on the Lessee's turfgrass management program, including preparation of an annual work plan for City review and comment. City reserves the right to make recommendations to Lessee regarding turf management practices and Lessee shall provide to the City copies of all contractor's Pesticide Applicator's Licenses prior to the application of any pesticides on the Leased Property.
- b. As part of its maintenance responsibilities, Lessee agrees to comply fully with any applicable governmental laws, regulations and ordinances limiting or regulating the use, occupancy or enjoyment of the Leased Property, and to comply with the Virginia Uniform Statewide Building Code and the Virginia Statewide Fire Prevention Code, as supplemented and modified by duly enacted ordinances of the City of Charlottesville.

**13. Taxes and Assessments.** Real property taxes shall not be imposed against the leasehold interest of Lessee if Lessee is exempt from the payment of real property taxes pursuant to Chapter 36 of Title 58.1 of the Code of Virginia; provided, however, that real estate taxes on the Lessee's leasehold interest shall become due and payable at any time that Lessee is no longer entitled to a tax exemption under the laws of the Commonwealth of Virginia.



**14. Adequate Supervision.** The Lessee shall be responsible for the well-being and safety of its employees and members while participating in events, programs and activities sponsored by Lessee while on the Leased Property and on Northeast Park grounds generally, and shall, at all times, provide reasonable and customary supervision.

**15. Development, Improvements and Signage.**

- a. No improvements of any kind, including roadways and parking areas, shall be made to the Leased Property except with the City's prior written consent both as to the improvements and as to the contractors and subcontractors performing the work.
- b. No improvements shall be undertaken on the Leased Property unless and until the Lessee shall have obtained any and all local, state and federal governmental approvals and permits, and all such improvement shall be undertaken in strict compliance with all City, state and federal rules, regulations and laws.
- c. Upon the expiration or sooner termination of this Lease, the City shall have the option (exercisable upon sixty (60) days' notice to the Lessee except in the case of a termination of this Lease due to a default by the Lessee, in which case no such notice shall be required) to require the Lessee to remove, at Lessee's sole cost and expense, any and all improvements made by the Lessee to the Leased Property which have not been made with the City's consent or approval, or to elect to keep such improvements as the City's property. In the event the Lessee is required to remove any improvements, (i) the Lessee shall be responsible for the restoration of the Leased Property to their prior condition, and (ii) if the Lessee fails to properly restore the Leased Property, the City may perform the same at the Lessee's cost and expense.
- d. The Lessee shall permit no mechanic's liens, materialmen's liens or other statutory liens to attach to the Leased Property as a result of any alterations, improvements, additions or repairs performed by the Lessee or at the Lessee's direction. If any such lien or notice of lien rights shall be filed with respect to the Leased Property, the Lessee shall immediately take such steps as may be necessary to have such lien released, and shall permit no further work to be performed at the Leased Property until such release has been accomplished.
- e. The Lessee shall have the right to place signs on the Leased Property only in conformity with all local regulations and with the prior written approval of the City. Signs in existence on the date of this Lease are approved.

**16. Insurance.**

- a. Liability Insurance of Lessee. Lessee covenants and agrees that it will, at all times during the term of this Lease, keep in full force and effect a policy of public liability and property damage insurance with respect to the Leased Property and the operations of the Lessee on the Leased Property in which the limits of public liability for bodily injury and property damage shall not be less than One Million and 00/100 Dollars (\$1,000,000.00)

per accident, combined single limit. The policy shall name the City as an additional insured. The policy shall provide that the insurance thereunder shall not be canceled without thirty (30) days written notice thereof to the City. The Lessee shall also obtain a tenant's property insurance policy insuring the Lessee's personal and business property on the Leased Property.

- b. **Fire and Extended Coverages.** The Lessee shall maintain coverage against loss, damage or destruction by fire and such other hazards as are covered and protected against, at standard rates under policies of insurance commonly referred to and known as "extended coverage", as the same may exist from time to time.
- c. **Proof of Insurance.** Copies of policies of insurance (or certificates of the insurers) for insurance required to be maintained by the Lessee shall be delivered by the Lessee to the City, upon the issuance of such insurance and thereafter no later than January 31 of each year.

**17. Default.** Each of the following occurrences relative to the Lessee shall constitute default:

- a. Failure by the Lessee in the performance or compliance with any of the terms, covenants, or conditions provided in this Lease, which failure continues uncured for a period of sixty (60) days after written notice from the City to the Lessee specifying the items in default; provided, however, if such failure is of a type that is not reasonably capable of being cured within such sixty (60) day period, such sixty (60) day period shall be extended for so long as the Lessee is making diligent efforts to cure such default;
- b. Failure or refusal by the Lessee to make the timely payment of rent or other charges due under this Lease when the same shall become due and payable, provided the City has given the Lessee fifteen (15) days written notice of the same;
- c. An incompatible change in the operation, charter, or ownership of the Lessee (including, but not limited to, loss of Internal Revenue Code 501(c)(3) tax-exempt status).

**18. Damage or Destruction of the Leased Property.** The Lessee shall be responsible for any damage caused to the facilities or the property of the City resulting from the action of any employee or volunteer, or member, guest or invitee of the Lessee, while participating in Lessee sponsored events, programs or activities, beyond normal wear and tear.

**19. Storage and Installation of Property and Equipment.** The Lessee agrees that all property of every kind and description kept, stored or placed on the Leased Property shall be at the Lessee's sole risk and hazard and that the City shall not be responsible for any loss or damage to any such property. All equipment shall be stored in a safe manner, and shall be installed and properly anchored per ASTM standards.

**20. Indemnification.** The Lessee shall indemnify, defend and hold the City and its officials, officers and employees harmless from and against any and all liability, loss, claim, suit, damage, charge or expense suffered, sustained, incurred or in any way be subjected to, on

account of death of or injury to any person and for damage to, loss of and destruction of any property whatsoever, which arises out of, results from, or is in any way connected with actions taken in the performance of the Lessee's obligations under this Lease, or which occurs as a consequence of any negligence, omission or misconduct of the Lessee and any contractors, subcontractors, agents or employees in the performance of the Lessee's obligations under this Lease.

**21. Assignment.** The Lessee shall have no right to assign, in any manner or fashion, any of the rights, privileges or interests accruing to it under this Lease to any other individual or entity.

**22. Sublease.** Sublease is prohibited.

**23. Surrender.** Upon termination of the Lease, the Lessee shall quit and surrender to the City the Leased Property in good order and condition, except for ordinary wear and tear, provided that the Lessee shall remove from the premises any personal property belonging to the Lessee or third parties, and at its cost and expense shall repair any damage caused by such removal. Personal property not so removed shall become the property of the City, which may thereafter remove the property and dispose of it. On the termination of this Lease, the City may without further notice enter on, reenter, possess and repossess the Leased Property by any necessary means.

**24. Right of Entry.** At any time during the term of the Lease, the City shall have the right, upon prior notice to the Lessee (except in the event of an emergency), to enter the Leased Property at all reasonable times for the purposes of inspecting the Leased Property to ensure compliance with the terms of this Lease. Notwithstanding the City's right to inspect the Leased Property, the City shall have no obligation to inspect the same. The City's failure to detect any violation or to notify the Lessee of any violation shall not relieve the Lessee of obligations under the terms of this Lease.

**25. Waiver.** The waiver by the City or the Lessee of any breach of any term, covenant or condition contained herein shall not be deemed to be a waiver of such term, covenant, or condition or any subsequent breach of the same or any other term, covenant or condition contained herein. The subsequent acceptance of rent hereunder by the City shall not be deemed to be a waiver of any breach by the Lessee or the City of any term, covenant or condition of this Lease regardless of knowledge of such breach at the time of acceptance or payment of such rent. No covenant, term or condition of this Lease shall be deemed to have been waived by the Lessee or the City unless the waiver be in writing signed by the party to be charged thereby.

**26. Entire Agreement.** This Lease, and the exhibits attached hereto and forming a part of hereof, set forth all the covenants, promises, agreements, conditions and understandings, between the City and the Lessee concerning the Leased Property and there are no covenants, promises, agreements conditions or understandings, either oral or written, between them other than as herein set forth. Except as herein otherwise provided, no subsequent alteration, amendment, change or addition to this Lease shall be binding upon the City or the Lessee unless reduced to in writing and signed by them.

**27. Headings.** The section headings in this Lease are inserted only as a matter of convenience and in no way define, limit, construe, or describe the scope or intent of such sections of this Lease nor in any way do they affect this Lease.

**28. Severability.** If any term, covenant or condition of this Lease, or the application thereof, to any person or circumstance shall to any extent be invalid or unenforceable the remainder of this Lease, or the application of such term, covenant, or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term, covenant, or condition of this Lease shall be valid and be enforced to the fullest extent permitted by law.

**29. Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia.

**30. Notices.** Any notice, demand, request, or other instrument which may be, or are required to be given under this Lease, shall be in writing and delivered in person or by United States certified mail, return receipt requested, postage prepaid, and shall be addressed as follows:

Lessee:                      Mailing Address:  
                                    Virginia Soccer Alliance  
                                    1685 Polo Grounds Road  
                                    Charlottesville, VA 22911

                                    Delivery Address:  
                                    Virginia Soccer Alliance  
                                    1685 Polo Grounds Road  
                                    Charlottesville, VA 22911

City:                         Mailing Address:  
                                    Office of the City Manager  
                                    City of Charlottesville  
                                    P.O. Box 911  
                                    Charlottesville, VA 22902  
                                    Attn: City Lease

                                    Delivery Address:  
                                    Office of the City Manager  
                                    City of Charlottesville  
                                    605 E. Main Street, 2<sup>nd</sup> Floor  
                                    Charlottesville, VA 22902  
                                    Attn: City Lease

or at such other address as designated by written notice of a party.

IN WITNESS WHEREOF, the parties have caused this Lease to be executed by their duly authorized representatives, following below:

CITY OF CHARLOTTESVILLE, VIRGINIA

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

Title: \_\_\_\_\_

Lessee: VIRGINIA SOCCER ALLIANCE, INC. d/b/a SOCCER ORGANIZATION OF THE CHARLOTTESVILLE AREA, INC.

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

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

**EXHIBIT A**

**LEASED PROPERTY**



## **EXHIBIT B**

### **Tenant's Non-Profit Status**

 **IRS** Department of the Treasury  
Internal Revenue Service  
P.O. Box 2508  
Cincinnati OH 45201

In reply refer to: 0752857589  
July 13, 2018 LTR 4168C 0  
52-1336900 000000 00  
00029763  
BODC: TE

 SOCCER ORGANIZATION OF THE  
CHARLOTTESVILLE AREA INC  
1685 POLO GROUNDS RD  
CHARLOTTESVLE VA 22911-6318

005257

Employer ID number: 52-1336900  
Form 990 required: YES

Dear SOCCER ORGANIZATION OF THE CH:

We're responding to your request dated July 03, 2018, about your tax-exempt status.

We issued you a determination letter in APRIL 1984, recognizing you as tax-exempt under Internal Revenue Code (IRC) Section 501(c)(3).

We also show you're not a private foundation as defined under IRC Section 509(a) because you're described in IRC Section 509(a)(2).

Donors can deduct contributions they make to you as provided in IRC Section 170. You're also qualified to receive tax deductible bequests, legacies, devises, transfers, or gifts under IRC Sections 2055, 2106, and 2522.

In the heading of this letter, we indicated whether you must file an annual information return. If you're required to file a return, you must file one of the following by the 15th day of the 5th month after the end of your annual accounting period:

- Form 990, Return of Organization Exempt From Income Tax
- Form 990EZ, Short Form Return of Organization Exempt From Income Tax
- Form 990-N, Electronic Notice (e-Postcard) for Tax-Exempt Organizations Not Required to File Form 990 or Form 990-EZ
- Form 990-PF, Return of Private Foundation or Section 4947(a)(1) Trust Treated as Private Foundation

According to IRC Section 6033(j), if you don't file a required annual information return or notice for 3 consecutive years, we'll revoke your tax-exempt status on the due date of the 3rd required return or notice.

You can get IRS forms or publications you need from our website at [www.irs.gov/forms-pubs](http://www.irs.gov/forms-pubs) or by calling 800-TAX-FORM (800-829-3676).

If you have questions, call 877-829-5500 between 8 a.m. and 5 p.m., local time, Monday through Friday (Alaska and Hawaii follow Pacific



0752857589  
July 13, 2018 LTR 4168C 0  
52-1336900 000000 00  
00029764

SOCCER ORGANIZATION OF THE  
CHARLOTTESVILLE AREA INC  
1685 POLO GROUNDS RD  
CHARLOTTESVLE VA 22911-6318

time).

Thank you for your cooperation.

Sincerely yours,



Teri M. Johnson  
Operations Manager, AM Ops. 3

**COMMONWEALTH OF VIRGINIA  
STATE CORPORATION COMMISSION**

AT RICHMOND, JULY 16, 2021

The State Corporation Commission has found the accompanying articles of amendment submitted on behalf of

Virginia Soccer Alliance, Inc.

(formerly known as SOCCER ORGANIZATION OF  
CHARLOTTESVILLE AREA, INC.)

to comply with the requirements of law, and confirms payment of all required fees.  
Therefore, it is ORDERED that this

**CERTIFICATE OF AMENDMENT**

be issued and admitted to record with the articles of amendment in the Office of the Clerk of the Commission, effective July 16, 2021.

The corporation is granted the authority conferred on it by law in accordance with the articles, subject to the conditions and restrictions imposed by law.

STATE CORPORATION COMMISSION

A handwritten signature in black ink, appearing to read "Angela Navarro", with a long horizontal flourish extending to the right.

By

Angela L. Navarro  
Commissioner

**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



Agenda Date: April 3, 2023

Action Required: Approve resolution

Presenter: Ian Baxter - TJPDC

Staff Contacts:

**Title: Thomas Jefferson Planning District Commission 2023 Regional Natural Hazard Mitigation Plan update (1 reading)**

**Background**

TJPDC works with officials from the Federal Emergency Management Agency (FEMA), the Virginia Department of Emergency Management (VDEM), and local emergency managers to develop and maintain a regional Natural Hazard Mitigation Plan. These plans are updated every 5 years and provide details on how our communities can take action to prepare for natural disasters before they strike, thus reducing the potential for loss of life and property damage when disasters do occur. The hazard mitigation efforts are supported by the Hazard Mitigation Working Group, which consists of representatives from each locality in the planning district and other state and community stakeholders.

Hazard mitigation is any action taken to reduce or eliminate long-term risk to people and property from natural hazards. Mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage.

**Discussion**

The 5-year update of the Natural Hazard Mitigation Plan was adopted by FEMA in January 2023 and subsequently must be adopted by each governing body in the region. The official adoption date is February 1, 2023, the date of the first Resolution of Adoption (Fluvanna County). The full 222-page PDF document and other planning information can be viewed online at: <https://tjpd.org/our-work/hazard-mitigation/>.

**Alignment with City Council's Vision and Strategic Plan**

**Community Engagement**

n/a

**Budgetary Impact**

n/a

**Recommendation**

n/a

**Alternatives****Attachments**

1. Haz-Mit Report Jan-2023-Full-Res FEMA Approved
2. TJPDC-City of Charlottesville HMP Resolution

# Regional Natural Hazard Mitigation Plan



2023 UPDATE

**Prepared By:**

Thomas Jefferson Planning District Commission



*Thomas  
Jefferson*

Planning District Commission

401 East Water Street  
Charlottesville, VA 22902  
tjpd.org | info@tjpd.org

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# Executive Summary

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## BACKGROUND

The purpose of the Regional Natural Hazard Mitigation Plan is to prepare for natural disasters before they occur, thus reducing loss of life, property damage, and disruption of commerce. The Federal Emergency Management Agency (FEMA) requires such a plan as a condition for eligibility in certain mitigation grant programs. The plan applies to all jurisdictions in the Thomas Jefferson Planning District – Albemarle County, the City of Charlottesville, Greene County, Louisa County, Fluvanna County, Nelson County, and the Towns of Stanardsville, Louisa, Mineral, Scottsville, and Columbia. The original plan was adopted by all jurisdictions in 2006; the plan was updated in 2012, with FEMA approval on March 14, 2018 and formal adoption by all localities completed in June 2018. This is the five-year update, with a formal adoption date of \_\_\_\_\_, 2023.

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## SECTIONS OF PLAN

The following sections are included in the plan:

1. **Introduction – overview of hazard mitigation generally.**
2. **Planning Process – the process through which the plan was developed, including public input.**
3. **Community Profile – general information about communities in the planning district.**
4. **Hazard Identification and Analysis – general information about potential hazards in the planning district, the historic record of hazard events, and the probability of future events.**
5. **Vulnerability Assessment – analysis of the impact hazards could cause, with estimated potential losses for various hazard scenarios.**
6. **Capabilities Assessment – survey of current local capacity to prepare for natural hazards.**
7. **Mitigation Strategies – goals, objectives, and action items selected to mitigate hazards identified.**

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## PLANNING PROCESS

The lead agency in the preparation of this plan is the Thomas Jefferson Planning District Commission. A Hazard Mitigation Working Group guided the preparation of this plan and will assume responsibility for monitoring the progress of implementation on an annual basis. The Working Group consisted of at least one representative from each locality, as well as state representatives. Working Group members represented the planning department, emergency management department, and/or Administration from each locality.

TJPDC staff organized monthly meetings of the Working Group to refine multiple components of the plan. First, a review of the data needs was conducted in order to determine how TJPDC staff would update information that would be used to update the Hazard Identification and Risk Assessment (HIRA) section and to ask members to promote a public survey that would collect information about community needs. Next, TJPDC staff compiled and presented updated data about the natural hazards that would be ranked according to relative risk in the HIRA. This information was presented, refined, and then sent out to each locality's Working Group member in order to formulate a risk assessment for their respective localities. These assessments were compiled and presented to the working group as the regional HIRA matrix. The Working Group then examined, edited, and finalized the Goals and Objectives used to guide the long and short-term goals for risk mitigation in the region. A public workshop was also held to examine these Goals and Objectives, as well as the regionwide HIRA. Finally, meetings with all locality staff and presentations to Local Emergency Planning Committees (LEPC) were conducted in order to present the 2018 plan's mitigation actions for each locality, the HIRA data, and best practices and example action items for them to formulate new action items and catalogue or update old ones. Staff compiled these into the Mitigation Strategies section of the plan. Staff also presented



to all nine governing bodies that are expected to adopt the approved plan in May, June, and July 2022 to inform these bodies of the planning process, plan contents, and expectations around adoption and grant opportunities available through adoption. During these series of meetings, a public comment period that was advertised in local media and local government communication channels occurred during June 2022. After compiling feedback from elected officials and the public, the draft plan was sent to VDEM in July 2022. Full meeting agendas, sign-in sheets, meeting materials, and recordings are available in Appendix A of all Working Group meetings, public meetings, and survey.

The following sources of stakeholder input were used:

- **Regular meetings of the Hazard Mitigation Working Group.**
- **One public workshop**
- **An online survey**
- **Presentations to Local Emergency Planning Committees and work with local staff**
- **Recommendations from existing plans and documents.**
- **Public comment period of entire draft plan**

---

## HAZARD IDENTIFICATION AND ANALYSIS/VULNERABILITY ASSESSMENT

All hazards in the region are ranked by this plan according to overall relative threat, which combines the probability of occurrence with the impact of an event. The matrix The Working Group reviewed the HIRA data and assigned values for each hazard over December 2021. The HIRA matrix, created by Kaiser Permanente, creates a template for hazards can be ranked by relative risk according to probability, human impact, property impact, and business impact. TJPDC staff created a set of data for each hazard and asked each locality to fill out an individual matrix for their locality. Localities used this data, as well as staff input, to assign values for each hazard. TJPDC staff combined these matrices into the below matrix for the region. This matrix can be viewed as the final product of staff deliberation using best available weather data, staff input, and local emergency management information.

The HIRA uses two components to determine relative risk. First, probability is represented as a numeric value (1-3) that represents the likelihood of that the associated hazard will occur in the region in the next 5 years.

Probability Definition:

- 0- 0% probability of occurring in the next 5 years
- 1- 0-33% probability of occurring in the next 5 years
- 2- 34-66% probability of occurring in the next 5 years
- 3- 67-100% probability of occurring in the next 5 years

Severity is defined as the human, economic, and property impact that a hazard will have on the region if it occurs. Severity is separated into 3 distinct types of impact: Human, Property, and Business. For each of these categories, severity is represented as a numeric value (1-3) that represents the impact that an associated hazard would have on each category in the region.

Severity Definition:

- 0- no loss of life, business impact, or property damage
- 1- No loss of life, but non-life threatening injuries, minor property damage, and slightly reduced economic activity
- 2- Some moderate and life-threatening injuries and potential loss of life, moderate to major property damage, moderate to significant disruption of commerce
- 3- Moderate to major injuries and loss of life, major and sustained property damage, major disruption to commerce

| EVENT                          | PROBABILITY                                                                                        | HUMAN IMPACT                                                                                       | PROPERTY IMPACT                                                                                    | BUSINESS IMPACT                                                                                    | RISK             |
|--------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------|
|                                | Likelihood this will occur                                                                         | Possibility of death or injury                                                                     | Physical losses and damages                                                                        | Interruption of services                                                                           | Relative threat* |
| SCORE                          | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 - 100%         |
| Hurricane/high wind/windstorms | 3                                                                                                  | 2                                                                                                  | 2                                                                                                  | 2                                                                                                  | 74%              |
| Flooding                       | 3                                                                                                  | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 65%              |
| Winter storms/ weather         | 3                                                                                                  | 1                                                                                                  | 1                                                                                                  | 2                                                                                                  | 56%              |
| Communicable Disease/Pandemic  | 2                                                                                                  | 2                                                                                                  | 1                                                                                                  | 2                                                                                                  | 30%              |
| Lightning                      | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Wildfire                       | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Drought / Extreme Heat         | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Dam Failure                    | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 2                                                                                                  | 22%              |
| Tornado                        | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Earthquake                     | 1                                                                                                  | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 19%              |
| Landslide                      | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 11%              |
| AVERAGE SCORE                  | 1.88                                                                                               | 1.37                                                                                               | 1.5                                                                                                | 1.58                                                                                               | 33%              |

|                               |      |      |
|-------------------------------|------|------|
| RISK = PROBABILITY * SEVERITY |      |      |
| 0.32                          | 0.43 | 0.17 |

\*Threat increases with percentage.

Most data on hazards are derived from federal and state government sources, and data on development and critical facilities are derived primarily from local government sources. Results are presented in a series of maps and charts.

## MITIGATION STRATEGY

The following goals and objectives, grouped into five broad categories, are recommended by the plan: Education and Outreach, Infrastructure and Buildings, Whole Community, Mitigation Capacity, Information Data and Development: The five major goals of the plan have been components of all of the Regional Natural Hazard Mitigation Plans prior to this update. The Hazard Mitigation Working Group adjusted language regarding the goals and objectives under each category, in order to better guide the development of new mitigation action items, in early 2022. More information regarding these mitigation categories and their relation to mitigation activities can be found on page MS-1.

### Education and Outreach (E)

- **GOAL: Increase awareness of hazards and encourage action to mitigate the impacts**
  - Ø **OBJECTIVE: Educate families and individuals on disaster mitigation and preparedness options and promote self-sufficient buildings with multiple energy options**
  - Ø **OBJECTIVE: Train key agency staff and volunteer groups in disaster mitigation and preparedness**
  - Ø **OBJECTIVE: Train staff at schools and residential facilities in disaster mitigation and preparedness**
  - Ø **OBJECTIVE: Encourage and equip employers to develop emergency action plans**

## Infrastructure and Buildings (I)

- **GOAL:** Reduce the short and long-term impact of hazard events on buildings and infrastructure
  - Ø **OBJECTIVE:** Diversify the energy system to provide multiple power source and fuel supply
  - Ø **options and promote self-sufficient buildings with multiple energy options**
  - Ø **OBJECTIVE:** Diversity the communications system to provide alternative lines for use during loss of capacity
  - Ø **OBJECTIVE:** Diversify the transportation system by increasing connectivity and providing modal options
  - Ø **OBJECTIVE:** Elevate, retrofit and relocate existing structures and facilities in vulnerable locations
  - Ø **OBJECTIVE:** Construct or upgrade drainage, retention, and diversion elements to lessen the impact of a hazard on an area
  - Ø **OBJECTIVE:** Protect sensitive areas through conservation practices
  - Ø **OBJECTIVE:** Ensure that each critical facility has a disaster plan in place
  - Ø **OBJECTIVE:** Identify high hazard potential dams in the region and consider options to reduce vulnerabilities

## Whole Community (C)

- **GOAL:** Prepare to meet the immediate functional and access needs of the population during natural hazards
  - Ø **OBJECTIVE:** Effectively communicate with and transport people regardless of their language proficiency and physical needs.
  - Ø **OBJECTIVE:** Make information available, accessible, and accurate to ensure the entire population can access emergency shelters in a timely manner and have functional needs met, in the event of a natural hazard
  - Ø **OBJECTIVE:** Updating necessary information consistently and through multiple different outlets through the development an emergency information communication plan

## Mitigation Capacity (M)

- **GOAL:** Increase mitigation and adaptation capacity through planning and project implementation
  - Ø **OBJECTIVE:** Reduce property risks through planning, zoning, ordinances and regulations
  - Ø **OBJECTIVE:** Incorporate mitigation planning concepts, climate resilience, and vulnerability planning into local plans and ordinances
  - Ø **OBJECTIVE:** Pursue funding to implement identified mitigation and resilience strategies
  - Ø **OBJECTIVE:** Encourage proactive management of hazard prone areas, environmental features, or infrastructure

## Information and Data Development (D)

- **GOAL:** Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification
  - Ø **OBJECTIVE:** Identify data and information needs and develop methods to meet these needs
  - Ø **OBJECTIVE:** Utilize data to ensure proactive targeting of mitigation efforts

---

## MITIGATION ACTION ITEMS

A set of mitigation action items are designated for each locality to substantively further the objectives of the plan. The detailed list of action items includes the supporting goal, hazard to be mitigated, party responsible for implementation, timeframe of implementation, estimated cost, and potential funding sources. Furthermore, all action items are prioritized and listed in order from high, moderate, to low priority.

The following is an abridged list of action items for each jurisdiction and the Thomas Jefferson region

### Activity Code / Activity Description

| Thomas Jefferson Region |                                                                                                                             |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| RHE1                    | Provide a copy of the Regional Hazard Mitigation Plan to each library in the Jefferson-Madison Regional Library system      |
| RME1                    | Conduct a public education program on disaster preparedness, leveraging existing materials and sharing resources regionally |

|      |                                                                                                                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RME2 | Engage Working Group and leverage connections to continue mitigation preparedness throughout plan's duration, before next update                                                                                                                     |
| RMD1 | Identify locations for deposit of debris after a hazard                                                                                                                                                                                              |
| RME3 | Continue to research grant and funding opportunities for regionwide hazard mitigation efforts                                                                                                                                                        |
| RHI1 | Promote and educate localities on high hazard dam vulnerability reduction including rehabilitating/removing dams, elevating structures in inundation zones, adding flood protection, such as berms, floodwalls or floodproofing, in inundation zones |

| Albemarle County |                                                                                                                                                                                                                                                                                                                                                                    |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHE1             | Increase the number of trained emergency responders, both staff and volunteers. Establish a minimum ICS/emergency management training/certification requirement for essential County staff. Train/educate 70% of identified staff to minimum qualifications. Conduct disaster tabletop and/or full-scale scenarios on an annual basis to exercise skills/processes |
| AHI1             | Implement recommendations from the urban Community Water Supply Plan and those for all other public water supplies within the County, including drought monitoring and management                                                                                                                                                                                  |
| AHI2             | Develop an integrated regional security and monitoring system, including access control and intrusion detection                                                                                                                                                                                                                                                    |
| AHI3             | Establish a backup Emergency Operations Center (EOC)                                                                                                                                                                                                                                                                                                               |
| AHI4             | Establish an Albemarle County specific basic Emergency Operations Plan and annexes for the 3 highest risk natural disasters as defined in the HIRA.                                                                                                                                                                                                                |
| AHM1             | Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans                                                                                                                                                                                                                                                     |
| AHM2             | Install fire mitigation measures, including dry hydrants, fire breaks, and fire rings.                                                                                                                                                                                                                                                                             |
| AHM3             | Develop continuity-of-operations plan to ensure critical operations are maintained during power failure.                                                                                                                                                                                                                                                           |
| AHD1             | Continue to assess resilience of existing critical facilities to natural hazards                                                                                                                                                                                                                                                                                   |
| AHD2             | Mitigate Water and Wastewater System Failure or Contamination through community coordination and information/equipment sharing. Provide planning support for operational and integrated security management (including communications plan and continuity plan, emergency exercises, coordinated committee)                                                        |
| AHC1             | Develop a debris management plan (including emergency response access and cleanup) for removal of fallen trees, etc. following a storm, such as hurricane or tornado.                                                                                                                                                                                              |
| AHC2             | Engage in climate resilience and adaptation planning and implement initiatives to prepare for the anticipated hazards and impacts driven by climate change.                                                                                                                                                                                                        |
| AHC3             | Implement initiatives to reduce community greenhouse gas emissions as prescribed by the Climate Action Plan adopted in 2020 in order to mitigate climate change.                                                                                                                                                                                                   |
| AME1             | Ensure that all schools have regular disaster response drills                                                                                                                                                                                                                                                                                                      |
| AME2             | Continue to pursue conservation practices in sensitive areas, including riparian buffers and flood-prone areas.                                                                                                                                                                                                                                                    |
| AME3             | Conduct comprehensive residential and business disaster preparedness programs focusing on the ability of residents and businesses to sustain themselves for 72 hours post emergency.                                                                                                                                                                               |
| AME4             | Define Neighborhoods/communities within the County and identify (using a contact management system) key residents and Non-Governmental organizations (NGOs) within each neighborhood who may connect the County and disaster services to the neighborhood during a crisis.                                                                                         |
| AMI1             | Build or repair bridges so as not to minimize impacts to floodways                                                                                                                                                                                                                                                                                                 |
| AMI2             | Upgrade existing bridges to support emergency vehicles                                                                                                                                                                                                                                                                                                             |
| AMI3             | Carry out physical security improvements to water and wastewater systems, which may include fencing, door hardening, window hardening, locks, bollards, cameras, signage, lighting, access control and intrusion detection.                                                                                                                                        |
| AMI4             | Procure technology equipment for Water/Wastewater system component inspections.                                                                                                                                                                                                                                                                                    |
| AMI5             | Improve the maintenance and repair of stormwater conveyance systems – in part through better coordination and cooperation with local partners                                                                                                                                                                                                                      |
| AMC1             | Improve the preparedness of public and private dams within the county to withstand extreme flood events                                                                                                                                                                                                                                                            |
| AMC2             | Maintain and update, as needed, the regional and local sheltering plans.                                                                                                                                                                                                                                                                                           |

|      |                                                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AMC3 | Continue to assess designated community shelters for compliance with minimum specifications and best practices.                                                                                                                                  |
| AMC4 | During Comp Plan update, consider loosening restrictions on the types of County improvements in Rural Areas to accommodate community support facilities.                                                                                         |
| AMM1 | Through the development process, discourage or prohibit development in flood-prone areas                                                                                                                                                         |
| AMD1 | Expand GIS data and other technologies for the purposes of mitigation planning, preparedness planning, and response activities                                                                                                                   |
| ALE1 | Encourage property owners and residents to clear storm drain inlets, channels, creek beds, and other conveyances of fallen trees and debris to minimize the potential for flow restrictions and flooding.                                        |
| ALE2 | Ensure all houses and businesses have clear address signs that are visible during snowstorms and other emergencies                                                                                                                               |
| ALE3 | Continue educational campaign about the benefits of open space and sensitive area protection.                                                                                                                                                    |
| ALE4 | Outdoor warning sirens for public use facilities                                                                                                                                                                                                 |
| ALC1 | Increase the capacity to shelter in place in public buildings.                                                                                                                                                                                   |
| ALC2 | Promote biodiversity and native plant communities and control invasive species to improve the resilience of native ecosystems                                                                                                                    |
| ALC3 | Develop communications strategy and protocols (both preparedness and response) using traditional and emerging outlets (local media, social media, etc.); consider languages besides English                                                      |
| ALC4 | Improve ability to notify public in the event of extreme storms and/or dam failure, possibly through utilizing river level sensors and a downstream notification system                                                                          |
| ALC5 | Continue and expand the use of citizen alert systems. Explore use of Social Media platform emergency alert systems. Establish backup procedures/plans for emergency notification/alert when methods relying on power & technology are inoperable |
| ALI1 | Implement Stormwater Management programs and initiatives to reduce flood risk throughout the community                                                                                                                                           |
| ALI2 | Improve the maintenance, repair, and upgrades to public and private stormwater management facilities and impoundments to withstand extreme storms and enhance flood control.                                                                     |
| ALI3 | Partner with utility companies to keep power lines and other utilities free of vegetation                                                                                                                                                        |
| ALI4 | Implement programs and initiatives to reduce pollution discharge via stormwater systems                                                                                                                                                          |
| ALI5 | Continue to upgrade security systems                                                                                                                                                                                                             |
| ALI6 | Promote increased tree canopy in urban areas to reduce heat island effect.                                                                                                                                                                       |

#### Town of Scottsville

|       |                                                                                 |
|-------|---------------------------------------------------------------------------------|
| ASMM1 | Update the Town's Floodplain Maps to inform decision-making.                    |
| ASMM2 | Improve Riparian Buffers along parts of Mink Creek and the James River.         |
| ASLM1 | Improve Regional Transit for emergency evacuations, prevention, and resiliency. |

#### City of Charlottesville

|      |                                                                                                                                            |
|------|--------------------------------------------------------------------------------------------------------------------------------------------|
| CHE1 | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant buildings.                       |
| CHE2 | Ensure that all city schools have an emergency and disaster plan and regularly conduct disaster response drills.                           |
| CHM1 | Complete Flood Resilience Plan                                                                                                             |
| CHM2 | Complete Climate Adaptation Plan                                                                                                           |
| CHM3 | Update floodplain regulations                                                                                                              |
| CHM4 | Incorporate hazard mitigation plan into community plans. Identify senior living/special needs residences in areas vulnerable for flooding. |
| CHM5 | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster.             |
| CHM6 | Provide incentives to institutions and homeowners for use of low-flow appliances.                                                          |

|      |                                                                                                                                                               |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHM7 | Continue to expand use of citizen alert system. (Code RED) Develop community promotion plan for Code RED.                                                     |
| CHM8 | Inventory all shelters and public buildings to ensure emergency preparedness supplies and equipment are onsite.                                               |
| CMD1 | Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects      |
| CMD2 | Conduct a needs survey that identifies special needs population and residences and/or facilities needing attention in the event of emergencies or evacuations |
| CMI1 | Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris                                                                          |
| CMI2 | Build or repair roadway and pedestrian crossings so as not to impede floodwaters                                                                              |
| CMI3 | Retrofit emergency service buildings for hazard preparedness and resistance.                                                                                  |
| CMM1 | Support volunteer groups and encourage collaboration on public outreach and education programs on hazard mitigation.                                          |
| CMM2 | Pursue conservation practices in sensitive areas (stream corridor restoration, forest management )                                                            |
| CMM3 | Create a strategy for using existing media outlets for communications during a hazard event.                                                                  |
| CMM4 | Ensure that all critical facilities have updated shelter-in-place plans                                                                                       |
| CLE1 | Provide citizens with literature about flood and drought-smart landscaping and GI. Promote VCAP.                                                              |
| CLE2 | Create educational campaign about floodplain locations, the benefits of open space and riparian corridors.                                                    |
| CLI1 | Improve the maintenance of stormwater infrastructure.                                                                                                         |
| CLI2 | Reduce pollution discharge to and erosive conditions in receiving waters.                                                                                     |
| CLI3 | Increase infiltration capacity and volumetric reductions in runoff via stormwater control measures (SCMs).                                                    |
| CLI4 | Improve capture and conveyance capacity of stormwater infrastructure.                                                                                         |

| Fluvanna County |                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FHE1            | Increase the number of trained emergency responders, both staff and volunteers                                                                                   |
| FHI1            | Install new fire hydrants along new JRWA water line                                                                                                              |
| FHC1            | Conduct regular disaster response drills in schools, and with staff at Assisted Living Facilities and Nursing Homes                                              |
| FHC2            | Continue and expand the use of citizen alert systems                                                                                                             |
| FHC3            | Implement community notification protocols before, during, and after a disaster event                                                                            |
| FHM1            | Develop Continuity of Operations Plans (COOP) for locality departments and update the plans annually                                                             |
| FME1            | Carry out a targeted educational campaign in subdivisions at high risk for fire impacts                                                                          |
| FME2            | Conduct tabletop exercises for damage assessments                                                                                                                |
| FME3            | Bring in experts to conduct in-house staff training in best management practices in hazard mitigation and preparedness                                           |
| FME4            | Offer training on post-event inspection and develop a protocol to serve as a mechanism for prioritization                                                        |
| FMI1            | Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects         |
| FMI2            | Install warning signs and develop alternate routes for roads that flood briefly during heavy rains (e.g. Slaters Fork Road, Carysbrook, farm pond dam locations) |
| FMM1            | Identify areas to receive debris from post-event clean-up efforts                                                                                                |
| FMD1            | Expand GIS data for us in mitigation planning, preparedness planning, and response activities                                                                    |
| FLE1            | Carry out an educational campaign for businesses to develop emergency procedures and shelter-in-place plans                                                      |
| FLI1            | Identify repetitive loss properties, develop appropriate mitigation action, and apply for funding                                                                |
| FLI2            | Demolish and remove remains of old surface water treatment plant located on TM 58 A 26 & 27(County-owned property)                                               |
| FLI3            | Remove +/-20,000 gallon water storage tank from James River.                                                                                                     |
| FLC1            | Develop County agreements (possibly with women's prison) for food services for county-supported shelters (including high school)                                 |

|      |                                                                                                                            |
|------|----------------------------------------------------------------------------------------------------------------------------|
| FLM1 | Develop evacuation plans for dam breaches from Charlottesville-area dams                                                   |
| FLM2 | Develop a comprehensive fire safety communication strategy, addressing open space, burn permit, FireWise, and dry hydrants |
| FLM3 | Adopt fire code                                                                                                            |
| FLM4 | Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans             |
| FLD1 | Develop a disaster plan for the Fork Union Sanitary District (FUSD)                                                        |

#### Greene County

|      |                                                                                                                                                                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GHE1 | Conduct Firewise workshops                                                                                                                                                                                                                                 |
| GHI1 | Partner with utility companies to keep power lines free of vegetation                                                                                                                                                                                      |
| GHI2 | Conduct structural evaluations of current and proposed shelters                                                                                                                                                                                            |
| GHI3 | Implement recommendations from Greene County Water Supply plan                                                                                                                                                                                             |
| GHI4 | Enhance dam safety; table tops/exercises                                                                                                                                                                                                                   |
| GHI5 | Install backup generators in shelters and critical facilities                                                                                                                                                                                              |
| GHI6 | Enhance public safety emergency communications to provides reliable, dependable coverage                                                                                                                                                                   |
| GHI7 | Enhance access to broadband countywide                                                                                                                                                                                                                     |
| GHC1 | Assist the schools with regular disaster response drills and disaster planning                                                                                                                                                                             |
| GHM1 | Conduct CERT classes to equip individuals and groups to assist in the event of a disaster                                                                                                                                                                  |
| GHM2 | Routinely inspect public and private fire hydrants                                                                                                                                                                                                         |
| GHM3 | Ensure all critical facilities have updated shelter-in-place plans                                                                                                                                                                                         |
| GHM4 | Increase number of trained emergency responders and establish recruitment and retention program                                                                                                                                                            |
| GME1 | Develop cooperative agreements between all agencies involved in emergency management, provide methods of communication between agencies responsible for being present at the Emergency Operations Center following a disaster, and conduct joint exercises |
| GME2 | Create a community toolbox with tools and information for local homeowners                                                                                                                                                                                 |
| GMI1 | Add signage to roads in locations that frequently flood                                                                                                                                                                                                    |
| GMM1 | Develop and implement a drought management plan                                                                                                                                                                                                            |
| GMM2 | Create a strategy for using existing media outlets for communications during a hazard event                                                                                                                                                                |
| GMM3 | Provide career fire staff                                                                                                                                                                                                                                  |
| GMI2 | Upgrade all area bridges to support emergency vehicles                                                                                                                                                                                                     |
| GMD1 | Conduct channel improvement study                                                                                                                                                                                                                          |
| GMD2 | Create a needs survey that identifies special needs population and residences and/or facilities needing attention in the event of emergencies or evacuations                                                                                               |
| GLE1 | Provide citizens with literature about flood and drought-smart landscaping                                                                                                                                                                                 |
| GLI1 | Build and repair bridges so as not to impede floodwaters                                                                                                                                                                                                   |
| GLI2 | Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris                                                                                                                                                                       |
| GLI3 | Install more dry hydrants in high wildfire risk areas                                                                                                                                                                                                      |
| GLI4 | Repair, replace, or relocate septic and drainage fields that leak sewage into bodies of water during flooding events                                                                                                                                       |
| GLI5 | Bury utilities in the county                                                                                                                                                                                                                               |
| GLM1 | Ensure all structures have clear address signs that are visible                                                                                                                                                                                            |

#### Town of Stanardsville

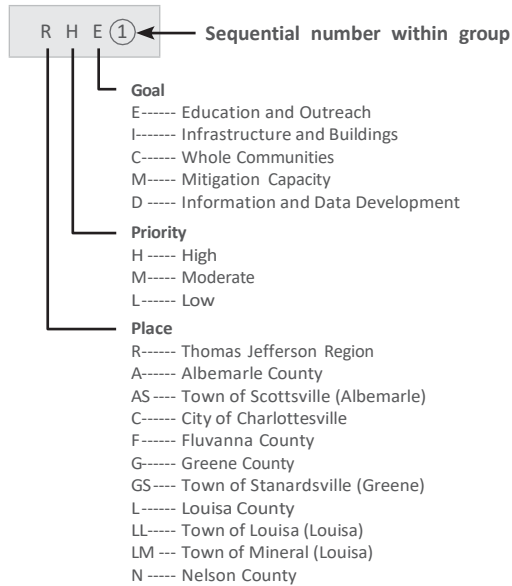
|       |                                                                                                         |
|-------|---------------------------------------------------------------------------------------------------------|
| GSHM1 | Increase water capacity and pressure for the Town of Stanardsville to enable optimal emergency response |
|-------|---------------------------------------------------------------------------------------------------------|

|                        |                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSMM1                  | Ensure all houses have clear address signs that are visible                                                                                          |
| <b>Louisa County</b>   |                                                                                                                                                      |
| LHI1                   | Enhance access to broadband internet in rural areas                                                                                                  |
| LHI2                   | Install backup generators in shelters and critical facilities                                                                                        |
| LHI3                   | Implement recommendations from Water Supply Plan                                                                                                     |
| LHC1                   | Ensure that all schools have regular disaster response drills                                                                                        |
| LHM1                   | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building                                   |
| LHM2                   | Continue and expand use of citizen alert systems countywide, including within Towns                                                                  |
| LHM3                   | Increase number of trained emergency responders                                                                                                      |
| LHM4                   | Develop driveway codes to allow emergency vehicle access                                                                                             |
| LHM5                   | Work to prevent stormwater and wastewater flooding in water bodies across the County                                                                 |
| LMI1                   | Put high water marks on bridges                                                                                                                      |
| LMI2                   | Investigate, plan, and implement repairs and/or upgrades to Bowlers Mill dam to preserve flood control benefits for the historic Green Springs area. |
| LMM1                   | Investigate safety and maintenance of roads in private communities                                                                                   |
| LMM2                   | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster                        |
| LMM3                   | Ensure all houses have clear address signs that are visible during storms events                                                                     |
| LMM4                   | Incorporate hazard mitigation plans into community plans                                                                                             |
| LMM5                   | Incorporate special needs populations into Hazard Mitigation and Emergency Operations Plans                                                          |
| LLE1                   | Provide educational outreach about the burn permit process                                                                                           |
| LLE2                   | Create an educational program to help residents understand the benefits and costs of earthquake insurance                                            |
| LLI2                   | Add signage to roads in locations that frequently flood                                                                                              |
| LLD1                   | Track and map space available for pets at local SPCA and other animal shelters. Install generator and place shelter on snow removal priority list.   |
| <b>Town of Louisa</b>  |                                                                                                                                                      |
| LLHI1                  | Install backup generators in shelters and critical facilities – the Town Hall generator will be upgraded to serve as a shelter during emergencies    |
| LLHM1                  | Incorporate hazard mitigation plans into community plans                                                                                             |
| LLMM1                  | Ensure all houses have clear address signs that are visible during snowstorms                                                                        |
| <b>Town of Mineral</b> |                                                                                                                                                      |
| LMHM1                  | Incorporate hazard mitigation plans into community plans                                                                                             |
| LMMM1                  | Ensure all houses have clear address signs that are visible during snowstorms                                                                        |
| LMMM2                  | Work with the Louisa County to designate a representative for the County's Emergency Operations Committee                                            |
| LMMM3                  | Develop a system for alerts and other communication with citizens                                                                                    |
| LMMI1                  | Mark the fire hydrants with reflective markers for large snow storms                                                                                 |
| LMMI2                  | Install emergency generator for wells                                                                                                                |
| LMLI1                  | Bury utilities underground in town of Mineral                                                                                                        |
| <b>Nelson County</b>   |                                                                                                                                                      |



|      |                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| NHM1 | Continue and expand use of citizen alert systems                                                                                              |
| NHM2 | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building                            |
| NME1 | Conduct Firewise Workshops                                                                                                                    |
| NME2 | Provide educational instruction and materials to school age youth and their teachers on proper procedures for responding to natural disasters |
| NMI1 | Investigate safety and maintenance of roads in private communities                                                                            |
| NMM1 | Ensure all houses have clear address signs that are visible during snowstorms                                                                 |
| NLE1 | Ensure that all homeowners and businesses located in areas prone to landslides are aware of the risks and appropriate responses to an event   |
| NLI2 | Maintain and add more fire rings in camping areas for controlled fires                                                                        |

#### ACTIVITY CODE KEY



# Introduction

**Hazard:** *An event or physical condition that has the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.*

**Mitigation:** *Sustained action taken to reduce or eliminate the long-term risk to human life and property from natural hazards and their effects. Note that this emphasis on long-term risk distinguishes mitigation from geared primarily to emergency preparedness and short-term recovery.*

Natural hazards tend to be low-probability, high-impact events. One year could be mild with natural events scarcely interrupting communities, while the next could be literally disastrous. The purpose of hazard mitigation is to try to minimize the damage and loss of life caused by disasters when they do occur. Hazard mitigation is one component, along with emergency response and post-disaster recovery, to the larger strategy of dealing with the human impacts of natural hazard.

With more people living in areas susceptible to natural hazards, the costs associated with such hazards have been steadily increasing over time. The localities of the Thomas Jefferson Planning District (the Counties of Albemarle, Greene, Fluvanna, Louisa, and Nelson, the City of Charlottesville, and the Towns of Scottsville, Stanardsville, Louisa, and Mineral) are impacted by variety of different hazards. In order to lessen the growing cost of disaster recovery on the localities and minimize the disruption of business during a disaster, there is a growing need to mitigate the impact of known hazards. Through proper planning and the implementation of policies and projects identified in this Hazard Mitigation Plan, the region and the localities can reduce the likelihood that these events will result in costly disasters.

Hazard mitigation is any sustained action taken to reduce or eliminate the long-term risk to human life and property from natural hazards. It includes both structural measures, such as protecting buildings and infrastructure from the forces of nature and non-structural measures, such as natural resource protection and wise floodplain management. Actions may be targeted to protect existing development or could be designed to protect future development as well. It is widely accepted that the most effective mitigation measures are implemented at the local gov-

ernment level, where decisions on the regulation and control of development are ultimately made.

The **benefits of hazard mitigation** are numerous, including:

- **Saving lives and reducing property damage**
- **Protecting critical community facilities**
- **Reducing exposure to liability**
- **Minimizing community disruption**
- **Reducing long-term hazard vulnerability**
- **Contributing to sustainable communities**

More importantly, mitigation planning has the potential to produce long-term benefits by breaking the repetitive cycle of disaster loss. A core assumption of hazard mitigation is that a pre-disaster investment significantly reduces the demand for post-disaster assistance. Further, the adoption of mitigation practices enables local residents, businesses, and industries to more quickly recover from a disaster, getting the economy back on track sooner and with less interruption. Mitigation planning offers a great opportunity for proactive and creative planning from localities to help insulate their communities from the negative effects of natural hazards.

Critical to mitigation is discussion and emphasis on equity of outcomes, a theme of mitigation planning shared by both FEMA as a part of their “Equitable Outcomes” goal in its most recent strategic plan. VDEM has also committed to equity through the establishment of a new office of Diversity, Equity, and Inclusion, making it the first state emergency management office with this office. An understanding of not only the broader threats hazards pose to the region, but also an understanding that underserved and marginalized populations are at more risk of harm. Information about equity of outcomes can be found during discussions of hazards below.

This plan systematically identifies potential hazards and sets goals for implementation over the long-term that will result in a reduction in risk. Unlike emergency operations plans or disaster preparedness, this plan seeks to develop ways to lessen the impact of natural disasters on the region's resources through strategic, long-range planning. The overall goal of hazard mitigation is to save lives and reduce property damage.

## Sections of the Plan

This Plan is designed to meet the requirements of the Disaster Mitigation Act of 2000. The Hazard Mitigation Plan includes the following sections:

1. **Planning Process**
2. **Community Profile**
3. **Hazard Identification and Analysis**
4. **Vulnerability Assessment**
5. **Capabilities Assessment**

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## MITIGATION STRATEGIES

The **Planning Process** section describes the process by which this plan was developed including a description of the planning team, and overall stakeholder involvement. It also outlines the ongoing process for maintaining and updating the plan.

The **Community Profile** is a narrative description of general community characteristics, such as the region's geographical, economic, and demographic profiles. Future development trends and implications for hazard vulnerability are discussed.

The **Hazard Identification and Analysis** section describes natural hazards in the order in which they pose the greatest threat to the Thomas Jefferson Planning District. Hazards are profiled in terms of prevalence, intensity, and geographical scope. The section includes a description of the hazard as well as analysis based upon historical and scientific data.

The **Vulnerability Assessment** combines the identification of hazards with both present and projected human settlement patterns to measure their human impact. Potential losses are estimated quantitatively

based upon historic events scenarios or the probability of future events.

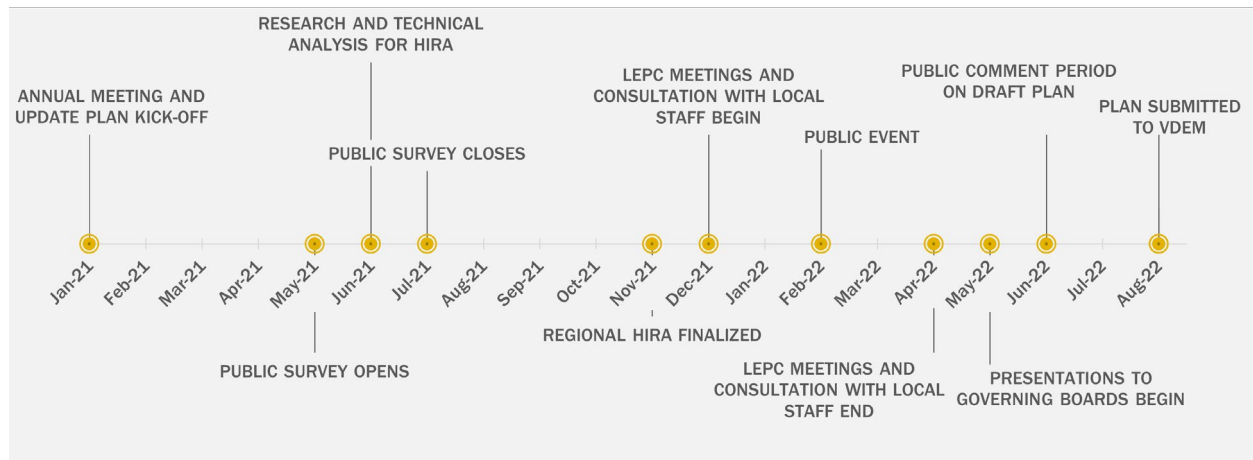
The **Capabilities Assessment** provides an examination of the region's capacity to implement meaningful mitigation actions and identify existing opportunities for program enhancement. Capabilities addressed in this section include staff and organizational capability, technical capability, policy and program capability, fiscal capability, legal authority, and political will. The purpose of this assessment is to identify any existing gaps that may hinder mitigation efforts, and to identify those activities that can facilitate risk reduction efforts.

The **Mitigation Action Plan** forms the basis for action — identifying broad policy goal statements, more specific policy objectives and specific action-oriented hazard mitigation actions. Hazard mitigation actions include both policies and projects designed to reduce the impacts of hazardous events. The section also describes four overarching strategies for mitigating high and moderate risk hazards.

# Planning Process and Public Involvement

This section describes the planning process undertaken by the Thomas Jefferson Planning District Commission in preparation of the Regional Hazard Mitigation Plan, as well as the means for monitoring the plan between 2023 and 2028. An emphasis is placed on the engagement of a broad range of community stakeholders and the substantive inclusion of public input into the plan.

The following timeline depicts the major points along the process of the plan update:



A key feature of the development of the plan has been achieving participation and input from stakeholders throughout the Planning District. Documentation of the planning process including meeting notes, sign-in sheets, and complete survey results are included in the appendices.

*201.6(b) and §201.6(c)(1): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:*

- (1) an opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;*
- (2) an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and*
- (3) review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.*

Because of the multi-jurisdictional nature of this Hazard Mitigation Plan, comprehensive and balanced representation from each jurisdiction has been practiced consistently.

*44 CFR 201.6(a)(3): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process.*

There have been six primary methods for obtaining input for the plan:

1. **Regular meetings of the Hazard Mitigation Working Group.**
2. **One public workshop**
3. **An online survey and solicitation of public input from website.**
4. **Presentations to Local Emergency Planning Committees and work with locality staff**
5. **Recommendations from existing plans and documents.**
6. **Public comment period of entire draft plan.**

*44 CFR 201.6(c)(1): The plan must document the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.*

### 1. Hazard Mitigation Working Group

The Working Group, consisting primarily of planners and emergency operations coordinators in the City and each County as well as state experts, served as the primary decision-making body guiding the plan. The Working Group as a body also provided technical input on the content of the plan at multiple points along the timeline of the update. Locality staff also completed the list of actions for their respective jurisdiction and filled out the Capabilities Assessment. There are four towns in the Planning District: Scottsville in Albemarle County, Mineral and Louisa in Louisa County, and Stanardsville in Greene County. The towns of Stanardsville, Louisa, and Mineral were represented on the Working Group by their respective Counties. TJPDC staff engaged Town of Louisa and Mineral's governing boards and town staff in the preparation of the plan through presentations and meetings outside of regular working group meetings. The Town of Scottsville was represented on the Working Group by staff. County representatives reached out to Towns during the process through invitations to meetings and contact by e-mail and phone. TJPDC also followed up with the Towns to confirm actions to be included in the HMP

The Working Group was originally formed during the creation of the 2006 Regional Hazard Mitigation Plan, and the group has reconvened on an annual basis to monitor progress toward the adopted action items in the initial plan. A roster of the Working Group is included in the appendix. There have been a number of staff changes during the development of this regional plan, which are noted on the roster.

### 2. Public Workshops

A public event was held on February 7, 2022. The event was widely advertised both through the TJPDC News Brief, e-mails to individuals with a special interest

in hazard mitigation and emergency response and a press release was issued to local media outlets. An article was published in the Daily Progress, Greene County Record, and the Central Virginian on January 23 and January 27th, respectively.

The purpose of the first part of the meeting was to present a draft of the Hazard Identification and Risk Assessment, to provide an objective basis for any mitigation response and solicit feedback to improve the HIRA. In addition to this information, participants were provided the goals and objectives from the 2018 plan and worked to develop recommendations for additions, deletions, and revisions. The primary feedback from this public event was ensuring that functional and access needs were addressed in the Goals and Objectives, that improvements to buildings and infrastructure accommodated all ability levels, and expanding preemptive communication before major weather events. Comments were summarized and provided to the Working Group in a presentation.

### 3. Online Survey and Website

The TJPDC website was updated early in the planning process to announce the initiation of the plan and probe for interest among residents in the region. The website was updated regularly with drafts of various components as they were completed, along with requests for comment.

Throughout Fall 2021, an online survey was used to assess familiarity with hazard mitigation concepts, weigh the relative concern over various hazards, prioritize the goals and objectives of the plan, gauge the political will for mitigation policies, and find new ideas for effective action items. The survey received 284 responses, with participants from every locality in the Planning District.

The survey's results indicated that many of the planning district's residents were especially concerned about the damage that hurricanes/windstorms,

winter weather, earthquakes, floods, and droughts could have on life, property, and commerce in the region. Many survey responses indicated specific areas that could be involved in mitigation planning efforts, as well as specific actions localities and the TJPDC could take. The survey results were presented to the Hazard Mitigation Working Group in summary form and to all members with all responses. Locality staff were encouraged to reference the survey results in their formulation of new mitigation activities for the plan update as well as in their creation of their locality's HIRA matrix.

Because of its self-selecting nature and marketing through the Hazard Mitigation Working Group, the survey should not be considered representative of the opinions of the whole population. Nevertheless, it proved to be a useful tool for gathering input from informed and enthusiastic members of the public, and several action items were revised or added based on the results.

#### 4. Presentations to Local Committees

Visits were paid to local committees to make them aware of the hazard mitigation plan update and incorporate the specific expertise of the group into the plan. The Working Group developed the goals and objectives for the regional plan and incorporated a list of potential actions organized under each objective. Presentations were made to the Charlottesville-UVA-Albemarle and Louisa Local Emergency Planning Committee (LEPC) on February 24, 2022. Other LEPC's are chaired by local emergency management staff, who TJPDC staff worked closely with to ensure that all localities' emergency management and hazard mitigation stakeholders were involved in updating the 2018 Mitigation Action items, as well as creating new action items. Meetings outside of LEPC's and formal presentations involved TJPDC outlining the recommended process for cataloguing process on existing mitigation action items. Results from public participation (survey and event) were also shared both in the meetings and after.

#### 5. Recommendations from Existing Plans and Documents

Locality staff reviewed various plans for their jurisdiction, to incorporate strategies and specific actions set forth in those plans into the Regional Hazard Mitigation Plan. Some specific relevant projects were taken

directly from these plans and included as action items in the regional plan. More information can be found in the plan's Mitigation Action items section.

After the 10 participating jurisdictions adopt the plan formally and become eligible for various FEMA grant funding, the TJPDC has advised localities to incorporate the plan into other pertinent local plans. These include Capital Improvement Plans (CIP), Comprehensive Plans, and Emergency Operations Plans. Various portions of the plan are more applicable to other community plans than others. For example, the funding estimates included in the Mitigation Action items can be used for a locality's CIP. General emphasis on specific hazards and mitigation techniques are relevant for Emergency Operations Plans. With a wide variety of capacity, population, and area, each locality will determine how best to incorporate the Hazard Mitigation plan into other local plans. More information about each locality's capacity can be found in the Capability Assessment.

#### 6. Public comment period

The entire draft Hazard Mitigation Plan was made available to the public for comment between June 1 and June 30, 2022. The comment period was advertised in local media on May 31, 2022. Notification of the draft plan was also included in TJPDC's News Brief on June 13. This on-line publication has a distribution of over 1,300 contacts, including adjacent PDCs and localities. Language involving specific flood-prone areas and clarification on Scottsville's flood control system and zoning ordinances were the major revisions from the public comment period.

#### 7. Neighboring Communities and State Stakeholders

In addition to general distribution of the draft plan via the public comment process and TJPDC's News Brief, TJPDC has communicated with other Planning District Commissions in the state. Staff worked with the Central Virginia Planning District Commission to gather best practices and share information. Staff also talked with Commonwealth Regional Council in order to share process information. A variety of state experts were consulted during research for the HIRA, including the Departments of Health, Forestry, Energy, and Conservation and Recreation. Staff were also included on a Working Group for the Commonwealth of Virginia's Hazard Mitigation plan update by VDEM staff, representing the region and providing information concerning hazards, capabilities, and other pertinent information.



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## METHOD OF UPDATE

The 2023 Regional Hazard Mitigation Plan is an update of the 2018 Plan. The original plan Regional Hazard Mitigation Plan was adopted in 2006. As such, TJPDC staff has made efforts to maintain continuity with the original plan while making substantive revisions to reflect new data on hazards, new ideas for mitigation, and progress made toward the completion of previous action items. The Hazard Identification section kept most of the original material broadly profiling hazards, and any new information or events that affect the planning district were updated in the analysis sections of each hazard.

Goals and objectives from the 2018 Plan were reviewed in the public workshop. Comments from that workshop were presented to the Working Group, which further modified the goals and objectives. Input on potential actions was also solicited at the public workshop and from the Working Group. TJPDC Staff then developed a listing of goals and objectives, with

suggested actions for inclusion under each objective. The draft was then reviewed with the Working Group, to ensure that the goals and objectives were inclusive of suggested actions. The final product was used to facilitate input from local committees, and to facilitate the review and incorporation of actions from other local plans.

Action items were developed from the master list and pulled from other local plans. Notes from annual meetings also suggested some potential actions to include. The action items were further revised through LEPC meetings, Working Group meetings, and input from locality staff and other stakeholders.

Some new action items were generated by the online survey.

Action items that were removed from the plan are documented in a table in the appendices. Changes to priority levels are also noted.

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## MONITORING AND MAINTENANCE

*§201.6(c)(4)(i): The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.*

The monitoring policy set forth in the original 2006 plan remains in place. The Hazard Mitigation Working Group, supported by TJPDC staff, will meet annually in May or following a major disaster to evaluate progress and review annual impacts or actions which may necessitate changes in the plan. TJPDC will regularly engage the working group to provide information concerning grant funding, updates to the Hazard Mitigation Plan process, and other guidance from FEMA or VDEM.

Regular evaluation of the plan will address whether:

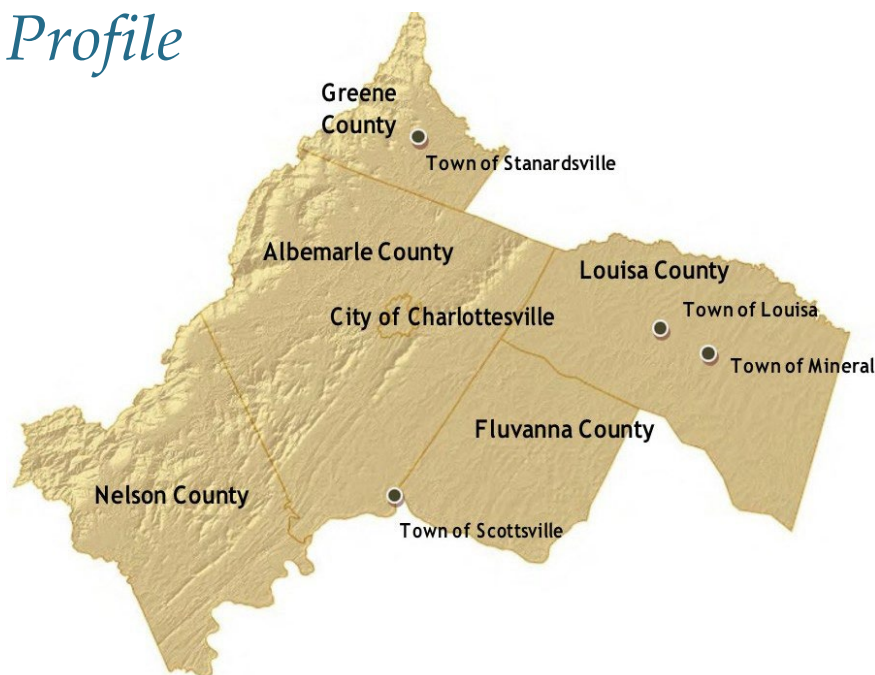
1. **goals and objectives address current and expected conditions;**
2. **the nature, magnitude, or type of hazard affecting the region has changed;**
3. **current resources are appropriate for implementing the plan;**

4. **important problems such as technical, political, legal, or coordination issues with other agencies have occurred;**
5. **agencies and other partners are participating as originally proposed.**

The plan will undergo a comprehensive review and evaluation every five years by the Working Group and the TJPDC under the authority of the Board of Supervisors and City Council. The next update is anticipated to be submitted to VDEM in calendar year 2027 with formal adoption in 2028.

Ongoing public involvement will be critical to ensure the most accurate and up-to-date plan. Significant amendments to the plan will require a public hearing and other efforts to involve the public will be made as necessary.

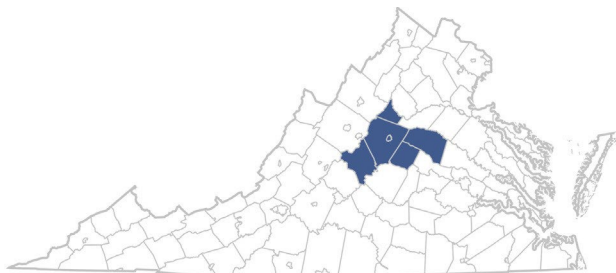
# Community Profile



The Thomas Jefferson Planning District is located roughly in the geographic center of the Commonwealth of Virginia. The Planning District is made up of the counties of Albemarle, Fluvanna, Greene, Louisa and Nelson, the City of Charlottesville and the incorporated towns of Scottsville, Louisa, Mineral and Stanardsville. The Planning District is home to historic resources such as Monticello and Highland, as well as the University of Virginia.

This section includes several features of the Thomas Jefferson Planning District Commission including:

1. **Geography**
2. **Land Use and Development Trends**
3. **Population and Demographics**
4. **Economic Growth and Development**
5. **Transportation**
6. **Housing**
7. **Disaster Declarations**
8. **Historic Properties and Districts**



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## GEOGRAPHY

The Thomas Jefferson Planning District is in the Piedmont region of Virginia. It is bounded by the Blue Ridge Mountains on the west with ridges and foothills and hollows rolling down to the James River in the east. Elevations range from more than 2,500 feet above sea level in the mountains to roughly 200 feet at Columbia on the James River. Areas of relatively flat land are found in larger river valleys and floodplains. Most of the land has a slope of some kind.

Total land area is 2,155 square miles.

The area drains west to east by six major rivers: the Tye, Rockfish, Hardware, Rivanna, Anna, and Rapidan. The headwaters of area rivers are generally located in the mountains and flow to the James River, which drains to the Chesapeake Bay. The Rapidan and Anna Rivers drain into the Rappahannock and York Rivers respectively, which also reach the Bay.



The area has a moderate climate. Average temperatures are approximately 50 degrees, and range from January lows in the mid-20s to July highs in the high 80s. Annual rainfall averages above 40 inches, supplemented with approximately 14 inches of snow.

There are a few large river dams in the district: one on the Rivanna for drinking water and one at Lake Anna for the nuclear power plant. Smaller streams have been dammed to create resort lakes, such as Lake Monticello, Twin Lakes, Lake Nelson, Ruritan Lake, and Lake Louisa.

Most of the land is either field or forest, with development occupying the remainder. Crop farming is found in larger scale to the south and east, away from the mountains, where land is flatter. Hay and grains are the majority crops, with some corn and other row crops. Orchards and vineyards are prevalent in the high hills. Livestock fields are also common for cattle, horses, sheep, and a variety of other animals. Timberland can be found in all parts of the district, with large tracts in the east and James River areas. For the Rivanna Watershed, which encompasses 35% of the Planning District, tree canopies account for approximately 72% of the basin, open lands 22.8%, impervious surfaces 3.2%, and the remaining 2% is water, orchards, or golf courses. The Rivanna River Basin Commission determined these land cover classes through an analysis of 2009 aerial images.

Soils in the district are generally moderately- to well-drained, with a surface layer moderately low in organic content, and usually consisting of gravelly silt or fine sandy loam about 9-12" deep. The soils also generally have a low to moderate shrink-swell potential. Soils differ across the geographic spectrum in their slope, total depth, and permeability. Soils of Fluvanna County are predominantly silt loam and contain high clay content.

Parts of the Thomas Jefferson Planning District lie in the Blue Ridge province, while most of it is in the Piedmont province (see above). The Blue Ridge province forms a basement massif with Mesoproterozoic

crystalline rock in its core and Late Neoproterozoic to Early Paleozoic cover rock on its flanks. The Blue Ridge province is allochthonous (formed in a place other than where it is found) and has been thrust to the northwest over Paleozoic rocks of the Valley and Ridge province. Although earlier deformation events are recorded in the older igneous and metamorphic rocks, the Blue Ridge is a contractional structure that experienced deformation and crustal shortening during the Paleozoic.

The Piedmont is the largest physiographic province in Virginia. It is bounded on the east by the Fall Zone, which separates the province from the Coastal Plain, and on the west by the mountains of the Blue Ridge province. The province is characterized by gently rolling topography, deeply weathered bedrock, and a relative paucity of solid outcrop.



*Source: William & Mary Geology Department*

Rocks are strongly weathered in the Piedmont's humid climate and bedrock is generally buried under a thick (2-20 m) blanket of saprolite. Outcrops are commonly restricted to stream valleys, where saprolite has been removed by erosion. The topography becomes somewhat more rugged with proximity to the Blue Ridge, where local monadnocks of more resistant rock occur.

Most of the ridges of the Blue Ridge are either part of the Shenandoah National Park or the Washington/ Jefferson National Forest. Regulations of the federal Department of Interior or Department of Agriculture control land use in these areas.

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## LAND USE AND DEVELOPMENT TRENDS

FEMA requires that the local mitigation plans provide a general description of community land uses and development trends so that mitigation options can be considered in future land use decisions to ensure safe development. Changes in urban, forest, and agricultural land cover may help to highlight areas within the region that should be considered in the long-term comprehensive plans.

The National Land Cover Dataset produced by the Multi-Resolution Land Characteristics Consortium (MRLC), was used to identify the land cover changes in the TJPDC (Thomas Jefferson Planning District Commission). The MLRC consortium is a group of federal agencies who coordinate and generate consistent and relevant land cover information at the national scale at a 30m resolution. The NLCD Enhanced Visualization and Analysis Tool mapped and analyzed land cover changes from 2008 to 2019 in each locality.

Below, changes of land use including forested area, development area, impervious surface area and agricultural land area are described for each Jurisdiction. Information on what portions of the land is changing usage, becoming developed, losing forested area, or increasing the size of wetlands, can indicate trends in the level of protection from hazards the natural landscape provides. Developed areas typically consist of more impervious surfaces than developed areas, which contribute to a lack of drainage and therefore increased flooding. Forested areas and wetlands provide protection from flooding, decrease susceptibility to landslides, help mitigate erosion and filter runoff protecting water quality.

Agricultural lands can have a high impact on surrounding areas. This can be for a variety of reasons including runoff, pesticide application, fertilizer application, etc. This can also show conversion of natural areas to more highly managed areas which relate to overall increases for local impacts. This can also include areas of hay pasture, which generally have lower impacts on the landscape, to higher production cultivated crops. Decreasing agricultural land can show habitat restoration, increased urbanization, decreasing water availability, and a host of other factors important for resource managers and

local communities. As agricultural lands increase or decrease, a variety of impacts can happen. Increasing agricultural lands can sometimes identify increased water usage as well as loss of natural habitat. Decreasing agricultural lands can highlight droughts, long-term water shortages, habitat restoration, etc. Understanding how these changes are occurring and to what extent helps to identify usage and potential risks for producers and the community.

Areas with impervious surface rates approaching 12-15 percent will experience negative impacts to water quality, which is exceeded in Charlottesville. Low density and open space development can negatively impact water quality, though usually to a lesser degree than with high density development. In addition to changes in impervious surface area, there was an overall increase in Wetland cover from 2008-2019. Wetlands provide both habitat and food and help control erosion, and filter urban and agricultural runoff to maintain water quality. A regional decrease in forested land area can reflect a transitional period after a fire, other natural disaster, or logging operation, but typically can be expected to recover. Some losses, such as forests converted to development, tend to be permanent. Like wetlands, forests also help to buffer the impacts of flooding and storm surge, help mitigate erosion and landslides, and absorb, filter and store agricultural and urban runoff, protecting water quality.

Most of the change in TJPDC has occurred in forested lands and developed areas. From 2008 through 2019, forested and agricultural land cover has decreased, and developed areas increased across the region. Every county in the region saw an increase in developed land and decrease in forested land, as shown in the table below.

FEMA states that an effective way to reduce future losses in a community is to avoid development in known precarious locations and to enforce development of safe structures in other areas. Thus, a general description of population growth and development trends within the planning area are crucial factors in formulating mitigation options that influence future land use and development decisions.

## Land Use Change by Locality from 2008-2019 (Square Miles)

| Jurisdiction    | Land Use Change | Developed Area Change | Forest Change | Agriculture Change | Impervious Surface Change | Wetland Change |
|-----------------|-----------------|-----------------------|---------------|--------------------|---------------------------|----------------|
| Albemarle       | 45.89           | 2.67                  | -8.53         | -1.81              | 1.45                      | 0.11           |
| Charlottesville | 0.54            | 0.1                   | -0.11         | -0.03              | 0.19                      | 0.1            |
| Fluvanna        | 40.71           | 0.41                  | -8.14         | -0.1               | 0.24                      | 0.08           |
| Greene          | 4.82            | 0.28                  | -0.2          | -0.54              | 0.17                      | 0              |
| Louisa          | 89.4            | 1.1                   | -5.12         | 0.41               | 0.57                      | 0.04           |
| Nelson          | 39.04           | 0.2                   | -7.15         | -0.81              | 0.14                      | 0.04           |
| Region          | 220.4           | 4.76                  | -29.25        | -2.88              | 2.76                      | 0.37           |

Source: Multi-Resolution Land Characteristics Consortium – January 2022

## Overall Land Use Area Percentage by Locality (2019)

| Jurisdiction    | Developed Area | Forested Area | Agricultural Area | Impervious Area | Wetland Area |
|-----------------|----------------|---------------|-------------------|-----------------|--------------|
| Albemarle       | 9.02%          | 65.57%        | 20.28%            | 1.98%           | 0.35%        |
| Charlottesville | 88.12%         | 9.24%         | 1.29%             | 34.58%          | 0.50%        |
| Fluvanna        | 6.98%          | 66.58%        | 13.84%            | 1.09%           | 2.19%        |
| Greene          | 9.55%          | 65.52%        | 22.66%            | 1.63%           | 0.10%        |
| Louisa          | 7.40%          | 60.16%        | 14.49%            | 1.25%           | 4.23%        |
| Nelson          | 5.82%          | 75.90%        | 12.27%            | 0.92%           | 0.16%        |

Source: Multi-Resolution Land Characteristics Consortium – January 2022

Central Virginia is an attractive place to live and work, and the localities in the Thomas Jefferson Planning District are growing in population. Higher costs of living in the urban core and in Albemarle County have made growth in the rural counties attractive. Local comprehensive plans generally intend to keep denser growth limited to the city and town areas, but major roadway corridors are seeing rapid growth as well. The result is growing populations in areas lacking many services that support modern needs.

According to the 2040 TJPDC's Rural Long Range Transportation Plan, over the past decade Albemarle County has absorbed much of the region's growth, which has altered the county's land use patterns. Albemarle's land use patterns have become more urban along the 29 Corridor and around the Village of Crozet. In the rural areas, the land use pattern continues to be large lot single family homes, agriculture, silviculture, and rural development. Fluvanna County is also mostly rural or forested, but the county has designated Community Planning areas to concentrate growth in specific locations. Greene County

is more rural and highly forested due to the location of Shenandoah National Park. However, additional growth has moved the County to designate growth areas around existing towns. Louisa County land use has been primarily rural and rural residential in the past but is rapidly changing due to its attractive position between Richmond and Charlottesville. Finally, Nelson County is primarily rural with large tracts of forested land within the George Washington National Forest and Wintergreen Resort.

As growth occurs, more houses, roads, commercial services, communications, fire and rescue, and public facilities will be built to service the growing population. Schools are often used as shelters and should be built to meet applicable standards. New water and sewer treatment plants and infrastructure are expected and are required to be built to hazard-proof standards. There are several transportation infrastructure improvements underway, with other planned projects awaiting funding. Solid waste services and collection points may also change and grow in all areas. Fluvanna and Louisa Counties are

jointly undertaking the James River Water Project to provide to supply both counties with the projected 50-year water need as identified in their respective Long Range Water Supply Plans. Currently, there is no indication that major development is occurring in areas that are more prone to natural hazards. Most development is occurring near major thoroughfare intersections, with much less development occurring in rural areas of the planning district. Increased flooding in the planning district is the primary concern for new development, but most development incorporates flood risk in the choice of location, per each developer or per local ordinance.

**Agriculture and Forestry:** Land in farms and forestry is slowly being converted to residential and estate uses across the region. There is a trend toward smaller farms, niche marketing, and direct sales, and an emphasis on sustainable agriculture. The George Washington National Forest is not expected to change in size, but may be more open to timber management, depending on economic and political forces.

**Open Space:** Open space is defined as any land left in a completely natural, recreational park or agricultural state. The growth in population leads to land being slowly converted to residential and commercial uses, although there are a growing number of properties entering into permanent protection with conservation easements. The state purchased land for the Biscuit Run State Park south of Charlottesville in 2010, but the park has not yet been developed. The Shenandoah National Park is not expected to change in area. Some developments in rural areas use conservation design techniques to preserve open space, especially as rural land converts into residential use.

**Commercial:** The primary commercial areas are the US 29 Corridor, downtown Charlottesville, Pantops, and the Corner near the University of Virginia. Commercial land uses are increasing, and generally newer developments occur in strip style near existing residential areas. In recent years, new large-scale retail has been built further from Charlottesville. The Zion Crossroads area is a major development focus for Fluvanna and Louisa Counties. Route 151 holds a significant amount of commercial use, consisting of breweries and wineries, as well as access to Wintergreen Resort. The major areas of commercial and



*Source: TJPDC*

business growth in Greene County are along the US 29 corridor, between Ruckersville and Albemarle County, and the US 33 corridor between Ruckersville and the County seat of Stanardsville. The Shops at Stonefield at Hydraulic and Route 29 opened in 2015. Additional development in the 29 corridor is underway. Fifth Street Station near I-64 and Fifth Street opened in November 2016, bringing 470,000 square feet of retail space just south of the City of Charlottesville. Another designated growth area includes Crozet in Albemarle.

**Public Space:** The primary public space for the region is the Downtown Mall in Charlottesville, although other commercial centers function as public gathering spaces, including those under private ownership. The IX warehouse property just south of the downtown mall is now an Art Park: a public, non-commercial, interactive space for residents and visitors. Each county has at least one park available for public use. For example, Pleasant Grove Park in Fluvanna features over 23 miles of hiking trails, several soccer and baseball fields, and a transportation museum. Patricia Ann Byrom Forest Preserve Park in Albemarle contains over 600 acres of multi-use trails for hiking, running, mountain biking, and horseback riding. Roadways are the largest public land use by area. New subdivisions in each of the localities are required to provide some form of open space, although this space is not always open for public use. Growth and development trends specific to individual localities are discussed in the Vulnerability Assessment section.



## POPULATION AND GROWTH

The region grew by approximately 18% from 2000 to 2010, and an estimated 8.9% between 2010 and 2019, based on the American Census Bureau population estimates. Relative to other regions in Virginia, this growth rate is high, although it has slowed slightly from the 19% growth rate experienced between 1990 and 2000. The City of Charlottesville's population decreased slightly between 1980 and 2000, but then grew by 8% between 2000 and 2010, and an estimated 10.9% between 2010 and 2015. The City has been encouraging infill development, since its supply of developable land is constrained. Both Greene and Louisa counties have seen high growth rates in the past decade.

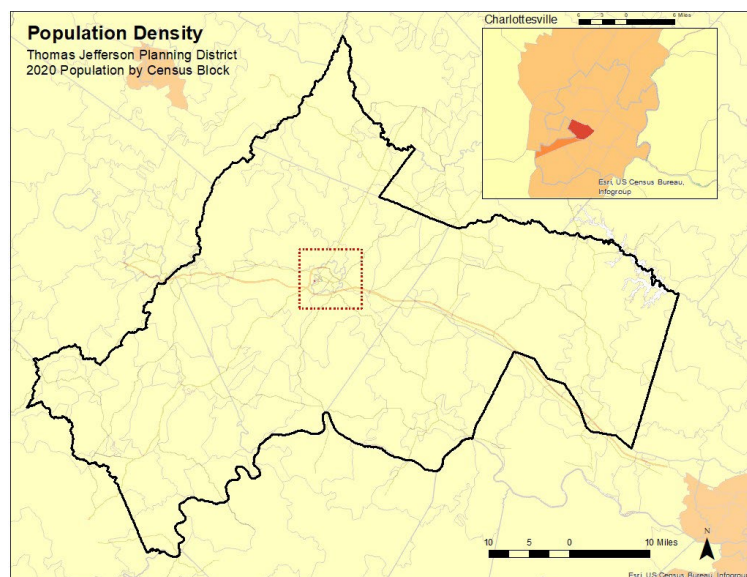
### Population Change 2010-2020

| Locality        | 2010 Population | 2020 Population | % Change |
|-----------------|-----------------|-----------------|----------|
| Albemarle       | 99,204          | 112,395         | 13.3%    |
| Charlottesville | 43,461          | 46,553          | 7.1%     |
| Fluvanna        | 25,791          | 27,249          | 5.6%     |
| Greene          | 18,457          | 20,552          | 11.3%    |
| Louisa          | 33,309          | 37,596          | 11.4%    |
| Nelson          | 14,978          | 14,775          | -0.3%    |
| Region          | 235,200         | 256,206         | 8.9%     |

Source: US Census (2010, 2020) – January 2022

Major population centers and growth areas can be identified using census data and local comprehensive planning information. In 2015, The City of Charlottesville and the surrounding urban ring in Albemarle County was home to 38% of the region's population, down from around half of the population in 2000. Growth in Louisa, Fluvanna, and Greene has slowed slightly since the 1990s, but growth in these counties continues to outpace the rest of the region, partially due to available land and lower cost of living. The Route 29 corridor and the I-64/250 corridor, otherwise known as Pantops, are the major commercial and industrial areas outside of the city. Most localities stated in their Comprehensive Plans the goal of encouraging growth around existing centers to reduce the potential for sprawling development over time.

A density map shows concentrated population around Charlottesville and in Albemarle around Rt. 29N. While they are growing, most other counties in the planning district do not contain dense areas and preserve a rural character.



## ECONOMIC GROWTH AND DEVELOPMENT

Relative to other metropolitan regions in Virginia and around the county, the overall economic growth from the Planning District has been healthy. However, the region has not been immune from the national economic downturn that occurred in 2008, with increased unemployment rates reflected in 2011 unemployment data. The unemployment rate has decreased since 2011 and now in 2021, the regional rates remain lower than the national rate of 5.2% and the slightly lower than the Virginia rate of 4.2%.

### BLS Unemployment Rate

| Locality        | 1994 | 2000 | 2011 | 2015 | 2021 |
|-----------------|------|------|------|------|------|
| Charlottesville | 3.3% | 1.7% | 6.1% | 3.7% | 3.6% |
| Albemarle       | 2.4% | 1.4% | 4.9% | 3.9% | 3.4% |
| Fluvanna        | 3.5% | 1.5% | 5.5% | 3.7% | 3.4% |
| Greene          | 3.9% | 1.5% | 5.2% | 3.7% | 3.1% |
| Louisa          | 8.2% | 3.0% | 7.8% | 5.1% | 3.3% |
| Nelson          | 4.0% | 2.3% | 5.9% | 4.0% | 3.7% |
| VA              | 4.9% | 2.2% | 6.3% | 4.4% | 4.2% |
| National        | 6.1% | 4.0% | 9.2% | 5.3% | 5.2% |

Source: Virginia Employment Commission, Bureau of Labor Statistics, National: CPS Annual Average, Local: LAUS Annual Average – January 2022

Reflecting national trends, the greatest increases in jobs in the Planning District have been in the service, retail, and government sectors, while farm and manufacturing jobs have been on the decline. The University of Virginia is the largest employer in the region. Other major employers in the area include the County of Albemarle, City of Charlottesville, Food Lion, State Farm, Sentara/Martha Jefferson Hospital, State Farm, Northrop Grumman, Piedmont Virginia Community College, Dominion Virginia Power, GE Intelligent Platform Systems, Wintergreen Resort, Lexis Publishing, Crutchfield Corporation, Piedmont Virginia Community College, Klockner-Pentaplast, and the Virginia Department of Corrections.

The Education and Health Care sectors are the largest in the region, comprising about a third of all employment. The University of Virginia and the UVa Health System are major drivers in the regional economy. Growth in the retail sector has occurred in the last decade, opening up more service-sector jobs. However, the wages for service-sector jobs have grown more slowly than any other sector, often matching or barely exceeding inflation.

Job placement and workforce training opportunities are available throughout the region from a number of public agencies and non-profit service providers. Piedmont Virginia Community College had 8,947 students enrolled in 2020-2021. Network2Work, a program at Piedmont Virginia Community College, is a successful job placement program. The City of Charlottesville launched its Growing Opportunity (GO) programs in 2014, providing basic literacy & workplace readiness training through the PluggedIn Virginia (PIVA) program, assistance with transportation and childcare, and jobs-driven workforce development training programs, including GO Driver, GO Clean, GO Electric, providing job-specific

The industries that provide most jobs in the region can be affected by natural disasters. For example, if a disaster were to cause temporary or permanent damage to any of the historical sites in the region, the tourism industry would be negatively impacted. Long power outages and road closures could be extremely detrimental to all employers in the region, especially tourism destinations, with long-term damage risking the overall economic outlook of the region.

The following table lists the top 50 largest employers in the region as of January 2022.

### 50 Largest Employers

- |                                                |                                              |
|------------------------------------------------|----------------------------------------------|
| 1. University of Virginia/ Blue Ridge Hospital | 26. Buckingham County School Board           |
| 2. County of Albemarle                         | 27. Wegmans Store #07                        |
| 3. Sentara Healthcare                          | 28. Fresh Fields Whole Food Market           |
| 4. UVA Health Services Foundation              | 29. Nelson County School Board               |
| 5. City of Charlottesville                     | 30. Harris Teeter Supermarket                |
| 6. Charlottesville City School Board           | 31. Atlantic Coast Athletic Club             |
| 7. U.S. Department of Defense                  | 32. Lowes' Home Centers, Inc.                |
| 8. Sevicelink Management Com Inc               | 33. Westminster Canterbury of the Blue Ridge |
| 9. Food Lion                                   | 34. Rmc Events                               |
| 10. Wal Mart                                   | 35. Buckingham Correotional Center           |
| 11. State Farm Mutual Automobile Insurance     | 36. VDOT                                     |
| 12. Fluvanna County Public School Board        | 37. GE Fanuc Automation North Corporation    |
| 13. Crutchfield Corporation                    | 38. Gretna Health Care Center                |
| 14. Greene County School Board                 | 39. Thomas Jefferson Memorial                |
| 15. Piedmont Virginia Community College        | 40. Hanover Research Council                 |
| 16. Region Ten Community Services              | 41. Faulconer Construction Company           |
| 17. Northrop Grumman Corporation               | 42. WillowTree Apps                          |
| 18. Wintergreen Resort                         | 43. U.P.S.                                   |
| 19. Assoc for Investment Management            | 44. Labormax Staffing                        |
| 20. Morrison Crothall Support                  | 45. Aramark Campus LI..C                     |
| 21. Kroger                                     | 46. Umansky Honda Of Charlottesville         |
| 22. Postal Service                             | 47. Dillwyn Correctional Center              |
| 23. Capital IQ Inc                             | 48. St. Anne's Belfield School               |
| 24. Pharmaceutical Research Association        | 49. Boar's Head Inn                          |
| 25. Fluvanna Correctional Center               | 50. Tiger Fuel Company                       |

The following table shows the number of entities and employees in various non-farm employment sectors from the Virginia Employment Commission.

### Top Industry Sectors in the Charlottesville MSA

| Rank | Industry Sector                                      | Employees |
|------|------------------------------------------------------|-----------|
| 1    | State Government                                     | 7,850     |
| 2    | Accommodation & Food Services                        | 3,868     |
| 3    | Health Care & Social Assistance                      | 3,361     |
| 4    | Professional, Scientific, & Technical Services       | 3,119     |
| 5    | Retail Trade                                         | 2,898     |
| 6    | Local Government                                     | 2,697     |
| 7    | Administrative, Support, & Waste Management Services | 1,951     |
| 8    | Other Services (except Public Administration)        | 1,859     |
| 9    | Finance & Insurance                                  | 1,534     |
| 10   | Construction                                         | 1,470     |
|      | Total (all industries)                               | 35,972    |

Source: Virginia Employment Commission Labor Market Information, derived from 2021 Quarterly Census of Employment and Wages -

January 2022

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## TRANSPORTATION

Transportation within the planning district revolves around Interstate Route 64 on an east-west axis and Route 29, which is the primary north-south axis. Other major transportation corridors include Route 15, which travels roughly north-south through Fluvanna and Louisa counties, and Route 6, which passes through southern Fluvanna County and into northern Nelson County. Route 33 cuts through Greene County on an east-west axis and travels through Orange County into and through Louisa County. These other corridors do not have the capacity for heavier volumes of traffic as do Routes 64 and 29. Narrow roads and hilly conditions in rural areas may make it more difficult for larger trucks to travel, and occasional snow in winter can cause transportation delays of several days at times. A May 2021 mudslide in Nelson County on Route 250, which closed the section of the road down for months, demonstrated that some roads in the region can experience interruptions because of natural hazards. Both freight and passenger rail service run north-south and east-west through the region, including through Charlottesville and most small towns.

Within the narrowly defined urban area of Charlottesville and a portion of Route 29 north in Albemarle County, public transportation is available. The Charlottesville Area Transit (CAT) is the primary transit provider, serving a large portion of the City of Charlottesville with additional stops along the U.S. Route 29 corridor and Pantops in Albemarle County. All CAT buses are accessible to people with disabilities and are wheelchair lift-equipped. In addition to CAT, demand-response and limited commuter transport services are available in the region through

Jaunt. Jaunt has contracted to provide the services that Green County transit used to provide. The University of Virginia runs its own University Transit System (UTS) on and around grounds for students, staff, and faculty of the university, although it is also available to the public without charge. With new leadership at Jaunt and CAT, the area is renewing its commitment to establishing a robust transit system. Since the Covid-19 Pandemic, all UTS, CAT and Jaunt rides are fare free and CAT secured funding to continue fare free until 2024. The TJPDC, under the direction of the Regional Transit Partnership, is conducting two transit studies to improve and expand transit in the Thomas Jefferson Region. The Albemarle County Transit Expansion Study is looking at using micro-transit to expand transit services in the county. The Regional Transit Vision Plan project is looking at creating a long-term vision for transit services in the entire region.

Transportation systems are key in providing effective emergency response but can also influence the impact of natural disasters. As the region's population becomes more dispersed and commute distances increase, the function of the economy is more and more vulnerable in the event of a debilitating natural disaster. In addition to more immediate needs, businesses and employees suffer economic consequences when roads are closed or otherwise impeded. Currently, transportation is one of the largest contributors to emissions in the region. Current reliance on fossil fuels and other carbon emitting mechanisms of transportation are in turn contributing to global climate change, which is accelerating and making more frequent extreme weather events in the region.



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## HOUSING

According to the 2020 U.S. Census, there were 115,655 housing units in the Thomas Jefferson region, with 89% of units occupied year-round.

### Number of Housing Units

| Locality        | 2010   | 2019    | Growth Rate from 2010-2019(%) |
|-----------------|--------|---------|-------------------------------|
| Charlottesville | 19,189 | 20,642  | 7                             |
| Albemarle       | 42,180 | 47,081  | 11.62                         |
| Fluvanna        | 10,425 | 11,162  | 7.07                          |
| Greene          | 7,529  | 8,488   | 12.74                         |
| Louisa          | 16,362 | 17,916  | 9.50                          |
| Nelson          | 9,938  | 10,240  | 3.04                          |
| Region          | 86,434 | 115,529 | 33.6                          |

Source: US Census Bureau: Annual Estimate of Housing Units for Counties in Virginia(2010,2019) – January 2022

The following table outlines the increases in household income over a 29-year period. For most of the region, the increase in income is not keeping up with the increases in housing costs.

### Median Household Income from 1990 to 2019

| Locality        | 1990     | 2000     | 2005-2009 | 2010-2014 | 2015-2019 | 2014-2019<br>(% Change) |
|-----------------|----------|----------|-----------|-----------|-----------|-------------------------|
| Charlottesville | \$24,190 | \$31,007 | \$38,369  | \$47,218  | \$59,471  | 21%                     |
| Albemarle       | \$36,886 | \$50,749 | \$64,306  | \$67,958  | \$79,880  | 15%                     |
| Fluvanna        | \$31,378 | \$46,372 | \$62,163  | \$64,641  | \$76,873  | 16%                     |
| Greene          | \$29,799 | \$45,931 | \$54,153  | \$63,739  | \$67,398  | 5%                      |
| Louisa          | \$26,169 | \$39,402 | \$51,775  | \$57,126  | \$60,975  | 6%                      |
| Nelson          | \$23,705 | \$36,769 | \$44,326  | \$50,131  | \$64,313  | 22%                     |

Source: Census 2000, 2014 and Census 2019 data, US Census Bureau 5-year estimates – January 2022

Self-reported median home values are highest in Charlottesville and Albemarle and lowest in Louisa and Nelson, suggesting that lower wage earners must frequently seek affordable housing far from where they work. The following figures, from the U.S. Census and American Community Survey, are self-reported, meaning that the respondents reported the value of their homes based on their own judgment.

## Median Home Values: From 2009-2019

| Locality        | 2009      | 2014      | 2009-2014 % Change | 2015-2019 | 2014-2019 % Change |
|-----------------|-----------|-----------|--------------------|-----------|--------------------|
| Albemarle       | \$336,100 | \$317,300 | -6%                | \$356,100 | 11%                |
| Charlottesville | \$265,300 | \$283,100 | 6%                 | \$299,600 | 6%                 |
| Fluvanna        | \$236,200 | \$214,000 | -10%               | \$234,700 | 9%                 |
| Greene          | \$215,000 | \$244,400 | 12%                | \$236,400 | -3%                |
| Louisa          | \$202,300 | \$194,500 | -4%                | \$223,100 | 13%                |
| Nelson          | \$161,200 | \$198,500 | 19%                | \$235,000 | 16%                |

Sources: Census 2000, 2014 and Census 2019 data, American Community Survey 5-year Estimate data – January 2022

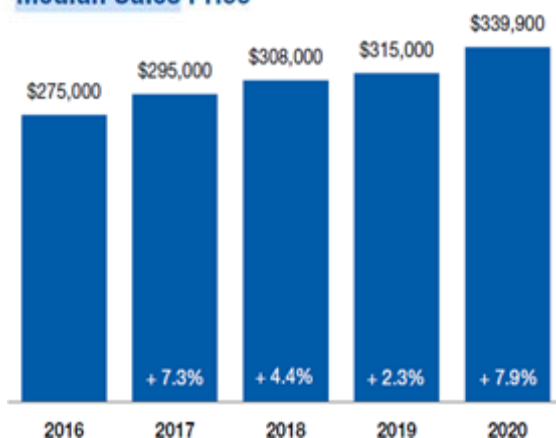
Median self-reported figures for homes in the Planning District increased significantly from the self-reported figures essentially doubled from 2000 to 2009. This increase was not fully sustained throughout the region between 2015-2019, with half of the six localities seeing a decrease in the self-reported home values over that 5-year period. The following table shows that actual sale prices increased in some localities and decreased in others.

## Median Sale Price: 2018-2020

| Locality        | 2018- Q1  | 2019- Q1  | % Change 2018 to 2019 | % Change 2019 to 2020 |
|-----------------|-----------|-----------|-----------------------|-----------------------|
| Albemarle       | \$370,000 | \$346,319 | (-)6%                 | (+)8%                 |
| Charlottesville | \$315,000 | \$350,000 | (+)11%                | (+)7.9%               |
| Fluvanna        | \$224,000 | \$212,185 | (-)5%                 | (+)10.2%              |
| Greene          | \$248,500 | \$270,000 | (+)9%                 | (+)7.4%               |
| Louisa          | \$225,000 | \$221,950 | (-)1%                 | (+)8%                 |
| Nelson          | \$215,000 | \$190,000 | (-)12%                | (+)19.5%              |

Source: Charlottesville Area Association of Realtors – January 2022

## Median Sales Price



## Change in Median Sales Price from 2019

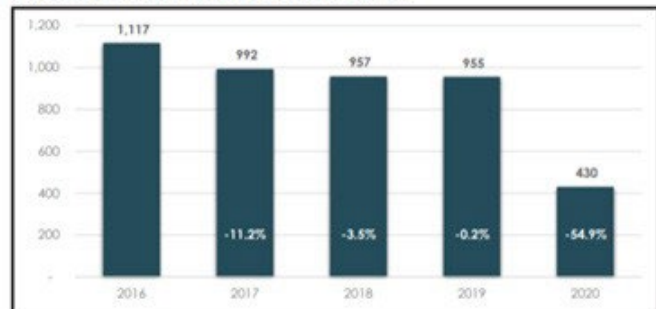
|                         |         |
|-------------------------|---------|
| Nelson County           | + 19.5% |
| Fluvanna County         | + 10.2% |
| City of Charlottesville | + 8.5%  |
| Louisa County           | + 8.0%  |
| Albemarle County        | + 8.0%  |
| Greene County           | + 7.4%  |

Source: Charlottesville Area Association of Realtors – January 2022

A variety of factors has affected the region's ability to construct and sell homes to most of its residents. The inventory of available homes for sale has dropped continuously from 2016-2020.

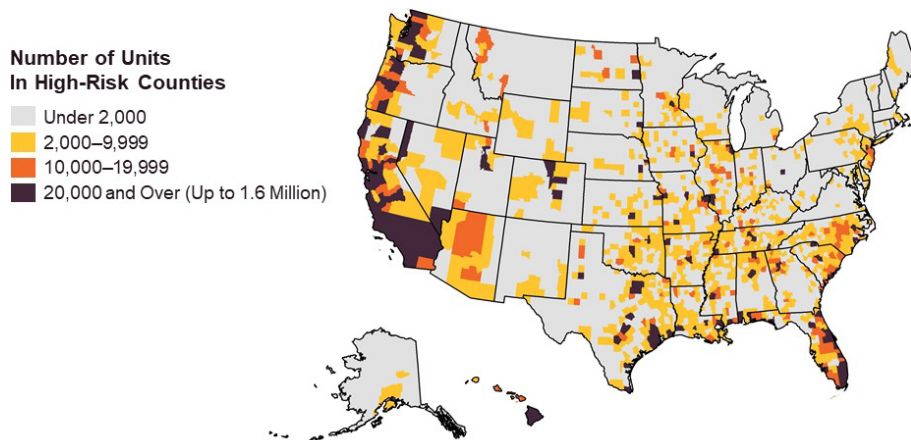
Low income residents are often disproportionately affected by natural disasters. Typically, the only land available to low-income families is in less desirable locations, in or near high hazard risk areas, such as along flood plains. Affordable housing may not be as well constructed as other housing, and therefore is more susceptible to damage from natural hazards. Households living in mobile homes, especially those that were built before 1978, can be at significant risk from natural disasters. Low-income families may also have less disposable income to make their homes more disaster resistant.

**Inventory of Homes for Sale 2016 to 2020:**



Source: Charlottesville Area Association of Realtors – January 2022

**Figure 1: More than 17 Million Rental Units Are Under Threat from Environmental Hazards**



Notes: High-risk areas have a Relatively Moderate, Relatively High, or Very High Expected Annual Loss (EAL) rating. EAL represents the average economic loss in dollars resulting from natural hazards each year. The number of units in high-risk counties are aggregated from the tract level. Rental units are occupied units only. Source: JCHS tabulations of Federal Emergency Management Agency, November 2021 National Risk Index EAL data, and US Census Bureau, 2019 American Community Survey 5-Year Estimates.

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Joint Center for Housing Studies of Harvard University JCHS

According to Harvard University's Joint Center for Housing Studies, over 17 million rental units are under threat from environmental hazards. The accompanying analysis expects this number to continue to increase as hazardous weather events become more common and more severe. Fortunately, most of Virginia is considered to have less than 2,000 units per county at high risk. None of the planning district has more than 2,000 units that are high risk. However, it is important to keep in mind that this number may increase across the Commonwealth without effective and proactive mitigation measures. Ensuring that no particular type of housing is more dangerous than

others in the planning district is an example of incorporating equity into the hazard mitigation planning process.

Certain types of housing, however, are more prone to risk than others due to their usual proximity to natural hazards and materials used in their construction. The table below illustrates the concentration of mobile homes in the Planning District. While mobile homes do not represent most homes in any of the planning district localities, they still house a significant population, especially in Nelson, Louisa, and Greene. Mobile homes are often susceptible to damage from high winds and flooding.

## Mobile Home Table

| Locality        | Percent of Housing Units that are Mobile Homes |
|-----------------|------------------------------------------------|
| Charlottesville | .91%                                           |
| Albemarle       | 4.11%                                          |
| Nelson          | 15.03%                                         |
| Louisa          | 12.97%                                         |
| Fluvanna        | 6.91%                                          |
| Greene          | 9.62%                                          |

Source: American Community Survey 2015-2019 – January 2022

## Presidential Disaster Declarations

The following table lists presidential disaster declarations in the state, many of which included the localities in the Thomas Jefferson Planning District.

### Presidential Disaster Declarations in Virginia Since 1969

| Month | Year | Event                                                                               |
|-------|------|-------------------------------------------------------------------------------------|
| Aug.  | 1969 | Hurricane Camille (flooding); 27 jurisdictions declared, All localities in PDC      |
| June  | 1972 | Hurricane Agnes (flooding); 106 jurisdictions declared, All localities in PDC       |
| Sept. | 1972 | Storm/Flood; Hampton, Newport News, & Virginia Beach declared                       |
| Oct.  | 1972 | Flood; Western, Central, Southeastern Virginia; 31 jurisdictions declared           |
| April | 1977 | Flash Flood; Southwestern Virginia; 16 jurisdictions declared, None in the PDC      |
| Nov.  | 1977 | Flood; Southwestern Virginia; 8 jurisdictions declared, None in the PDC             |
| July  | 1979 | Flood; Buchanan County declared                                                     |
| Sept. | 1979 | Flood; Patrick County declared                                                      |
| May   | 1984 | Flood; Buchanan, Dickenson & Washington Counties declared                           |
| Nov.  | 1985 | Flood; Western, Central Virginia; 52 jurisdictions declared                         |
| Oct.  | 1989 | Flood; Buchanan County declared                                                     |
| April | 1992 | Flood; Western Virginia; 24 jurisdictions declared, None in the PDC                 |
| March | 1993 | Snowstorm; 43 jurisdictions declared                                                |
| Aug.  | 1993 | Tornado; Petersburg declared                                                        |
| Feb.  | 1994 | Ice Storm; Central, Western Virginia; 71 jurisdictions declared, None in the PDC    |
| March | 1994 | Ice Storm; Central, Western Virginia; 29 jurisdictions declared, None in the PDC    |
| June  | 1995 | Flood; Central & Western Virginia; 24 jurisdictions declared                        |
| Jan.  | 1996 | Blizzard; All counties and cities in state declared, All localities in PDC declared |
| Jan.  | 1996 | Flood; 27 jurisdictions declared                                                    |
| Sept. | 1996 | Hurricane Fran (flooding); 88 jurisdictions declared                                |
| Aug.  | 1998 | Hurricane Bonnie (flooding); 5 jurisdictions declared, None in the PDC              |
| Sept. | 1999 | Hurricane Dennis; Hampton declared, None in the PDC                                 |
| Sept. | 1999 | Hurricane Floyd (flooding); 48 jurisdictions declared, None in the PDC              |
| Feb.  | 2000 | Winter Storms; 107 jurisdictions declared: all except Charlottesville and Nelson    |
| July  | 2001 | Flood; Southwestern Virginia; 10 jurisdictions declared, None in the PDC            |

|           |                     |                                                                                                              |
|-----------|---------------------|--------------------------------------------------------------------------------------------------------------|
| Sept.     | 2001                | Pentagon Attack; 1 jurisdiction declared, None in the PDC                                                    |
| March     | 2002                | Flood; Southwestern Virginia; 10 jurisdictions declared, None in the PDC                                     |
| April/May | 2002                | Flood; Southwestern Virginia; 9 jurisdictions declared, None in the PDC                                      |
| Feb.      | 2003                | Winter Storms/Flooding; 39 jurisdictions declared, None in the PDC                                           |
| Sept.     | 2003                | Hurricane Isabel (winds, flooding); 100 jurisdictions declared, All localities in PDC                        |
| Nov.      | 2003                | Flood; Southwestern Virginia; 6 jurisdictions declared                                                       |
| May       | 2004                | Flood; Southwestern Virginia; 3 jurisdictions declared                                                       |
| Sept      | 2004                | Flood; Central Virginia; 12 jurisdictions declared, None in the PDC                                          |
| October   | 2004                | Severe Storms and Flooding from the remnants of Hurricane Jeanne, None in PDC                                |
| Sept.     | 2005                | Hurricane Katrina Evacuation                                                                                 |
| April     | 2006                | Bull Mountain Fire                                                                                           |
| July      | 2006                | Severe Storms, Tornadoes, and Flooding                                                                       |
| Sept.     | 2006                | Severe Storms and Flooding, Including Severe Storms and Flooding Associated with Tropical Depression Ernesto |
| Dec.      | 2009                | Severe Storms and Flooding Associated with Tropical Depression Ida and a Nor'easter                          |
| Feb.      | 2010                | Severe Winter Storm and Snowstorm                                                                            |
| April     | 2010                | Severe Winter Storms and Snowstorms                                                                          |
| Feb.      | 2011                | Smith Fire                                                                                                   |
| Feb.      | 2011                | Coffman Fire                                                                                                 |
| Sep       | 2011                | Hurricane Irene                                                                                              |
| Nov       | 2011                | Earthquake in Louisa County                                                                                  |
| Nov       | 2011                | Remnants of Tropical Storm Lee                                                                               |
| July      | 2012                | Severe Storms and Straight-line Winds                                                                        |
| Nov       | 2012                | Hurricane Sandy                                                                                              |
| Mar       | 2016                | Severe Winter Storm and Snowstorm                                                                            |
| Nov       | 2016                | Hurricane Matthew                                                                                            |
| Sept      | 2018                | Hurricane Florence                                                                                           |
| October   | 2018                | Tropical Storm Michael                                                                                       |
| Jan       | 2020 and continuing | Virginia Covid 19 Pandemic                                                                                   |
| Feb.      | 2021                | Severe Winter Storms                                                                                         |
| Aug       | 2021                | Flooding, Landslides, Mudslides                                                                              |

Source: FEMA, VDEM – January 2022

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## HISTORIC DISTRICTS

The Thomas Jefferson Planning District is home to a number of historic districts (HD) and properties, and the UNESCO World Heritage Site of Monticello and the University of Virginia's Academical Village. The region's history is a significant contributor to the area's character and supports a robust tourism industry. The Historic Downtown Mall in Charlottesville is considered one of the finest urban parks in the country. This pedestrian mall is home to a vibrant collection of more than 120 shops and 30 restaurants located in the historic buildings on and around old Main Street Charlottesville. Historic

### Districts in the region are:

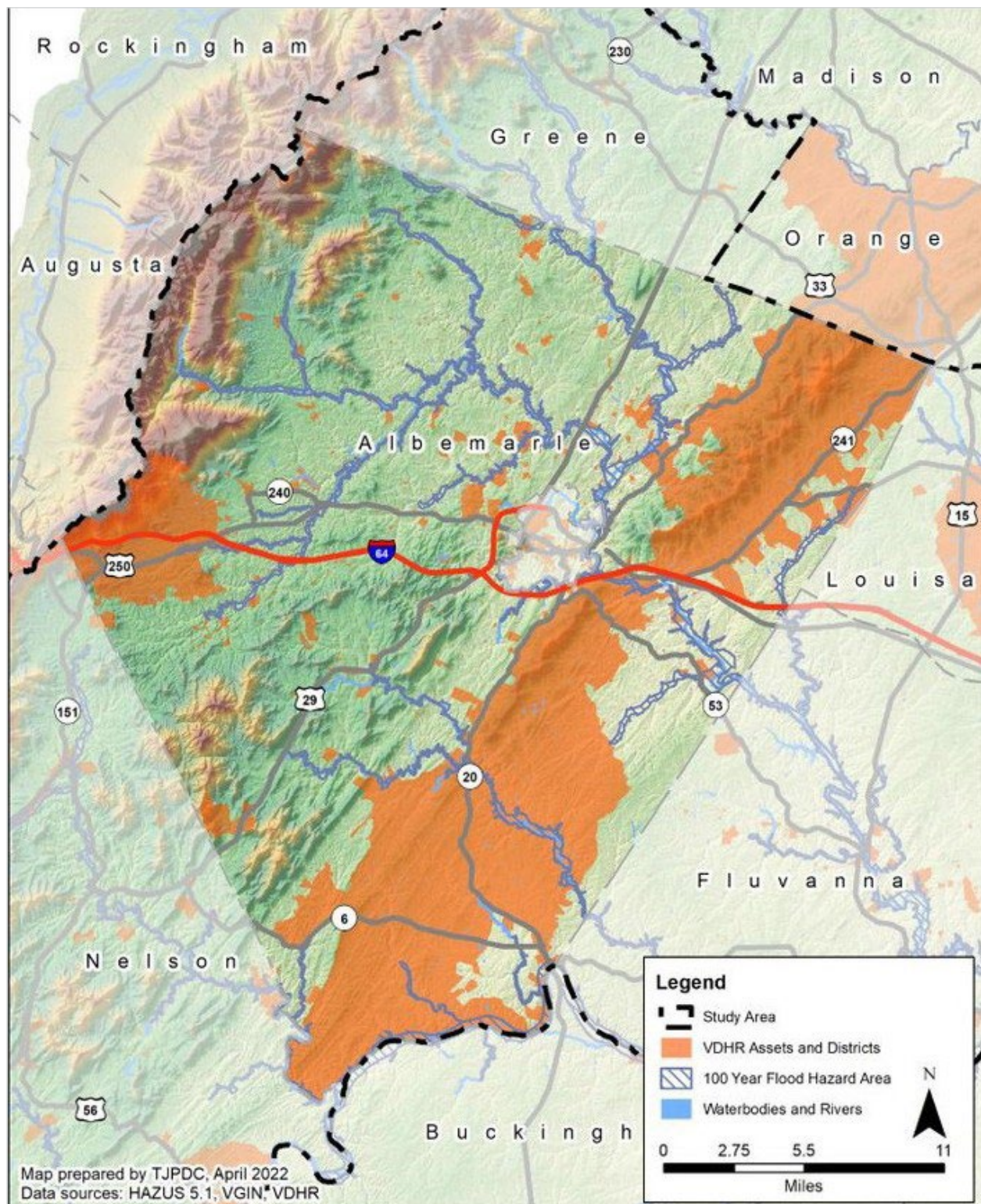
- Advance Mills (Fray's Mill) HD (Albemarle County)
- Alberene Stone Company Executive Row HD (Albemarle County)
- Batesville HD (Albemarle County)
- Covesville HD (Albemarle County)
- Crozet HD (Albemarle County)
- Proffit HD (Albemarle County)
- Free Union HD (Albemarle County)
- Southern Albemarle Rural HD (Albemarle County)
- Southwest Mountains Rural HD (Albemarle County)
- UVA Area HD (Albemarle County and Charlottesville)
- Greenwood-Afton HD (Albemarle and Nelson Counties)
- Charlottesville and Albemarle County Courthouse HD (Charlottesville)
- Fifeville-Castle Hill HD (Charlottesville)
- Fry's Spring HD (Charlottesville)
- Oakhurst-Gildersleeve HD (Charlottesville)
- Martha Jefferson HD (Charlottesville)
- West Main Street HD (Charlottesville)
- Ridge Street HD (Charlottesville)
- Wertland Street HD (Charlottesville)
- Woolen Mills Village HD (Charlottesville)
- Rugby Road – University Corner – Venable Neighborhood HD (Charlottesville)
- Breemo Plantation HD (Fluvanna)
- Fluvanna County Courthouse HD (Fluvanna County)
- Scottsville HD (Albemarle and Fluvanna Counties)
- Livingston Historic District (Nelson)
- Stanardsville HD (Greene County)
- Green Springs HD - National Trust Landmark District (Louisa)
- Mineral HD (Louisa)

A map showing Virginia Department of Historic Resources (VDHR) Historic Assets and Districts overlain with the 100-year flood plain is included on the following page. The Town of Scottsville experienced twenty-one floods of 20 feet or more above mean low water level between 1870 and 1990. The impoundment on Mink Creek was completed in 1975, and the A. Raymon Thacker Levee was dedicated in 1990. Scottsville has not been flooded since the levee was constructed. A stone and earthwork dam protects Breemo Plantation structures in Fluvanna County. Land in the flood plains are generally in the rural historic districts.



## MAP: 100 Year Flood Events

Historic Assets and Districts



# Hazard Identification and Analysis

*201.6(c)(2)(i): The risk assessment shall include a description of the location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.*

*201.6(c)(2)(ii): The risk assessment shall include a description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.*

## PURPOSE

The purpose of the hazard identification process is to describe all natural hazards that affect the Thomas Jefferson Planning district and provide an analysis on their location, extent, severity, and probability of occurrence. Each individual hazard was identified, including a description of the hazard in general written from a national perspective, followed by an in-depth analysis based on the particular impact the hazard has on the Thomas Jefferson Planning District. Most of the general descriptions were updated in 2011 and have not significantly changed in the previous five years. However, new data and information on regional events that occurred between 2018 and 2023 were used to augment the analysis of hazards previously identified.

The hazards appear in the order of relative risk posed to the Planning District. The Working Group agreed on the rating for each parameter for all potential hazards, using a risk matrix developed by Kaiser Permanente. Based on the relative threat, as determined by the Working Group, hurricanes/high winds and windstorms, flooding and winter storms posed the greatest threat. Therefore, these hazards are analyzed in greater detail in this plan. Other hazards that appear on the list do not pose a significant risk but are still accounted for in this plan. Due to varying environmental features of the localities within the planning district, there exists

locality-specific differences for each hazard. Hazards not listed are considered to have no potential for direct impact on the region. Some hazards are inter-related (i.e., hurricanes can cause flooding and tornadoes), and some consist of hazardous elements that are not listed separately (i.e., severe thunderstorms can cause lightning; hurricanes can cause coastal erosion). It should also be noted that some hazards, such as severe winter storms, may impact a large area yet

cause little damage, while other hazards, such as a tornado, may impact a small area yet cause extensive damage. Information regarding identifying, measuring, and predicting the frequency of each hazard included in the HIRA can be found in this section, including region and locality-specific analysis that justify that hazard's ranking in the risk assessment.

There is an emerging scientific consensus that global climate change may alter the incidence

and severity of disasters in the future. Changes in weather patterns, including hotter summers and winters with greater than average snowfall, will potentially impact all sectors of the community. Agriculture may be affected by drought conditions while storm-water infrastructure can become overwhelmed with unusually heavy rainfall. Severe storms can create vulnerabilities in the energy sector, threatening power supply to homes and businesses as well as to



Source: TJPDC



medical facilities. The region can expect the intensity of hazards to increase as global climate change continues to create new and exacerbate existing weather patterns.

The Hazard Assessment Tool was used to evaluate each identified hazard according to the probability of occurrence and the severity in terms of impact to human life, property, and business operations. The following table is a prioritized list of hazards for the region as determined by the Hazard Mitigation Working Group. The exercise took into account national and state-level data, the local experience of members of the group, and the results of a prior assessment made in 2017.

| EVENT                          | PROBABILITY                                                                                        | HUMAN IMPACT                                                                                       | PROPERTY IMPACT                                                                                    | BUSINESS IMPACT                                                                                    | RISK             |
|--------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------|
|                                | Likelihood this will occur                                                                         | Possibility of death or injury                                                                     | Physical losses and damages                                                                        | Interruption of services                                                                           | Relative threat* |
| SCORE                          | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 = no possibility<br>1 = some possibility<br>2 = very high possibility<br>3 = certain possibility | 0 - 100%         |
| Hurricane/high wind/windstorms | 3                                                                                                  | 2                                                                                                  | 2                                                                                                  | 2                                                                                                  | 74%              |
| Flooding                       | 3                                                                                                  | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 65%              |
| Winter storms/ weather         | 3                                                                                                  | 1                                                                                                  | 1                                                                                                  | 2                                                                                                  | 56%              |
| Communicable Disease/Pandemic  | 2                                                                                                  | 2                                                                                                  | 1                                                                                                  | 2                                                                                                  | 30%              |
| Lightning                      | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Wildfire                       | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Drought / Extreme Heat         | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Dam Failure                    | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 2                                                                                                  | 22%              |
| Tornado                        | 2                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 22%              |
| Earthquake                     | 1                                                                                                  | 1                                                                                                  | 2                                                                                                  | 2                                                                                                  | 19%              |
| Landslide                      | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 1                                                                                                  | 11%              |
| AVERAGE SCORE                  | 1.88                                                                                               | 1.37                                                                                               | 1.5                                                                                                | 1.58                                                                                               | 33%              |

**Data Disclaimer:** In all tables where the National Climate Data Center (NCDC) is listed as the primary source, it is possible that data is reported with other localities, resulting in a value that is neither different nor exclusive. NCDC, like the TJPDC uses best available data. The most recent possible data was used by TJPDC staff to make determinations about natural hazards. In some cases, that data is not current to 2023. NCDC provides this disclaimer:

**Storm Data Disclaimer:** Storm Data is an official publication of the National Oceanic and Atmospheric Administration (NOAA) which documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or dis-

ruption to commerce. In addition, it is a partial record of other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occurs in connection with another event. Some information appearing in Storm Data may be provided by or gathered from sources outside the National Weather Service (NWS), such as the media, law enforcement and/or other government agencies, private companies, individuals, etc. An effort is made to use the best available information but because of time and resource constraints, information from these sources may be unverified by the NWS. Therefore, when using information from Storm Data, customers should be cautious as the NWS does not guarantee the accuracy or validity of the information. Further, when it is apparent information

appearing in Storm Data originated from a source outside the NWS (frequently credit is provided), Storm Data customers requiring additional information should contact that source directly. In most cases, NWS employees will not have the knowledge to respond to such requests. In cases of legal proceedings, Federal regulations generally prohibit NWS employees from appearing as witnesses in litigation not involving the United States.

However, in many cases the National Weather Service NCDC (now National Centers for Environmental Information) combine Charlottesville and Albemarle observations into either one or the other jurisdiction. This is sometime referred to the Albemarle Charlottesville Zone in the data- base. When the data was analyzed many of these events were included in the Albemarle line item that affected both jurisdictions.

It is important to note that many types of weather events affect multiple jurisdictions and therefore the same event can either show up in one county or all 6 counties covered by the plan. Anecdotally, when there is no monetary damage reported the event location tends to be vaguer.

## Hurricane

### Identification

Hurricanes, tropical storms, nor'easters, and typhoons, also classified as cyclones, are any closed circulation developing around a low-pressure center in which the winds rotate counter-clockwise in the Northern Hemisphere (or clockwise in the Southern Hemisphere) and whose diameter averages 10 to 30 miles across. A tropical cyclone refers to any such circulation that develops over tropical waters. Tropical cyclones act as a "safety- valve," limiting the continued build-up of heat and energy in tropical regions by maintaining the atmospheric heat and moisture balance between the tropics and the pole-ward latitudes. The primary damaging forces associated with these storms are high-level sustained winds heavy precipitation, and tornadoes. Coastal areas are also vulnerable to the additional forces of storm surge, wind-driven waves, and tidal flooding which can be more destructive than cyclone wind.

The key energy source for a tropical cyclone is the release of latent heat from the condensation of warm

water. Their formation requires a low-pressure disturbance, warm sea surface temperature, rotational force from the spinning of the earth, and the absence of wind shear in the lowest 50,000 feet of the atmosphere. The majority of hurricanes and tropical storms form in the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico during the official Atlantic hurricane season, which encompasses the months of June through November. The peak of the Atlantic hurricane season is in early to mid-September and the average number of storms that reach hurricane intensity per year in this basin is about six (6).

As an incipient hurricane develops, barometric pressure (measured in Millibars or inches) at its center falls and winds increase. If the atmospheric and oceanic conditions are favorable, it can intensify into a tropical depression. When maximum sustained winds reach or exceed 39 miles per hour, the system is designated a tropical storm, given a name, and is closely monitored by the National Hurricane Center in Miami, Florida. When sustained winds reach or exceed 74 miles per hour the storm is deemed a hurricane. Hurricane intensity is further classified by the Saffir-Simpson Scale, which rates hurricane intensity on a scale of 1 to 5, with 5 being the most intense.



Source: NOAA

### Saffir-Simpson Scale

The Saffir-Simpson Scale categorizes hurricane intensity linearly based upon maximum sustained winds, barometric pressure, and storm surge potential, which are combined to estimate potential damage. Categories 3, 4, and 5 are classified as "major" hurricanes, and while hurricanes within this range comprise only 20 percent of total tropical cyclone landfalls, they account for over 70 percent of the damage in the United States. The table below describes the damage that could be expected for each category of hurricane.

| Saffir-Simpson Scale |                                    |                                      |                    |
|----------------------|------------------------------------|--------------------------------------|--------------------|
| Category             | Maximum Sustained Wind Speed (MPH) | Minimum Surface Pressure (Millibars) | Storm Surge (Feet) |
| 1                    | 74—95                              | >980                                 | 3—5                |
| 2                    | 96—110                             | <979—965                             | 6—8                |
| 3                    | 111—130                            | 964—945                              | 9—12               |
| 4                    | 131—155                            | 944—920                              | 13—18              |
| 5                    | 155+                               | <920                                 | 19+                |

Source: NOAA

### Hurricane Damage Classification

| Category | Damage Level | Description                                                                                                                                                                                                                                                                                     |
|----------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1        | MINIMAL      | No real damage to building structures. Damage primarily to unanchored mobile homes, shrubbery, and trees. Also, some coastal flooding and minor pier damage.                                                                                                                                    |
| 2        | MODERATE     | Some roofing material, door, and window damage. Considerable damage to vegetation, mobile homes, etc. Flooding damages piers and small craft in unprotected moorings may break their moorings.                                                                                                  |
| 3        | EXTENSIVE    | Some structural damage to small residences and utility buildings, with a minor amount of curtain wall failures. Mobile homes are destroyed. Flooding near the coast destroys smaller structures with larger structures damaged by floating debris. Terrain may be flooded well inland.          |
| 4        | EXTREME      | More extensive curtain wall failures with some complete roof structure failure on small residences. Major erosion of beach areas. Terrain may be flooded well inland.                                                                                                                           |
| 5        | CATASTROPHIC | Complete roof failure on many residences and industrial buildings. Some complete building failures with small utility buildings blown over or away. Flooding causes major damage to lower floors of all structures near the shoreline. Massive evacuation of residential areas may be required. |

Source: NOAA

A storm surge is a large dome of water often 50 to 100 miles wide and rising anywhere from four to five feet in a Category 1 hurricane up to 20 feet in a Category 5 storm. The storm surge arrives ahead of the storm's actual land-fall and the more intense the hurricane is, the sooner the surge arrives. Water rise can be very rapid, posing a serious threat to those who have not yet evacuated flood-prone areas. A storm surge is a wave that has outrun its generating source and become a long period swell. The surge is always highest in the right-front quadrant of the



Source: NOAA

direction in which the hurricane is moving. As the storm approaches shore, the greatest storm surge will be to the north of the hurricane eye. Such a surge of high water topped by waves driven by hurricane force winds can be devastating to coastal regions, causing severe beach erosion and property damage along the immediate coast. Damage during hurricanes may also result from spawned tornadoes and inland flooding associated with heavy rain-fall that usually accompanies these storms.

Hurricane Floyd, as an example, was at one time a Category 4 hurricane racing towards the North Carolina coast. As far inland as Raleigh, the state capital located more than 100 miles from the coast, communities were preparing for extremely damaging winds exceeding 100 miles per hour. Floyd made landfall as a Category 2 hurricane and will be remembered for causing the worst inland flooding disaster in North Carolina's history. Rainfall amounts were as high as 20 inches in certain locales and 67 counties sustained damages.



Source: NOAA

Similar to hurricanes, nor'easters are ocean storms capable of causing substantial damage to coastal areas in the Eastern United States due to their associated strong winds and heavy surf. Nor'easters are named for the winds that blow in from the northeast and drive the storm up the East Coast along the Gulf Stream, a band of warm water that lies off the Atlantic coast. They are caused by the interaction of the jet stream with horizontal temperature gradients and generally occur during the fall and winter months when moisture and cold air are plentiful.

There is near-uniform scientific consensus that the increasing global temperature will make tropical cyclones more frequent and intense. According to scientists at NOAA, over the course of the 21st century, tropical cyclone rainfall rates are projected to increase by 10-15%, tropical cyclone intensities are projected to increase, and the global proportion of tropical cyclones that reach Category 4 or 5 status is projected to increase. This body of evidence demonstrates that globally and in the United States it can be assumed that hurricanes will continue to affect both coastal and inland regions more often and more intensely. Further, there is evidence to indicate infrastructure damage and speeds of recovery affect communities with different incomes; a study after Hurricane Michael in 2018 found these significant levels of infrastructure resilience.

### Analysis

Hurricanes have affected every locality in the planning district in many different forms over time. Hurricanes produce a variety of hazards, including flash flooding, riverine flooding, high winds, and sometimes spawn tornadoes and landslides. Modern communications make tracking and warning for these

storms much easier, allowing people to prepare for the event in advance. However, spot damage can be quite extensive and sudden, with no opportunity for advance preparation.

The most severe and remembered was Hurricane Camille, which in 1969 devastated much of the planning district. Camille produced torrential rains in the remote mountains of Nelson County, Virginia. In just 12 hours, the mountain slopes between Charlottesville and Lynchburg received over 10 inches of rain. Nelson County recorded almost 30 inches of rainfall within 4 ½ hours. The flooding was so catastrophic that all communications were cut off. Although the eye of Hurricane Camille did not actually pass through Nelson County, the resulting rainfall proved to be devastating. As a result of the deluge of water flowing from the water-soaked mountain sides, massive landslides occurred which swept tons of soil, boulders, and thousands of trees onto farmlands, highways, floodplains and into the normal streambed and banks of almost every stream in the area. Over 150 people died in Virginia as a result of Hurricane Camille and another 100 were injured. Damage was estimated at 113 million dollars (1969 dollars).

Hurricane Matthew was the largest storm to pass through the planning district in the last ten years. The storm achieved category 5 status over the Atlantic Ocean but had been degraded to a tropical depression before reaching Virginia. The storm impacted the region with high winds and heavy rain.

Hurricane Zeta affected the region in the fall of 2020. Significant heavy rain and localized flooding occurred but the storm moved very quickly over the planning district.

### Hurricane Ivan (2004) Track



Source: Wikipedia



Virginia, on average, experiences a tropical storm or its remnants about every year. Hurricanes directly hitting the Commonwealth occur every 2.3 years. Due to the enormous range of variables that affect a hurricane's path and intensity, it is difficult to pre-

dict when or if a hurricane season will be particularly dangerous to the planning district. Although rare in number, hurricanes' ability to cause widespread damage across the planning district reflects its high rank among damaging hazards in the region.

### Hurricane and Tropical Storm Record 2010-2022

| Locality                                | # | Deaths | Injuries | Property Loss | Crop Damage |
|-----------------------------------------|---|--------|----------|---------------|-------------|
| Albemarle/Cville (reported with Nelson) | 2 | 0      | 0        | \$5,000.00    | \$          |
| Fluvanna (reported with Louisa)         | 1 | 0      | 0        | \$36,000.00   | \$          |
| Greene                                  | 1 | 0      | 0        | \$1,000.00    |             |
| Louisa (reported with Fluvanna)         | 1 | 0      | 0        | \$            | \$          |
| Nelson (reported with Albemarle)        | 2 |        | 0        | \$1,000.00    | \$          |

Source: NOAA

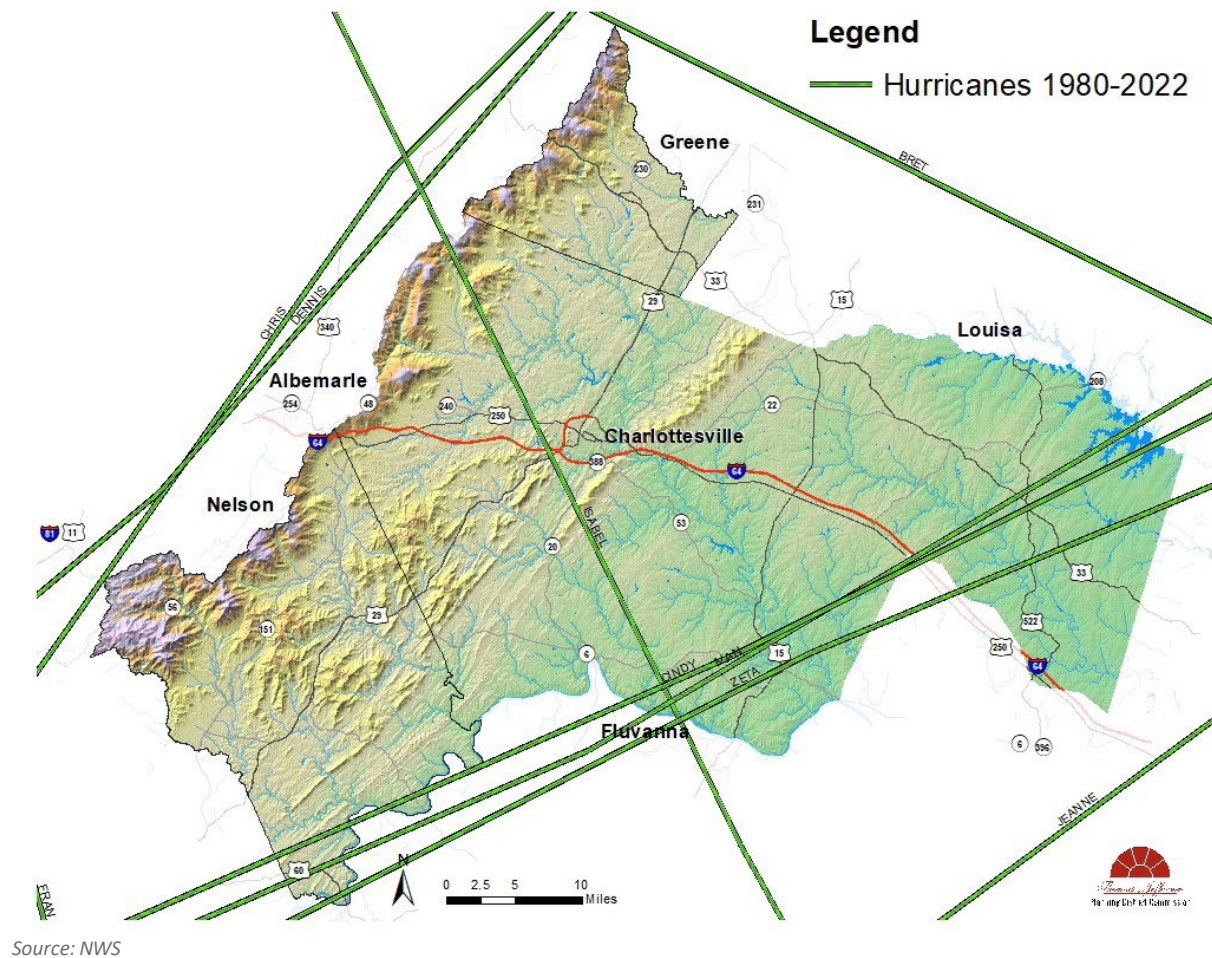
### Notable Hurricanes in the Planning District

Note: Most of these storms were downgraded to tropical storms or tropical depressions by the time they reached the Planning District.

| Hurricane | Specific Area                                                                        | Damage                                                                                                    | Year                  | Cat. |
|-----------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------|------|
| Zeta      | All                                                                                  | Heavy rain, localized flooding                                                                            | Oct. 20, 2020         | 3    |
| Matthew   | All                                                                                  | \$30+ million in private + public structure damage, 2 deaths, evacuations, flooding/power outages         | De. 18, 2018          | 5    |
| Florence  | All TJPDC localities                                                                 | \$200 million in damage, heavy rain/flooding/high winds/spawned tornadoes, 3 deaths                       | Oct. 15, 2018         | 4    |
| Joaquin   | All                                                                                  | Rain, localized flooding                                                                                  | Oct 2, 2015           | 2    |
| Arthur    | Fluvanna, Louisa, Albemarle                                                          | Power outages, rain, flooding                                                                             | July 4, 2014          | 2    |
| Sandy     | Nelson, Greene                                                                       | Power outages, rain, flooding                                                                             | Oct 29, 2012          | 3    |
| Cindy     | Fluvanna and Louisa Counties                                                         | 3 deaths in U.S.                                                                                          | July 7, 2005          | 1    |
| Ivan      | Fluvanna and Louisa Counties                                                         | Estimated \$18 billion in U.S. damages and 25 deaths                                                      | Sept. 18, 2004        | 5    |
| Isabel    | All                                                                                  | Preliminary estimate of over \$4 billion in damages/costs; at least 40 deaths                             | Sept 18, 2003         | 5    |
| Floyd     | All                                                                                  | Flooding rains and high winds. 4 deaths; over 280,000 customers without electricity, 5,000 homes damaged. | Sep-99                | 4    |
| Fran      | Northwest Greene Co. was hardest hit.                                                | \$5.8 billion damage; 37 deaths, loss of electricity (state-wide)                                         | August-September 1996 | 3    |
| Agnes     | Scottsville (34 feet), Howardsville and Columbia                                     | More than 210,000 people were forced to flee for their lives and 122 were killed.                         | June 19-24, 1972      | 1    |
| Camille   | Massie Mill, Davis Creek, Scottsville, Howardsville, Schuyler, Columbia, Piney River | 114 deaths in Nelson Co alone. Flooding & landslides. \$1.42 billion (unadjusted).                        | August 1969           | 5    |
| Hazel     | All                                                                                  | Flooding, barns leveled, roofs pulled off.                                                                | Oct 14-15, 1954       | 4    |

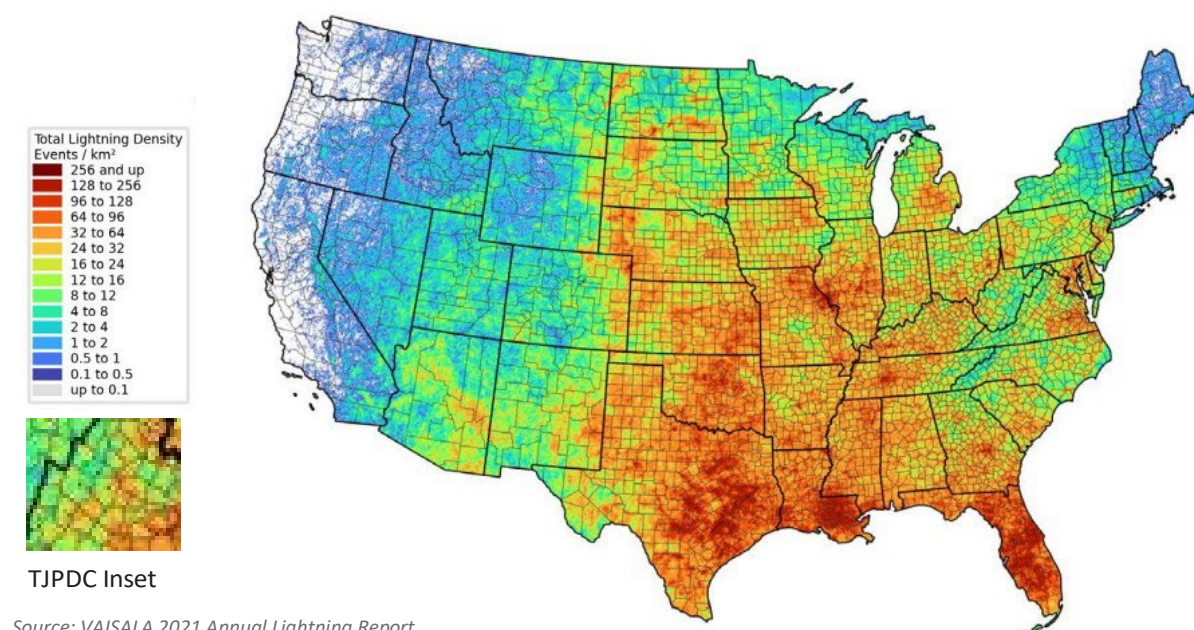
Source: National Climate Data Center, Albemarle Historical Newspaper Records

## Hurricanes Between 1980 and 2022

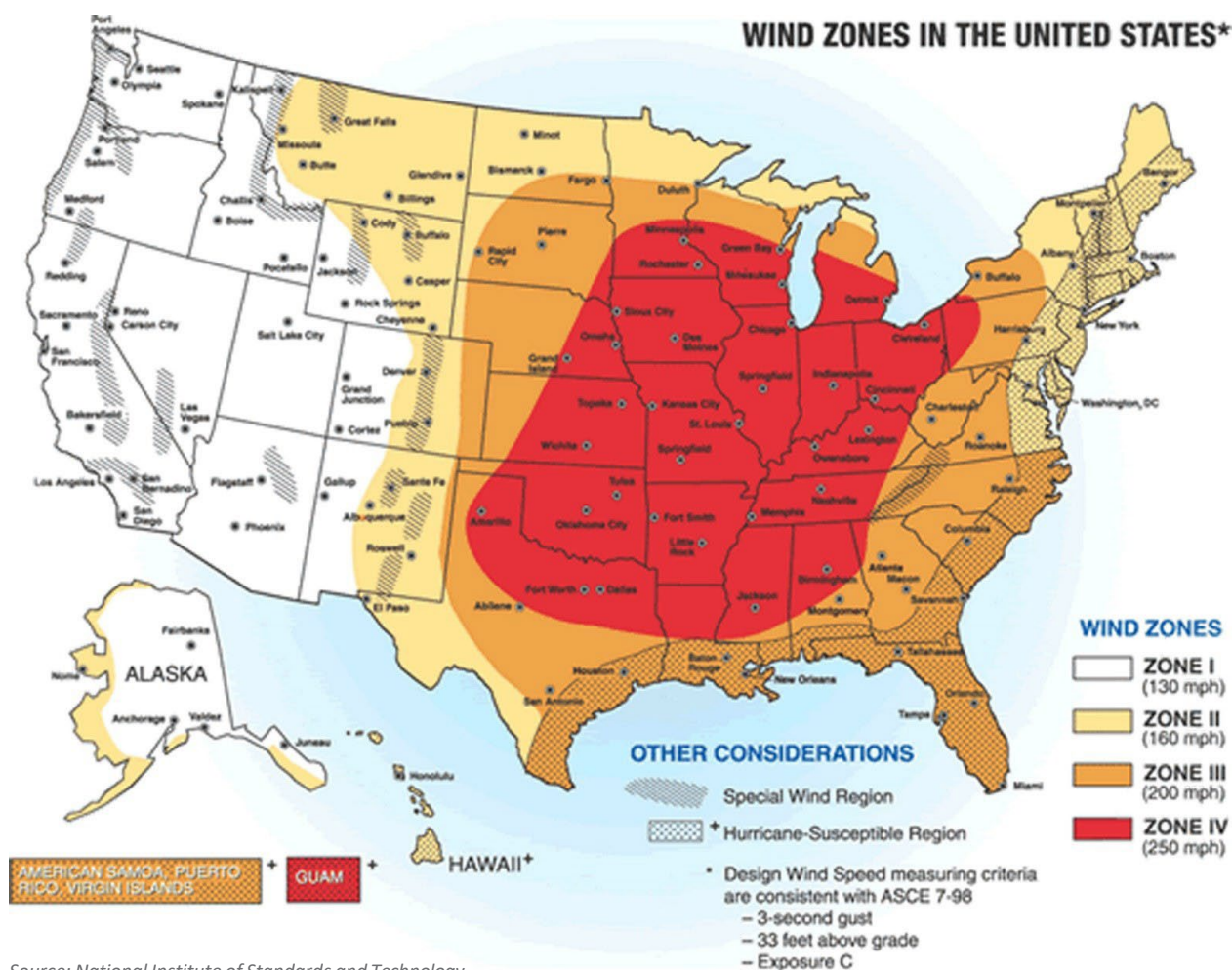


## Total Lightning Density Gridded Map 2021

Cloud-to-ground strikes plus cloud pulses







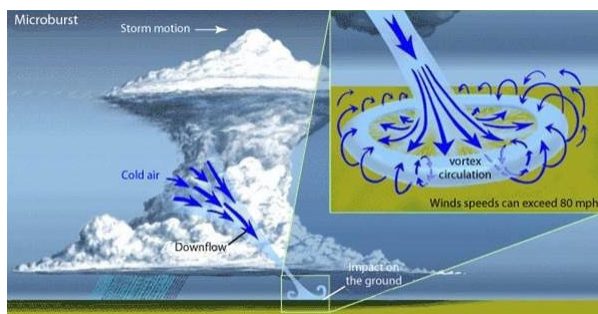
Source: National Institute of Standards and Technology

## High Wind/Windstorm and Thunderstorms

### Identification

**High Winds:** The figure below shows how the frequency and strength of extreme windstorms vary across the United States. The map was produced by the Federal Emergency Management Agency and is based on 40 years of tornado history and over 100 years of hurricane history. Zone IV, the darkest area on the map, has experienced both the greatest number of tornadoes and the strongest tornadoes. Virginia falls within the Hurricane-Susceptible region. As shown by the map key, wind speeds in Zone IV can be as high as 250 MPH.

**Thunderstorms:** According to the National Weather Service, more than 100,000 thunderstorms occur each year, though only about 10 percent of these storms are classified as “severe.” Although thunderstorms generally affect a small area when they occur, they’re danger lies in their ability to generate tornadoes, hailstorms, strong winds, flash flooding, and damaging lightning. While thunderstorms can occur in all regions of the United States, they are most common in the central and southern states atmospheric conditions in those regions are most ideal for generating these powerful storms.



Source: NASA

**Microbursts:** A microburst is a column of sinking air or downdraft that can occur during thunderstorms, extending outwards once reaching the surface. The result is strong and sometimes damaging winds usually extending 2.5 miles or less in diameter. Despite its small scale, microbursts can induce winds as strong as an EF-1 tornado, or around 100 miles per hour. A “dry microburst” is caused by evaporation cooling the air and causing it to descend abruptly. A “wet microburst” is triggered by a thunderstorm and are accompanied by a large amount of precipitation. These commonly occur in the southeast during summer months. Microbursts are a considerable aviation concern. Their sudden and severe nature can push aircraft toward the ground, and in some cases, result in crashes. They have also caused very localized damage to trees and built infrastructure.

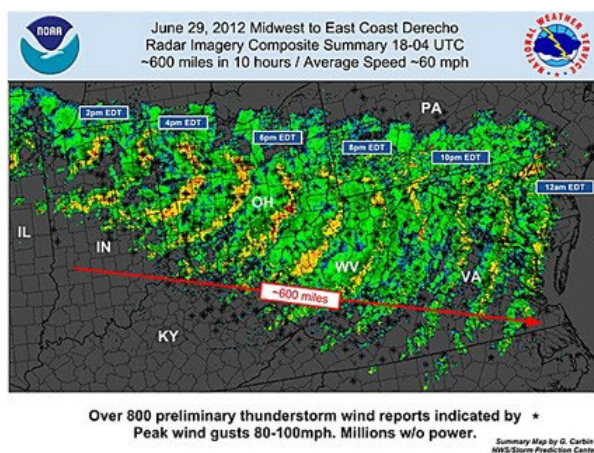
**Derecho Straight-Line Winds:** A Derecho is a widespread long-lived straight-line windstorm that is associated with a land based, fast moving group of severe thunderstorms. Storms are classified as derechos if winds extend more than 240 miles and gusts reach at least 58 miles per hour throughout a majority of the storm’s path. Derechos can produce hurricane force winds, tornados, heavy rains, and trigger flash floods. Seventy percent of derechos occur during May-August, making them warm weather phenomena.

### Analysis

Each of the localities in the Planning District has been affected by windstorms that cause property damage and economic losses. High winds often accompany thunderstorms, hurricanes, or tornadoes; the latter two are discussed in more detail in other sections of this report. Most of the damage is a result of downed

trees, road closures, and utility and communication outages. Structural damage may be sustained in poorly constructed buildings. As demonstrated by the historical data concerning high wind events and thunderstorms, continued risk, and damage from these types of weather events should be anticipated and prepared for. The variety of high wind events that the planning district is susceptible demonstrates why this hazard is potentially very damaging for the region. Derechos and microbursts can produce localized flooding and power outages that affect small portions of localities, potentially isolating them from emergency services. There is a very high probability for these events to happen regularly in the planning district.

A straight-line derecho wind caused extensive damage to properties in Louisa County in May of 2021. More than 9,000 customers were without power between the Rappahannock Electric Cooperative and Dominion Energy, and cars were overturned and displaced due to the strength of winds. In July of 2021, a microburst produced golf ball sized hail and winds over 60 miles per hour in Scottsville. Trees over 3 feet in diameter were uprooted, causing significant property damage and road blockages. Staff of Bartlett Tree Experts spent 2 days clearing roads, and stores were closed due to power outages for a day resulting from downed power lines. Intense storms such as these are likely to increase in destruction and frequency in the future throughout the region. Like hurricanes, the continued increase in global temperature will create conditions that will generate more frequent and intense storms and wind events in the planning district.



Source: National Weather Service



## Damages in Louisa from Derecho in 2021



Source: NBC12 Louisa News

### High Wind 2010-2020

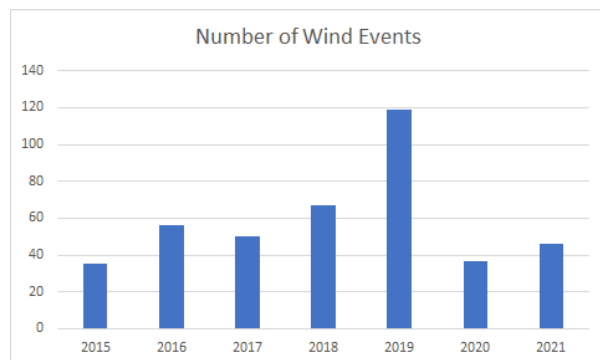
| Locality        | #  | Death | Injuries | Property Loss | Crop Damage  |
|-----------------|----|-------|----------|---------------|--------------|
| Albemarle       | 10 | 0     | 0        | \$ -          | \$ -         |
| Charlottesville | 5  | 0     | 0        | \$ 1,000.00   | \$ 50,000.00 |
| Fluvanna        | 0  | 0     | 0        | \$ -          | \$ -         |
| Greene          | 6  | 0     | 0        | \$ -          | \$ -         |
| Louisa          | 2  | 0     | 0        | \$ 50,000.00  | \$ -         |
| Nelson          | 19 | 0     | 0        | \$ -          | \$ 20,000.00 |
| Region          | 42 |       | 0        | \$51,000      | \$70,000     |

Source: National Climate Data Center (NOAA)

### Thunderstorms with Wind 2010-2020

| Locality        | #   | Death | Injuries | Property Loss | Crop Damage  |
|-----------------|-----|-------|----------|---------------|--------------|
| Albemarle       | 298 | 0     | 0        | \$ 528,300.00 | \$ 24,250.00 |
| Charlottesville | 14  | 0     | 0        | \$ 75,500.00  | \$ -         |
| Fluvanna        | 40  | 0     | 0        | \$ 390,000.00 | \$ -         |
| Greene          | 59  | 0     | 0        | \$ 49,500.00  | \$ 7,000.00  |
| Louisa          | 79  | 0     | 0        | \$ 597,000.00 | \$ -         |
| Nelson          | 103 | 0     | 0        | \$ 133,500.00 | \$ 18,250.00 |
| Region          | 593 | 0     | 0        | \$1,773,800   | \$49,500     |

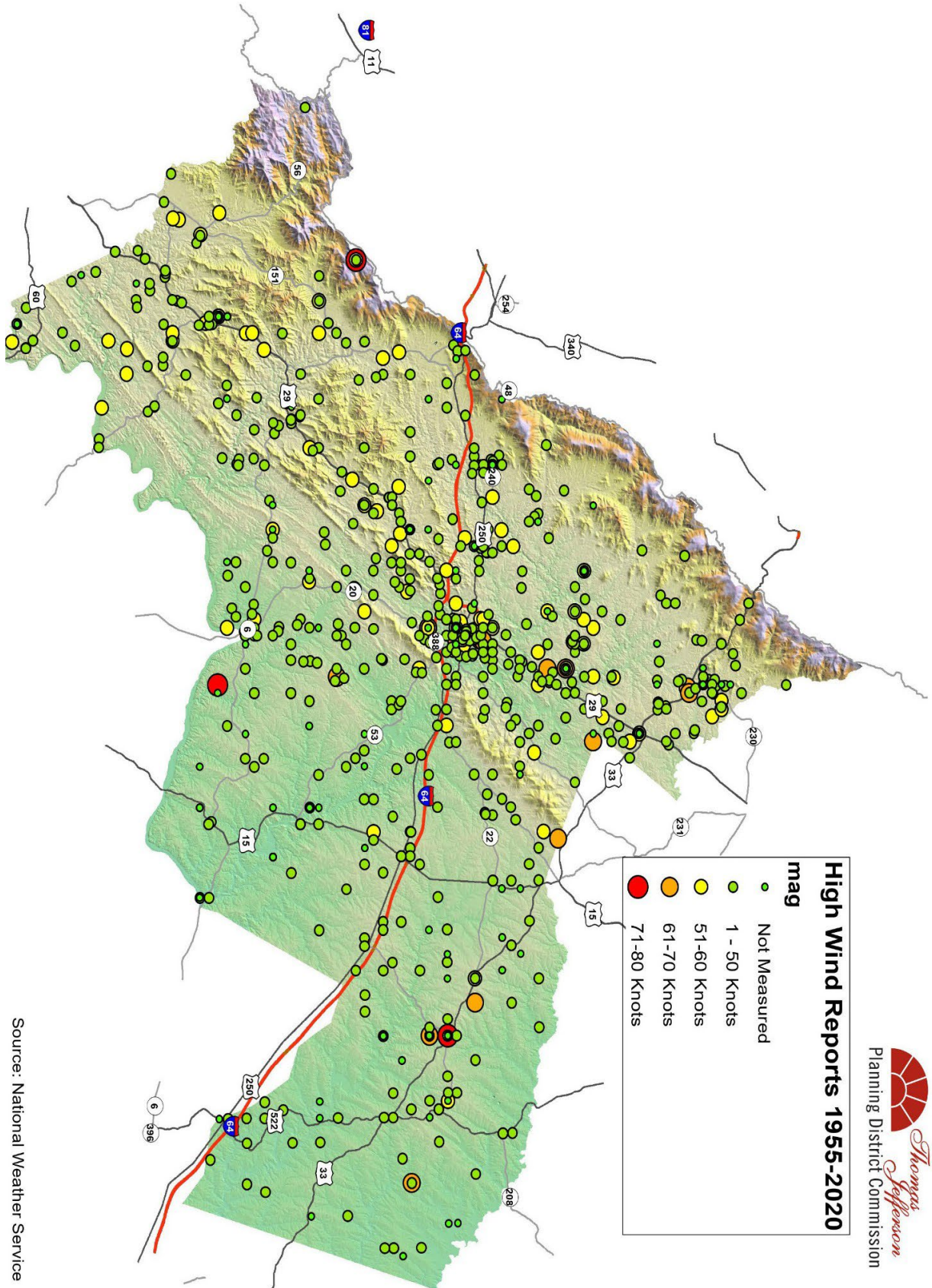
Source: NCDC, Albemarle Historical Society archived newspapers, HMP working Group



Source: National Climate Data Center (NOAA)



Source: TJPDC



Source: National Weather Service



## Flooding

### Identification

Flooding is defined as an overflow of water on normally dry land areas. In this region, they are most often the result of excessive precipitation, but dam failure or rapid snow melt can also lead to a flood event. Floods are the most frequent and widespread weather-related hazard across the world, occur in every U.S. state and territory, and kill more people than tornadoes, hurricanes, or lightning. In the United States, nearly 90 percent of presidential disaster declarations caused by natural events included flooding as a major component. The types of floods that most often impact this area and riverine flooding and flash flooding. The severity of a flooding event is determined by the following: a combination of stream and river basin topography and physiography; precipitation and weather patterns; recent soil moisture conditions; and the degree of vegetative clearing.

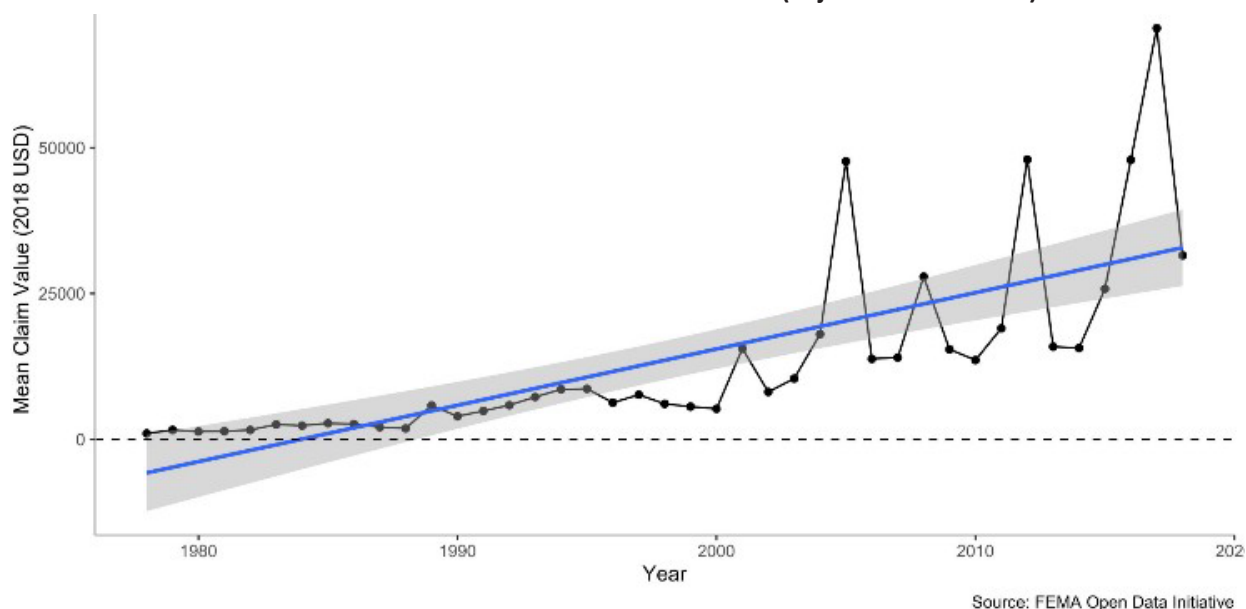
Riverine flooding is a function of excessive precipitation levels and water runoff volumes within the watershed of a stream or river. Weather events that can cause this type of flood are hurricanes, persisting precipitation events over a given location.

Flash flooding events usually occur from a dam or levee failure, within minutes or hours of heavy amounts of rain- fall, or from a sudden release of water held by an ice jam. Most flash flooding is

caused by slow-moving thunder- storms in a local area or by heavy rains associated with hurricanes and tropical storms. Although flash flooding occurs often along mountain streams, it is also common in urbanized areas where much of the ground is covered by impervious surfaces. So called “urban flooding” occurs where man-made development has obstructed the natural flow of water and decreased the ability of natural ground cover to absorb and retain surface water runoff and often leads to flash flooding. Flash flood waters move at very high speeds. “Walls” of water can reach heights of 10 to 20 feet. Flash flood waters and the accompanying debris can uproot trees, roll boulders, destroy buildings, and obliterate bridges and roads.

The periodic flooding of lands adjacent to rivers, streams, and shorelines (land known as floodplain) is a natural and inevitable occurrence that can be expected to take place based upon established recurrence intervals. The recurrence interval of a flood is defined as the average time interval, in years, expected between a flood event of a particular magnitude and an equal or larger flood. Flood magnitude increases with increasing recurrence interval. Global alterations in weather extremity and frequency will alter designations of what a 100-year flood is. Systems and practices that mimic natural processes and allow for water to infiltrate the ground surface, absorption of water by vegetation, and reuse of stormwater help

**National Mean Claim Value for Flood Insurance in dollars 1978-2018 (adjusted for inflation)**



mitigate the risk of flooding. Increased riparian buffer zones, rain gardens, green roofs, and local parks are some examples.

Floodplains have traditionally been designated by the average frequency of the flood that is large enough to cover them. For example, a 100-year floodplain is the area covered by a 100-year flood. Flood frequencies such as the 100-year flood are determined by plotting a graph of the size of all known floods for an area and determining how often floods of a particular size occur. However, hydrologists prefer to express flood frequency as the probability of flooding each year. For example, the 100-year flood has a 1% chance of occurring in any given year, and a 500-year flood as a 0.2% chance of occurring in any given year. Over the years, the average value for flood insurance has increased substantially across the United States (shown below), reflecting increases in flood events and severity. There is also significant evidence that indicates flood risk is much higher for poorer communities due to historic land use decisions and lack of investment in infrastructure. An understanding of the risk of flooding in the region must account for populations living in flood-prone areas.

Flooding is the most common hazard in the Thomas Jefferson Planning District, with all localities subject to risk from flash flooding associated with hurricanes and winter storms, as well as riverine flooding of the James, Rivanna, and Conway Rivers.

### Albemarle County

The James River floods in some manner nearly every year. The areas most prone to flooding in Albemarle County are the James River corridors and tributaries, and the steep slopes of the Blue Ridge Mountains along the western edge of the county. Scottsville, Howardsville and Sugar Hollow have experienced frequent flooding. In 2018, Albemarle County experienced significant flooding as remnants of Subtropical Storm Alberto swept through the region. Rain totals ranged from 7 to 9 inches after a few hours. Roads and schools were closed as a result, and residents were advised to boil water after flooding affected residential water services. A flash flood at Ivy Creek resulted in multiple individuals being swept away in their cars, resulting in some fatalities. A levee was built in 1989 and helps to protect the Town of Scottsville from flood damage. The Town maintains the



*Photo 1 Marking in Scottsville showing heights of past floods*  
Source: TJPDC

flood control system with volunteer staffing, some County funding, and federal inspections. However, flooding remains a recurring problem in areas of town. In 2020, Scottsville was awarded grants from the Virginia Community Flood Preparedness Fund and will be using the grant to develop a survey and floodplain map amendment. Six floods from snow-melt and rainfall occurred in 2020 in Scottsville, with no flooding in 2021. Town of Scottsville staff provided significant input concerning the history of flooding in the Town and Albemarle.

### Fluvanna County

The James River in Fluvanna County floods with some regularity, particularly in the Town of Columbia, located at the confluence of the Rivanna and James Rivers. At times, floods have covered 50% of the Town, including the St. James corridor running through the center of Town. The historic C&O depot was moved out of the floodplain in 1979. There are no levees protecting the Town of Columbia, and flood risks remain high. The small community of Bremono, located in the southern part of the county, is also at risk of flooding. Hurricane Camille in 1969 filled Lake Monticello, a 350-acre man-made lake, overnight, but the dam now protects residents from future floods. The portion of Scottsville in Fluvanna County is not behind the levee, representing a potential risk for property damage and loss of life.

### Greene County

Major rain events threaten the county annually, and hurricanes and their remnants can cause flooding in late summer. Winter storms also contribute to flooding. The slopes of the Blue Ridge Mountains are at the highest risk for flash floods. The town of Stanardsville is protected from flooding due to its

elevation, while lower lying areas of the county are at higher risk.

### Louisa County

Hurricane Camille in 1969 filled Lake Anna and destroyed the dam at Lake Louisa. According to local staff, there are still excavation vehicles at the bottom of the lake that were not removed in time before the hurricane arrived. The Towns of Louisa and Mineral sit on high ground and are generally not affected by flooding, other than flooding due to poor storm water drainage. Louisa left the National Flood Insurance Policy in 2017, and as seen in the table below, only 3 claims were filed over the course of 38 years. Dam controls protect residential development around Louisa's lakes. In 2022, flooding concerns in the Town and County of Louisa led to the creation of a working group by the County comprised of local citizens, Town representatives, state agency representatives, and TJPDC staff. The working group was tasked with identifying issues and finding solutions to the flooding issue.

### Nelson County

The James River in Nelson County floods in some manner nearly every year. The slopes of the Blue Ridge Mountains are at the highest risk for flash floods due to accumulation from runoff. Howardsville, Wingina, Norwood, Gladstone, Schuyler, Nellysford and Woods



Source: CBS19

Mill are populated areas experiencing frequent flooding. During Hurricane Camille in Nelson County, rocks, trees, and landslides created temporary dams in the mountain hollows. When these dams broke, devastating flooding occurred, destroying everything in its path and causing 124 deaths countywide.

Both riverine and flash flooding present moderate risk to most of the planning district. With three major rivers, the Rivanna, James, and North Anna, bordering communities and property, extensive flooding is possible depending on the amount of rain and period it falls. As demonstrated in Scottsville, many residents of the planning district are frequently concerned about flooding.

### Summary of Floods, Flood Record 2010-2021

| Locality        | #   | Death | Injuries | Property Loss  | Crop Damage  |
|-----------------|-----|-------|----------|----------------|--------------|
| Albemarle       | 136 | 1     | 0        | \$50,000.00    | \$           |
| Charlottesville | 5   | 0     | 0        | \$             | \$           |
| Fluvanna        | 6   | 0     | 0        | \$             | \$           |
| Greene          | 79  | 0     | 0        | \$4,777,000.00 | \$312,000.00 |
| Louisa          | 9   | 0     | 0        | \$             | \$           |
| Nelson          | 65  | 0     | 0        | \$30,000.00    | \$           |
| Region          | 300 | 1     | 0        | \$4,857,000.00 | \$312,000.00 |

Source: National Climate Data Center (NOAA)

### Notable Floods, Flood Record 2010-2021

| Locality  | Location   | Date      | Event Type  | Property Damage | Crop Damage |
|-----------|------------|-----------|-------------|-----------------|-------------|
| Albemarle | GREENWOOD  | 4/16/2011 | Flash Flood | 5.00K           |             |
| Albemarle | COVESVILLE | 6/5/2016  | Flood       | 20.00K          |             |
| Albemarle | STONY PT   | 5/5/2017  | Flood       | 5.00K           |             |
| Albemarle | FARMINGTON | 5/30/2018 | Flash Flood | 20.00K          |             |
| Greene    | MARCH      | 5/30/2018 | Flash Flood | 677.00K         | 312.00K     |
| Greene    | LYDIA      | 5/31/2018 | Flash Flood | 4.100M          |             |
| Nelson    | LOVINGSTON | 6/4/2016  | Flash Flood | 10.00K          |             |
| Nelson    | ROSELAND   | 6/5/2016  | Flood       | 20.00K          |             |

Source: National Climate Data Center (NOAA)

### NFIP Policies and Claims Paid 1978-2022

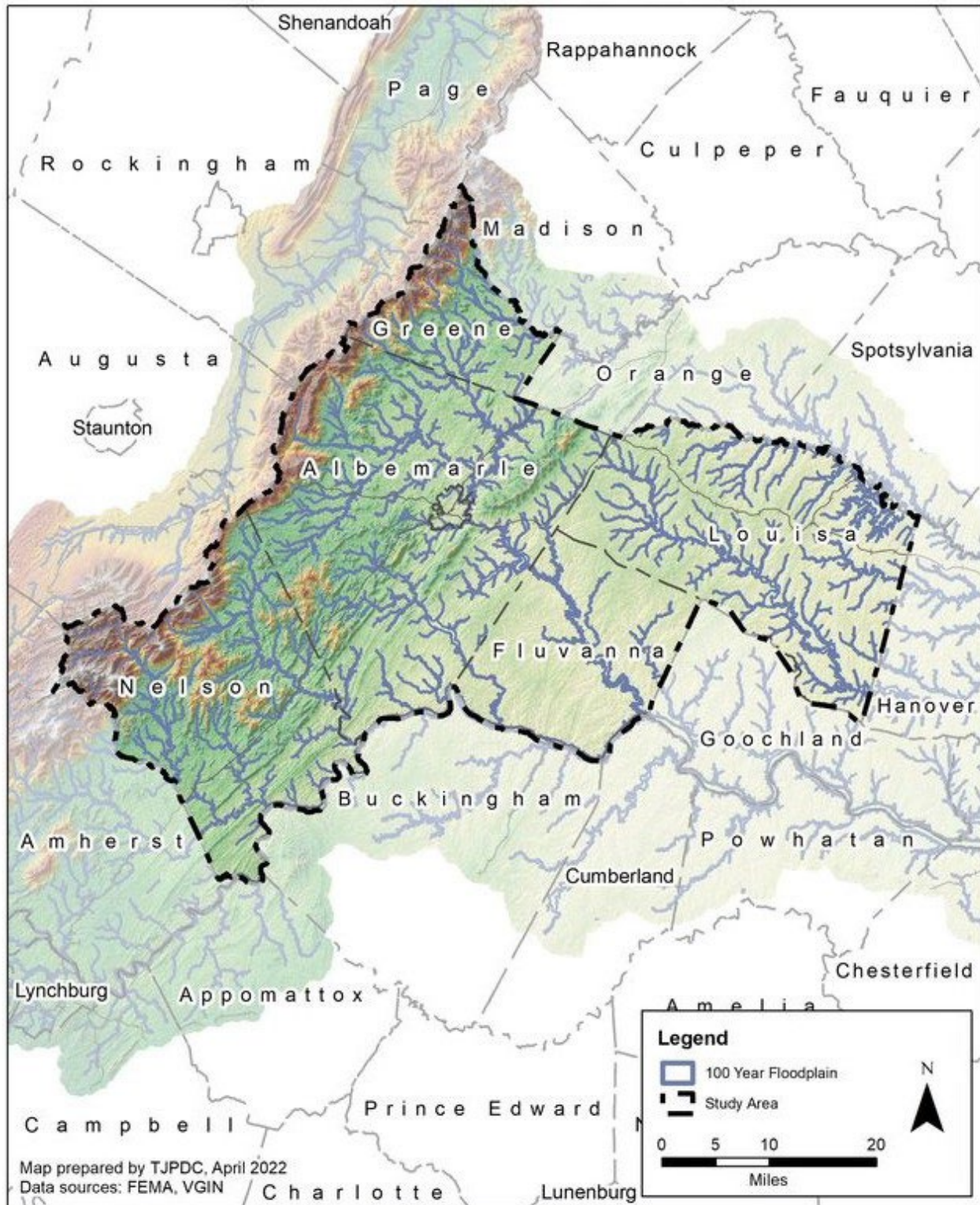
| Jurisdiction    | # Of Policies | Total Claims Since 1978 | Total Paid since 1978 |
|-----------------|---------------|-------------------------|-----------------------|
| Albemarle       | 351           | 118                     | \$1,264,602           |
| Charlottesville | 103           | 42                      | \$277,226             |
| Fluvanna        | 43            | 23                      | \$276,616             |
| Greene          | 62            | 26                      | \$184,479             |
| Louisa*         | 1             | 4                       | \$36,477              |
| Nelson          | 85            | 29                      | \$14,576              |

Source: NFIP via VDEM

\*Suspended

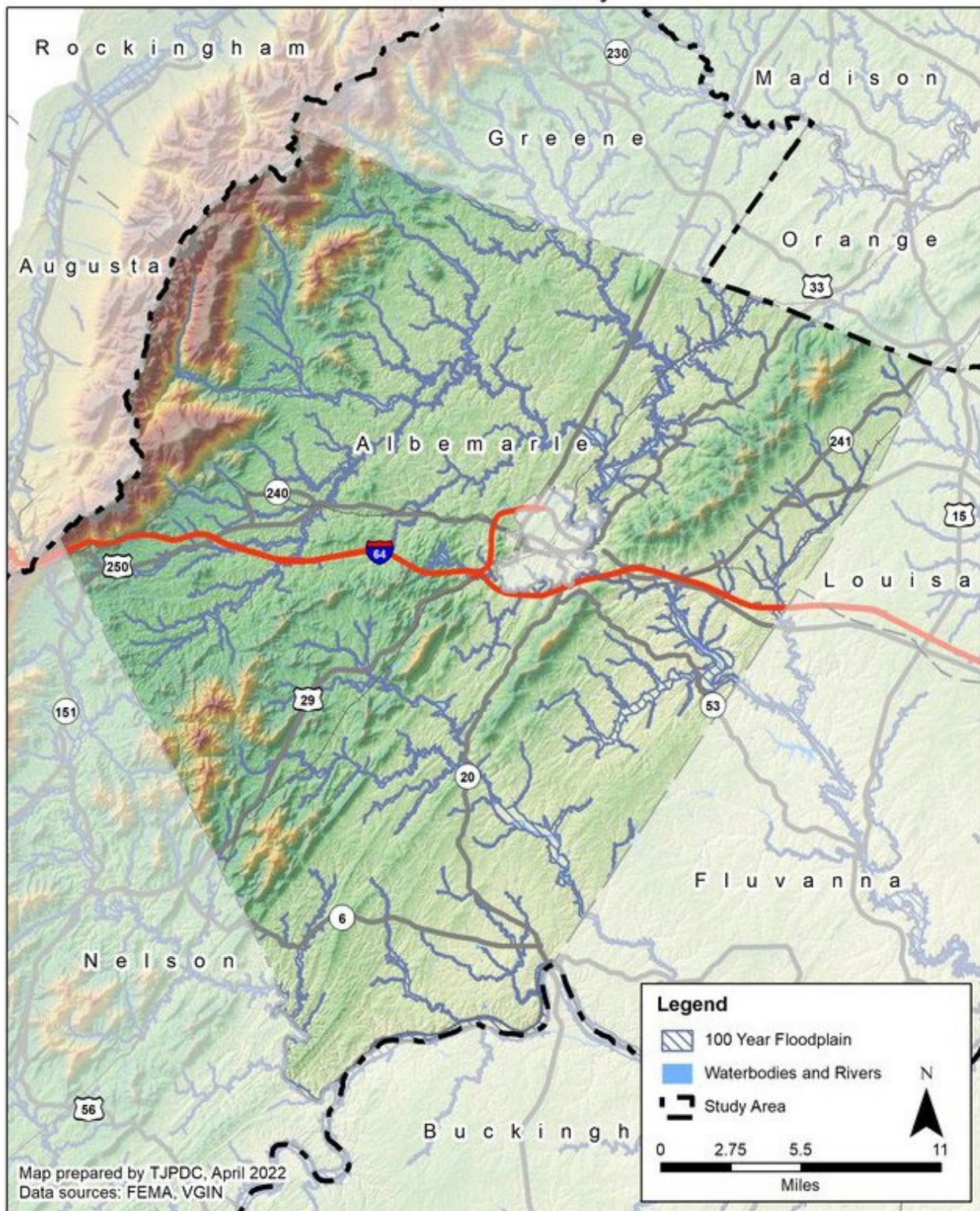


# FEMA Flood Hazard Areas 1% Annual Chance Flood Hazard



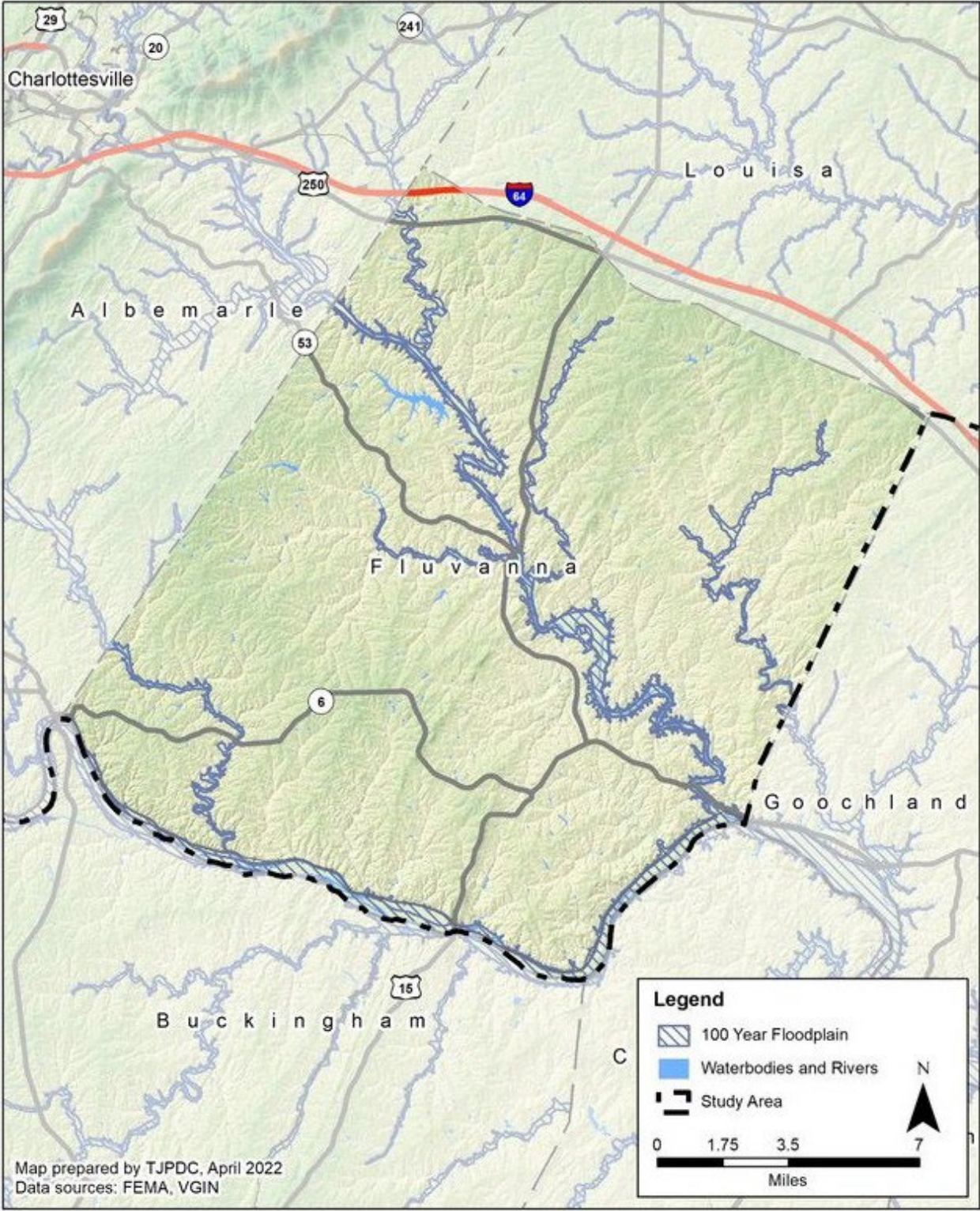


# FEMA Flood Hazard Areas Albemarle County



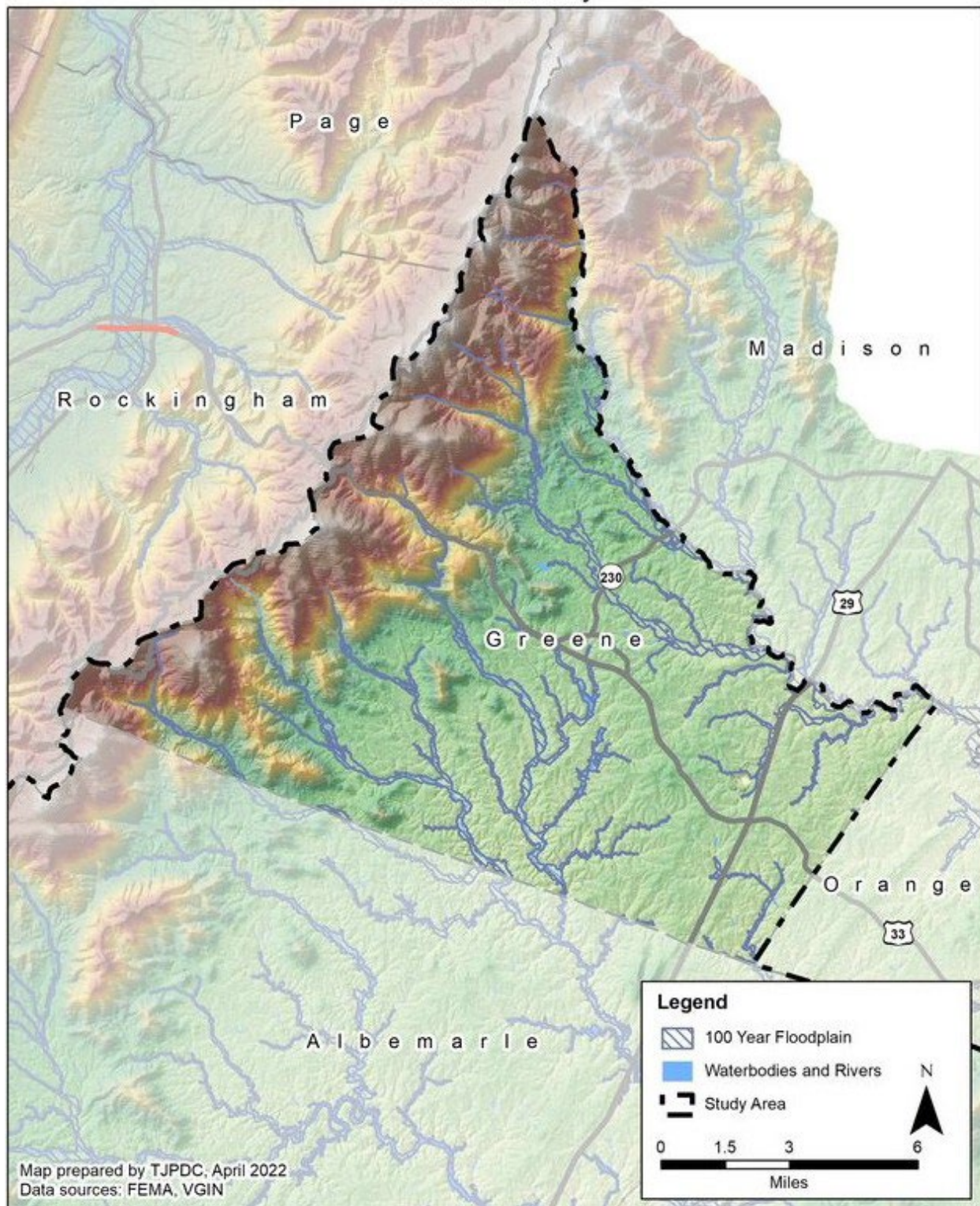


FEMA Flood Hazard Areas  
Fluvanna County



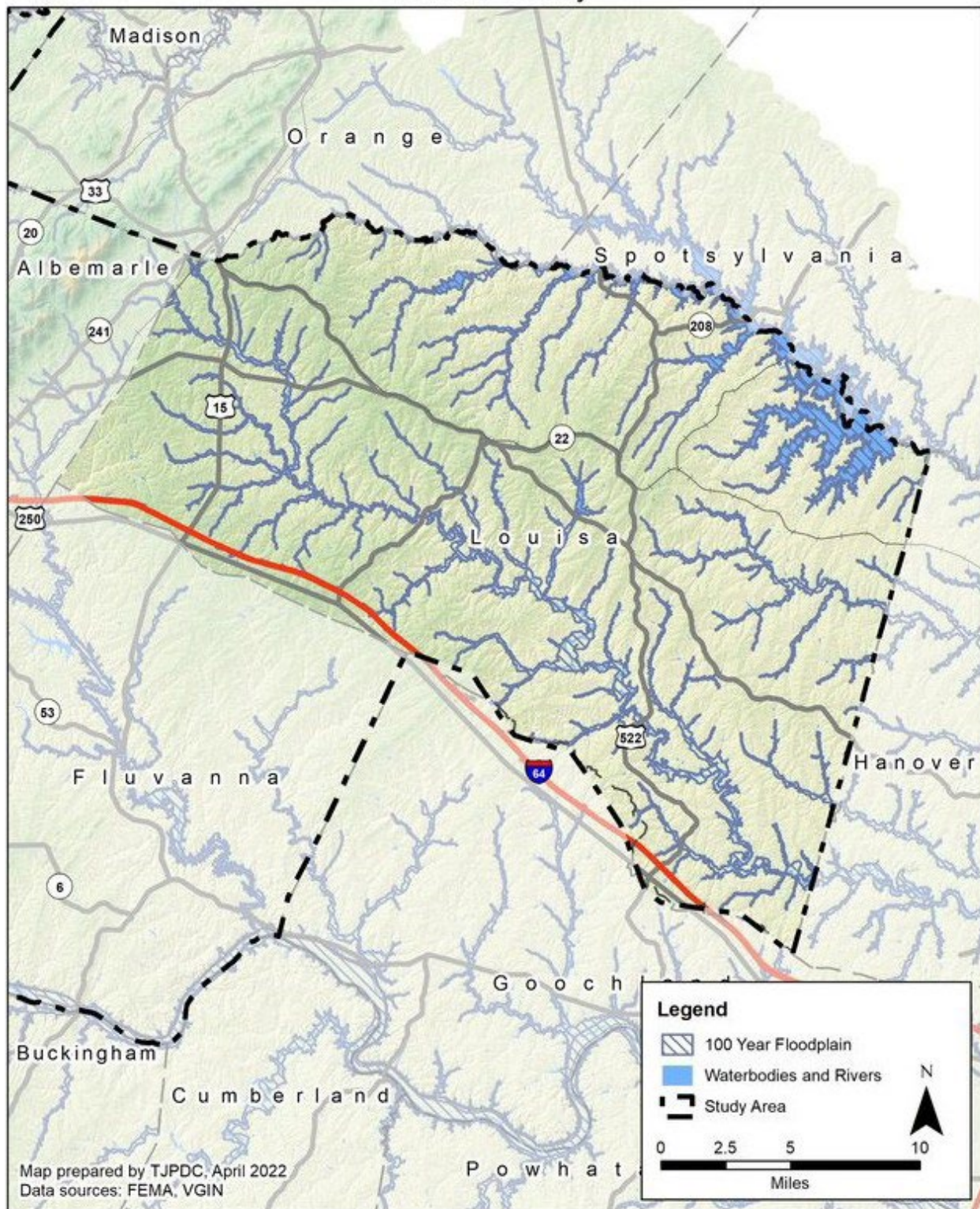


# FEMA Flood Hazard Areas Greene County



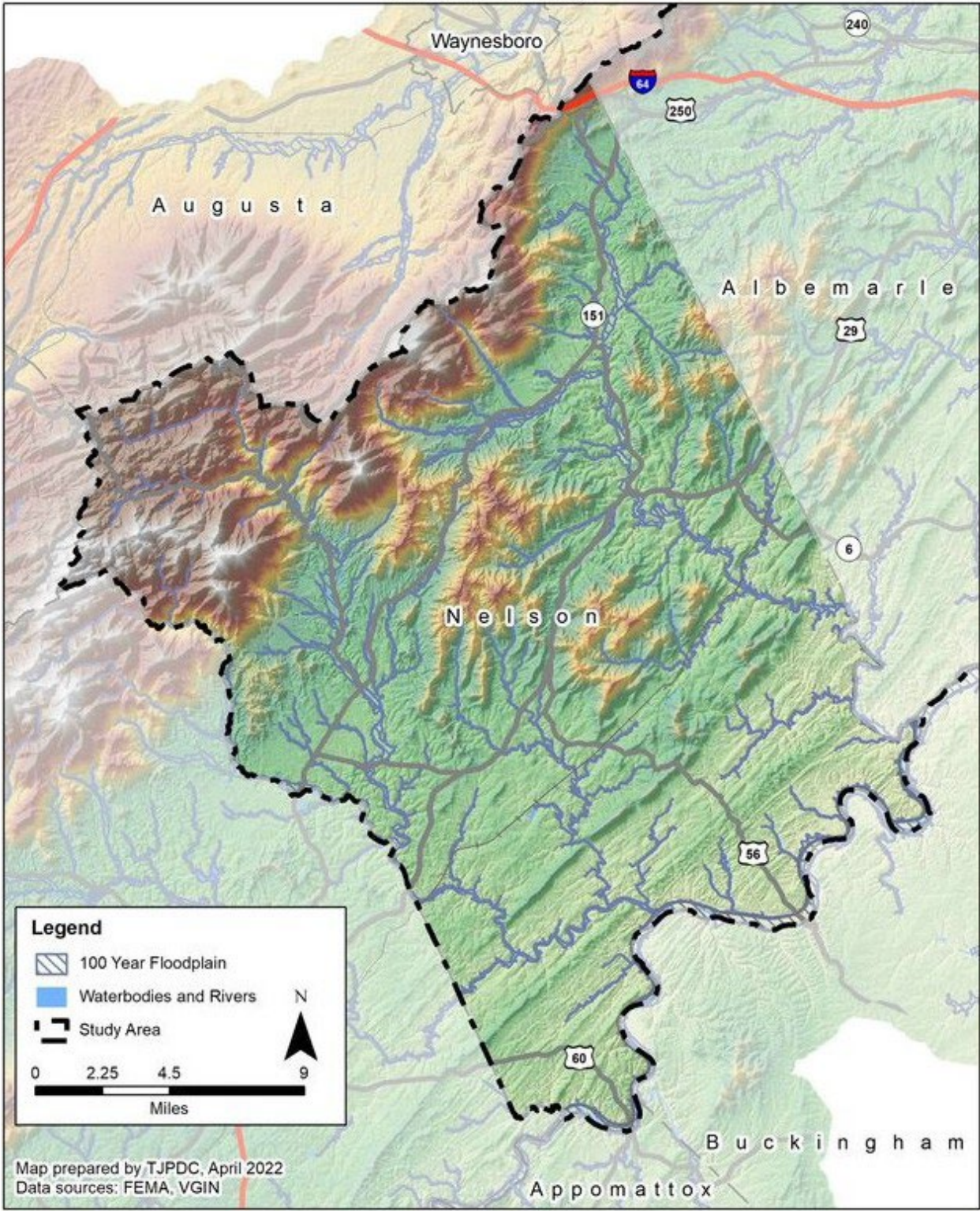


# FEMA Flood Hazard Areas Louisa County



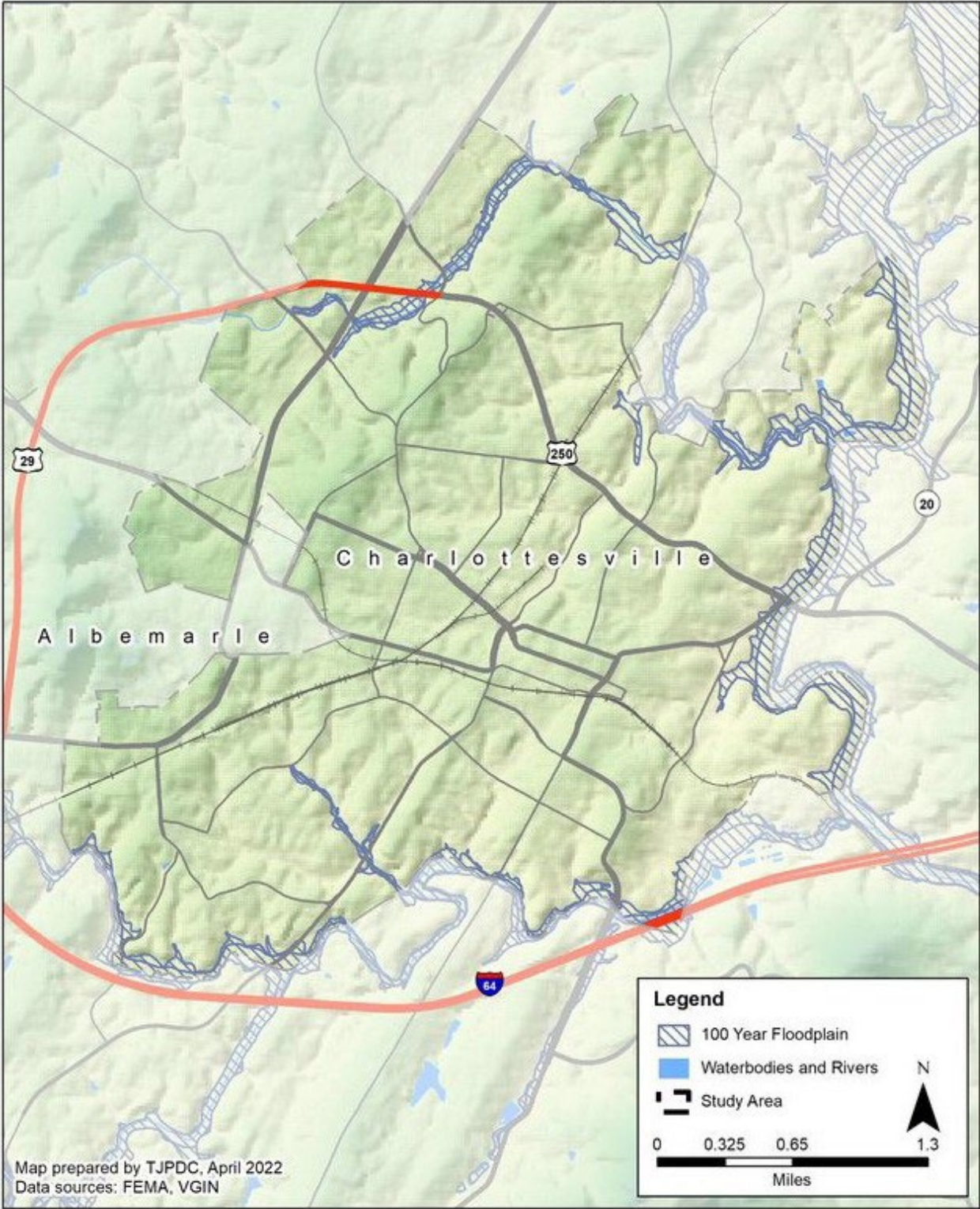


FEMA Flood Hazard Areas  
Nelson County





FEMA Flood Hazard Areas  
Charlottesville City



## Winter Weather

### Identification

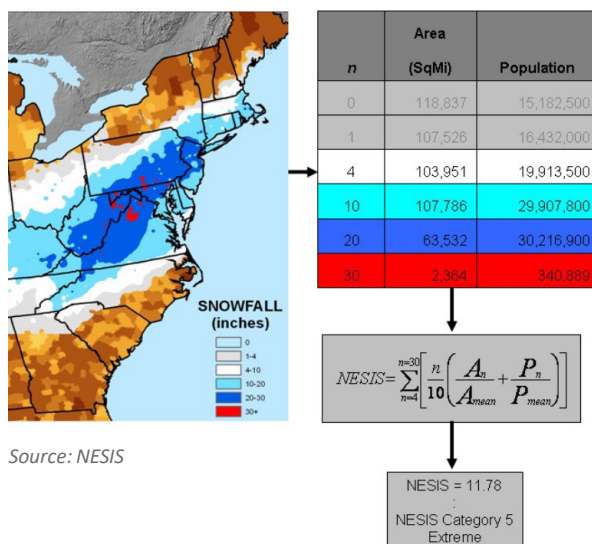
A winter storm can range from a moderate snow over a period of a few hours to blizzard conditions with blinding wind-driven snow that lasts for several days. Some winter storms may be large enough to affect several states, while others may affect only a single community. Many winter storms are accompanied by low temperatures and heavy and/or blowing snow, which can severely impair visibility, cause shutdowns, damage built and natural resources, and impede economic functioning within the region.

Winter storms include snow, sleet, freezing rain, or a combination of these wintry forms of precipitation. Sleet is formed when a temperature inversion occurs between clouds and the ground. Snow melts as it falls towards the surface and refreezes as ice pellets before reaching the ground. Usually, sleet bounces when hitting a surface and does not stick to objects, but it can accumulate on roadways creating a hazard to motorists. Freezing rain- rain that freezes before reaching the surface- develops a glaze of ice on the ground. An ice storm occurs when freezing rain falls and freezes immediately upon impact. The weight of wintry precipitation can present significant hazards to trees and built infrastructure as it accumulates.

A freeze is weather marked by low temperatures, below the freezing point (0° Celsius or 32° Fahrenheit). Agricultural production is threatened when temperatures remain below freezing point for extended periods.

The Northeasy Snowfall Impact Scale characterizes and ranks high-impact snowstorms. It has five categories: Extreme, Crippling, Major, Significant, and Notable. This index uses population data to produce a score. NESIS scores are a function of the area affected by the snowstorm, the amount of snow, and the number of people living in the path of the storm.

A sample NESIS calculation can be found to the right. The model considers amount of snow, area of study, and population to determine a score for a snowstorm that often dicates the amount damage, economic disruption, and loss of life that occurs before, during , and after a snowstorm. The associated scale can be found on the other side of the page, as well.



Source: NESIS

### NESIS Values

| Category | NESIS VALUE | Description |
|----------|-------------|-------------|
| 1        | 1-2.499     | Notable     |
| 2        | 2.5-3.99    | Significant |
| 3        | 4-5.99      | Major       |
| 4        | 6-9.99      | Crippling   |
| 5        | 10.0+       | Extreme     |

### Analysis

**Heavy Snow:** Virginia's most severe winter storms are "Nor'easters". They are caused by the polar jet stream transporting cold arctic air from the northeast towards the warmer air of the Gulf stream. Cold dry air becomes trapped to the east of the Appalachian Mountains, funneling down the valleys and along the coastal plain. When the dry cold air meets wetter, warmer air over the Gulf Stream, storms can develop rapidly.



Source: WTVR



The storm's speed and exact track to the north are critical in properly forecasting and warning for heavy snow across Virginia. It is quite common for the rain-snow line to fall roughly 50 miles east of the Planning District. Heavy snow often falls in a narrow 50 mile wide

swath about 150 miles northwest of the low-pressure center (see diagram above). Closer to the low center, the warmer ocean air changes the precipitation over to sleet, freezing rain, and eventually rain.

Heavy snow can block roadways and waterways, cause tree and utility damage, and lead to structural damage, such as collapsed roofs on large buildings. The Thomas Jefferson Planning District was struck by Winter Storm Frida in January of 2022, resulting in significant impairment of the roadways, disruption of business and services, some property damage, and high snow removal costs. Many households, primarily in Louisa, Nelson, Greene, Albemarle and Fluvanna were without power for more than a week, in some cases. VDOT crews cleared 229,377 cubic yards of debris in Louisa, 125,000 in Albemarle, and 50,000 in Fluvanna. The agency described the level of debris as "unprecedented". These types of storms highlight significant equity considerations, as researchers studying the 2021 Winter Storm Uri in Texas, and found that there were statistically significant associations between individuals' income, language status, and race with longer and worse power outages and recovery times.

**Ice Storms:** Ice storms are a common event in the valleys and foothills of the Appalachian Mountains but are generally limited to one or two per year when they occur. During the winter of 1993-1994, Virginia was struck by an unprecedented series of ice storms. Utility company records show the frequency with which fallen wires need to be repaired. The development of these storms is like that of a nor'easter (see diagram above). Damage from ice storms can be extensive. Ice on roadways and walkways can lead to serious traffic accidents and slip and fall injuries. Ice accumulated on trees and utility wires can cause them to break, knocking out power and communication lines.



Source: University of Virginia

Ice storms can be measured by the Sperry-Piltz Ice Accumulation Index, which uses National weather Service forecast data, and can predict the projected footprint, ice accumulation, and potential damage from an ice storm. The matrix can be found below

There is considerable evidence indicating that the planning district and region are at risk of consistent winter storm events throughout the winter months. The severity of these events will be determined by the temperature, as well as weather patterns like El Nino and La e north and west parts of the country cooler and wetter while the south is warmer.

The Sperry-Piltz Ice Accumulation Index, or "SPIA Index" – Copyright, February, 2009

| ICE<br>DAMAGE<br>INDEX | DAMAGE AND IMPACT<br>DESCRIPTIONS                                                                                                                                                    |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0                      | Minimal risk of damage to exposed utility systems; no alerts or advisories needed for crews, few outages.                                                                            |
| 1                      | Some isolated or localized utility interruptions are possible, typically lasting only a few hours. Roads and bridges may become slick and hazardous.                                 |
| 2                      | Scattered utility interruptions expected, typically lasting 12 to 24 hours. Roads and travel conditions may be extremely hazardous due to ice accumulation.                          |
| 3                      | Numerous utility interruptions with some damage to main feeder lines and equipment expected. Tree limb damage is excessive. Outages lasting 1 - 5 days.                              |
| 4                      | Prolonged & widespread utility interruptions with extensive damage to main distribution feeder lines & some high voltage transmission lines/structures. Outages lasting 5 - 10 days. |
| 5                      | Catastrophic damage to entire exposed utility systems, including both distribution and transmission networks. Outages could last several weeks in some areas. Shelters needed.       |

(Categories of damage are based upon combinations of precipitation totals, temperatures and wind speeds/directions.)

Source: SPIA

## Winter Storm Events 2010-2020

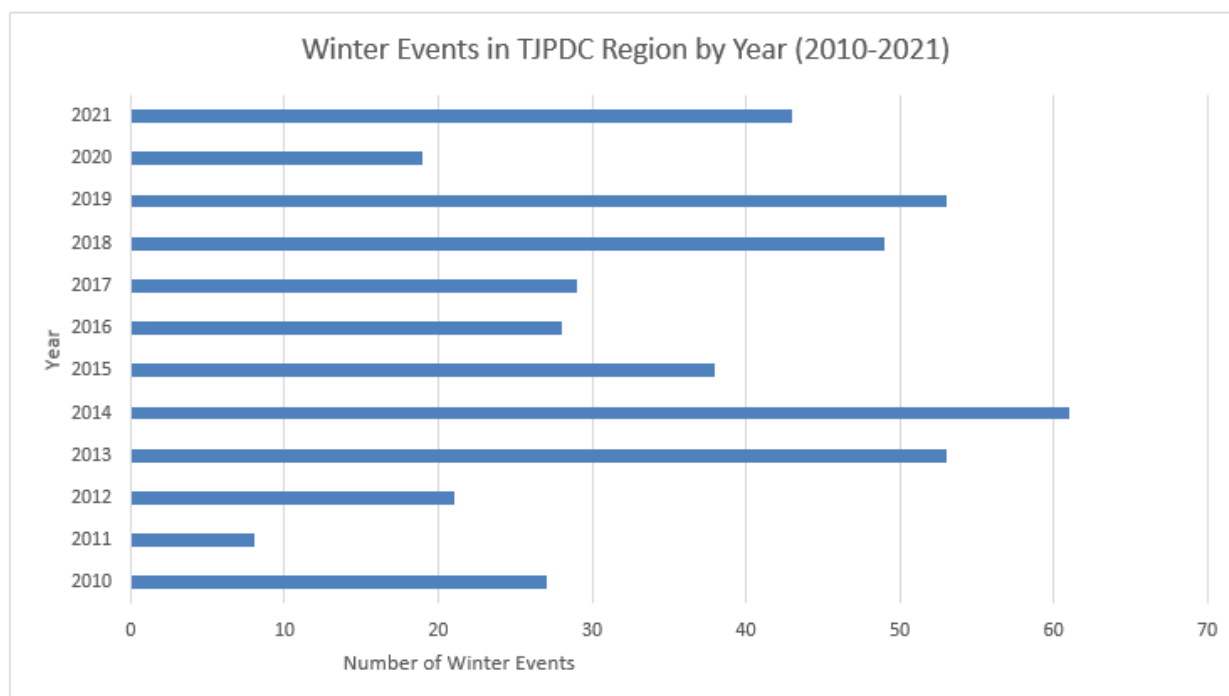
| Locality        | #   | Death | Injuries | Property Damage |
|-----------------|-----|-------|----------|-----------------|
| Albemarle       | 10  | 0     | 0        | \$5,000.00      |
| Charlottesville | 17  | 0     |          | \$ -            |
| Fluvanna        | 15  | 0     | 0        | \$110,000.00    |
| Greene          | 32  | 0     | 0        | \$-             |
| Louisa          | 21  | 0     | 0        | \$160,000.00    |
| Nelson          | 25  | 0     | 0        | \$5,000.00      |
| Region          | 120 | 0     | 0        | \$280,000.00    |

Source: National Climate Data Center (NOAA)

## Winter Weather Events by Type 2000-2020

| Locality  | Blizzard | Cold/Wind Chill | Freezing Fog | Heavy Snow | Ice Storm | Winter Storm | Winter Weather | Frost/ Freeze |
|-----------|----------|-----------------|--------------|------------|-----------|--------------|----------------|---------------|
| Albemarle | 2        | 1               | 1            | 5          | 6         | 37           | 83             | 33            |
| Fluvanna  |          |                 |              | 1          | 3         | 48           | 40             | 3             |
| Greene    | 2        | 4               |              | 7          | 7         | 39           | 79             | 34            |
| Louisa    |          |                 |              | 1          | 3         | 55           | 46             | 3             |
| Nelson    | 2        | 2               |              | 5          | 7         | 34           | 65             | 33            |
| Region    | 6        | 7               | 1            | 19         | 26        | 213          | 313            | 106           |
|           |          |                 |              |            |           |              |                |               |

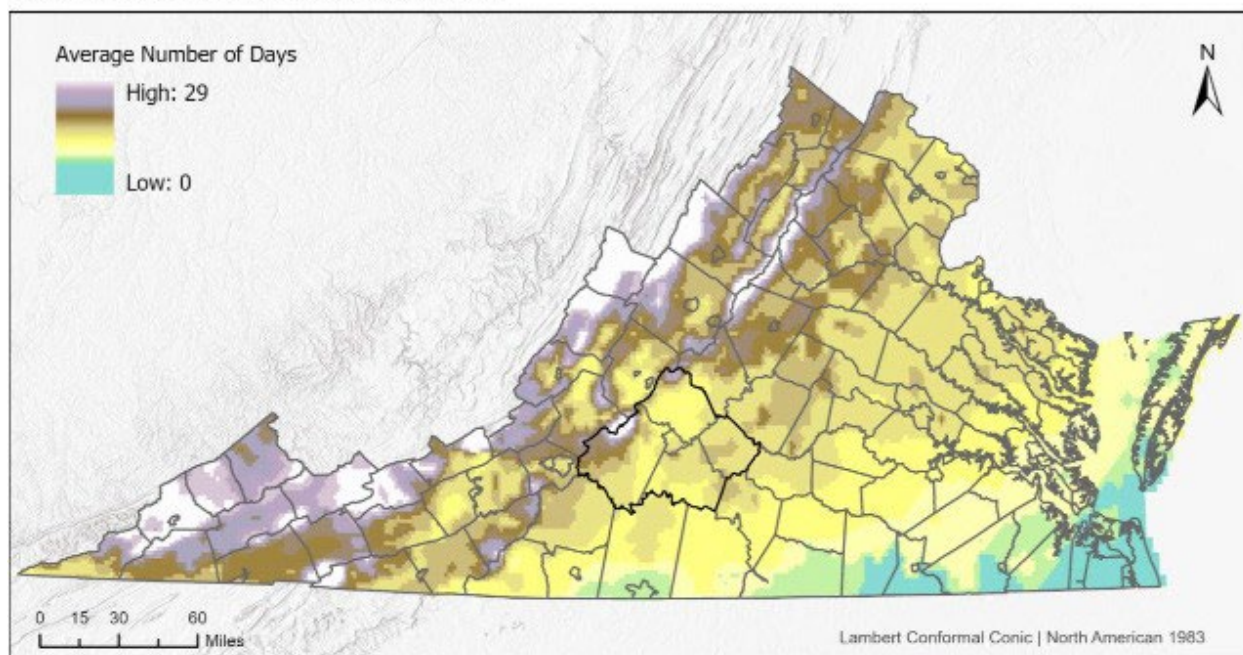
Source: National Climate Data Center (NOAA)



Data sourced from NDCD. Changes in database reporting and tags can make comparisons across years difficult.

## Average Number of Days with Snowfall > 1 inch in Virginia

Central Virginia PDC Hazard Mitigation Plan Update 2020



Data source: PRISM Climate Group; Virginia Tech CGIT  
Center for Geospatial Information Technology at Virginia Tech. 12/2019

Source: PRISM Climate Group; Virginia Tech CGIT



## Wildfire

### Identification

A wildfire is any fire occurring in a wildland area (i.e. grassland, forest, brush land) except for fire under pre-scription. Wildfires are part of the natural management of the Earth's ecosystems but may also be caused by natural or human factors. Changes in climate and snow melt nationwide are extending the fire season. Nationally, nearly 85 percent of forest fires are started by negligent human behavior, such as smoking in wooded areas or improperly extinguishing campfires. The second most common cause for wildfire is lightning. Impacts due to wildfire include property damage and destruction, economic impacts and displacement, decreased air and water quality, service interruptions, injury or loss of life, and negative impacts on mental health. (Community Wildfire Planning Center)

There are three classes of wildland fires: surface fire, ground fire, and crown fire. A surface fire is the most common of these three classes and burns along the floor of a forest, moving slowly and killing or dam-



Source: VA Department of Forestry

aging trees. A ground fire (muck fire) is usually started by lightning or human carelessness and burns on or below the forest floor. Crown fires spread rapidly by wind and move quickly by spreading through tree canopies. Wildland fires are usually signaled by dense smoke that fills the area for miles around.

According to the National Wildfire Coordinating Group, wildfires are categorized as a class depending on the size of the wildfire: Class A – ¼ acre or less, Class B – more than ¼ acre, but less than 10 acres,

Class C – between 10 and 100 acres, Class D – between 100 and 300 acres, Class E between 300 and 1000 acres, Class F – between 1000 and 5000 acres, and Class G – 5000 acres or more.

State and local governments can impose fire safety regulations on home sites and developments to help curb wildfire. Land treatment measures such as fire access roads, water storage, helipads, safety zones, buffers, firebreaks, fuel breaks, and fuel management can be designed as part of an overall fire defense system to aid in fire control. Fuel management, prescribed burning, and cooperative land management planning can also be encouraged to reduce fire hazards. Avoiding and mitigating new development in high hazard wildfire areas, developing evacuation plans and disaster recovery plans, and ensuring water access in high-risk areas will help the region adapt to any potential increases in wildfires.

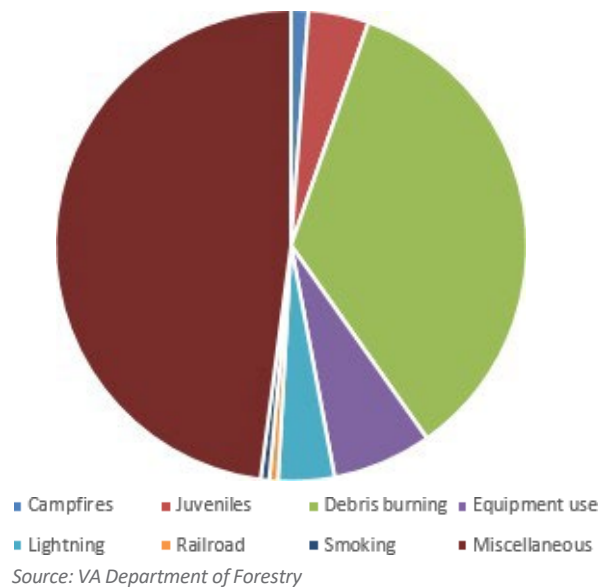
Fire probability depends on local weather conditions, outdoor activities such as camping, debris burning, and construction, and the degree of public cooperation with fire prevention measures. Drought conditions and other natural disasters (tornadoes, hurricanes, etc.) increase the probability of wildfires by producing fuel in both urban and rural settings. Forest damage from hurricanes and tornadoes may block interior access roads and fire breaks, pull down overhead power lines, or damage pavement and underground utilities.

Many individual homes and cabins, subdivisions, resorts, recreational areas, organizational camps, businesses, and industries are located within high fire hazard areas. The term wildland-urban interface refers to the zone of transition between unoccupied land and human development. The increasing demand for outdoor recreation places more people in wildlands during holidays, week- ends, and vacation periods. Unfortunately, wildland residents and visitors are rarely educated or prepared for the inferno that can sweep through the brush and timber and destroy property in a short manner of time.

## Analysis

Wildfires are common in the Planning District, but are generally small and quickly controlled, creating little danger or loss. Most fires occur in the western part of the region, in sparsely populated mountainous

## Causes of Wildfires between 2017-2021



areas, but fires have occurred in each locality. Some larger fires have occurred in the planning district – for example, a 2016 wildfire in Nelson County burned more than 1200 acres before being contained. The following pie chart displays the distribution of known causes within the region between the years of 2017-2020. Most miscellaneous fires are caused by power lines, wood stove ashes, or other unspecified events. Fires are more prevalent in periods after heavy winter storms due to excess debris and dropped branches readily available as fuel, and also tend to follow summers with droughts as natural matter on the forest floor dries creating ignition material.

Property loss, injury, and fatality due to wildfires have been minimal in the Planning District. Timber or crop damage is the most common loss, ranging from a few thousand to tens of thousands of dollars, though some lightning events have caused house and property damage.

## Wildfire Events 2017-2021

| Locality  | # Of Fires | Acres  |
|-----------|------------|--------|
| Albemarle | 136        | 1215.9 |
| Fluvanna  | 98         | 319.1  |
| Greene    | 29         | 31.1   |
| Louisa    | 130        | 1298.4 |
| Nelson    | 63         | 412.1  |
| TJPD      | 466        | 3276.6 |

Source: VA Department of Forestry



## Notable Wildfires

| County    | Damage                                                                                                     | Date               |
|-----------|------------------------------------------------------------------------------------------------------------|--------------------|
| Albemarle | A trash burn caused 320 acres of forest burn and 200,000 dollars of timber damage                          | March 9, 2020      |
| Albemarle | Powerlines caused 258 acres of fire with 200,000 dollars' worth of timber damage                           | April 12, 2018     |
| Nelson    | Fire near Eades Lane in Nelson County burned more than 1200 acres                                          | November 23, 2016  |
| Greene    | Rocky Mountain Fire complex contained within Shenandoah National Park.                                     | April,16- 27, 2016 |
|           |                                                                                                            |                    |
| Louisa    | \$250,000 in damages over 414 acres, and \$9,150,000 in property protected.                                | February 20, 2008  |
| Albemarle | \$25,000 in timber damage, \$1,345,000 in property protected. \$122,000 suppression cost, caused by arson. | November 19, 2001  |
| Fluvanna  | \$139,000 in building damage, fire caused by hot ashes.                                                    | November 13, 2000  |
| Nelson    | \$20,000 in timber damage, fire caused by arson.                                                           | May 3, 1999        |
| Nelson    | \$10,000 in timber damage, \$620,000 in property protected. Fire caused by lightning.                      | November 26,1998   |
| Fluvanna  | \$10,000 in timber and property damage, after debris fire escaped. \$500,000 in property protected.        | May 8, 1997        |

Source: VA Department of Forestry

The map on the following page displays wildfire data derived from the Southern Wildfire Risk Assessment (SWRA) project, a product developed by the Southern Group of State Foresters. The SWRA web portal allows a user to summarize wildfire related information and generate detailed risk summary reports. The summary reports and allocated mapping products provide a detailed picture about a community's risk and helps prioritize focus areas for mitigation, interventions, or other tactics to reduce the community's wildfire exposure risk. The WUI Risk Rating is derived using a Response Function modeling approach. Response functions are a method of assigning a net change in the value to a resource or asset based on susceptibility to fire at different intensity levels, such as flame length. The range of values is from -1 to -9, with -1 representing the least negative impact and -9 representing the most negative impact. For example, areas with high housing density and high flame lengths are rated -9 while areas with low housing density and low flame lengths are rated -1.

To calculate the WUI Risk Rating, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. The response functions were defined by a team of experts based on values defined

by the SWRA Update Project technical team. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

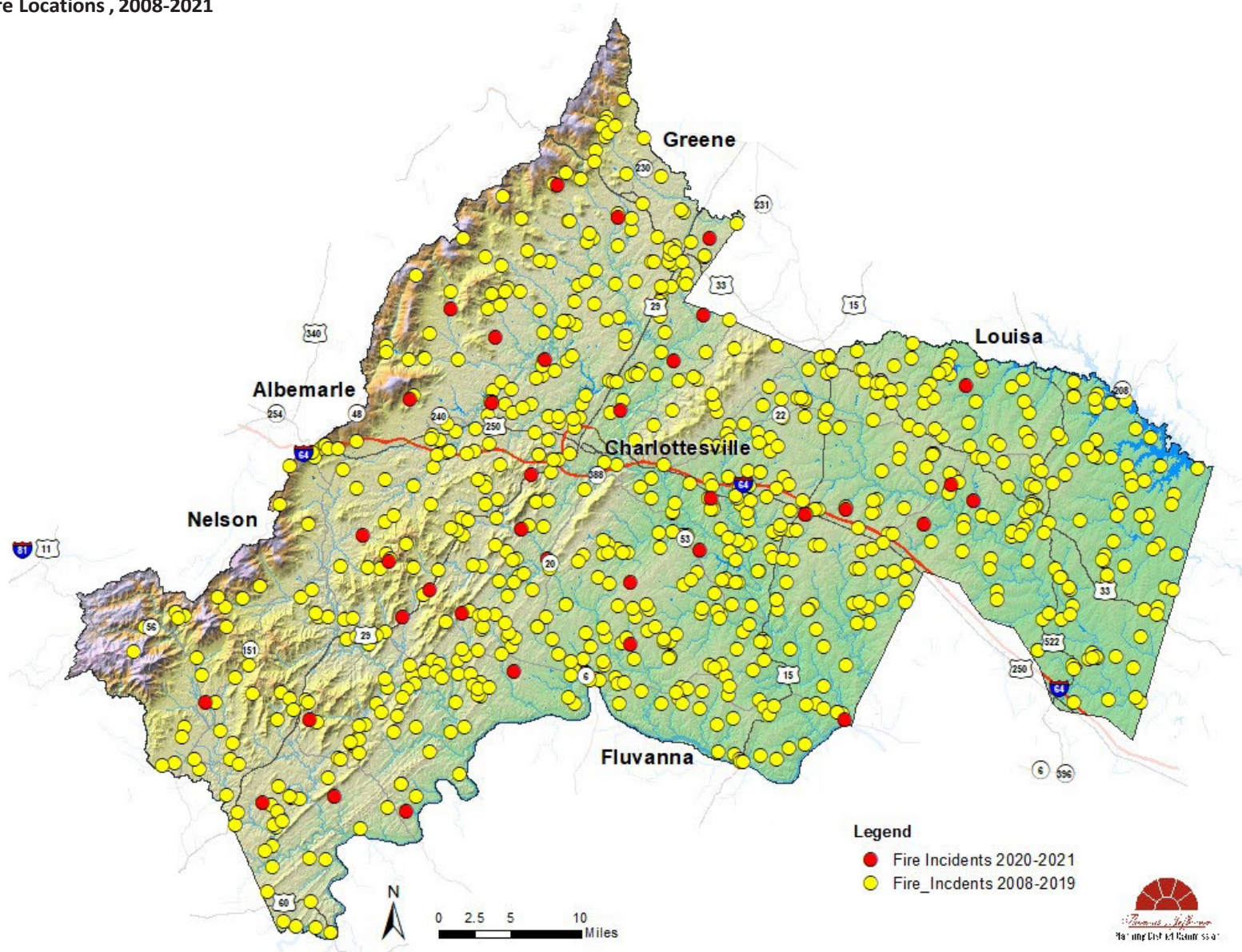
The first map highlights the location of people living in the Wildland Urban Interface. This is key information for defining potential wildfire impacts to people and homes within the region. As seen below, the densest risk area is in Charlottesville and Albemarle, where most development exists within the region. The two most recent notable wildfires occurred in 2018 and 2020 in Albemarle County. Both were ignited by anthropogenic sources, causing widespread timber damage reflecting this interface between development and forested land.

The second map shows the location of fire incidents over the past thirteen years throughout the Thomas Jefferson Planning District. It highlights that wildfires are distributed throughout all of the jurisdictions, with no direct correlation to specific areas. While an area's risk of wildfire can be measured and predicted, a wildfire's intensity and duration depend on many factors including location, topography, and catalyst. This hazard still poses some risk to the planning district and should be prepared for accordingly.





## Wildfire Locations , 2008-2021

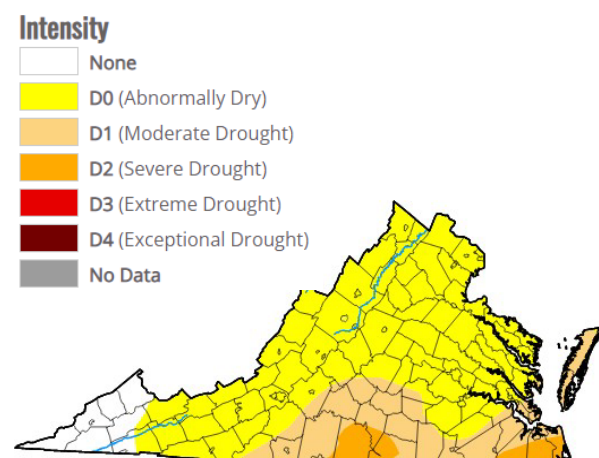


## 2.1 Drought and Extreme Heat

### Identification

**Droughts:** Drought is a natural climatic condition caused by an extended period of limited rainfall beyond that which occurs naturally in a broad geographic area. High temperatures, high winds, and low humidity can worsen drought conditions and can make areas more susceptible to wildfire. Human demands and actions can alter susceptibility to droughts, and the human impacts of drought can vary widely depending on public and private water usage.

#### U.S Drought Monitor: Virginia 12/20/2021



Source: The National Drought Mitigation Center

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

Droughts are frequently classified as one of the following five types:

- **Meteorological:** low level of precipitation when compared to an average or normal amount of precipitation over a given period of time.
- **Agricultural:** Emphasis placed on factors such as soil water deficits, water needs based on differing stages of crop development, and water reservoir levels that impact agricultural production.
- **Hydrological:** directly related to the effect of precipitation shortfalls on surface and groundwater supplies. Human factors, particularly changes in land use, can alter the hydrologic characteristics of a basin.
- **Socio-Economic:** the result of water shortages that limit the ability to supply water-dependent products in the marketplace.
- **Ecological:** occur when ecological systems are

**affected by drought, causing alterations in the critical functions of healthy ecosystems, extinction of native species, or transitions in the landscape from forested land to grasslands due to lack of water resources.**

The primary impact of droughts is loss of agricultural production and disruption of business in water-related sectors; however, a severe drought can also put strains on drinking water supply and lead to more serious human impacts. Droughts are considered the second most costly disaster to the United States following Hurricanes, with estimated losses of \$9.5 billion dollars per event every year. Impacts resulting from longer term droughts and absence of groundwater supply include land subsidence, seawater intrusion, and ecosystem damage, that if left unmanaged lead to costly, potentially irreversible impacts in the future.

**Extreme Heat:** While drought mostly impacts land and water resources, extreme heat can pose a significant risk to humans. Extreme heat can be defined as temperatures that hover 10°F or more above the average high temperature for the region, last for prolonged periods of time, and are often accompanied by high humidity. Under normal conditions, the human body's internal thermostat produces perspiration that evaporates and cools the body. However, in extreme heat and high humidity, evaporation is slowed, and the body must work much harder to maintain a normal temperature. Elderly persons, young children, persons with respiratory difficulties, and those who are sick or overweight are more likely to become victims of extreme heat. Because men sweat more than women, they are more susceptible to heat-related illness because they become dehydrated more quickly. Studies have shown that a significant rise in heat-related illness occurs when excessive heat persists for more than two days. Spending at least two hours per day in air conditioning can significantly reduce the number of heat-related illnesses. Low income and minority populations can experience adverse effects from extreme heat due to increased impacts to the Urban Heat Island Effect and less access to air conditioning.

On average, extreme heat exposure causes 1,300 deaths per year in the United States, more than floods, hurricanes, lightning, tornados, and earthquakes combined. Extreme heat in urban areas can create health concerns when stagnant atmospheric

conditions trap pollutants, thus adding unhealthy air to excessively hot temperatures. In addition, an “urban heat island effect” can produce significantly higher nighttime temperatures because asphalt and concrete (which store heat longer than soil and vegetation) gradually release heat at night. Research conducted Portland State and Science Museum of Virginia faculty revealed that microclimates within cities can have significant variation – up to 50 degrees in the most extreme cases. The variation that creates hot areas, or “heat islands”, is caused by the built environment (usually presence of asphalt) and lack of tree canopy. These “heat islands” often fall in poorer neighborhoods, and in the case of Richmond, in areas that were redlined in order to promote segregation in housing.

### Analysis

**Drought:** Although damage from a drought is rarely catastrophic, the region has experienced prolonged droughts that have impeded economic activity and quality of life for many residents. Crop damage is the primary type of damage resulting from droughts. In severe droughts, such as 2002, water usage restrictions have been put in place to preserve drinking supplies. Drought may also cause wells and groundwater supplies to go dry, causing problems for households and businesses left without running water. Fires that occur during drought are harder to combat since water may be limited and under lower pressure than normal.

Virginia Administrative Code 9 VAC 25-780 Section 120 defines the drought procedures system taken for the Commonwealth. A three-tiered warning system communicates the level of severity to the public.

- **Watch: Public outreach, raise awareness, intensify water conservation activities.**
- **Warning: At least voluntary measures –5-10% conservation.**
- **Emergency: Mandatory measures –10-15% conservation**

Localities may impose additional restrictions upon water usage when warnings and emergencies are declared. State law requires all localities to have a Drought Contingency and Response Plan, and statewide monitoring and drought-response planning is conducted by the Virginia Department of Environmental Quality.

According to NOAA, in 2021, Virginia experienced its 119th hottest year out of the last 127 recorded. In Virginia, the six warmest years on record have all occurred since 2012. There is clear indication that the relative temperature in the planning district is getting hotter, quicker. Extreme heat is measured not only by the air temperature, but by the National Weather Service’s heat index, which is what the temperature feels like to the human body when relative humidity is combined with temperature. In a sense, it is a more accurate and realistic depiction of the temperature because it takes into account the body’s ability to perspire.

The region experiences elevated temperatures every year, but injuries and fatalities attributed directly to extreme heat are rare. However, these conditions may become more frequent and can lead to health problems because heat exacerbates asthma and air pollution related breathing problems. People may overexert themselves or dehydrate while exercising as well. Elderly people are particularly susceptible to injury or death from extreme heat. Those living in “heat islands”, which are sections or urban areas that are hotter as a result of land use decisions that removed an area’s tree canopy, are much more likely to experience complications from extreme heat. Utility failures can also be caused by heat, and when power is lost, most people lose air-conditioning and fans to keep cool, leading to possible heat stroke. The Charlottesville Fire Department reported a sustained increase in heat exposure calls over the last 5 years from around 30 annually to consistently over 50. According to the City’s Climate Hazards Projection, extreme heat events are expected to increase by over 50% between 2020 and 2100.

As extreme heat events become more frequent and average temperature rises, crime rates within the region may increase. More emergency response staff may be necessary to adequately respond to such changes. July 2020 was the hottest recorded in the Northern Hemisphere since records began in

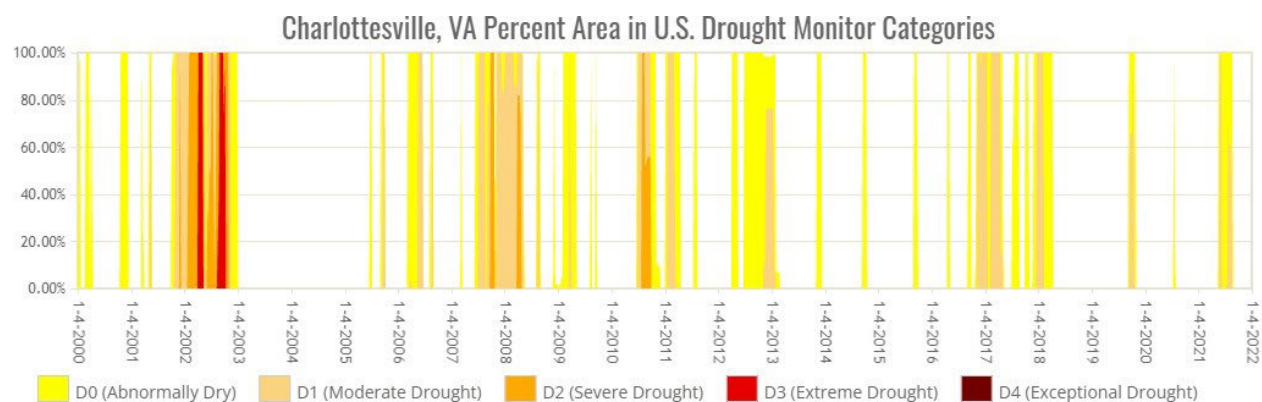
1951. In fact, the last six July’s have been the hottest recorded global temperatures on record. There is clear evidence that temperatures globally are rising and will continue to rise, affecting the planning district.



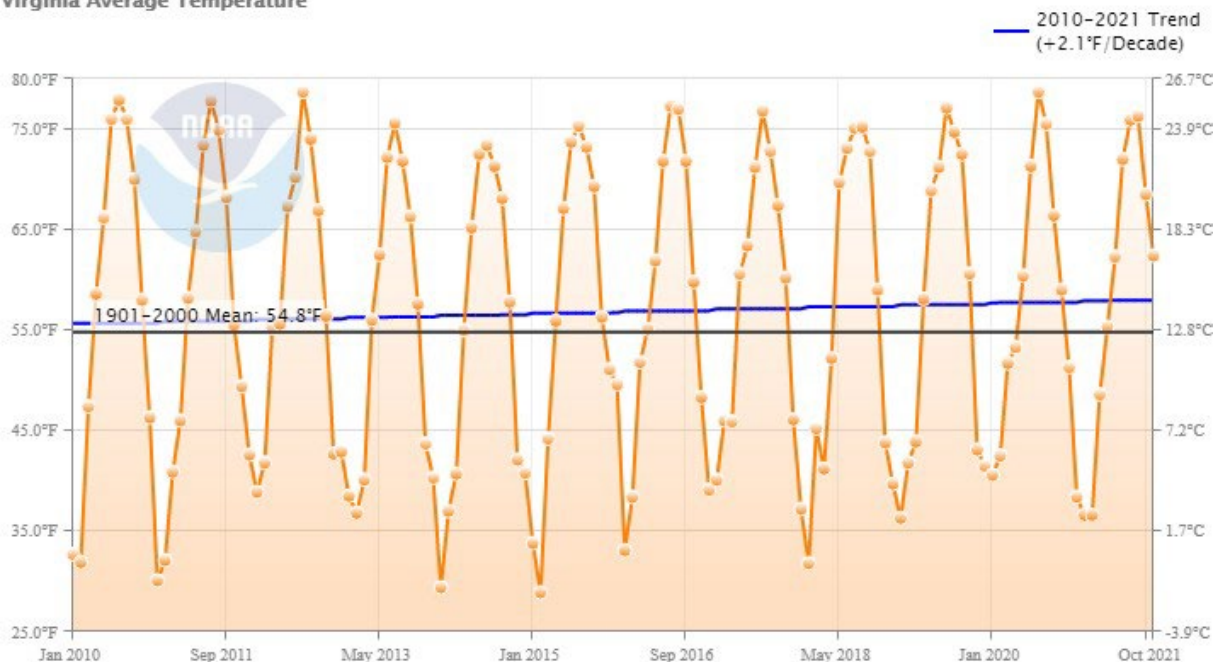
## Notable Historic Droughts within TJPDC

| Damage                                                                                                                                                                                                                                                                                                                                                                     | Date       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| La Nina conditions produced extreme and exceptional drought conditions throughout much of the US, Canada, and Mexico. Peak drought conditions in July resulted in more than 80% of the country with at least abnormally dry conditions. For this event, much of Virginia was classified as either abnormally dry or as experiencing moderate to severe drought conditions. | 2012-2013  |
| Greene, Albemarle, and Nelson were impacted by a drought in Virginia spanning 2 years, with the worst effects in 2008                                                                                                                                                                                                                                                      | 2007-2009  |
| Historically low water levels; considered "Drought of Record" for the TJPDC region. Fluvanna, Greene, Nelson, Louisa declared disaster areas. Thousands of dry wells, businesses closed, extensive water restrictions on businesses and households                                                                                                                         | 2002       |
| \$129.7M crop damage                                                                                                                                                                                                                                                                                                                                                       | 8/9/1999   |
| \$58.8M crop damage                                                                                                                                                                                                                                                                                                                                                        | 10/11/1998 |
| Virginia Drought Emergency Declaration made on July 23, 2007                                                                                                                                                                                                                                                                                                               | 1976-1977  |

Source: NCDC, Albemarle Historical Society archived papers, VA Hazard Mitigation Plan



## Virginia Average Temperature



Source: NOAA

## Tornado

### Identification

A tornado is a violent windstorm characterized by a twisting, funnel-shaped cloud extending to the ground. Tornadoes are most often generated by thunderstorm activity (but sometimes result from hurricanes and other coastal storms) when cool, dry air intersects and over-rides a layer of warm, moist air forcing the warm air to rise rapidly. The damage caused by a tornado is a result of the high wind velocity and wind-blown debris, also accompanied by lightning or large hail. According to the National Weather Service, tornado wind speeds normally range from 40 to more than 300 miles per hour. The most violent tornadoes have rotating winds of 250 miles per hour or more and can cause extreme destruction and turning normally harmless objects into deadly missiles.

Each year, an average of over 800 tornadoes is reported nationwide, resulting in an average of 80 deaths and 1,500 injuries (NOAA, 2002). They are more likely to occur during the spring and early summer months of March through June and can occur at any time of day but are likely to form in the late afternoon and early evening. Most tornadoes are a few dozen yards wide and touch down briefly, but even small short-lived tornadoes can inflict tremendous damage. Highly destructive tornadoes may carve out a path over a mile wide and several miles long.

The destruction caused by tornadoes ranges from light to incredible depending on the intensity, size, and duration of the storm. Typically, tornadoes cause the greatest damages to structures of light construction such as residential homes (particularly mobile homes) and tend to remain localized in impact. The Fujita-Pearson Scale for Tornadoes was developed in the 1970s to measure tornado strength and associated damages on a scale from F-0 to F-5. In the mid-2000s, the National Weather Service revised the scale to reflect better examinations of tornado damage surveys, to align wind speeds more closely with associated storm damage. Readings are taken from 28 different damage indicators, ranging from high-rise buildings to softwood trees, to determine the scale of a tornado. The “Enhanced Fujita Scale” became operational in 2007.

According to the NOAA Storm Prediction Center (SPC), the highest concentrations of tornadoes in the United States have been in Oklahoma, Texas, Kansas, and Florida respectively. Although the Great Plains region of the Central United States does favor the development of the largest and most dangerous tornadoes (earning the

designation of “tornado alley”), Florida experiences the greatest number of tornadoes per square mile of all U.S. states (SPC, 2002). The 2011 tornado season was the deadliest the United States has experienced since 1952, with major disasters recorded for Joplin, Missouri and Tuscaloosa, Alabama. The Storm Prediction Center has calculated record numbers of tornadoes in March of 2021 and 2022 across the United States; the average number of tornadoes in March has been around 80 since 1950, but 2021 and 2022 the number of tornadoes was 191 and 219. Trends show an increase in frequency of tornadoes earlier in the season.

The figure on the follow page shows tornado activity in the eastern United States based on the number of recorded tornadoes per 1000 square miles.

Tornadoes have been found to be more impactful and deadly to populations that are low-income, under-served, and/or living in mobile homes.

### Analysis



Source: CBS19 news

Virginia experiences an average of seven tornadoes per year. Many occur in unpopulated areas or cause little property damage and therefore are not reported to the National Weather Service. Since 1916, when tornado related fatality record keeping began, 65 people have died from tornadoes in Virginia. A third of these deaths occurred during a Virginia’s worst tornado outbreak on May 2, 1929. The 2004 tornado

season was the most active in the state's history with over 87 tornadoes reported. The 2011 tornado season was among the deadliest on record for the Commonwealth. One outbreak caused four fatalities in Washington County, and one in Halifax County. Another storm killed two in Gloucester County.

The Thomas Jefferson Planning District typically experiences EF0 or EF1 tornadoes. One such tornado touched down in Fluvanna County on Sept. 6, 2011. An exception was a major tornado produced by Tropical Storm Ivan. The tornado struck Stanardsville in Greene County in September of 2004, causing \$3 million in property damage. The most recent notable tornado touched down around Fork Union in 2016 and caused \$325,000 in property damage and \$155,000 in crop damage. Another touched down in Frederick Hall in Louisa and caused \$200,000 in property damage in 2019.

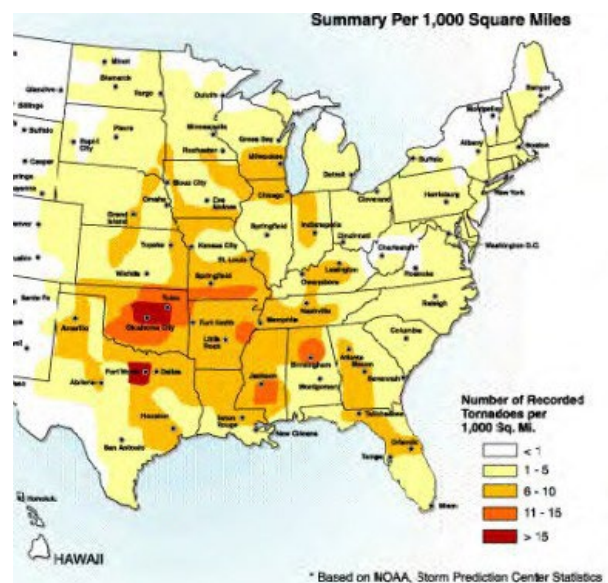
Tornadoes in the region have increased in frequency and severity in the last decade. July is the most active month for tornadoes in Virginia, since it has the most thunderstorms, but no tornado deaths have occurred in Virginia in July since tornadoes spawned by afternoon storms tend to be weak (89% are F0 or F1). Tornado deaths in Virginia peak in the late spring and fall when tornadoes that occur tend to be stronger, spawned by severe winter storms and hurricanes. The Virginia Department of Emergency Management (VDEM) ranked each locality high, medium, or low based on tornado risk in 2017. Albemarle, Fluvanna, and Louisa were ranked medium risk. Greene was ranked medium-low. Charlottesville and Nelson were ranked low.

## Summary of Tornadoes

| Scale | Wind Speed | Name        | Example                                                                             |
|-------|------------|-------------|-------------------------------------------------------------------------------------|
| EF0   | 65-85      | Gale        |  |
| EF1   | 86-110     | Weak        |  |
| EF2   | 111-135    | Strong      |  |
| EF3   | 136-165    | Severe      |  |
| EF4   | 166-200    | Devastating |  |

Source: NWS

## Tornado Activity in the United States



Source: NOAA



| Class | Property Damage                                         | Date       |
|-------|---------------------------------------------------------|------------|
| EF2   | \$200,000                                               | 4/19/2019  |
| EF0   | \$325,000                                               | 2/24/2016  |
| EF1   | Historic homes damaged in Louisa County                 | 10/9/2011  |
| F1    | \$500,000                                               | 8/30/2005  |
| F2    | \$3,000,000                                             | 9/17/2004  |
| F1    | \$500,000                                               | 5/13/2000  |
| F1    | \$250,000                                               | 5/5/1989   |
| F3    | \$250,000                                               | 7/25/1985  |
| F1    | \$250,000                                               | 10/13/1983 |
| F2    | \$250,000                                               | 8/9/1962   |
| N/A   | 11 people died and 4 were injured in Ivy/Mechum's River | 1959       |
| N/A   | Leveled trees, tore off roofs, smashed buildings in Ivy | 1922       |

## Tornado Touchdowns 1950-2020



## Earthquake

### Identification

An earthquake is the motion or trembling of the ground produced by displacement of tectonic plates making up the Earth's crust. Earthquakes result from crustal strain along faults, volcanism, landslides, and the collapse of caverns. Earthquakes can affect hundreds of thousands of square miles; cause damage to property measured in the tens of billions of dollars; result in loss of life and injury to hundreds of thousands of persons; and disrupt the social and economic functioning of the affected area.

Most property damage and earthquake-related deaths are caused by the failure and collapse of structures due to ground shaking caused by movement miles below earth's surface. The level of damage depends upon the amplitude and duration of the shaking, which are directly related to the earthquake size, distance from the fault, and regional geology. Other damaging earthquake effects include landslides, the down-slope movement of soil and rock (mountain regions and along hillsides), and liquefaction, in which ground soil loses the ability to resist shear and flows much like quicksand. In the case of liquefaction, anything relying on the substrata for support can shift, tilt, rupture, or collapse.

Most earthquakes are caused by the release of stresses accumulated because of the rupture of rocks along opposing fault planes in the Earth's outer crust. These fault planes are typically found along borders of the Earth's ten tectonic plates. These plate borders generally follow the outlines of the continents, with the North American plate following the continental border with the Pacific Ocean in the west but following the mid-Atlantic trench in the east. As earthquakes occurring in the mid-Atlantic trench usually pose little danger to humans, the greatest earthquake threat in North America is along the Pacific Coast.

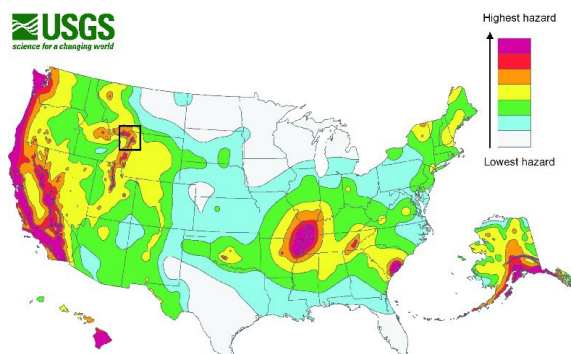
The areas of greatest tectonic instability occur at the perimeters of the slowly moving plates, as these locations are subjected to the greatest strains from plates traveling in opposite directions and at different speeds. Deformation along plate boundaries causes strain in the rock and the consequent buildup of stored energy. When the built-up stress exceeds the rocks' strength, a rupture occurs. The rock on both

sides of the fracture is snapped, releasing the stored energy and producing seismic waves, generating an earthquake.

Earthquakes are measured in terms of their magnitude and intensity. Magnitude is measured using the Richter Scale, an open-ended logarithmic scale that describes the energy release of an earthquake through a measure of shock wave amplitude (see Table below). Each unit increase in magnitude on the Richter Scale corresponds to a ten-fold increase in wave amplitude, or a 32-fold increase in energy. Intensity is most commonly measured using the Modified Mercalli Intensity (MMI) Scale based on direct and indirect measurements of seismic effects. The scale levels are typically described using Roman numerals, with a I corresponding to imperceptible (instrumental) events, IV corresponding to moderate (felt by people awake), to XII for catastrophic (total destruction). A detailed description of the Modified Mercalli Intensity Scale of earthquake intensity and its correspondence to the Richter Scale is given in the following table.

The figure below shows the probability that ground motion will reach a certain level during an earthquake. The data show peak horizontal ground acceleration (the fastest measured change in speed, for a particle at ground level that is moving horizontally due to an earthquake) with a 10 percent probability of exceedance in 50 years. The map was compiled by the U.S. Geological Survey (USGS) Geologic Hazards Team, which conducts global investigations of earthquake, geomagnetic, and landslide hazards.

### Ground Motion Probability



Source: USGS

| Richter Magnitude Scale                          | Modified Mercalli intensity Scale                                                                                                                                                                                                                                                            |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0 to 3.0                                       | I                                                                                                                                                                                                                                                                                            |
| 3.0 to 3.9                                       | II to III                                                                                                                                                                                                                                                                                    |
| 4.0 to 4.9                                       | IV to V                                                                                                                                                                                                                                                                                      |
| 5.0 to 5.9                                       | VI to VII                                                                                                                                                                                                                                                                                    |
| 6.0 to 6.9                                       | VII to IX                                                                                                                                                                                                                                                                                    |
| 7.0 and Higher                                   | VIII or Higher                                                                                                                                                                                                                                                                               |
| Defined Modified Mercalli Intensity Scale Rating |                                                                                                                                                                                                                                                                                              |
| I                                                | Not Felt except by a very few under especially favorable conditions                                                                                                                                                                                                                          |
| II                                               | Felt only by a few persons at rest, especially on upper floors of buildings                                                                                                                                                                                                                  |
| III                                              | Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck.                                                                    |
| IV                                               | Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors, disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.                                                            |
| V                                                | Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.                                                                                                                                                                  |
| VI                                               | Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.                                                                                                                                                                                  |
| VII                                              | Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken |
| VIII                                             | Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned                                |
| IX                                               | Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.                                                                                   |
| X                                                | Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.                                                                                                                                                                       |
| XI                                               | Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly                                                                                                                                                                                                      |
| XII                                              | Damage total. Lines of sight and level are distorted. Objects thrown into the air.                                                                                                                                                                                                           |

Source: USGS

## Analysis

Although earthquakes have not historically posed a significant risk to the Thomas Jefferson Planning District, the district lies in the center of Virginia's largest seismic zone. There have been several recorded earthquake events, including a major earthquake in August of 2011. Virginia has had over 160 earthquakes since 1977 of which 16% were felt. This equates to an average of one earthquake occurring every month with two felt each year. The central Virginia seismic zone is an area of the Virginia Piedmont that has long been recognized as an area of seismic activity in the central Appalachians. The earthquakes occur at depths from near surface to approximately 20 km.



Source: Washington Times

Seismic activity is not uncommon in this area, but most are light or mild in magnitude. The 2011 Mineral earthquake was the largest recorded seismic

activity for the zone since modern monitoring began. It resulted in millions of dollars in damage across the region, but primarily within Louisa County.

#### Earthquake Record 1995 -2020

| Location                  | Damage                                                                                                                                                                                                                                                                                 | Date          |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Mineral (Louisa County)   | None, largest aftershock since the Mineral Earthquake                                                                                                                                                                                                                                  | Mar 3, 2015   |
| Mineral (Louisa County)   | One of the largest earthquakes in Virginia history by intensity. Caused significant damage to many homes and two schools in Louisa County. Felt from North Carolina to Canada. Magnitude: 5.8, \$200 Mil in damage                                                                     | Aug 23, 2011  |
| 30 Miles West of Richmond | The focal depth was within a few kilometers of the surface, and this produced a strong acoustic signal that local officials attributed to an aircraft in transonic flight. Magnitude 4.5                                                                                               | Dec 9, 2003   |
| Scottsville               | It was felt from Washington, DC to the North Carolina border, and from Staunton, VA to Norfolk. Magnitude 4.0                                                                                                                                                                          | Aug 17, 1984  |
| Charlottesville           | A moderate tremor at Charlottesville shook bricks from chimneys in some places. Also felt in other parts of Albemarle County.                                                                                                                                                          | Dec 26, 1929  |
| Arvon (Buckingham)        | Chimneys were cracked at Ashby, about 20 km southeast of Arvon, and a window was broken at a store at Buckingham. A "terrific" shock sent people rushing outdoors at Arvon and displaced furniture. Felt strongly from Powhatan to Albemarle County.                                   | Feb 11, 1907  |
| Giles County, Va.         | Very large in intensity and extent. The earthquake had a maximum Modified Mercalli Intensity of VIII, based on "many downed chimneys" and "changes in the flow of springs." Aftershocks continued through June 6, 1897. Magnitude: 5.8                                                 | May 31, 1897  |
| Central Va.               | The highest intensities from this earthquake occurred mainly at towns near the James River waterfront in Goochland and Powhatan Counties, and in Louisa County. Magnitude 4.5                                                                                                          | Dec 23, 1875  |
| Central Va.               | Chimney damage occurred at Buckingham. This earthquake was reported to be "quite strong" at Fredericksburg, Richmond, and Scottsville. At Scottsville, where every house in the village was shaken, water in the canal was "troubled," and boats were tossed to and fro. Magnitude 4.3 | Nov 2, 1852   |
| Wytheville                | A severe earthquake that was observed over a large area threw down a chimney near Wytheville, in southwest Virginia, and shook down tops of chimneys at Buckingham Courthouse. Houses were shaken violently at Staunton. Magnitude 4.9                                                 | Apr. 29, 1852 |
| Central Va.               | A rather strong shock agitated walls of buildings at Lynchburg and rattled windows violently. It was described as "severe" at Charlottesville. Two miners were killed in a panic caused by the tremor at a mine near Richmond. Magnitude 4.5                                           | Aug 27, 1833  |

Source: NCDC, Albemarle Historical Society archived newspapers

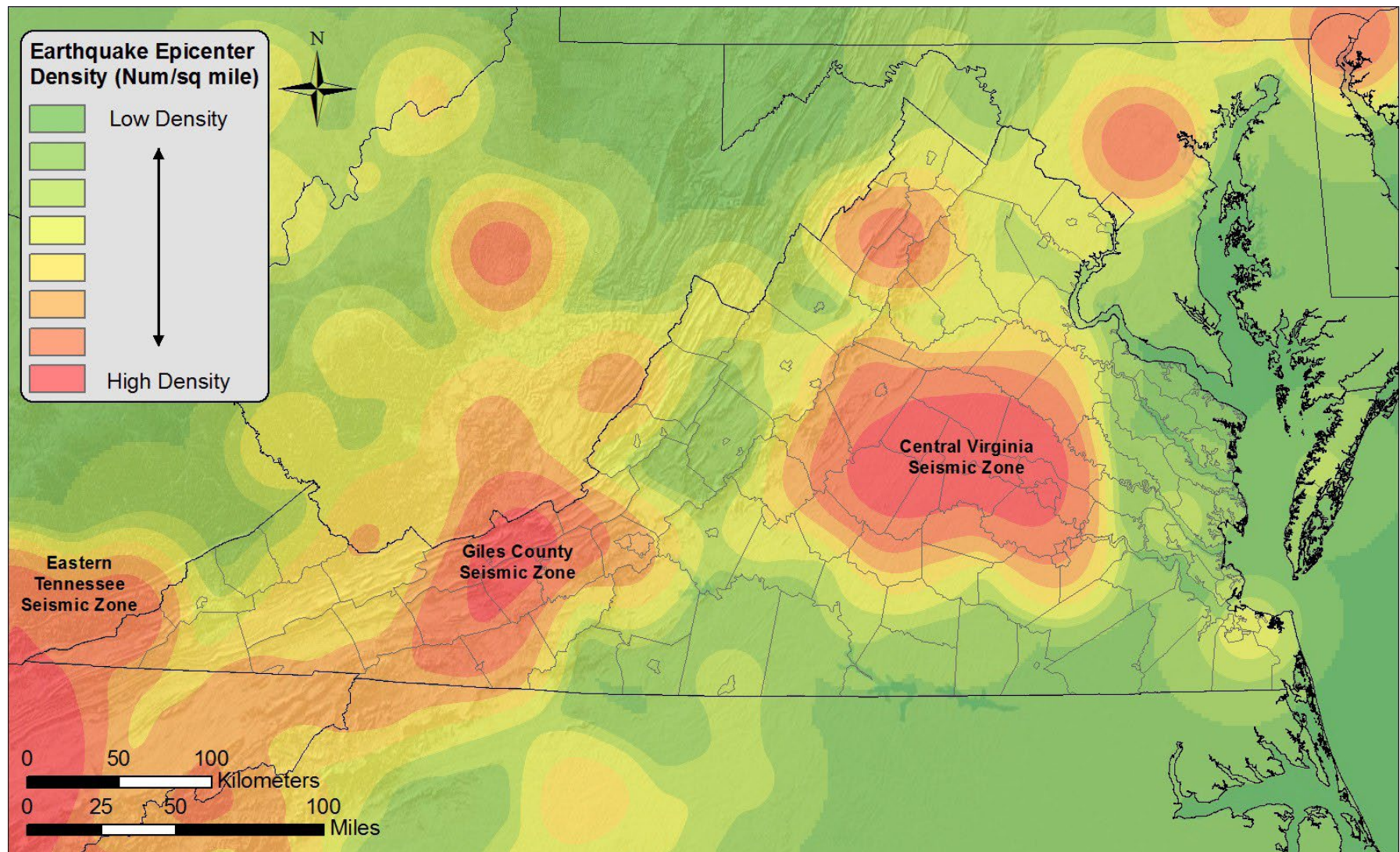
FEMA uses the indicator of Peak Ground Acceleration (PGA) (%g, where  $g = 9.8 \text{ m/s}^2$ ) to show the probability of earthquakes in the U.S. The national map of Peak Ground Acceleration (%g) indicates that parts of the Planning District have a PGA rate of 3-4%g, while others (see map) have a 4-5% PGA. Nationwide, these are relatively low PGA rates. The San Andreas fault in California induces PGA rates above 100 for a large extent of the fault line.

The August 2011, 5.8 magnitude earthquake near the Town of Mineral was a major event for the region. Short term prediction of earthquakes continues to

be impossible with current scientific knowledge, but the U.S Geological Survey is able to make long-term predictions of seismic activity by geographic area. In 2009, the USGS gave a 0.014% probability that an earthquake of magnitude 5.8 or greater would happen in the TJPDC in any given year, which means it could be expected to occur every 7000 years. This event was extremely rare, but geologists will use the data to update models of seismic activity. While there is no clear evidence that seismic activity along the East Coast is increasing, there is a high degree of uncertainty currently.

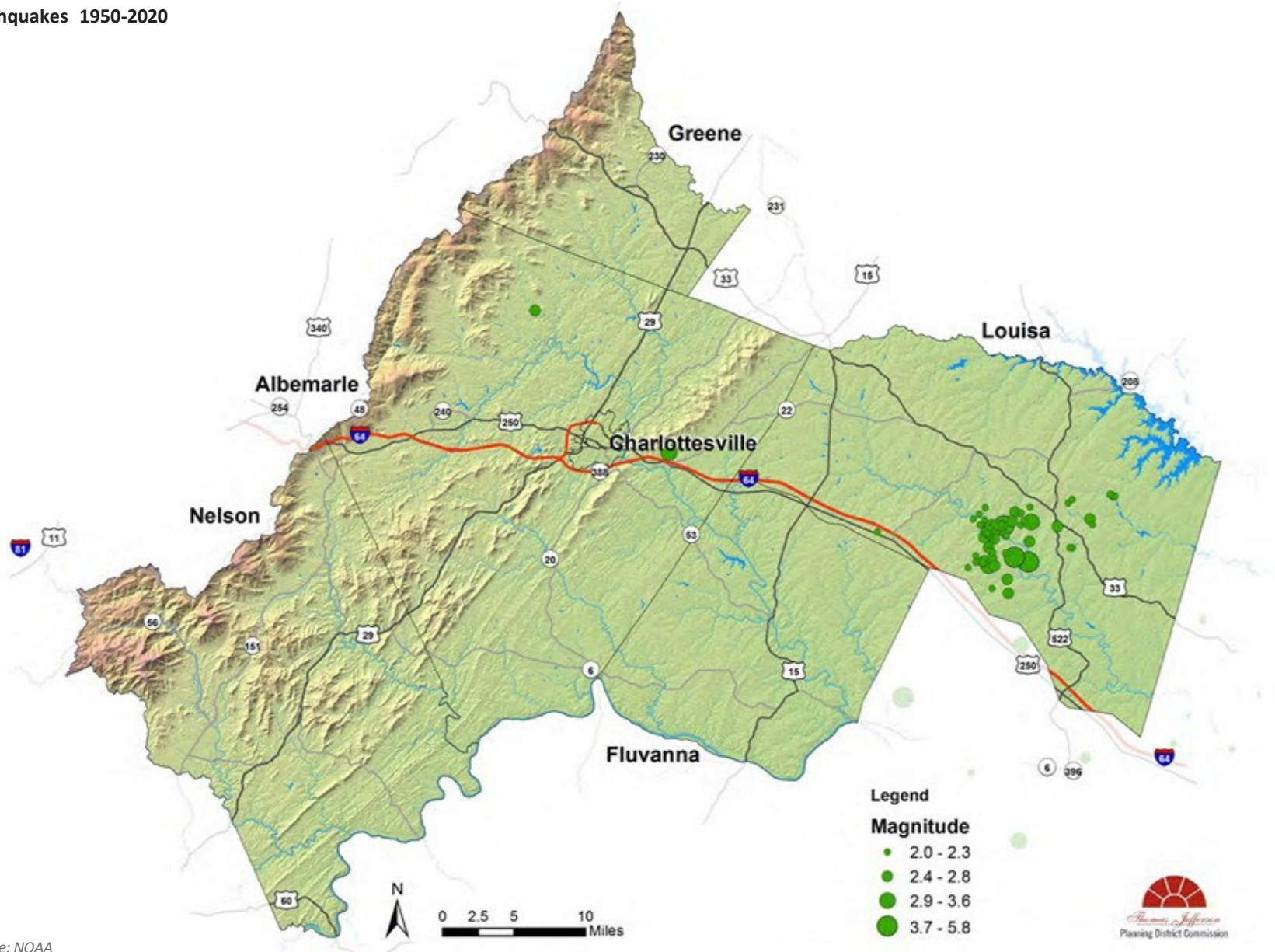


## Virginia's Seismic Zones



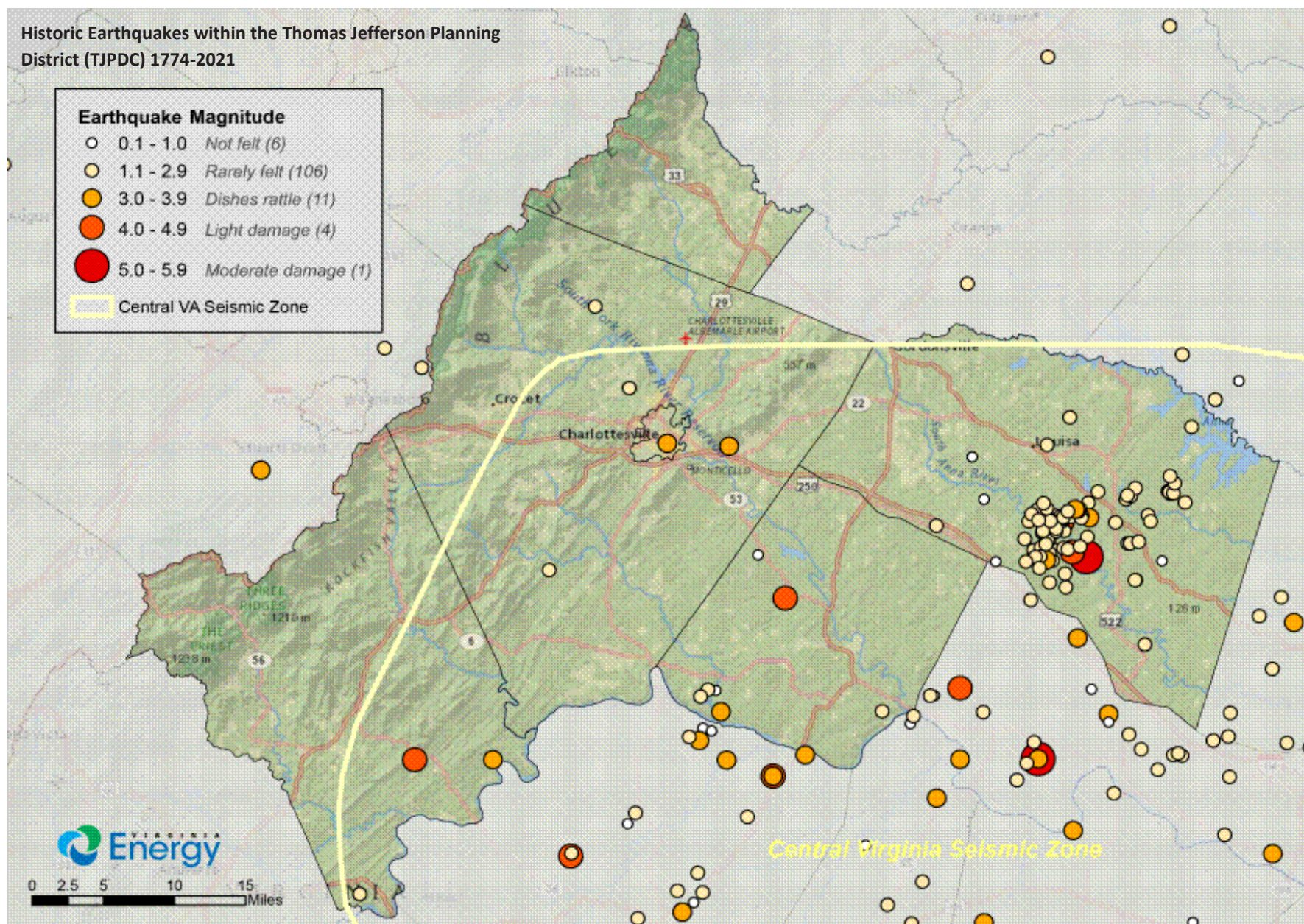
Source: UVA Today

## Earthquakes 1950-2020





Historic Earthquakes within the Thomas Jefferson Planning District (TJPDC) 1774-2021





## Landslides

### Identification

A landslide is the movement of earthen material such as rock or debris, down a slope due to gravity. They typically occur in mountainous areas due to steep slopes and are triggered by both natural and human triggers. Such causes include heavy rainfall, rapid snow melt, steepening slopes from erosion or construction, earthquakes, volcanic eruptions, and changes in groundwater levels.

There are several types of landslides: rock falls, rock topple, slides, and flows. Rock falls are rapid movements of bedrock, which result in bouncing or rolling. A topple is a section or block of rock that rotates or tilts before falling to the slope below. Slides are movements of soil or rock along a distinct surface of rupture, which separates the slide material from the more stable underlying material. Mudflows, sometimes referred to as mudslides, lahars, or debris avalanches, are fast-moving rivers of rock, earth, and other debris saturated with water. They develop when water rapidly accumulates in the ground, such as from heavy rainfall or rapid snowmelt, changing the soil into a flowing river of mud or "slurry." Slurries can flow rapidly down slopes or through channels and can strike with little or no warning at avalanche speeds. Slurries can travel several miles from its

source, growing in size as it picks up trees, cars, and other materials along the way. As the flows reach flatter ground, the mudflow spreads over a broad area where it can accumulate in thick deposits.

Landslides associated with periods of heavy rainfall or rapid snow melt tend to worsen the effect of flooding that often accompanies these events. In areas burned by forest and brush fires, a lower threshold of precipitation may initiate landslides. Some landslides move slowly and cause damage gradually, whereas others move so rapidly that they can destroy property and take lives suddenly and unexpectedly.

In the United States, it is estimated that landslides cause up to \$4 billion in damages and from 25 to 50 deaths annually. Globally, landslides cause billions of dollars in damage and thousands of deaths and injuries each year.

The figure below shows areas where large numbers of landslides have occurred and areas that are susceptible to landslides in conterminous Virginia:

### Analysis

In Virginia, landslides tend to occur more frequently in the Appalachian Mountains, which lie in the western part of the TJPDC in the Blue Ridge Mountains. The likelihood of landslides is certainly greater in the mountainous regions of Virginia than other

### Landslide Overview Map



Source: USGS Landslide overview map of Conterminous United States

parts of the state as shown in the Landslide Overview Map. When torrential rains hit the slopes of mountains, unstable earth can become loose and can be washed downhill. Earthquakes may also trigger rock and landslides, but this is rare in the Planning District. In general, naturally occurring landslides tend to occur on slopes greater than 20-degrees. However, landslides can also occur on lower slopes in areas where land has been altered or steepened by human modification, like road building. The western edges of Greene and Albemarle County and much of Nelson County are most at risk of landslides in the Thomas Jefferson Planning District.

During Hurricane Camille in 1969, extensive damage was done by landslides and flooding across Nelson County. There were an estimated 286 houses and out-buildings damaged or destroyed, 2 fraternal lodges, 1 warehouse, 2 churches, 17 trailers, 175 cars and trucks, 1 school, 2 pieces of construction equipment, 2 post offices, 11 pieces of farm machinery, 5 industrial plants, one of which was a water system and about 18,500 acres of pasture and cropland. Another intense storm in June 1995 triggered landslides, including soil slips, slumps, debris slides, and debris flows, as well as associated flooding along the North Fork of the Moormans River in the northwestern portion of Albemarle County. The area immediately affected by the storm was within the boundaries of Shenandoah National Park, but flooding resulted in the Sugar Hollow Reservoir and downstream for another four miles, as far as White Hall. The Sugar Hollow Reservoir acted as an impoundment for the boulders, silt, and trees that had been dislodged upstream.

#### **Landslide on 250 in Nelson County**



*Source: NBC 29 Traffic Alert*

A landslide on Afton Mountain in Nelson County caused road closures for longer than a week, as depicted in the photo below. VDOT crews diverted traffic over the summer of 2022 in order to bolt steel mesh to a section of the mountain that could fall to the road.

No summary data of damage is available from the National Climate Data Center for landslides in the Planning District. However, data produced by the Virginia Department of Energy indicates that over 6,300 landslides have occurred in the planning district since 1969. Most of these landslides are very minor. A storm in June 1995 producing 673 mm of rain, caused 72 landslides in Albemarle County. This event prompted Albemarle County to commission a study by the U.S. Geological Survey (USGS) to evaluate the potential for debris flows resulting from severe storms in the county. This study, Debris-Flow Hazard Inventory and Evaluation: Albemarle County, Virginia (USGS, 2000), did not find evidence of historic debris flows other than the 1995 event and some damage from Hurricane Camille near the Nelson County border. The eastern slopes of the Blue Ridge and the North and South Forks of the Moormans River were found to have both the requisite elevation and slope for debris flows and evidence of prehistoric debris flows; these areas were therefore considered to be the most susceptible to future debris flows. Damage from landslides is often difficult to quantify, since most are smaller and may contribute only slightly to soil erosion or water quality – most landslides do not result in loss of life.

Several sites in the Covesville area, in the southern part of the county near the Nelson County border, were found to have the necessary elevation and slopes, but no evidence of debris flows other than moderate activity from Hurricane Camille along one stream. This area is therefore judged as having an intermediate susceptibility. Small areas of the Southwest Mountains and their southern extension south of Charlottesville have the requisite slope, but show no evidence of debris flows, so are rated with lower susceptibility. Carbon-14 sampling performed for the study indicates that recurrence intervals in Albemarle County for a specific site are on the order of 3,000 years, and similar sampling in Nelson County has indicated a recurrence interval of about 3,000-6,000 years; however, the historic record indicates

that a debris flow will occur somewhere within the Blue Ridge of Virginia about once per decade.

A project conducted by Virginia Energy, funded by the Federal Emergency Management Agency's Pre-Disaster Mitigation Program, was conducted between 2019 and 2021 to identify areas and infrastructure within Nelson and Albemarle Counties at risk of severe damage from landslides. The methods of study include high resolution light detection and ranging (LiDAR) data, geologic field mapping, and landslide susceptibility mapping and modeling. By communicating the findings of this study to county officials and emergency staff, preventative measures can be taken to mitigate the severity of impact. It can be expected that landslides are more prone to causing significant damage in areas that are already

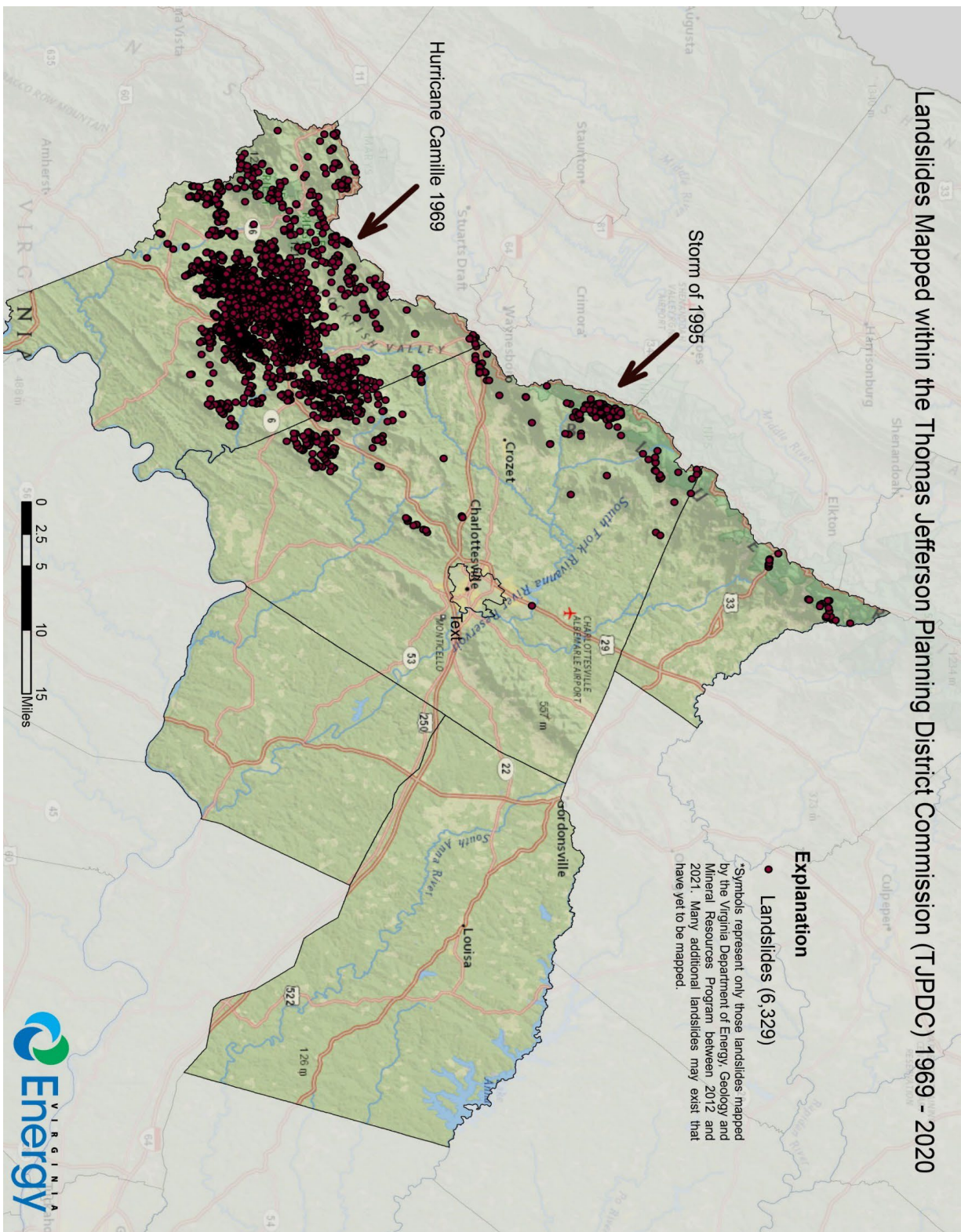
eroded or roads that are not properly maintained. Even weaker landslides can affect poorly maintained roads, hills, and properties.

#### **Landslide and Hurricane Damage in Nelson County**



*Source: Nelson County Historical Society*





## Dam Failure

### Identification

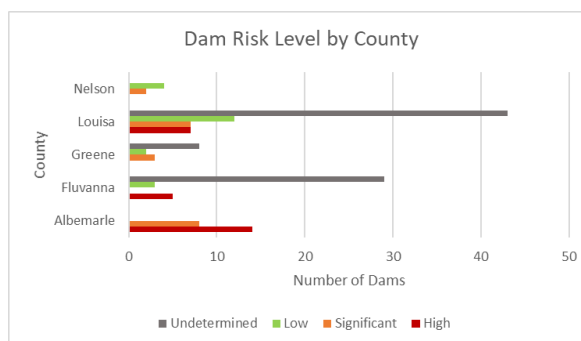
Worldwide interest in dam and levee safety has risen significantly in recent years. Aging infrastructure, new hydrologic information, and population growth in flood-plain areas downstream from dams and near levees have resulted in an increased emphasis on safety, operation, and maintenance. As of 2022, the National Inventory of Dams (NID) shows more than 92,000 dams in the United States, with at least 75% have been classified as High Hazard Potential. The federal government regulates approximately 6% of those dams, while state dam safety programs are responsible for regulating 70% of the dams within the United States.

Though dams have many benefits, they also can pose a risk to communities if not designed, operated, and maintained properly. In the event of a dam failure, the energy of the water stored behind even a small dam can cause loss of life and property damage. Dams are water retaining structures and as such are impacted by natural hydrologic events such as heavy rain, tropical storms, and droughts as well as natural events such as earthquakes.

There are a variety of risks and vulnerabilities associated with high hazard potential dams (HHPD). The consequences associated with the breach or failure of a HHPD are known as the dam's risk exposure; this generally refers to the population, restructure, and resources at risk downstream from the dam. The risk exposure, combined with the risk probability, which incorporates features about the dam's age, construction, and location, inform the risk level of the dam.

Dam deficiencies are able to be found by engineers and dam safety inspectors, but the availability of inspection creates a limitation on how often and recent dam conditions are reported to state and federal authorities. Major weather events can suddenly and severely weaken dams that were not categorized as a HHPD. Creating opportunities for more regular and thorough inspection before and after major weather events can allow localities and dam owners to have a more realistic picture of a dam's current status.

According to the Virginia Division of Dam Safety and



Floodplain Management there are over 3,600 dams within the Commonwealth. The Virginia Dam Safety regulations changed significantly in 2016, bringing many existing but unregulated structures into regulatory oversight. As such the number of structures identified in the state database has increased significantly since the 2018 Hazard Mitigation Plan. Information about the dams in the planning district was provided to TJPDC staff and the Hazard Mitigation Working Group by local governments and the Dam Safety Program, housed within Virginia's Department of Conservation and Recreation. Representatives on the working group were well positioned to identify high-hazard dams and locality-specific information concerning dam failure of public and private dams. Staff from the state were integral in providing updated information about dams in the planning district. All information provided in the analysis section comes from local government, Hazard Mitigation Working Group members, Virginia's Dam Safety Program, and the National Inventory of Dams.

### Analysis

The National Inventory of Dams (NID), maintained by the U.S. Army Corps of Engineers, is a list of all private and public dams meeting specific criteria for the definition of an "impounding structure" – based on dam height and volume of impounded water. The criteria exclude insignificant dams, natural dams, and privately-owned ponds. Each dam is ranked in accordance to its hazard potential, with high hazard dams being those where failure or maloperation will most likely cause significant economic damage or loss of human life.

It is important to note that the NID hazard rank is not a determination of structural soundness of a dam or the probability of a failure or maloperation. It ranks the severity of a hazard, in terms of loss of human



life and property, should a dam fail. Oversight of dam maintenance and operation is typically conducted at the federal level by the Federal Energy Regulatory Commission (for hydropower facilities) and at the state level through the Virginia Department of Conservation and Recreation (DCR) Dam Safety and Floodplain Management program. According to the National Inventory of Dams, there are 310 dams in the planning district. Eight dams in the region are federally-regulated, including high-hazard South Rivanna and Lake Anna dams. Three dams ranked high hazard are exempt by DCR from any regulation: Birdwood Dam, Stevens Lake Dam, and Whites Dam.

Although there has not been a significant history of dam failure in the region, a threat to property and life is possible with the failure of any of the high hazard dams. The Lake Louisa dam failed during Hurricane Camille in 1969. It is considered a rare event because of the severity of the storm and the age of the dam. For most dams in the TJPD, the land just downstream of the dam is typically sparsely or undeveloped, with most development occurring upstream of the dams around the lakes. There are however dams located in more urban areas where failure of the facility would result in significant impact to population centers and urban/suburban infrastructure. Examples of these include the two dams located upstream of the City of Charlottesville, Ragged Mountain and South Rivanna as well as structures such as Hollymead, Chris Greene, Mint Springs, Mink Creek, and Peacock Hill Dams located in Albemarle County; Twin Lakes in Greene County, and the Gordonsville Dam in Louisa County.

In March 2022, an 11-acre privately managed dam that holds back water to create McIver Lake in Fluvanna, experienced potential structural issues that almost caused the dam to fail. The dam was over 20 feet deep and held more than 60 million gallons of water, which, if breached, would have put Bremono Road under 3.5 feet of water and could have affected the Dominion power plant in Bremono under threat. These issues forced the closing of roads near Bremono Bluff, and put the Dominion Power Plant in Bremono Bluff on high alert. The dam was slated for removal and was empty for years, but began holding water after months of heavy snow and rain. The property owners



Source: County of Fluvanna



Source: County of Fluvanna

sent an engineer to look at removing the dam; the critical condition of the dam alarmed him and he called DCR, which then alerted VDEM. These two agencies coordinated with Fluvanna County emergency personnel to reach the dam and dewater it, which took a few days at about one foot per day. The dam was notched to prevent any refilling until it is dismantled. Fluvanna was able to successfully ask the state for reimbursement for charges associated with the incident.

Implementation of the adopted regional water supply plan from 2012 is expected to increase Ragged Mountainthe dam's inundation and likely increase the potential for hazard should a dam failure occur. Additionally, the South Fork Rivanna Dam could also have significant consequences if it failed – per Albemarle County's GIS map the inundation zone exceeds that of the Ragged Mountain Dam, threatening both Charlottesville and parts of Albemarle County. Finally, as Sugar Hollow and Crozet develop further as is projected, the dam at Sugar Hollow may become a larger threat.

Disclaimer: This plan does not provide a summary description of all dam risk, which consists of incremental, non-breach, and residual risk. To meet this requirement, please add narrative describing non-breach, and residual risk with respect to at least the Thomas Jefferson PDC eligible high hazard potential dams. If insufficient information is available to describe non-breach and residual risk in the Thomas Jefferson PDC, please add language explaining this limitation and include the definition of the three all dam risk component concepts. Pertinent definitions and example language that would address this revision are included below.

Definitions:

- *Incremental Risk:* The risk (likelihood and consequences) to the pool area and downstream floodplain occupants that can be attributed to the presence of the dam should the dam breach prior or subsequent to overtopping, or undergo component malfunction or misoperation, where the consequences considered are over and above those that would occur without dam breach. The consequences typically are due to downstream inundation, but loss of the pool can result in significant consequences in the pool area upstream of the dam.
- *Non-Breach Risk:* The risk in the reservoir pool area and affected downstream floodplain due to 'normal' dam operation of the dam (e.g., large spillway flows within the design capacity that exceed channel capacity) or 'overtopping of the dam without breaching' scenarios.
- *Residual Risk:* The risk that remains after all mitigation actions and risk reduction actions have been completed. With respect to dams, FEMA defines residual risk as "risk remaining at any time" (FEMA, 2015, p A-2). It is the risk that remains after decisions related to a specific dam safety issue are made and prudent actions have been taken to address the risk. It is the remote risk associated with a condition that was judged to not be a credible dam safety issue.

Source: "Rehabilitation of High Hazard Potential Dams Grant Program Guidance," June 2020.

## Dams in the Planning District

| Dam Name                   | County    | River or Stream Name         | Owner Names                               | Primary Purpose      | Year Completed | Dam Height (Ft) | Drainage Area (Sq Miles) | State Regulated Dam |
|----------------------------|-----------|------------------------------|-------------------------------------------|----------------------|----------------|-----------------|--------------------------|---------------------|
| Albemarle Dam              | Albemarle | SPRING CREEK                 | Virginia Department of Wildlife Resources | Recreation           |                | 32              | 3.6                      | Yes                 |
| Chris Greene Dam           | Albemarle | JACOBS RUN                   | Albemarle County                          | Recreation           |                | 65              | 5.75                     | Yes                 |
| Middle Mint Spings Dam     | Albemarle | POWELL CREEK                 | Albemarle County                          | Recreation           |                | 34.9            | 0.5                      | Yes                 |
| Hillcrest Dam              | Albemarle | trib. Moores Creek           | Albemarle County                          | Flood Risk Reduction |                | 40.9            | 0.25                     | Yes                 |
| Forest Lakes Subdiv A      | Albemarle | TR-POWELL CREEK              | Albemarle County                          | Recreation           |                | 23.5            | 0.21                     | Yes                 |
| Upper Mint Springs Dam     | Albemarle | POWELLS CREEK                | Albemarle County                          | Recreation           |                | 30              | 0.2                      | Yes                 |
| Albemarle House Dam        | Albemarle | trib. Slate Quarry Dam       | Trump Virginia Acquisitions LLC           |                      |                | 25              |                          | Yes                 |
| Hollymead Dam              | Albemarle |                              | Albemarle County                          | Recreation           | 1974           | 42.7            | 1.55                     | Yes                 |
| Southern Regional Park Dam | Albemarle | Walnut Branch Hardware River | Albemarle County                          | Recreation           |                | 45              | 2.2                      | Yes                 |
| Virginia Farms Dam         | Albemarle | trib. Mechunk Creek          |                                           |                      |                | 23              |                          | Yes                 |
| Birdwood Gc #13 Dam        | Albemarle | trib. Morey Creek            | UVA Foundation                            |                      |                | 24              |                          | Yes                 |
| Birdwood Gc Hole #2 Dam    | Albemarle | TR-MOREY CREEK               | UVA Foundation                            | Irrigation           |                | 25              |                          | Yes                 |
| Pvcc Dam                   | Albemarle | trib. MOORES CREEK           | Piedmont Virginia Community College       | Recreation           |                | 38.5            | 0.34                     | Yes                 |
| Ivy Muc Irrigation Pond    | Albemarle |                              | Rivanna Water and Sewer Authority         | Irrigation           |                | 30              |                          | Yes                 |
| Miller School Dam          | Albemarle | MILLER BRANCH                | Miller School of Albemarle                | Recreation           |                | 29              | 1.15                     | Yes                 |
| Edgehill Dam # 4           | Albemarle | trib. Camp Branch            |                                           |                      |                | 31              |                          | Yes                 |
| Montfair West Dam          | Albemarle | trib. Doyles River           | Mary B. Sheridan Trust                    | Recreation           |                | 27              |                          | Yes                 |
| Jenson Dam                 | Albemarle | trib. Redbud Creek           |                                           |                      |                | 25              |                          | Yes                 |
| Rockfield Dam              | Albemarle | trib. Mechunk Creek          |                                           |                      |                | 20              |                          | Yes                 |
| Edgehill Dam #7            | Albemarle | trib. Barn Branch            |                                           |                      |                | 27              |                          | Yes                 |
| Greens Dam                 | Albemarle | TR-NORTH FORK RIVANNA RIVER  | Wendel Wood                               | Flood Risk Reduction |                | 55              |                          | Yes                 |

|                             |           |                              |                                   |                      |  |    |      |     |
|-----------------------------|-----------|------------------------------|-----------------------------------|----------------------|--|----|------|-----|
| Mclean Dam                  | Albemarle | trib. Ivy Creek              |                                   |                      |  | 28 |      | Yes |
| Edgeworth Farm South Dam    | Albemarle | trib. Happy Creek            | Wilson, Florence                  | Recreation           |  | 19 |      | Yes |
| Baileys Dam                 | Albemarle | Trib. Rivanna River          |                                   | Recreation           |  | 31 | 0.22 | Yes |
| Mackey Dam                  | Albemarle | trib. Mechunk Creek          |                                   |                      |  | 28 |      | Yes |
| Albie Road Dam              | Albemarle | trib. Mechums River          |                                   | Recreation           |  | 30 |      | Yes |
| Lickinghole Creek Dam       | Albemarle | LICKINGHOLE CREEK            | Rivanna Water and Sewer Authority | Flood Risk Reduction |  | 32 | 13.3 | Yes |
| Cherry Hill Dam             | Albemarle | trib. Ivy Creek              |                                   |                      |  | 23 |      | Yes |
| Rogers Road Dam             | Albemarle | trib. Baileys Dam Lake       |                                   |                      |  | 26 | 0.43 | Yes |
| Seabright Dam               | Albemarle | trib. Chopping Branch        |                                   |                      |  | 31 |      | Yes |
| Rosemont Dam                | Albemarle | trib. Ivy Creek              |                                   | Recreation           |  | 39 |      | Yes |
| Glenmore # 8 Dam            | Albemarle | trib. Rivanna River          |                                   |                      |  | 28 |      | Yes |
| Forest Lakes Dam #2         | Albemarle | trib. Powell Creek           |                                   |                      |  | 23 |      | Yes |
| Crown Orchard Upper Dam     | Albemarle | trib. Stillhouse Creek Creek |                                   |                      |  | 38 |      | Yes |
| Flordon Dam                 | Albemarle | trib. Ivy Creek              |                                   |                      |  | 30 |      | Yes |
| Lower Adventure Dam         | Albemarle | trib. Naked Creek            |                                   |                      |  | 31 |      | Yes |
| Club Dam                    | Albemarle | Carroll Creek                |                                   |                      |  | 22 |      | Yes |
| Spring Valley Dam           | Albemarle | Perry Creek                  |                                   | Irrigation           |  | 29 |      | Yes |
| Murrays Dam                 | Albemarle | NAKED CREEK                  |                                   | Recreation           |  | 30 |      | Yes |
| Liberty Corner Farm Dam (3) | Albemarle | Trib. ROCK CASTLE CREEK      | Liberty Corner Farm LLC           | Recreation           |  | 29 |      | Yes |
| Crown Orchard South Dam     | Albemarle | TR-STILL-HOUSE CREEK         |                                   | Irrigation           |  | 38 |      | Yes |
| Totier Creek Dam            | Albemarle | TOTIER CREEK                 | Rivanna Water and Sewer Authority | Water Supply         |  | 35 | 30   | Yes |
| Dover Dam                   | Albemarle | trib. Marshall Creek         |                                   |                      |  | 27 |      | Yes |
| Sugar Hollow Dam            | Albemarle | MOORMANS RIVER               | Rivanna Water and Sewer Authority | Water Supply         |  | 77 | 17.2 | Yes |
| Pantops Dam                 | Albemarle | trib. Rivanna River          |                                   |                      |  | 52 |      | Yes |
| Happy Creek Dam             | Albemarle | HAPPY CREEK                  |                                   | Recreation           |  | 18 |      | Yes |
| Farmington Dam              | Albemarle | trib. Ivy Creek              |                                   |                      |  | 30 |      | Yes |

|                          |           |                     |                                      |                      |  |      |      |     |
|--------------------------|-----------|---------------------|--------------------------------------|----------------------|--|------|------|-----|
| North Fork Park Pond Dam | Albemarle | Flat Branch         | University of Virginia Foundation    | Flood Risk Reduction |  | 32.5 | 0.66 | Yes |
| Edgehill Se Pond Dam     | Albemarle | TR-CAMP CREEK       | Albemarle Edgehill LLC               | Water Supply         |  | 31   |      | Yes |
| Edgehill Farm Nw Dam     | Albemarle | Barn Branch         | Albemarle Edgehill LLC               | Recreation           |  | 40   |      | Yes |
| Edgehill Farm Ne Dam     | Albemarle | trib. Camp Branch   | Albemarle Edgehill LLC               | Recreation           |  | 25   |      | Yes |
| Edgehill Farm Sw Dam     | Albemarle | trib. Camp Branch   | Albemarle Edgehill LLC               | Recreation           |  | 27   |      | Yes |
| Mink Creek Dam           | Albemarle | MINK CREEK          | Town of Scottsville                  | Flood Risk Reduction |  | 39   | 0.92 | Yes |
| Broadmoor Lake Dam       | Albemarle | CARROLL CREEK       | Keswick Corporation                  | Recreation           |  | 25   | 1.86 | Yes |
| Hurts Dam                | Albemarle | RIVANNA RIVER       | Charles W. Hurt                      | Recreation           |  | 41   | 2.15 | Yes |
| Glen Lochan Dam          | Albemarle | trib. Carroll Creek | Glenmore Community Association, Inc. | Recreation           |  | 33   |      | Yes |

|                           |           |                                                 |                                                      |
|---------------------------|-----------|-------------------------------------------------|------------------------------------------------------|
| Peacock Hill Dam          | Albemarle | trib. Broad Axe Creek                           | Peacock Hill Community Association                   |
| Clover Dam                | Albemarle | TR-IVY CREEK                                    | West Leigh II POA                                    |
| Lake Reynovia Dam         | Albemarle | BUSCUIT RUN                                     | Lake Reynovia Owners Association                     |
| James A. Strong Dam       | Albemarle | TR-Burnley Branch Creek                         | James A. Strong                                      |
| Loftlands Dam             | Albemarle | TR-NAKED CREEK                                  | Loftlands Glen Homeowners Association                |
| Indian Springs Dam        | Albemarle | trib. Beaverdam Creek                           | Indian Springs Home Owners Association               |
| Ragged Mountain Dam       | Albemarle |                                                 | Rivanna Water and Sewer Authority                    |
| Chisholm Dam Upper Farm   | Albemarle | TR-BEAVERDAM CREEK                              | Mary Jane Chisholm                                   |
| Saponi Dam                | Albemarle | TR-Preddy Creek                                 |                                                      |
| Hunt Country Dam          | Albemarle | TR-MECHUMPS CREEK                               | Wingate Homeowner Association                        |
| Henleys Dam               | Albemarle | BEAVER CREEK and Beaver Creek Reservoir (00301) | Ellis Clark Henley & John Hoskins Henley II Trustees |
| Crown Orchard North Dam   | Albemarle | trib. Stillhouse Creek                          | Virginia Polo Inc.                                   |
| Oakey Dam                 | Albemarle |                                                 | DAVH, LLC                                            |
| Glenmore #1 Dam           | Albemarle |                                                 |                                                      |
| Ednam Drive Dam           | Albemarle | Morey Creek                                     | Virginia Polo Inc.                                   |
| Lower Ragged Mountain Dam | Albemarle | MOORES CREEK                                    | Rivanna Water and Sewer Authority                    |
| Cool Stream Farm West Dam | Albemarle | Elk Run                                         | Virginia Polo Inc.                                   |
| Campbell Road Dam         | Albemarle | trib. Mechunk Creek                             | Virginia Polo Inc.                                   |
| Brocks Mill Dam           | Albemarle |                                                 | Virginia Polo Inc.                                   |
| Upper Ragged Mountain     | Albemarle | MOORES CREEK                                    | Rivanna Water and Sewer Authority                    |
| Preddy Creek Road         | Albemarle | trib. Priddy Creek                              | Virginia Polo Inc.                                   |
| Allmans Dam               | Albemarle | trib-ROCKCASTLE CREEK                           | Coleman, Paul M. & Virginia R.                       |
| Pounding Dick Woods Dam   | Albemarle | trib. Pounding Branch                           | Virginia Polo Inc.                                   |

|                                      |           |                                 |                                                                         |
|--------------------------------------|-----------|---------------------------------|-------------------------------------------------------------------------|
| Wilton Grove Dam                     | Albemarle | trib. Happy Creek               | Virginia Polo Inc.                                                      |
| Burnt Mountain Dam                   | Albemarle | trib. Mechums River             | Virginia Polo Inc.                                                      |
| Miller Lake Dam                      | Albemarle | Whiteside Branch                | Virginia Polo Inc.                                                      |
| Midway Miller School Dam             | Albemarle | trib. Dollins Creek             | Virginia Polo Inc.                                                      |
| Rose Dam                             | Albemarle | trib. Slate Quarry Creek        | Trump Virginia Acquisitions LLC                                         |
| Murcielago Exempt Dams (11)          | Albemarle | trib. Briery Creek              | Murcielago Enterprises LLC                                              |
| Murcielago Boomerang Dam             | Albemarle | trib. Briery Creek              | Murcielago Enterprises LLC                                              |
| Steven White Dam                     | Albemarle |                                 | WHITE, STEVEN ANGELO TRUSTEE OF THE STEVEN WHITE LIVING TRUS            |
| Rivanna W&S Dam                      | Albemarle |                                 | RIVANNA WATER & SEWER AUTHORITY                                         |
| Mosby Mountain Dam #2                | Albemarle | trib. Biscuit Run               | Jessco LLC                                                              |
| Blandemar Dam                        | Albemarle | trib. North Fork Hardware River | Keeling, Richard D. or Johanna M.T.                                     |
| Red Hill Orchard Dam                 | Albemarle | trib. Hardware River North Fork | R & H Partners LLC                                                      |
| Shelford Farm Dam                    | Albemarle | trib. Mechums River             | Birdsall, John                                                          |
| Spencer Young Dam                    | Albemarle |                                 | YOUNG, SPENCER F                                                        |
| Fox Hunt Dam                         | Albemarle | trib- Rivanna River             | Peyton, V. C.olt                                                        |
| Wieboldts Dam                        | Albemarle | trib.- So. Fork Hardware River  | Stolz, Jill V.                                                          |
| Carrsbrook Western Pond              | Albemarle |                                 | Carrsbrook Homeowners Assoc.                                            |
| Gretchen Watkins Dam                 | Albemarle |                                 | GRETCHEN M BINARD WATKINS REV TRUST; WATKINS, GRETCHEN M BINARD TRUSTEE |
| Smiths Dam                           | Albemarle | trib. Sandy Branch              | Sandy Branch Lot Owners                                                 |
| Glenmore # 2 Dam                     | Albemarle | trib. Rivanna River             | Glenmore Country Club Limited Partnership                               |
| Samuel Walker Dam                    | Albemarle | trib. Biscuit Run               | Walker, Samuel Stanhope II or Janice M.                                 |
| Kimco Dam                            | Albemarle | trib. No. Fork Cunningham Creek | Kimco, LC                                                               |
| Blue Ridge Forest Dam                | Albemarle | Fishing Creek                   | Mallard Lake Homeowners Association                                     |
| Ellerslie Dam                        | Albemarle | Slate Quarry Creek              | Trump Vinyard Estates, LLC                                              |
| Ida104 Dam                           | Albemarle | trib. Hardware River            | Murcielago Enterprises LLC                                              |
| Village Dam                          | Albemarle | trib. Lickinghole Creek         | March Mountain Properties, LLC                                          |
| Leake Lane Dam                       | Albemarle | Limestone Creek                 | Glenmore Associates Limited Partnership                                 |
| Upper Blandemar Dam                  | Albemarle | trib. N. Fk. Hardware River     | Van Vranken, Margaret M.                                                |
| Whites Dam                           | Albemarle | SLABTOWN BRANCH                 | William H. White                                                        |
| Apsara Farm North Dam                | Albemarle | trib. Ballinger Creek           | Carlton, Jeffrey                                                        |
| Martha Jefferson Retention Basin Dam | Albemarle | trib. Rivanna River             | Martha Jefferson Hospital; Martha Jefferson Hospital                    |
| Mt. Amos Dam                         | Albemarle | trib. Morman's River            | Robyn L. Burke                                                          |
| Murcielago Lake Dam                  | Albemarle | Briery Creek                    | Murcielago Enterprises LLC                                              |
| Plain Dealing Dam                    | Albemarle |                                 | LINDA E A WACHTMEISTER & JAN K PARKS TRS; PLAIN DEALING LAND TRUST      |
| Old Trail Dam #2                     | Albemarle | trib. Slabtown Branch           | March Mountain Properties, LLC                                          |
| Js Bryan Dam                         | Albemarle |                                 | BRYAN, JOHN RANDOLPH & SUSAN CARTER AGNOR BRYAN                         |
| Cove Creek Dam                       | Albemarle | trib. Cove Creek                | Stollz Family Limited Partnership                                       |



|                                   |           |                           |                                                                             |
|-----------------------------------|-----------|---------------------------|-----------------------------------------------------------------------------|
| Irish Langhorne Dam               | Albemarle | trib. Totier Creek        | Scotland Farm, LLC                                                          |
| Beaver Creek Dam #1               | Albemarle | BEAVER CREEK              | Rivanna Water and Sewer Authority                                           |
| Chimney Rock Dam                  | Albemarle | trib. Buck Mountain Creek | Greg and Kim Breihl                                                         |
| Bailey Realty LLC                 | Albemarle |                           | BAILEY REALTY LLC                                                           |
| Fr Farm Dam                       | Albemarle |                           | FR FARM HOLDINGS LLC                                                        |
| Hallock Dam                       | Albemarle | trib. Carroll Creek       | Ben Coolyn Corp.                                                            |
| Leveque Dam                       | Albemarle |                           | Yvonne R. Leveque Trust                                                     |
| Wissel Roy Dam                    | Albemarle |                           | WISSEL, ROY                                                                 |
| Coleman Dam                       | Albemarle | trib. Ballinger Creek     | Carlton, Jeffrey                                                            |
| Ivy Creek Dam # 1                 | Albemarle | trib. Ivy Creek           |                                                                             |
| Kinloch Farm Pond                 | Albemarle | trib. Mechunk Creek       | Kinloch Properties LLC                                                      |
| Watermarks Dam                    | Albemarle | trib. James Rver          | James River Farm, LLC                                                       |
| Upper Rose Dam                    | Albemarle | trib. Slate Quarry Creek  | .Quality Properties Asset Management Co.                                    |
| Paines Dam                        | Albemarle |                           | Carrsbrook Homeowners Assoc.                                                |
| Carroll Dam                       | Albemarle | trib. Mechums River       | Trustees of Carroll Living Trust                                            |
| Peter Jefferson Place- Lake I Dam | Albemarle | Hickman's branch          | Worrell Land and Cattle Company                                             |
| Atkinson Dam                      | Albemarle | trib. Buck Mountain Creek | Atkinson, Melba S.                                                          |
| James Rose Dam                    | Albemarle |                           | ROSE, JAMES FREDRIC JR OR BARBARA ELLEN                                     |
| Bellair Farm Dam                  | Albemarle | trib. Murphy Creek        | Davis, Cynthia Keller                                                       |
| Ida103 Dam                        | Albemarle | trib- Hardware River      | Murcielago Enterprises LLC                                                  |
| Colt Bower Dam                    | Albemarle |                           | PEYTON, V COLT                                                              |
| Mgmt Srs Dam                      | Albemarle |                           | CATON, DOUGLAS E C/O ELAINE MCDANIEL/ MGMT SRS CORP                         |
| Pavlosky Dam                      | Albemarle |                           | PAVLOSKY, STEPHEN III OR KAREN M                                            |
| Crozet Sportsman Club Dam         | Albemarle | TR-DOLLINS CREEK          | Crozet Sportsman Club                                                       |
| Van Clief Dam                     | Albemarle | trib. Ballinger Creek     | Daniel G. Van Cliff Jr. & Bank of America Co.- TRS etal;Van Cliff, Barry R. |
| Ivy Farm Dam                      | Albemarle |                           | Charles L. Frieden Trust                                                    |
| Mayo Dam                          | Albemarle | TR-BEAVERDAM CREEK        | Mayo, William and Audrey (Allen)                                            |
| Morris Dam                        | Albemarle | TR-FISHING CREEK          | Morris, Jr., J. R.                                                          |
| Mont Air South Dam                | Albemarle | trib. Doyles River        | Keller Forty Two LLC                                                        |
| Chapel Springs Farm               | Albemarle | Rocky Creek Branch        | CS FARM LLC                                                                 |
| Huckles Dam                       | Albemarle | Jacobs Run                | Ann Mallek                                                                  |
| Mcdaniel Dan                      | Albemarle |                           | MCDANIEL, JAMES C JR & NANCY S TRUSTEES OF JAMES C MCDANIEL JR LIV TR ETAL  |
| Lloyd Pond Dam                    | Albemarle | TR-MECHUNK CREEK          | Thomas Bolender                                                             |
| Edgehill Farm Dam #2              | Albemarle | BARN BRANCH               | Ray A. Graham, Jr.                                                          |
| Stillfrieds Dam                   | Albemarle | trib. MILLER CREEK        | Two Times Five LLC                                                          |
| Pounding Brook Dam                | Albemarle | trib. Broad Axe Creek     | Pounding Brook LLC                                                          |
| Murcielago Southwest Dam          | Albemarle | trib. Briery Creek        | Murcielago Enterprises LLC                                                  |
| Chopping Branch Dam               | Albemarle | Chopping Bottom Branch    | Mackey Farms Holding, LLC                                                   |

|                                       |           |                                 |                                                              |
|---------------------------------------|-----------|---------------------------------|--------------------------------------------------------------|
| Edgeworth Farm North Dam              | Albemarle | trib. Happy Creek               | Wilson, Florence                                             |
| Doudera Pond Dam                      | Albemarle | trib. Beaverdam Creek           | Andrea Doudera                                               |
| Windsor Hill Dam                      | Albemarle | trib. Ivy Creek                 | K.K. Knickerbocker                                           |
| Scogo Dam                             | Albemarle | Middle Branch of Hardware River | Scott, Jr., Fred                                             |
| Chopin Dam                            | Albemarle | trib. North Fork Hardware River | Gala, Kantilal V. or Hemlata K.                              |
| Camp Faith Lake Dam                   | Albemarle | trib. South Fork of Rivanna R.  | Cooper Industries                                            |
| Red Hill Quarry Dam                   | Albemarle | TR-NORTH FORK HARDWARE RIVER    | Martin Marietta Aggregates                                   |
| Murray Lake Dam                       | Albemarle | TR-STOCKTON MILL CREEK          | Murray Investment Group LLC, HRF                             |
| Mountain Valley Dam 4                 | Albemarle | trib. Biscuit Creek             | Jessco LLC                                                   |
| Old Trail Dam #1                      | Albemarle | trib. Slabtown Branch           | March Mountain Properties, LLC                               |
| Whistle Dam #1                        | Albemarle | trib. Stockton Creek            | Hyatt, Elizabeth A., Trustee of the Elizabeth A. Hyatt Trust |
| Boaz Dam                              | Albemarle | trib. Cove Creek                | Cove Creek Farms LLC                                         |
| South Rivanna                         | Albemarle | South Fork Rivanna              | Rivanna Water & Sewer Authority                              |
| Juiaf                                 | Albemarle | Tributary to Rivanna River      | Rivanna Station                                              |
| Mountain Valley Dam 1                 | Albemarle | trib. Biscuit Run               | Evergreen Land Company                                       |
| Dam Name                              | County    | River or Stream Name            | Owner Names                                                  |
| Fluvanna Ruritan Dam                  | Fluvanna  |                                 | Virginia Department of Wildlife Resources                    |
| Fluvanna Correction Ctr For Women Dam | Fluvanna  | from Mechunk Creek              | VA Department of Corrections                                 |
| Fluvanna County Dam #5                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #8                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #11               | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #3                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #2                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #7                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #10               | Fluvanna  |                                 |                                                              |
| Lower Dam At Fluvanna Ccw             | Fluvanna  | trib. Oliver Creek              | VA Department of Corrections                                 |
| Fluvanna County Dam #9                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #6                | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #12               | Fluvanna  |                                 |                                                              |
| Fluvanna County Dam #4                | Fluvanna  |                                 |                                                              |
| Bremo Power Station East Ash Pond Dam | Fluvanna  |                                 | Virginia Electric and Power Company                          |
| West Ash Pond Dam                     | Fluvanna  |                                 | Virginia Electric and Power Company                          |
| Fluvanna County Dam #1                | Fluvanna  |                                 |                                                              |
| Tenaska Virginia Partners             | Fluvanna  | Trib. To Cunningham Creek       | East Coast Transport;Tenaska Virginia Partners, L.P.         |
| Cosner Dam                            | Fluvanna  | MIDDLE FORK                     |                                                              |
| T. Potts Dam #2                       | Fluvanna  |                                 |                                                              |
| Bowles Dam                            | Fluvanna  | HORSEPEN CREEK                  |                                                              |

|                                     |          |                                                                           |                                                              |
|-------------------------------------|----------|---------------------------------------------------------------------------|--------------------------------------------------------------|
| State Prison Camp #12 Dam           | Fluvanna |                                                                           | VA Department of Corrections                                 |
| Thomas Dam                          | Fluvanna | TR-WOODSONS CREEK                                                         |                                                              |
| Michie Dam                          | Fluvanna | BOSTON CREEK                                                              |                                                              |
| Strickler & Benzinger's Dam         | Fluvanna |                                                                           |                                                              |
| Bremo Power Station Dam             | Fluvanna | Trib to James River                                                       | Virginia Electric and Power Company                          |
| Lake Monticello Settlement Pond Dam | Fluvanna | BOSTON CREEK                                                              | Lake Monticello Owners' Association                          |
| Mciver Dam                          | Fluvanna | SPRING GARDEN CREEK                                                       | Robert H. McIver                                             |
| Lake Monticello Dam                 | Fluvanna | BOSTON CREEK                                                              | Lake Monticello Owners' Association                          |
| Wyllies Dam                         | Fluvanna |                                                                           | Wyllie, M. R. J.                                             |
| Ida102 Dam                          | Fluvanna | trib. Briery Creek                                                        | Murcielago Enterprises LLC                                   |
| Rivanna Woods Dam                   | Fluvanna | Rivanna                                                                   | Rivanna Woods Property Owner's Association                   |
| Andersons Dam                       | Fluvanna | BEAVERDAM CREEK                                                           | Tarnwood Farm Corporation                                    |
| Linton Dam                          | Fluvanna | BYRD CREEK                                                                | G. Moore;J. Regn                                             |
| Mike Johnson Dam                    | Fluvanna | trib. Mechunk Creek                                                       | Cosner, Dillard W. and Leslie E. W.                          |
| Rivanna Woods Golf Dam              | Fluvanna | TR-Rivanna River                                                          | Rivanna Woods Golf Cours, LP                                 |
| T. Potts Dam #1                     | Fluvanna |                                                                           | Theodore R. Potts                                            |
| Greene Acres Dam                    | Greene   | Unnamed tributary to South River - VAHU6 RA26 Rapidan River - South River | Greene Acres Property Owners Association                     |
| Greene County Reservoir Dam         | Greene   | Unnamed tributary to White Run - VAHU6 RA26 Rapidan River - South River   | Greene County                                                |
| Greene Hills Dam                    | Greene   | TR-Conway River                                                           | Greene Hills Club, Inc.                                      |
| Greene Mountain Lake Dam            | Greene   | Unnamed tributary to Blue Run - VAHU6 JR10 Swift Run                      | Nathaniel Greene Development Company                         |
| Greene Valley Section 7 Dam         | Greene   | TR-Conway River                                                           | Greene Valley Section 7 Home Owners Association              |
| Bishops Dam                         | Greene   | trib. Preddy Creek Greene Co. (? 07907)                                   | W. E. Bishop                                                 |
| Twin Lakes Dam # 1                  | Greene   | Deep Run                                                                  | Twin Lakes Community Association;Twin Lakes HOA              |
| Ruckers Lake Dam                    | Greene   | TR-Preddy Creek                                                           | HC Land Company                                              |
| Deer Lake Dam                       | Greene   | TR-Preddy Creek                                                           | The Glenn at Deer Lake Estates Home Owners Association, Inc. |
| Twin Lakes Dam No. 3                | Greene   | Quarter Creek                                                             | Twin Lakes HOA                                               |
| Word Farm Dam                       | Greene   | TR-Preddy Creek                                                           | Kenneth Tybursky                                             |
| Wildwood Valley Lake Dam            | Greene   |                                                                           | Wildwood Valley Property Owners Association                  |
| Blue Ridge School Dam               | Greene   | TR-Roach River                                                            | Blue Ridge School, Inc.                                      |
| Harlow Farm Dam                     | Greene   | TR-Preddy Creek                                                           | Elaine Greims                                                |
| Poplar Lake Dam                     | Greene   | TR-Parker Branch                                                          | Danny and Janna Boyd, James Palumbo and Ellen McCree         |
| Twin Lakes Dam # 2                  | Greene   | Quarter Creek                                                             | Twin Lakes Community Association;Twin Lakes HOA              |
| Teel Mt. Farm Dam                   | Greene   | TR-South River                                                            | John P. Merrill                                              |
| Belle Monte Dam                     | Greene   |                                                                           | BELLE MONTE LLC                                              |

|                           |        |                                      |                                                       |
|---------------------------|--------|--------------------------------------|-------------------------------------------------------|
| Louisa Dam                | Louisa | HICKORY CREEK                        | Blue Ridge Property Owners Association                |
| South Anna Dam #4         | Louisa | TR-SOUTH ANNA                        | Thomas Jefferson Soil and Water Conservation District |
| South Anna No. 5          | Louisa | WHEELER CREEK                        | Thomas Jefferson Soil and Water Conservation District |
| South Anna Dam #3         | Louisa | FIELDING CREEK                       | Thomas Jefferson Soil and Water Conservation District |
| South Anna Dam #22        | Louisa | NORTHEAST CREEK                      | Louisa County Water Authority                         |
| Gordonsville Dam          | Louisa | DOVE BRANCH                          | Louisa County Water Authority                         |
| Little River Dam #4       | Louisa | HAWKINS CREEK                        | Thomas Jefferson Soil and Water Conservation District |
| South Anna Dam #23        | Louisa | DESPER CREEK                         | Thomas Jefferson Soil and Water Conservation District |
| Louisa H.S. Dam           | Louisa | trib. Northeast Creek                | Taylor, Peter R., TRS for Peter R. Taylor TR          |
| South Anna Dam #6b        | Louisa | CAMP CREEK                           | Thomas Jefferson Soil and Water Conservation District |
| Gum Spring Dam            | Louisa | trib. Owens Creek                    |                                                       |
| Byrd Mill Dam             | Louisa | SOUTH ANNA RIVER                     |                                                       |
| Dongola Dam               | Louisa | trib. Jones Creek                    |                                                       |
| Old Mountain North Dam    | Louisa | Campbell Creek                       |                                                       |
| Nolting Dam               | Louisa | BUNCH CREEK                          |                                                       |
| Harris Dam                | Louisa | trib. Harris Creek                   |                                                       |
| Cox Dam                   | Louisa | trib. Deep Creek                     |                                                       |
| Bearden Dam               | Louisa | trib. NORTH FORK LITTLE RIVER        |                                                       |
| Stonebridge Dam           | Louisa | trib. North Prong of Beaverdam Creek |                                                       |
| Small Dam                 | Louisa | TR-SOUTH ANNA RIVER                  |                                                       |
| Bethany Dam               | Louisa | trib. Hawkins Creek                  |                                                       |
| Apple Grove Dam           | Louisa |                                      |                                                       |
| Routes 522 & 605 Dam      | Louisa |                                      |                                                       |
| Boswell Tavern Dam        | Louisa | trib. South Anna River               |                                                       |
| Swifts Dam                | Louisa | LITTLE RIVER                         |                                                       |
| Glen Beau Dam             | Louisa | Cub Creek                            |                                                       |
| West Pond @ Shellhorn Dam | Louisa | trib. Negro Run                      |                                                       |
| Lake Senaham Dam          | Louisa | North Prong of Beaverdam Creek       |                                                       |
| Old Mountain South Dam    | Louisa | trib. Campbell Creek                 |                                                       |
| Pink House Dam            | Louisa |                                      |                                                       |
| Little Anna Dam           | Louisa | trib. North Anna River               |                                                       |
| Spring Valley Dam         | Louisa | trib. Turners Creek                  |                                                       |
| Moorefield Cedar Dam      | Louisa | trib. South Fork Little River        |                                                       |
| South Anna Dam #7         | Louisa | CENTRAL BRANCH                       | Thomas Jefferson Soil and Water Conservation District |
| Holly Grove               | Louisa | trib. South Anna River               |                                                       |

|                                          |        |                                               |                                                       |
|------------------------------------------|--------|-----------------------------------------------|-------------------------------------------------------|
| Nininger Dam                             | Louisa | TR-SOUTH ANNA RIVER                           |                                                       |
| Rapidan Dam                              | Louisa |                                               | Rapidan Service Authority                             |
| Chisholm Dam                             | Louisa | TR-LONG CREEK                                 |                                                       |
| Shelton Dam                              | Louisa | SOUTH ANNA RIVER                              |                                                       |
| Fox Pen Dam                              | Louisa | trib. Hollowing Creek                         |                                                       |
| Mittleman Dam                            | Louisa | TR-NEGRO RUN                                  |                                                       |
| Little River Dam #1                      | Louisa | LITTLE RIVER                                  | Thomas Jefferson Soil and Water Conservation District |
| Orchid Lake Dam                          | Louisa | Owens Creek                                   | Orchid Lake Homeowners                                |
| Landover Road Dam                        | Louisa | trib. East Prong Beaverdam Creek              | Hartung, White, et al                                 |
| Knapp Dam                                | Louisa | TR-BUCK BRANCH                                | Linda and Peter Knapp                                 |
| Lake Izac Dam                            | Louisa | LICKING HOLE CREEK                            | Shenandoah Resort Community Assoc., Inc.              |
| Cooper Dam                               | Louisa | trib. East Prong Beaverdam Creek              | James Carr                                            |
| Purcell Dam                              | Louisa | TR-WHEELER CREEK                              | Richard Purcell                                       |
| Willow Ridge Dam                         | Louisa | Little River trib. East Prong Beaverdam Creek | Mountain Brook of Troy, Inc.                          |
| Meyerton Dam                             | Louisa | FOX BRANCH                                    | Nancy Timmons                                         |
| Woolfolk Brothers Dam #2                 | Louisa | trib. Beaver Creek                            | Cosby Lee Woolfolk                                    |
| Spring Creek Golf Course Irrigation Lake | Louisa | Spring Branch                                 | Spring Creek Land Development, L.L.C.                 |
| Melanie Morgan Dam                       | Louisa |                                               | MORGAN, MELANIE A                                     |
| Ponde Roachea Dam                        | Louisa | TRIB-NEGRO RUN                                | Hugh A. Jones and Linda Santini                       |
| Beaver Dam                               | Louisa | BEAVERDAM CREEK                               | Hudgins, Howard L.                                    |
| Ferron Dam                               | Louisa | BEAVERDAM CREEK                               | Jompal, Mark                                          |
| Grassdale Dam                            | Louisa | Bunch Creek                                   | Henry J. Javer, Trustee                               |
| Lake Ellen Dam                           | Louisa | TR-SOUTH ANNA                                 | Randolph and Susan Reynolds                           |
| Lake Sherman                             | Louisa | trib. NORTH FORK LITTLE RIVER                 | Bill Taylor                                           |
| Southeast Pond @ Shellhorn Dam           | Louisa | trib. Negro Run                               |                                                       |
| Lake Anna Dam and Reservoir - Dike III   | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Lake Anna Dam and Reservoir - Dike II    | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Lake Anna Dam and Reservoir              | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Lake Anna Dam and Reservoir - Dike V     | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Lake Anna Dam and Reservoir - Dike VI    | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Lake Anna Dam and Reservoir - Dike I     | Louisa | North Anna                                    | Virginia Electric and Power Company                   |
| Woolfolds Dam No. 1                      | Louisa | trib. BEAVER CREEK                            | Goodwin                                               |
| North Anna Cat I Service Water Dike      | Louisa | None                                          | Virginia Electric and Power Company                   |

|                         |        |                             |                                           |
|-------------------------|--------|-----------------------------|-------------------------------------------|
| Nelson Dam              | Nelson | TR-BOBS CREEK               | Virginia Department of Wildlife Resources |
| Black Creek Impoundment | Nelson | Black Creek                 | Nelson County Service Authority           |
| Nelson County Dam #6    | Nelson |                             |                                           |
| Nelson County Dam #8    | Nelson |                             |                                           |
| Nelson County Dam #7    | Nelson |                             |                                           |
| Nelson County Dam #4    | Nelson |                             |                                           |
| Nelson County Dam #2    | Nelson |                             |                                           |
| Nelson County Dam #1    | Nelson |                             |                                           |
| Payne Pond              | Nelson |                             |                                           |
| Ramsay Knox Dam         | Nelson | TR-CEDAR BRANCH CREEK       |                                           |
| Watts Dam               | Nelson | TR-BLACK CREEK              |                                           |
| Black Fox Hills Dam     | Nelson | UNION HILL CREEK            | Jodi Johnson                              |
| Rockfish Farms Dam      | Nelson | TR-WILLIAMS CREEK           | Rockfish Farm Property Owners             |
| Stevens Lake Dam        | Nelson | TR-BROWN CREEK              | Russel A. Stevens                         |
| Lake Monocan Dam        | Nelson | Allen Creek                 | Wintergreen Pacific, LLC                  |
| Amelia Estates Dam      | Nelson | TR-NIBBS CREEK              | Irvin Horner                              |
| Walker Mill Dam         | Nelson | Rockfish River, James River | Hydro-WM, LLC                             |

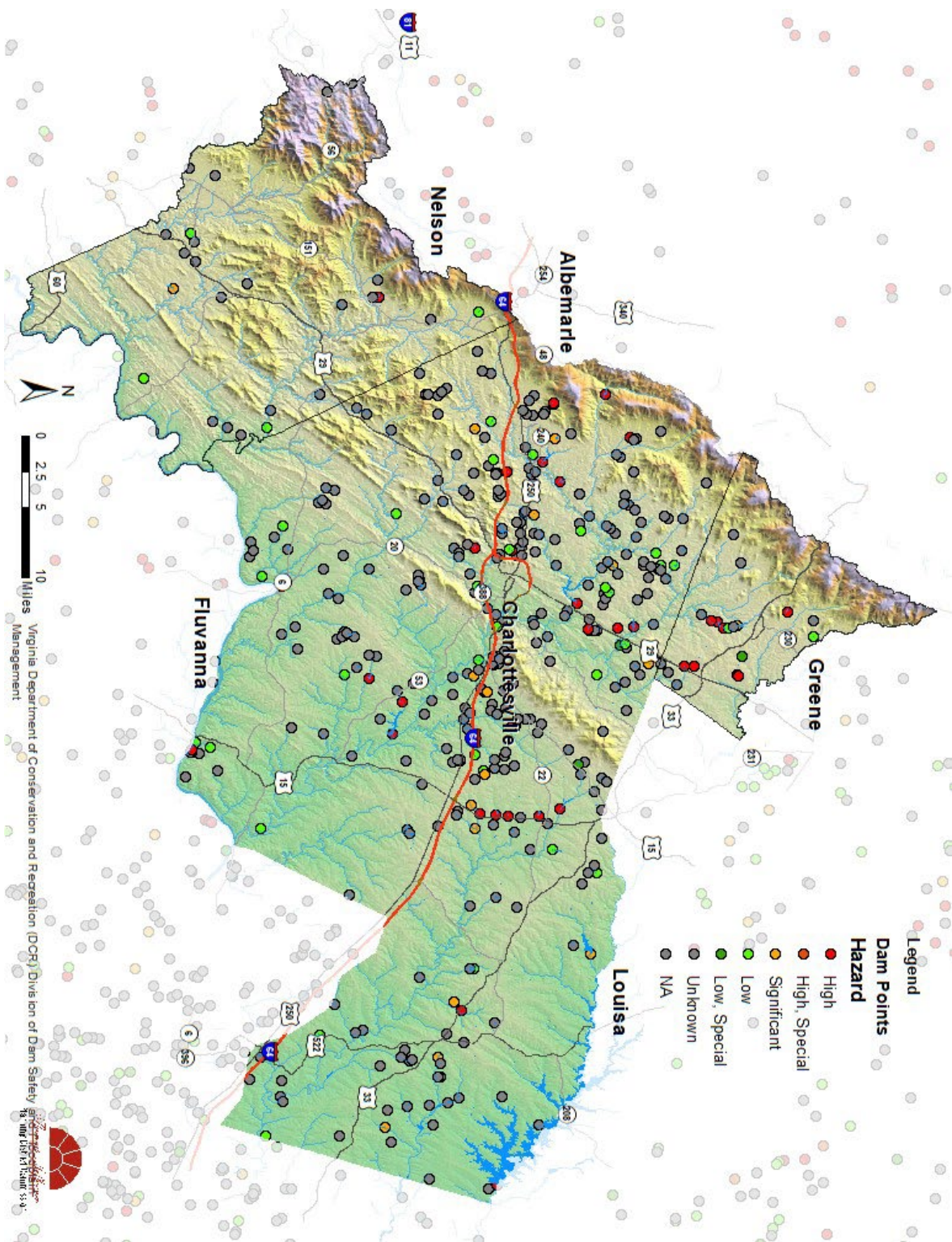
### High Risk Dams

| Dam                       | County    | River           | Owner                                     | Purposes                                | Year Completed | Height (ft.) | Drain Area (Sq. Mi.) | Regulated |
|---------------------------|-----------|-----------------|-------------------------------------------|-----------------------------------------|----------------|--------------|----------------------|-----------|
| Beaver Creek Dam #1       | Albemarle | Beaver Creek    | RWSA                                      | Flood Control, Water Supply, Recreation | 1964           | 60           | 10                   | State     |
| Montfair West Dam         | Albemarle | Doyles River    | Joe Vincenti                              | Recreation                              | 1900           | 24           | 0                    | State     |
| Albemarle Dam             | Albemarle | Spring Creek    | Virginia Department of Wildlife Resources | Recreation                              | 1938           | 32           | 4                    | State     |
| South Rivanna             | Albemarle | S Fork Rivanna  | RWSA                                      | Hydropower                              | 1965           | 47           | 259                  | Federal   |
| Chris Greene Dam          | Albemarle | Jacobs Run      | Albemarle County                          | Recreation                              | 1967           | 65           | 6                    | State     |
| Sugar Hollow Dam          | Albemarle | Mormans River   | RWSA                                      | Water Supply                            | 1950           | 77           | 17                   | State     |
| Peacock Hill Dam          | Albemarle | Broad Axe Creek | Peacock Hill Community Association        | Fire Protection                         | 1975           | 34           | 0                    | State     |
| Upper Mint Springs Dam    | Albemarle | Powells Creek   | Albemarle County                          | Recreation, Water Supply                | 1961           | 30           | 0                    | State     |
| Lower Ragged Mountain Dam | Albemarle | Moore's Creek   | RWSA                                      | Water Supply                            | 1908           | 67           | 2                    | State     |
| Upper Ragged Mountain     | Albemarle | Moore's Creek   | RWSA                                      | Water Supply                            | 1885           | 47           | 1                    | State     |



|                         |           |                                      |                                           |                                         |           |     |     |         |
|-------------------------|-----------|--------------------------------------|-------------------------------------------|-----------------------------------------|-----------|-----|-----|---------|
| Mink Creek Dam          | Albemarle | Mink Creek                           | Town of Scottsville                       | Flood Control, Water Supply, Recreation | 1977      | 39  | 1   | State   |
| Whites Dam              | Albemarle | Slabtown Branch                      | William H. White (N)                      | Irrigation                              | 1971      | 37  | 0   | None    |
| Middle Mint Springs Dam | Albemarle | Powells Creek                        | Albemarle County                          | Recreation                              | 1960      | 35  | 1   | State   |
| Mountain Valley Dam 1   | Albemarle | Biscuit Run                          | Evergreen Land Company                    | Recreation                              | 1973      | 28  | 0   | State   |
| North Fork Pond Dam     | Albemarle | Flat Branch                          | University of Virginia                    | Flood Control                           | 1900      | 0   | 1   | State   |
| Hollymead Dam           | Albemarle |                                      | Albemarle County                          | Recreation                              | 1974      | 43  | 2   | State   |
| Birdwood Dam            | Albemarle | TR- Morey Creek                      | University of Virginia                    | Irrigation, Recreation                  | 1930      | 24  | 0   | None    |
| Twin Lakes Dam          | Greene    | Deep Run                             | Twin Lakes HOA                            | Recreation                              | 1978      | 32  | 2   | State   |
| Ruckers Lake Dam        | Greene    | Predgy Creek                         | HC Land Company                           | Recreation                              | 1970      | 40  | 1   | State   |
| Greene County Reservoir | Greene    | White Run/ Rapidan River/South River | Greene County                             | Water Supply                            | 2022      | 73  | 1   | State   |
| Deer Lake Dam           | Greene    | Predgy Creek                         | Glenn at Deer Lake Estates HOA            | Water Supply                            | 1970      | 12  | 0   | State   |
| Lake Monticello Dam     | Fluvanna  | Boston Creek                         | Lake Monticello Owners' Association       | Recreation                              | 1969      | 85  | 8   | State   |
| Fluvanna Ruritan Dam    | Fluvanna  |                                      | Virginia Department of Wildlife Resources | Recreation                              | 1955      | 43  | 2   | State   |
| Bremo Power Station Dam | Fluvanna  | Trib to James River                  | Virginia Electric and Power Co.           | Debris Control, Tailings                | 1984      | 102 | 0   | State   |
| Greene Acres Dam        | Greene    | TR-South River                       | Greene Acres Owners Assoc.                | Recreation                              | 1970-1992 | 37  | 1   | State   |
| Gordonsville Dam        | Louisa    | Dove Branch                          | Louisa County Water Authority             | Recreation, Flood Control, Water Supply | 1969      | 42  | 15  | State   |
| Lake Anna Dam           | Louisa    | N Anna River                         | Virginia Electric and Power Co.           | Water Supply                            | 1972      | 90  | 343 | Federal |
| Stevens Lake Dam        | Nelson    | TR-Brown Creek                       | Russell A. Stevens                        | Water Supply                            | 1960      | 31  | 0   | None    |

Source: DCR



## Karst

### Identification

Karst is a terrain with distinctive landforms and hydrology created from the dissolution of soluble rocks, principally limestone and dolomite. Karst terrain is characterized by springs, caves, sinkholes, and a unique hydrogeology that results in aquifers that are highly productive but extremely vulnerable to contamination. About 20% of the land surface in the U.S. is classified as karst, and about 40% of the groundwater used for drinking comes from karst aquifers.

Four geologic hazards are associated with karst. Two common karst-related geologic hazards -- cover-collapse sinkholes and sinkhole flooding -- cause the most damage to buildings. A third karst hazard is relatively high concentrations of radon, sometimes found in basements and crawl spaces of houses built on karst. Finally, the hydrogeology of karst aquifers makes the groundwater vulnerable to pollution, and this vulnerability may also be considered a type of geologic hazard.

#### 2007 Sink Hole on US-29



Source: TJPDC

### Analysis

The Thomas Jefferson Planning District contains one area with karst geology directly to the east of the South-west Mountains in Albemarle County. The area contains metamorphosed limestone, dolostone, and marble. The

U.S. Geological survey characterizes this as the “short type,” defined as fissures, tubes, and caves generally less than 1000 ft. long; 50 ft. or less vertical extent. The Virginia Department of Emergency Management ranks Albemarle County with high karst vulnerability, and Fluvanna County and Louisa County as moderately vulnerable to karst-related hazards, based on the percentage of land in the county containing karst geology.

The predominate karst region in Virginia is the I-81 corridor, where several land-subsidence sinkholes have been documented in recent history. VDOT’s Staunton district spent over a million dollars in 2011 on karst-related incidents triggered by high levels of precipitation. The development of roadways and other impervious services has, in some cases, increased stormwater flows and exacerbated karst-related flooding over time. Loudon County has also seen significant impacts due to land subsidence, particularly near Leesburg. Karst terrain hazards can be extensive in these parts of the state, leading to land use planning and management approaches in sensitive areas. There have been no documented historic incidents related to Karst in the Planning District. There is also no evidence that Karst will become a greater threat in the planning district in the near future. Due to the insignificant risk that Karst poses to the planning district according to consulted stakeholders, it was not considered by the Working Group as a part of the HIRA. Until more evidence indicating this hazard as a threat to the planning district, the TJPDC will not consider it as part of the HIRA. A similar but more common hazard that was instead considered was landslides.



# KARST GEOLOGY of VIRGINIA

## Legend

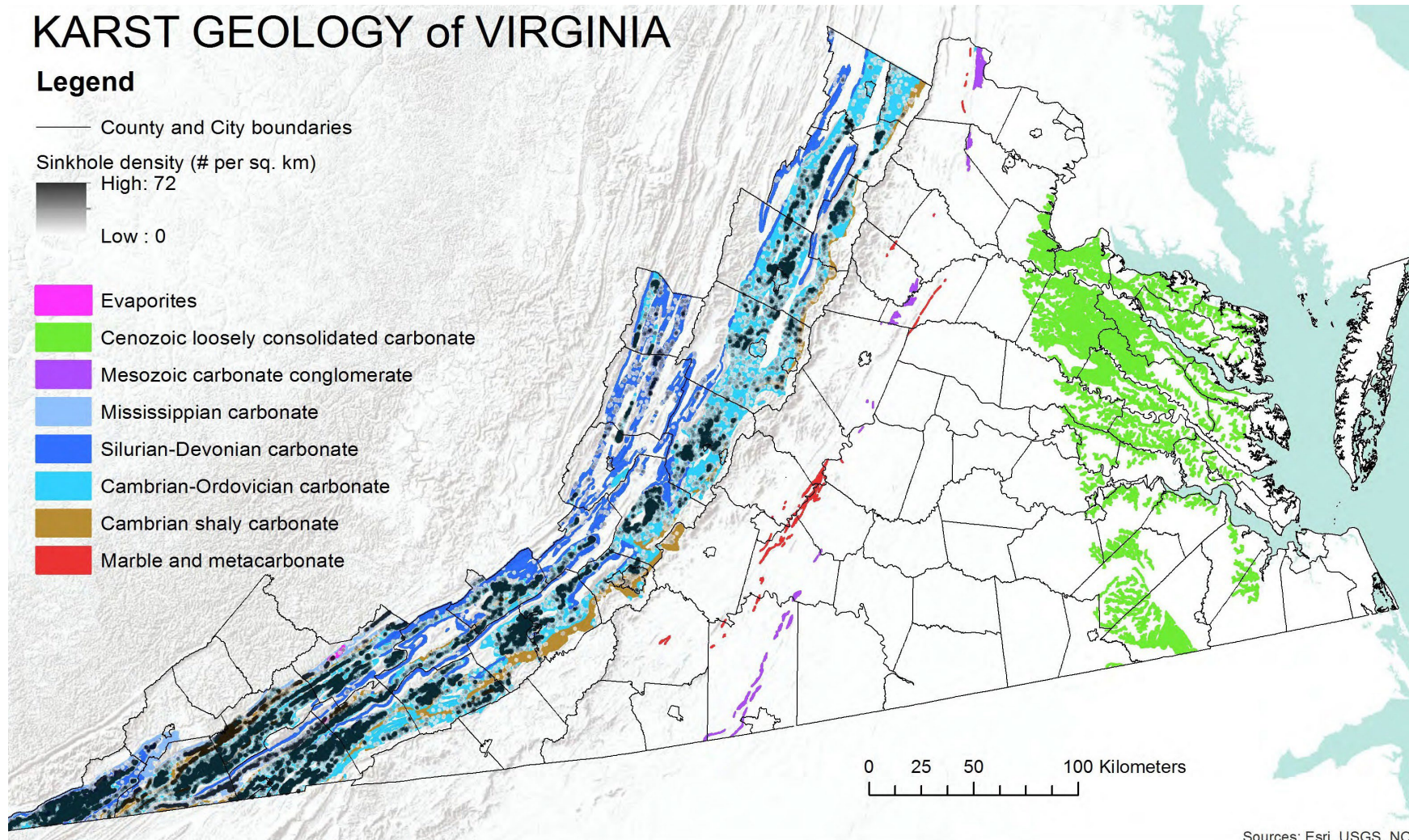
— County and City boundaries

Sinkhole density (# per sq. km)

High: 72

Low : 0

- Evaporites
- Cenozoic loosely consolidated carbonate
- Mesozoic carbonate conglomerate
- Mississippian carbonate
- Silurian-Devonian carbonate
- Cambrian-Ordovician carbonate
- Cambrian shaly carbonate
- Marble and metacarbonate



Sources: Esri, USGS, NO

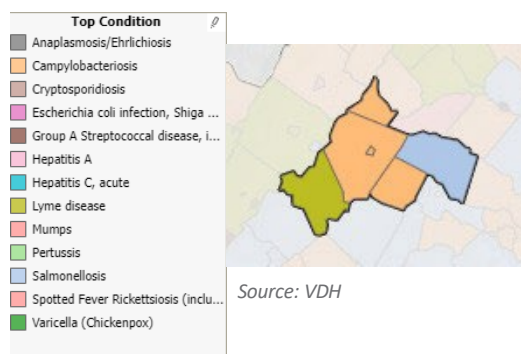
## Communicable Diseases

### Introduction

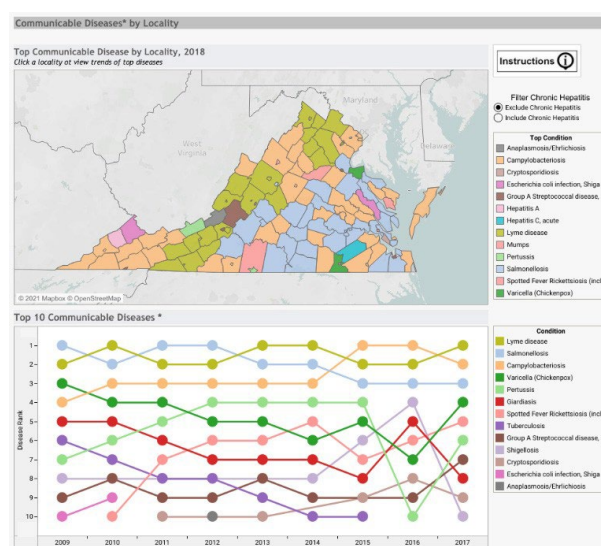
Communicable diseases are transmitted from a source to a susceptible person. Sources can be transmitted from infected animals, people, or arthropods to a compromised host. Communicable diseases are spread through infectious agents such as viruses, bacteria, fungi, parasites, or prions. These diseases can be transmitted through contact with an infected individual, their bodily fluids, contact with contaminated surfaces, or contact with droplets within the air.

Zoonotic Diseases are spread from animals to humans. Many individuals encounter and interact with animals regularly whether it be indoors or outdoors, making zoonotic diseases quite common. For this reason, it is important to understand the ways in which infections can spread. Spread can occur by direct contact with animals' bodily fluids, through petting or touching, being bitten, or scratched, or by indirect contact of being in the habitat of an infected animal, through vectors like ticks, foodborne diseases in dairy products or undercooked meats, or waterborne illnesses.

### Analysis



### Top Communicable Diseases in Virginia by Locality, 2018 (excluding Chronic Hepatitis)



Source: VDH

### Top 10 Reportable Communicable Diseases by Incidence Rate, 2018 (Cases per 100,000)

| County                 | Top Condition                                                                                                                           |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Albemarle              | Campylobacteriosis was the most frequently reported disease with 25 cases. This equates to a rate of 23.2 cases per 100,000 population. |
| Fluvanna               | Campylobacteriosis was the most frequently reported disease with 11 cases. This equates to a rate of 41.6 cases per 100,000 population  |
| Louisa                 | Salmonellosis was the most frequently reported disease with 9 cases. This equates to a rate of 25.1 cases per 100,000 population.       |
| Greene                 | Campylobacteriosis was the most frequently reported disease with 10 cases. This equates to a rate of 51.0 cases per 100,000 population. |
| Nelson                 | Lyme disease was the most frequently reported disease with 8 cases. This equates to a rate of 53.5 cases per 100,000 population.        |
| Charlottesville (city) | Campylobacteriosis was the most frequently reported disease with 15 cases. This equates to a rate of 31.2 cases per 100,000 population. |

Thomas Jefferson Planning District Commission Region: Top Communicable Diseases by locality 2018 - VDH



## Covid-19 Case Information from 2019- January 4, 2022

| Locality        | Total Cases | Cases per 100,000 | Hospitalizations | Deaths |
|-----------------|-------------|-------------------|------------------|--------|
| Albemarle       | 10,219      | 9,400             | 376              | 118    |
| Charlottesville | 6,518       | 13,546            | 162              | 64     |
| Fluvanna        | 3,415       | 12,751            | 133              | 32     |
| Greene          | 2,758       | 13,994            | 162              | 47     |
| Louisa          | 4,410       | 11,991            | 175              | 54     |
| Nelson          | 1,836       | 12,375            | 64               | 24     |

Source: Virginia Department of Health Covid-19 in Virginia



Source: University of Virginia

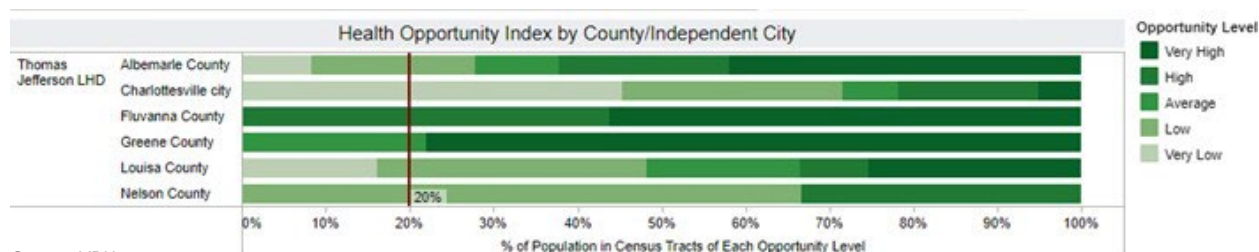
The Coronavirus disease was discovered in December of 2019 in Wuhan China. Evidence has shown this disease came from a zoonotic source. This highly contagious disease quickly made its way to the United States, and the US President declared on March 13th, 2020, this was a national emergency and pandemic. COVID-19 continues to cause significant risk to the safety and health of the nation.

This disease most often causes respiratory symptoms resembling a cold, flu or pneumonia. Most experience COVID with mild symptoms, but some vulnerable populations experience severe illness. These vulnerable populations include those with certain under-

lying medical conditions such as those suffering from chronic kidney disease, cancer, liver disease, heart conditions, diabetes, mental disabilities, and other immunocompromising conditions. Racial and ethnic inequities lead to a disproportionate number of cases and deaths within minority communities. Discrimination has led to disparities in healthcare access and use, occupation, education, income, wealth, and housing. Vulnerable populations are also most at risk of catching other communicable diseases.

The Covid-19 pandemic is the leading infectious disease in each locality, surpassing historical data from 2018 on the top reported cases of other contagious diseases. Rather than case rates ranging from 20-60 per 100,000 people, Coronavirus cases have reached 9,000-14,000 cases per 100,000 people in the Thomas Jefferson Planning District Region.

While Covid-19 is not the only disease impacting the region, it has had the most widespread impact and shown the steps to mitigate the risk of catching most other diseases. Vaccinations can train the immune system to create disease fighting proteins. Contact tracing is the process used to identify those who have been in contact with someone who contracted the infectious disease, to treat or quarantine them. Masks and social distancing are used to block the



Source: VDH



spread of droplets throughout the airspace. Frequent hand washing and cleaning of shared surfaces are practiced, reducing the spread of harmful germs.

Other than Coronavirus, the most common infectious diseases impacting the region prior to Coronavirus were Campylobacteriosis and Salmonella. Both live in the intestines of birds and are spread to humans through consumption of contaminated foods, contact with infected animals, or by drinking contaminated water. Lyme disease is commonly spread through vectors such as ticks.

Above is the Blue Ridge Health District's Health Opportunity Index graphic provided by the Virginia Department of Health. The index is driven by social, economic, and environmental determinants of health.

### Other Hazards

The following list identifies additional hazards. Some of the hazards such as lightning and hail do exist in the Planning District, but do not pose a significant threat, while others such as tsunamis have not directly affected the Planning District in the past.

**Lightning:** Lightning is a discharge of electrical energy resulting from the buildup of positive and negative charges within a thunderstorm, creating a "bolt" when the buildup of charges becomes strong enough. This flash of light usually occurs within the clouds or between the clouds and the ground. A bolt of lightning can reach temperatures approaching 50,000 degrees Fahrenheit. Lightning rapidly heats the sky as it flashes but the surrounding air cools following the bolt. This rapid heating and cooling of the surrounding air causes thunder. On average, 89 people are killed each year by lightning strikes in the United States. The greatest threat from lightning is the chance of starting a wildfire, discussed in the wildfire section.

**Hailstorms:** Hailstorms are an outgrowth of severe thunderstorms. Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to the rapid rising of warm air into the upper atmosphere and the subsequent cooling of the air mass. Frozen droplets gradually accumulate on the ice crystals until, having developed sufficient weight, they fall as precipitation—as balls or irregularly shaped masses of ice greater than 0.75 in. (1.91 cm) in diameter. The size of hailstones is a

direct function of the size and severity of the storm. High velocity updraft winds are required to keep hail in suspension in thunderclouds. The strength of the updraft is a function of the intensity of heating at the Earth's surface. Higher temperature gradients relative to elevation above the surface result in increased suspension time and hailstone size.

Hailstorms have caused some damage to the region including softball sized hail on July 3, 1983, but in general do not pose a serious threat.

**Radon:** Radon is a naturally occurring radioactive gas originating from the radioactive decay of uranium. Usually found in igneous rock, soil, and sometimes well water, radon particles have the potential to become trapped within lungs when inhaled and decay into solid radioactive particles. Radioactive particles such as these break down further into small bursts of energy that can damage lung tissue and lead to lung cancer over time. Not every individual exposed will develop cancer, but the time between exposure and the onset of cancer can be many years. Radon is considered the second-best studied carcinogen, following tobacco. The chances of developing lung cancer from radon exposure depend on the amount of Radon within a household, how much time spent indoors, and whether the individual is a smoker or was once a smoker. Smoking can multiply an individual's risk to radon by 10.

Based on the map, radon levels pose a moderate to high risk for the localities within the Thomas Jefferson Planning District.

### Radon Risk by Locality



Source: Virginia Department of Health EPA Radon Risk Map of Virginia

Based on data from the Virginia Department of Health, people who have never smoked exposed

to a level greater than 4 pCi/L 7 out of every 1,000 people would get lung cancer. At 2 pCi/L about 4 out of 1,000 would get lung cancer. Those who smoke at a level of 4 pCi/L 62 out of 1,000 would develop lung cancer and those exposed to 2 pCi/L about 32 of 1,000 smokers would develop lung cancer.

There are many methods to reduce radon within your home, from sealing cracks in floors and walls, to using systems of pipes and fans. Sub-slab depressurization is the most popular tactic and does not necessitate major changes to a household, while removing this harmful gas from below the foundation and preventing it from entering indoors. There are inexpensive, do it yourself test kits available online and in retail stores. For more information on how to test indoor spaces for radon and mitigate risk, visit Radon Testing and Mitigation - Radiological Health ([virginia.gov](http://virginia.gov)) through the Virginia Department of Health Website.

**Invasive Species:** Invasive species refer to nonnative plants, animals, or microbial organisms that cause harm or have the potential to harm natural ecology, human health, or economic systems. Nonnative species are introduced anthropogenically, whether intentionally or accidentally, into a region outside of their natural geographic location. Increasing global integration and international trade have opened many avenues for the introduction of invasive species to Virginia from all over the globe. Some nonnative species are introduced purposefully to benefit economic systems, such as most agricultural plants produced today in the United States, ornamental garden plants, or for means of erosion control. However, many invasive species have created environmental, safety, and economic problems such as decimating forests, significantly decreasing agricultural production, threatening populations of endangered species, and harming or killing people.

The Virginia Department of Forestry has discovered an invasive species that is impacting the wooded areas in the Charlottesville greater area. Porcelain Berry, a vine that has fruits resembling grapes, is growing up Charlottesville's wooded canopy, blocking light resources from the native trees, and threatening to damage branches during winter storms due to added mass. The US Department of Agriculture has also acknowledged that new species have the poten-

tial to migrate into regions as the climate change and their ecological niche expands.

It is important to be able to identify and know how to remove invasive species from the region to prevent damages such as those mentioned above. For more information on how to locate invasive species in your area visit Virginia Department of Conservation and Recreation: Invasive Species List

**Erosion:** Erosion is a continuous geological process where land is broken down and transported by physical forces such as wind and water. This process has shaped earth since its formation. Natural factors impacting the level of erosion on any given landscape include climate, topography, vegetative cover, and tectonic activity. Changes to the natural environment through agricultural and infrastructure development, alter natural vegetative cover and topography resulting increased soil erosion.

Wind and water erosion are the leading type of physical erosion, both of which can cause significant soil loss. Wind erosion lifts soil particles and transports them through the air, while water erosion can occur due to precipitation events on land or in moving bodies of water such as streams and channels. Rainfall produces four types of soil erosion: splash, sheet, rill and gully erosion. Splash erosion is produced from the impact of a falling raindrop, displacing particles a few feet at a time. Sheet erosion is caused by shallow runoff. Rill erosion occurs when runoff develops into small streams called rills. Gullies transport soils through larger channels and carry particles during periods of rainfall or snowmelt. Major weather events such as floods and hurricanes cause significant erosion by combining increased water velocity, water discharge, and wind speeds.

**Expansive Soils:** Soils and soft rock that tend to swell or shrink due to changes in moisture content are commonly known as expansive soils. In the United States, two major groups of rocks serve as parent materials of expansive soils and occur more commonly in the West than in the East. The first group consists of ash, glass, and rocks of volcanic origin. The aluminum silicate minerals in these volcanic materials often decompose to form expansive clay minerals of the smectite group, the best known of which is montmorillonite. The second group consists of sedimentary rock containing clay minerals, examples

of which are the shales of the semiarid West-Central States. Because clay materials are most susceptible to swelling and shrinking, expansive soils are often referred to as swelling clays.

Changes in soil volume present a hazard primarily to structures built on top of expansive soils.

Most engineering problems caused by volume changes in swelling clays result from human activities that modify the local environment. They commonly involve swelling clays beneath areas covered by buildings and slabs or layers of concrete and asphalt, such as those used in construction of highways, canal linings, walkways, and airport runways.

**Land subsidence:** Land subsidence is the lowering of the land-surface elevation from changes that take place underground. Common causes of land subsidence from human activity are pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils (hydro compaction). Land subsidence occurs in nearly every state of the United States but is more prevalent in the Southwestern part of the country.

Land subsidence causes many problems including: (1) changes in elevation and slope of streams, canals, and drains; (2) damage to infrastructure such as bridges, roads, railroads, storm drains, sanitary sewers, canals, and levees; (3) damage to private and public buildings; and (4) failure of well casings from forces generated by compaction of fine-grained materials in aquifer systems. In some coastal areas, subsidence has resulted in tides moving into low-lying areas that were previously above high-tide levels.

**Tsunamis:** The word tsunami is Japanese and means “harbor wave.” A tsunami is a series of great waves that are created by undersea disturbances such as earthquakes or volcanic eruptions. From the area of disturbance, tsunami waves will travel outward in all directions. Tsunamis can originate hundreds or even thousands of miles away from coastal areas.

In the United States, tsunamis have historically affected the West Coast, but the threat of tsunami inundation is also possible on the Atlantic Coast. Pacific Ocean tsunamis are classified as local,

regional, or Pacific-wide. Regional tsunamis are most common. Large-scale Pacific-wide tsunamis are much less common, with the last one being recorded in 1964, but consist of larger waves, which have high potential to cause destruction. However, the December 2004 tsunami which struck Sri Lanka, Indonesia, India, Thailand and other small countries, completely destroyed cities and towns. After a month of searching, the death toll is over 100,000 with 125,000 people still missing. The effects of this tsunami were felt even here, as relief, money, and volunteers were sent to these countries in dire need of assistance.

**Volcanoes:** Over 75 percent of the Earth’s surface above and below sea level, including the seafloors and some mountains, originated from volcanic eruption. Emissions from these volcanoes formed the Earth’s oceans and atmosphere. Volcanoes can also cause tsunamis, earthquakes, and dangerous flooding.

There are more than 500 active volcanoes in the world. More than half of these volcanoes are part of the “Ring of Fire,” a region that encircles the Pacific Ocean. More than 50 volcanoes in the United States have erupted one or more times in the past 200 years. The most volcanically active regions of the nation are in Alaska, Hawaii, California, Oregon, and Washington. The danger area around a volcano covers approximately a 20-mile radius. Some danger may exist 100 miles or more from a volcano.

Large volcanic eruptions have temporarily impacted global climate in the past. Aerosols released from sizable eruptions reduce solar radiation reaching Earth’s atmosphere, lowering temperatures globally and changing atmospheric circulation patterns for a few years at a time. These particles can linger in layers of Earth’s atmosphere for 3-4 years at a time, potentially affecting agricultural production in Virginia and worldwide.

**Avalanches:** An avalanche can be defined as a large mass of snow, ice, etc., detached from a mountain slope and sliding or falling suddenly downward. To occur, they need a steep slope, snow cover, a weak layer in the snow cover, and a trigger, such as an earthquake, thermal change, blizzard, or human intervention. Most common in the mountainous western U.S., none of these conditions are found in the TJPCD area and no reported deaths from avalanches have

occurred since data recording began in 1950.

**Meteorites:** A meteorite is a natural piece of rock originating in outer space that survives impact with the Earth's surface. Although impact from a meteorite in the planning district is not considered to have a high probability, a large object striking earth would have a significant effect. Large meteors that enter earth's atmosphere, heat as they fall towards earth's gravity and may explode within the atmosphere producing shock waves capable of producing large scale burns and potentially death. One of the leading theories for the cause of the Cretaceous–Tertiary extinction of dinosaurs and almost every other life form on earth is a large meteorite impact.

**Nuclear Radiation:** Nuclear power plants utilize heat created from nuclear fission to convert water

into steam, which then turn turbines, creating electricity. There is a nuclear power plant within the district in Louisa, on the northern end of Lake Anna. While nuclear energy is efficient, there are risks. The Nuclear Regulatory Commission closely monitors the construction and operations of power plants; however, accidents can occur. A nuclear power plant accident can cause exposure to high levels of nuclear radiation, threatening the wellbeing and safety of those in the surrounding area. A plume refers to dangerous levels of radiation over an area. Radioactive particles in the plume can settle on water sources, livestock, food sources, buildings, and people, contaminating them. Those who are exposed can experience adverse health effects, such as cancer.

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### Data Sources

American Society of Civil Engineers (ASCE)

Web site: [www.windhazards.org](http://www.windhazards.org)

Bureau of Reclamation, U.S. Department of the Interior

Web site: [www.usbr.gov](http://www.usbr.gov)

Federal Emergency Management Agency (FEMA)

Web site: [www.fema.gov](http://www.fema.gov)

National Climatic Data Center (NCDC), U.S. Department of Commerce, National Oceanic and Atmospheric Administration

Web site: <http://lwf.ncdc.noaa.gov/oa/ncdc.html>

National Drought Mitigation Center, University of Nebraska-Lincoln

Web site: [www.drought.unl.edu/index.htm](http://www.drought.unl.edu/index.htm)

National Severe Storms Laboratory (NSSL), U.S. Department of Commerce, National Oceanic and Atmospheric Administration

Web site: [www.nssl.noaa.gov](http://www.nssl.noaa.gov)

National Weather Service (NWS), U.S. Department of Commerce, National Oceanic and Atmospheric Administration

Web site: [www.nws.noaa.gov](http://www.nws.noaa.gov)

Storm Prediction Center (SPC), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Weather Service

Web site: [www.spc.noaa.gov](http://www.spc.noaa.gov)

United States Geological Survey (USGS), U.S. Department of the Interior Debris-Flow Hazard Inventory and Evaluation: Albemarle County, Virginia. USGS Karst Interest Group

Web site: [www.usgs.gov](http://www.usgs.gov)

Virginia Department of Forestry (VDof)

Web site: [www.dof.virginia.gov](http://www.dof.virginia.gov)

Virginia Department of Emergency Management (VDEM)

Web site: [www.vaemergency.com](http://www.vaemergency.com)

National Inventory of Dams (NID)

Web site: <https://nid.sec.usace.army.mil/#/>

AirChek-Radon.com

Web site: [https://www.radon.com/radon\\_facts/](https://www.radon.com/radon_facts/)

National Aeronautics and Space Administration

Web site: <https://earthdata.nasa.gov/learn/sensing-our-planet/volcanoes-and-climate-change>

Virginia Department of Health

Web Site: <https://www.vdh.virginia.gov/content/>

[uploads/sites/7/2018/05/VA-USEPA-risk-map.jpg,https://www.vdh.virginia.gov/radiological-health/indoor-radon-program/history/](https://www.vdh.virginia.gov/radiological-health/indoor-radon-program/history/), <https://www.vdh.virginia.gov/radiological-health/indoor-radon-program/health-effects/>

Virginia Invasive Species

Web site: <http://www.invasivespeciesva.org/document/virginia-invasive-species-management-plan-2018-final.pdf>

Virginia Cooperative Extension

Web site: <https://albemarle.ext.vt.edu/programs/invasive-species.html>

U.S. Environmental Protection Agency

Web site: <https://www.epa.gov/climate-indicators/climate-change-indicators-heat-related-deaths>

The White House

Web site: [Presidential Declaration-National Emergency, White House](https://www.whitehouse.gov/presidential-declaration-national-emergency-white-house/)

NBC 29 Charlottesville

Web site: <https://www.nbc29.com/2021/05/10/traffic-alert-portions-route-still-closed-due-rockslide/>, <https://www.nbc29.com/2021/07/29/scottsville-hit-by-strong-storm-working-recover/>

The Washington Times

Web site: <https://m.washingtontimes.com/multi-media/collection/aftershocks-still-plague-mineral-va/?page=3>

NBC 12 Richmond

Web site: <https://www.nbc12.com/2021/05/05/it-was-just-unreal-tuesdays-severe-thunderstorm-leaves-damage-its-wake/>

National Park Service

Web site: <https://www.nps.gov/articles/wild-fire-causes-and-evaluation.htm#:~:text=Nearly%2085%20percent%20of%20wildland,and%20intentional%20acts%20of%20arson.&text=Lightning%20is%20one%20of%20the%20two%20natural%20causes%20of%20fires.>

Virginia Department of Energy

Web site: <https://energy.virginia.gov/geology/FEMA/landslide.shtml>

University of Virginia

Web site: [https://news.virginia.edu/content/earth-](https://news.virginia.edu/content/earth-quake-history-finding-faults-virginia)

[quake-history-finding-faults-virginia](https://news.virginia.edu/content/earth-quake-history-finding-faults-virginia)

Center for Disease Control

Web site: <https://www.cdc.gov/nceh/radiation/emergencies/moretypes.htm#power>

Community Wildfire Planning Center

Web site: <https://www.communitywildfire.org/about-cwpc/>

Daily Progress

Web site: [https://dailyprogress.com/news/vdot-hopes-to-prevent-another-u-s-250-rockslide/article\\_c34b0cb4-b474-11ec-9bc9-43444be05adf.html#tracking-source=home-top-story](https://dailyprogress.com/news/vdot-hopes-to-prevent-another-u-s-250-rockslide/article_c34b0cb4-b474-11ec-9bc9-43444be05adf.html#tracking-source=home-top-story), [https://dailyprogress.com/news/one-day-of-snow-creates-four-months-of-clean-up/article\\_6e246bd8-b477-11ec-8e96-9ff2eebbad15.html#tracking-source=home-top-story](https://dailyprogress.com/news/one-day-of-snow-creates-four-months-of-clean-up/article_6e246bd8-b477-11ec-8e96-9ff2eebbad15.html#tracking-source=home-top-story)

Nelson County Historical Society

Web site: <https://www.nelsonhistorical.org/>

Virginia Department of Transportation

Web site: [virginiadot.org](http://virginiadot.org)

Multi-Resolution Land Characteristics Consortium-Enhanced Visualization and Analysis Tool (2008 & 2019 Datasets)

Web site: <https://www.mrlc.gov/eva/>

Understanding Infrastructure Resilience, Social Equity, and Their Interrelationships: Exploratory Study Using Social Media Data in Hurricane Michael Sunil Dhakal, S.M.ASCE; Lu Zhang, A.M.ASCE; and Xuan Lv, A.M.ASCE

Wing, O.E.J., Lehman, W., Bates, P.D. et al. Inequitable patterns of US flood risk in the Anthropocene. Nat. Clim. Chang. 12, 156–162 (2022). <https://doi.org/10.1038/s41558-021-01265-6>

Nejat, Ali, et al. “Equitable Community Resilience: The Case of Winter Storm Uri in Texas.” arXiv preprint arXiv:2201.06652 (2022).

Lim, Jungmin & Loveridge, Scott & Shupp, Robert & Skidmore, Mark, 2017. “Double danger in the double wide: Dimensions of poverty, housing quality and tornado impacts,” Regional Science and Urban Economics, Elsevier, vol. 65(C), pages 1-15.



Shandas V, Voelkel J, Williams J, Hoffman J. Integrating Satellite and Ground Measurements for Predicting Locations of Extreme Urban Heat. *Climate*. 2019; 7(1):5. <https://doi.org/10.3390/cli701000>

Auer, M.R. Considering equity in wildfire protection. *Sustain Sci* 16, 2163–2169 (2021). <https://doi.org/10.1007/s11625-021-01024-8>

Washington Post

Web site: [https://www.washingtonpost.com/local/two-people-missing-after-being-swept-away-in-floodwaters-in-virginia/2018/05/31/539e6686-64c3-11e8-a69c-b944de66d9e7\\_story.html](https://www.washingtonpost.com/local/two-people-missing-after-being-swept-away-in-floodwaters-in-virginia/2018/05/31/539e6686-64c3-11e8-a69c-b944de66d9e7_story.html)

Fluvanna Review

Web site: <https://fluvannareview.com/2022/04/more-details-about-mciver-lake-dam-revealed/>

TJPDC Hazard Mitigation Working Group

Locality Staff



# Vulnerability Assessment

01.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of: The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas...

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## PURPOSE

The Vulnerability Assessment section provides an over- view and analysis of vulnerability in the Thomas Jefferson Planning District to the hazards listed below. While the previous Hazard Identification and Analysis section defined and described the prevalence and intensity of hazards in the region, this section combines the hazard analysis with both present and projected human settlement patterns to measure their human impact. Hazards that pose significantly less risk to the region are not covered in this section. Where appropriate, distinctions have been made regarding relative risk for each locality.

*Risk contains three elements: hazard, vulnerability, and exposure. A hazard is an act or phenomenon that has the potential to produce harm or other undesirable consequences of a person or thing. Vulnerability is a susceptibility to physical injury, harm, damage, or economic loss. Exposure describes the people, property, systems, or functions that could be lost to a hazard.*

### This Section Includes the following

1. **Population, Social Vulnerability, and Building Exposure**
2. **Development Trends**
3. **Infrastructure**
4. **Critical Facilities**
5. **Estimating Potential Loss**

### Population

According to the 2021 US Census, the total population of the Thomas Jefferson Planning District was 259,714, which is an 9.5% increase from a population of 234,988 recorded in 2015. The table below shows the population by locality, and the percent growth in population between 2015 and 2021.

### Population by Locality

| Locality        | Population 2015 | Population 2021 | 2015-2021 % Change |
|-----------------|-----------------|-----------------|--------------------|
| Charlottesville | 45,084          | 47,096          | 4.5%               |
| Albemarle       | 103,108         | 112,395         | 4.2%               |
| Fluvanna        | 26,014          | 27,249          | 2.2%               |
| Greene          | 18,938          | 20,552          | 4.7%               |
| Louisa          | 33,986          | 37,591          | 10.6%              |
| Nelson          | 14,858          | 14,831          | -0.2%              |
| Region          | 241,988         | 253,336         | 4.7%               |

Source: ACS / US Census – January 2022

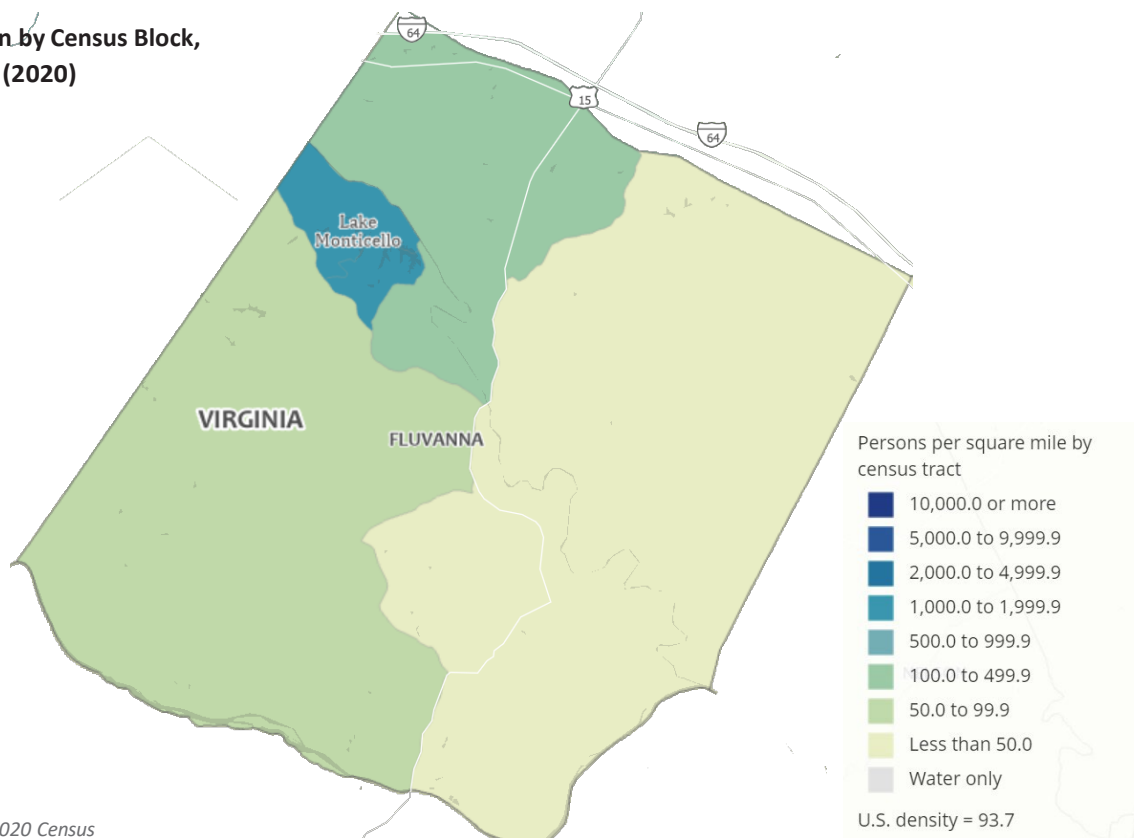
Some segments of the population are more adversely affected than others by hazards. The elderly, low-income households, people with disabilities, and families with young children may be less able to prepare for a disaster, put at high risk during a disaster, and slower to recover after a disaster.

A lower-income household may be more likely to live in a floodplain, because of depreciated land values, and less likely to hold health insurance or extra insurance on their property. They are more likely to live in older homes with more structural deficiencies susceptible to earthquake damage, or mobile homes that are less protected from windstorms. They are also more likely to lack transportation options, which may impair mobility if infrastructure or transit service

is impeded. In severe disasters that remove a sizable number of housing units from the regional housing stock, a prolonged shortage of affordable housing is a common outcome.

The elderly, people with disabilities, and, in some cases, young children may have impaired mobility and need special assistance during emergency operations. Stress and the general disruption of care can have serious health impacts on high-risk individuals. In event of a displacement, shelters or temporary residences may or may not be equipped to meet special needs. This is especially true, considering that many displaced individuals opt to use personal contacts to find temporary housing.

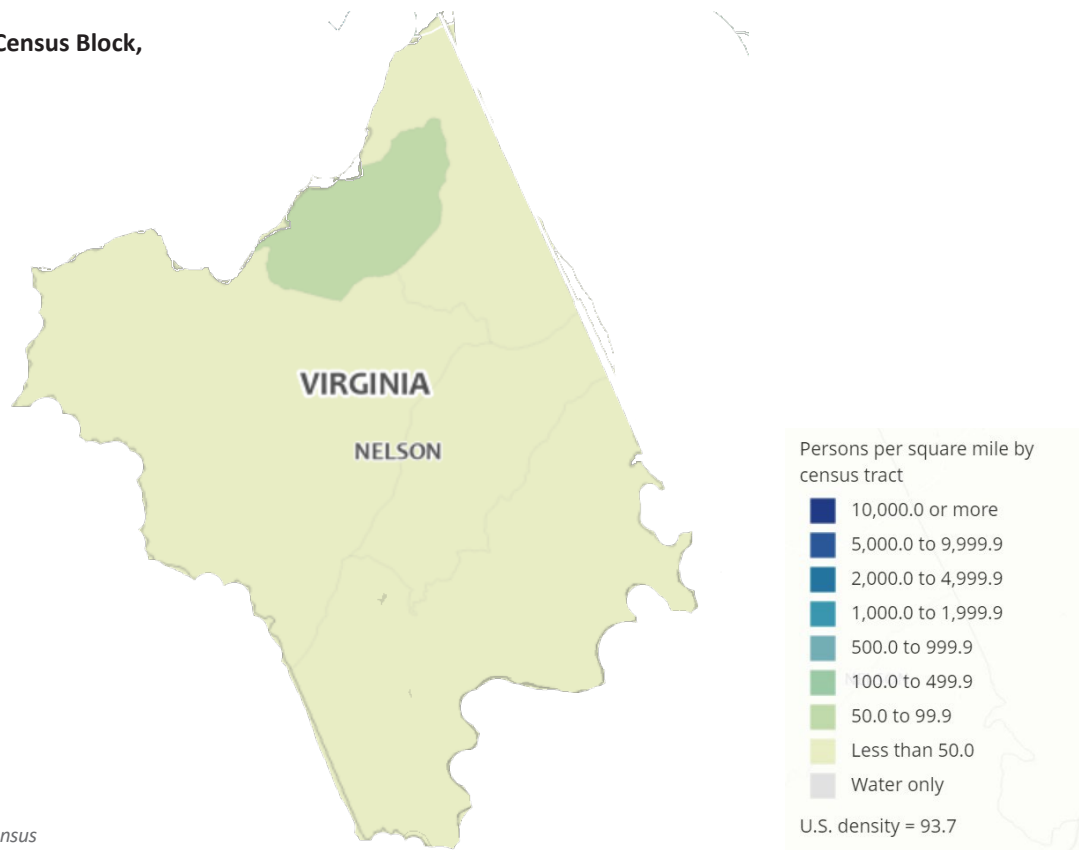
**Population by Census Block,  
Fluvanna (2020)**



Source: US 2020 Census

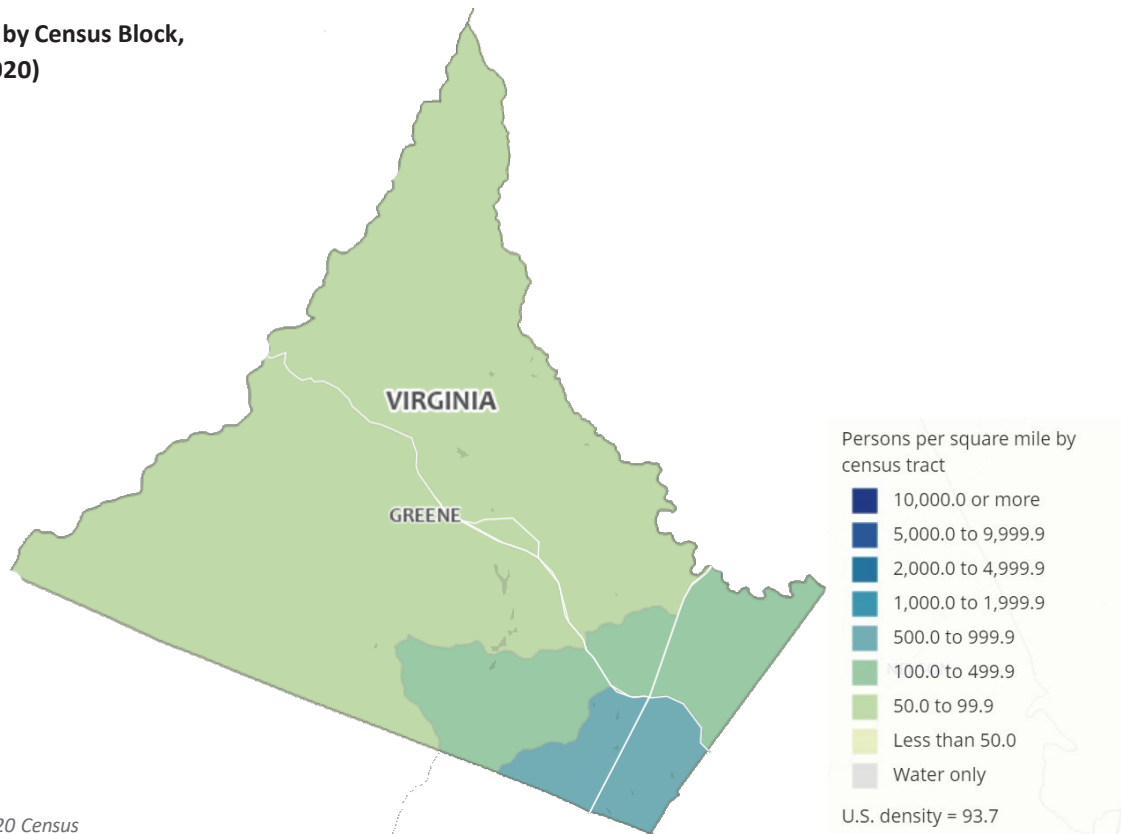
**Population by Census Block,  
Nelson (2020)**

Source: US 2020 Census

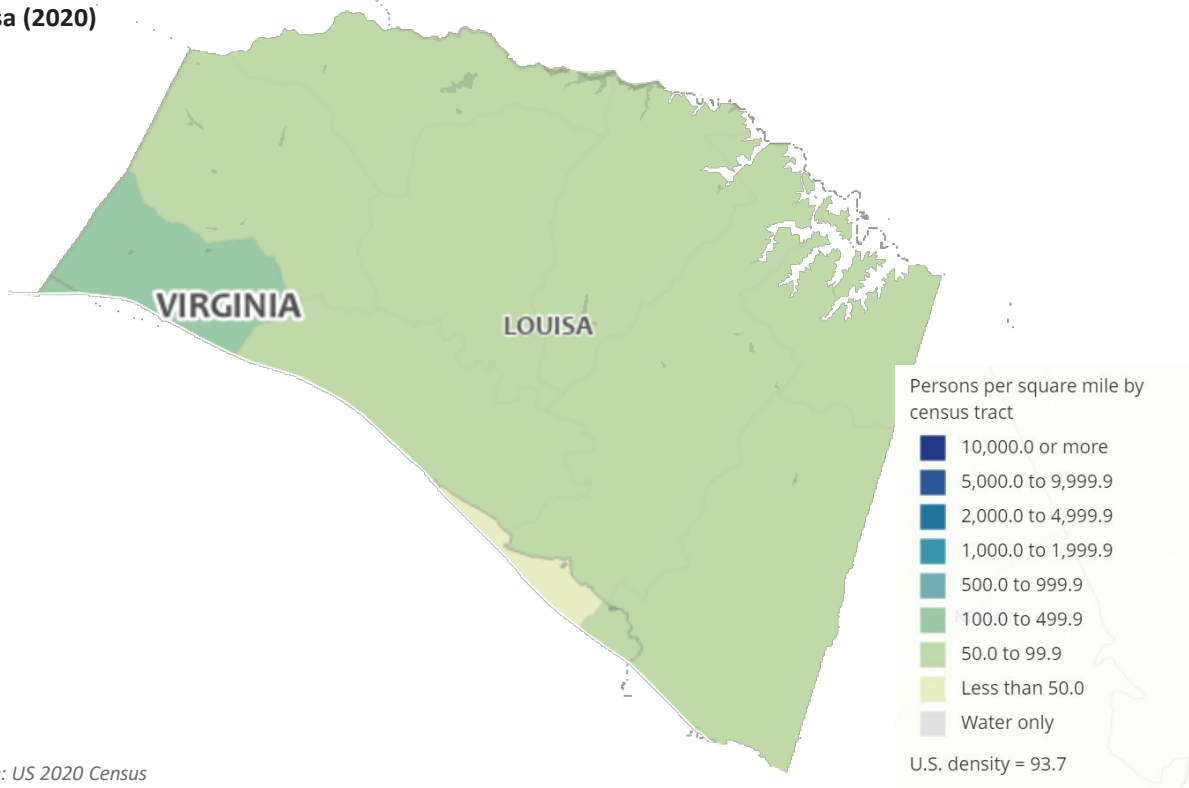


**Population by Census Block,  
Greene (2020)**

Source: US 2020 Census

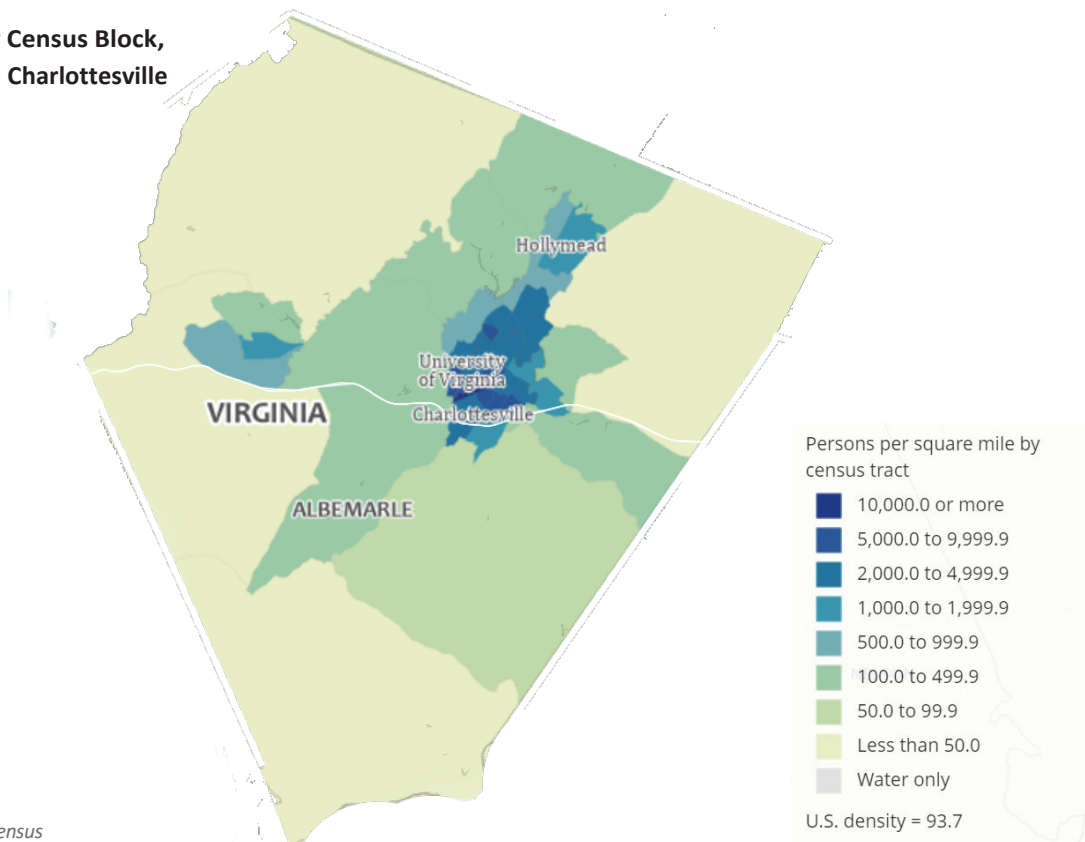


**Population by Census Block,  
Louisa (2020)**



Source: US 2020 Census

**Population by Census Block,  
Albemarle and Charlottesville (2020)**



Source: US 2020 Census

## Social Vulnerability

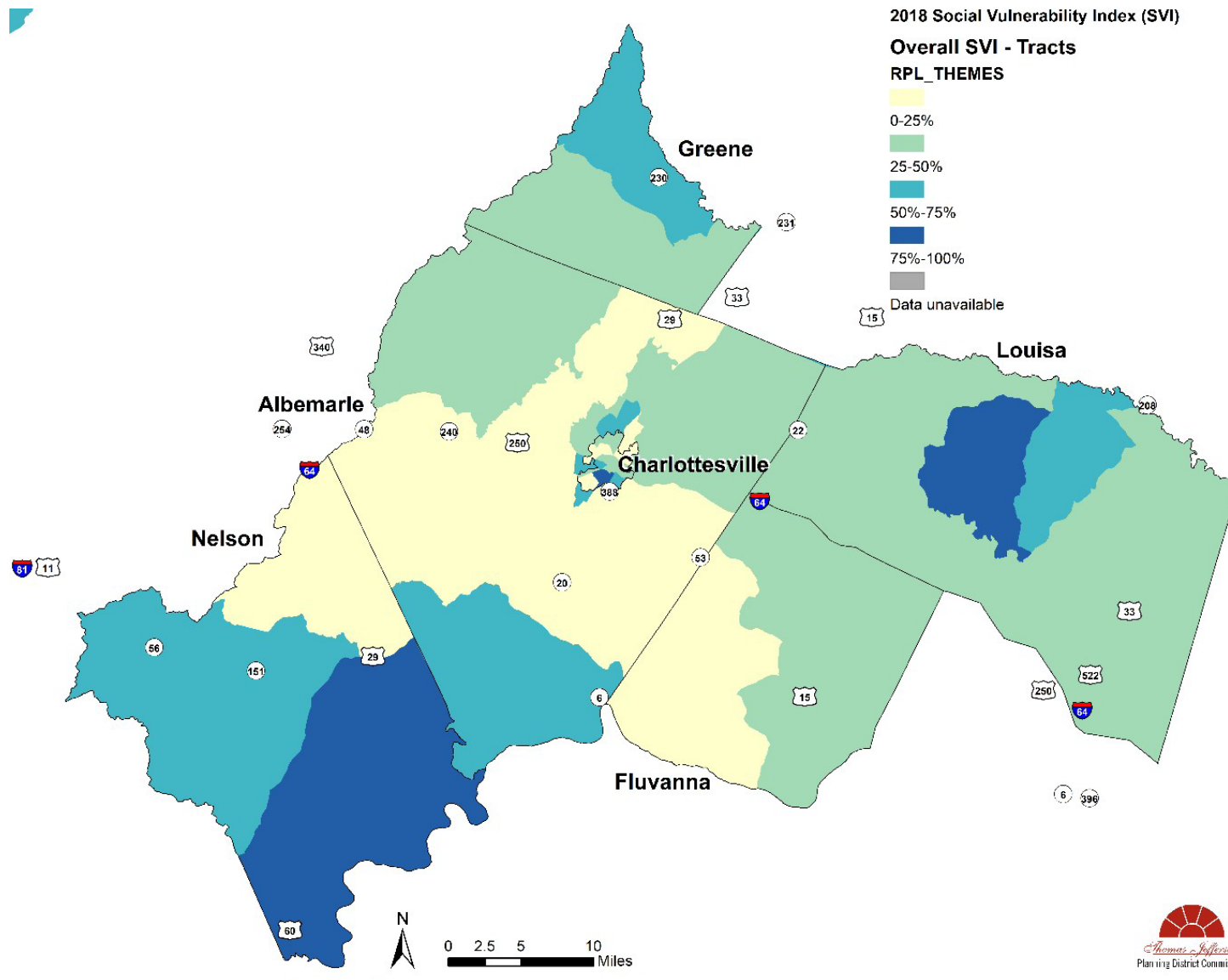
In addition to population metrics, another important tool to measure a community's vulnerability to natural disasters is the CDC/ATSDR Social Vulnerability Index (SVI). This tool was developed to help emergency planners and local, state, and federal officials determine where populations are most vulnerable, according to a variety of metrics measured by the U.S. Census. These metrics include poverty, lack of vehicle access, crowded housing, people with disabilities, and people with limited English proficiency. 15 total factors are taken into consideration, grouped into 4 separate themes: socioeconomic status, household composition and disability, minority status and language, and housing type and transportation. Each census tract receives a score for each of these categories, which are then aggregated into an overall ranking. These census tracts can be combined to determine the overall social vulnerability of a county, city, region, or state. The SVI Index is measured from 0 to 1, with 0 being the lowest vulnerability and 1 being the highest. The following table and map below display the county and census tract SVI for the planning district.

| Locality        | SVI Score |
|-----------------|-----------|
| Albemarle       | .17       |
| Charlottesville | .41       |
| Fluvanna        | .06       |
| Greene          | .16       |
| Nelson          | .30       |
| Louisa          | .33       |
| Region          | .29       |

Source: CDC/ATSDR

All of the localities in the planning district received "low to moderate" scores according to the SVI index data dictionary. This indicates that while some census tracts are more vulnerable than others, there are no regions or localities in the planning district that are considered highly vulnerable per the SVI index. This, of course, does not make the region immune to natural disaster, but indicates that the baseline characteristics of the region are advantageous in terms of resiliency.

## 2018 Social Vulnerability Index Scores



V-6



## Buildings

The estimated numbers of buildings by locality in 2020 are as follows:

### Number of Units by Locality

| Locality        | Total Units | Residential Units | Non-Residential Buildings | Residential Units Built since 2010 | Increase in buildings 2010-2020 |
|-----------------|-------------|-------------------|---------------------------|------------------------------------|---------------------------------|
| Albemarle       | 49,716      | 47,081            | 2,635                     | 7,489                              | 17.7%                           |
| Charlottesville | 22,527      | 20,886            | 1,641                     | 2,505                              | 12.5%                           |
| Fluvanna        | 11,432      | 11,162            | 270                       | 1,145                              | 11.1%                           |
| Greene          | 9,495       | 8,488             | 1,007                     | 1,497                              | 18.7%                           |
| Louisa          | 18,815      | 17,916            | 899                       | 2,765                              | 17.2%                           |
| Nelson          | 10,834      | 10,240            | 594                       | 566                                | 5.5%                            |
| Region          | 122,819     | 115,773           | 7,046                     | 15,967                             | 14.9%                           |

Source: U.S. Census 2020, US Census building permit data 2010-2020, Dun and Bradstreet 2006 - January 2022

Residential building counts were derived from 2020 U.S. Census data and augmented by residential building permits reported by individual localities between 2010 and 2020. This was further updated using annual residential permit data available from the US Census through 2021. Non-residential counts were determined by private firm Dun and Bradstreet in 2006 and acquired through FEMA. As of publication no newer data was available.

*201.6(c)(2)(ii)(C): The plan should describe vulnerability in terms of providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.*

### Land Use and Development Trends

Changes in land use over time will affect the ability to mitigate and respond to hazards, as well as provide opportunity for improvements. Each locality is growing in population and the region grew by 6.8% between 2010 and 2019. Growth is being channeled into certain areas based on several factors, including market demand, location of roads and other infrastructure, topography, and local policies. Over the last several decades, the most basic trend has been conversion of land from undeveloped forest and farmland into residential, commercial, institutional, and other more urban uses. Exurban growth has been pre-

dominately in the form of Single-family residences spreading further into the countryside outside of traditional town centers. One significant driving force is the price of housing in the urban area, leading to increased commuting from outlying counties.

Commercial uses and employment centers remain clustered in Charlottesville and the urban areas of Albemarle County, especially the US 29 corridor and Pantops. The majority of employees who live in the outlying counties continue to commute into these areas. Two major commercial exceptions are big box stores and other commercial developments that have occurred in Zions Crossroad and Ruckersville within the last ten years. Construction activity across the planning district has returned to near pre-recession levels with several major stalled developments and project phases moving forward. However, rising material costs and inflation have the potential to slow development in the region.

Citizens, planners, and public officials have sought ways to foster development of vibrant, compact, mixed-use communities while protecting the rural countryside, with varying degrees of success. Floodplain maps included in this section show targeted growth areas in each locality. Each locality defines growth areas differently and applies varying levels of incentives and/or restrictions to concentrate growth in those areas. The Virginia General Assembly has

passed legislation to require high-growth localities, including all counties in the Thomas Jefferson Planning District, to adopt Urban Development Areas into their Comprehensive Plans and create incentives to further concentrate new development into these

areas. For reference purposes, the incorporated towns of Louisa, Mineral, Stanardsville and Scottsville's development trends are included in the broader discussion of their respective county's growth trends

## Growth Areas

| Locality        | Percent of County Land that is designated for Growth | Percent of all Structures that are in Growth Area |
|-----------------|------------------------------------------------------|---------------------------------------------------|
| Nelson          | 6.1%                                                 | 14.1%                                             |
| Fluvanna        | 10.6%                                                | 39.1%                                             |
| Greene          | 6.7%                                                 | 25.4%                                             |
| Albemarle       | 5%                                                   | 40.6%                                             |
| Louisa          | 22.5%%                                               | 33.3%                                             |
| Charlottesville | NA                                                   | NA                                                |

Source: Local Government GIS - January 2022

Because there are significant differences between localities with respect to land use and development, each locality in the region is discussed individually below:

### Charlottesville

Although there is very little undeveloped land remaining in the City of Charlottesville, redevelopment and selected small-scale infill has been occurring over the last two decades and can expect to continue in the future. The population of Charlottesville remained stagnant between 1970 and 2000 but grew by 8% between 2000 and 2010 and 7% between 2010 and 2020. Much of this growth occurred around major streets in the City, because of zoning changes in 2003 that allowed higher residential densities for multifamily construction and encouraged mixed-use development. Higher residential property values have encouraged renovations and new construction across the City. The impact of this activity on traditionally lower income neighborhoods has become of great concern in the City, and discussions about land use policy center on preventing displacement and increasing the stock of housing affordable to families making less than the Area Median Income. Commercial and office growth has been robust in downtown Charlottesville, with three new large office buildings opening in 2022.

### Albemarle

Albemarle's population has grown 9.3% from 2010 to 2019 according to the US Census Bureau. While growth has slowed from the previous decade, development in Albemarle continues with 35 projects on the pipeline according to Albemarle's 2019 Growth Management Report. Over the last decade, there has been a mix in the forms of residential housing built in the development areas, with single-family detached housing as the dominant housing type constructed within the county. Following second, were attached and townhouse units. While over 33% of all single family detached dwelling units being built in the Development Areas were built in Crozet, roughly 75% of all attached, townhome, or multifamily dwelling units built in the Development Areas were in the Urban Neighborhoods surrounding the City of Charlottesville. The County has seen steady and continued growth since 2000, with Crozet and the urban neighborhoods of Pantops, Rio Road East area, and 5th Street Extended / Old Lynchburg Road area seeing the greatest growth during this time. Albemarle County has strict growth boundaries in place to concentrate new growth around existing commercial centers and preserve the rural countryside. The construction of the Hollymead Town Center in the northern US29 corridor was the first major

development under the auspices of the Neighborhood Model, intended to promote compact, mixed-use, and walkable neighborhoods. Construction of Stonefield, another major US29 development near the city, broke ground in the spring of 2011. The transfer of Martha Jefferson Hospital and auxiliary medical services from Charlottesville to Pantops in August 2011 and the creation of the National Ground Intelligence Center on the US 29 corridor introduces major employment centers to urban Albemarle. While none of the pipeline, or in-progress construction, is occurring in severely hazardous areas. There is discussion within the Growth Management Report that additional housing, needed to accommodate projected population growth, may be more difficult due to changing floodplains. This is a clear connection between land use, development, and hazard mitigation that Albemarle County will continue to identify as they plan growth. This is particularly true about developments near the Rivanna River, and near creeks in the Crozet area. While there is significant potential for development in these areas, further research is critical to ensure that development is not occurring in flood-prone areas.

### Louisa

Louisa County's desirable location between the cities of Richmond and Charlottesville, its proximity to Interstate 64, and Lake Anna's increasing popularity as a summer vacation destination has contributed to population increases and related growth over the past decade. In 2021, Louisa was one the 11th biggest population gaining locality in the Commonwealth, with 1,091 new individuals. Louisa County contains two incorporated Towns, Louisa, and Mineral. The fastest growing portion of the County is the Zion Crossroads Area intersected by Interstate 64 and Route 15. This area contains a mix of commercial, industrial, and planned higher density residential uses. Louisa County has recently updated their Comprehensive Plan and Zoning Ordinance. The goal of the Louisa County Comprehensive Plan is maintaining the rural agricultural character of the County.

### Fluvanna

Fluvanna County remains committed to rural preservation, and though it has five designated growth zones, it is currently constrained by utilities such as water and sewer, that allow for the level of condensed development that is allowed within those designated

growth zones. Growth has primarily focused around Lake Monticello, the fill in of existing developments, and by-right cluster subdevelopments. The lack of infrastructure has constrained growth in zoning areas other than the Lake Monticello growth zones, however existing plans to bring water and sewer infrastructure to Zions Crossroads and the Fork Union area will allow for renewed interest in growth areas outside of the Lake. From 2010-2019, the population has increased slightly higher than 5 percent according to the American Census Bureau, as its proximity to Charlottesville and Richmond is attractive to many.

### Greene

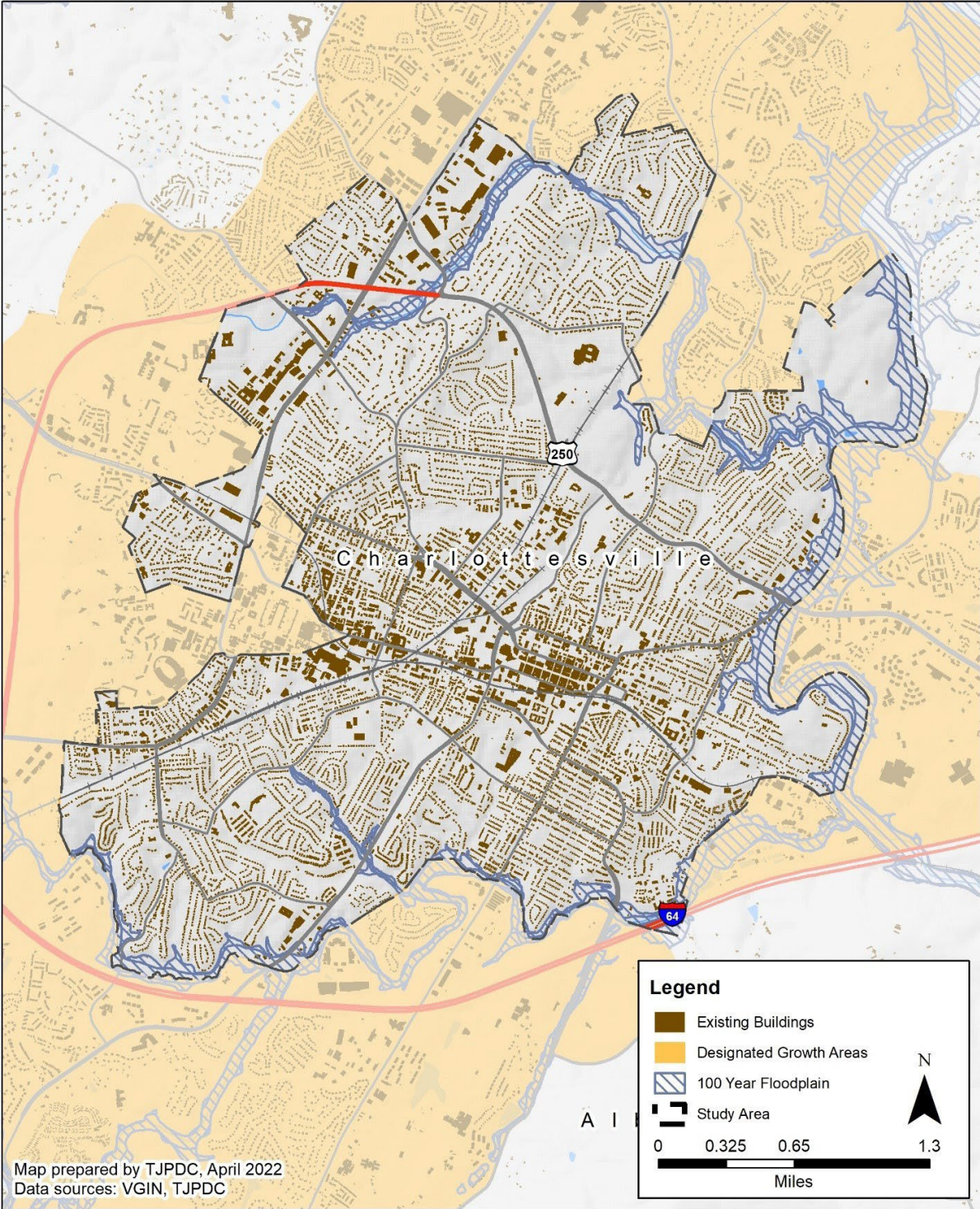
Within the last 5-year period, 42% of all structures (commercial and residential) were constructed within the designated growth area. The remaining 58% of structures were comprised of in-fill development within existing neighborhoods. However, in the last three years, over 1,600 multi-family and attached units have been approved within the County's future land use area. The current and planned infrastructure projects are designed to focus the new development into the County's future land use growth area. The Town of Stanardsville has not kept pace with growth, although revitalization efforts continue, among other things, to attract development to the Town. A newly approved planned unit development in Ruckersville is the first major multi-use place type in Greene County, which will induce further residential and commercial opportunities in the County.

### Nelson

Nelson County remains largely rural, with the slowest growth rate in the region. The major commercial corridor in the county is on SR 151, which houses significant tourism opportunities including wineries, breweries, distilleries, and Wintergreen Resort. There are currently no designated growth areas in the County. Housing stock has increased by 45% since 2010, with 42% of that in the County's village areas, while population has decreased by 1% (American Community Survey 2015-2019). The county is currently in the process of updating its Comprehensive Plan and designating growth areas will be part of the process.

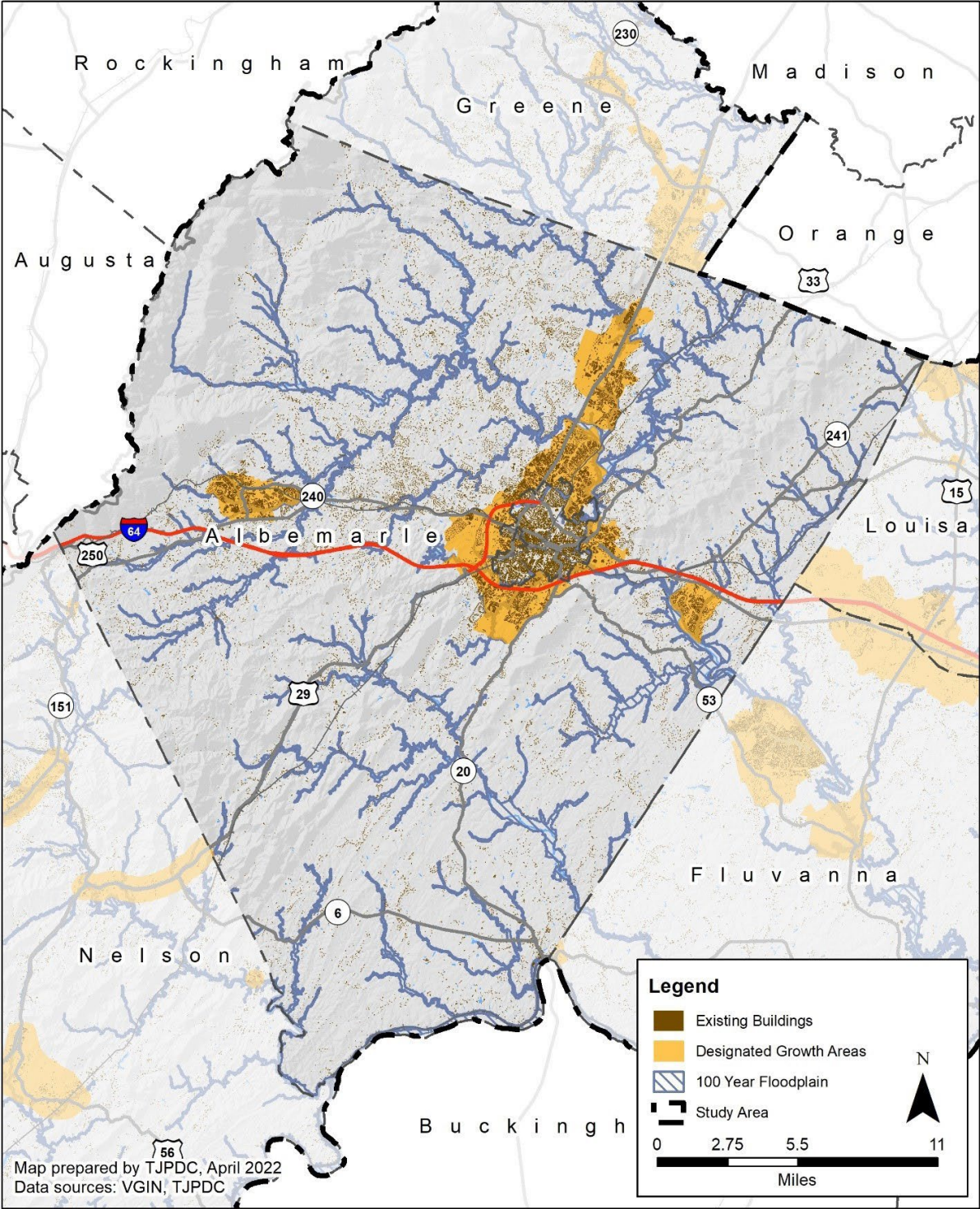


**Buildings and Designated Growth Areas**  
Charlottesville City



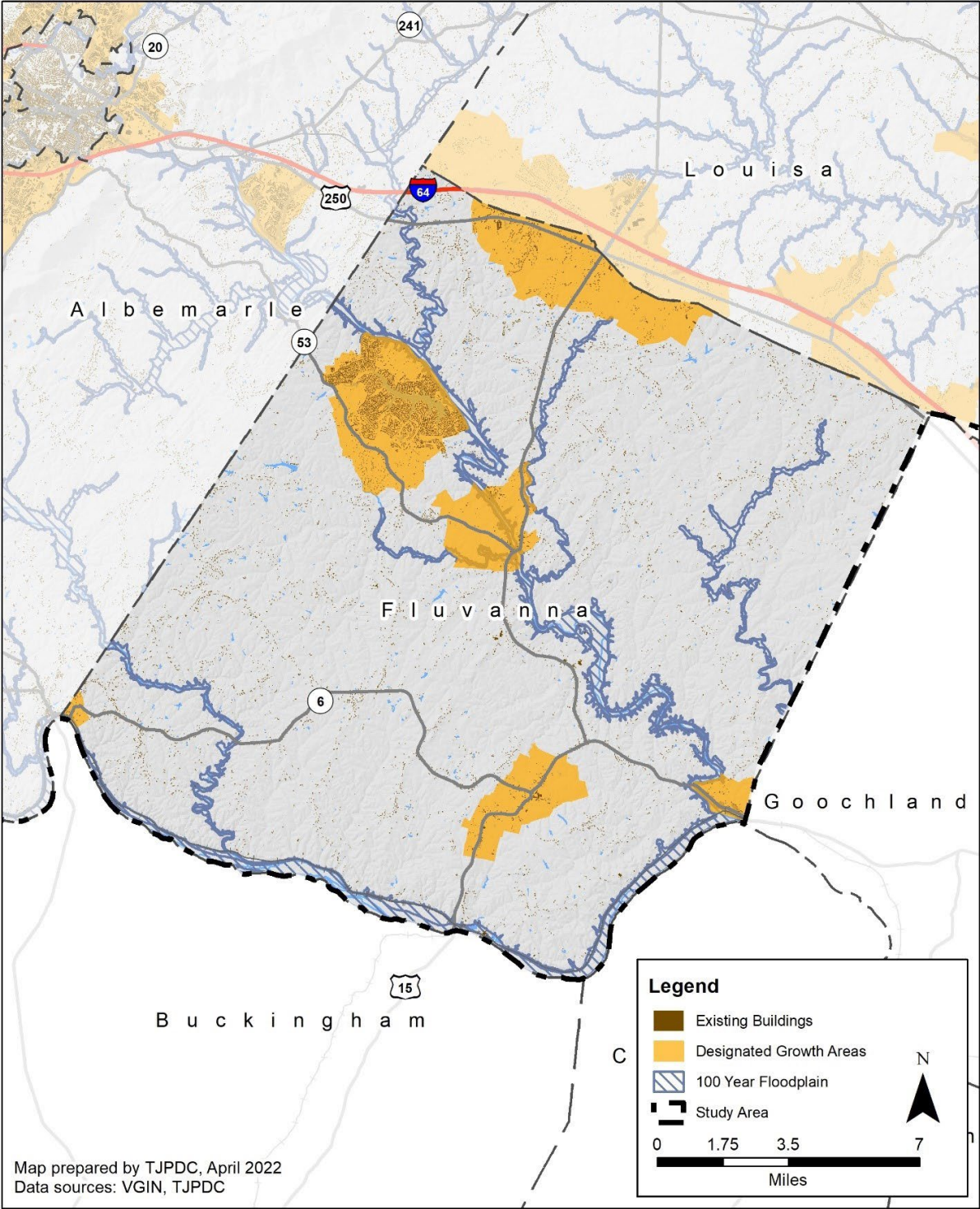


# Buildings and Designated Growth Areas Albemarle County



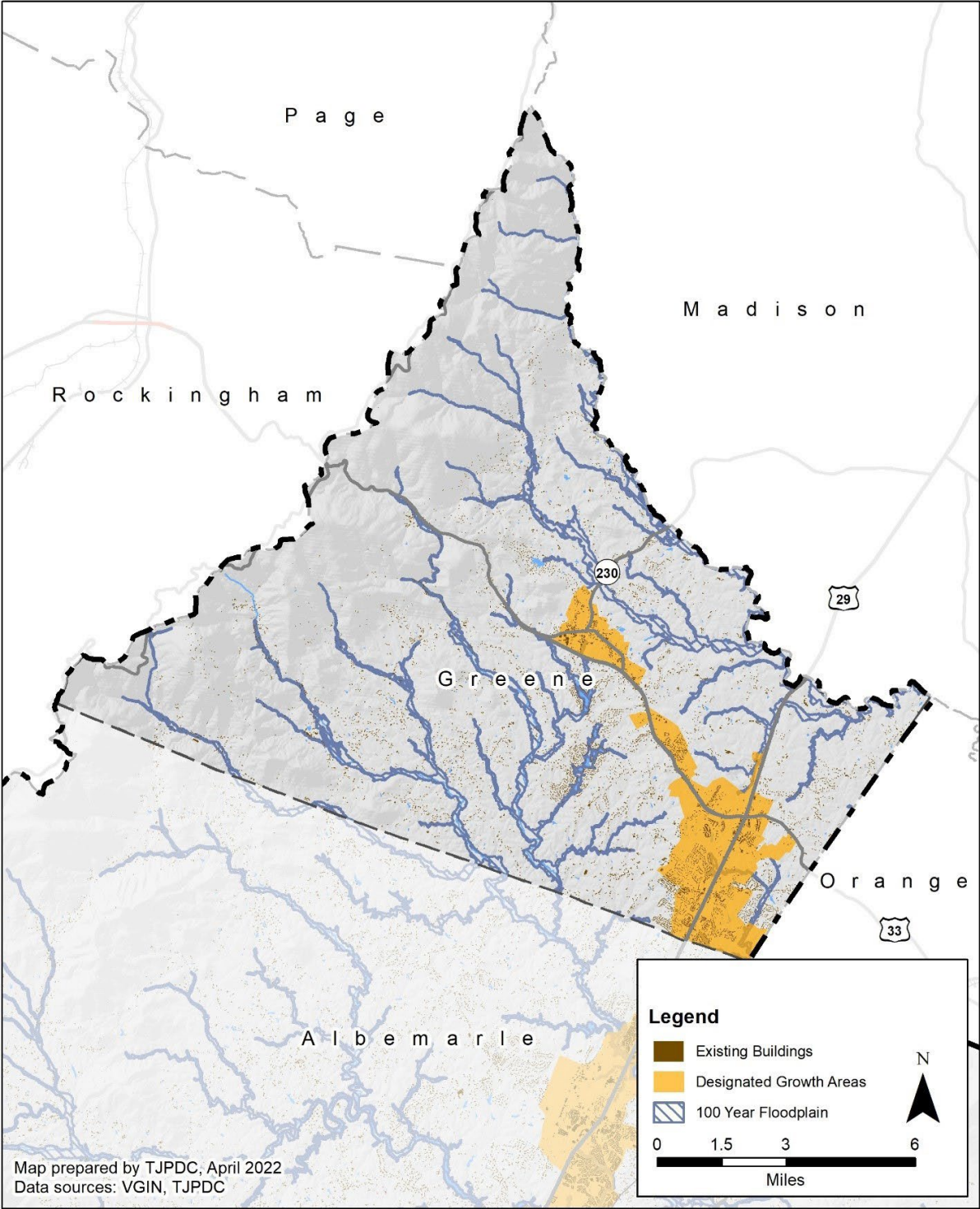


**Buildings and Designated Growth Areas**  
Fluvanna County

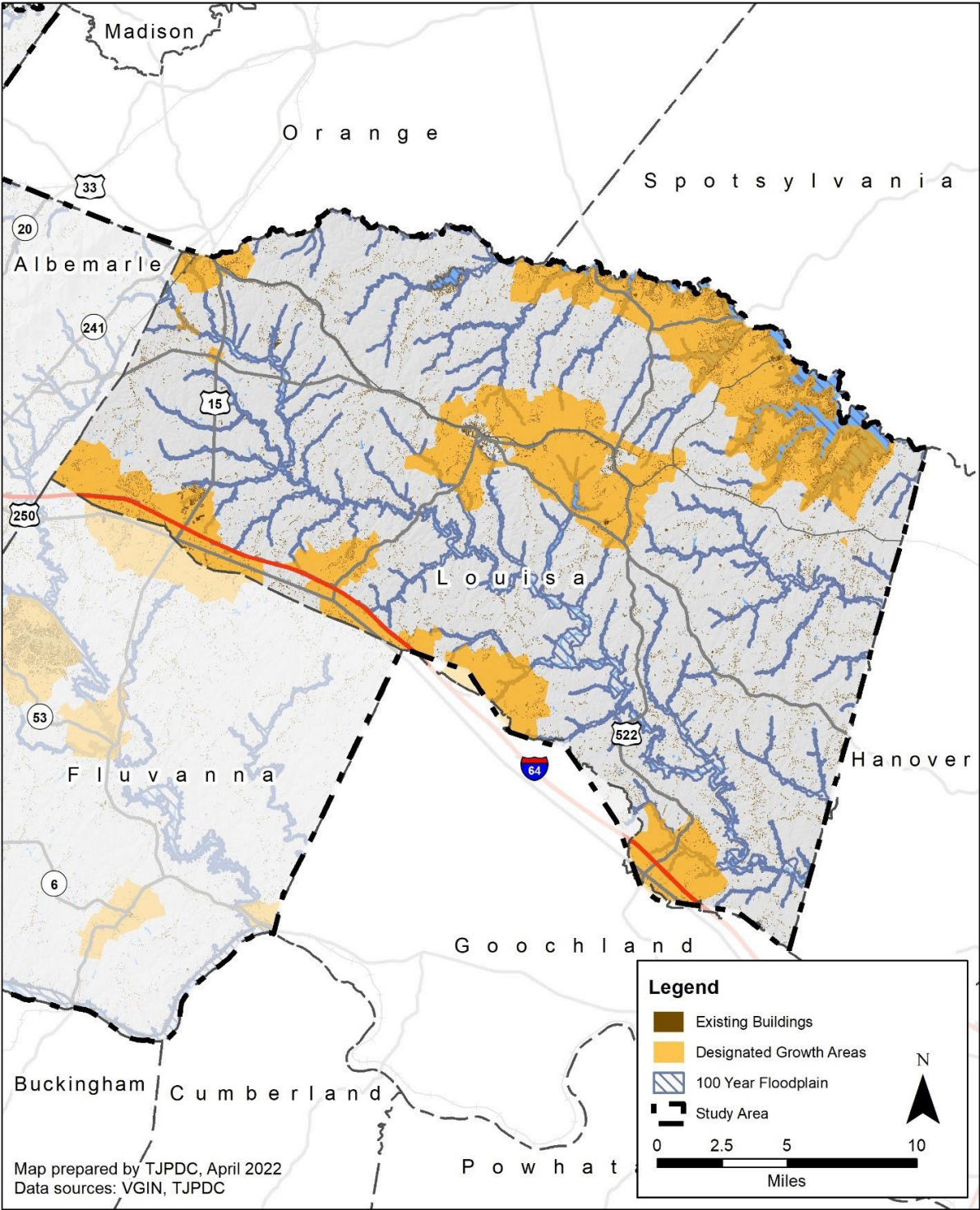




**Buildings and Designated Growth Areas**  
Greene County

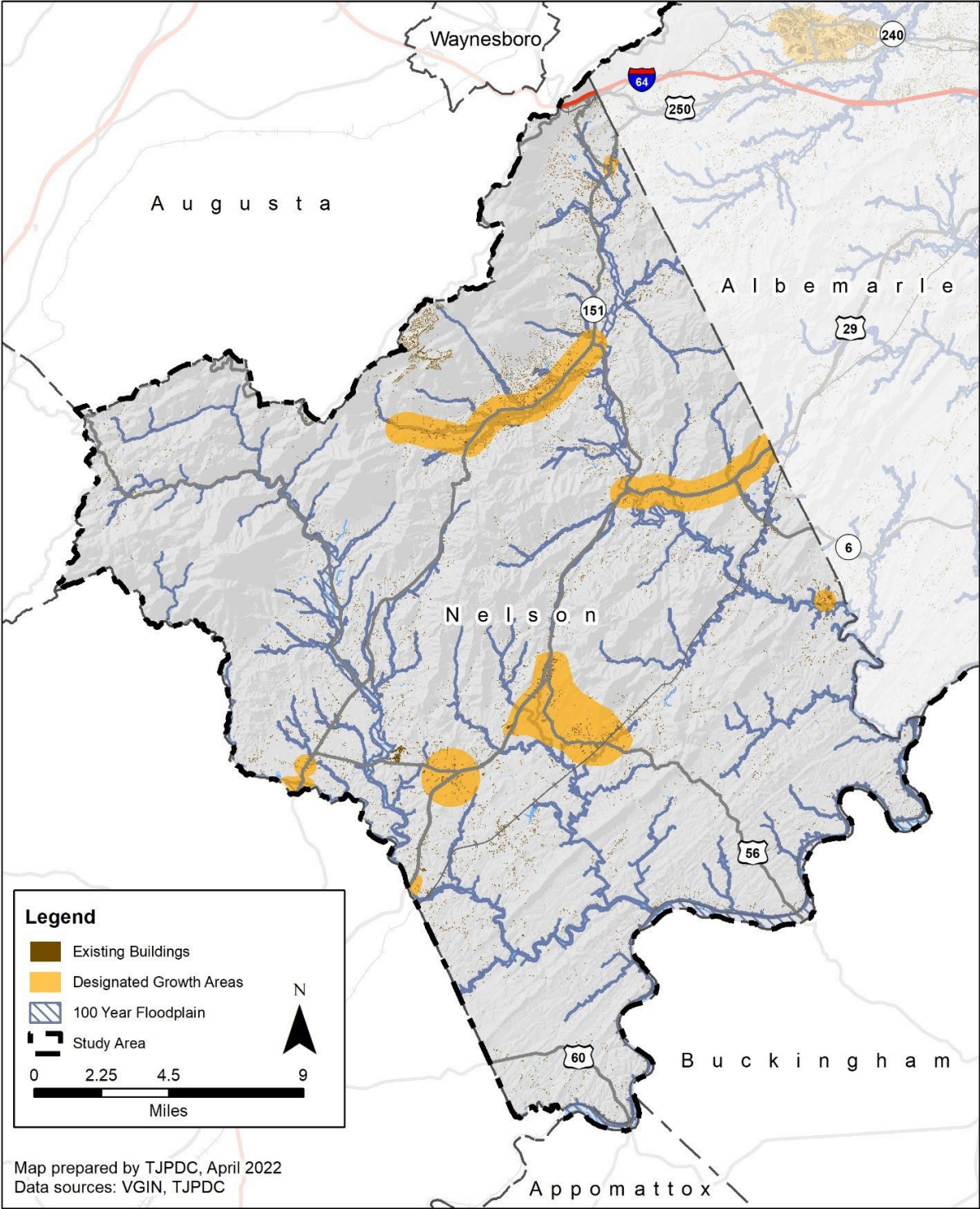


**Buildings and Designated Growth Areas**  
Louisa County





**Buildings and Designated Growth Areas**  
Nelson County



## Infrastructure

The resilience and availability of essential infrastructure is critical to a functioning community and an effective emergency response. The table below, taken from HAZUS MH 5.1 shows the number and value of transportation and utility infrastructure in the Planning District.

### Transportation Infrastructure

| Transportation               | Utility |               |          |
|------------------------------|---------|---------------|----------|
| Number                       | Value*  | Number        | Value*   |
| 475.97 miles and 615 bridges | \$9,406 | 75 facilities | \$15,019 |

\*Value in millions. Source: HAZUS MH 5.1

Transportation includes highway, rail, and airport. Utility includes potable water, wastewater, natural gas, electric power, and communication. Includes both lines and buildings.

High Water Roads are roadways and/or bridges that can become impassable to traffic in event of a large-scale rain. The resulting road closures can be economically disruptive and can be a severe hindrance to emergency operations. Some of the roadways in Charlottesville and urban Albemarle are used by Charlottesville Area Transit, making any closure disruptive to bus service as well. Greenways are commonly located in floodplains, and heavy rain may render many trails in the region impassable. Closed roads can lead to traffic on better maintained thoroughfares and can create dangerous traffic conditions.

The following lists include high water roads in each of the localities. These lists were compiled by local emergency services staff:

#### High Water Roads-Albemarle, Charlottesville, UVA

- 21 Curves Road (Old Garth Road)
- 21 Curves Road at pond 29 North at Camelot
- Airport Road at new post office (2 Times – doesn't close road – about to rebuild anyway)
- Albemarle Lake Road at Garth Road Alderman Road at Twyman
- Avon Street at Bridge
- Ballards Mill Road ¼ mile to 4024 (2 Times) Route 680 - Browns Gap Road at 240 (2 Times) Carters Bridge Route 20 South
- Cherry Avenue 500-700 block
- Cherry Avenue at Johnson School to Cleveland Clark Road just off 810
- Earlysville 700

- East High Street 1500 block) (2 Times – doesn't close road)
- East Market Street 1100 (3 Times)
- Esmont Road (old railroad trestle) (2 Times) Faulconer Drive at Railroad Bridge (2 Times) Free Union Road (4933-4920) (2 Times) Gilbert Station Road at 640 at bridge
- Ivy Depot Road / Route 786 at 250 (2 Times)
- Route 726 - James River Road at Totier Creek (2 Times) Jarmans Gap / Carter Street (2 Times – road to be rebuilt soon)
- Jefferson Park 1700 at Woodrow
- Kingston Drive at West Leigh Drive (2 Times) Meade Avenue 200
- Meade at Fairway over the bridge Milton Road 2100 at Milton Hills North Berkshire 2300
- Old Ballard Road (2 spots) Old Ivy Road at Garth Road
- Old Ivy Road at underpass and exit ramp (2 Times)
- Old Lynchburg Road 1200
- Polo Grounds Road east of Route 29 North
- Proffit Road at North Fork Rivanna
- Stony Point Road at Key West
- University Avenue east of Emmet
- Route 795 past Route 622
- Route 20 south at 708
- Route 240 at 680
- Route 240 Browns Gap Turnpike
- Route 250 west at UPD (clears quickly after rain) Route 250 bypass at Locust (clears quickly after rain)
- Route 29 north At Camelot
- Route 29 ¼ mile south of Red Hill (2 Times)
- Route 53 ¼ mile past Monticello exit
- Route 53 at Jefferson Vineyard (2 Times)
- Route 53 at Monticello
- Route 6 at Scotland Farm
- Route 600 ¼ mile from Route 22
- Route 600 at Route 20 (2 Times)
- Route 600 Watts Passage Railroad bridge Route 601 at 810 (2 Times)
- Route 601 at Barracks Road Route 602 and 722
- Route 614 1st low spot from Whitehall to Sugar Hollow Route 620 1/8 mile south of County Line
- Route 620 at Buck Island Creek Route 622 1 ½ mile from 795 (closed)
- Route 622
- Route 773
- Route 761
- Route 622 at Hardware River
- Route 626 Loan Oak Farm (2 Times) Route 627 at Albemarle Farm

- Route 627 at View Mount Farm (3 Times) Route 631 and 706 at bridge
- Route 631 at Dudley Mountain Road Route 631 at Gentry Lane (2 Times) Route 640 at Route 20 (2 Times)
- Route 641 Advance Mills Road (little bridge - 4 Times) Route 667 (2 Times)
- Route 672 (2 Times)
- Route 674 - Slam Gate/ Heart break Road (2 Times) Route 680 – Brown’s Gap from 240 to 802 (3 Times) Route 683 – Shelton’s Mill (closed)
- Route 687 (2 Times)
- Route 704 between Route 715 and dead end Route 706 ½ mile off 631 (2 Times)
- Route 708 at KOA (2 Times)
- Route 708 at Nutmeg Farm (2 Times) Route 708 between 627 and 795
- Route 712 at 713
- Route 712 between 627 and 717
- Route 712 between 719 and 631
- Route 712 between Route 713 and 795
- Route 713 from 20 to dead end (3 Times)
- Route 715 between 20 South and 627
- Route 715 between 719 and Route 6
- Route 723 south of Route 6
- Route 726 – James River Road - at Totier Creek (closed) Route 729 near Route 53 (2 Times)
- Route 736 between 635 and 636 (2 Times)
- Route 737 between 726 and route 6 (3 Times)
- Route 747 Route 723 south of route 6 (closed)
- Route 761 between 622 and 620
- Route 776 off Route 667 (5 Times) Route 786 at 250 Ivy Depot Road Route 795 at 638 (Hardware River) Route 795 at Ash lawn
- Route 795 between 713 and 708 (3 Times)
- Route 795 between Route 620 and Route 708 (washed out under pavement – fixed)
- Route 795 north of Ash Lawn Route 810 Mont Fair (2 Times)
- Route 810 North 601
- Route 810 near Crozet Rescue Squad (stream to Beaver Creek)
- Route 810 north route 687
- Route 810 Nortonsville Route 628 (2 Times) Route 810 1st bridge north Garrisons Sharon Road 1/10 mile to 6 (Route 622) Sharon Road at the bridge (3 Times)
- Totier Road North of Route 626
- Watts Passage Road between bridge and railroad track West Leigh Drive/ Leigh Way (annually) (Has been fixed, but it didn’t work)
- West Leigh Drive at 250 (2 Times – rare and due to poor ditches)

#### High Water Roads—Fluvanna County

- Hardware Road (Route 646 at HRWMA) Bremono Road
- East River Road (Route 6 – Columbia) East River Road (Route 6 – Rivanna) West River Road (Route 6 – Scottsville) West River Road (Route 6 – Hardware) North Boston Road (Route 600) Carysbrook Road (Route 615)
- Hunters Lodge Road (Route 631) Bybees Church Road (Route 613) Ridge Road (Route 632)
- James Madison Highway (Route 15 at Cunningham Creek)
- Venable Road (Route 601 at Kent Branch) Venable Road (Route 601 at Venable Branch) Route 617 between 15 & 31
- Route 630 at Byrd Creek and at Venable Creek (between 601 and 659)
- Route 649 at Middle Fork Cunningham Route 659 between 712 and 626
- Route 759 between 250 and dead-end

#### High Water Roads—Greene County

- Smaller Routes 605, 667, 634, 628, 621, 616, 642, 619,
- 627, 635, 643, and 810

#### High Water Roads—Louisa County

- Route 601 at South Anna River and Cub Creek
- Route 604 at South Anna River and at Harris Creek (between 646 and 714)
- Route 610 at South Anna River Route 611 at Flemings Creek Route 613 at Duckinghole Creek
- Route 624 at Christopher Creek (between 623 and 625) Route 635 at South Anna River
- Route 636 at Millington Creek Route 639 at North Anna River
- Route 640 at Fosters Creek (between 613 and 626), South Branch Creek (between 604 and 605), and Deep Creek (between 629 and 647)
- Route 644 between 605 and 33 Route 645 at unnamed creek Route 646 at South Anna River
- Route 647 at South Anna River (between 522 and 640) Route 651 between 669 and Orange County
- Route 660 at Happy Creek Route 663 at Owens Creek
- Route 665 at Northeast Creek branch
- Route 669 at North Anna River and Fox Branch Creek Route 683 at Fork Creek
- Route 692 at north and south forks of Hickory Creek Route 695 at South Anna River
- Route 697 at unnamed creek Route 714 at unnamed creek Route 717 at Central Branch



## High Water Roads—Nelson County

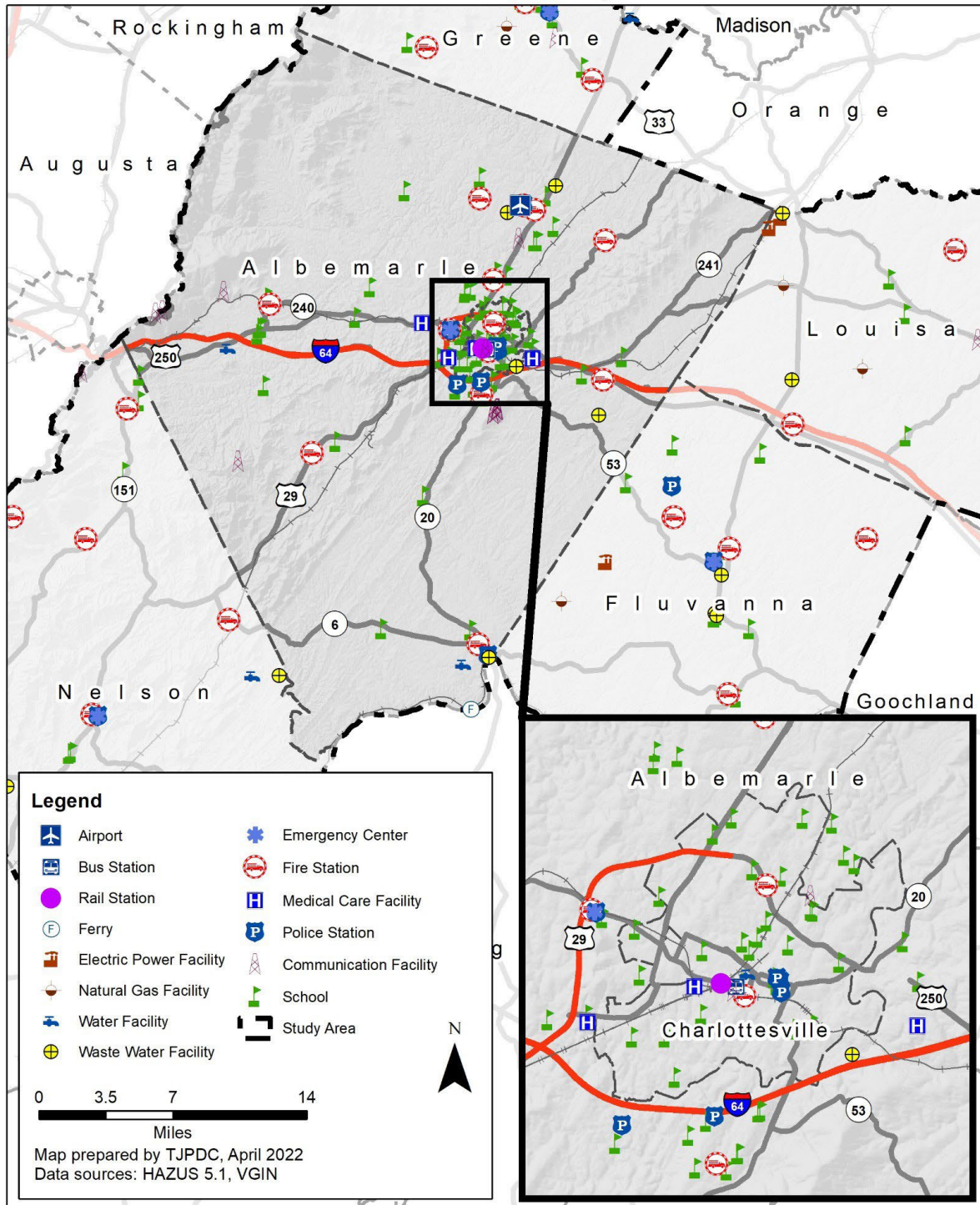
- Rt 655 .30 miles east of Rt. 151
- Rt. 56 west has several spots depending on amounts of rain.
- Rt. 56 .10 miles west of Rt. 151
- Rt. 56 .15 miles east and west of Rt. 680N. Rt. 56 .30 miles west of Rt. 712
- Rt. 56 .40 miles west of Rt. 814
- Rt. 56 .60 miles west of Rt. 687
- Rt. 687/North Fork Tye River Road gets most damage to road in each flood due to stream crossings and stream along the roadway.

## Critical Facilities

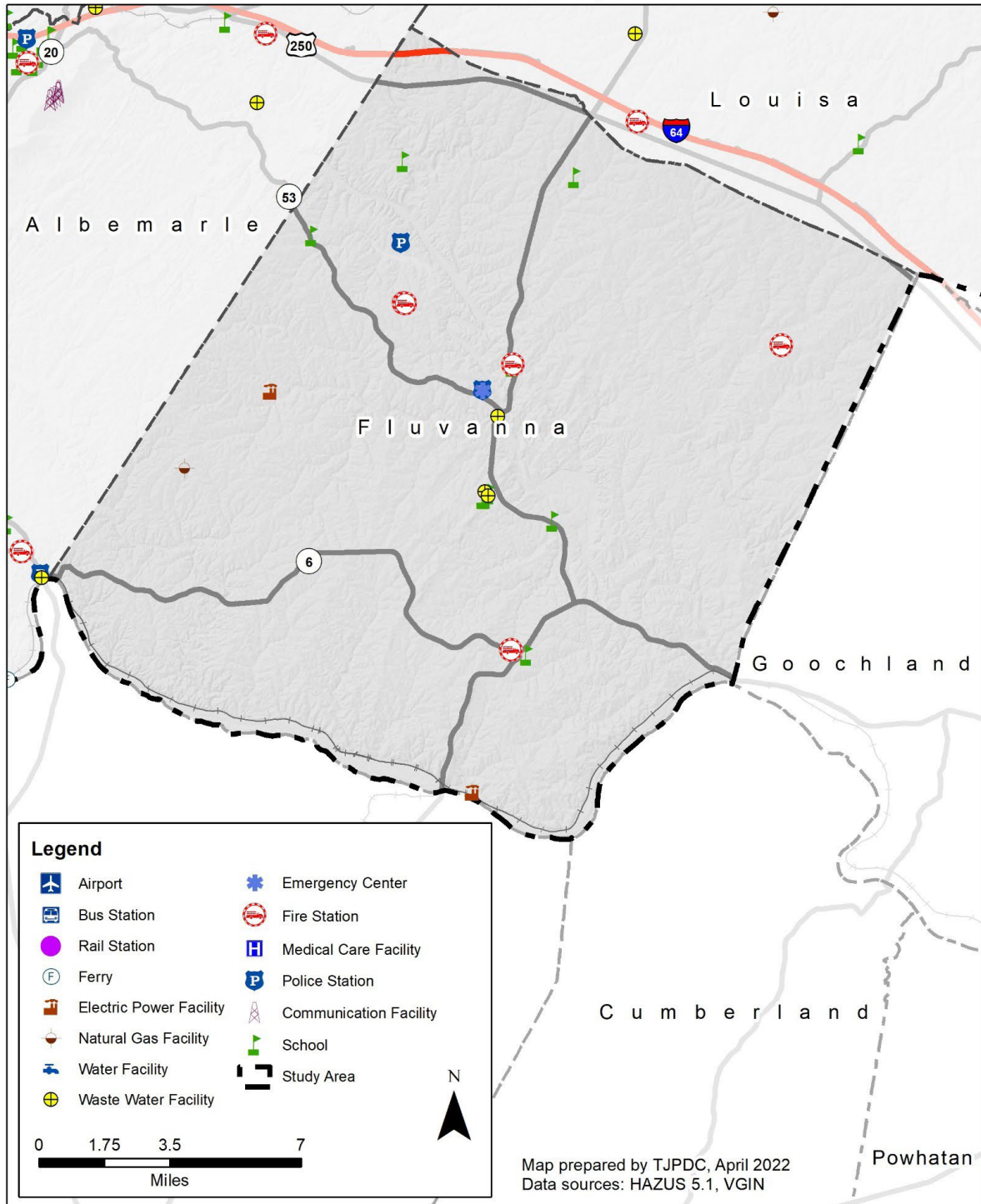
For the purposes of this plan, critical facilities were broken down into four categories: emergency facilities, essential infrastructure, important community facilities, and high potential loss facilities. Each category includes the following facilities.

1. **Emergency facilities: should be operational directly following a disaster:**
  - Hospitals/Medical clinics
  - Police stations
  - Fire stations
  - Emergency operation centers
  - Shelters
2. **Essential Infrastructure: necessary to retain operational status of community; to be restored as quickly as possible following a disaster**
  - Transportation systems—includes roads, bridges, rail, airports, bus stations, ferry
  - Potable water systems
  - Wastewater systems
  - Power—includes buildings, substations
  - Communication systems—includes towers
  - Oil and natural gas facilities
3. **Important Community Facilities: structures which may incur significant loss of life, structural damage, and economic loss to the community.**
  - Schools/Daycares – includes schools that double as shelters
  - Prisons
  - Elderly, Disabled, or Assisted Living Facilities
4. **High Potential Loss Facilities: Facilities that have the potential to cause significant loss of life, structural damage, and economic loss to the community if they sustain damage from a natural disaster.**
  - Structures housing Hazardous Materials
  - Facilities on CERCLIS (Superfund)
  - RCRA Large Quantity Generators (facilities that generate over 1000 kg of ignitable, corrosive, reactive, or toxic waste per month)
  - Facilities on Toxics Release Inventory (1987 - 2009)

# Critical and Important Facilities Albemarle County

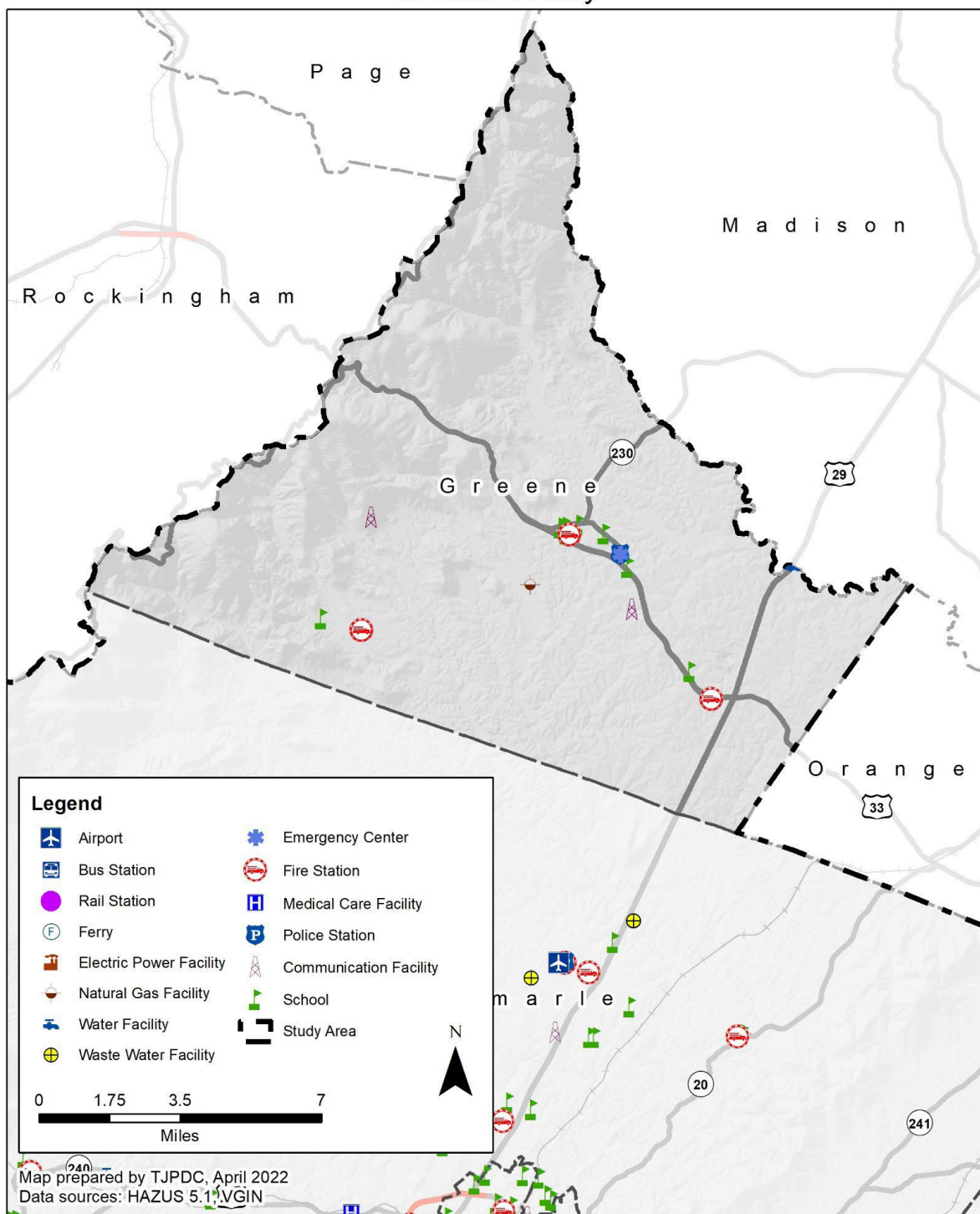


## Critical and Important Facilities Fluvanna County

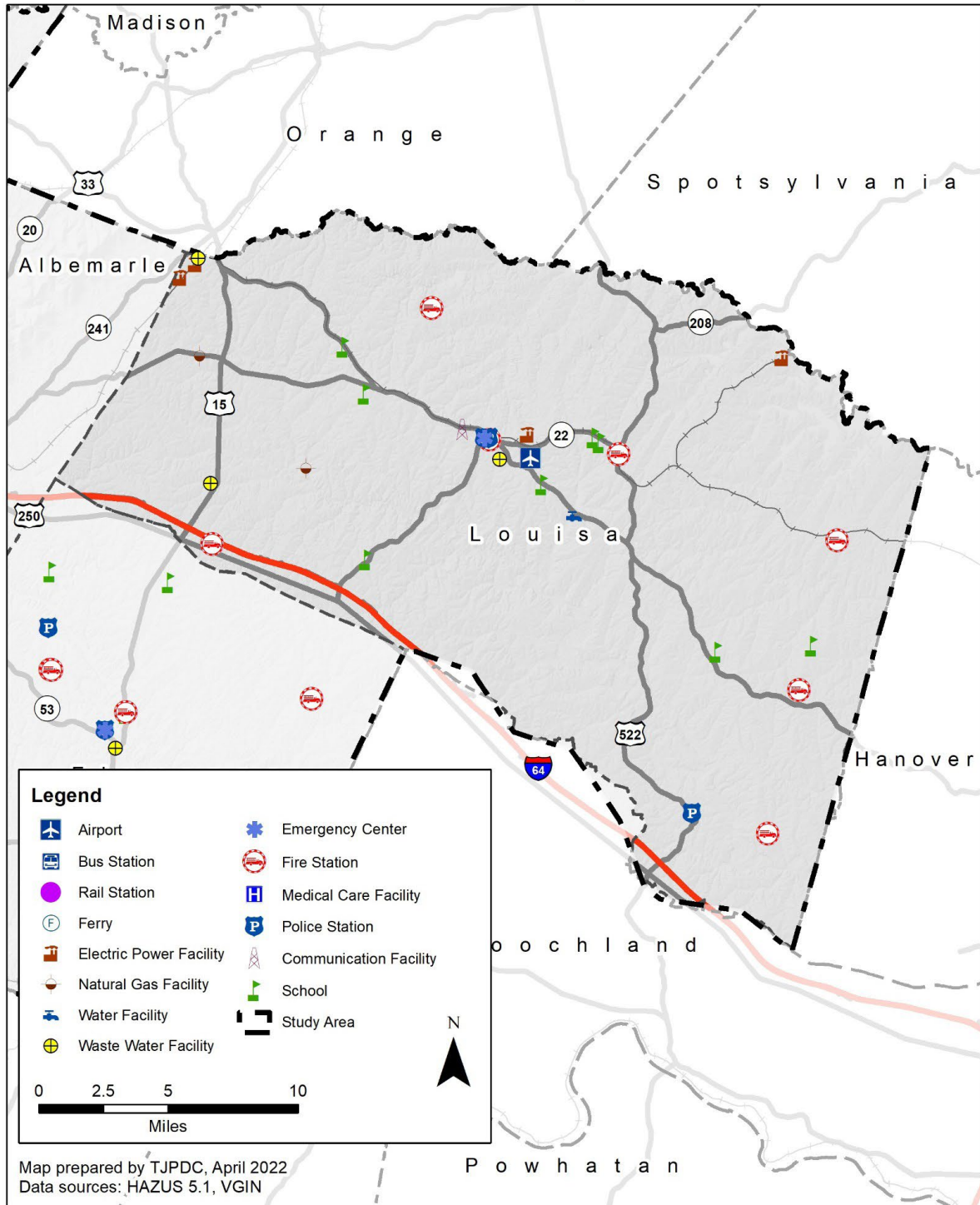




# Critical and Important Facilities Greene County

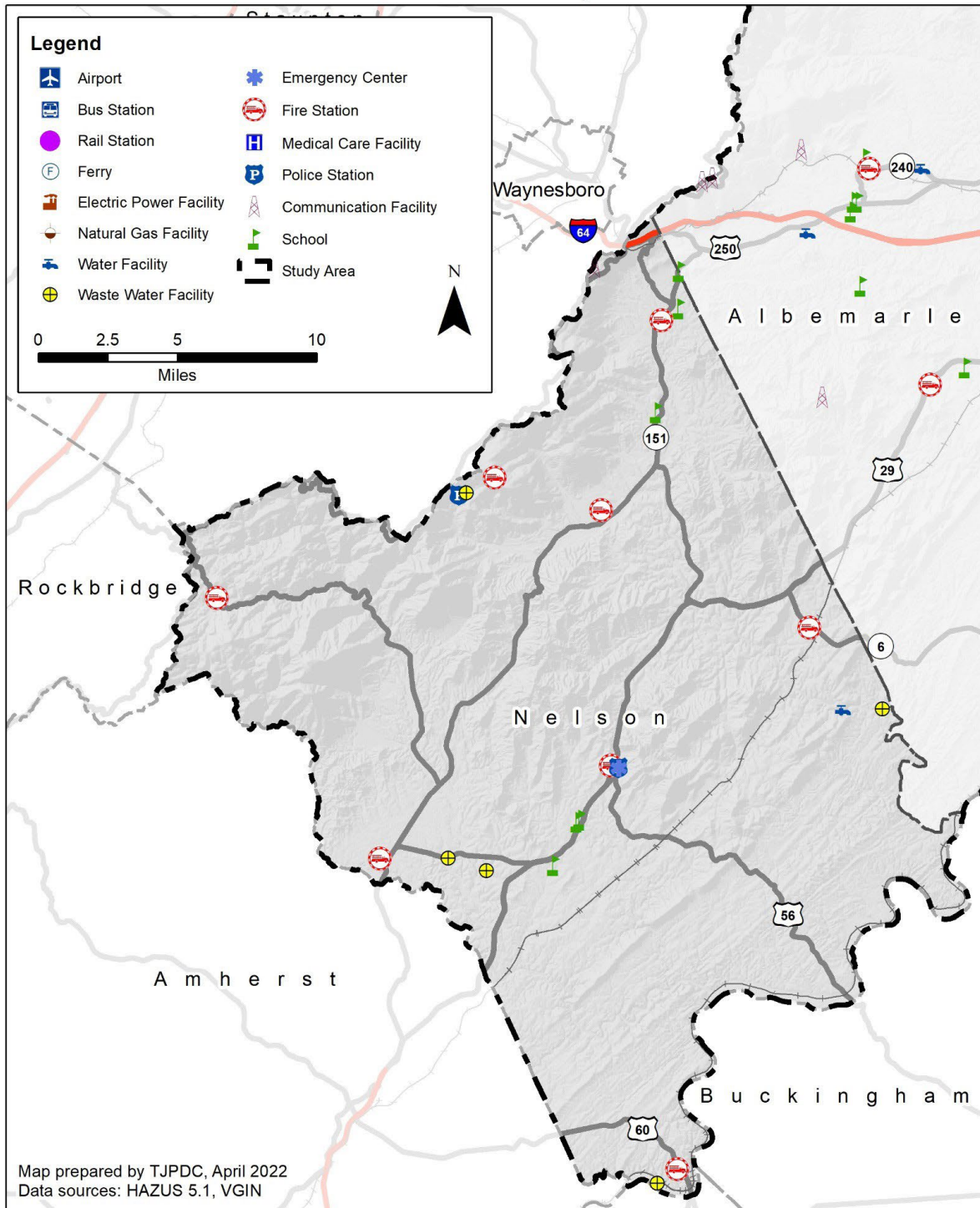


## Critical and Important Facilities Louisa County





## Critical and Important Facilities Nelson County



## Estimating Potential Loss

### 1.1 Purpose

*201.6(c)(2)(ii)(B): The plan should describe vulnerability in terms of an estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate...*

The following section includes an inventory of assets and estimation of loss for the following hazards deemed to pose the most significant risk to the Planning District:

1. Hurricane
2. Flood
3. Winter Storms
4. Communicable Disease
5. Lightning
6. Wildfire
7. Drought and Heat
8. Dam Failure
9. Tornado
10. Earthquake
11. Landslides

Methods used to estimate losses vary by hazard, depending on data and models available, as well as the nature of the risk. Therefore, a description of methodology is included under the section for each hazard.



Source: TJPDC

## Hurricane: Estimated Losses

### Methodology

Hurricane losses have been estimated using HAZUS MH

5.2. The hurricane model predicts losses due to wind, including wind pressure, wind borne debris missiles, tree blow down, and rainfall. Flooding or other hazards that may be linked to hurricanes are not measured in this section. The hurricane model uses the same inventory of existing building stock and critical facilities as the flood loss estimations, although transportation and utility infrastructure are not taken into account. Tree coverage and terrain have a significant effect on the results of the model. Losses are measured for structural damage, damage to contents and inventory, and disruption of business operations.

Two types of models have been used. First, parameters from two historic storms that have affected the Planning District were modeled: Hazel in 1954, representing a major hurricane, and Fran in 1996, representing a minor hurricane. Although there have been six hurricanes of Category 3 or higher in recent history in the TJPDC, these two can be seen as a representative sample. It is important to note that results do not represent the actual impact of these storms, but rather the projected impact if a storm exactly like the historic event were to occur in the future.

### Results

Scenarios based on historic storms Hazel and Fran reveal the broad difference between major and minor hurricane events.

#### Expected Losses Modeled from Historic Storm Event Parameters

| Storm                   | Hazel (1954)  | Fran (1996)  |
|-------------------------|---------------|--------------|
| Building Damage (Count) | 409           | 37           |
| Households Displaced    | 2             | 0            |
| Debris (tons)           | 150,959       | 26,761       |
| Direct Property Loss    | \$ 34,711,000 | \$ 3,032,000 |
|                         |               |              |

Source: HAZUS MH 5.1

In addition to the historic events, a range of hypothetical storms were modeled based on the predicted return period. The combination of methods provides

a balance between the specificity of actual events and the generality of informed probabilistic future events.

#### Annualized Expected Losses to Hurricanes by Locality

| Storm            | Capital Stock Losses | Income Losses | Total Losses   |
|------------------|----------------------|---------------|----------------|
| 10-Year Return   | 0                    | 0             | 0              |
| 20-Year Return   | 0                    | 0             | 0              |
| 50-Year Return   | \$ 3,444,000         | 0             | \$ 3,444,000   |
| 100-Year Return  | \$ 15,417,000        | \$ 26,000     | \$ 15,443,000  |
| 200-Year Return  | \$ 39,726,000        | \$ 60,000     | \$ 39,782,000  |
| 500-Year Return  | \$ 94,308,000        | \$ 473,000    | \$ 94,781,000  |
| 1000-Year Return | \$ 149,649,000       | \$ 4,912,000  | \$ 154,561,000 |
| Annualized       | \$836,000            | \$ 19,000     | \$855,000      |

Source: HAZUS MH 5.1

An annualized expect loss can be generated by combining losses from the full range of scenarios: 10-Year, 20-Year, 50-Year, 100-Year, 200-Year, and 500-Year Storms. Annualized losses, both direct and indirect, are predicted to be \$855,000 for the region. The following table disaggregates this estimate by locality. As development increases, these numbers are very likely to increase. However, this may be somewhat attenuated by enhancements in hurricane prediction science and improved construction practices in newer buildings.



Source: TJPDC

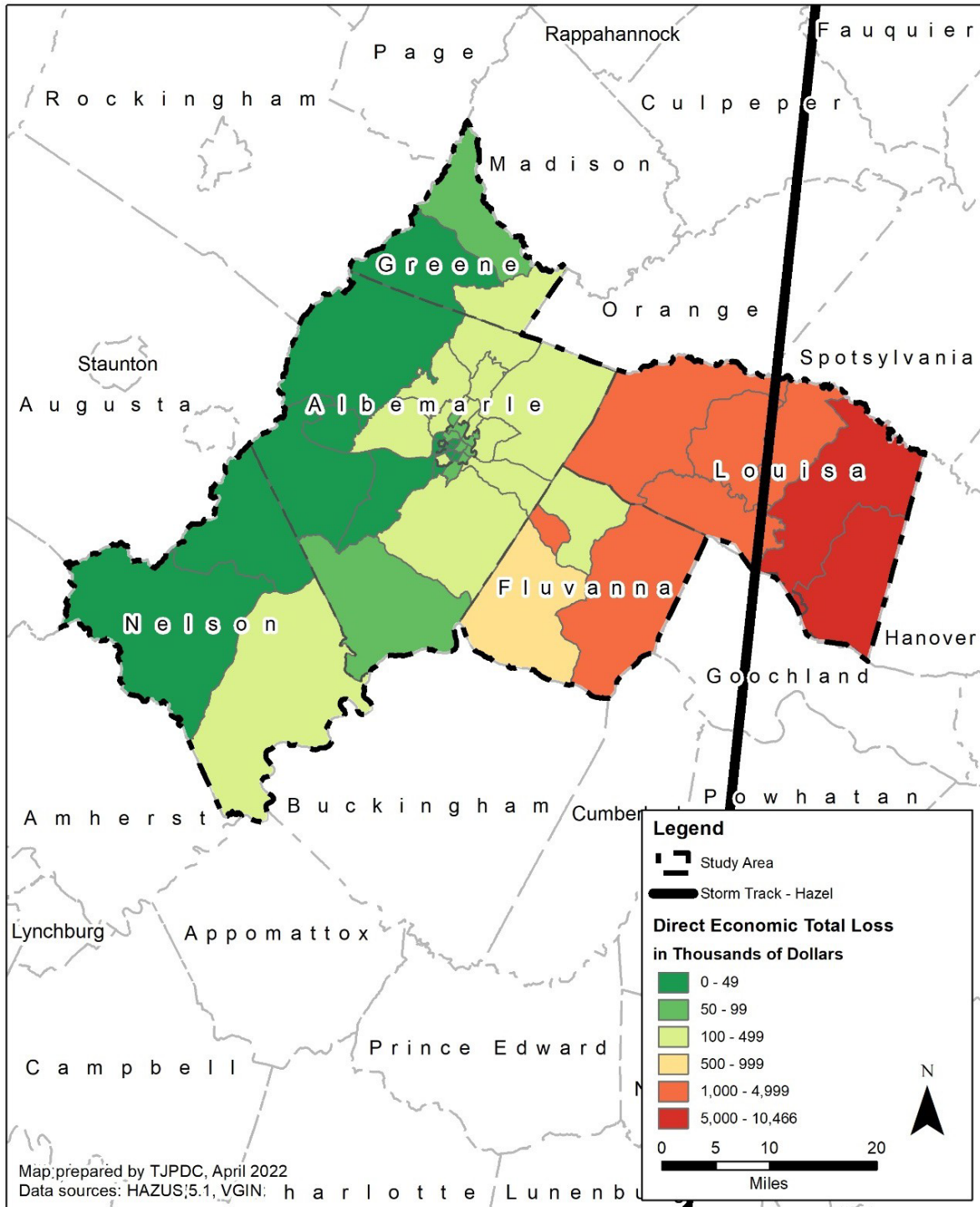
#### Annualized Expected Losses to Hurricanes by Locality

| Locality        | Annual Property Damage Loss | Annual Income Loss | Total Annual Losses |
|-----------------|-----------------------------|--------------------|---------------------|
| Albemarle       | \$ 301,000                  | \$ 7,000           | \$ 308,000          |
| Charlottesville | \$ 94,000                   | \$ 3,000           | \$ 98,000           |
| Fluvanna        | \$ 140,000                  | \$ 2,000           | \$ 142,000          |
| Greene          | \$ 34,000                   | \$ 1,000           | \$ 35,000           |
| Louisa          | \$ 228,000                  | \$ 3,000           | \$ 231,000          |
| Nelson          | \$ 41,000                   | \$ 2,000           | \$ 43,000           |
| Region          | \$836,000                   | \$ 19,000          | \$855,000           |

Source: HAZUS MH 5.1

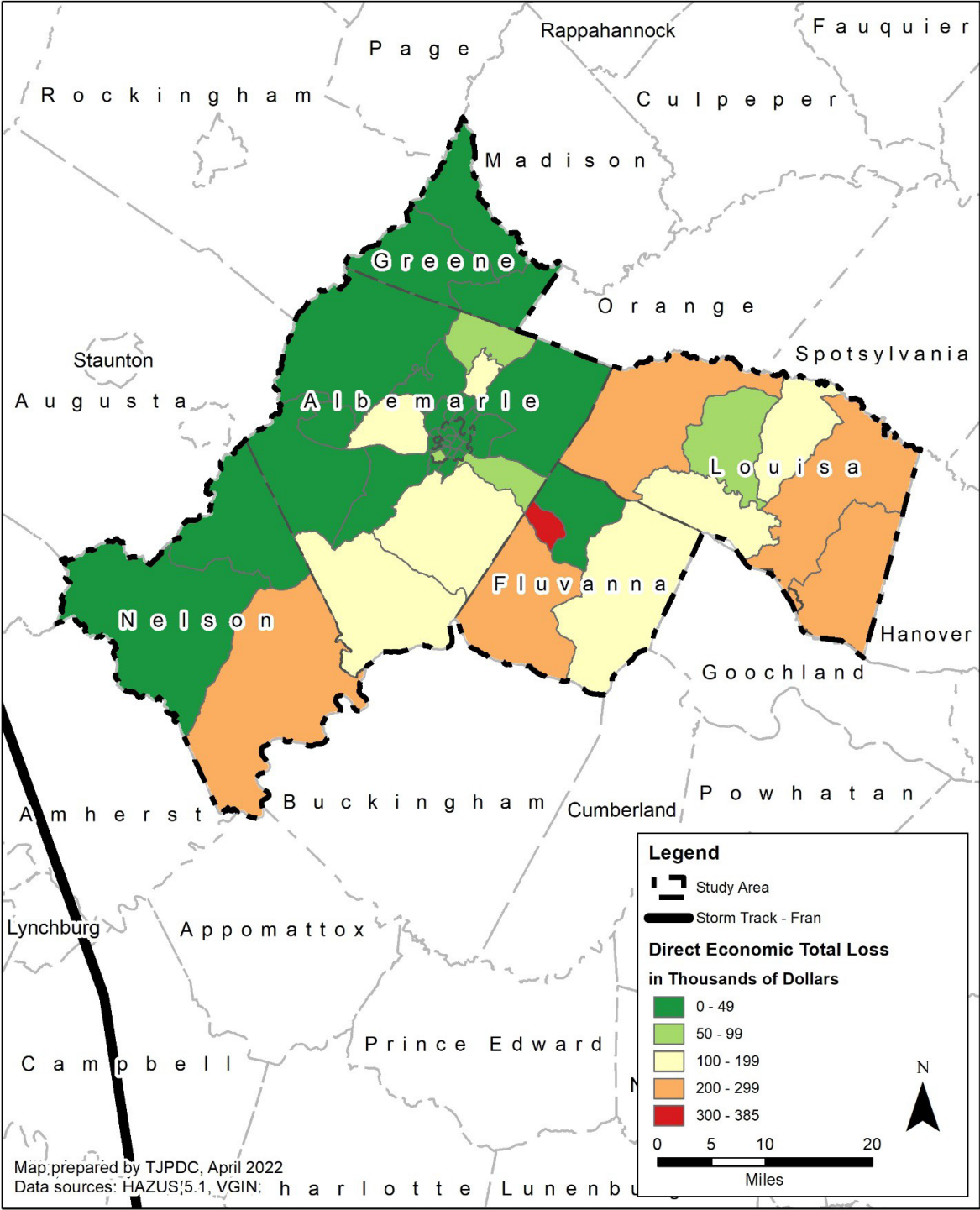
The following maps show residential, commercial, and industrial losses in thousands of dollars as determined by HAZUS MH 5.1.

# Hurricane Event Historic Hurricane Hazel Model





**Hurricane Event**  
**Historic Hurricane Fran Model**





## Flood: Estimated Losses

### Methodology

The flood loss estimations were performed using the HAZUS MH 5.1 model developed by FEMA. The analysis is based on an inventory of estimates provided by FEMA of general building stock by census block in the region. Buildings are differentiated by occupancy type and estimates of square footage and value are derived from the type of structure. Other facilities and infrastructure, such as dams, and bridges are considered in the model, as well as the economic costs of displacement and business interruption. Losses are estimated by the proportion of the structures that would sustain damage under any particular scenario.

It should be noted that losses are estimated by census block. It is assumed that structures are distributed evenly throughout the block. Although precise planimetric data would be preferred, the census block-level data is the best available for use with the HAZUS model. For a full description of the loss estimation methodology, see the HAZUS MH 5.1 Technical Manual available from the FEMA website.

All the scenarios included below were generated for both 100-year and 500-year floods. Four separate scenarios were generated, one for each major waterway system in the region:

- **The Rivanna River and tributaries**
- **The James River and tributaries upstream from the Rivanna River**
- **North Anna River in Louisa County**

Each scenario assumes that a flood warning was issued, allowing a certain amount of time for households to remove contents and perform some emergency mitigation to protect individual structures. For purposes of agricultural losses, an assumed flood date of July 1 is used. Historically, flooding has occurred in all seasons approximately equally in the TJPDC, so the assumption is not based on any special prevalence for summer flooding.

The HAZUS MH 5.1 flood model does not estimate casualties due to flooding. National data does not reveal any per capita increase in flooding casualties over the last several decades, so it can be assumed that casualties in the region will only increase proportional to population.

### Results

Direct Expected losses are a measurement of flood damage to building stock and contents of buildings within the region.

Direct economic loss to the region from a 100-Year flood is estimated to be \$607,562 with 75% the total loss occurring in Albemarle and Charlottesville combined. Most of the damage, approximately 83%, is expected to be incurred by residential structures. However, notable damage to commercial and industrial sites in Albemarle County and Charlottesville is also expected. The levee in Scottsville will hold, preventing a significant increase in damage to the town. A total of 4,489 people are expected to be displaced and in need of temporary shelter, and 32,587 tons of debris are expected to be generated. The number of casualties directly attributed to a 100Year Flood can be expected to remain low, between one and zero series injuries. However, the likelihood of casualties may grow in proportion to population growth.

There are also overlaps between flooding and other hazards such as hurricanes and winter storms, which can result in springtime flooding. There are also indirect costs to consider. The following indirect costs of a flood event would be incurred, in addition to the direct costs cited above:

- **Loss of business operations impeded by flooding and recovery**
- **Costs of either temporary or permanent relocation of uses**
- **Loss of wages and rental income**
- **Devaluation of land in response to flood event**
- **Spill-over effects on business operations not direct impeded by flooding and recovery**

An updated Hazard Mitigation Plan may offer quantified estimates for these indirect costs, as data becomes available, as well as estimates for the full range of flood probabilities endemic to the region. The following tables

### Direct Economic Losses after 100-Year Flood Event (In Thousands of Dollars)

| Locality        | Total Loss | Building Loss | Contents Loss |
|-----------------|------------|---------------|---------------|
| Nelson          | 50,178     | 38,565        | 11,613        |
| Fluvanna        | 40,547     | 34,454        | 6,093         |
| Albemarle       | 386,355    | 304,487       | 81,868        |
| Greene          | 17,427     | 11,218        | 6,209         |
| Louisa          | 42,777     | 35,130        | 7,647         |
| Charlottesville | 70,278     | 49,393        | 20,885        |
| Region          | 607,562    | 473,247       | 134,315       |

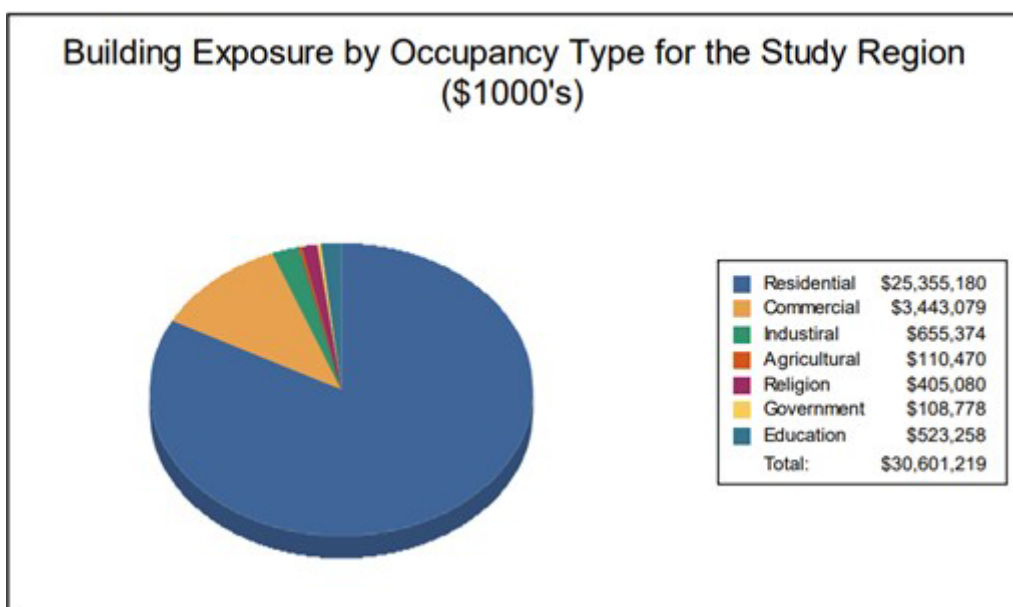
Source: HAZUS 5.1

Building exposure by occupancy type, the percent of all buildings damaged by flood ing, the number of people displaced, and the amount of debris removed.

**Building Exposure by Occupancy Type for the Study Region**

| Occupancy    | Exposure (\$1000) | Percent of Total |
|--------------|-------------------|------------------|
| Residential  | 25,355,180        | 82.9%            |
| Commercial   | 3,443,079         | 11.3%            |
| Industrial   | 655,374           | 2.1%             |
| Agricultural | 110,470           | 0.4%             |
| Religion     | 405,080           | 1.3%             |
| Government   | 108,778           | 0.4%             |
| Education    | 523,258           | 1.7%             |
| <b>Total</b> | <b>30,601,219</b> | <b>100%</b>      |

Source: HAZUS 5.1



Source: HAZUS 5.1

### Debris after Flooding

| Locality        | Debris (tons) |
|-----------------|---------------|
| Nelson          | 3,102         |
| Fluvanna        | 1,822         |
| Albemarle       | 18,191        |
| Greene          | 612           |
| Louisa          | 2,165         |
| Charlottesville | 9,695         |
| Region          | 32,587        |

Source: HAZUS 5.1

### Displaced Populations

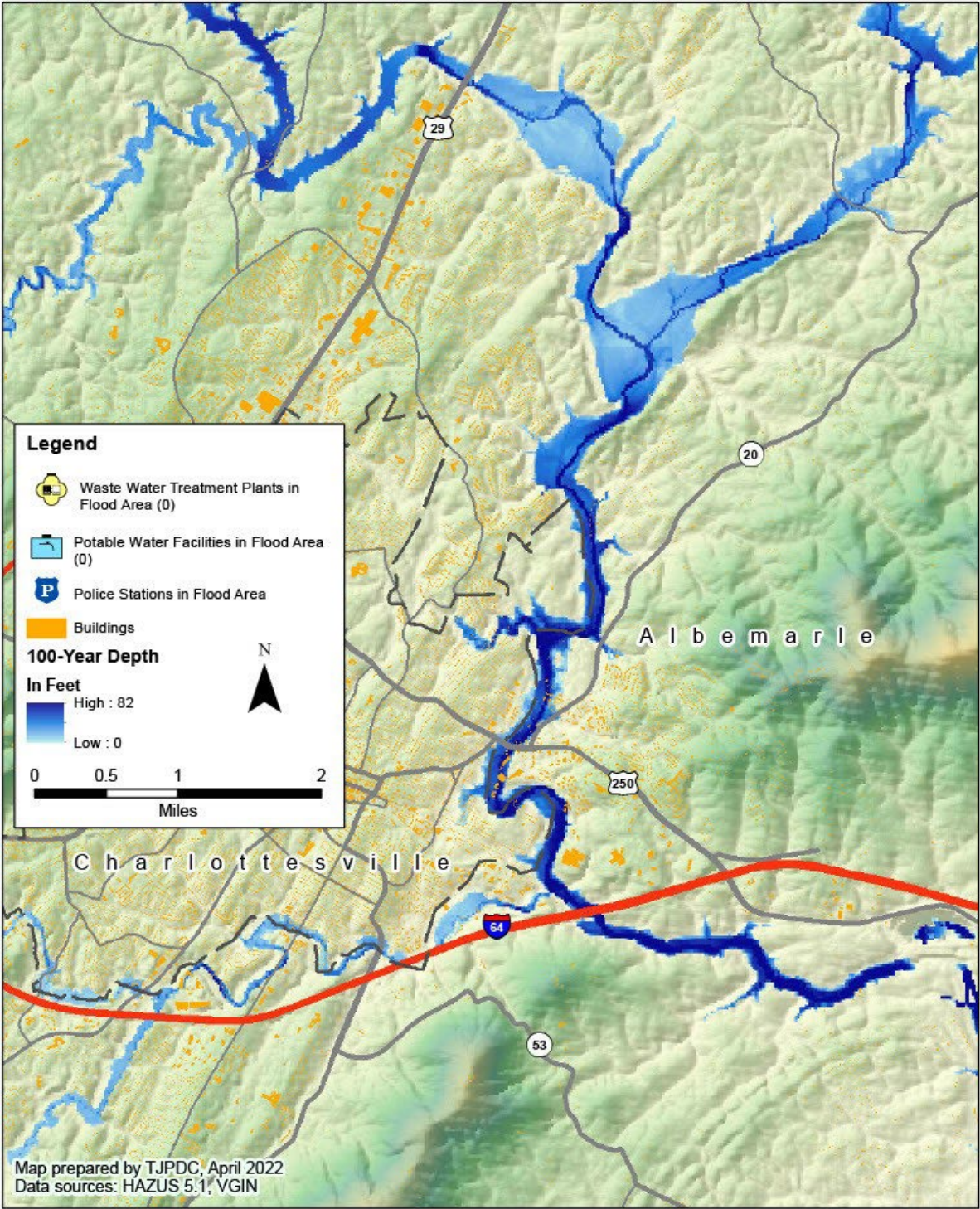
| Locality        | Displaced Population |
|-----------------|----------------------|
| Nelson          | 500                  |
| Fluvanna        | 306                  |
| Albemarle       | 2,312                |
| Greene          | 307                  |
| Louisa          | 347                  |
| Charlottesville | 717                  |
| Region          | 4,489                |

Source: HAZUS 5.1

The expected damage to residential square footage exceeds damage to all other uses combined, although on a percentage basis non-residential structures are over-represented. Most of the damage is expected to occur in basements and some first floors in the flood-plains of the Rivanna and James Rivers. Albemarle County and the City of Charlottesville are expected to receive the most damage, and Greene County and Louisa the least, although it should be noted that rivers in each of these rural counties were not included in the analysis due to insufficient data. The maps on the following pages depict more localized loss estimates along the three river systems analyzed. The first map shows the depth grid of the river at the peak of its flood stage. The second map depicts expected economic losses by block group in the flood area. Separate maps for the Town of Scottsville and the flood-prone portion of the City of Charlottesville are included. These areas are especially susceptible to flooding, and, in Scottsville's case, the existence of a levee protects the town against a 100-Year flood risk.

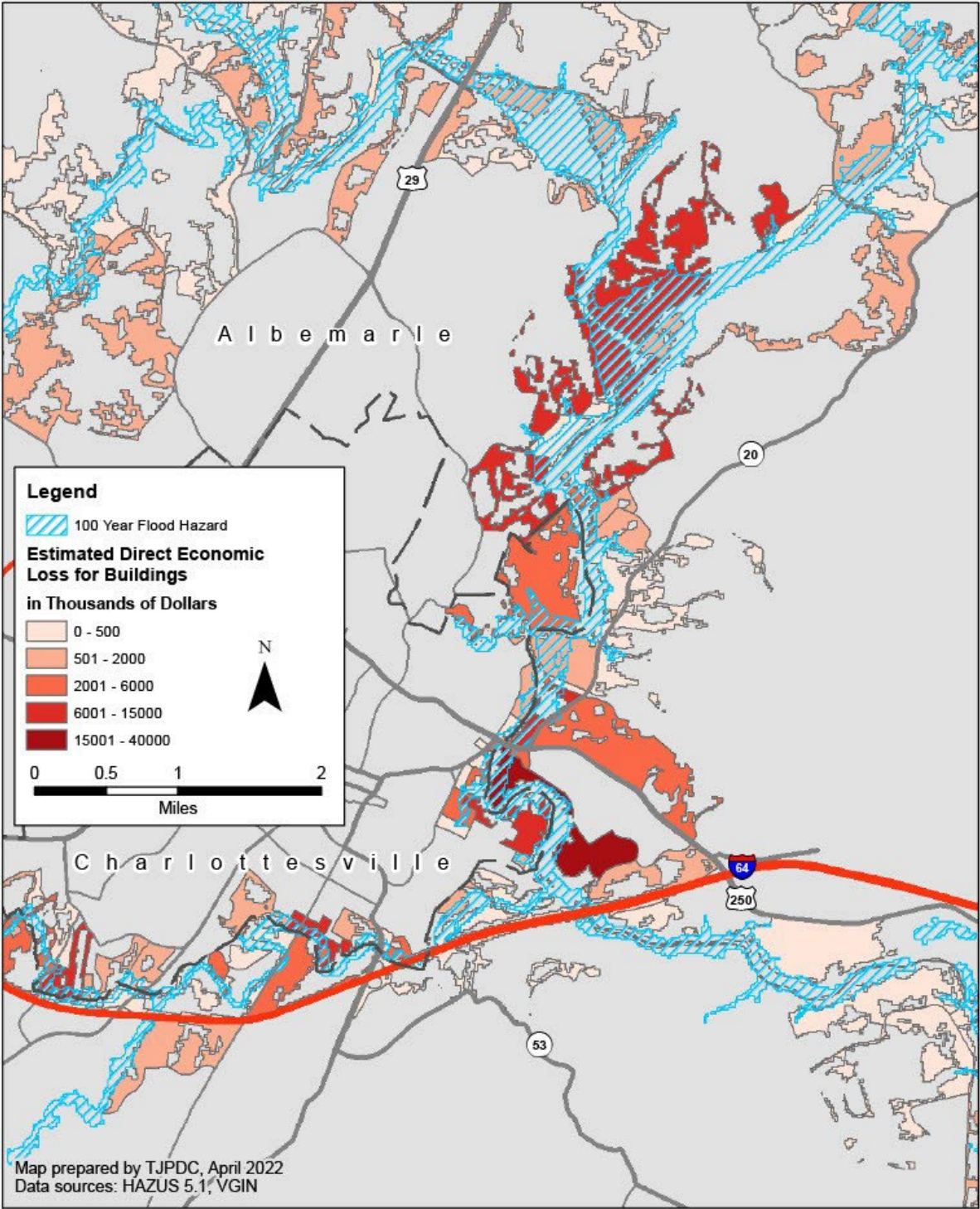


**100 Year Flood Event  
Upper Rivanna River**



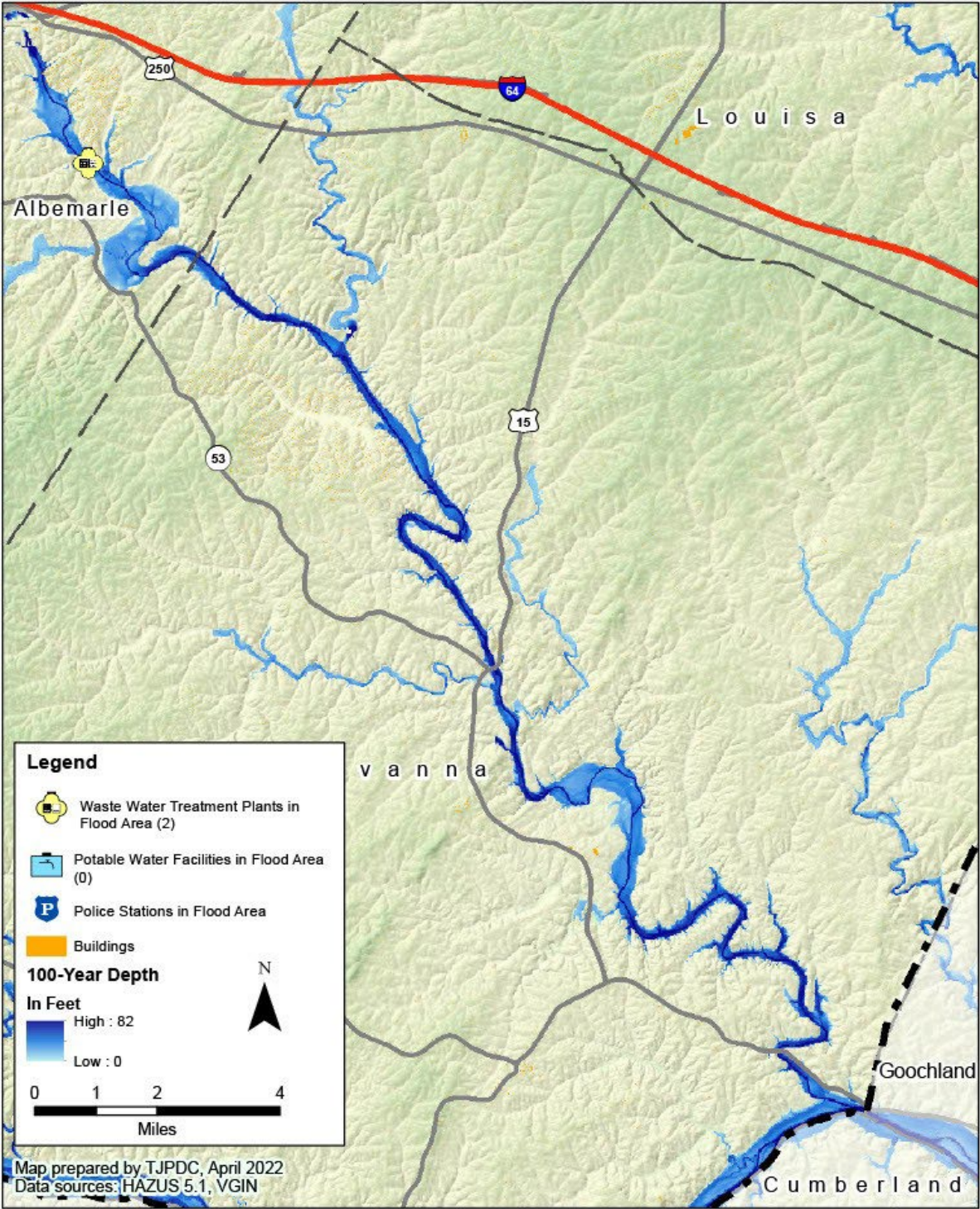


**100 Year Flood Event  
Upper Rivanna River**

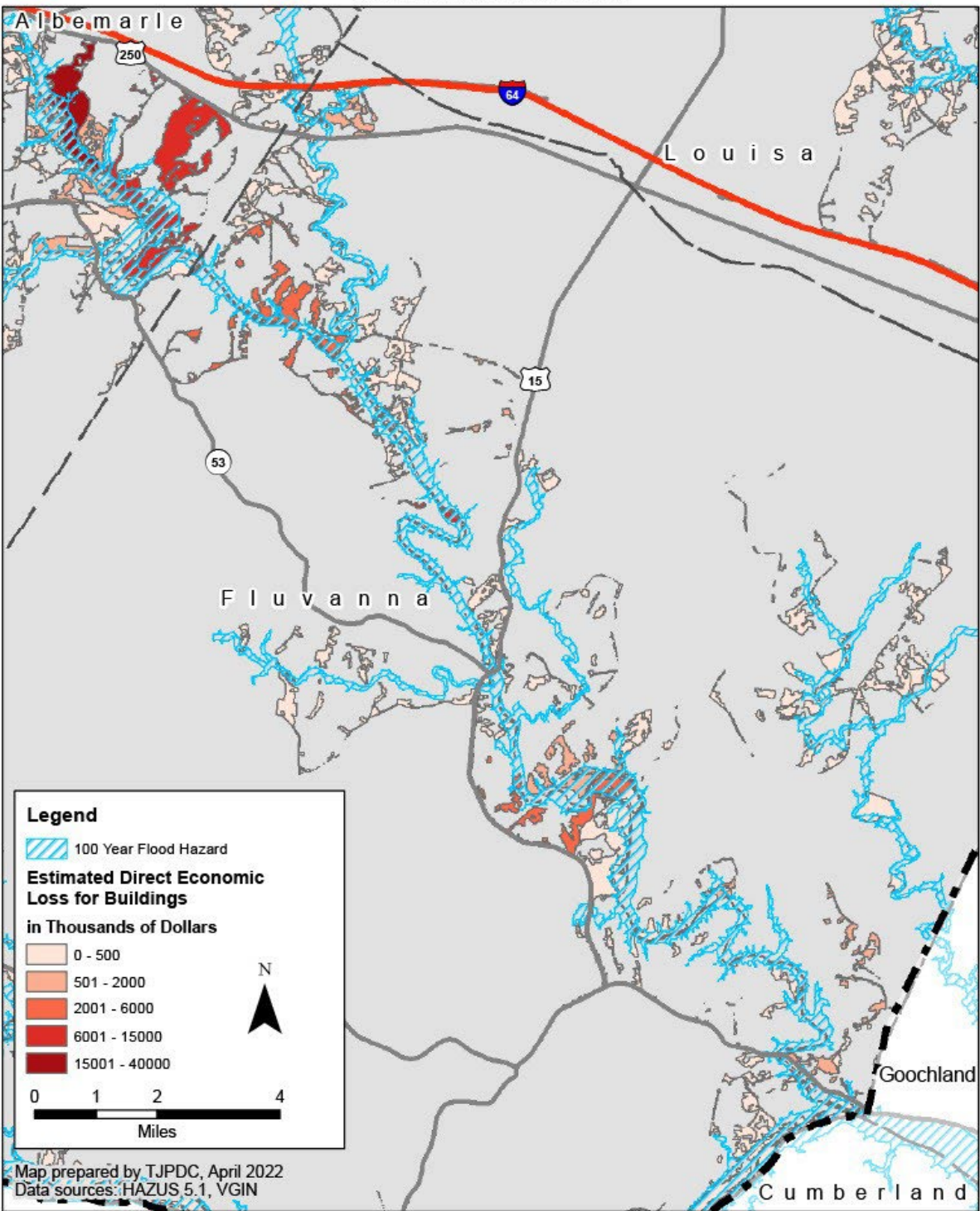




**100 Year Flood Event  
Lower Rivanna River**

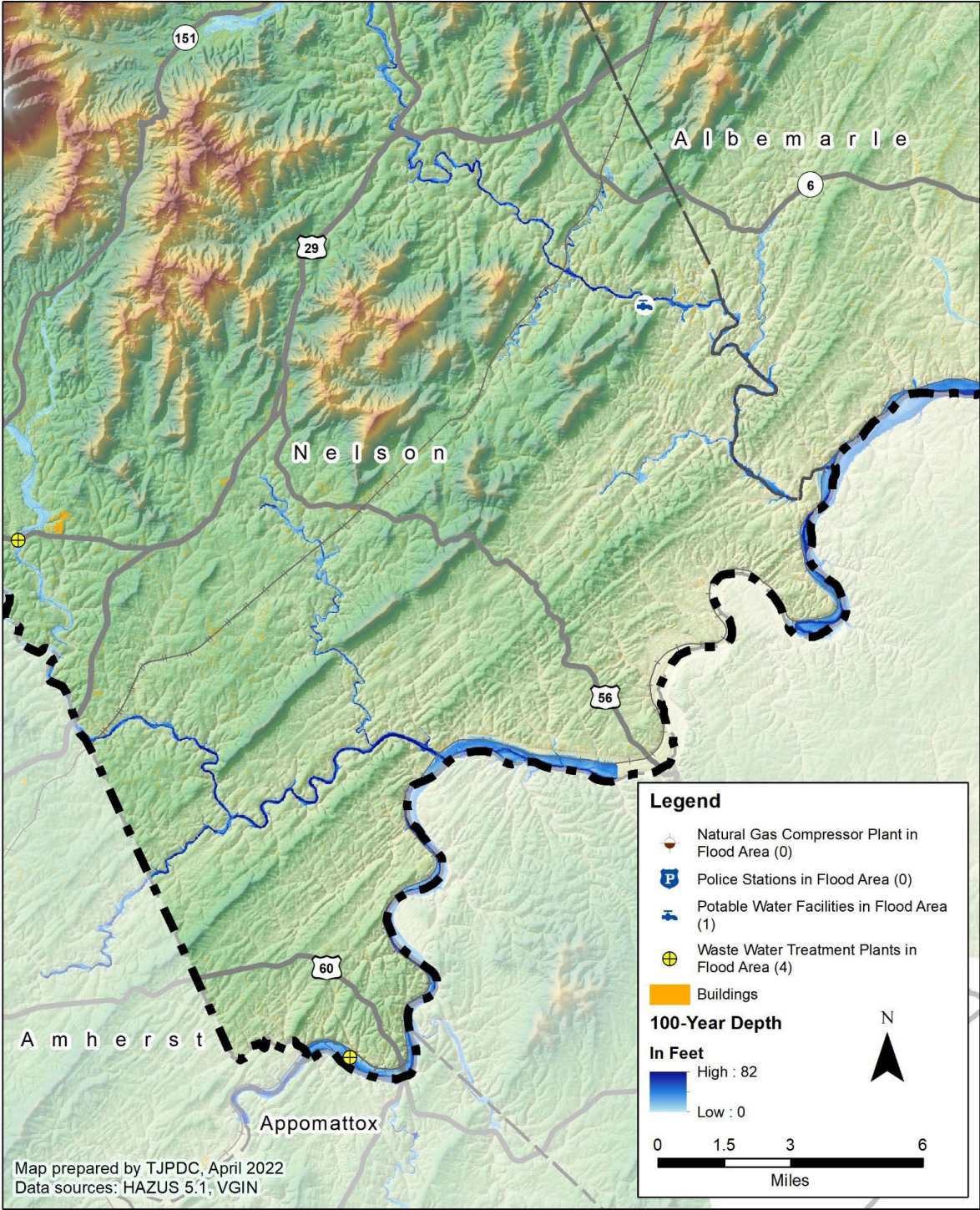


**100 Year Flood Event  
Lower Rivanna River**





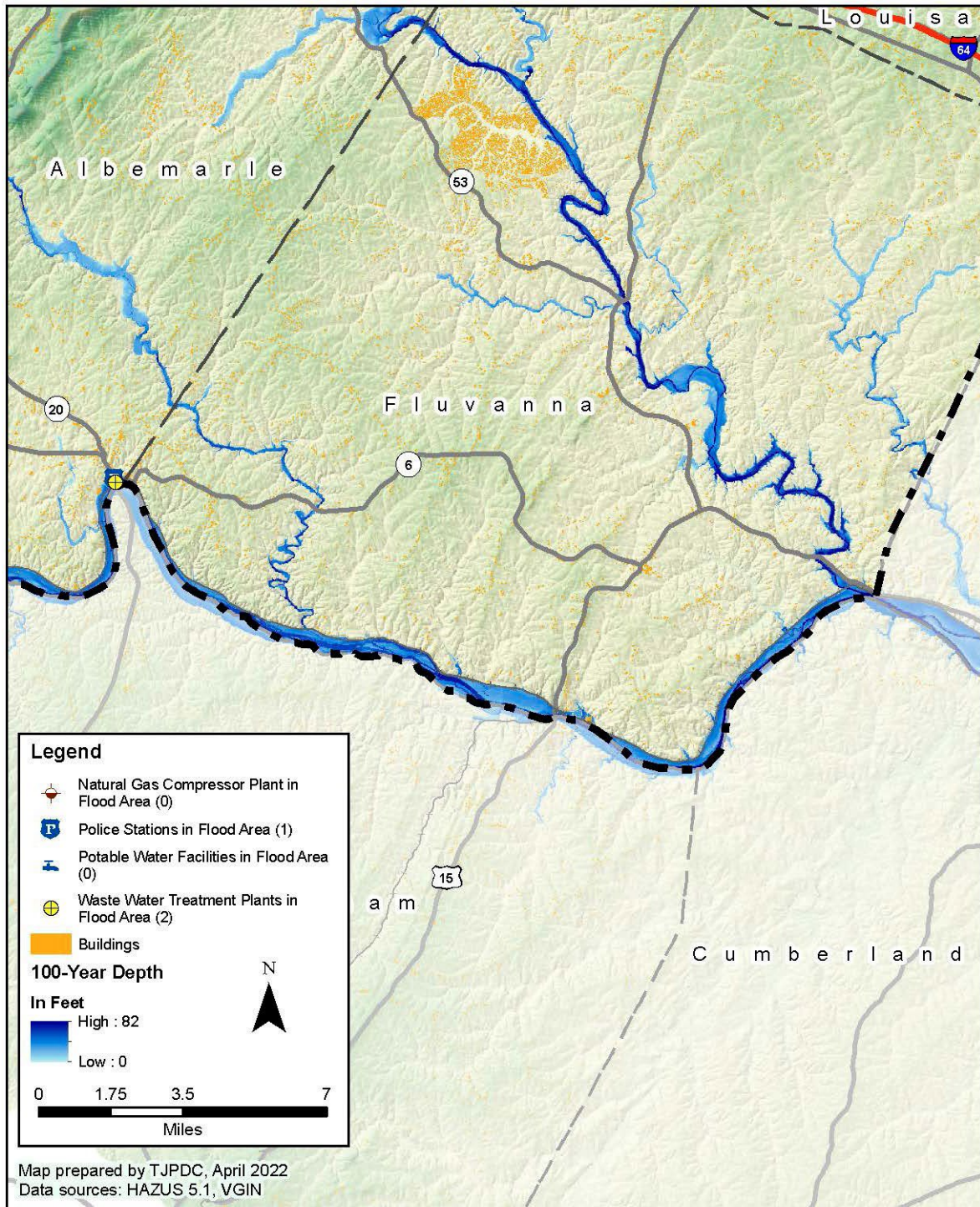
# 100 Year Flood Event Upper James River





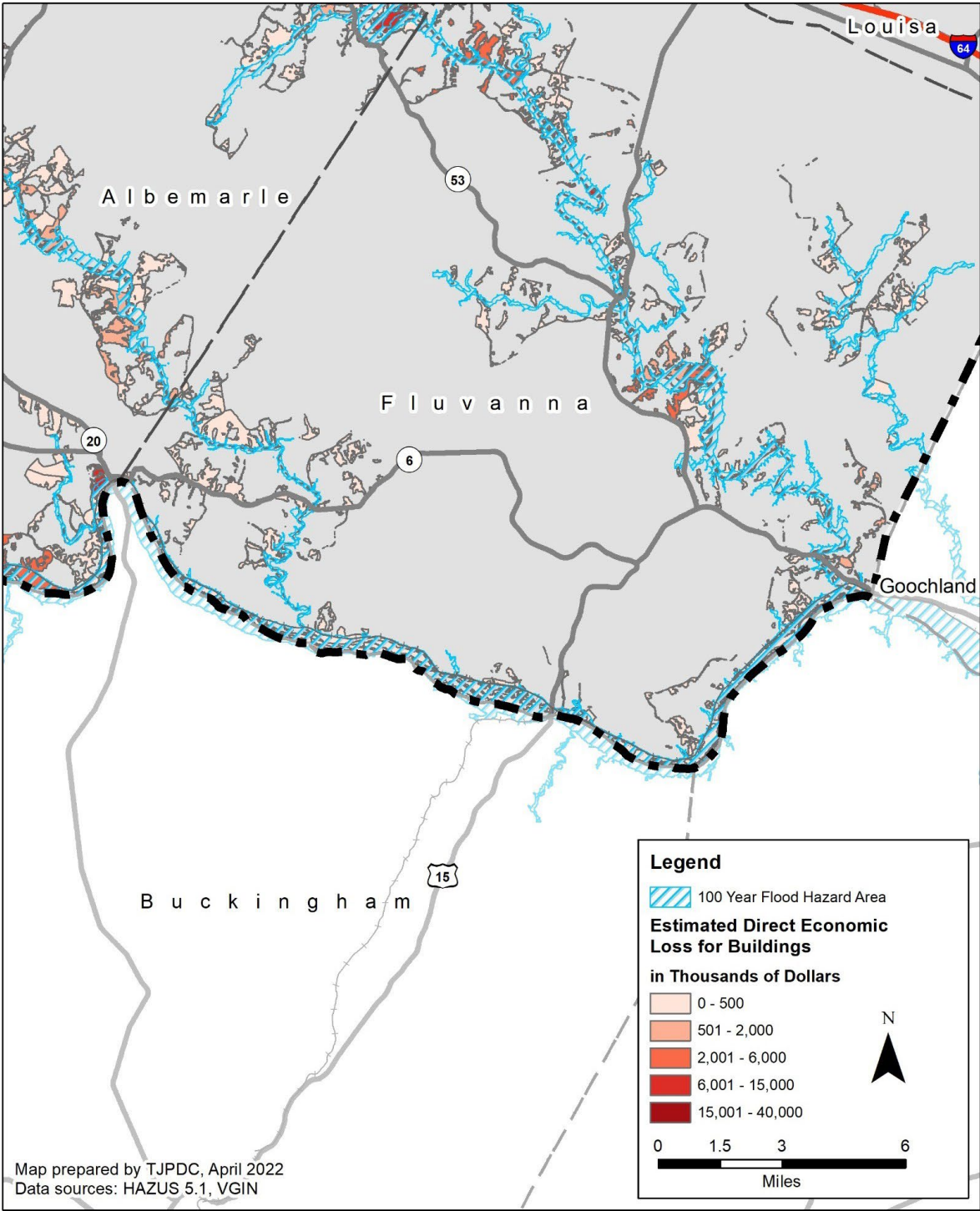
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# 100 Year Flood Event Lower James River

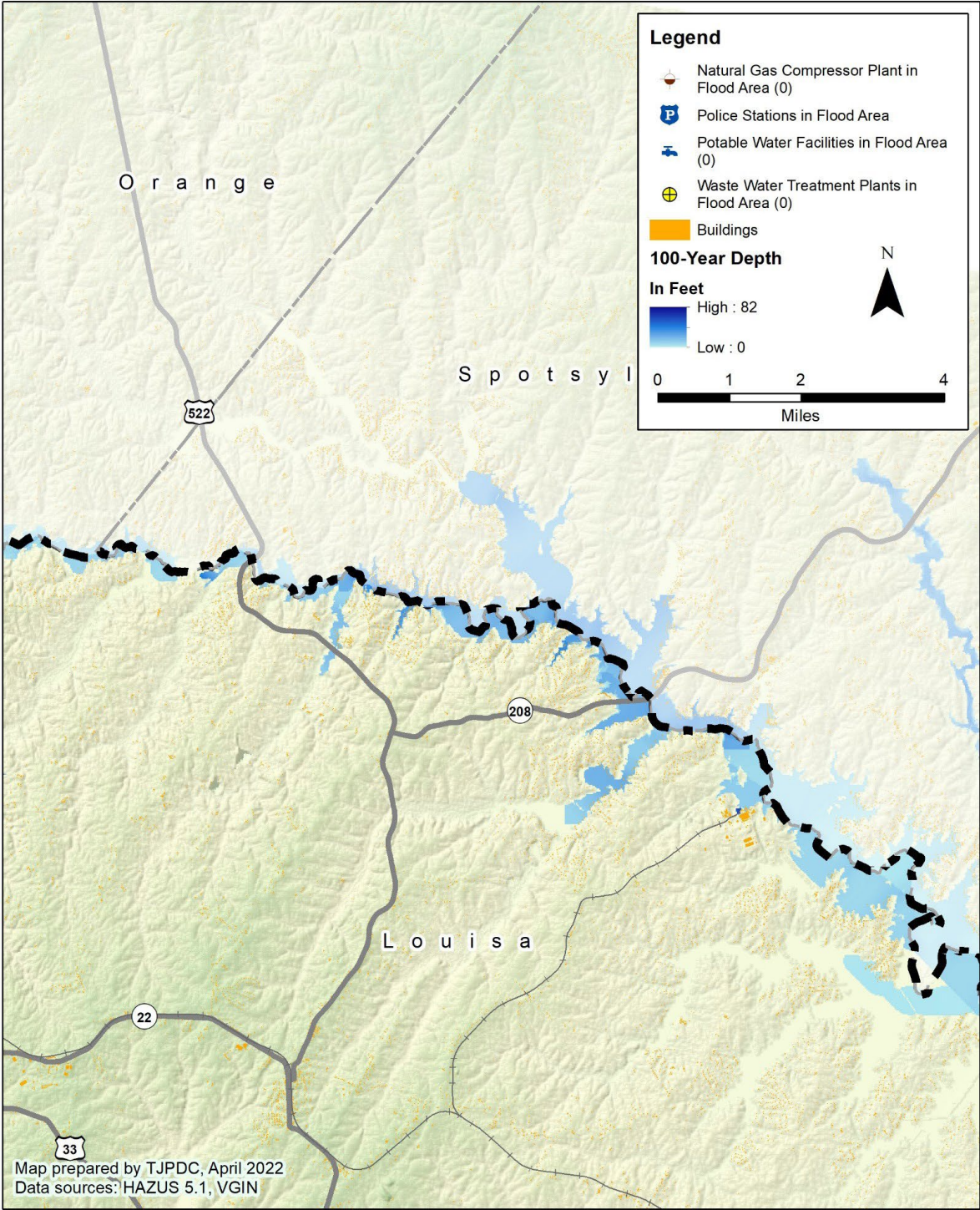




100 Year Flood Event  
Lower James River

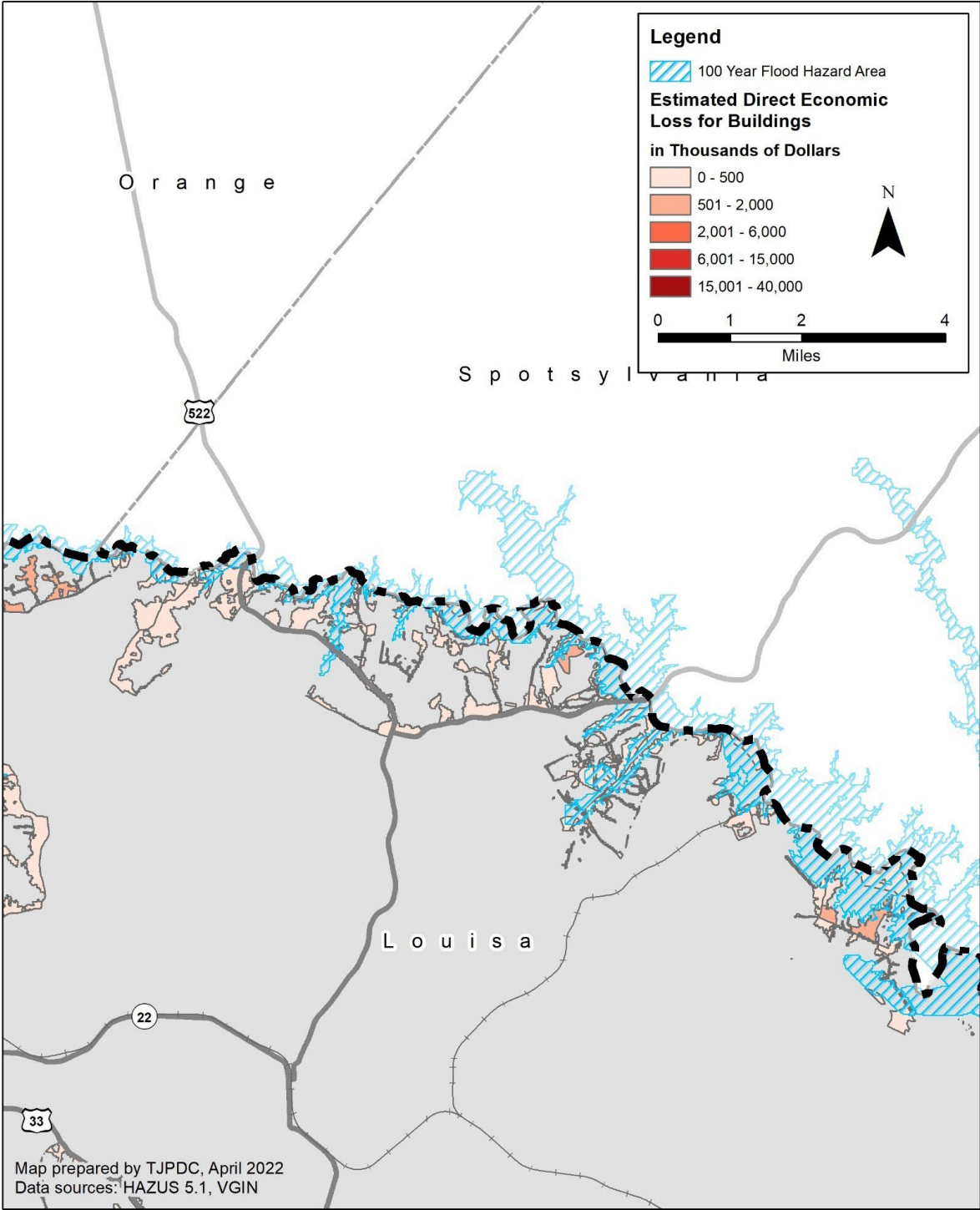


# 100 Year Flood Event North Anna River

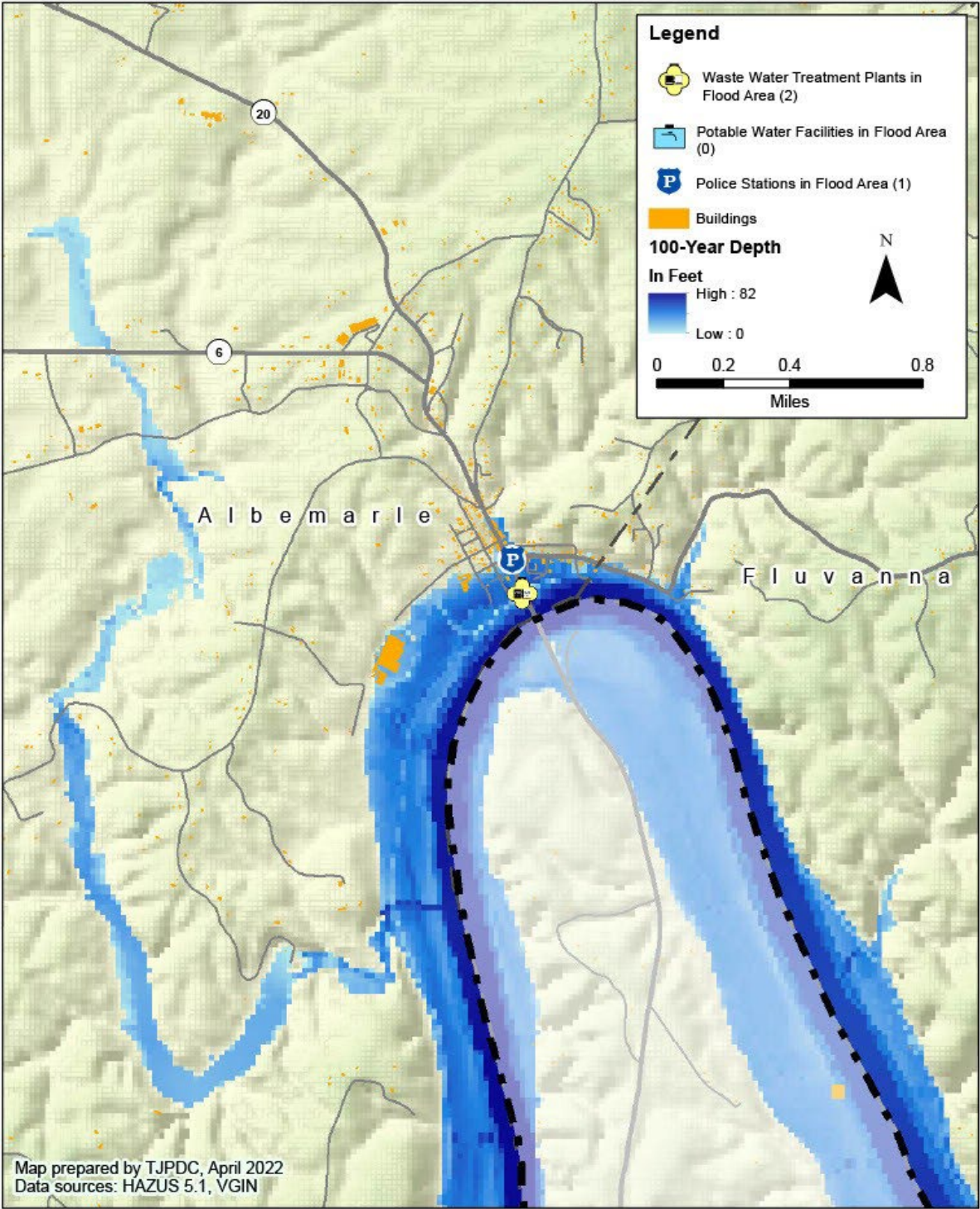




# 100 Year Flood Event North Anna River

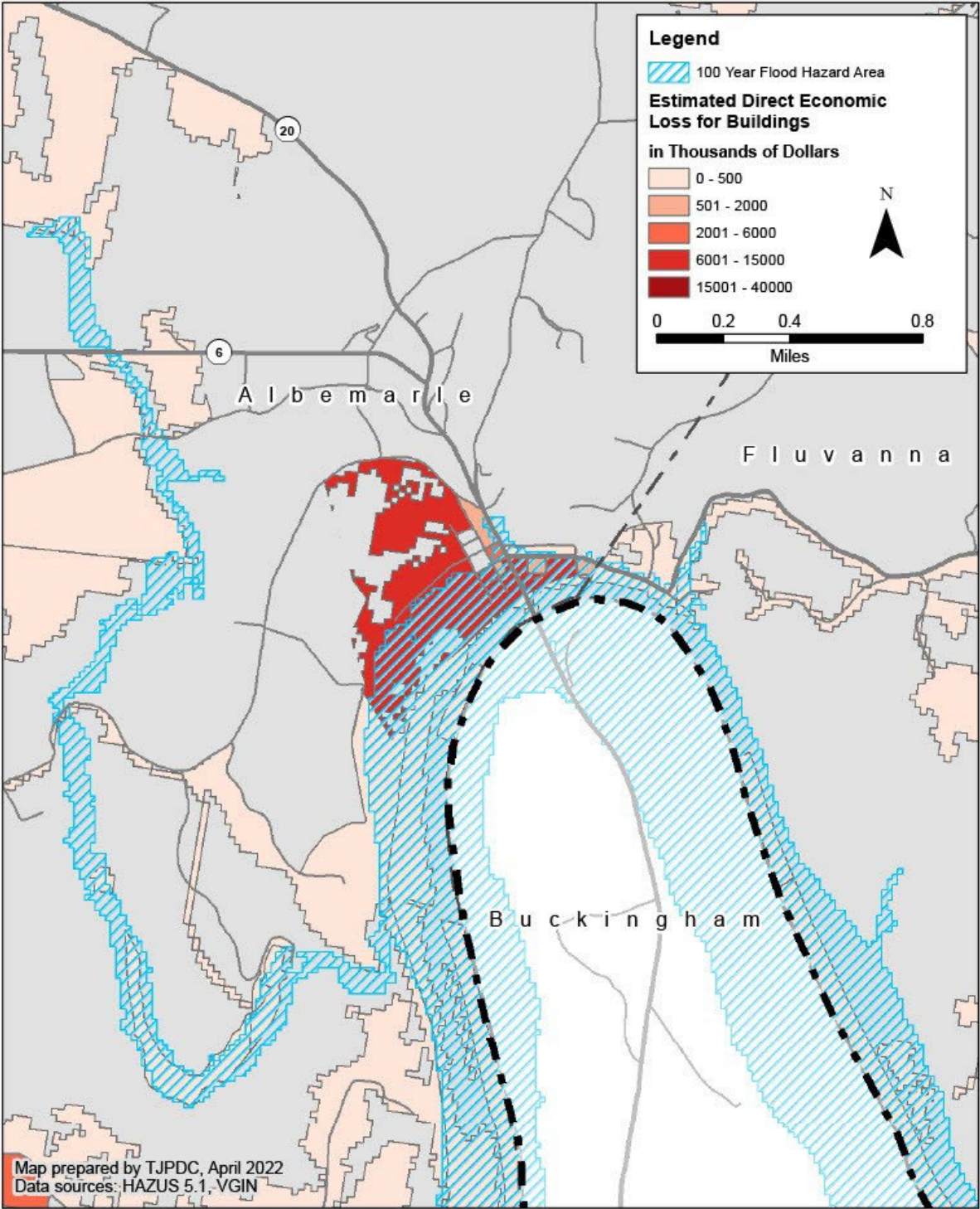


# 100 Year Flood Event Scottsville





# 100 Year Flood Event Scottsville





## Other Flood Vulnerability Considerations

### National Flood Insurance Program

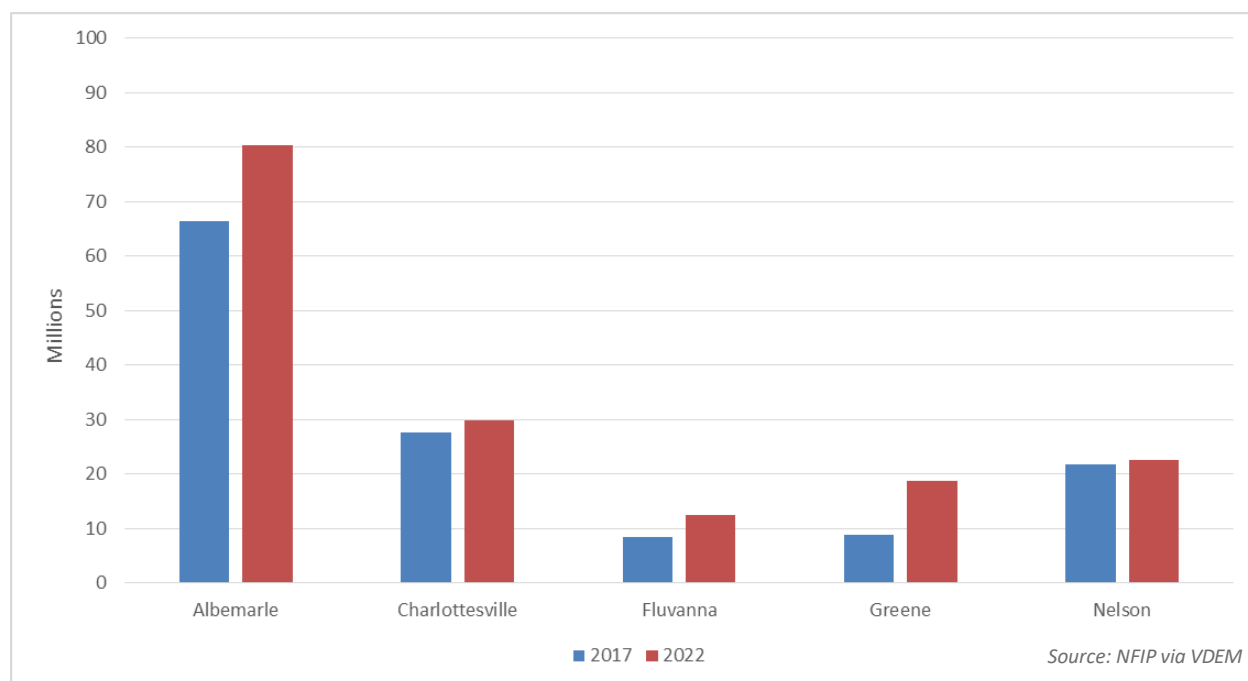
Five out of six of the TJPDC localities participates in the National Flood Insurance Program (NFIP), which insures individual properties in the event of a flood, provides mapping and technical information on flood hazards, and assists in mitigation efforts. An analysis of the insurance held and claims made can provide insight into the financial risk to property posed by floods throughout the region. As of July 2022, over \$164 million in flood insurance was held

in the region, with annual premiums totaling about \$512 thousand. Since the inception of the program, ranging by locality between 1978 and 1989, 242 losses have been claimed for a total of a little over \$2 million.

### Repetitive Loss Structures:

NFIP Definition: Repetitive Loss Structure. An NFIP-insured structure that has had at least 2 paid flood losses of more than \$1,000 each in any 10-year period since 1978.

### Total Insurance Held in the National Flood Insurance Program



### National Flood Insurance Statistics by Locality 2022

| Locality        | Entry into NFIP | # of Policies 2022 | Change in Policies 2017-2022 | Total NFIP Insurance 2022 | Annual Insurance Premium 2022 | Total Losses since Entry | Payments since Entry |
|-----------------|-----------------|--------------------|------------------------------|---------------------------|-------------------------------|--------------------------|----------------------|
| Albemarle*      | 1980            | 351                | 20.9%                        | \$80,286,500              | \$243,987                     | 118                      | \$1,264,602          |
| Charlottesville | 1979            | 103                | 7.8%                         | \$29,871,000              | \$132,508                     | 42                       | \$277,226            |
| Fluvanna        | 1978            | 43                 | 12.6%                        | \$12,573,900              | \$26,519                      | 23                       | \$276,616            |
| Greene          | 1984            | 62                 | 18.7%                        | \$18,712,700              | \$37,694                      | 26                       | \$184,479            |
| Louisa**        | 1989            | 1                  | N/A                          | \$350,000                 | \$519                         | 4                        | \$36,477             |
| Nelson          | 1978            | 85                 | 22.5%                        | \$22,573,600              | \$70,978                      | 29                       | \$14,576             |
| Region          | -               | 645                | 11.9%                        | \$164,367,700             | \$512,205                     | 242                      | \$2,053,976          |

\*Includes Scottsville ^Includes Stanardsville

^^ No new policies in Louisa County have been issued since County left the NFIP in 2017 Source: NFIP Via VDEM

### Hazard Mitigation Assistance Definition:

FEMA may contribute up to 90 percent Federal cost share for RL properties. An RL property is a structure covered by a contract for flood insurance made available under the NFIP that:

(a) Has incurred flood-related damage on two occasions, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and

(b) At the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage. There are 10 structures in the region that fit this category. the type of structure and jurisdiction is listed in the adjacent table.

### Severe Repetitive Loss Structures:

An SRL property is a structure that:

(a) Is covered under a contract for flood insurance made available under the NFIP; and

(b) Has incurred flood related damage

i. For which four or more separate claims payments (includes building and contents) have been made under flood insurance coverage with the amount of each such claim exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$20,000, or

ii. For which at least two separate claims payments (includes only building) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure. There is one such structure in the region. It is a non

residential structure located in Albemarle County. The structure has had over 7 losses and accounts for over half of all Repetitive Loss flood damage in the region, at a total cost of around \$500,000 in damage to the contents of the property. This structure may be important to target for possible mitigation activities. One can also see that only some of the affected properties have been properly mitigated. These represent actions localities can take to protect against flood damage. The following chart shows selected claims data reported to the NFIP.

### Repetitive Loss/ Severe Repetitive Loss Structures

| County          | Res | Comm. | Total |
|-----------------|-----|-------|-------|
| Albemarle       | 7   | 9     | 16    |
| Charlottesville | 6   |       | 6     |
| Fluvanna        | 2   | 1     | 3     |
| Greene          | 1   |       | 1     |
| Louisa*         |     |       |       |
| Nelson          | 3   |       | 3     |
| Region          | 19  | 10    | 29    |

Source: NFIP Via VDEM 2022

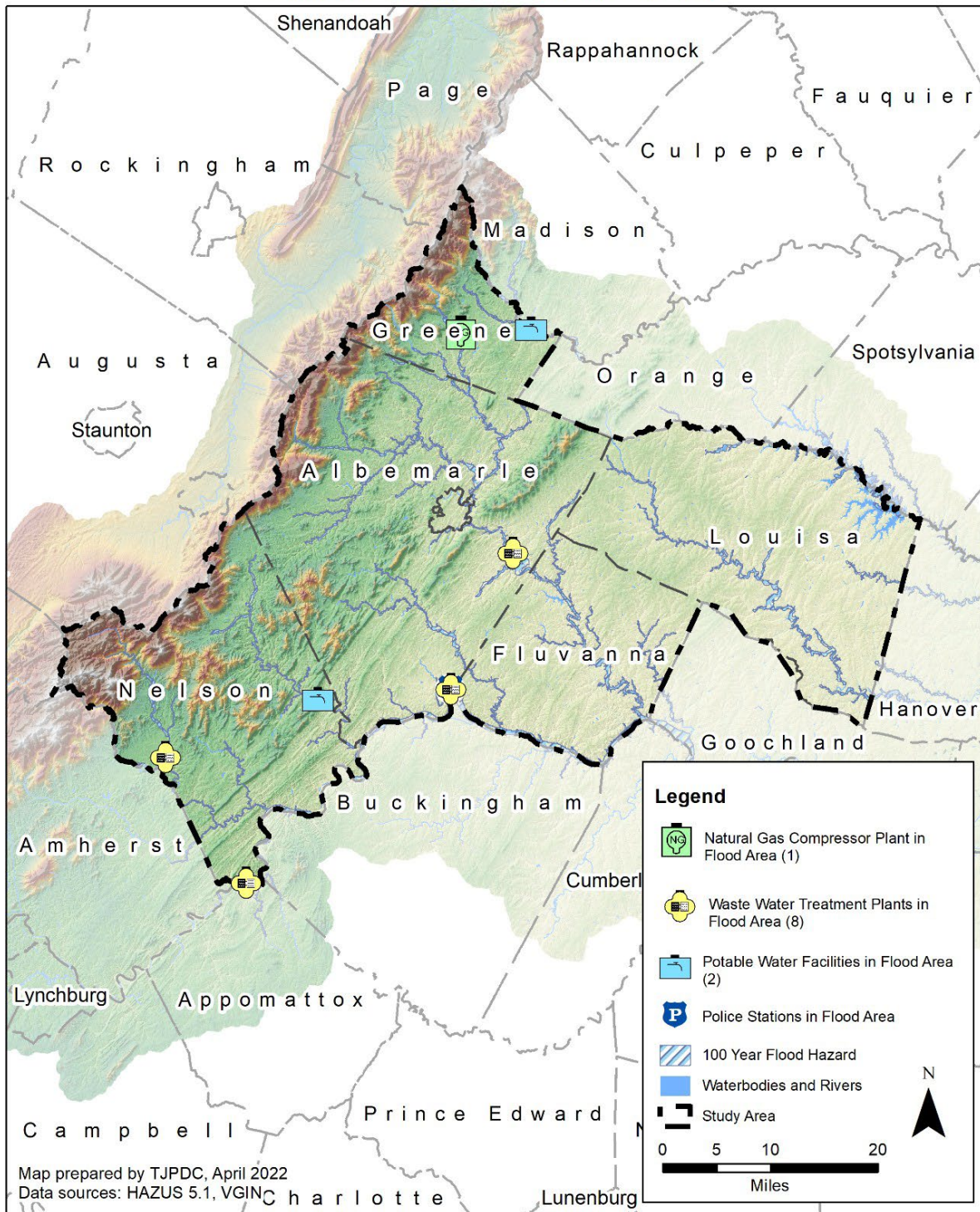
Several of the critical facilities in the region may be impacted by flooding. The HAZUS-generated results presented above take into account damage to essential infrastructure, such as roadways and utilities, as well as essential facilities such as schools and hospitals. However, a more fine-grained approach to flood vulnerability is warranted, especially for facilities that are critical to emergency response. The map on the following page depicts all critical facilities identified in the region that fall within the 100-Year flood plain. Unless the vulnerability is mitigated, use of these facilities may be compromised in event of a flood.

## National Flood Insurance Statistics by Locality

| County          | Type      | Imp Value   | Mitigated | Insured | # of Loss | Most Recent Loss | Total Building Damage | Total Contents Damage | Total Damage |
|-----------------|-----------|-------------|-----------|---------|-----------|------------------|-----------------------|-----------------------|--------------|
| Albemarle       | Non Res   | \$43,200    | No        | No      | 2         | 4/17/1987        | \$8,609               | \$0                   | \$8,609      |
|                 | Non Res   | \$306,600   | No        | No      | 3         | 9/8/1987         | \$30,160              | \$0                   | \$30,160     |
|                 | Non Res   |             | No        | No      | 7         | 8/6/2005         | \$0                   | \$232,123             | \$232,123    |
|                 | Non Res   |             | No        | No      | 3         | 9/8/1987         | \$0                   | \$100,449             | \$100,449    |
|                 | Non Res   |             | No        | No      | 3         | 9/8/1987         | \$0                   | \$114,515             | \$114,515    |
|                 | Non Res   | \$683,200   | No        | No      | 2         | 4/17/1987        | \$21,777              | \$0                   | \$21,777     |
|                 | Non Res   | \$120,400   | No        | No      | 3         | 9/8/1987         | \$41,529              | \$16,976              | \$58,505     |
|                 | Multi Fam | \$1,402,000 | No        | No      | 3         | 9/8/1987         | \$50,521              | \$0                   | \$50,521     |
|                 | 1 Fmly    | \$84,800    | No        | No      | 2         | 9/8/1987         | \$12,132              | \$3,819               | \$15,951     |
|                 | Non Res   | \$55,900    | No        | No      | 2         | 9/8/1987         | \$15,035              | \$0                   | \$15,035     |
|                 | Non Res   | \$160,100   | No        | No      | 2         | 9/8/1987         | \$5,242               | \$2,671               | \$7,913      |
|                 | 1 Fmly    | \$38,036    | No        | No      | 2         | 9/6/1996         | \$36,666              | \$4,600               | \$41,266     |
|                 | 1 Fmly    | \$153,810   | No        | No      | 3         | 9/6/1996         | \$60,302              | \$4,624               | \$64,926     |
|                 | 1 Fmly    | \$51,168    | No        | Yes     | 2         | 9/9/2004         | \$19,459              | \$0                   | \$19,459     |
|                 | 1 Fmly    | \$147,703   | No        | Yes     | 2         | 5/31/2018        | \$1,858               | \$3,029               | \$4,887      |
|                 | 1 Fmly    | \$405,837   | No        | Yes     | 3         | 7/31/2018        | \$29,289              | \$8,159               | \$37,448     |
| Charlottesville | 1 Fmly    | \$207,000   | No        | No      | 4         | 9/8/1987         | \$24,493              | \$9,270               | \$33,763     |
|                 | 1 Fmly    | \$150,714   | No        | Yes     | 3         | 9/21/1979        | \$11,481              | \$5,000               | \$16,481     |
|                 | 1 Fmly    | \$153,106   | No        | Yes     | 3         | 5/30/2018        | \$31,605              | \$853                 | \$32,458     |
|                 | 1 Fmly    | \$205,021   | No        | Yes     | 2         | 6/3/1979         | \$41,213              | \$0                   | \$41,213     |
|                 | 1 Fmly    | \$239,414   | No        | Yes     | 2         | 6/3/2018         | \$43,289              | \$0                   | \$43,289     |
|                 | 1 Fmly    | \$75,000    | No        | Yes     | 2         | 6/2/1979         | \$12,711              | \$0                   | \$12,711     |
| Fluvanna        | Non Res   | \$170,600   | No        | No      | 3         | 9/7/1996         | \$78,996              | \$330                 | \$79,326     |
|                 | 1 Fmly    | \$50,100    | No        | No      | 2         | 9/8/1987         | \$21,688              | \$0                   | \$21,688     |
|                 | 1 Fmly    | \$42,000    | No        | No      | 2         | 9/6/1996         | \$52,629              | \$0                   | \$52,629     |
| Greene          | 1 Fmly    | \$136,704   | No        | No      | 6         | 11/11/2020       | \$82,813              | \$0                   | \$82,813     |
| Nelson          | 1 Fmly    | \$70,000    | No        | Yes     | 3         | 9/6/1996         | \$16,977              | \$0                   | \$16,977     |
|                 | 1 Fmly    | \$64,300    | No        | No      | 2         | 9/6/1996         | \$55,638              | \$11,547              | \$33,593     |
|                 | 1 Fmly    | \$50,000    | No        | Yes     | 3         | 11/29/2005       | \$20,832              | \$5,508               | \$26,341     |

Source: NFIP Via VDEM

# 100 Year Flood Event Critical Facilities within Flood Area





## Winter Storm: Estimated Losses

Winter Storm events pose less of a direct risk to human life and property, but they can become a significant impediment to business and emergency response operations, as well as a cause for traffic accidents. In general, the western part of the Planning District at higher elevations experiences greater snowfall, but most storms affect the region. Costs of snow removal can be high for state agencies and local governments. VDOT budgets over 200 million dollars for snow removal per season. Remote homes, especially in the more mountainous areas of the Planning District, are at a greater risk of being isolated as roads become impassable.

From historical data presented in the Hazard Analysis section, a basic trend line indicates that over the next ten years the region will be hit on average by 40 winter weather events a season. This figure includes winter storms, ice storms and winter weather. Winter weather frequently cause conditions that result in injuries and death, mostly due to automobile accidents and people overexerting themselves clearing snow. Direct property loss can be expected to be minimal over the decade, under \$1 million in total damages. However single season losses might be larger. for example, the winter of 2021-2022 saw multiple days of widespread power outages across the region. The single largest impact from

### Winter Weather Trends 2000-2021



winter storms are the significant impedance they cause to businesses when infrastructure and services are blocked. Winter storms also present economic challenges for families who must deal with school closings. It is important to note that as the region continues to grow and spread out into low-density exurban development, the population becomes

more dependent on well-functioning transportation infrastructure. The impact of winter storms can be expected to increase proportionally. There is a clear indication from weather data that winter storms are becoming more prevalent in the region.



Source: Andrew Shurtleff/The Daily Progress via AP

Note: Winter events include winter storms, ice storms, and winter weather Source: NOAA NCDC

## Communicable Disease: Estimated Loss

Communicable disease events vary in their possible risk to human populations depending on the type of disease, severity of the strain or type, its contagiousness, and success of measures taken to mitigate the spread or help afflicted individuals.

COVID-19 still poses a significant health and economic risk to the planning district and nation at large. As of March 2022, over 81 million people have had confirmed COVID-19 infections, and over 998,000 people have died in the United States. The highly contagious variants of the original “alpha” COVID strain has the potential to drive cases to very high levels and can even infect vaccinated individuals. The planning district experienced this most acutely during the case surge associated with the Omicron COVID-19 variant, which drove cases to a high of 700 confirmed positives in 1 day on January 18, 2022, an increase of 872% from the 72 confirmed positives reported on December 18, 2021, just one month earlier. Although the Omicron and other COVID-19 variants are diminished by COVID-19 vaccines, individuals can still become very sick even if



they do not have to enter the hospital. Unvaccinated individuals are at even greater risk as the virus continues to create more contagious variants and more long-term health issues are discovered to be linked to contracting COVID-19. Even if most recover from COVID-19 without serious complications, hospitals filling up with those that do can create adverse consequences for those who need to access the hospital for COVID-19 treatment, or other treatment.

A community's vaccination rate also has major impli-

cations in determining potential losses associated with a COVID-19 outbreak. According to the Center for Disease Control, COVID-19 vaccines reduce the risk of severe illness and death among people who are fully vaccinated. They help protect against developing COVID-19 infections and are very effective at reducing the probability an individual will be admitted to the hospital. As of March 2022, 71.8% of people in the planning district are fully vaccinated. The primary risk associated with COVID-19 is for those who are unvaccinated. There is the potential



## COVID-19 in Blue Ridge Health District:

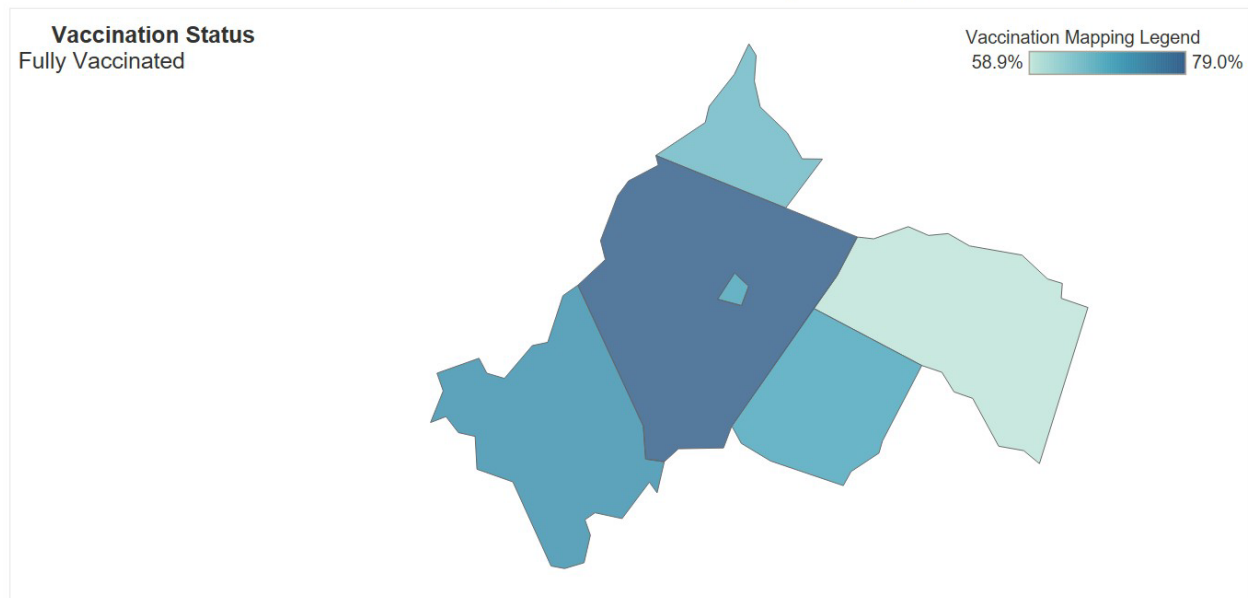


Date Updated: March 21, 2022

**Total doses administered: 468,403**

| People with at least one dose: | Percent with at least one dose: | People fully vaccinated: | Percent fully vaccinated: | People with booster/3rd dose: | Percent with booster/3rd dose: |
|--------------------------------|---------------------------------|--------------------------|---------------------------|-------------------------------|--------------------------------|
| 198,102                        | 76.8%                           | 185,153                  | 71.8%                     | 108,200                       | 41.9%                          |

### Percent of People Vaccinated by Locality



Please note it can take up to 72 hours for healthcare providers to report doses to the Virginia Immunization Information System (VIIS).

Population estimates data source: 2020 National Center for Health Statistics (NCHS) Bridged-Race population estimates

Definitions to note:

**People that have received at least one dose:** Total number of people who received at least one dose of a COVID-19 vaccine.

**People who are fully vaccinated:** Total number of people who have completed the recommended series of a given vaccine (i.e., two doses of Pfizer or Moderna or one dose of Johnson & Johnson (J&J)).

**People who have received a booster or 3rd dose:** Total number of people who have completed the recommended series of a given vaccine and have additionally received a booster or 3rd dose.

Source: BRHD

for continuing economic loss also associated with the continuing pandemic. School and business closures have become increasingly rare, but such interventions remain depending on the scope and size of COVID-19 outbreaks.

Other communicable diseases pose similar types of losses in terms of death and hospital admission. Campylobacteriosis, salmonellosis, and Lyme disease, the three most common communicable diseases in the planning district, are often manageable with antibiotic treatment or over-the-counter medication. Very few individuals die of these diseases annually (around 200 from Campylobacteriosis, 420 from salmonellosis, and around 10 directly from Lyme disease). These diseases can still create significant disruption to a community's day-to-day life, including keeping children out of school and parents from work. The losses associated with common communicable diseases also depend on how effectively each disease is mitigated through healthy habits like proper handwashing, staying home when sick, and early identification of contagiousness.

According to work done by Metabiota, an agency that has developed a Global Epidemic Monitoring and Modeling platform (GEMM), the annual probability of a pandemic whose scale and size is similar to COVID-19 is between 2.5 and 3% annually. This means that over the next 25 years, there is a 47 to 57% chance that another global pandemic similar to COVID-19 occurs.

### Wildfire: Estimated Loss

Since the last Hazard Mitigation plan update several new tools for assessing fire risk have become widely available to planners. These include data from the Southern Group of State Foresters Southern Wildfire Risk Assessment tool and the U.S. Forest Service. These tools provide interactive mapping that allows for planners to assess fire potential based on a variety of factors. A map depicting the burn probability based on the Southern Wildfire Risk tool is included on the following pages.

For Estimating Losses the older Virginia Department of Forestry Risk maps (2003) were used. These maps provide a more localized look at wildfires and wildfire risk specific to Virginia. These maps subdivide the region into areas of high, medium, and low risk for wildfires.

### WUI Risk Index - Acres

|  | Class | Acres   | Percent |
|--|-------|---------|---------|
|  | -1    | 79,722  | 12.1%   |
|  | -2    | 187,157 | 28.4%   |
|  | -3    | 77,961  | 11.8%   |
|  | -4    | 129,430 | 19.6%   |
|  | -5    | 129,926 | 19.7%   |
|  | -6    | 25,510  | 3.9%    |
|  | -7    | 22,748  | 3.5%    |
|  | -8    | 6,407   | 1.0%    |
|  | -9    | 35      | 0.0%    |

Source: Southern Wildfire Risk

To assess vulnerability to wildfire, the Wildland Urban Interface (WUI) Risk Index was used. The key input, WUI, reflects housing density (houses per acre) consistent with Federal Register National standards. The location of people living in the Wildland Urban Interface and rural areas is key information for defining potential wildfire impacts to people and homes.



Source: TJ Wood Via NBC29

The WUI is the area where structures and other human improvements meet and intermingle with undeveloped wildland or vegetative fuels. Population growth within the WUI substantially increases the risk from wildfire.

The WUI Risk Rating is derived using a Response Function modeling approach. Response functions are a method of assigning a net change in the value to a resource or asset based on susceptibility to fire at different intensity levels, such as flame length. The range of values is from -1 to -9, with -1 representing the least negative impact and -9 representing the most negative impact. For example, areas with high housing density and high flame lengths are rated -9

while areas with low housing density and low flame lengths are rated -1.

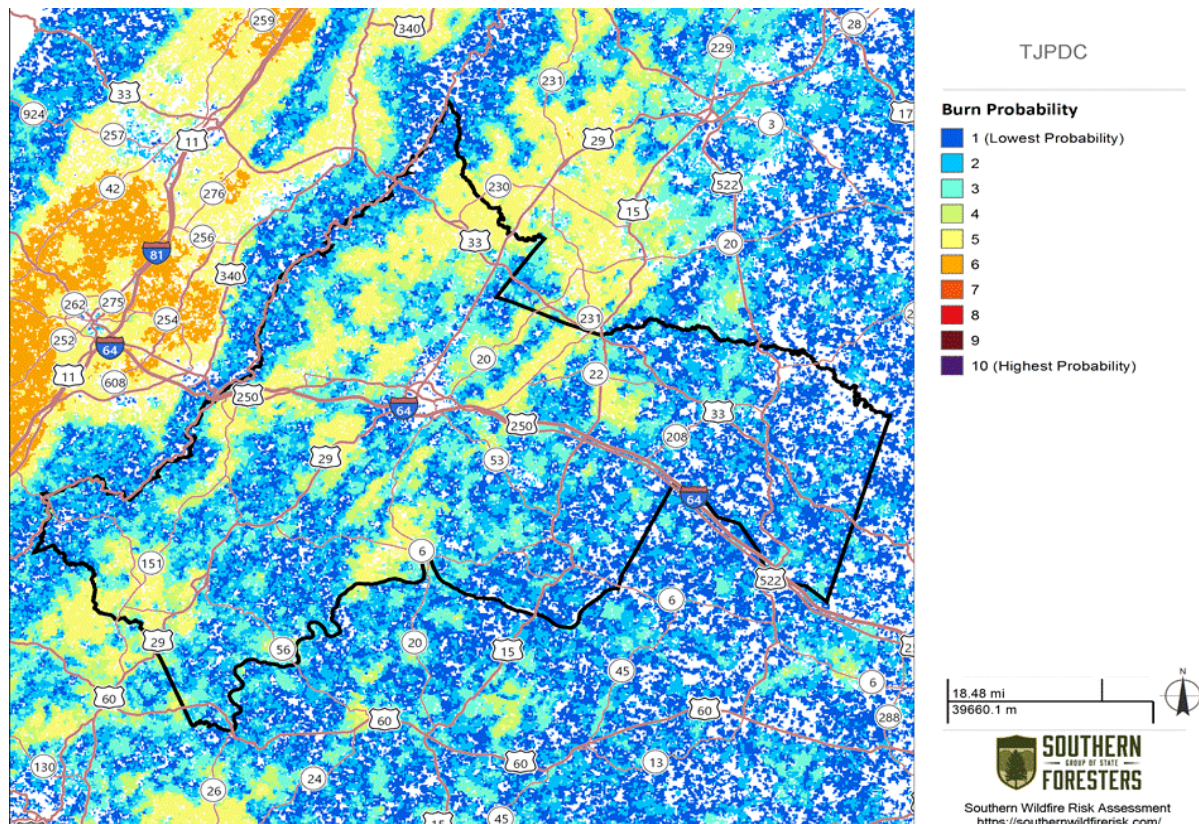
To calculate the WUI Risk Rating, the WUI housing density data was combined with Flame Length data and response functions were defined to represent potential impacts. The response functions were defined by a team of experts based on values defined by the SWRA Update Project technical team. By combining flame length with the WUI housing density data, you can determine where the greatest potential impact to homes and people is likely to occur.

Based on the 2022 zone analyses Albemarle County has the greatest number of at-risk acres, and Fluvanna County has the highest proportion of at-risk acres. Additionally, 184,626 acres in the region are exposed to higher than moderate wildfire risk. The City of Charlottesville has by far the lowest risk of any locality. Although 11% of the land is at-risk, most of this area is park land. Only 4% of homes are at-risk. For all other localities, homes are more

likely to be located in high-risk areas than lower risk areas. This could be explained by the prevalence of farmland in low-risk areas that have relatively few residential buildings. The maps on the following pages compare the number of housing units at risk with units that are not at substantial risk to wildfire. This is a measure of total exposure, not a measure of expected loss, because wildfires are highly localized events that do not adhere to a predictable spatial pattern.

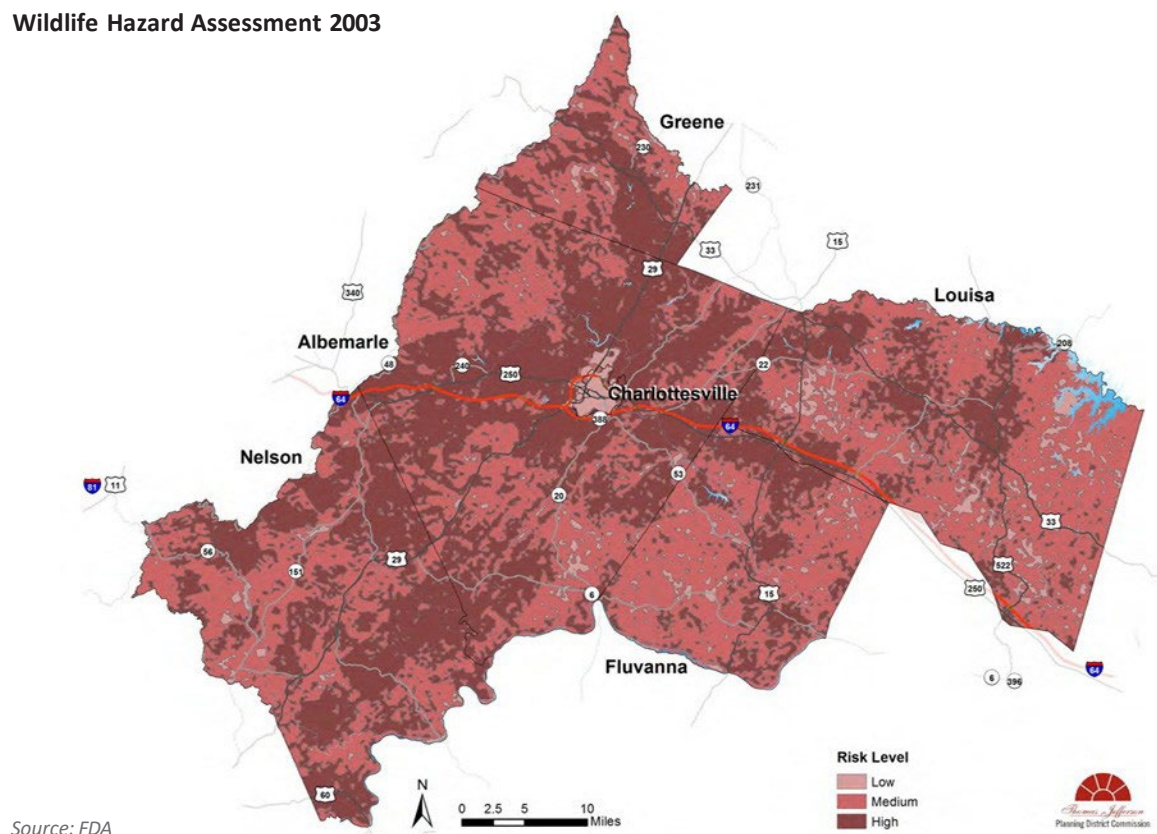
The maps on the following demonstrate the WUI risk rating for each locality. This is a measure of total exposure, not a measure of expected loss, because wildfires are highly localized events that do not adhere to a predictable spatial pattern. Note that the threat of wildfire in Charlottesville is overrepresented in these maps as the prevalence of wooden structures and trees in a concentrated space generates a higher risk, even when the fires that occur in urban areas are almost never wildfires.

#### Burn Probability – TJPDC

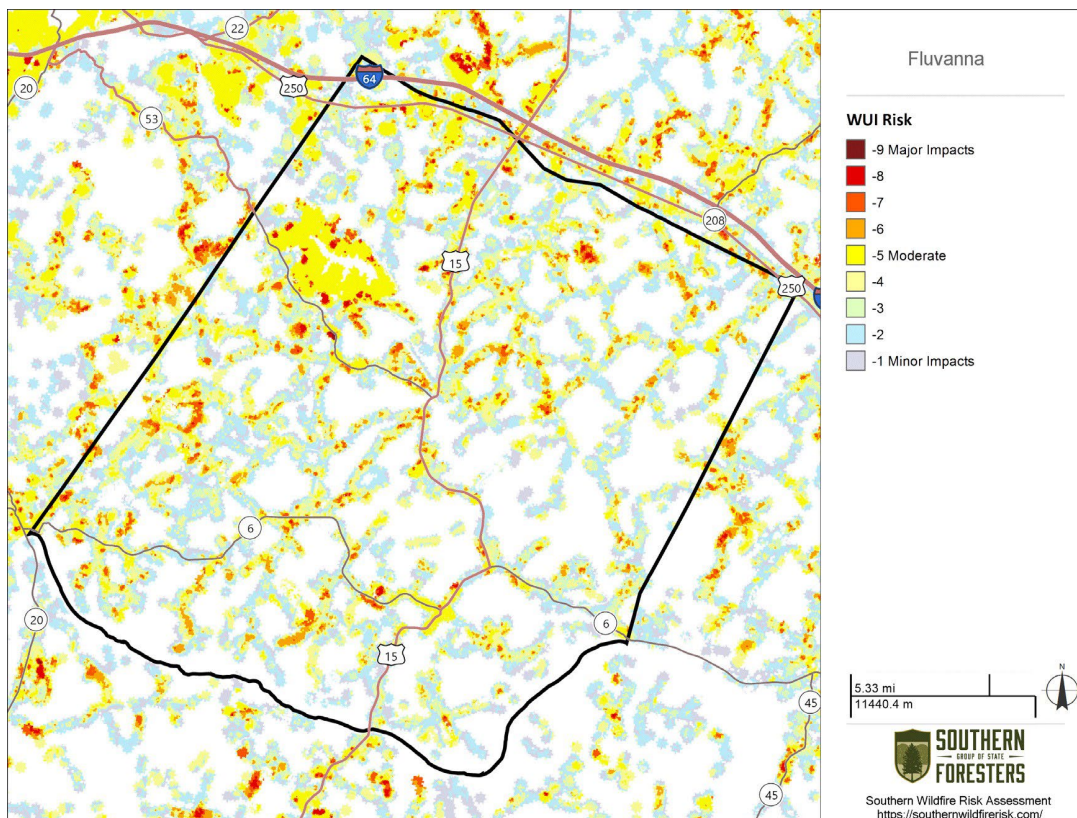




# Wildlife Hazard Assessment 2003

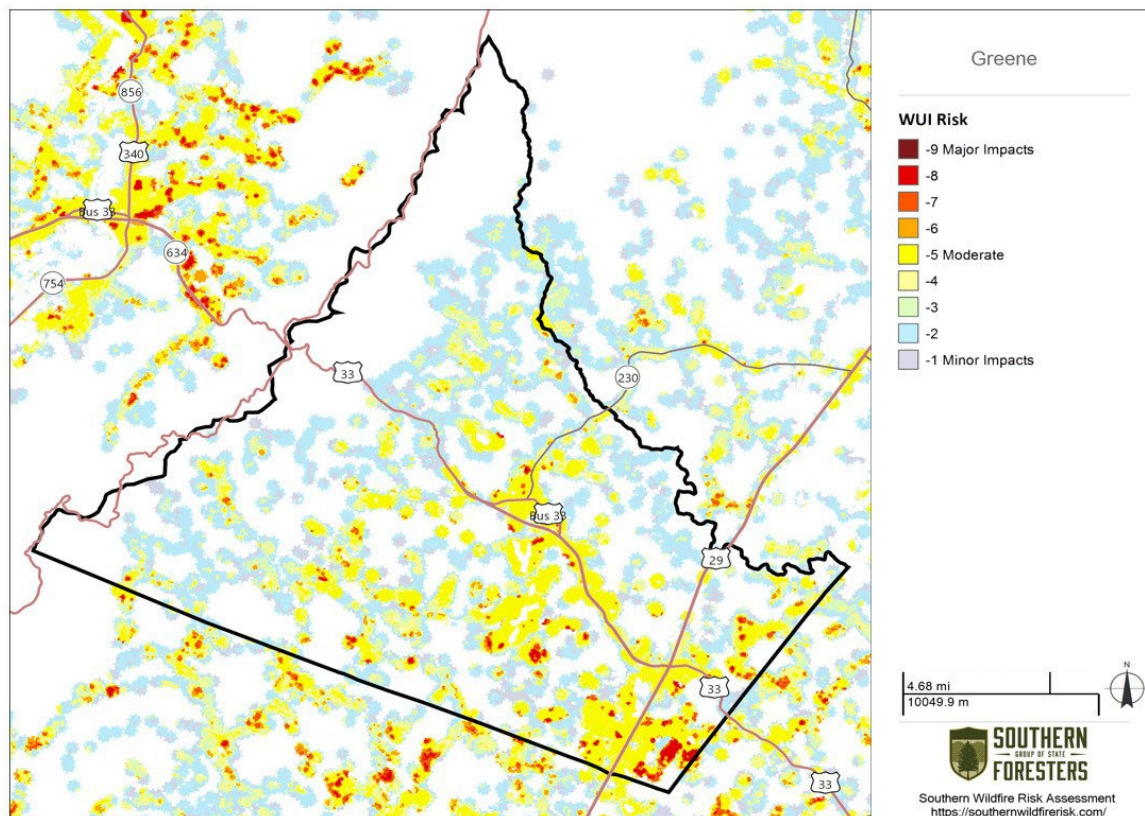


## WUI Risk – Fluvanna

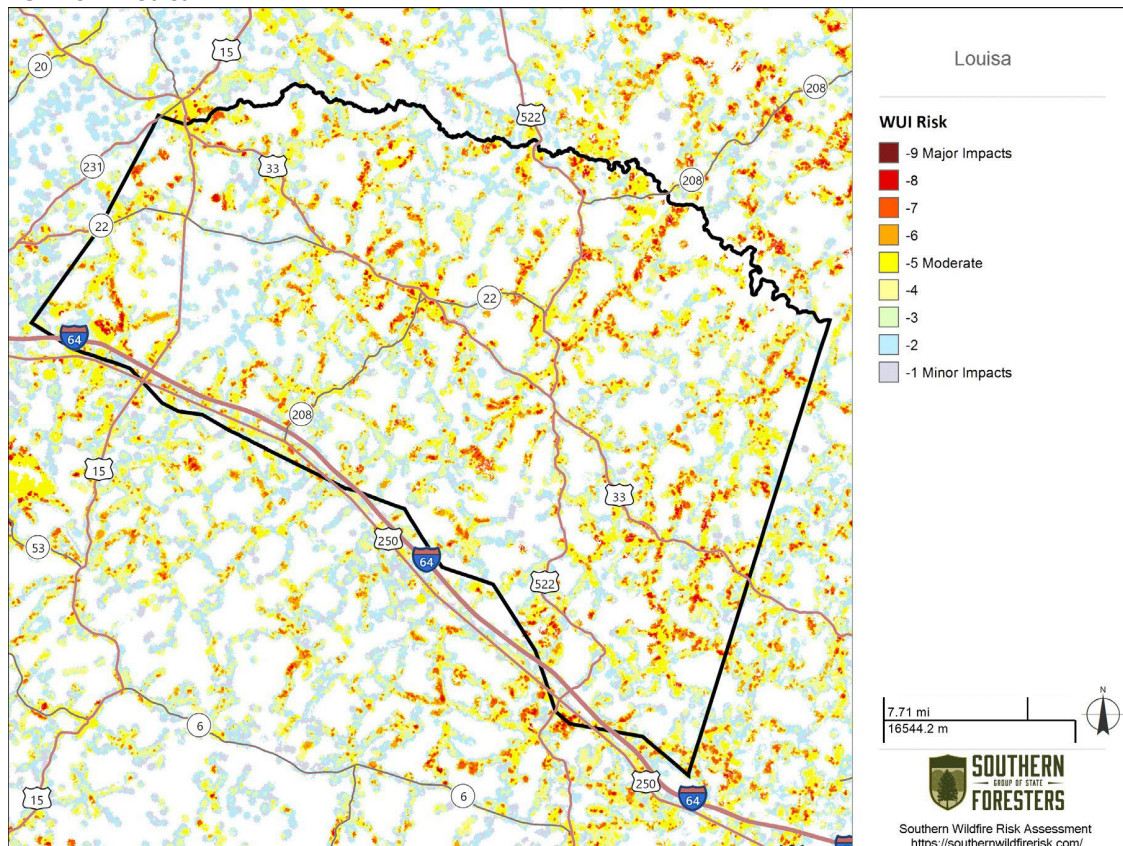




## WUI Risk – Greene

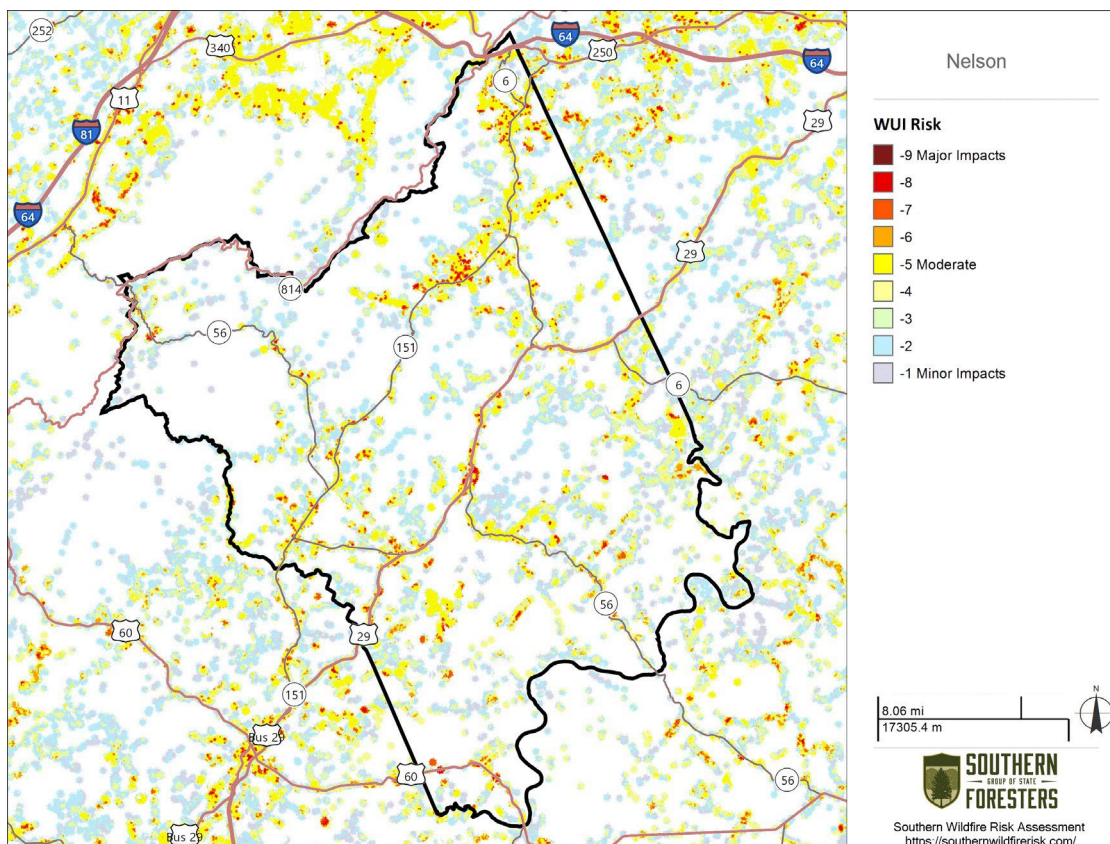


## WUI Risk – Louisa

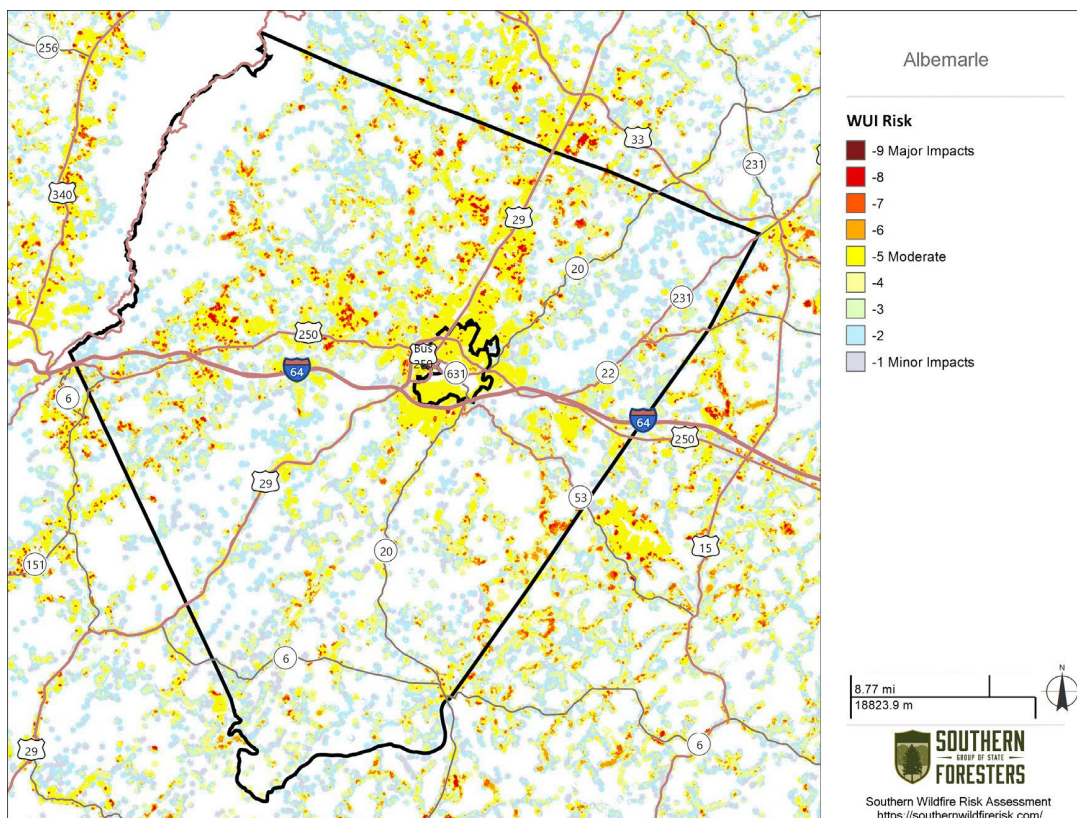




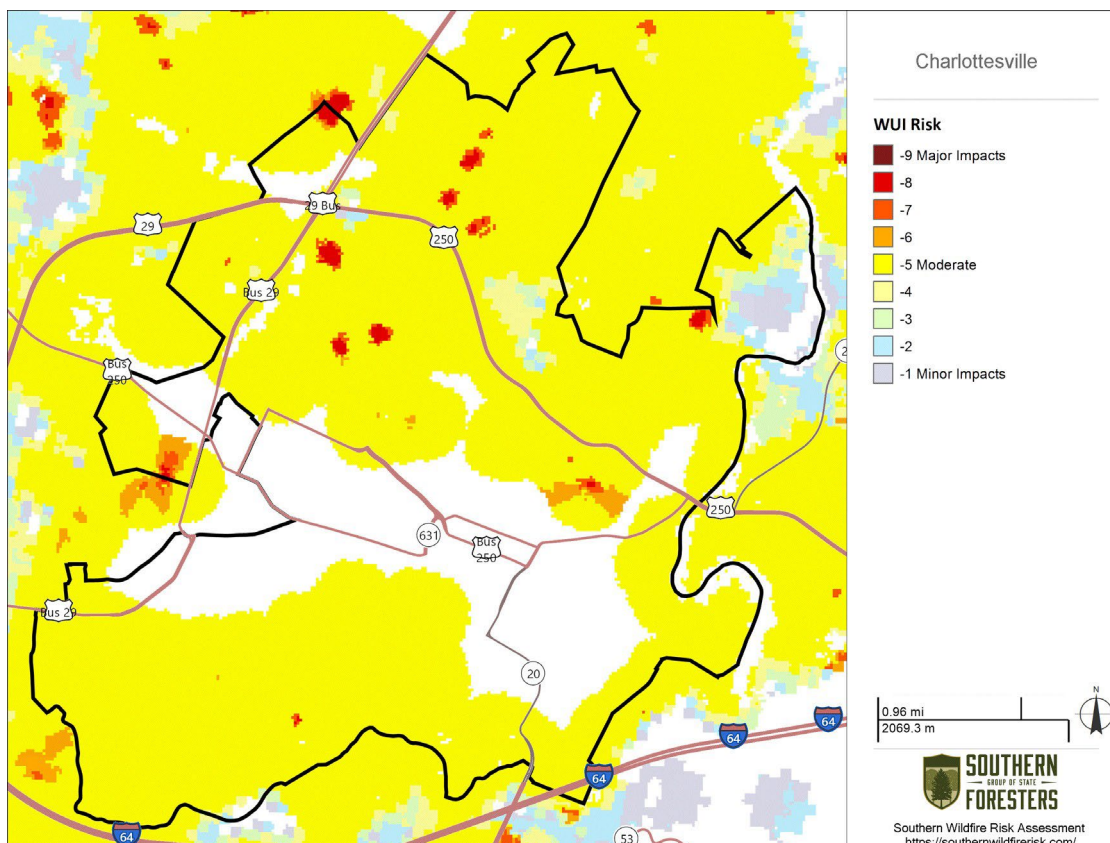
## WUI Risk – Nelson



## WUI Risk – Albemarle



## WUI Risk – Charlottesville



Based on a trend between 2017 and 2021, the annual expected loss for the region is \$121,444 in direct fire damage, not accounting for indirect damages such as displacement or loss of access. Business operations are less likely to be impeded by wildfires because commercial areas tend to occupy more urban sites.

### Total Economic Losses to Wildfires by Locality from 2017-2021

| Locality  | 2017      | 2018       | 2019     | 2020       | 2021         | Annual Avg. |
|-----------|-----------|------------|----------|------------|--------------|-------------|
| Albemarle | \$ 12,200 | \$ 210,900 | \$ 1000  | \$ 208,000 | \$ 10,200    | \$88,460    |
| Fluvanna  | \$ -      | \$ -       | \$ -     | \$ 4,500   | \$ 2416.74   | \$3,458     |
| Greene    | \$ 11,500 | \$ 16,000  | \$ 100   | \$ -       | \$ -         | \$9,200     |
| Louisa    | \$ 1,500  | \$ 300     | \$ 200   | \$ 16,000  | \$ 11,300    | \$5,860     |
| Nelson    | \$ 9,500  | \$ 54,000  | \$ -     | \$ 25,950  | \$ 11,650    | \$25,275    |
| Region    | \$ 34,700 | \$ 281,200 | \$ 1,300 | \$ 254,450 | \$ 35,567.74 | \$121,444   |

Source: Virginia Department of Forestry

Losses varied significantly between localities, from \$3,458 per year in Fluvanna to \$88,460 per year in Albemarle. However, it should be noted that two incidents in Albemarle in 2018 and 2020 accounted for around 2/3 of total loss during this time period. Wildfire damage is often difficult to predict and is dependent on many variables including wind, rainfall, and proximity to houses and businesses.



## **Drought: Estimated Loss**

Estimated potential losses due to drought are difficult to calculate because drought causes little damage to the built environment, mostly affecting crops and farm- land. Water supply effects of droughts are also hard to project because they are based on several contingencies such as future capacity, water conservation behavior, and projected demand. By land area, most of the region is dependent on groundwater reserves that can be susceptible to falling groundwater tables during extreme drought conditions. The City of Charlottesville and urbanized Albemarle County depend on surface water storage system which includes a system of five reservoirs that provide 3.4 billion gallons of water storage. These reservoirs are fed by stream intakes that are affected by rain levels. The 2015 RWSA Drought Response and Contingency Plan includes best practices, drought management strategies, and contingency plans.

Based upon droughts over the past ten years, the region will most likely be affected by one or two droughts over the next ten years. No loss of life or injury will be caused,

and there will be no direct property damage. However, future droughts are expected to cause damage (\$5 - \$15 million) to crops in the region and some business operations may be impeded by water usage restrictions. These estimates vary wildly depending on the location, severity, and duration of a potential drought. This can be ascertained from the National Integrated Drought Information System's Drought Monitor resource. There have only been 2 "D4", or exceptional droughts, since 2000 statewide. There is, however, evidence of moderate to severe droughts affecting the states every few years. According to the Center for Climate and Energy Solutions, warmer temperatures can enhance evaporation, which reduces soil water and dries our soils and vegetation. This makes areas more susceptible to drought than they would be otherwise, under cool conditions. It can be expected that rising global temperatures will make droughts more damaging and more prevalent.

## **Tornadoes: Estimated Loss**

Because it cannot be predicted where a tornado may touch down, all above-ground buildings and facilities are exposed to this hazard and could potentially

be impacted. It is also not possible to estimate the number of residential, commercial, and other buildings or facilities that may experience losses.

The locations of past tornado events within the Planning District are shown on the map in Hazard Identification and Analysis section. Based on historic trends, the region is expected to experience several tornadoes (30-35) in the next fifty years, causing 10-15 deaths and several injuries. Property loss will likely total \$5 to \$7 million. As the population and number of structures increases in the area, the number of casualties and amount of property damage are likely to rise proportionately. These losses, if tornadoes are combined with other weather events like thunderstorms and heavy rain, could be even greater.

## **Earthquake: Estimated Loss**

The August 23, 2011, earthquake with an epicenter near Mineral was the first in recent history to cause significant property damage. As of the end of September 2011, Louisa County reported a total of \$80.6 million in damages, by far the largest amount of any county in Virginia. Of the total, \$63.8 million is attributed to the Louisa County public schools. No losses of human life or injuries were reported. The Louisa County High School and

Thomas Jefferson Elementary School were damaged. The High School was replaced with a new facility that came online for the 2015/2016 School Year. Thomas Jefferson Elementary school was replaced and opened in time for the 2014/2015 school year. The rest of the TJPDC reported only limited damage. Outside of Louisa County, most damage was reported to the north along known fault lines.

Governor McDonnell requested a federal Emergency Declaration approximately one month after the event occurred, noting that much of the damage only became apparent upon inspection of homes by a qualified engineer. Damaged buildings prevent further safety concerns, especially if the damage goes undetected. Louisa County have dispatched teams of building inspectors and fire marshals to 1,000 homes in the area to inspect and install donated smoke and carbon monoxide detectors to reduce the risk of fires and poisoning once homes are heated in the winter.

All modern buildings – including critical facilities –

must adhere to the statewide building code, which has certain provisions to prevent excessive damage from earth- quakes. Therefore, many of the most impacted buildings have been the older building stock, including historic structures.



Source: Louisa County Historical Society

## Methodology

HAZUS MH 5.1 was used to estimate losses of a future earthquake. Data from the August 23rd, 2011, earthquake was used as parameters for a scenario, and data for building inventory, soil type, and fault lines was supplied through HAZUS. The scenario assumes a 5.8 magnitude earthquake at a depth of 6 km, with an epicenter near Mineral in Louisa County. This is a very low-probability event, roughly equivalent to a 500-Year Flood according to current USGS predictions. All economic numbers are shown in thousands.

## Results

The 5.8 Magnitude earthquake modeled would result in a total of about \$16 million in structural damage, \$73 million in non-structural damage and income

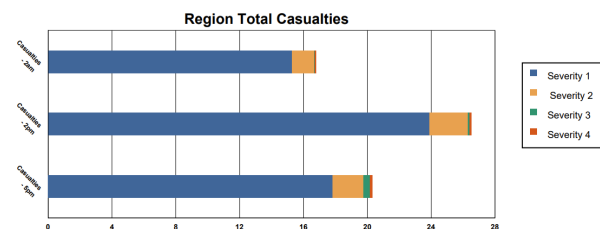


Source: The Daily Progress

loss equivalent to \$16 million. 72% of all economic loss occurring in Louisa County.

Casualties and injuries are represented on a four-tier severity level with level 1 being the lowest and representing an injury like a sprain or a severe cut. Level 2 injuries requiring x-ray or surgery but not expected to progress to life threatening. Level 3 injuries that pose an immediate life-threatening condition. Level 4 are injuries that result in instantaneous death or mortal injury. The chart below presents the expected casualties for the region at 2am, 2pm, and 5pm – around 60 total.

## Regional Total Casualties



Source: HAZUS MH 5.1

## Building Stock Exposure By General Occupancy

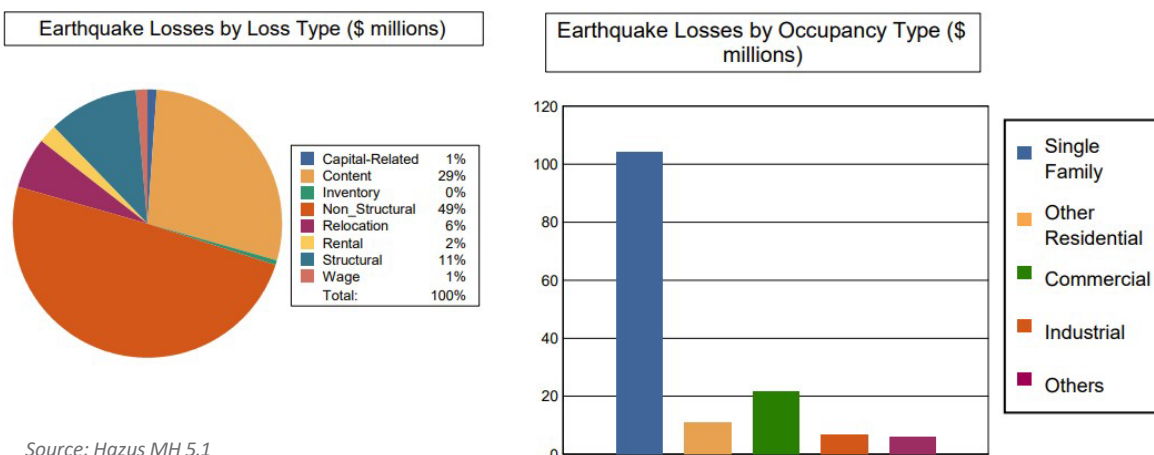
| Locality        | Residential  | Commercial  | Industrial | Agriculture | Religion  | Government | Education | Total        |
|-----------------|--------------|-------------|------------|-------------|-----------|------------|-----------|--------------|
| Albemarle       | \$11,176,787 | \$1,500,043 | \$294,042  | \$56,265    | \$157,641 | \$27,979   | \$274,565 | \$13,487,322 |
| Charlottesville | \$3,589,878  | \$1,226,976 | \$133,037  | \$11,916    | \$124,207 | \$44,797   | \$156,144 | \$5,286,955  |
| Fluvanna        | \$2,924,341  | \$100,542   | \$26,381   | \$4,808     | \$8,962   | \$5,571    | \$24,808  | \$3,095,414  |
| Greene          | \$1,624,770  | \$127,658   | \$31,336   | \$8,237     | \$21,984  | \$6,603    | \$25,680  | \$1,846,268  |
| Louisa          | \$4,067,972  | \$321,420   | \$124,532  | \$14,065    | \$50,728  | \$9,335    | \$30,225  | \$4,618,277  |
| Nelson          | \$1,971,432  | \$166,439   | \$46,046   | \$15,179    | \$41,558  | \$14,493   | \$11,836  | \$2,266,983  |
| Region          | \$25,355,180 | \$3,443,079 | \$655,374  | \$110,470   | \$405,080 | \$108,778  | \$523,258 | \$30,601,219 |

Source: Hazus MH 5.1

## Building Related Economic Estimated Losses

| Category                    | Area            | Single Family  | Other Residential | Commercial     | Industrial    | Others        | Total           |
|-----------------------------|-----------------|----------------|-------------------|----------------|---------------|---------------|-----------------|
| <b>Income Losses</b>        |                 |                |                   |                |               |               |                 |
|                             | Wage            | 0.0000         | 0.1495            | 1.6497         | 0.1315        | 0.1653        | 2.0960          |
|                             | Capital-Related | 0.0000         | 0.0636            | 1.2936         | 0.0802        | 0.0432        | 1.4806          |
|                             | Rental          | 1.4683         | 0.4470            | 1.2608         | 0.0491        | 0.0717        | 3.2969          |
|                             | Relocation      | 5.0336         | 1.4694            | 1.9595         | 0.3151        | 0.6312        | 9.4088          |
|                             | <b>Subtotal</b> | <b>6.5019</b>  | <b>2.1295</b>     | <b>6.1636</b>  | <b>0.5759</b> | <b>0.9114</b> | <b>16.2823</b>  |
| <b>Capital Stock Losses</b> |                 |                |                   |                |               |               |                 |
|                             | Structural      | 9.9511         | 1.7904            | 2.8633         | 0.6837        | 0.7495        | 16.0380         |
|                             | Non_Structural  | 55.3147        | 5.6501            | 7.3361         | 2.9253        | 2.4108        | 73.6370         |
|                             | Content         | 32.3644        | 1.4663            | 4.9145         | 2.0528        | 1.7588        | 42.5568         |
|                             | Inventory       | 0.0000         | 0.0000            | 0.2550         | 0.3965        | 0.0323        | 0.6838          |
|                             | <b>Subtotal</b> | <b>97.6302</b> | <b>8.9068</b>     | <b>15.3689</b> | <b>6.0583</b> | <b>4.9514</b> | <b>132.9156</b> |
|                             | <b>Total</b>    | <b>104.13</b>  | <b>11.04</b>      | <b>21.53</b>   | <b>6.63</b>   | <b>5.86</b>   | <b>149.20</b>   |

Source: Hazus MH 5.1



Source: Hazus MH 5.1

Losses can be categorized as capital stock losses and income losses. Capital losses include damage to buildings. This can be damage to the building's structure or non-structural, such as damage to interior walls, ceilings, utilities, fixtures. Capital losses also include damage to the contents of a building or, in the case of businesses, inventory stock. Because total exposure data is held for each of these items, a ratio can be calculated. A total of 8.31% of all capital in Louisa County is expected to be damage, which is by far the largest amount in the region, which is expected to see 1.79% of capital damaged. Buildings of unreinforced masonry, including many historic structures built before enhanced building codes, are expected to receive the most damage.

Income losses include the cost of relocating after an earthquake, capital-related losses (i.e. the loss of function of buildings during time of replacement),

wage losses from unemployment and lost hours, and loss of rental income. The total losses reported take into account all of these quantified factors. The map on the following page shows the expected losses by census tract throughout the region and the spectral acceleration at 0.3 seconds, a measurement of the intensity of the earthquake.

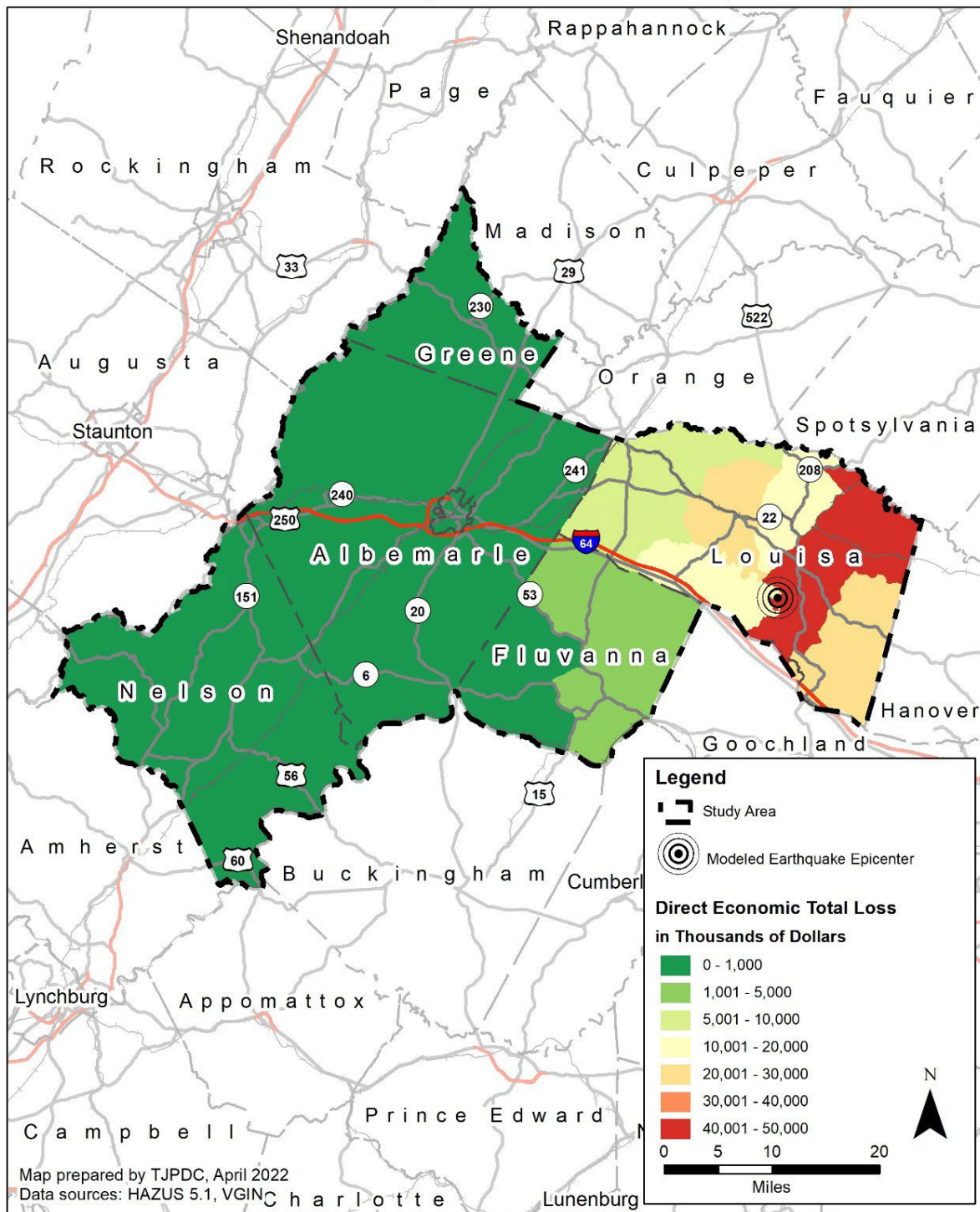
The following losses are also expected to occur:

- Over \$5.6 million in transportation system damages including highways, railways, and airport.
- Over \$9.4 million dollars in damages to water systems and electric systems across the region.
- Significant damage in the on day 1 to hospitals, schools, police stations, and fire stations, with them quickly regaining functionality.
- The quake would generate approximately 31,000 tons of debris.
- Only 5 households would be displaced as a result of the earthquake.



Minor earthquakes are far more likely to occur in the region, but the damage curve drops off considerably as the event approaches a magnitude of 5.0 or below. Therefore, HAZUS does not model earthquakes below this level.

### Earthquake Event Scenario: M 5.8, 14 km SSE of Louisa, VA



## Dam Failure: Estimated Loss

| Locality        | Total Dams | Hazard Potential Classification |             |     |              | % of High Hazard Classification with EAPs |
|-----------------|------------|---------------------------------|-------------|-----|--------------|-------------------------------------------|
|                 |            | High                            | Significant | Low | Undetermined |                                           |
| Albemarle       | 169        | 14                              | 8           | 21  | 126          | 93%                                       |
| Charlottesville | 0          | 0                               | 0           | 0   | 0            | NA                                        |
| Louisa          | 69         | 7                               | 7           | 12  | 43           | 100%                                      |
| Greene          | 18         | 5                               | 3           | 2   | 8            | 100%                                      |
| Fluvanna        | 37         | 5                               | 0           | 3   | 29           | 80%                                       |
| Nelson          | 17         | 0                               | 2           | 4   | 11           | NA                                        |
| Region          | 310        | 26                              | 20          | 42  | 107          | 93%                                       |

Data Source: National Inventory of Dams (NID)

According to the National Inventory of Dams, there are approximately 310 dams within the TJPDC. Dams are generally classified based on the potential loss of human life or property damage if it were to fail. Per state and federal dam safety regulations, “classification is based on a determination of the effects that a dam failure would likely have on people and property in the downstream inundation zone. Hazard potential classifications descend in order from high to low, high having the greatest potential for adverse downstream impacts in event of failure. This classification is unrelated to the physical condition of the dam or the probability of its failure.” The hazard potential classifications are:

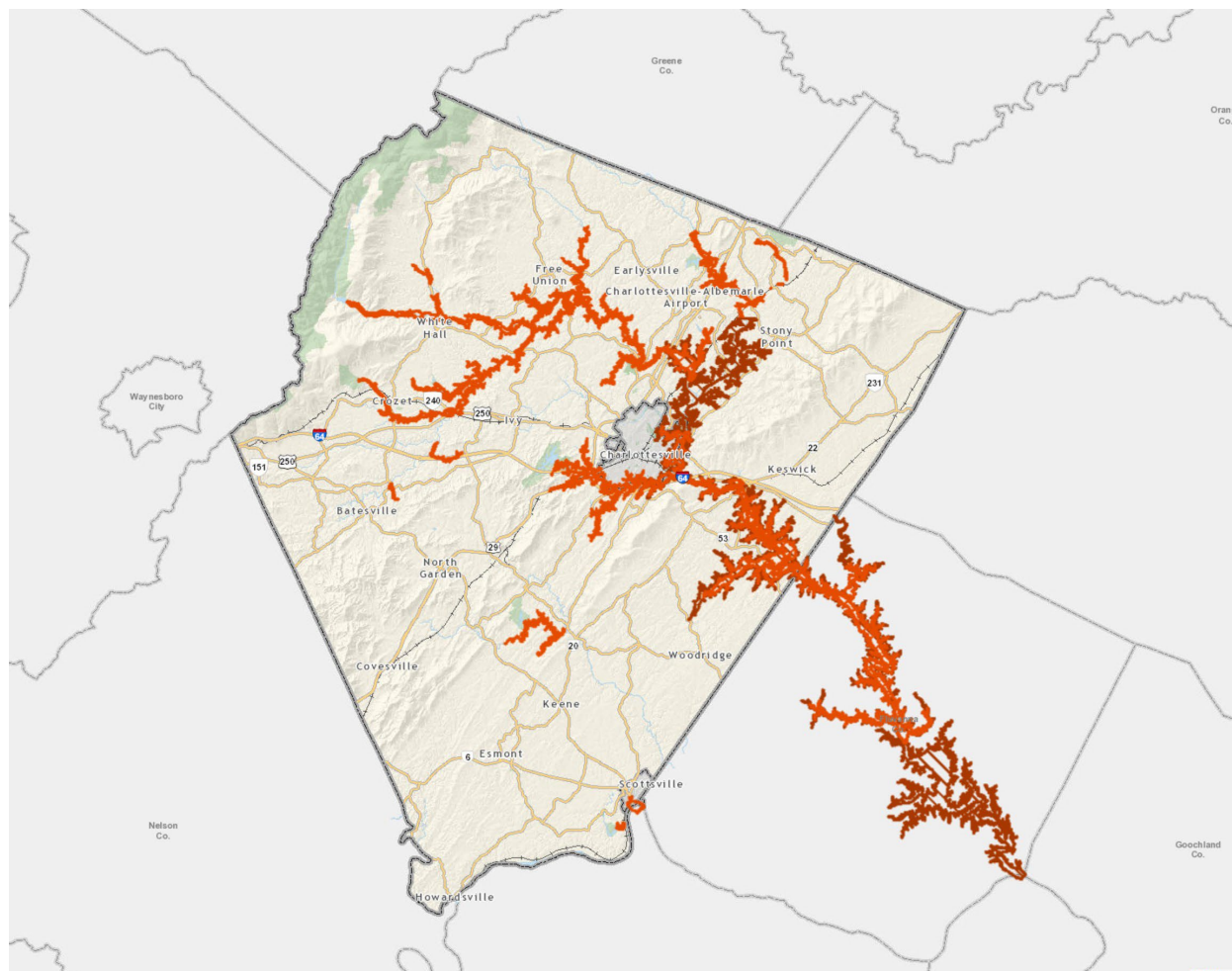
- **High - dams that upon failure would cause probable loss of life or serious economic damage**
- **Significant - dams that upon failure might cause loss of life or appreciable economic damage**
- **Low - dams that upon failure would lead to no expected loss of life or significant economic damage. Special criteria: This classification includes dams that upon failure would cause economic damage only to property of the dam owner.**

Twenty-six dams in the TJPDC are classified as High Hazard, and as such have the potential to cause loss of life or significant property damage. Of these, twenty-four have emergency action plans in place, approximately 93%. The Emergency Action Plans outline Dam Failure Inundation Zones down stream of each dam. Areas of potential loss are identified within the inundation areas. The two dams without Emergency Action Plans are (1) Montfair West Dam in

Albemarle County and (2) the Bremo Power Station East Ash Pond Dam in Fluvanna County.

Current Virginia and Federal dam safety standards require High Hazard Dams to pass 90-100% of the Probable Maximum Flood (PMF) which is typically caused by the Probable Maximum Precipitation (PMP). Not all twenty-six High Hazard Dams currently meet that standard and as such operate under conditional permitting. One of these dams, Beaver Creek Dam in western Albemarle County is undergoing design efforts to upgrade it from passing the 60% PMF to 100% PMF. Work is being performed by the Rivanna Water and Sewer Authority (RWSA) in concert with the Natural Resource Conservation Service (NRCS). In addition, Albemarle County will be upgrading the spillways at two dams at Mint Springs Valley Park, due to the hazard potential of these dams recently being reclassified as high. Other dams within the TJPDC may also be under review for hydraulic capacity improvements. Identifying these structures and ensuring the EAP reports and Dam Inundation Mapping is readily accessible to the County emergency response agencies will help mitigate the impact of a potential dam failure. The current code of Virginia allows Cities and Counties to make available to the public and development communities, the dam flood inundation areas.

Albemarle County's public GIS is shown below with the Dam Break Inundation Zones



Source: Albemarle County GIS

### Landslide: Estimated Loss

There is the potential for landslides within the planning area. However, the risk is limited to the western portions of Albemarle, Greene and Nelson Counties, along the steeper slopes of the Blue Ridge. The greatest danger of landslides occur during periods of extensive heavy rain as occurred in Nelson County in during Hurricane Camille. During Camille landslides blocked creeks and rivers causing massive debris flows which rushed into narrow valleys causing extensive flooding and loss of life.

The best indicator of future landslides is where they have occurred in the past areas of risk include steep slopes, poor drainage, and erosion have a greater

probability of landslides. Developed hillsides and slopes denuded by wildfires can also lead to landslides. One area in our region where rockslides are common is along Interstate 64 at Afton Mountain (Nelson County). in 2013 VDOT removed soil and rock from problem slopes to reduce the risk of future slides. Significant damage can thus occur from a combination of heavy rainfall on well-maintained, or more probably heavily eroded and steep surfaces. It can be expected that of the landslides that occur in the planning district, very few will cause significant economic disruption or loss of life. Results from the ongoing Virginia Department of Energy study will be able to predict location and severity of future landslides more accurately.

# Capabilities Assessment

A capability assessment helps identify, review, and analyze current mitigation activities undertaken within the region, as well as the ability of each jurisdiction to implement future mitigation projects. Below are ratings of the six localities in the region for the technical, fiscal, and administrative capacity to implement hazard mitigation strategies. The assessment utilized the Capability Assessment Worksheets from the Local Mitigation Planning Handbook. Local staff serving on the Hazard Mitigation Plan Working Group completed the forms, which also guided the review of other local plans for actions to include in the plan.

The form included tables for the areas of Planning and Regulatory, Administrative and Technical, Financial, and Education and Outreach. The four towns in the region are considered within their respective counties, since town residents are served by relevant county services. The counties retained the same scores from their 2018 Capabilities Assessments.

|                                                                               | Fluvanna | Nelson   | Louisa | Charlottesville | Albemarle | Greene   |
|-------------------------------------------------------------------------------|----------|----------|--------|-----------------|-----------|----------|
| PLANNING and REGULATORY –plans, policies codes and ordinances                 | High     | High     | High   | High            | High      | High     |
| ADMINISTRATIVE and TECHNICAL: staff, skills and tools for planning and action | High     | Moderate | High   | High            | High      | High     |
| FINANCIAL – access or eligibility for funding resources                       | Moderate | Moderate | High   | High            | High      | Moderate |
| EDUCATION and OUTREACH – programs and methods in place to implement actions   | Moderate | Moderate | High   | Moderate        | Moderate  | High     |
| OVERALL CAPABILITY                                                            | Moderate | Moderate | High   | High            | High      | High     |

**Planning and Regulatory:** Most localities do not have an Economic Development Plan or Continuity of Operations Plan, but all have Local Emergency Operations Plan, Comprehensive Plans, and Capital Improvement Plans. The level of addressing hazards in locality plans varies among the jurisdictions. Transportation Planning for the urban areas is carried out by the Metropolitan Planning Organization (MPO) and coordinated for the rural areas through the Rural Long-Range Planning process. All localities have codes and ordinances in place. Some counties without Continuity of Operations plans are interested in developing them soon. Some localities have also identified climate change as a leading exacerbating factor in making natural hazards more prevalent, damaging, and unpredictable. They have thus created special plans focusing on climate change vulnerability and resilience in order to better inform policy and reduce emissions.

**Administrative and Technical:** All localities have Commissions, Committees, and staff in place, with some

positions being part-time or having some functions shared by a single staff person. The City of Charlottesville, County of Albemarle, and University of Virginia have shared staff through the Office of Emergency Management and the Emergency Communications Center. TJPDC provided the HAZUS analysis for all localities in the Planning District. All localities have full-time emergency management staff that are housed in various departments including planning and fire rescue offices. After turnover at some of the localities, many are looking to revitalize their LEPC meetings, many of which have been inactive for a period of time.

**Financial:** All localities have Capital Improvements project funding, fees for utilities, and have the ability to incur debt through general obligation bonds. The City of Charlottesville is an entitlement community for Community Development Block Grant (CDBG) funds, but generally utilizes those for economic development purposes. All Counties have utilized CDBG funds, with current projects underway in



Albemarle County and the Town of Stanardsville in Greene County. Charlottesville, Albemarle County and Nelson County assess storm water fees, but the other rural counties do not. Charlottesville and Albemarle utilize federal and state funding to a greater extent than the rural counties.

**Education and Outreach:** All localities have active local citizen groups and non-profit organizations. Only Greene County reported having Storm Ready and FireWise certifications, though some localities have developments or sites that are FireWise certified, like Wintergreen in Nelson County. Louisa County reports that the Department of Fire and EMS conduct regular monthly public education activities in addition to ongoing preparedness information via the department web site. Charlottesville uses ad campaigns like “Flicker the Flame” and MyCville to communicate with residents on television and in print media.

## Other Capability Considerations

### Current local funding

The City of Charlottesville and Albemarle County have dedicated local funds to hazard mitigation, but the other counties in the region have not. Albemarle County conducts staff training on building and fire codes, citizen education on hazards, and GIS mapping products that identify hazard-related features. The county also invests in conservation easements in high-hazard areas and other open space protection measures. The City of Charlottesville has also used local funds for a stream restoration project and the rehabilitation of the stormwater system. Both of these localities are funding climate change related studies to assess emissions and promote resilience.

### Intergovernmental Cooperation

Localities in the region augment their hazard mitigation and emergency response capabilities by cooperating regionally. All localities have joined a mutual aid agreement between emergency services departments. Staff from Louisa County report having used the mutual aid agreement in response to a disaster. Staff from the City of Charlottesville and Albemarle County rate the current level of intergovernmental cooperation as high. The other localities Louisa County, Nelson County, Greene, and Fluvanna County rate their intergovernmental cooperation as mod-

erate. However, staff in the outlying localities note that the potential for cooperation in mitigation-related goals is high. The TJPDC serves these localities by providing a reliable and professional venue for best practices, concerns, and cooperative planning to occur.

### Intragovernmental Organization

Within localities, a variety of departments are assigned responsibilities for handling certain hazard mitigation tasks. In most counties, planning and public works departments are the key players. Nelson

County assigns most responsibility to the Emergency Management Department. Police and fire departments are integral to emergency response, and they also play a supportive role in pre-disaster mitigation. However, as demonstrated in the parties present in both the TJPDC Hazard Mitigation Working Group as well as the lead organizations assigned to many of the mitigation action items. Many localities integrate multiple departments into natural hazard mitigation planning, prevention, and response.

### Land use

Local land use planning and regulations, in general, have an impact on mitigation capabilities. All localities in the region practice some form of growth management, including limiting development in hazard areas such as flood plains. Comprehensive plans delineate growth areas that are intended to absorb the majority of commercial and residential growth projected over the next planning cycle. Zoning codes, subdivision ordinances, and other regulations have been adopted to support and further the land use goals in the comprehensive plans.

### Towns

Governmental services offered by counties apply to towns, including emergency response such as fire and rescue. The Town of Scottsville supplements county law enforcement with a town department, and several towns offer general public services such as water and sewer and solid waste disposal. In terms of hazard mitigation activities, towns have little additional capacity beyond the counties they are contained within. They often rely on the counties for hazard mitigation support, and that is why some were represented on the working group by county staff.



Some county-wide regulations apply to towns, but towns must adopt their own zoning and subdivision ordinances. The Town of Stanardsville adopts the Greene County ordinance as their own. The town does not hire their own staff, but shares planning and development staff with Greene County. The Town

of Mineral and the Town of Louisa practice a similar approach, and each have a person on staff to administer the code and direct public works operations. The Town of Scottsville has an independent zoning ordinance that is updated regularly.

# Mitigation Action Plan

This section outlines the Mitigation Action Plan including:

- Goals and Objectives guiding the plan
- Hazard-specific strategies
- A summary of mitigation action items by locality
- Detailed mitigation action items by locality

*201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.*

*201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.*

*201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.*

*201.6(c)(3)(iv): For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.*

## Mitigation Strategy

The following goals and objectives, grouped into five broad categories, are recommended by the plan. As stated earlier in the plan, both the Working Group and members of the public were able to suggest revisions to the 2018 Goals and Objectives. A full list of those edits can be found in the Appendix A. Edits focused primarily on broadening objectives to include activities like building retrofitting and adaption in addition to relocation, access to data, and data tracking:

### Education and Outreach (E)

- **GOAL:** Increase awareness of hazards and encourage action to mitigate the impacts o
  - Ø **OBJECTIVE:** Educate families and individuals on disaster mitigation and preparedness
  - Ø **OBJECTIVE:** Train key agency staff and volunteer groups in disaster mitigation and preparedness
  - Ø **OBJECTIVE:** Train staff at schools and residential facilities in disaster mitigation and preparedness
  - Ø **OBJECTIVE:** Encourage and equip employers to develop emergency action plans

### Infrastructure and Buildings (I)

- **GOAL:** Reduce the short and long-term impact of hazard events on buildings and infrastructure
  - Ø **OBJECTIVE:** Diversify the energy system to provide multiple power source and fuel supply options and promote self-sufficient buildings with multiple energy options
  - Ø **OBJECTIVE:** Diversity the communications system to provide alternative lines for use during loss of capacity
  - Ø **OBJECTIVE:** Diversify the transportation system by increasing connectivity and providing modal options
  - Ø **OBJECTIVE:** Elevate, retrofit and relocate existing structures and facilities in vulnerable locations
  - Ø **OBJECTIVE:** Construct or upgrade drainage, retention, and diversion elements to lessen the impact of a hazard on an area

- Ø **OBJECTIVE:** Protect sensitive areas through conservation practices
- Ø **OBJECTIVE:** Ensure that each critical facility has a disaster plan in place

### Whole Community (C)

- **GOAL:** Prepare to meet the immediate functional and access needs of the population during natural hazards
- Ø **OBJECTIVE:** Effectively communicate with and transport people regardless of their language proficiency and physical needs.
- Ø **OBJECTIVE:** Make information available, accessible, and accurate to ensure the entire population can access emergency shelters in a timely manner and have functional needs met, in the event of a natural hazard
- Ø **OBJECTIVE:** Updating necessary information consistently and through multiple different outlets through the development an emergency information communication plan

### Mitigation Capacity (M)

- **GOAL:** Increase mitigation and adaptation capacity through planning and project implementation
- Ø **OBJECTIVE:** Reduce property risks through planning, zoning, ordinances and regulations
- Ø **OBJECTIVE:** Incorporate mitigation planning concepts, climate resilience, and vulnerability planning into local plans and ordinances
- Ø **OBJECTIVE:** Pursue funding to implement identified mitigation and resilience strategies
- Ø **OBJECTIVE:** Encourage proactive management of hazard prone areas, environmental features, or infrastructure

### Information and Data Development (D)

- **GOAL:** Build capacity with information and data development to refine hazard identification and assessment, mitigation targeting and funding identification
- Ø **OBJECTIVE:** Identify data and information needs and develop methods to meet these needs
- Ø **OBJECTIVE:** Utilize data to ensure proactive targeting of mitigation efforts

## Hazard-Specific Strategies

The mitigation action items are organized in this plan by jurisdiction, in order to highlight regional differences and assign ownership to local governments. However, there is also a need to explicitly link the action items determined for each locality with the hazards identified regionally in this plan, in order to determine whether the actions are properly aligned with the actual threats posed by natural hazards in the region. Hazard-specific strategies are included for those hazards ranked high or moderate.

The Hazard Mitigation Working Group identified two high-risk hazards in the region and one moderate-risk hazard in the region that necessitate special attention in this plan. With a relative threat rating of 74%, wind events (Hurricane/high wind/windstorms) was determined to be the hazard with the greatest probability of occurrence and highest impact on the community. Flooding ranked second with a relative score of 65%. These hazards are considered high-risk for all localities in the TJPd.

Winter storms/weather was considered a moderate risk, with a relative score of 56%. Communicable dis-

ease/pandemic, a new natural hazard that was examined in the plan, scored 30% as the fourth ranked hazard. Scores dropped sharply for other risks, with wildfire, lightning, drought/extreme heat, tornado, and dam failure all were scored equally with a relative threat rating of 22% as the fifth ranked hazards. Wildfire and lightning are covered under the same strategy. Drought/extreme heat is considered as a single strategy, as is dam failure. Earthquake had a relative rating of 19%, and landslide at 11%. All of these are considered low risk hazards.

### Hurricane / High Wind Events | High Risk

Hurricanes, high winds and windstorms combined were ranked as the most significant hazard in the region. For the purposes of the mitigation strategies, these wind events and tornadoes are considered together.

Hurricanes and tornadoes are very different in their impact and require somewhat of a difference in preparedness. It should be noted that some of the greatest impacts of hurricanes are associated with the flooding caused by these major storms. Mitigation of water-related impacts is considered in the flooding strategy above, and this strategy will only

consider the wind related impacts. These similarities demonstrate that while each of these hazards are interrelated, distinct mitigation actions are required for each.

Similar to winter storms, high wind can disrupt the power system. There are recommendations to remove vegetation from the vicinity of power lines, with the understanding that complete removal of street trees is not desirable for many residents in urban areas. There are also action items related to keeping properties and driveways free of dangerous trees or vegetation, although this strategy is completely voluntary and implemented through educational programs. Many localities also identified the need to retain, train, and promote career emergency management officials, as well as EMT professionals within each locality. Ensuring that there is proper and appropriate capacity for this most common and high risk hazard is critical. Further, many localities highlighted a need for a consistent, developed, and rehearsed set of emergency communications plans in response to power outages caused by high wind events.

### Flooding | High Risk

Flooding is the second most significant hazard in the region, and several of the mitigation action items in this plan are intended to limit its impacts. All localities in the region experience flooding, but there are important differences in the types of flood events that occur. Portions of Fluvanna County, the City of Charlottesville, and Albemarle County may be inundated in riverine flooding from the James River or the Rivanna River. Flooding the Greene County, Nelson County, and western Albemarle County are prone to flash floods and stormwater drainage from the Blue Ridge Mountains.

There are essentially three primary strategies for mitigation of flooding: 1. adjust the path of flooding either through engineering or passive restoration of natural function. 2. Limited development and/or remove objects of value from the path of floodwaters. 3. Prepare and educate the public for responding to floods. Many localities are engaging in flood mitigation, from ensuring that riparian buffers are restored along riverbanks, debris management in culverts, educational programs to educate citizens, or grant-funded studies to update floodplains and/or flood resilience infrastructure.

The most significant element of flood control currently in the region are the dams for reservoirs and the levee protecting Scottsville. No specific action items are recommended for these improvements, because the responsibility for dam monitoring and management is outside the scope of local responsibility. The levee in Scottsville was evaluated in the vulnerability assessment and determined to withstand a 1% flood. There are no improvements recommended by this plan for the levee. However, the town has indicated a desire to update its Flood Maps through grant funding, as well as improve riparian buffers around the James River to prevent flooding. A considerable amount of work is being done to make the region's dams safer and more efficient. Dam safety is critical to flood prevention as well as ensuring adequate, safe, and reliable drinking water for residents.

Several action items directly involve stormwater management, with the purpose of enhance flood control. These are especially important in more urbanized areas with more density that can be impacted. More urbanized areas also tend to have higher proportion of impervious surfaces that tend to speed up and redirect the flow of stormwater in ways that can be harmful. The Virginia Department of Environmental Quality has mandated or encouraged certain stormwater management practices, with the purpose of complying with the Chesapeake Bay Act in improving water quality. Flood control is another important factor to consider, so many of these practices are included in this plan as well. These practices include increasing the storage capacity of streams, maintenance of stormwater conveyance systems, removal of debris that may block channels, and the installation or maintenance of basins for the collection of storm water.

The second strategy is to limit human settlement in the path of waters. This can be done through policy, such as zoning codes establishing special zones for flood areas, or retroactive practices of removing structures current susceptible to flooding. Most jurisdictions in the area already have zoning codes meant to protect from flooding, but this plan does recommend strengthening those codes in some cases. Some localities want to ensure that private roads are safe from flooding since they are not regulated or maintained by VDOT.

Finally, the plan includes action items intended to assist the public and emergency responders in cases when flooding does occur. Many of the action items are intended to provide crucial information, such as signage along routes that are susceptible to flooding and high-water marks on bridges. There are recommended education campaigns targeted toward individual households with ideas for flood-smart landscaping and household practices. These types of mitigation action items are important since many flood prone areas have been settled or encompass busy roads and thoroughfares.

There are also general action items intended prepare for multiple hazards with properly equipped shelters, communications, and organization of staff and volunteers. One of the plans objectives is particularly geared toward floodplains: Elevate, retrofit and relocate existing structures and facilities in vulnerable locations. The list of potential actions prepared by TJPDC for locality use suggested several strategies under this objective, including the Identification of vulnerable structures and application for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects.

*§201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.*

Five counties in the region and the City of Charlottesville participate in the National Flood Insurance Program (NFIP), which enables property owners to purchase federally-backed insurance to protect against losses from flooding. The towns of Stanardsville and Scottsville also participate. Louisa County was suspended from NFIP on October 31, 2016 and does not plan to pursue reinstatement. The Towns of Louisa and Mineral in Louisa County have not participated in NFIP, but are identified by this plan as very low flood-risk.

Except for the County of Louisa, all jurisdictions in the Thomas Jefferson region meet or exceed the minimum regulatory requirements by limiting the extent of development in identified floodplains. Participating in NFIP also makes localities and property owners within flood hazard areas eligible for various mitigation funds that are intended to reduce the risk of future flood losses. Several action items in

this plan take advantage of this opportunity for localities to reduce their overall exposure to flooding damage. For example, Scottsville has won grants to both prepare riparian buffers and create new floodplain maps.

The following table is from the FEMA National Flood Insurance Program Community Status Book, as of March 2022:

| Community              | Flood Hazard Boundary Map Identified | Flood Insurance Rate Map Identified | Current Effective Map Date | Date Community Joined Program |
|------------------------|--------------------------------------|-------------------------------------|----------------------------|-------------------------------|
| Albemarle County       | 08/25/78                             | 12/16/80                            | 05/16/16                   | 12/16/80                      |
| Charlottesville City   | 05/24/75                             | 06/15/79                            | 02/04/05                   | 06/15/79                      |
| Fluvanna County        | 12/13/74                             | 08/15/78                            | 05/16/08                   | 08/15/78                      |
| Greene County          | 12/13/74                             | 09/10/84                            | 03/23/21                   | 09/10/84                      |
| Louisa County          | 12/20/74                             | 06/01/89                            | 11/5/97                    | Suspended – 10/31/16          |
| Nelson County          | 11/22/74                             | 08/01/78                            | 06/18/10                   | 08/01/78                      |
| Scottsville, Town Of   | 09/10/76                             | 09/05/79                            | 05/16/16                   | 09/05/79                      |
| Stanardsville, Town Of | 02/11/77                             | 12/26/78                            | 03/23/21                   | 12/26/78                      |



Louisa County became aware that FEMA and the Virginia Department of Conservation and Recreation (DCR) required updates to the County's regulations relating to development in the Floodplain Overlay District in order to ensure continued participation in National Flood Insurance Program (NFIP) in late 2014. At the December 1, 2014 regular meeting of the Board of Supervisors (BOS), the BOS referred updates to the regulations to the Planning Commission. The resolution noted that the FEMA Flood Insurance Rate Maps for Louisa County had serious inaccuracies that should be remedied.

FEMA notified the County by letter dated February 23, 2016 that it could cut off residents' access to flood insurance and some disaster aid if the County did not strengthen its flood plain ordinance. The County's current ordinance noted that homes could not be built in a floodplain, but did not have the same restriction for commercial construction. The BOS discussed the Floodplain (FP) Zoning Overlay District at their meeting held Monday, June 6, 2016. Discussion noted that the Planning Commission discussed the draft floodplain ordinance at its February 12, 2015 meeting, but deferred the issue to the Board. FEMA directed the County to update and adopt an amended ordinance by August 31, 2016 in order to remain in good-standing in the NFIP. The June 6 discussion included questions and comments to the Board regarding the inaccuracy of the federal agency maps of Louisa County. The BOS directed staff to work closely with FEMA and DCR on making the recommended changes. FEMA published Louisa County's suspension of community eligibility in the Federal Register on September 29, 2016, effective October 31, 2016.

The Louisa County BOS held a public hearing at their October 3, 2016 meeting on repealing the Floodplain Overlay District. Forty-two people spoke in opposition of the amendments to the floodplain regulations ordinance. One person submitted written comments in favor of the amendments to the floorplan regulations notice. The BOS, on a vote of 5 to 2, voted to revoke the current floodplain ordinance in its entirety. Landowners in Louisa who were opposed to FEMA's proposed ordinance said it threatened their rights to use their property.

The Louisa BOS held a Special Public Meeting and

Hearing on October 26, 2016 to accept public comment related to the adoption of a floodplain ordinance. The proposed ordinance defined the floodplain on a map prepared by the County, expressly excluded certain land that comprises or adjoins Blue Ridge Shores and Lake Anna, and provided for the appeal of any determination related to the location of land in a floodplain to the BOS and/or to the circuit court. The BOS unanimously passed the proposed ordinance, but it did not meet FEMA's requirements. The County has indicated it does not intend to pursue reinstatement in the NFIP, primarily based on input from citizens. FEMA is updating the flood plain maps. Citizens are now aware that they cannot obtain flood insurance if the County is not included in the NFIP. A letter to the editor calling for the Board of Supervisors to revisit participation in the NFIP appeared in The Central Virginia on January 18, 2018. As of 2022, Louisa continues to not participate in the NFIP.

### Winter Storms | Moderate Risk

Winter storms are common in the region. The primary impacts are felt in infrastructure, both in the safety of the roadways, the disruption of business operations, and loss of power. Impedance of access is another important impact of storms. Snow can make emergency response and travel to critical services difficult, especially for vulnerable populations in rural areas. Finally, extreme cold can be harmful to vulnerable populations. Severe winter storms have the capacity to strand those who live in rural areas without power for days.

Several action items are intended to prevent the loss of power during a snowstorm. The plan recommends for localities to partner with power companies to make sure that trees or other obstacles do not pose a threat to power lines. In some cases, the burial of utilities is recommended for urban areas. Other action items are intended to maintain the emergency response function during a power outage. It is important for localities to have multiple means for communication, and not to be overly reliant on devices that require power. Ensuring that localities have the capacity to be flexible in communication, as well as engaging in door-to-door outreach is important in cases where many are without power and roads are difficult to traverse. More comprehensive use of media outlets is suggested in some cases. Back-up generators are recommended for all shel-

ters, as well as for businesses that are critical to the community such as grocery stores. Other action items are intended to assist in locating vulnerable households that may require assistance in heating or other attention during a power outage.

Another mitigation strategy is to limit the impact on transportation infrastructure during storms. Snow removal on public roads is conducted by VDOT in all localities except for the City of Charlottesville, but there are several private communities and individual driveways that rely on other means for snow removal. All localities also include an action item to encourage address signs that are visible during winter storms. Localities, like for other hazards, are looking to be more proactive about construction and placement of buildings to ensure they are not prone to significant damage from heavy snow and/or ice.

## **Mitigation Actions**

Mitigation actions are discrete projects, programs, or policies that are recommended for implementation in this plan. The action items differ from objectives in that they are measurable, have a party responsible for completion, and typically can be completed within a given timeframe. The action items presented in this

plan represent the aspirations of the various localities in the region, with the understanding that they may be completed as resources are made available from a variety of sources. Mitigation actions are to be implemented by the lead party, as identified in the plan, often in partnership with other agencies and organizations.

Several action items, particularly those involving the creation or revision of policy, will enhance resilience to hazards for development that occurs after implementation. Other action items are intended to retroactively improve existing structures and infrastructure to mitigation hazards. In many cases ongoing maintenance, such as clearing debris to prevent forest fires, or practices of household and business preparedness are recommended. The list of action items strikes a balance between structural, policy-oriented, and programmatic recommendations.

TJPDC staff compiled input from the Working Group into a listing of potential actions organized under each goal and objective. The list was provided to

each jurisdiction and used in discussions with Local Emergency Plan Committees (LEPCs) and at Working Group meetings. Each action item in the plan is prioritized as high, moderate, or low to reflect the mitigation value of the action or the urgency it requires. Priorities were determined based on several criteria. Items that were included in the 2018 plan generally maintain the same priority. The online survey asked respondents to prioritize goals and objectives, and this information has been used to prioritize the associated action items. Locality staff considered the severity and urgency of the issue to be addressed, the locality's capacity to complete the action, and the benefit to be realized compared to the estimated cost of completion.

TJPDC staff recommended use of FEMA's cost-benefit analysis toolkit to ensure that localities were considering factors like number of people affected by hazards, area affected, property damage, loss of life, and injury, as well as economic impacts of inaction or partial action. A broad range of benefits were considered; some actions provide benefits beyond mitigating the impacts of hazards. Localities are acquainted with these types of tradeoffs, and instead of prescribing a specific process that each locality should use after creating mitigation action items, TJPDC staff instead prioritized locality-specific analysis when generating and prioritizing mitigation action items. Localities were encouraged to communicate cross-departmentally to accurately measure costs, timeline, and priority. TJPDC staff encouraged an iterative and collaborative process within each locality, as well as with other localities concerning shared hazards or facilities. The table in the appendices identifies 2018 actions removed or revised as to their priority.

Most localities chose to roll over actions that were either incomplete, delayed, or modified from the 2018 plan. There were significant revisions of actions' priorities, lead parties, and/or costs. These changes were primarily a result of localities experiencing significant staff turnover since 2018 and funding constraints. Many localities decided to revise older mitigation action items to supply a more realistic and achievable set of action items for the next 5 years. Locality staff indicated that revising goals, as well as coordinated efforts to revitalize LEPC meetings and other community engagement opportunities, serves as a realistic and operational foundation for hazard

mitigation efforts in the coming years. Some localities added new action items in order to address new goals.

Actions to include the Hazard Mitigation Plan into other community plans have been included in the 2006 plan, the 2012 plan, the 2018 plan, and this plan. Community plans would generally include the Comprehensive Plan, the Emergency Operations Plan (EOP) and the Capital Improvement Plan. The Hazard Mitigation Plan is specifically cited in the Comprehensive Plans for Charlottesville, Albemarle, Fluvanna and Greene Counties. The City of Charlottesville has recently updated its Comprehensive Plan and was adopted in November 2021. There is no specific reference to the Hazard Mitigation Plan in Comprehensive Plans for Louisa County (last amended in 2016) or Nelson County (last updated in 2014). Towns are addressed in their respective County Comprehensive Plans and all towns in the Planning district have their own Comprehensive Plans, focusing on land use and Town goals and objectives. None of the Town plans specifically reference the Hazard Mitigation Plan. TJPDC staff emphasized the inclusion of the 2023 Hazard Mitigation plan in upcoming plan updates in order to better coordinate efforts across departments within each locality and because much of the goals of hazard mitigation are related or linked to other locality goals like housing, transportation, and environmental issues. TJPDC staff will be available to provide guidance on the plan, its goals, and any necessary resources as needed. Multiple localities will be updating their Comprehensive Plans in the coming 5 years.

Emergency Operations Plans serve as a locality's guide to prepare, respond, and plan for natural hazards. The Regional Hazard Mitigation plan, and the planning process, align clearly with the EOP, which also contains information about natural hazards and their severity and frequency. Locality staff should and will use the Hazard Mitigation Plan as they update their respective EOP's.

Capital Improvement Plans (CIPs) are generally reviewed and updated on an annual basis. The integration of the HMP requirements into other planning mechanisms will be specifically addressed in annual meetings to maintain the plan to ensure that this requirement is addressed by the localities. As more

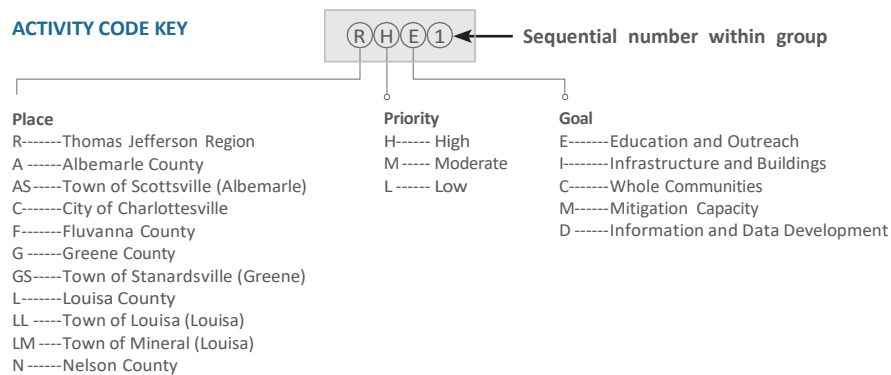
counties and localities begin to engage with climate resiliency studies and efforts, the HMP can serve as a critical resource in creating economies and scale and ensuring there are not duplicative efforts. Annual meetings provide an opportunity for local governments to identify components of the HMP process that are able to be replicated or used in other plans.

### Process Discussion

The action items are presented here in both in an abridged and unabridged form to facilitate ease of use. Each item is color-coded by locality and numbered sequentially with higher priority action items appearing earlier on the list. The Mitigation Action Worksheet template follows:

| [Activity Code] Mitigation Action: [Jurisdiction]                            |                                                                                                                                                                                             |
|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category:                                                                    | One of the goal categories listed above that is supported by the action                                                                                                                     |
| Action Item (Describe):                                                      | Brief description of action item                                                                                                                                                            |
| Hazard(s):                                                                   | The hazard(s) the action is intended to mitigate                                                                                                                                            |
| Lead Agency/Department Responsible:                                          | Identify the local agency, department, or organization that is best suited to accomplish the action.                                                                                        |
| Estimated Cost:                                                              | An estimate of the costs required to complete the project or continue the project for the course of 5-years; this amount should be estimated until a final dollar amount can be determined. |
| Funding Method: (General Revenue, Contingency/Bonds, External Sources, etc.) | Potential sources of funds to complete the action, when applicable                                                                                                                          |
| Implementation Schedule:                                                     | Timeframe for which the action is expected to be completed                                                                                                                                  |
| Priority                                                                     | Placement in the order of importance and urgency                                                                                                                                            |

#### ACTIVITY CODE KEY



## 2023 Action Items for Regional Hazard Mitigation Plan

| Activity Code                  | Activity Description                                                                                                                                                                                                                                     |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Thomas Jefferson Region</b> |                                                                                                                                                                                                                                                          |
| RHE1                           | Provide a copy of the Regional Hazard Mitigation Plan to each library in the Jefferson-Madison Regional Library system                                                                                                                                   |
| RME1                           | Conduct a public education program on disaster preparedness, leveraging existing materials and sharing resources regionally                                                                                                                              |
| RME2                           | Engage Working Group and leverage connections to continue mitigation preparedness throughout plan's duration, before next update                                                                                                                         |
| RMD1                           | Identify locations for deposit of debris after a hazard                                                                                                                                                                                                  |
| RME3                           | Continue to research grant and funding opportunities for regionwide hazard mitigation efforts                                                                                                                                                            |
| RMI1                           | Promote and educate localities on high hazard dam vulnerability reduction including rehabilitating/removing dams, elevating structures in inundation zones, and adding flood protection, such as berms, floodwalls or floodproofing, in inundation zones |

|                         |                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Albemarle County</b> |                                                                                                                                                                                                                                                                                                                                                                    |
| AHE1                    | Increase the number of trained emergency responders, both staff and volunteers. Establish a minimum ICS/emergency management training/certification requirement for essential County staff. Train/educate 70% of identified staff to minimum qualifications. Conduct disaster tabletop and/or full-scale scenarios on an annual basis to exercise skills/processes |
| AHI1                    | Implement recommendations from the urban Community Water Supply Plan and those for all other public water supplies within the County, including drought monitoring and management                                                                                                                                                                                  |
| AHI2                    | Develop an integrated regional security and monitoring system, including access control and intrusion detection                                                                                                                                                                                                                                                    |
| AHI3                    | Establish a backup Emergency Operations Center (EOC)                                                                                                                                                                                                                                                                                                               |

|      |                                                                                                                                                                                                                                                                                                             |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AHI4 | Establish an Albemarle County specific basic Emergency Operations Plan and annexes for the 3 highest risk natural disasters as defined in the HIRA.                                                                                                                                                         |
| AHM1 | Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans                                                                                                                                                                                              |
| AHM2 | Install fire mitigation measures, including dry hydrants, fire breaks, and fire rings.                                                                                                                                                                                                                      |
| AHM3 | Develop continuity-of-operations plan to ensure critical operations are maintained during power failure.                                                                                                                                                                                                    |
| AHD1 | Continue to assess resilience of existing critical facilities to natural hazards                                                                                                                                                                                                                            |
| AHD2 | Mitigate Water and Wastewater System Failure or Contamination through community coordination and information/equipment sharing. Provide planning support for operational and integrated security management (including communications plan and continuity plan, emergency exercises, coordinated committee) |
| AHC1 | Develop a debris management plan (including emergency response access and cleanup) for removal of fallen trees, etc. following a storm, such as hurricane or tornado.                                                                                                                                       |
| AHC2 | Engage in climate resilience and adaptation planning and implement initiatives to prepare for the anticipated hazards and impacts driven by climate change.                                                                                                                                                 |
| AHC3 | Implement initiatives to reduce community greenhouse gas emissions as prescribed by the Climate Action Plan adopted in 2020 in order to mitigate climate change.                                                                                                                                            |
| AME1 | Ensure that all schools have regular disaster response drills                                                                                                                                                                                                                                               |
| AME2 | Continue to pursue conservation practices in sensitive areas, including riparian buffers and flood-prone areas.                                                                                                                                                                                             |
| AME3 | Conduct comprehensive residential and business disaster preparedness programs focusing on the ability of residents and businesses to sustain themselves for 72 hours post emergency.                                                                                                                        |
| AME4 | Define Neighborhoods/communities within the County and identify (using a contact management system) key residents and Non-Governmental organizations (NGOs) within each neighborhood who may connect the County and disaster services to the neighborhood during a crisis.                                  |
| AMI1 | Build or repair bridges so as not to minimize impacts to floodways                                                                                                                                                                                                                                          |
| AMI2 | Upgrade existing bridges to support emergency vehicles                                                                                                                                                                                                                                                      |
| AMI3 | Carry out physical security improvements to water and wastewater systems, which may include fencing, door hardening, window hardening, locks, bollards, cameras, signage, lighting, access control and intrusion detection.                                                                                 |
| AMI4 | Procure technology equipment for Water/Wastewater system component inspections.                                                                                                                                                                                                                             |
| AMI5 | Improve the maintenance and repair of stormwater conveyance systems – in part through better coordination and cooperation with local partners                                                                                                                                                               |
| AMC1 | Improve the preparedness of public and private dams within the county to withstand extreme flood events                                                                                                                                                                                                     |
| AMC2 | Maintain and update, as needed, the regional and local sheltering plans.                                                                                                                                                                                                                                    |
| AMC3 | Continue to assess designated community shelters for compliance with minimum specifications and best practices.                                                                                                                                                                                             |
| AMC4 | During Comp Plan update, consider loosening restrictions on the types of County improvements in Rural Areas to accommodate community support facilities.                                                                                                                                                    |
| AMM1 | Through the development process, discourage or prohibit development in flood-prone areas                                                                                                                                                                                                                    |
| AMD1 | Expand GIS data and other technologies for the purposes of mitigation planning, preparedness planning, and response activities                                                                                                                                                                              |
| ALE1 | Encourage property owners and residents to clear storm drain inlets, channels, creek beds, and other conveyances of fallen trees and debris to minimize the potential for flow restrictions and flooding.                                                                                                   |
| ALE2 | Ensure all houses and businesses have clear address signs that are visible during snowstorms and other emergencies                                                                                                                                                                                          |
| ALE3 | Continue educational campaign about the benefits of open space and sensitive area protection.                                                                                                                                                                                                               |
| ALE4 | Outdoor warning sirens for public use facilities                                                                                                                                                                                                                                                            |
| ALC1 | Increase the capacity to shelter in place in public buildings.                                                                                                                                                                                                                                              |
| ALC2 | Promote biodiversity and native plant communities and control invasive species to improve the resilience of native ecosystems                                                                                                                                                                               |
| ALC3 | Develop communications strategy and protocols (both preparedness and response) using traditional and emerging outlets (local media, social media, etc.); consider languages besides English                                                                                                                 |



|      |                                                                                                                                                                                                                                                  |
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| ALC4 | Improve ability to notify public in the event of extreme storms and/or dam failure, possibly through utilizing river level sensors and a downstream notification system                                                                          |
| ALC5 | Continue and expand the use of citizen alert systems. Explore use of Social Media platform emergency alert systems. Establish backup procedures/plans for emergency notification/alert when methods relying on power & technology are inoperable |
| ALI1 | Implement Stormwater Management programs and initiatives to reduce flood risk throughout the community                                                                                                                                           |
| ALI2 | Improve the maintenance, repair, and upgrades to public and private stormwater management facilities and impoundments to withstand extreme storms and enhance flood control.                                                                     |
| ALI3 | Partner with utility companies to keep power lines and other utilities free of vegetation                                                                                                                                                        |
| ALI4 | Implement programs and initiatives to reduce pollution discharge via stormwater systems                                                                                                                                                          |
| ALI5 | Continue to upgrade security systems                                                                                                                                                                                                             |
| ALI6 | Promote increased tree canopy in urban areas to reduce heat island effect.                                                                                                                                                                       |

#### Town of Scottsville

|       |                                                                                 |
|-------|---------------------------------------------------------------------------------|
| ASMM1 | Update the Town's Floodplain Maps to inform decision-making.                    |
| ASMM2 | Improve Riparian Buffers along parts of Mink Creek and the James River.         |
| ASLM1 | Improve Regional Transit for emergency evacuations, prevention, and resiliency. |

#### City of Charlottesville

|      |                                                                                                                                                               |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CHE1 | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant buildings.                                          |
| CHE2 | Ensure that all city schools have an emergency and disaster plan and regularly conduct disaster response drills.                                              |
| CHM1 | Complete Flood Resilience Plan                                                                                                                                |
| CHM2 | Complete Climate Adaptation Plan                                                                                                                              |
| CHM3 | Update floodplain regulations                                                                                                                                 |
| CHM4 | Incorporate hazard mitigation plan into community plans. Identify senior living/special needs residences in areas vulnerable for flooding.                    |
| CHM5 | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster.                                |
| CHM6 | Provide incentives to institutions and homeowners for use of low-flow appliances.                                                                             |
| CHM7 | Continue to expand use of citizen alert system. (Code RED) Develop community promotion plan for Code RED.                                                     |
| CHM8 | Inventory all shelters and public buildings to ensure emergency preparedness supplies and equipment are onsite.                                               |
| CMD1 | Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects      |
| CMD2 | Conduct a needs survey that identifies special needs population and residences and/or facilities needing attention in the event of emergencies or evacuations |
| CMI1 | Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris                                                                          |
| CMI2 | Build or repair roadway and pedestrian crossings so as not to impede floodwaters                                                                              |
| CMI3 | Retrofit emergency service buildings for hazard preparedness and resistance.                                                                                  |
| CMM1 | Support volunteer groups and encourage collaboration on public outreach and education programs on hazard mitigation.                                          |
| CMM2 | Pursue conservation practices in sensitive areas (stream corridor restoration, forest management )                                                            |
| CMM3 | Create a strategy for using existing media outlets for communications during a hazard event.                                                                  |
| CMM4 | Ensure that all critical facilities have updated shelter-in-place plans                                                                                       |
| CLE1 | Provide citizens with literature about flood and drought-smart landscaping and GI. Promote VCAP.                                                              |
| CLE2 | Create educational campaign about floodplain locations, the benefits of open space and riparian corridors.                                                    |
| CLI1 | Improve the maintenance of stormwater infrastructure.                                                                                                         |

|      |                                                                                                            |
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| CLI2 | Reduce pollution discharge to and erosive conditions in receiving waters.                                  |
| CLI3 | Increase infiltration capacity and volumetric reductions in runoff via stormwater control measures (SCMs). |
| CLI4 | Improve capture and conveyance capacity of stormwater infrastructure.                                      |

#### Fluvanna County

|      |                                                                                                                                                                  |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FHE1 | Increase the number of trained emergency responders, both staff and volunteers                                                                                   |
| FHI1 | Install new fire hydrants along new JRWA water line                                                                                                              |
| FHC1 | Conduct regular disaster response drills in schools, and with staff at Assisted Living Facilities and Nursing Homes                                              |
| FHC2 | Continue and expand the use of citizen alert systems                                                                                                             |
| FHC3 | Implement community notification protocols before, during, and after a disaster event                                                                            |
| FHM1 | Develop Continuity of Operations Plans (COOP) for locality departments and update the plans annually                                                             |
| FME1 | Carry out a targeted educational campaign in subdivisions at high risk for fire impacts                                                                          |
| FME2 | Conduct tabletop exercises for damage assessments                                                                                                                |
| FME3 | Bring in experts to conduct in-house staff training in best management practices in hazard mitigation and preparedness                                           |
| FME4 | Offer training on post-event inspection and develop a protocol to serve as a mechanism for prioritization                                                        |
| FMI1 | Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects         |
| FMI2 | Install warning signs and develop alternate routes for roads that flood briefly during heavy rains (e.g. Slaters Fork Road, Carysbrook, farm pond dam locations) |
| FMM1 | Identify areas to receive debris from post-event clean-up efforts                                                                                                |
| FMD1 | Expand GIS data for use in mitigation planning, preparedness planning, and response activities                                                                   |
| FLE1 | Carry out an educational campaign for businesses to develop emergency procedures and shelter-in-place plans                                                      |
| FLI1 | Identify repetitive loss properties, develop appropriate mitigation action, and apply for funding                                                                |
| FLI2 | Demolish and remove remains of old surface water treatment plant located on TM 58 A 26 & 27(County-owned property)                                               |
| FLI3 | Remove +/-20,000 gallon water storage tank from James River.                                                                                                     |
| FLC1 | Develop County agreements (possibly with women's prison) for food services for county-supported shelters (including high school)                                 |
| FLM1 | Develop evacuation plans for dam breaches from Charlottesville-area dams                                                                                         |
| FLM2 | Develop a comprehensive fire safety communication strategy, addressing open space, burn permit, FireWise, and dry hydrants                                       |
| FLM3 | Adopt fire code                                                                                                                                                  |
| FLM4 | Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans                                                   |
| FLD1 | Develop a disaster plan for the Fork Union Sanitary District (FUSD)                                                                                              |

#### Greene County

|      |                                                                                          |
|------|------------------------------------------------------------------------------------------|
| GHE1 | Conduct Firewise workshops                                                               |
| GHI1 | Partner with utility companies to keep power lines free of vegetation                    |
| GHI2 | Conduct structural evaluations of current and proposed shelters                          |
| GHI3 | Implement recommendations from Greene County Water Supply plan                           |
| GHI4 | Enhance dam safety; table tops/exercises                                                 |
| GHI5 | Install backup generators in shelters and critical facilities                            |
| GHI6 | Enhance public safety emergency communications to provides reliable, dependable coverage |
| GHI7 | Enhance access to broadband countywide                                                   |

|      |                                                                                                                                                                                                                                                            |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GHC1 | Assist the schools with regular disaster response drills and disaster planning                                                                                                                                                                             |
| GHM1 | Conduct CERT classes to equip individuals and groups to assist in the event of a disaster                                                                                                                                                                  |
| GHM2 | Routinely inspect public and private fire hydrants                                                                                                                                                                                                         |
| GHM3 | Ensure all critical facilities have updated shelter-in-place plans                                                                                                                                                                                         |
| GHM4 | Increase number of trained emergency responders and establish recruitment and retention program                                                                                                                                                            |
| GME1 | Develop cooperative agreements between all agencies involved in emergency management, provide methods of communication between agencies responsible for being present at the Emergency Operations Center following a disaster, and conduct joint exercises |
| GME2 | Create a community toolbox with tools and information for local homeowners                                                                                                                                                                                 |
| GMI1 | Add signage to roads in locations that frequently flood                                                                                                                                                                                                    |
| GMM1 | Develop and implement a drought management plan                                                                                                                                                                                                            |
| GMM2 | Create a strategy for using existing media outlets for communications during a hazard event                                                                                                                                                                |
| GMM3 | Provide career fire staff                                                                                                                                                                                                                                  |
| GMI2 | Upgrade all area bridges to support emergency vehicles                                                                                                                                                                                                     |
| GMD1 | Conduct channel improvement study                                                                                                                                                                                                                          |
| GMD2 | Create a needs survey that identifies special needs population and residences and/or facilities needing attention in the event of emergencies or evacuations                                                                                               |
| GLE1 | Provide citizens with literature about flood and drought-smart landscaping                                                                                                                                                                                 |
| GLI1 | Build and repair bridges so as not to impede floodwaters                                                                                                                                                                                                   |
| GLI2 | Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris                                                                                                                                                                       |
| GLI3 | Install more dry hydrants in high wildfire risk areas                                                                                                                                                                                                      |
| GLI4 | Repair, replace, or relocate septic and drainage fields that leak sewage into bodies of water during flooding events                                                                                                                                       |
| GLI5 | Bury utilities in the county                                                                                                                                                                                                                               |
| GLM1 | Ensure all structures have clear address signs that are visible                                                                                                                                                                                            |

#### Town of Stanardsville

|       |                                                                                                         |
|-------|---------------------------------------------------------------------------------------------------------|
| GSHM1 | Increase water capacity and pressure for the Town of Stanardsville to enable optimal emergency response |
| GSMM1 | Ensure all houses have clear address signs that are visible                                             |

#### Louisa County

|      |                                                                                                                                                      |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| LHI1 | Enhance access to broadband internet in rural areas                                                                                                  |
| LHI2 | Install backup generators in shelters and critical facilities                                                                                        |
| LHI3 | Implement recommendations from Water Supply Plan                                                                                                     |
| LHC1 | Ensure that all schools have regular disaster response drills                                                                                        |
| LHM1 | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building                                   |
| LHM2 | Continue and expand use of citizen alert systems countywide, including within Towns                                                                  |
| LHM3 | Increase number of trained emergency responders                                                                                                      |
| LHM4 | Develop driveway codes to allow emergency vehicle access                                                                                             |
| LHM5 | Work to prevent stormwater and wastewater flooding in water bodies across the County                                                                 |
| LMI1 | Put high water marks on bridges                                                                                                                      |
| LMI2 | Investigate, plan, and implement repairs and/or upgrades to Bowlers Mill dam to preserve flood control benefits for the historic Green Springs area. |
| LMM1 | Investigate safety and maintenance of roads in private communities                                                                                   |

|      |                                                                                                                                                    |
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| LMM2 | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster                      |
| LMM3 | Ensure all houses have clear address signs that are visible during storms events                                                                   |
| LMM4 | Incorporate hazard mitigation plans into community plans                                                                                           |
| LMM5 | Incorporate special needs populations into Hazard Mitigation and Emergency Operations Plans                                                        |
| LLE1 | Provide educational outreach about the burn permit process                                                                                         |
| LLE2 | Create an educational program to help residents understand the benefits and costs of earthquake insurance                                          |
| LLI2 | Add signage to roads in locations that frequently flood                                                                                            |
| LLD1 | Track and map space available for pets at local SPCA and other animal shelters. Install generator and place shelter on snow removal priority list. |

#### Town of Louisa

|       |                                                                                                                                                   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| LLHI1 | Install backup generators in shelters and critical facilities – the Town Hall generator will be upgraded to serve as a shelter during emergencies |
| LLHM1 | Incorporate hazard mitigation plans into community plans                                                                                          |
| LLMM1 | Ensure all houses have clear address signs that are visible during snowstorms                                                                     |

#### Town of Mineral

|       |                                                                                                           |
|-------|-----------------------------------------------------------------------------------------------------------|
| LMHM1 | Incorporate hazard mitigation plans into community plans                                                  |
| LMMM1 | Ensure all houses have clear address signs that are visible during snowstorms                             |
| LMMM2 | Work with the Louisa County to designate a representative for the County's Emergency Operations Committee |
| LMMM3 | Develop a system for alerts and other communication with citizens                                         |
| LMMI1 | Mark the fire hydrants with reflective markers for large snow storms                                      |
| LMMI2 | Install emergency generator for wells                                                                     |
| LMLI1 | Bury utilities underground in town of Mineral                                                             |

#### Nelson County

|      |                                                                                                                                               |
|------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| NHM1 | Continue and expand use of citizen alert systems                                                                                              |
| NHM2 | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building                            |
| NME1 | Conduct Firewise Workshops                                                                                                                    |
| NME2 | Provide educational instruction and materials to school age youth and their teachers on proper procedures for responding to natural disasters |
| NMI1 | Investigate safety and maintenance of roads in private communities                                                                            |
| NMM1 | Ensure all houses have clear address signs that are visible during snowstorms                                                                 |
| NLE1 | Ensure that all homeowners and businesses located in areas prone to landslides are aware of the risks and appropriate responses to an event   |
| NLI2 | Maintain and add more fire rings in camping areas for controlled fires                                                                        |

## 2023 Detailed Action Items

| [Activity Code] Mitigation Action: [Jurisdiction] |                                                                                                     |
|---------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Goal:                                             | One of the goal categories listed above that is supported by the action                             |
| Action Item Description:                          | Brief description of action item                                                                    |
| Hazard(s):                                        | The hazard(s) the action is intended to mitigate                                                    |
| Lead Party:                                       | Identify the local agency, department, or organization that is best suited to accomplish the action |

|                          |                                                                                                                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Estimated Cost:          | An estimate of the costs required to complete the project or continue the project for the course of 5 years; this amount should be estimated until a final dollar amount can be determined |
| Funding Method:          | Potential sources of funds to complete the action, when applicable                                                                                                                         |
| Implementation Schedule: | Timeframe for which the action is expected to be completed                                                                                                                                 |
| Priority                 | Placement in the order of importance and urgency                                                                                                                                           |

#### RHE1 Mitigation Action: Thomas Jefferson Region

|                          |                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                                 |
| Action Item Description: | Provide a copy of the Regional Hazard Mitigation Plan to each library in the Jefferson-Madison Regional Library system |
| Hazard(s):               | Multiple                                                                                                               |
| Lead Party Responsible:  | TJPDC                                                                                                                  |
| Estimated Cost:          | Minimal                                                                                                                |
| Funding Method:          | Regional Hazard Mitigation Planning Funds                                                                              |
| Implementation Schedule: | 6 months                                                                                                               |
| Priority:                | High                                                                                                                   |

#### RME1 Mitigation Action: Thomas Jefferson Region

|                          |                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                                      |
| Action Item Description: | Conduct a public education program on disaster preparedness, leveraging existing materials and sharing resources regionally |
| Hazard (s):              | Multiple                                                                                                                    |
| Lead Party Responsible:  | Local Emergency Management Departments                                                                                      |
| Estimated Cost:          | Unknown                                                                                                                     |
| Funding Method:          | General Revenue                                                                                                             |
| Implementation Schedule: | Ongoing                                                                                                                     |
| Priority:                | Moderate                                                                                                                    |

#### RME2 Mitigation Action: Thomas Jefferson Region

|                          |                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                                           |
| Action Item Description: | Engage Working Group and leverage connections to continue mitigation preparedness throughout plan's duration, before next update |
| Hazard (s):              | Multiple                                                                                                                         |
| Lead Party Responsible:  | TJPDC                                                                                                                            |
| Estimated Cost:          | Staff time                                                                                                                       |
| Funding Method:          | General funds                                                                                                                    |
| Implementation Schedule: | Ongoing                                                                                                                          |
| Priority:                | Moderate                                                                                                                         |

#### RMD1 Mitigation Action: Thomas Jefferson Region

|                          |                                                         |
|--------------------------|---------------------------------------------------------|
| Goal:                    | Information and Data Development                        |
| Action Item Description: | Identify locations for deposit of debris after a hazard |
| Hazard (s):              | Multiple                                                |
| Lead Party Responsible:  | VDEM, UVa                                               |



|                          |               |
|--------------------------|---------------|
| Estimated Cost:          | \$5,000       |
| Funding Method:          | General funds |
| Implementation Schedule: | 1-3 Years     |
| Priority:                | Moderate      |

#### RME3 Mitigation Action: Thomas Jefferson Region

|                          |                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                              |
| Action Item Description: | Continue to research grant and funding opportunities for regionwide hazard mitigation efforts |
| Hazard (s):              | Multiple                                                                                      |
| Lead Party Responsible:  | TJPDC                                                                                         |
| Estimated Cost:          | Unknown                                                                                       |
| Funding Method:          | General Revenue                                                                               |
| Implementation Schedule: | Ongoing                                                                                       |
| Priority:                | Moderate                                                                                      |

#### RMI1 Mitigation Action: Thomas Jefferson Region

|                          |                                                                                                                                                                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                                                                                                             |
| Action Item Description: | Promote and educate localities on high hazard dam vulnerability reduction including rehabilitating/removing dams, elevating structures in inundation zones, and adding flood protection, such as berms, floodwalls or floodproofing, in inundation zones |
| Hazard (s):              | Dam Failure, Flooding                                                                                                                                                                                                                                    |
| Lead Party Responsible:  | TJPDC                                                                                                                                                                                                                                                    |
| Estimated Cost:          | Unknown                                                                                                                                                                                                                                                  |
| Funding Method:          | General Revenue                                                                                                                                                                                                                                          |
| Implementation Schedule: | Ongoing                                                                                                                                                                                                                                                  |
| Priority:                | High                                                                                                                                                                                                                                                     |

| AHE1 Mitigation Action: Albemarle County |                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                                                                                                                                                                                                                                                                                                                                |
| Action Item Description:                 | Increase the number of trained emergency responders, both staff and volunteers. Establish a minimum ICS/emergency management training/certification requirement for essential County staff. Train/educate 70% of identified staff to minimum qualifications. Conduct disaster tabletop and/or full-scale scenarios on an annual basis to exercise skills/processes |
| Hazard(s):                               | Multiple                                                                                                                                                                                                                                                                                                                                                           |
| Lead Party Responsible:                  | Community Development Dept., Police Dept., Fire Rescue Dept., ACOEM                                                                                                                                                                                                                                                                                                |
| Estimated Cost:                          | unknown                                                                                                                                                                                                                                                                                                                                                            |
| Funding Method:                          | N/A                                                                                                                                                                                                                                                                                                                                                                |
| Implementation Schedule:                 | 1-3 years                                                                                                                                                                                                                                                                                                                                                          |
| Priority:                                | High                                                                                                                                                                                                                                                                                                                                                               |

| AHI1 Mitigation Action: Albemarle County |                                                                                                                                                                                   |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                                                                                                      |
| Action Item Description:                 | Implement recommendations from the urban Community Water Supply Plan and those for all other public water supplies within the County, including drought monitoring and management |
| Hazard (s):                              | Drought, adequate potable water                                                                                                                                                   |
| Lead Party Responsible:                  | RWSA, Dept. of Community Development, other County agencies                                                                                                                       |
| Estimated Cost:                          | Variable                                                                                                                                                                          |
| Funding Method:                          | RWSA ratepayers, state and federal grants                                                                                                                                         |
| Implementation Schedule:                 | 3-5 years                                                                                                                                                                         |
| Priority:                                | High                                                                                                                                                                              |

| AHI2 Mitigation Action: Albemarle County |                                                                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                                    |
| Action Item Description:                 | Develop an integrated regional security and monitoring system, including access control and intrusion detection |
| Hazard (s):                              | Multiple (including outsider physical threat and terrorism)                                                     |
| Estimated Cost:                          | \$4 Million                                                                                                     |
| Funding Method:                          | Hazard Mitigation Grant Program, Utility Revenue, General Revenue                                               |
| Implementation Schedule:                 | 1-3 years                                                                                                       |
| Priority:                                | High                                                                                                            |
| Lead Party Responsible:                  | Albemarle County Service Authority, RWSA                                                                        |

| AHI3 Mitigation Action: Albemarle County |                                                      |
|------------------------------------------|------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                         |
| Action Item Description:                 | Establish a backup Emergency Operations Center (EOC) |
| Hazard (s):                              | Multiple                                             |
| Lead Party Responsible:                  | ACOEM, FES                                           |
| Estimated Cost:                          |                                                      |
| Funding Method:                          | County Operational Budget                            |
| Implementation Schedule:                 | 1-3 years                                            |
| Priority:                                | High                                                 |

| AHI4 Mitigation Action: Albemarle County |                                                                                                                                                     |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                                                                        |
| Action Item Description:                 | Establish an Albemarle County specific basic Emergency Operations Plan and annexes for the 3 highest risk natural disasters as defined in the HIRA. |
| Hazard (s):                              | Multiple                                                                                                                                            |
| Lead Party Responsible:                  | ACOEM, FES                                                                                                                                          |
| Estimated Cost:                          |                                                                                                                                                     |
| Funding Method:                          | County Operational Budget                                                                                                                           |
| Implementation Schedule:                 | 1-3 years                                                                                                                                           |
| Priority:                                | High                                                                                                                                                |

| AHC3 Mitigation Action: Albemarle County |                                                                                                                                                                  |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Information and Data Development                                                                                                                                 |
| Action Item Description:                 | Implement initiatives to reduce community greenhouse gas emissions as prescribed by the Climate Action Plan adopted in 2020 in order to mitigate climate change. |
| Hazard (s):                              | Multiple                                                                                                                                                         |
| Lead Party Responsible:                  | FES                                                                                                                                                              |
| Estimated Cost:                          | Variable                                                                                                                                                         |
| Funding Method:                          | County funds; grants                                                                                                                                             |
| Implementation Schedule:                 | Ongoing                                                                                                                                                          |
| Priority:                                | High                                                                                                                                                             |

| AHM1 Mitigation Action: Albemarle County |                                                                                                                |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                                                                            |
| Action Item Description:                 | Incorporate this Regional Hazard Mitigation Plan into local comprehensive plans and Emergency Operations Plans |
| Hazard (s):                              | Multiple                                                                                                       |
| Lead Party Responsible:                  | Community Development Dept., Thomas Jefferson Planning District Comm., ACEOM                                   |
| Estimated Cost:                          | None (other than staff costs)                                                                                  |

|                          |                                            |
|--------------------------|--------------------------------------------|
| Funding Method:          | County operational budget (for staff time) |
| Implementation Schedule: | 3-5 years                                  |
| Priority:                | moderate                                   |

#### AHM2 Mitigation Action: Albemarle County

|                          |                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                    |
| Action Item Description: | Install fire mitigation measures, including dry hydrants, fire breaks, and fire rings. |
| Hazard (s):              | Wildfire                                                                               |
| Lead Party Responsible:  | Fire Rescue Dept., Community Development Dept., Building Official, Dept. of Forestry   |
| Estimated Cost:          | Unknown; based on need                                                                 |
| Funding Method:          | Grant programs (Va. dry hydrant grant program)                                         |
| Implementation Schedule: | Ongoing                                                                                |
| Priority:                | High                                                                                   |

#### AHM3 Mitigation Action: Albemarle County

|                          |                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                                      |
| Action Item Description: | Develop continuity-of-operations plan to ensure critical operations are maintained during power failure. |
| Hazard (s):              | Multiple                                                                                                 |
| Lead Party Responsible:  |                                                                                                          |
| Estimated Cost:          | \$50,000                                                                                                 |
| Funding Method:          | County General fund, grant opportunities                                                                 |
| Implementation Schedule: | 1-3 years                                                                                                |
| Priority:                | High                                                                                                     |

#### AHD1 Mitigation Action: Albemarle County

|                          |                                                                                                            |
|--------------------------|------------------------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                                           |
| Action Item Description: | Continue to assess new and existing critical facilities for resilience to/preparedness for natural hazards |
| Hazard (s):              | Multiple                                                                                                   |
| Lead Party Responsible:  | ACEOM, Dept. of Facilities and Environ. Services, Community Development Dept.                              |
| Estimated Cost:          | Varies                                                                                                     |
| Funding Method:          | General Revenue; possible grant sources                                                                    |
| Implementation Schedule: | Ongoing                                                                                                    |
| Priority:                | High                                                                                                       |

#### AHD2 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                                                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                                                                                                                                                                                                                                            |
| Action Item Description: | Mitigate Water and Wastewater System Failure or Contamination through community coordination and information/equipment sharing. Provide planning support for operational and integrated security management (including communications plan and continuity plan, emergency exercises, coordinated committee) |
| Hazard (s):              | All                                                                                                                                                                                                                                                                                                         |
| Lead Party Responsible:  | Albemarle County Service Authority and RWSA                                                                                                                                                                                                                                                                 |

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| Estimated Cost:          | \$500,000                                        |
| Funding Method:          | Hazard Mitigation Grant Program, Utility Revenue |
| Implementation Schedule: | 1-2 years                                        |
| Priority:                | High                                             |

#### AHC1 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                                                                                                      |
| Action Item Description: | Develop a debris management plan (including emergency response access and cleanup) for removal of fallen trees, etc. following a storm, such as hurricane or tornado. |
| Hazard (s):              | Multiple                                                                                                                                                              |
| Lead Party Responsible:  | VDOT, ACOEM, Community Development, Park and Rec, RSWA, other landfills in region                                                                                     |
| Estimated Cost:          | N/A                                                                                                                                                                   |
| Funding Method:          | N/A                                                                                                                                                                   |
| Implementation Schedule: | 1-2 years                                                                                                                                                             |
| Priority:                | High                                                                                                                                                                  |

#### AHC2 Mitigation Action: Albemarle County

|                          |                                                                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                                                                                            |
| Action Item Description: | Engage in climate resilience and adaptation planning and implement initiatives to prepare for the anticipated hazards and impacts driven by climate change. |
| Hazard (s):              | Multiple                                                                                                                                                    |
| Lead Party Responsible:  | FES                                                                                                                                                         |
| Estimated Cost:          | Variable                                                                                                                                                    |
| Funding Method:          | County funds; grants, including VA DCR Community Flood Preparedness Fund                                                                                    |
| Implementation Schedule: | Ongoing                                                                                                                                                     |
| Priority:                | High                                                                                                                                                        |

#### AME1 Mitigation Action: Albemarle County

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| Goal:                    | Education and Outreach                                        |
| Action Item Description: | Ensure that all schools have regular disaster response drills |
| Hazard (s):              | Multiple                                                      |
| Lead Party Responsible:  | Dept. of Schools and Education; independent private school    |
| Estimated Cost:          | N/A                                                           |
| Funding Method:          | N/A                                                           |
| Implementation Schedule: | Ongoing                                                       |
| Priority:                | Moderate                                                      |

#### AME2 Mitigation Action: Albemarle County

|                          |                                                                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                                                                                          |
| Action Item Description: | Continue to pursue conservation practices in sensitive areas, including riparian buffers and flood-prone areas.                                              |
| Hazard (s):              | Multiple                                                                                                                                                     |
| Lead Party Responsible:  | Virginia Outdoors Foundation, Nature Conservancy, Thomas Jefferson Soil and Water Conservation District, Albemarle Conservation Easement Authority, CDD, FES |
| Estimated Cost:          | Based on individual property assessments and/or practices implemented                                                                                        |



|                          |          |
|--------------------------|----------|
| Funding Method:          | Various  |
| Implementation Schedule: | Ongoing  |
| Priority:                | Moderate |

#### AME3 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                                                                                                                  |
| Action Item Description: | Conduct comprehensive residential and business disaster preparedness programs focusing on the ability of residents and businesses to sustain themselves for 72 hours post emergency. |
| Hazard (s):              | Multiple                                                                                                                                                                             |
| Lead Party Responsible:  | ACOEM, CAPE                                                                                                                                                                          |
| Estimated Cost:          | \$20,000                                                                                                                                                                             |
| Funding Method:          | County general fund                                                                                                                                                                  |
| Implementation Schedule: | Ongoing                                                                                                                                                                              |
| Priority:                | Moderate                                                                                                                                                                             |

#### AME4 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                                                                                                            |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                                                                                                                                                                                                        |
| Action Item Description: | Define Neighborhoods/communities within the County and identify (using a contact management system) key residents and Non-Governmental organizations (NGOs) within each neighborhood who may connect the County and disaster services to the neighborhood during a crisis. |
| Hazard (s):              | Multiple                                                                                                                                                                                                                                                                   |
| Lead Party Responsible:  | ACOEM, CAPE, OEI                                                                                                                                                                                                                                                           |
| Estimated Cost:          | Unknown                                                                                                                                                                                                                                                                    |
| Funding Method:          | Unknown                                                                                                                                                                                                                                                                    |
| Implementation Schedule: | 1-3 years                                                                                                                                                                                                                                                                  |
| Priority:                | Moderate                                                                                                                                                                                                                                                                   |

#### AMI1 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                                                                     |
| Action Item Description: | Build or repair bridges and culverts so as not to minimize impacts to floodways                                                                                                                                  |
| Hazard (s):              | Flood                                                                                                                                                                                                            |
| Lead Party Responsible:  | Virginia Dept. of Transportation, CDD, P&R                                                                                                                                                                       |
| Estimated Cost:          | Unknown-based on individual projects                                                                                                                                                                             |
| Funding Method:          | VDOT State of Good Repair program, State transportation funding; federal bridge funds/highway funds, Hazard Mitigation Grant Program, 406 Public Assistance Program (after disaster), private foundation funding |
| Implementation Schedule: | Ongoing (as bridges and culverts are maintained, repaired, replaced or newly built)                                                                                                                              |
| Priority:                | Moderate                                                                                                                                                                                                         |

#### AMI2 Mitigation Action: Albemarle County

|                          |                                               |
|--------------------------|-----------------------------------------------|
| Goal:                    | Infrastructure and Buildings                  |
| Action Item Description: | Upgrade bridges to support emergency vehicles |
| Hazard (s):              | Multiple                                      |
| Lead Party Responsible:  | VDOT, Railroads                               |
| Estimated Cost:          | Unknown-based on individual projects          |

|                          |                                                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Funding Method:          | VDOT State of Good repair program; State transportation funding; federal bridge funds/highway funds, Hazard Mitigation Grant Program, 406 Public Assistance Program (after disaster) |
| Implementation Schedule: | Ongoing (as bridges are maintained, repaired, replaced or newly built)                                                                                                               |
| Priority:                | Moderate                                                                                                                                                                             |

#### AMI3 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                                                           |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                                                                              |
| Action Item Description: | Carry out physical security improvements to water & wastewater systems, which may include fencing, door hardening, window hardening, locks, bollards, cameras, signage, lighting, access control and intrusion detection. |
| Hazard (s):              | Multiple (including outsider physical threat)                                                                                                                                                                             |
| Lead Party Responsible:  | Albemarle County Service Authority & Rivanna Water and Sewer Authority                                                                                                                                                    |
| Estimated Cost:          | \$2 Million                                                                                                                                                                                                               |
| Funding Method:          | Hazard Mitigation Grant Program, Utility Revenue                                                                                                                                                                          |
| Implementation Schedule: | 1-3 years                                                                                                                                                                                                                 |
| Priority:                | Moderate                                                                                                                                                                                                                  |

#### AMI4 Mitigation Action: Albemarle County

|                          |                                                                                 |
|--------------------------|---------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                    |
| Action Item Description: | Procure technology equipment for Water/Wastewater system component inspections. |
| Hazard (s):              | Multiple (including natural disasters and contamination)                        |
| Lead Party Responsible:  | Albemarle County Service Authority & Rivanna Water and Sewer Authority          |
| Estimated Cost:          | \$100,000                                                                       |
| Funding Method:          | Hazard Mitigation Grant Program, Utility Revenue                                |
| Implementation Schedule: | 1-2 years                                                                       |
| Priority:                | Moderate                                                                        |

#### AMI5 Mitigation Action: Albemarle County

|                          |                                                                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                  |
| Action Item Description: | Improve the maintenance and repair of stormwater conveyance systems – in part through better coordination and cooperation with local partners |
| Hazard (s):              | Flood                                                                                                                                         |
| Lead Party Responsible:  | Facilities and Environmental Services Dept., VDOT                                                                                             |
| Estimated Cost:          | Unknown                                                                                                                                       |
| Funding Method:          | 406 Public Assistance (following a federal declared disaster), County funding (CIP), Hazard Mitigation Grant Program                          |
| Implementation Schedule: | Ongoing                                                                                                                                       |
| Priority:                | Moderate                                                                                                                                      |

#### AMC1 Mitigation Action: Albemarle County

|                          |                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                            |
| Action Item Description: | Improve the preparedness of public and private dams within the county to withstand extreme flood events |
| Hazard (s):              | Flood                                                                                                   |
| Lead Party Responsible:  | Facilities and Environmental Services Dept, CDD, RWSA                                                   |

|                          |                                                             |
|--------------------------|-------------------------------------------------------------|
| Estimated Cost:          | Unknown                                                     |
| Funding Method:          | DCR dam safety grants and Community Flood Preparedness Fund |
| Implementation Schedule: | Ongoing                                                     |
| Priority:                | Moderate                                                    |

#### AMC2 Mitigation Action: Albemarle County

|                          |                                                                         |
|--------------------------|-------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                            |
| Action Item Description: | Maintain and update, as needed, the regional and local sheltering plans |
| Hazard (s):              | Multiple                                                                |
| Lead Party Responsible:  | ACOEM, DSS                                                              |
| Estimated Cost:          | Unknown                                                                 |
| Funding Method:          | County general fund                                                     |
| Implementation Schedule: | Ongoing                                                                 |
| Priority:                | Moderate                                                                |

#### AMC3 Mitigation Action: Albemarle County

|                          |                                                                                                                |
|--------------------------|----------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                   |
| Action Item Description: | Continue to assess designated community shelters for compliance with minimum specifications and best practices |
| Hazard (s):              | Multiple                                                                                                       |
| Lead Party Responsible:  | Facilities and Environmental Services Dept, CDD, ACOEM, DSS< Red Cross                                         |
| Estimated Cost:          | Unknown                                                                                                        |
| Funding Method:          | County general fund                                                                                            |
| Implementation Schedule: | 1-3 years                                                                                                      |
| Priority:                | Moderate                                                                                                       |

#### AMC4 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                  |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                     |
| Action Item Description: | During Comprehensive Plan update, consider loosening restrictions on the types of County improvements in Rural areas to accommodate community support facilities |
| Hazard (s):              | Multiple                                                                                                                                                         |
| Lead Party Responsible:  | CDD, FES                                                                                                                                                         |
| Estimated Cost:          | N/A                                                                                                                                                              |
| Funding Method:          | N/A                                                                                                                                                              |
| Implementation Schedule: | 1-3 years                                                                                                                                                        |
| Priority:                | Moderate                                                                                                                                                         |

#### AMM1 Mitigation Action: Albemarle County

|                          |                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                      |
| Action Item Description: | Through the development process, discourage or prohibit development in flood-prone areas |
| Hazard (s):              | Flood                                                                                    |
| Lead Party Responsible:  | Community Development Dept.                                                              |
| Estimated Cost:          | None                                                                                     |
| Funding Method:          | N/A                                                                                      |

|                          |          |
|--------------------------|----------|
| Implementation Schedule: | Ongoing  |
| Priority:                | Moderate |

#### AMD1 Mitigation Action: Albemarle County

|                          |                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Information and Data Development                                                                                                                |
| Action Item Description: | Expand GIS data and capabilities and other technologies for the purposes of mitigation planning, preparedness planning, and response activities |
| Hazard (s):              | Multiple                                                                                                                                        |
| Lead Party Responsible:  | Community Development Dept., TJPDC., FES, ECC                                                                                                   |
| Estimated Cost:          | Unknown                                                                                                                                         |
| Funding Method:          | General Revenue, Hazard Mitigation Grant Program, ESRI, Pre-Disaster Mitigation Grant, Dept. of Interior Geologic Mapping Program               |
| Implementation Schedule: | Ongoing                                                                                                                                         |
| Priority:                | Moderate                                                                                                                                        |

#### ALE1 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                                           |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                                                                                                                    |
| Action Item Description: | Encourage property owners and residents to clear storm drain inlets, channels, creek beds, and other conveyances of fallen trees and debris to minimize the potential for flow restrictions and flooding. |
| Hazard (s):              | Flood                                                                                                                                                                                                     |
| Lead Party Responsible:  | Facilities and Environmental Services Dept., ACOEM, CAPE                                                                                                                                                  |
| Estimated Cost:          | Unknown, based on need                                                                                                                                                                                    |
| Funding Method:          | General Revenue                                                                                                                                                                                           |
| Implementation Schedule: | Ongoing                                                                                                                                                                                                   |
| Priority:                | Low                                                                                                                                                                                                       |

#### ALE2 Mitigation Action: Albemarle County

|                          |                                                                                                                    |
|--------------------------|--------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                             |
| Action Item Description: | Ensure all houses and businesses have clear address signs that are visible during snowstorms and other emergencies |
| Hazard (s):              | Multiple                                                                                                           |
| Lead Party Responsible:  | Community Development Dept, Fire-Rescue Dept., County Executive's Office, IT, ECC, ACPD, CAPE                      |
| Estimated Cost:          | \$4,000                                                                                                            |
| Funding Method:          | General Revenues                                                                                                   |
| Implementation Schedule: | Ongoing                                                                                                            |
| Priority:                | Low                                                                                                                |

#### ALE3 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                             |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                                                                                                                      |
| Action Item Description: | Continue educational campaign about the benefits of open space and sensitive area protection.                                                                               |
| Hazard (s):              | Multiple                                                                                                                                                                    |
| Lead Party Responsible:  | Virginia Outdoors Foundation, Nature Conservancy, Thomas Jefferson Soil and Water Conservation District, Albemarle Conservation Easement, Community Development Dept., CAPE |
| Estimated Cost:          | Variable                                                                                                                                                                    |
| Funding Method:          | County funding, State funds for farmland and open space preservation (VDACS Farmland Preservation)                                                                          |

|                          |         |
|--------------------------|---------|
| Implementation Schedule: | Ongoing |
| Priority:                | Low     |

#### ALE4 Mitigation Action: Albemarle County

|                          |                                                  |
|--------------------------|--------------------------------------------------|
| Goal:                    | Education and Outreach                           |
| Action Item Description: | Outdoor warning sirens for public use facilities |
| Hazard (s):              | Multiple                                         |
| Lead Party Responsible:  | AC Parks and Rec, ACOEM                          |
| Estimated Cost:          | Unknown                                          |
| Funding Method:          | County general fund, CIP, Grants                 |
| Implementation Schedule: | Ongoing                                          |
| Priority:                | Low                                              |

#### ALC1 Mitigation Action: Albemarle County

|                          |                                                               |
|--------------------------|---------------------------------------------------------------|
| Goal:                    | Whole Community                                               |
| Action Item Description: | Increase the capacity to shelter in place in public buildings |
| Hazard (s):              | Multiple                                                      |
| Lead Party Responsible:  | ACOEM                                                         |
| Estimated Cost:          | Unknown                                                       |
| Funding Method:          | General Revenue, FEMA funds/grants                            |
| Implementation Schedule: | Ongoing                                                       |
| Priority:                | Low                                                           |

#### ALC2 Mitigation Action: Albemarle County

|                          |                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Whole Community                                                                                                               |
| Action Item Description: | Promote biodiversity and native plant communities and control invasive species to improve the resilience of native ecosystems |
| Hazard (s):              | Flood, drought, extreme heat                                                                                                  |
| Lead Party Responsible:  | CDD, FES                                                                                                                      |
| Estimated Cost:          | Unknown                                                                                                                       |
| Funding Method:          | County funding and grants                                                                                                     |
| Implementation Schedule: | Ongoing                                                                                                                       |
| Priority:                | Low                                                                                                                           |

#### ALC3 Mitigation Action: Albemarle County

|                          |                                                                                                                                                                                             |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Whole Community                                                                                                                                                                             |
| Action Item Description: | Develop communications strategy and protocols (both preparedness and response) using traditional and emerging outlets (local media, social media, etc.); consider languages besides English |
| Hazard (s):              | Multiple                                                                                                                                                                                    |
| Lead Party Responsible:  | CDD, ACOEM                                                                                                                                                                                  |
| Estimated Cost:          | N/A                                                                                                                                                                                         |
| Funding Method:          | N/A                                                                                                                                                                                         |
| Implementation Schedule: | 1 year                                                                                                                                                                                      |
| Priority:                | Low                                                                                                                                                                                         |



| ALC4 Mitigation Action: Albemarle County |                                                                                                                                                                         |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Whole Community                                                                                                                                                         |
| Action Item Description:                 | Improve ability to notify public in the event of extreme storms and/or dam failure, possibly through utilizing river level sensors and a downstream notification system |
| Hazard (s):                              | Flood                                                                                                                                                                   |
| Lead Party Responsible:                  | RWSA FES                                                                                                                                                                |
| Estimated Cost:                          | Unknown                                                                                                                                                                 |
| Funding Method:                          | Various                                                                                                                                                                 |
| Implementation Schedule:                 | 3-5 years                                                                                                                                                               |
| Priority:                                | Low                                                                                                                                                                     |

| ALC5 Mitigation Action: Albemarle County |                                                                                                                                                                                                                                                  |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Whole Community                                                                                                                                                                                                                                  |
| Action Item Description:                 | Continue and expand the use of citizen alert systems. Explore use of Social Media platform emergency alert systems. Establish backup procedures/plans for emergency notification/alert when methods relying on power & technology are inoperable |
| Hazard (s):                              | Multiple                                                                                                                                                                                                                                         |
| Lead Party Responsible:                  | ACEOM, CAPE, ECC                                                                                                                                                                                                                                 |
| Estimated Cost:                          | \$5,000                                                                                                                                                                                                                                          |
| Funding Method:                          | General Revenue                                                                                                                                                                                                                                  |
| Implementation Schedule:                 | Ongoing                                                                                                                                                                                                                                          |
| Priority:                                | Low                                                                                                                                                                                                                                              |

| ALI1 Mitigation Action: Albemarle County |                                                                                                        |
|------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                           |
| Action Item Description:                 | Implement Stormwater Management programs and initiatives to reduce flood risk throughout the community |
| Hazard (s):                              | Flood                                                                                                  |
| Lead Party Responsible:                  | Facilities and Environmental Services Dept.                                                            |
| Estimated Cost:                          | Unknown, based on need                                                                                 |
| Funding Method:                          | County funding (CIP)                                                                                   |
| Implementation Schedule:                 | Ongoing                                                                                                |
| Priority:                                | Low                                                                                                    |

| ALI2 Mitigation Action: Albemarle County |                                                                                                                                                                              |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                                                                                                 |
| Action Item Description:                 | Improve the maintenance, repair, and upgrades to public and private stormwater management facilities and impoundments to withstand extreme storms and enhance flood control. |
| Hazard (s):                              | Flood                                                                                                                                                                        |
| Lead Party Responsible:                  | Facilities and Environmental Services Dept.                                                                                                                                  |
| Estimated Cost:                          | Unknown, based on individual projects                                                                                                                                        |
| Funding Method:                          | County funding (CIP)                                                                                                                                                         |
| Implementation Schedule:                 | Ongoing                                                                                                                                                                      |
| Priority:                                | Low                                                                                                                                                                          |

| ALI3 Mitigation Action: Albemarle County |                                                                                           |
|------------------------------------------|-------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                              |
| Action Item Description:                 | Partner with utility companies to keep power lines and other utilities free of vegetation |
| Hazard (s):                              | Multiple                                                                                  |
| Lead Party Responsible:                  | County Executive's Office, ACOEM                                                          |
| Estimated Cost:                          | Unknown                                                                                   |
| Funding Method:                          | N/A                                                                                       |
| Implementation Schedule:                 | Ongoing                                                                                   |
| Priority:                                | Low                                                                                       |

| ALI4 Mitigation Action: Albemarle County |                                                                                                                                                                                                                                                                               |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Education and Outreach                                                                                                                                                                                                                                                        |
| Action Item Description:                 | Implement programs and initiatives to reduce pollution discharge via stormwater systems                                                                                                                                                                                       |
| Hazard (s):                              | Flood                                                                                                                                                                                                                                                                         |
| Lead Party Responsible:                  | Community Development Dept., Facilities and Environmental Services                                                                                                                                                                                                            |
| Estimated Cost:                          | Unknown, based on need                                                                                                                                                                                                                                                        |
| Funding Method:                          | EPA – Water Quality Cooperative Agreements, EPA-Nonpoint Source Grant Program, 406 Public Assistance (following a federally declared disaster), USDA-Watershed Protection and Flood Prevention Program, USDA-Environmental Quality Incentives Program, Stormwater Utility Fee |
| Implementation Schedule:                 | Ongoing                                                                                                                                                                                                                                                                       |
| Priority:                                | Low                                                                                                                                                                                                                                                                           |

| ASHC1 Mitigation Action: Town of Scottsville |                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                        | Whole Community                                                                                                                                           |
| Action Item Description:                     | Improve Regional Transit. Elderly and disabled residents need better transit options for emergency evacuations, as well as for prevention and resiliency. |
| Hazard (s):                                  | Flooding                                                                                                                                                  |
| Lead Party Responsible:                      | JAUNT and CAT                                                                                                                                             |
| Estimated Cost:                              | Dependent on improvements                                                                                                                                 |
| Funding Method:                              | Unknown                                                                                                                                                   |
| Implementation Schedule:                     | Ongoing                                                                                                                                                   |
| Priority:                                    | High                                                                                                                                                      |

| ASDM1 Mitigation Action: Town of Scottsville |                                                                                                                                                                                                               |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                        | Information and Data Development                                                                                                                                                                              |
| Action Item Description:                     | Update the Town's Floodplain Maps. The maps date to 1996 and have several apparent errors from the current field truth. Using modern models and surveys, more accurate maps will inform many other decisions. |
| Hazard (s):                                  | Flooding                                                                                                                                                                                                      |
| Lead Party Responsible:                      | Town of Scottsville                                                                                                                                                                                           |
| Estimated Cost:                              | \$123,000                                                                                                                                                                                                     |
| Funding Method:                              | DCR Grant Funding                                                                                                                                                                                             |
| Implementation Schedule:                     | Work begins in 2022 and will be completed in 2023                                                                                                                                                             |
| Priority:                                    | Moderate                                                                                                                                                                                                      |

| ASEM1 Mitigation Action: Town of Scottsville |                                                                                                                                                                                           |
|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                        | Education and Outreach                                                                                                                                                                    |
| Action Item Description:                     | Improve Riparian Buffers. Healthy vegetative buffers are a very cost-effective way to mitigate flooding impacts. The Town has poor buffers along parts of Mink Creek and the James River. |
| Hazard (s):                                  | Flooding                                                                                                                                                                                  |
| Lead Party Responsible:                      | Scottsville Town Administration                                                                                                                                                           |
| Estimated Cost:                              | \$10,000                                                                                                                                                                                  |
| Funding Method:                              | Town general funds and grants from James River Association and VA Dept. of Forestry                                                                                                       |
| Implementation Schedule:                     | Starts in 2022 and then ongoing                                                                                                                                                           |
| Priority:                                    | Moderate                                                                                                                                                                                  |

| CHE1 Mitigation Action: City of Charlottesville |                                                                                                                     |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Education and Outreach                                                                                              |
| Action Item Description:                        | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building. |
| Hazard (s):                                     | Multiple                                                                                                            |
| Lead Party Responsible:                         | Neighborhood Development Services, Public Works                                                                     |
| Estimated Cost:                                 | \$10,000                                                                                                            |
| Funding Method:                                 | Hazard Mitigation Grant Program, General Revenue                                                                    |
| Implementation Schedule:                        | Ongoing                                                                                                             |
| Priority:                                       | High                                                                                                                |

| CHE2 Mitigation Action: City of Charlottesville |                                                                                                                  |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Education and Outreach                                                                                           |
| Action Item Description:                        | Ensure that all city schools have an emergency and disaster plan and regularly conduct disaster response drills. |
| Hazard (s):                                     | Multiple                                                                                                         |
| Lead Party Responsible:                         | Public School System, independent private schools                                                                |
| Estimated Cost:                                 | N/A                                                                                                              |
| Funding Method:                                 | N/A                                                                                                              |
| Implementation Schedule:                        | Ongoing                                                                                                          |
| Priority:                                       | High                                                                                                             |

| CHM1 Mitigation Action: City of Charlottesville |                                |
|-------------------------------------------------|--------------------------------|
| Goal:                                           | Mitigation Capacity            |
| Action Item Description:                        | Complete Flood Resilience Plan |
| Hazard (s):                                     |                                |
| Lead Party Responsible:                         |                                |
| Estimated Cost:                                 |                                |
| Funding Method:                                 |                                |
| Implementation Schedule:                        |                                |
| Priority:                                       |                                |

| CHM2 Mitigation Action: City of Charlottesville |                                  |
|-------------------------------------------------|----------------------------------|
| Goal:                                           | Mitigation Capacity              |
| Action Item Description:                        | Complete Climate Adaptation plan |
| Hazard (s):                                     |                                  |
| Lead Party Responsible:                         |                                  |
| Estimated Cost:                                 |                                  |
| Funding Method:                                 |                                  |
| Implementation Schedule:                        |                                  |
| Priority:                                       |                                  |

| CHM3 Mitigation Action: City of Charlottesville |                               |
|-------------------------------------------------|-------------------------------|
| Goal:                                           | Mitigation Capacity           |
| Action Item Description:                        | Update floodplain regulations |
| Hazard (s):                                     |                               |
| Lead Party Responsible:                         |                               |
| Estimated Cost:                                 |                               |
| Funding Method:                                 |                               |
| Implementation Schedule:                        |                               |
| Priority:                                       |                               |

| CHM4 Mitigation Action: City of Charlottesville |                                                                                                                                            |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                                                                        |
| Action Item Description:                        | Incorporate hazard mitigation plan into community plans. Identify senior living/special needs residences in areas vulnerable for flooding. |
| Hazard (s):                                     | Multiple                                                                                                                                   |
| Lead Party Responsible:                         | Neighborhood Development Services                                                                                                          |
| Estimated Cost:                                 | None                                                                                                                                       |
| Funding Method:                                 | N/A                                                                                                                                        |
| Implementation Schedule:                        | 3-5 years                                                                                                                                  |
| Priority:                                       | High                                                                                                                                       |

| CHM5 Mitigation Action: City of Charlottesville |                                                                                                                                |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                                                            |
| Action Item Description:                        | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster. |
| Hazard (s):                                     | Multiple                                                                                                                       |
| Lead Party Responsible:                         | Emergency Services Coordinator                                                                                                 |
| Estimated Cost:                                 | \$10,000                                                                                                                       |
| Funding Method:                                 | FEMA Community Emergency Response Teams, FEMA Emergency Management Performance Grant                                           |
| Implementation Schedule:                        | Ongoing                                                                                                                        |
| Priority:                                       | High                                                                                                                           |

| CHM6 Mitigation Action: City of Charlottesville |                                                                                   |
|-------------------------------------------------|-----------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                               |
| Action Item Description:                        | Provide incentives to institutions and homeowners for use of low-flow appliances. |
| Hazard (s):                                     | Drought                                                                           |
| Lead Party Responsible:                         | Neighborhood Development Services                                                 |
| Estimated Cost:                                 | None                                                                              |
| Funding Method:                                 | N/A                                                                               |
| Implementation Schedule:                        | Ongoing                                                                           |
| Priority:                                       | High                                                                              |

| CHM7 Mitigation Action: City of Charlottesville |                                                                                                           |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                                       |
| Action Item Description:                        | Continue to expand use of citizen alert system. (Code RED) Develop community promotion plan for Code RED. |
| Hazard(s):                                      | Multiple                                                                                                  |
| Lead Party Responsible:                         | Regional Emergency Management Coordinator, City OEM                                                       |
| Estimated Cost:                                 | \$5,000                                                                                                   |
| Funding Method:                                 | General Revenue                                                                                           |
| Implementation Schedule:                        | 6-12 months                                                                                               |
| Priority:                                       | High                                                                                                      |

| CHM8 Mitigation Action: City of Charlottesville |                                                                                                                 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                                             |
| Action Item Description:                        | Inventory all shelters and public buildings to ensure emergency preparedness supplies and equipment are onsite. |
| Hazard (s):                                     | Multiple                                                                                                        |
| Lead Party Responsible:                         | Emergency Services Coordinator                                                                                  |
| Estimated Cost:                                 | \$40/location                                                                                                   |
| Funding Method:                                 | General Revenue                                                                                                 |
| Implementation Schedule:                        | Ongoing                                                                                                         |
| Priority:                                       | High                                                                                                            |

| CMI1 Mitigation Action: City of Charlottesville |                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------|
| Goal:                                           | Infrastructure and Buildings                                                     |
| Action Item Description:                        | Build or repair roadway and pedestrian crossings so as not to impede floodwaters |
| Hazard (s):                                     | Flood                                                                            |
| Lead Party Responsible:                         | VDOT                                                                             |
| Estimated Cost:                                 | Unknown                                                                          |
| Funding Method:                                 | Hazard Mitigation Grant Program, 406 Public Assistance Program                   |
| Implementation Schedule:                        | When bridges are repaired/replaced                                               |
| Priority:                                       | Moderate                                                                         |



| CMI2 Mitigation Action: City of Charlottesville |                                                                                                                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Infrastructure and Buildings                                                                                                                                                     |
| Action Item Description:                        | Retrofit emergency service buildings for hazard resistance.                                                                                                                      |
| Hazard (s):                                     | Structural                                                                                                                                                                       |
| Lead Party Responsible:                         | Emergency Services Coordinator                                                                                                                                                   |
| Estimated Cost:                                 | Unknown                                                                                                                                                                          |
| Funding Method:                                 | All hazards Emergency Operations Planning, Assistance to Local Firefighters Grant, Local Hurricane Grant Program, Pre-Disaster Mitigation Grant, Hazard Mitigation Grant Program |
| Implementation Schedule:                        | 3-5 years                                                                                                                                                                        |
| Priority:                                       | Moderate                                                                                                                                                                         |

| CMI3 Mitigation Action: City of Charlottesville |                                                                                                                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Infrastructure and Buildings                                                                                                                                                     |
| Action Item Description:                        | Retrofit emergency service buildings for hazard resistance.                                                                                                                      |
| Hazard(s):                                      | Structural                                                                                                                                                                       |
| Lead Party Responsible:                         | Regional Emergency Management Coordinator, City OEM                                                                                                                              |
| Estimated Cost:                                 | Unknown                                                                                                                                                                          |
| Funding Method:                                 | All hazards Emergency Operations Planning, Assistance to Local Firefighters Grant, Local Hurricane Grant Program, Pre-Disaster Mitigation Grant, Hazard Mitigation Grant Program |
| Implementation Schedule:                        | 3-5 years                                                                                                                                                                        |
| Priority:                                       | Moderate                                                                                                                                                                         |

| CMM1 Mitigation Action: City of Charlottesville |                                                                                                                      |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                                                  |
| Action Item Description:                        | Support volunteer groups and encourage collaboration on public outreach and education programs on hazard mitigation. |
| Hazard (s):                                     | Multiple                                                                                                             |
| Lead Party Responsible:                         | All City Departments, Emergency Services Coordinator                                                                 |
| Estimated Cost:                                 | None                                                                                                                 |
| Funding Method:                                 | N/A                                                                                                                  |
| Implementation Schedule:                        | Ongoing                                                                                                              |
| Priority:                                       | Moderate                                                                                                             |

| CMM2 Mitigation Action: City of Charlottesville |                                                                                              |
|-------------------------------------------------|----------------------------------------------------------------------------------------------|
| Goal:                                           | Mitigation Capacity                                                                          |
| Action Item Description:                        | Create a strategy for using existing media outlets for communications during a hazard event. |
| Hazard (s):                                     | Flood                                                                                        |
| Lead Party Responsible:                         | Office of Communications                                                                     |
| Estimated Cost:                                 | None                                                                                         |
| Funding Method:                                 | N/A                                                                                          |
| Implementation Schedule:                        | Ongoing                                                                                      |
| Priority:                                       | Moderate                                                                                     |

| CLE1 Mitigation Action: City of Charlottesville |                                                                                                 |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Goal:                                           | Education and Outreach                                                                          |
| Action Item Description:                        | Provide citizens with literature about flood and drought-smart landscaping.                     |
| Hazard (s):                                     | Drought, Flooding                                                                               |
| Lead Party Responsible:                         | Neighborhood Development Services, Public Works                                                 |
| Estimated Cost:                                 | \$5,000                                                                                         |
| Funding Method:                                 | Pre-Disaster Mitigation Grant, Hazard Mitigation Grant Program, Annual DCR Flood Awareness Week |
| Implementation Schedule:                        | 3-5 years                                                                                       |
| Priority:                                       | Low                                                                                             |

| CLE2 Mitigation Action: City of Charlottesville |                                                                                                            |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Education and Outreach                                                                                     |
| Action Item Description:                        | Create educational campaign about floodplain locations, the benefits of open space and riparian corridors. |
| Hazard (s):                                     | Multiple                                                                                                   |
| Lead Party Responsible:                         | Public Works                                                                                               |
| Estimated Cost:                                 | \$50,000                                                                                                   |
| Funding Method:                                 | Hazard Mitigation Grant Program, Community Flood Preparedness grant , Citywide Floodplain Management NFIP  |
| Implementation Schedule:                        | Ongoing                                                                                                    |
| Priority:                                       | Low                                                                                                        |

| CLI1 Mitigation Action: City of Charlottesville |                                                                                                                                                                                                                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Infrastructure and Buildings                                                                                                                                                                                                                                                                                                                   |
| Action Item Description:                        | Improve the maintenance of stormwater infrastructure.                                                                                                                                                                                                                                                                                          |
| Hazard(s):                                      | Flood                                                                                                                                                                                                                                                                                                                                          |
| Lead Party Responsible:                         | Public Works                                                                                                                                                                                                                                                                                                                                   |
| Estimated Cost:                                 | Unknown                                                                                                                                                                                                                                                                                                                                        |
| Funding Method:                                 | Environmental Protection Agency – Water Quality Cooperative Agreements, EPA-Nonpoint Source Grant Program, 406 Public Assistance (following a federally declared disaster), USDA-Watershed Protection and Flood Prevention Program, USDA-Environmental Quality Incentives Program, Stormwater Utility Fee, Community Flood Preparedness Grants |
| Implementation Schedule:                        | Ongoing                                                                                                                                                                                                                                                                                                                                        |
| Priority:                                       | Low                                                                                                                                                                                                                                                                                                                                            |

| CLI2 Mitigation Action: City of Charlottesville |                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                           | Infrastructure and Buildings                                                                                                                                                                                                                                                                                                                |
| Action Item Description:                        | Reduce pollution discharge to and erosive conditions in receiving waters.                                                                                                                                                                                                                                                                   |
| Hazard(s):                                      | Flood                                                                                                                                                                                                                                                                                                                                       |
| Lead Party Responsible:                         | Public Works                                                                                                                                                                                                                                                                                                                                |
| Estimated Cost:                                 | Unknown, based on need                                                                                                                                                                                                                                                                                                                      |
| Funding Method:                                 | Environmental Protection Agency – Water Quality Cooperative Agreements, EPA-Nonpoint Source Grant Program, 406 Public Assistance (following a federally declared disaster), USDA-Watershed Protection and Flood Prevention Program, USDA-Environmental Quality Incentives Program, Stormwater Utility Fee, Stormwater Local Assistance Fund |

|                          |         |
|--------------------------|---------|
| Implementation Schedule: | Ongoing |
| Priority:                | Low     |

#### CLI3 Mitigation Action: City of Charlottesville

|                          |                                                                                                                                                                                                                                                                           |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                                                                                                                              |
| Action Item Description: | Retrofit stormwater management basins                                                                                                                                                                                                                                     |
| Hazard(s):               | Flood                                                                                                                                                                                                                                                                     |
| Lead Party Responsible:  | Public Works                                                                                                                                                                                                                                                              |
| Estimated Cost:          | Unknown, based on individual projects                                                                                                                                                                                                                                     |
| Funding Method:          | EPA – Water Quality Cooperative Agreements, EPA-Nonpoint Source Grant Program, 406 Public Assistance (after a federally declared disaster), USDA-Watershed Protection and Flood Prevention Program, USDA-Environmental Quality Incentives Program, Stormwater Utility Fee |
| Implementation Schedule: | Ongoing                                                                                                                                                                                                                                                                   |
| Priority:                | Low                                                                                                                                                                                                                                                                       |

#### CLI4 Mitigation Action: City of Charlottesville

|                          |                                                                                                                                                                                                                                                                           |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                                                                                                                                                                                                                                              |
| Action Item Description: | Retrofit stormwater management basins                                                                                                                                                                                                                                     |
| Hazard(s):               | Flood                                                                                                                                                                                                                                                                     |
| Lead Party Responsible:  | Public Works                                                                                                                                                                                                                                                              |
| Estimated Cost:          | Unknown, based on individual projects                                                                                                                                                                                                                                     |
| Funding Method:          | EPA – Water Quality Cooperative Agreements, EPA-Nonpoint Source Grant Program, 406 Public Assistance (after a federally declared disaster), USDA-Watershed Protection and Flood Prevention Program, USDA-Environmental Quality Incentives Program, Stormwater Utility Fee |
| Implementation Schedule: | Ongoing                                                                                                                                                                                                                                                                   |
| Priority:                | Low                                                                                                                                                                                                                                                                       |

#### FHE1 Mitigation Action: Fluvanna County

|                          |                                                                                |
|--------------------------|--------------------------------------------------------------------------------|
| Goal:                    | Education and Outreach                                                         |
| Action Item Description: | Increase the number of trained emergency responders, both staff and volunteers |
| Hazard (s):              | Multiple                                                                       |
| Lead Party Responsible:  | Emergency Services Coordinator                                                 |
| Estimated Cost:          | \$3,000                                                                        |
| Funding Method:          |                                                                                |
| Implementation Schedule: | 1-3 years                                                                      |
| Priority:                | High                                                                           |

#### FHI1 Mitigation Action: Fluvanna County

|                          |                                                     |
|--------------------------|-----------------------------------------------------|
| Goal:                    | Infrastructure and Buildings                        |
| Action Item Description: | Install new fire hydrants along new JRWA water line |
| Hazard (s):              | Multiple                                            |
| Lead Party Responsible:  | Public Works                                        |
| Estimated Cost:          | \$200,000                                           |
| Funding Method:          | Grants, Fund balance                                |

|                          |           |
|--------------------------|-----------|
| Implementation Schedule: | 1-3 years |
| Priority:                | High      |

#### **FHC1 Mitigation Action: Fluvanna County**

|                          |                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------|
| Goal:                    | Whole Community                                                                                                     |
| Action Item Description: | Conduct regular disaster response drills in schools, and with staff at Assisted Living Facilities and Nursing Homes |
| Hazard (s):              | Multiple                                                                                                            |
| Lead Party Responsible:  | Emergency Services Coordinator, Schools                                                                             |
| Estimated Cost:          | Staff time                                                                                                          |
| Funding Method:          | n/a                                                                                                                 |
| Implementation Schedule: | Annual                                                                                                              |
| Priority:                | High                                                                                                                |

#### **FHC2 Mitigation Action: Fluvanna County**

|                          |                                                      |
|--------------------------|------------------------------------------------------|
| Goal:                    | Whole Community                                      |
| Action Item Description: | Continue and expand the use of citizen alert systems |
| Hazard (s):              | Multiple                                             |
| Lead Party Responsible:  | Public Safety                                        |
| Estimated Cost:          | \$10,000                                             |
| Funding Method:          |                                                      |
| Implementation Schedule: | Ongoing                                              |
| Priority:                | High                                                 |

#### **FHC3 Mitigation Action: Fluvanna County**

|                          |                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------|
| Goal:                    | Whole Community                                                                       |
| Action Item Description: | Implement community notification protocols before, during, and after a disaster event |
| Hazard (s):              | Multiple                                                                              |
| Lead Party Responsible:  | Public Safety                                                                         |
| Estimated Cost:          |                                                                                       |
| Funding Method:          |                                                                                       |
| Implementation Schedule: | 1-3 years                                                                             |
| Priority:                | High                                                                                  |

#### **FHM1 Mitigation Action: Fluvanna County**

|                          |                                                                                                      |
|--------------------------|------------------------------------------------------------------------------------------------------|
| Goal:                    | Mitigation Capacity                                                                                  |
| Action Item Description: | Develop Continuity of Operations Plans (COOP) for locality departments and update the plans annually |
| Hazard (s):              | Multiple                                                                                             |
| Lead Party Responsible:  | Emergency Services Coordinator                                                                       |
| Estimated Cost:          | Staff time                                                                                           |
| Funding Method:          | n/a                                                                                                  |
| Implementation Schedule: | 3-5 years                                                                                            |
| Priority:                | High                                                                                                 |

| FHM2 Mitigation Action: Fluvanna County |                                                                                                      |
|-----------------------------------------|------------------------------------------------------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                                                                  |
| Action Item Description:                | Develop Continuity of Operations Plans (COOP) for locality departments and update the plans annually |
| Hazard (s):                             | Multiple                                                                                             |
| Lead Party Responsible:                 | Emergency Services Coordinator                                                                       |
| Estimated Cost:                         | Staff time                                                                                           |
| Funding Method:                         | n/a                                                                                                  |
| Implementation Schedule:                | 3-5 years                                                                                            |
| Priority:                               | High                                                                                                 |

| FME1 Mitigation Action: Fluvanna County |                                                                                         |
|-----------------------------------------|-----------------------------------------------------------------------------------------|
| Goal:                                   | Education and Outreach                                                                  |
| Action Item Description:                | Carry out a targeted educational campaign in subdivisions at high risk for fire impacts |
| Hazard (s):                             | Multiple                                                                                |
| Lead Party Responsible:                 | Emergency Services Coordinator and Fire-Rescue Association                              |
| Estimated Cost:                         | Staff time                                                                              |
| Funding Method:                         | n/a                                                                                     |
| Implementation Schedule:                | Ongoing                                                                                 |
| Priority:                               | Moderate                                                                                |

| FME2 Mitigation Action: Fluvanna County |                                                                    |
|-----------------------------------------|--------------------------------------------------------------------|
| Goal:                                   | Education and Outreach                                             |
| Action Item Description:                | Conduct tabletop exercises for damage assessments                  |
| Hazard (s):                             | Multiple                                                           |
| Lead Party Responsible:                 | Emergency Services Coordinator; Public Works; Building Inspections |
| Estimated Cost:                         | Staff time                                                         |
| Funding Method:                         | n/a                                                                |
| Implementation Schedule:                | 1-3 years                                                          |
| Priority:                               | Moderate                                                           |

| FME3 Mitigation Action: Fluvanna County |                                                                                                                        |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Education and Outreach                                                                                                 |
| Action Item Description:                | Bring in experts to conduct in-house staff training in best management practices in hazard mitigation and preparedness |
| Hazard (s):                             | Multiple                                                                                                               |
| Lead Party Responsible:                 | Emergency Services Coordinator, Public Works, Building Inspections                                                     |
| Estimated Cost:                         | \$5,000                                                                                                                |
| Funding Method:                         | grants                                                                                                                 |
| Implementation Schedule:                | Ongoing                                                                                                                |
| Priority:                               | Moderate                                                                                                               |



| FME4 Mitigation Action: Fluvanna County |                                                                                                                                                          |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Education and Outreach                                                                                                                                   |
| Action Item Description:                | Offer training on post-event inspection and develop a protocol to serve as a mechanism for prioritization                                                |
| Hazard (s):                             | Multiple                                                                                                                                                 |
| Lead Party Responsible:                 | Emergency Services Coordinator; Public Works; Building Inspections                                                                                       |
| Estimated Cost:                         |                                                                                                                                                          |
| Funding Method:                         |                                                                                                                                                          |
| Implementation Schedule:                | In Progress                                                                                                                                              |
| Priority:                               | Moderate                                                                                                                                                 |
| FMI1 Mitigation Action: Fluvanna County |                                                                                                                                                          |
| Goal:                                   | Infrastructure and Buildings                                                                                                                             |
| Action Item Description:                | Identify vulnerable structures and apply for funding to implement acquisition and demolition, relocation, floodproofing, or structural retrofit projects |
| Hazard (s):                             | Multiple                                                                                                                                                 |
| Lead Party Responsible:                 | Building Inspections, Emergency Services Coordinator                                                                                                     |
| Estimated Cost:                         |                                                                                                                                                          |
| Funding Method:                         |                                                                                                                                                          |
| Implementation Schedule:                | In Progress                                                                                                                                              |
| Priority:                               | Moderate                                                                                                                                                 |
| FMI2 Mitigation Action: Fluvanna County |                                                                                                                                                          |
| Goal:                                   | Infrastructure and Buildings                                                                                                                             |
| Action Item Description:                | Install warning signs and develop alternate routes for roads that flood briefly during heavy rains (e.g. Slaters Fork Road, Carysbrook, farm pond        |
| dam locations)                          |                                                                                                                                                          |
| Hazard (s):                             | Multiple                                                                                                                                                 |
| Lead Party Responsible:                 | VDOT                                                                                                                                                     |
| Estimated Cost:                         | \$5,000                                                                                                                                                  |
| Funding Method:                         | Grants                                                                                                                                                   |
| Implementation Schedule:                | 1-3 years                                                                                                                                                |
| Priority:                               | Moderate                                                                                                                                                 |
| FMM1 Mitigation Action: Fluvanna County |                                                                                                                                                          |
| Goal:                                   | Mitigation Capacity                                                                                                                                      |
| Action Item Description:                | Identify areas to receive debris from post-event clean-up efforts                                                                                        |
| Hazard (s):                             | Multiple                                                                                                                                                 |
| Lead Party Responsible:                 | Public Works                                                                                                                                             |
| Estimated Cost:                         |                                                                                                                                                          |
| Funding Method:                         |                                                                                                                                                          |
| Implementation Schedule:                | 1-3 years                                                                                                                                                |
| Priority:                               | Moderate                                                                                                                                                 |

| FMD1 Mitigation Action: Fluvanna County |                                                                                                |
|-----------------------------------------|------------------------------------------------------------------------------------------------|
| Goal:                                   | Information and Data Development                                                               |
| Action Item Description:                | Expand GIS data for use in mitigation planning, preparedness planning, and response activities |
| Hazard (s):                             | Multiple                                                                                       |
| Lead Party Responsible:                 | Planning Administrator                                                                         |
| Estimated Cost:                         |                                                                                                |
| Funding Method:                         |                                                                                                |
| Implementation Schedule:                | Quarterly                                                                                      |
| Priority:                               | Moderate                                                                                       |

| FLE1 Mitigation Action: Fluvanna County |                                                                                                             |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Education and Outreach                                                                                      |
| Action Item Description:                | Carry out an educational campaign for businesses to develop emergency procedures and shelter-in-place plans |
| Hazard (s):                             | Multiple                                                                                                    |
| Lead Party Responsible:                 | Emergency Services Coordinator                                                                              |
| Estimated Cost:                         | Staff time                                                                                                  |
| Funding Method:                         | n/a                                                                                                         |
| Implementation Schedule:                | 1-3 years                                                                                                   |
| Priority:                               | Low                                                                                                         |

| FLI1 Mitigation Action: Fluvanna County |                                                                                                   |
|-----------------------------------------|---------------------------------------------------------------------------------------------------|
| Goal:                                   | Infrastructure and Buildings                                                                      |
| Action Item Description:                | Identify repetitive loss properties, develop appropriate mitigation action, and apply for funding |
| Hazard (s):                             | Multiple                                                                                          |
| Lead Party Responsible:                 | Building Inspections, Emergency Services Coordinator                                              |
| Estimated Cost:                         |                                                                                                   |
| Funding Method:                         |                                                                                                   |
| Implementation Schedule:                | 1-3 years                                                                                         |
| Priority:                               | Low                                                                                               |

| FLI2 Mitigation Action: Fluvanna County |                                                                                                                                                                                           |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Infrastructure and Buildings                                                                                                                                                              |
| Action Item Description:                | Demolish and remove remains of old surface water-treatment plant located on TM 58 A 26 & 27(County-owned property)                                                                        |
| Hazard (s):                             | Multiple, but primarily: 1) Property is in flood plain – materials, including a +/- 20,000 gallon water storage tank, could be washed downstream by flood waters. 2) Attractive nuisance. |
| Lead Party Responsible:                 | Public Works, FUSD, Building Inspections, Emergency Services Coordinator                                                                                                                  |
| Estimated Cost:                         | \$25,000 (SWAG)                                                                                                                                                                           |
| Funding Method:                         | Unknown                                                                                                                                                                                   |
| Implementation Schedule:                | 1-3 years                                                                                                                                                                                 |
| Priority:                               | Low                                                                                                                                                                                       |

| FLI3 Mitigation Action: Fluvanna County |                                                                                                                                                              |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Infrastructure and Buildings                                                                                                                                 |
| Action Item Description:                | Remove +/-20,000 gallon water storage tank from James River.                                                                                                 |
| Hazard (s):                             | Multiple, but primarily flooding: 1) Future floods could dislodge it from its current resting place and wash it further down stream. 2) Attractive nuisance. |
| Lead Party Responsible:                 | Public Works, FUSD, Building Inspections, Emergency Services Coordinator                                                                                     |
| Estimated Cost:                         | \$50,000 (SWAG)                                                                                                                                              |
| Funding Method:                         | Unknown                                                                                                                                                      |
| Implementation Schedule:                | 1-3 years                                                                                                                                                    |
| Priority:                               | Low                                                                                                                                                          |

| FLM1 Mitigation Action: Fluvanna County |                                                                                                                            |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                                                                                        |
| Action Item Description:                | Develop a comprehensive fire safety communication strategy, addressing open space, burn permit, FireWise, and dry hydrants |
| Hazard (s):                             | Multiple                                                                                                                   |
| Lead Party Responsible:                 | Fire & Rescue Association, Emergency Services Coordinator                                                                  |
| Estimated Cost:                         | Staff time                                                                                                                 |
| Funding Method:                         |                                                                                                                            |
| Implementation Schedule:                | 1-3 years                                                                                                                  |
| Priority:                               | Low                                                                                                                        |

| FLM2 Mitigation Action: Fluvanna County |                                                           |
|-----------------------------------------|-----------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                       |
| Action Item Description:                | Adopt fire code                                           |
| Hazard (s):                             | Multiple                                                  |
| Lead Party Responsible:                 | Fire & Rescue Association, Emergency Services Coordinator |
| Estimated Cost:                         | Staff time                                                |
| Funding Method:                         | n/a                                                       |
| Implementation Schedule:                | 1-3 years                                                 |
| Priority:                               | Low                                                       |

| FLM1 Mitigation Action: Fluvanna County |                                                                          |
|-----------------------------------------|--------------------------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                                      |
| Action Item Description:                | Develop evacuation plans for dam breaches from Charlottesville-area dams |
| Hazard (s):                             | Multiple                                                                 |
| Lead Party Responsible:                 | Emergency Services Coordinator                                           |
| Estimated Cost:                         | Staff time                                                               |
| Funding Method:                         | n/a                                                                      |
| Implementation Schedule:                | 1-3 years                                                                |
| Priority:                               | Low                                                                      |

| GHE1 Mitigation Action: Greene County |                                                                 |
|---------------------------------------|-----------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                          |
| Action Item Description:              | Conduct FireWise workshops                                      |
| Hazard (s):                           | Wildfire                                                        |
| Lead Party Responsible:               | Virginia Department of Forestry, Emergency Services Coordinator |
| Estimated Cost:                       | \$1,000                                                         |
| Funding Method:                       | Virginia FireWise grant                                         |
| Implementation Schedule:              | 1-3 Years                                                       |
| Priority:                             | High                                                            |

| GHI1 Mitigation Action: Greene County |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                          |
| Action Item Description:              | Partner with utility companies to keep power lines free of vegetation |
| Hazard (s):                           | Multiple                                                              |
| Lead Party Responsible:               | Department of Community Development, Emergency Services Coordinator   |
| Estimated Cost:                       | Unknown                                                               |
| Funding Method:                       | N/A                                                                   |
| Implementation Schedule:              | Ongoing                                                               |
| Priority:                             | High                                                                  |

| GHI2 Mitigation Action: Greene County |                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                                        |
| Action Item Description:              | Conduct structural evaluations of all current and proposed shelters                                 |
| Hazard (s):                           | Multiple                                                                                            |
| Lead Party Responsible:               | Emergency Services Coordinator, Department of Community Development - Building Code and Inspections |
| Estimated Cost:                       | Staff time and resources; Red Cross provides technical assistance and                               |
| design criteria                       |                                                                                                     |
| Funding Method:                       | N/A                                                                                                 |
| Implementation Schedule:              | Ongoing                                                                                             |
| Priority:                             | High                                                                                                |

| GHI3 Mitigation Action: Greene County |                                                                    |
|---------------------------------------|--------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                       |
| Action Item Description:              | Implement recommendations from the Greene County Water Supply Plan |
| Hazard (s):                           | Drought, Flood, adequate potable water                             |
| Lead Party Responsible:               | Department of Community Development, County Administrator          |
| Estimated Cost:                       | \$65 Million                                                       |
| Funding Method:                       | General Funds, BRIC, USDA, VDH                                     |
| Implementation Schedule:              | 1-3 years                                                          |
| Priority:                             | High                                                               |

| GHI4 Mitigation Action: Greene County |                                                                          |
|---------------------------------------|--------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                             |
| Action Item Description:              | Enhance dam safety; table tops/exercises                                 |
| Hazard (s):                           | Multiple                                                                 |
| Lead Party Responsible:               | DCR, Department of Community Development, Emergency Services Coordinator |
| Estimated Cost:                       | Minimal                                                                  |
| Funding Method:                       | N/A                                                                      |
| Implementation Schedule:              | 1-2 years                                                                |
| Priority:                             | High                                                                     |

| GHI5 Mitigation Action: Greene County |                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                                                    |
| Action Item Description:              | Install backup generators in shelters and critical facilities.                                                  |
| Hazard (s):                           | Multiple                                                                                                        |
| Lead Party Responsible:               | County Administrator, Emergency Services Coordinator                                                            |
| Estimated Cost:                       | \$450,000 total                                                                                                 |
| Funding Method:                       | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant, All Hazards Emergency Operations Planning Grant |
| Implementation Schedule:              | 1-5 Years                                                                                                       |
| Priority:                             | High                                                                                                            |

| GHI6 Mitigation Action: Greene County |                                                                                         |
|---------------------------------------|-----------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                            |
| Action Item Description:              | Enhance public safety emergency communications to provide reliable, dependable coverage |
| Hazard (s):                           | Multiple                                                                                |
| Lead Party Responsible:               | Emergency Services Coordinator                                                          |
| Estimated Cost:                       | \$7,500,000                                                                             |
| Funding Method:                       | General Revenue, Grants                                                                 |
| Implementation Schedule:              | In Progress – Target Completion date of Winter 2022                                     |
| Priority:                             | High                                                                                    |

| GHI7 Mitigation Action: Greene County |                                         |
|---------------------------------------|-----------------------------------------|
| Goal:                                 | Infrastructure and Buildings            |
| Action Item Description:              | Enhance access to broadband county-wide |
| Hazard (s):                           | Multiple                                |
| Lead Party Responsible:               | County Administration                   |
| Estimated Cost:                       | Unknown                                 |
| Funding Method:                       | General Revenue, Grants                 |
| Implementation Schedule:              | Ongoing                                 |
| Priority:                             | High                                    |



| GHC1 Mitigation Action: Greene County |                                                                                |
|---------------------------------------|--------------------------------------------------------------------------------|
| Goal:                                 | Whole Community                                                                |
| Action Item Description:              | Assist the schools with regular disaster response drills and disaster planning |
| Hazard (s):                           | Multiple                                                                       |
| Lead Party Responsible:               | Public School System, Individual private schools                               |
| Estimated Cost:                       | N/A                                                                            |
| Funding Method:                       | N/A                                                                            |
| Implementation Schedule:              | Ongoing                                                                        |
| Priority:                             | High                                                                           |

| GHM1 Mitigation Action: Greene County |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                       |
| Action Item Description:              | Conduct CERT classes to equip individuals and groups to assist in the event of a disaster |
| Hazard (s):                           | Multiple                                                                                  |
| Lead Party Responsible:               | Sheriff's Office                                                                          |
| Estimated Cost:                       | Unknown                                                                                   |
| Funding Method:                       | FEMA CERT Grants                                                                          |
| Implementation Schedule:              | Ongoing                                                                                   |
| Priority:                             | High                                                                                      |

| GHM2 Mitigation Action: Greene County |                                                                          |
|---------------------------------------|--------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                      |
| Action Item Description:              | Routinely inspect public and private fire hydrants                       |
| Hazard (s):                           | Wildfire                                                                 |
| Lead Party Responsible:               | Fire Departments, Rapidan Service Authority, responsible private parties |
| Estimated Cost:                       | None                                                                     |
| Funding Method:                       | N/A                                                                      |
| Implementation Schedule:              | Ongoing                                                                  |
| Priority:                             | High                                                                     |

| GHM3 Mitigation Action: Greene County |                                                                    |
|---------------------------------------|--------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                |
| Action Item Description:              | Ensure all critical facilities have updated shelter-in-place plans |
| Hazard (s):                           | Multiple                                                           |
| Lead Party Responsible:               | Building, Planning, Emergency Services Coordinator                 |
| Estimated Cost:                       | Minimal / Staff Time                                               |
| Funding Method:                       | N/A                                                                |
| Implementation Schedule:              | 1-3 years                                                          |
| Priority:                             | High                                                               |

| GHM5 Mitigation Action: Greene County |                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                          |
| Action Item Description:              | Increase number of trained emergency responders and create recruitment and retention program |
| Hazard (s):                           | Multiple                                                                                     |
| Lead Party Responsible:               | Office of Emergency Services, Volunteer fire and rescue agencies                             |
| Estimated Cost:                       | Unknown                                                                                      |
| Funding Method:                       | General Revenue                                                                              |
| Implementation Schedule:              | Ongoing                                                                                      |
| Priority:                             | High                                                                                         |

| GME1 Mitigation Action: Greene County                     |                                                                                                                                                                                                      |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                                     | Education and Outreach                                                                                                                                                                               |
| Action Item Description:                                  | Develop cooperative agreements between all agencies involved in emergency management, provide methods of communication between agencies responsible for being present at Emergency Operations Center |
| following disaster, and conduct joint emergency exercises |                                                                                                                                                                                                      |
| Hazard (s):                                               | Multiple                                                                                                                                                                                             |
| Lead Party Responsible:                                   | Emergency Services Coordinator                                                                                                                                                                       |
| Estimated Cost:                                           | None – Staff time                                                                                                                                                                                    |
| Funding Method:                                           | N/A                                                                                                                                                                                                  |
| Implementation Schedule:                                  | Ongoing                                                                                                                                                                                              |
| Priority:                                                 | Moderate                                                                                                                                                                                             |

| GME2 Mitigation Action: Greene County |                                                                            |
|---------------------------------------|----------------------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                                     |
| Action Item Description:              | Create a community toolbox with tools and information for local homeowners |
| Hazard (s):                           | Multiple                                                                   |
| Lead Party Responsible:               | Office of Emergency Services, Department of Community Development          |
| Estimated Cost:                       | \$5,000                                                                    |
| Funding Method:                       | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant Program     |
| Implementation Schedule:              | 3-5 years                                                                  |
| Priority:                             | Moderate                                                                   |

| GMI1 Mitigation Action: Greene County |                                                         |
|---------------------------------------|---------------------------------------------------------|
| Goal:                                 | Infrastructure and Building                             |
| Action Item Description:              | Add signage to roads in locations that frequently flood |
| Hazard (s):                           | Flood                                                   |
| Lead Party Responsible:               | Virginia Department of Transportation                   |
| Estimated Cost:                       | Unknown                                                 |
| Funding Method:                       | Public Assistance Program, Grants, General Revenue      |
| Implementation Schedule:              | 1-3 years                                               |
| Priority:                             | Moderate                                                |

| GMI2 Mitigation Action: Greene County |                                                        |
|---------------------------------------|--------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                           |
| Action Item Description:              | Upgrade all area bridges to support emergency vehicles |
| Hazard (s):                           | Multiple                                               |
| Lead Party Responsible:               | VDOT                                                   |
| Estimated Cost:                       | Unknown                                                |
| Funding Method:                       | Hazard Mitigation Grant Program, VDOT                  |
| Implementation Schedule:              | As repairs are made                                    |
| Priority:                             | Moderate                                               |

| GMM1 Mitigation Action: Greene County |                                                          |
|---------------------------------------|----------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                      |
| Action Item Description:              | Develop and implement a Drought Management Plan          |
| Hazard (s):                           | Drought                                                  |
| Lead Party Responsible:               | Office of Emergency Services, Planning, Engineering Firm |
| Estimated Cost:                       | Unknown                                                  |
| Funding Method:                       | General Funds                                            |
| Implementation Schedule:              | Ongoing                                                  |
| Priority:                             | Moderate                                                 |

| GMM2 Mitigation Action: Greene County |                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                         |
| Action Item Description:              | Create a strategy for using existing media outlets for communications during a hazard event |
| Hazard (s):                           | Multiple                                                                                    |
| Lead Party Responsible:               | Office of Emergency Services                                                                |
| Estimated Cost:                       | None                                                                                        |
| Funding Method:                       | N/A                                                                                         |
| Implementation Schedule:              | Ongoing                                                                                     |
| Priority:                             | Moderate                                                                                    |

| GMM3 Mitigation Action: Greene County |                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                         |
| Action Item Description:              | Create a strategy for using existing media outlets for communications during a hazard event |
| Hazard (s):                           | Multiple                                                                                    |
| Lead Party Responsible:               | Office of Emergency Services                                                                |
| Estimated Cost:                       | None                                                                                        |
| Funding Method:                       | N/A                                                                                         |
| Implementation Schedule:              | Ongoing                                                                                     |
| Priority:                             | Moderate                                                                                    |

| GMD2 Mitigation Action: Greene County |                                                                                                                       |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Information and Data Development                                                                                      |
| Action Item Description:              | Conduct channel improvement study                                                                                     |
| Hazard (s):                           | Floods                                                                                                                |
| Lead Party Responsible:               | Army Corps of Engineers, VMRC                                                                                         |
| Estimated Cost:                       | \$50,000                                                                                                              |
| Funding Method:                       | External Sources, grants                                                                                              |
| Implementation Schedule:              | Watershed Protection and Flood Prevention Program (Department of Agriculture, National Resource Conservation Service) |
| Priority:                             | Moderate                                                                                                              |

| GMD3 Mitigation Action: Greene County              |                                                                                                                                                             |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                              | Information and Data Development                                                                                                                            |
| Action Item Description:                           | Create a need survey that identifies special needs population and residences and/or facilities needing attention in the event of emergencies or evacuations |
| Hazard (s):                                        | Multiple                                                                                                                                                    |
| Lead Party Responsible:                            | Emergency Services Coordinator, Social Services                                                                                                             |
| Estimated Cost:                                    | \$3,000                                                                                                                                                     |
| Funding Method:                                    | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant, General                                                                                     |
| Revenue, All-Hazards Emergency Operations Planning |                                                                                                                                                             |
| Implementation Schedule:                           | 1-3 years                                                                                                                                                   |
| Priority:                                          | Moderate                                                                                                                                                    |

| GLE1 Mitigation Action: Greene County |                                                                            |
|---------------------------------------|----------------------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                                     |
| Action Item Description:              | Provide citizens with literature about flood and drought-smart landscaping |
| Hazard (s):                           | Multiple                                                                   |
| Lead Party Responsible:               | Department of Community Development                                        |
| Estimated Cost:                       | \$5,000                                                                    |
| Funding Method:                       | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant Program     |
| Implementation Schedule:              | 3-5 years                                                                  |
| Priority:                             | Low                                                                        |

| GLI1 Mitigation Action: Greene County |                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                                                                              |
| Action Item Description:              | Build and repair bridges so as not to impede floodwaters.                                                                                 |
| Hazard (s):                           | Flood                                                                                                                                     |
| Lead Party Responsible:               | Department of Community Development, VDOT                                                                                                 |
| Estimated Cost:                       | Dependent upon number and type of structures.                                                                                             |
| Funding Method:                       | VDOT primary road funds, County secondary road funds, 406 Public Assistance Program (following a disaster), Hurricane Local Grant Program |
| Implementation Schedule:              | 5+ years                                                                                                                                  |
| Priority:                             | Low                                                                                                                                       |

| GLI2 Mitigation Action: Greene County |                                                                                       |
|---------------------------------------|---------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                          |
| Action Item Description:              | Ensure culverts, streams, channels, storm drains, and gutters remain clear of debris. |
| Hazard (s):                           | Flood                                                                                 |
| Lead Party Responsible:               | Department of Community Development, VDOT, ACE, VMRC                                  |
| Estimated Cost:                       | Minimal – staff time & labor                                                          |
| Funding Method:                       | General Revenue, EPA Chesapeake Bay Act                                               |
| Implementation Schedule:              | Ongoing                                                                               |
| Priority:                             | Low                                                                                   |

| GLI3 Mitigation Action: Greene County |                                                                       |
|---------------------------------------|-----------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                          |
| Action Item Description:              | Install more dry hydrants in high wildfire risk areas                 |
| Hazard (s):                           | Wildfire                                                              |
| Lead Party Responsible:               | Virginia Department of Forestry, Greene County Office of Em. Services |
| Estimated Cost:                       | Unknown                                                               |
| Funding Method:                       | Virginia Dry Hydrant Grant Program                                    |
| Implementation Schedule:              | 3-5 years                                                             |
| Priority:                             | Low                                                                   |

| GLI4 Mitigation Action: Greene County |                                                                                                                      |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Building                                                                                          |
| Action Item Description:              | Repair, replace, or relocate septic and drainage fields that leak sewage into bodies of water during flooding events |
| Hazard (s):                           | Flood                                                                                                                |
| Lead Party Responsible:               | Department of Community Development, Emergency Services Coordinator, RSA, DEQ                                        |
| Estimated Cost:                       | Unknown                                                                                                              |
| Funding Method:                       | General Fund, DEQ, USDA, VDH, Culpeper Soil and Water                                                                |
| Implementation Schedule:              | 5+ years                                                                                                             |
| Priority:                             | Low                                                                                                                  |

| GLI5 Mitigation Action: Greene County |                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                              |
| Action Item Description:              | Bury utilities in the County                                                              |
| Hazard (s):                           | Multiple                                                                                  |
| Lead Party Responsible:               | County Administrator, Department of Community Development, Emergency Services Coordinator |
| Estimated Cost:                       | Unknown                                                                                   |
| Funding Method:                       | CDBG, Pre-Disaster Mitigation Grant Programs                                              |
| Implementation Schedule:              | 5+ years                                                                                  |
| Priority:                             | Low                                                                                       |



| GLM1 Mitigation Action: Greene County |                                                             |
|---------------------------------------|-------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                         |
| Action Item Description:              | Ensure all houses have clear address signs that are visible |
| Hazard (s):                           | Multiple                                                    |
| Lead Party Responsible:               | Planning Department                                         |
| Estimated Cost:                       | None                                                        |
| Funding Method:                       | N/A                                                         |
| Implementation Schedule:              | Ongoing                                                     |
| Priority:                             | Low                                                         |

| GSHM1 Mitigation Action: Town of Stanardsville |                                                                                                         |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Goal:                                          | Mitigation Capacity                                                                                     |
| Action Item Description:                       | Increase water capacity and pressure for the Town of Stanardsville to enable optimal emergency response |
| Hazard (s):                                    | Multiple                                                                                                |
| Lead Party Responsible:                        | Rapidan Service Authority                                                                               |
| Estimated Cost:                                | \$12 million                                                                                            |
| Funding Method:                                | RSA funds, Community Development Block Grant, BRIC, EPA, USDA, VDH                                      |
| Implementation Schedule:                       | 2-4 years                                                                                               |
| Priority:                                      | High                                                                                                    |

| GSMM1 Mitigation Action: Town of Stanardsville |                                                             |
|------------------------------------------------|-------------------------------------------------------------|
| Goal:                                          | Mitigation Capacity                                         |
| Action Item Description:                       | Ensure all houses have clear address signs that are visible |
| Hazard (s):                                    | Multiple                                                    |
| Lead Party Responsible:                        | Town Manager                                                |
| Estimated Cost:                                | None                                                        |
| Funding Method:                                | N/A                                                         |
| Implementation Schedule:                       | Ongoing                                                     |
| Priority:                                      | Moderate                                                    |

| LHI1 Mitigation Action: Louisa County |                                                                        |
|---------------------------------------|------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                           |
| Action Item Description:              | Enhance access to broadband internet in rural areas                    |
| Hazard (s):                           | Multiple                                                               |
| Lead Party Responsible:               | Louisa County Broadband Authority                                      |
| Estimated Cost:                       | Unknown                                                                |
| Funding Method:                       | Partnership Firefly Fiber Broadband, Dominion Energy, TJPDC, REC, CVEC |
| Implementation Schedule:              | Ongoing                                                                |
| Priority:                             | High                                                                   |

| LHI2 Mitigation Action: Louisa County |                                                                                                                 |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                                                    |
| Action Item Description:              | Install backup generators in shelters and critical facilities.                                                  |
| Hazard (s):                           | Multiple                                                                                                        |
| Lead Party Responsible:               | General Services Department                                                                                     |
| Estimated Cost:                       | \$15,000-\$25,000/generator                                                                                     |
| Funding Method:                       | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant, All Hazards Emergency Operations Planning Grant |
| Implementation Schedule:              | 1-5 Years                                                                                                       |
| Priority:                             | High                                                                                                            |

| LHI3 Mitigation Action: Louisa County |                                                                         |
|---------------------------------------|-------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                            |
| Action Item Description:              | Implement recommendations from the Water Supply Plan                    |
| Hazard (s):                           | Drought, Flood                                                          |
| Lead Party Responsible:               | County Administration (Support: Community Development Department, LCWA) |
| Estimated Cost:                       | \$150 - \$200 million                                                   |
| Funding Method:                       | General Revenue, Flood control, and dam safety program funds            |
| Implementation Schedule:              | Ongoing                                                                 |
| Priority:                             | High                                                                    |

| LHC1 Mitigation Action: Louisa County |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| Goal:                                 | Whole Community                                               |
| Action Item Description:              | Ensure that all schools have regular disaster response drills |
| Hazard (s):                           | Multiple                                                      |
| Lead Party Responsible:               | Public School System & Individual private schools             |
| Estimated Cost:                       | Staff Time and Resources                                      |
| Funding Method:                       | N/A                                                           |
| Implementation Schedule:              | Ongoing                                                       |
| Priority:                             | High                                                          |

| LHM1 Mitigation Action: Louisa County |                                                                                                                     |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                                                 |
| Action Item Description:              | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building. |
| Hazard (s):                           | Multiple                                                                                                            |
| Lead Party Responsible:               | Community Development Department / Building                                                                         |
| Estimated Cost:                       | \$10,000                                                                                                            |
| Funding Method:                       | Hazard Mitigation Grant Program, General Revenue                                                                    |
| Implementation Schedule:              | 1-3 years                                                                                                           |
| Priority:                             | High                                                                                                                |

| LHM2 Mitigation Action: Louisa County |                                                                            |
|---------------------------------------|----------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                        |
| Action Item Description:              | Continue and expand use of the citizen alert system, including with towns. |
| Hazard (s):                           | Multiple                                                                   |
| Lead Party Responsible:               | Emergency Coordinator                                                      |
| Estimated Cost:                       | \$10,000                                                                   |
| Funding Method:                       | General Revenue                                                            |
| Implementation Schedule:              | Ongoing                                                                    |
| Priority:                             | High                                                                       |

| LHM3 Mitigation Action: Louisa County |                                                 |
|---------------------------------------|-------------------------------------------------|
| Goal:                                 | Mitigation Capacity                             |
| Action Item Description:              | Increase number of trained emergency responders |
| Hazard (s):                           | Multiple                                        |
| Lead Party Responsible:               | Fire & EMS Department                           |
| Estimated Cost:                       | Unknown                                         |
| Funding Method:                       | Unknown                                         |
| Implementation Schedule:              | Ongoing                                         |
| Priority:                             | High                                            |

| LHM4 Mitigation Action: Louisa County |                                                                     |
|---------------------------------------|---------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                 |
| Action Item Description:              | Develop driveway codes to allow access for emergency vehicles.      |
| Hazard (s):                           | Multiple                                                            |
| Lead Party Responsible:               | Community Development Department / Building & Fire & EMS Department |
| Estimated Cost:                       | Staff time                                                          |
| Funding Method:                       | Unknown                                                             |
| Implementation Schedule:              | 1-3 years                                                           |
| Priority:                             | Moderate                                                            |

| LHM5 Mitigation Action: Louisa County |                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                  |
| Action Item Description:              | Work to prevent stormwater and wastewater flooding in water bodies across the County |
| Hazard (s):                           | Flooding                                                                             |
| Lead Party Responsible:               | County of Louisa                                                                     |
| Estimated Cost:                       | Staff time and resources                                                             |
| Funding Method:                       | BRIC, HMGP, DEQ Preparedness Grants, other state and federal funding sources         |
| Implementation Schedule:              | Ongoing                                                                              |
| Priority:                             | High                                                                                 |

| LMI2 Mitigation Action: Louisa County |                                                                                                                                                     |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Buildings                                                                                                                        |
| Action Item Description:              | Investigate, plan and implement repairs and/or upgrades to Bowlers Mill dam to preserve flood control benefits for the historic Green Springs area. |
| Hazard (s):                           | Flood                                                                                                                                               |
| Lead Party Responsible:               | Louisa County Water Authority                                                                                                                       |
| Estimated Cost:                       | \$3 to \$4 million                                                                                                                                  |
| Funding Method:                       | Natural Resources Conservation Service (NRCS), Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant, County funds                         |
| Implementation Schedule:              | 4-15 years                                                                                                                                          |
| Priority:                             | Moderate                                                                                                                                            |

| LMM1 Mitigation Action: Louisa County |                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                           |
| Action Item Description:              | Investigate safety and maintenance of roads in private communities.           |
| Hazard (s):                           | Multiple                                                                      |
| Lead Party Responsible:               | Fire & EMS Department, Community Development Department / Planning / Building |
| Estimated Cost:                       | Staff Time and Resources                                                      |
| Funding Method:                       | Unknown                                                                       |
| Implementation Schedule:              | 2-5 years                                                                     |
| Priority:                             | Moderate                                                                      |

| LMM2 Mitigation Action: Louisa County |                                                                                                                                |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                                                            |
| Action Item Description:              | Conduct Community Emergency Response Team (CERT) classes to equip individuals and groups to assist in the event of a disaster. |
| Hazard (s):                           | Multiple                                                                                                                       |
| Lead Party Responsible:               | Emergency Coordinator                                                                                                          |
| Estimated Cost:                       | \$10,000                                                                                                                       |
| Funding Method:                       | FEMA Community Emergency Response Teams, FEMA Emergency Management Performance Grant                                           |
| Implementation Schedule:              | Ongoing                                                                                                                        |
| Priority:                             | Moderate                                                                                                                       |

| LMM4 Mitigation Action: Louisa County |                                                         |
|---------------------------------------|---------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                     |
| Action Item Description:              | Incorporate hazard mitigation plan into community plans |
| Hazard (s):                           | Multiple                                                |
| Lead Party Responsible:               | Department of Community Development / Planning          |
| Estimated Cost:                       | None                                                    |
| Funding Method:                       | N/A                                                     |
| Implementation Schedule:              | 1-2 years                                               |
| Priority:                             | Moderate                                                |

| LMM5 Mitigation Action: Louisa County |                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                  |
| Action Item Description:              | Incorporate Special Needs Populations into Mitigation and Emergency Operations Plans |
| Hazard (s):                           | Multiple                                                                             |
| Lead Party Responsible:               | Department of Human Services and Fire & EMS Department                               |
| Estimated Cost:                       | Staff time and resources.                                                            |
| Funding Method:                       | N/A                                                                                  |
| Implementation Schedule:              | 1-3 years                                                                            |
| Priority:                             | Moderate                                                                             |

| LLE2 Mitigation Action: Louisa County |                                                                                                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                                                                     |
| Action Item Description:              | Create an educational program to help residents understand the benefits and costs of earthquake insurance. |
| Hazard (s):                           | Earthquake                                                                                                 |
| Lead Party Responsible:               | Insurance Companies (Support Staff: County Administration)                                                 |
| Estimated Cost:                       | None                                                                                                       |
| Funding Method:                       | Unknown                                                                                                    |
| Implementation Schedule:              | Ongoing                                                                                                    |
| Priority:                             | Low                                                                                                        |

| LLH11 Mitigation Action: Town of Louisa |                                                                                                                                                   |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                   | Infrastructure and Buildings                                                                                                                      |
| Action Item Description:                | Install backup generators in shelters and critical facilities – the Town Hall generator will be upgraded to serve as a shelter during emergencies |
| Hazard (s):                             | Multiple                                                                                                                                          |
| Lead Party Responsible:                 | Town of Louisa                                                                                                                                    |
| Estimated Cost:                         | \$5,000-\$7,000 – the generator is currently installed at the Town Hall location, upgrades will be performed to accommodate an emergency shelter  |
| Funding Method:                         | General Revenue/Reserves                                                                                                                          |
| Implementation Schedule:                | 2023                                                                                                                                              |
| Priority:                               | High                                                                                                                                              |

| LLMM1 Mitigation Action: Town of Louisa |                                                                               |
|-----------------------------------------|-------------------------------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                                           |
| Action Item Description:                | Ensure all houses have clear address signs that are visible during snowstorms |
| Hazard (s):                             | Winter Storms, Multiple                                                       |
| Lead Party Responsible:                 | Town Manager                                                                  |
| Estimated Cost:                         | None                                                                          |
| Funding Method:                         | N/A                                                                           |
| Implementation Schedule:                | Ongoing                                                                       |
| Priority:                               | Moderate                                                                      |



| LLHM1 Mitigation Action: Town of Louisa |                                                         |
|-----------------------------------------|---------------------------------------------------------|
| Goal:                                   | Mitigation Capacity                                     |
| Action Item Description:                | Incorporate hazard mitigation plan into community plans |
| Hazard (s):                             | Multiple                                                |
| Lead Party Responsible:                 | Department of Community Development - Planning          |
| Estimated Cost:                         | None                                                    |
| Funding Method:                         | N/A                                                     |
| Implementation Schedule:                | 1-2 years                                               |
| Priority:                               | High                                                    |

| LMHM1 Mitigation Action: Town of Mineral |                                                         |
|------------------------------------------|---------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                     |
| Action Item Description:                 | Incorporate hazard mitigation plan into community plans |
| Hazard (s):                              | Multiple                                                |
| Lead Party Responsible:                  | Town Manager                                            |
| Estimated Cost:                          | Staff time only                                         |
| Funding Method:                          | Local funds                                             |
| Implementation Schedule:                 | 1-2 years                                               |
| Priority:                                | High                                                    |

| LMMM1 Mitigation Action: Town of Mineral |                                                                               |
|------------------------------------------|-------------------------------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                                           |
| Action Item Description:                 | Ensure all houses have clear address signs that are visible during snowstorms |
| Hazard (s):                              | Winter Storms, Multiple                                                       |
| Lead Party Responsible:                  | Town Manager                                                                  |
| Estimated Cost:                          | None                                                                          |
| Funding Method:                          | N/A                                                                           |
| Implementation Schedule:                 | Ongoing                                                                       |
| Priority:                                | Moderate                                                                      |

| LMMM2 Mitigation Action: Town of Mineral |                                                                                                           |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                                                                       |
| Action Item Description:                 | Work with the Louisa County to designate a representative for the County's Emergency Operations Committee |
| Hazard (s):                              | Multiple                                                                                                  |
| Lead Party Responsible:                  | Town Manager                                                                                              |
| Estimated Cost:                          | Staff Time only                                                                                           |
| Funding Method:                          | N/A                                                                                                       |
| Implementation Schedule:                 | 1-2 years                                                                                                 |
| Priority:                                | Moderate                                                                                                  |

| LMMM3 Mitigation Action: Town of Mineral |                                                                   |
|------------------------------------------|-------------------------------------------------------------------|
| Goal:                                    | Mitigation Capacity                                               |
| Action Item Description:                 | Develop a system for alerts and other communication with citizens |
| Hazard (s):                              | Multiple                                                          |
| Lead Party Responsible:                  | Town Manager                                                      |
| Estimated Cost:                          | Unknown                                                           |
| Funding Method:                          | Local Funds, All Hazards Emergency Operations Planning Grant      |
| Implementation Schedule:                 | 2-6 years                                                         |
| Priority:                                | Moderate                                                          |

| LMMI1 Mitigation Action: Town of Mineral |                                                                      |
|------------------------------------------|----------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                         |
| Action Item Description:                 | Mark the fire hydrants with reflective markers for large snow storms |
| Hazard (s):                              | Winter Storms                                                        |
| Lead Party Responsible:                  | Town Manager                                                         |
| Estimated Cost:                          | \$1,000                                                              |
| Funding Method:                          | Local Funds                                                          |
| Implementation Schedule:                 | 1-2 years                                                            |
| Priority:                                | Moderate                                                             |

| LMMI2 Mitigation Action: Town of Mineral |                                                                                                                 |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                                                                    |
| Action Item Description:                 | Install emergency generator for wells                                                                           |
| Hazard (s):                              | Multiple                                                                                                        |
| Lead Party Responsible:                  | Town Manager                                                                                                    |
| Estimated Cost:                          | \$5,000-\$15,000/generator                                                                                      |
| Funding Method:                          | Hazard Mitigation Grant Program, Pre-Disaster Mitigation Grant, All Hazards Emergency Operations Planning Grant |
| Implementation Schedule:                 | 2-4 years                                                                                                       |
| Priority:                                | Moderate                                                                                                        |

| LMLI1 Mitigation Action: Town of Mineral |                                                                |
|------------------------------------------|----------------------------------------------------------------|
| Goal:                                    | Infrastructure and Buildings                                   |
| Action Item Description:                 | Bury utilities underground in Town of Mineral                  |
| Hazard (s):                              | Winter Storms, Multiple                                        |
| Lead Party Responsible:                  | Town Manager                                                   |
| Estimated Cost:                          | Unknown                                                        |
| Funding Method:                          | Community Development Block Grant, Pre-hazard mitigation funds |
| Implementation Schedule:                 | 5+ Years                                                       |
| Priority:                                | Low                                                            |

| NHM1 Mitigation Action: Nelson County |                                                      |
|---------------------------------------|------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                  |
| Action Item Description:              | Continue and expand use of the citizen alert system. |
| Hazard (s):                           | Multiple                                             |
| Lead Party Responsible:               | Emergency Services Coordinator                       |
| Estimated Cost:                       | \$5,000                                              |
| Funding Method:                       | General Revenue                                      |
| Implementation Schedule:              | Ongoing                                              |
| Priority:                             | High                                                 |

| NHM2 Mitigation Action: Nelson County |                                                                                                                     |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                                                                 |
| Action Item Description:              | Provide training for building inspectors and code officials on mitigation techniques and hazard-resistant building. |
| Hazard (s):                           | Multiple                                                                                                            |
| Lead Party Responsible:               | Department of Public Works                                                                                          |
| Estimated Cost:                       | \$10,000                                                                                                            |
| Funding Method:                       | Hazard Mitigation Grant Program, General Revenue                                                                    |
| Implementation Schedule:              | 1-3 years                                                                                                           |
| Priority:                             | High                                                                                                                |

| NME1 Mitigation Action: Nelson County |                                                                 |
|---------------------------------------|-----------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                          |
| Action Item Description:              | Conduct FireWise workshops.                                     |
| Hazard (s):                           | Wildfire                                                        |
| Lead Party Responsible:               | Virginia Department of Forestry, Emergency Services Coordinator |
| Estimated Cost:                       | \$2,000                                                         |
| Funding Method:                       | Virginia FireWise Grant, General Revenue                        |
| Implementation Schedule:              | 2-5 years                                                       |
| Priority:                             | Moderate                                                        |

| NME2 Mitigation Action: Nelson County |                                                                                                                                               |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                                                                                                        |
| Action Item Description:              | Provide educational instruction and materials to school age youth and their teachers on proper procedures for responding to natural disasters |
| Hazard (s):                           | Multiple                                                                                                                                      |
| Lead Party Responsible:               | Emergency Services Coordinator, Public Schools                                                                                                |
| Estimated Cost:                       | \$5,000                                                                                                                                       |
| Funding Method:                       | General Revenue                                                                                                                               |
| Implementation Schedule:              | 3-5 Years                                                                                                                                     |
| Priority:                             | Moderate                                                                                                                                      |

| NMM1 Mitigation Action: Nelson County |                                                                               |
|---------------------------------------|-------------------------------------------------------------------------------|
| Goal:                                 | Mitigation Capacity                                                           |
| Action Item Description:              | Ensure all houses have clear address signs that are visible during snowstorms |
| Hazard (s):                           | Winter Storms, Multiple                                                       |
| Lead Party Responsible:               | Town Manager                                                                  |
| Estimated Cost:                       | None                                                                          |
| Funding Method:                       | N/A                                                                           |
| Implementation Schedule:              | Ongoing                                                                       |
| Priority:                             | Moderate                                                                      |

| NLE1 Mitigation Action: Nelson County |                                                                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Goal:                                 | Education and Outreach                                                                                                                      |
| Action Item Description:              | Ensure that all homeowners and businesses located in areas prone to landslides are aware of the risks and appropriate responses to an event |
| Hazard (s):                           | Landslides                                                                                                                                  |
| Lead Party Responsible:               | Planning Department                                                                                                                         |
| Estimated Cost:                       | Staff Time                                                                                                                                  |
| Funding Method:                       | N/A                                                                                                                                         |
| Implementation Schedule:              | Ongoing                                                                                                                                     |
| Priority:                             | Low                                                                                                                                         |

| NLI2 Mitigation Action: Nelson County |                                                                                   |
|---------------------------------------|-----------------------------------------------------------------------------------|
| Goal:                                 | Infrastructure and Building                                                       |
| Action Item Description:              | Maintain and add more fire rings in camping areas for controlled fires.           |
| Hazard (s):                           | Multiple                                                                          |
| Lead Party Responsible:               | Albemarle Recreation Department, Private Campground Owners, National Park Service |
| Estimated Cost:                       | \$50,000                                                                          |
| Funding Method:                       | General Revenue, Hazard Mitigation Grant Program                                  |
| Implementation Schedule:              | 5+ years                                                                          |
| Priority:                             | Low                                                                               |

**RESOLUTION**  
**CITY OF CHARLOTTESVILLE ADOPTION OF THE**  
**REGIONAL NATURAL HAZARD MITIGATION PLAN**

WHEREAS, the Disaster Mitigation Act of 2000, as amended, requires that local governments develop, adopt and update natural hazard mitigation plans in order to receive certain federal assistance; and,

WHEREAS, the Thomas Jefferson Planning District's Regional Natural Hazard Mitigation Plan has been prepared in accordance with FEMA requirements at 44C.F.R. 201.6; and,

WHEREAS, The City of Charlottesville has been involved in the preparation of the Regional Natural Hazard Mitigation Plan, with City staff representing the City on the Working Group and working with TJPDC staff to identify mitigation actions for inclusion in the plan, and,

WHEREAS, the Virginia Department of Emergency Management (VDEM) and the Federal Emergency Management Agency (FEMA) have approved the plan with no changes recommended; and,

WHEREAS, hazard mitigation is essential to protect life and property by reducing the potential for future damages and economic losses resulting from natural disasters;

NOW THEREFORE BE IT RESOLVED, the City of Charlottesville City Council does hereby adopt the Regional Natural Hazard Mitigation Plan.

ADOPTED by the City of Charlottesville City Council on this \_\_\_\_ day of \_\_\_\_\_, 2023.

APPROVED

\_\_\_\_\_  
Lloyd Snook, Mayor

ATTEST

\_\_\_\_\_  
Kyna Thomas, Clerk of Council



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                             |
| Action Required: | Approve new Building Permit fee schedule.                                                                 |
| Presenter:       | Chuck Miller                                                                                              |
| Staff Contacts:  | Chuck Miller<br>James Freas, Director of NDS                                                              |
| Title:           | <b>Adopting a new fee schedule for building permits and related fees (1 of 2 readings-Public Hearing)</b> |

**Background**

- The city last updated the building permit fee schedule in 2008.
- The existing building permit fee schedule relies on multiple fee calculation methodologies and is confusing as presented. The result is that applicants often submit incorrect fee amounts leading to delays in permit processing.
- The city's current fees are generally low when compared to a sampling of peer communities within the State.
- Enforcement of the Virginia Uniform Statewide Building Code is delegated from the State to the local jurisdiction's building code official. The Virginia Administrative Code (13VAC5-63-70. Section 107) authorizes localities to charge fees to defray the cost of enforcing the Building Code.

**Discussion**

The Building Permitting and Inspections division of NDS has seen a remarkable improvement over the last six months. After a low point during which building permit plan review was taking as long as 80 days and inspections were being scheduled as much as two weeks in advance, we are now delivering building permits within two weeks of application and scheduling inspections for the very next day (See Attachment #1). Credit here goes to our new Building Code Official, Chuck Miller, who started with the City in August, after the City had experienced more than two years with this position vacant, and the addition of a third building inspector in the FY23 budget. The division is now fully staffed and performance has improved accordingly. From here, our focus is now moving to training and retention so that we can build on and maintain the success we have achieved thus far.

The requested changes to the Building Permit Fee Schedule are intended to do two things. First, the new fee schedule (Attachment #2) is greatly simplified when compared to the current one (Attachment #3) with a single standardized fee calculation methodology and consolidation in the fee categories. This change is an essential part of improving customer service and reducing delays

associated with inaccurate fee submissions.

Second, the proposed fee schedule increases the building permit fees, moving Charlottesville from the low end of peer communities, with a fee structure of .3% of project value, to the higher end, with a proposed .7% of project value. Notably, this change will increase building permit fees, but will mostly lower electric permit fees, which were previously unusually high at 1% of project value. Attachment #4 shows how Charlottesville would compare to other communities based on different possible fee rates using a sample project.

After experiencing a significant low-point in the building permit program, NDS has the goal of being a model building permit agency, offering timely permit review and inspections by qualified staff ensuring the quality of construction in the city and the safety of residents. The new permitting software will launch April 30th, allowing building permits to be submitted from home and for their status to be tracked online. Our objective is for the new permit schedule to go into effect at the same time.

### **Alignment with City Council's Vision and Strategic Plan**

The proposed action aligns most closely with Goal 5: A Well-Managed and Responsive Organization, particularly 5.1: Integrate Effective Business Practices and Strong Fiscal Policies; and 5.3: Provide Responsive Customer Service. It is also important to recognize that the City's building permit review and inspections program strongly promotes Goal 2: A Healthy and Safe City.

### **Community Engagement**

Through flyers posted at the NDS front desk and handed out to contractors, staff have been getting the word out to the construction community. Notice was also sent to organizations representing the development and builder communities.

### **Budgetary Impact**

The proposed new fee schedule will provide additional funding offsetting the cost of enforcing the building code, including plan review and inspections.

### **Recommendation**

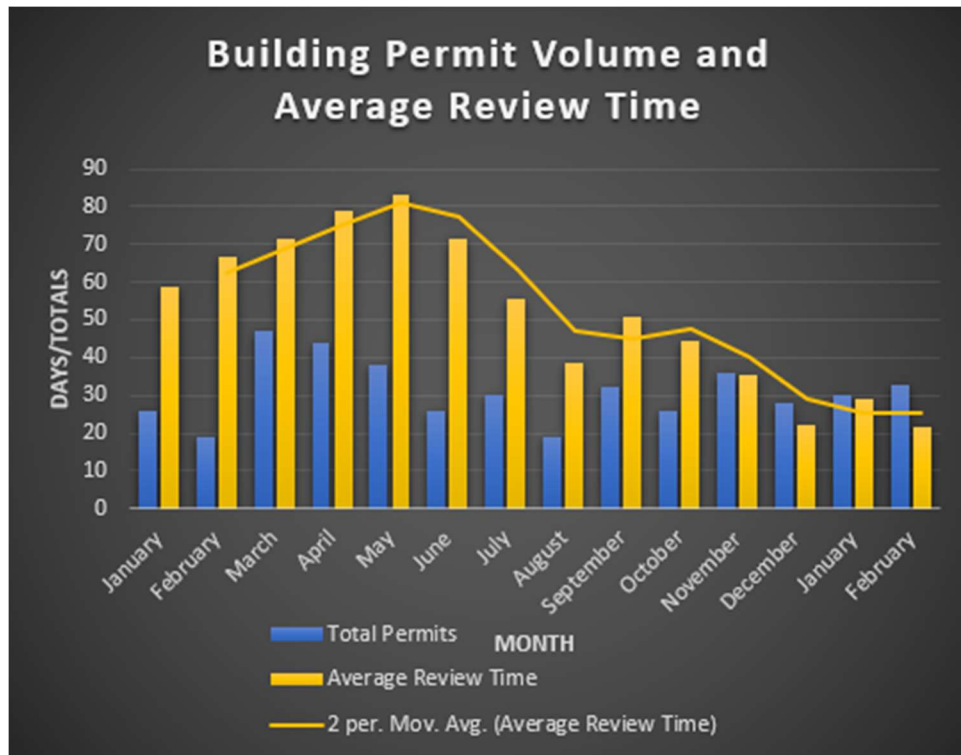
Staff recommends approval of the new building permit fee schedule.

### **Alternatives**

Council could not approve the new building permit fee schedule or could propose modifications.

### **Attachments**

1. Attachment 1\_Review Time Tracking
2. Attachment 3\_Current Fee Schedule
3. Attachment 4\_Cost Comparison
4. Attachment 2\_Building Inspection Fee Proposal
5. Ordinance\_Building Permit Fees



Our target is all building permits reviewed in under two weeks. We have effectively reached this target for the last three months. The average review time above does not account for lost review time when plans are sent back to the applicant for revision.

This is the original fee schedule that we use. It was last fully reviewed and approved in 2006/2008 for most of the building permits in the Building Inspection Department. The chart matrix is very hard to follow and to verify that the fee to be charged is correct. There are many redundant fees and also there are fees that have no explanation as to what they are for. Our goal is to minimize this schedule and make it simple and efficient for all.

### NDS Fee Schedule

| Type of Fee                                                                                                       | Current Fee (\$) | Additional Costs/Comments                                                                                                          | Approval Dates             |
|-------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <b>BUILDING REGS (CHAPTER 5)</b>                                                                                  |                  |                                                                                                                                    |                            |
| BLDING., ELECT., MECH., PLUMB., FIRE PROTECTION PERMIT FEES                                                       |                  | * In addition to the fees below, a surcharge of 2.00% of the total fee shall be imposed on all permits as required under state law | June 5, 2006/June 16, 2008 |
| Certificate of Occupancy not required by USBC Single Family/Other                                                 | \$60/\$125       |                                                                                                                                    | June 5, 2006/June 16, 2008 |
| Non-refundable Administrative Fee on \$1 to \$2,000 residential additions/renovations/new                         | \$25             | Reviews underway. No inspections scheduled or completed                                                                            | June 5, 2006/June 16, 2008 |
| Amendment to Permit Fee on \$1 to \$2,000 residential additions/renovations/new                                   | \$25             |                                                                                                                                    | June 5, 2006/June 16, 2008 |
| Non-refundable Administrative Fee on all commercial and residential additions/renovations/new greater than \$2000 | \$75             | Reviews underway. No inspections scheduled or completed                                                                            | June 5, 2006/June 16, 2008 |
| Amendment Fee on all commercial and residential additions/renovations/new greater than \$2000                     | \$75             |                                                                                                                                    | June 5, 2006/June 16, 2008 |
| Building Permit Fee \$ 2,001 to \$50,000                                                                          | \$64             |                                                                                                                                    | June 5, 2006/June 16, 2008 |
| Building Permit Fee \$50,001 to \$100,000                                                                         | \$255            | + \$3/ each additional \$1,000 up to \$100,000                                                                                     | June 5, 2006/June 16, 2008 |
| Building Permit Fee over \$100,000                                                                                | \$402            | + \$3/ each additional \$1,000                                                                                                     | June 5, 2006/June 16, 2008 |

## NDS Fee Schedule

| Type of Fee                                                         | Current Fee (\$) | Additional Costs/Comments                                 | Approval Dates                               |
|---------------------------------------------------------------------|------------------|-----------------------------------------------------------|----------------------------------------------|
| Trailer Change-out                                                  | \$150            |                                                           | June 5, 2006 /February 1, 2016               |
| Tent                                                                | \$50             |                                                           | 5-Jun-06                                     |
| Voided Permit                                                       | \$0              |                                                           | 5-Jun-06                                     |
| Blasting Permit                                                     | \$50             |                                                           | 5-Jun-06                                     |
| Delivery Riser                                                      | \$10             |                                                           | 5-Jun-06                                     |
| Temporary Closure of Tank                                           | \$10             |                                                           | 5-Jun-06                                     |
| Reinspection for New Construction                                   | \$100            |                                                           | 5-Jun-06                                     |
| Demolition Sheds over 150 s.f. and 1&2 Family Garages               | \$50             |                                                           | June 5, 2006/June 16, 2008                   |
| Demolition 1&2 Family residential                                   | \$150            |                                                           | June 5, 2006/June 16, 2008                   |
| Demolition Commercial                                               | \$250            |                                                           | June 5, 2006/June 16, 2008                   |
| Amusement Rides;                                                    |                  | per the Virginia Amusement Device Regulations (VADR) 2012 |                                              |
| Small mechanical ride or inflatable covered by permit (Kiddie Ride) | \$35             |                                                           | June 5, 2006/June 16, 2008 /February 1, 2016 |
| Each Circular Ride or Flat Ride less than 20 ft in height           | \$25             |                                                           | June 5, 2006/June 16, 2008                   |



## NDS Fee Schedule

| Type of Fee                                    | Current Fee (\$) | Additional Costs/Comments                                                                           | Approval Dates                              |
|------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------|
| Each Spectacular Ride                          | \$75             | All rides which cannot be inspected as a Circular or Flat Ride as above due to complexity or height | June 5, 2006/June 16, 2008/February 1, 2016 |
| Coasters which exceed 30 ft in height          | \$200            |                                                                                                     | June 5, 2006/June 16, 2008/February 1, 2016 |
| Temporary Office Trailer (1 Year Maximum Use)  | \$150            |                                                                                                     | June 5, 2006/June 16, 2008/February 1, 2016 |
| Occupant Load Signs;                           |                  |                                                                                                     | 16-Jun-08                                   |
| Single Exit Required Spaces/All Others         | \$50/\$150       |                                                                                                     | 16-Jun-08                                   |
| Replacement Signs on file                      | \$25             | Engineer/Architect calculated occupancy loads under sealed plan review – no fee                     | 16-Jun-08                                   |
|                                                |                  |                                                                                                     |                                             |
| Electrical Permit Fees;                        |                  |                                                                                                     |                                             |
| \$1 - \$50 construction value                  | \$50             | Base Fee + \$4/\$50 up to \$300 value                                                               | 5-Jun-06                                    |
| \$51 - \$100 construction value                | \$64             |                                                                                                     | 5-Jun-06                                    |
| \$101 - \$150 construction value               | \$68             |                                                                                                     | 5-Jun-06                                    |
| \$151 - \$200 construction value               | \$72             |                                                                                                     | 5-Jun-06                                    |
| \$201 - \$250 construction value               | \$76             |                                                                                                     | 5-Jun-06                                    |
| \$251 - \$300 construction value               | \$80             |                                                                                                     | 5-Jun-06                                    |
| \$301-\$400 construction value                 | \$90             |                                                                                                     | 5-Jun-06                                    |
| \$401-\$500 construction value                 | \$100            |                                                                                                     | 5-Jun-06                                    |
| \$501-\$600 construction value                 | \$125            |                                                                                                     | 5-Jun-06                                    |
| \$1001-\$2000 construction value               | \$140            |                                                                                                     | 5-Jun-06                                    |
| \$2001-\$3000 construction value               | \$155            |                                                                                                     | 5-Jun-06                                    |
| \$3001-\$4000 construction value               | \$175            |                                                                                                     | 5-Jun-06                                    |
| \$4001-\$5000 construction value               | \$200            |                                                                                                     | 5-Jun-06                                    |
| Electrical Permits over \$5,000 add \$10/1,000 | \$200            | Add \$10 per each \$1000 value                                                                      | June 5, 2006/June 16, 2008                  |

## NDS Fee Schedule

| Type of Fee                                     | Current Fee (\$) | Additional Costs/Comments                                                                                                                                   | Approval Dates             |
|-------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| Residential Electrical Repairs less than \$1000 | \$50             | Flat fee; All residential repairs over \$1000, new construction residential, or commercial work follow other electrical fee scale.                          | 15-Sep-08                  |
| Electric/Plug-In Vehicle Charger                | \$50             | Flat fee: may only be installed in 1 or 2 family residential dwellings                                                                                      | 1-Nov-10                   |
| Mechanical Permit Fees;                         |                  |                                                                                                                                                             |                            |
| Mechanical Base Fee                             | \$75             |                                                                                                                                                             | 5-Jun-06                   |
| Furnace (100,001 to 500,000 BTU)                | \$31             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Furnace 500,000 BTU + \$2/100,000               | \$26             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Gas Boiler over 100,000 BTU                     | \$31             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| \$2/100,000 BTU over 500,000                    | \$3              |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Condensing Unit \$2 over 5 tons                 | \$3              |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Rooftop Unit (over 5 tons)                      | \$31             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Air Handler (over 5 tons)                       | \$31             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |
| Other Mechanical add on                         | varies           | Charge base fee and use building permit valuation table to determine add on cost. Current schedule has itemized list of fixtures, appliances and materials. | February 1, 2016           |
| Plumbing Permit Fees;                           |                  |                                                                                                                                                             |                            |
| Plumbing Base Fee                               | \$75             |                                                                                                                                                             | 5-Jun-06                   |
| Gas Line                                        | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008 |

## NDS Fee Schedule

| Type of Fee                                  | Current Fee (\$) | Additional Costs/Comments                                                                                                                                   | Approval Dates                 |
|----------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Gas Water Heater                             | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Sewer Lateral                                | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Supply Lines                                 | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Plumbing Vents                               | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Water Lateral                                | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Waste Line                                   | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Backflow Prevention Device                   | \$11             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Other Plumbing add on                        | varies           | Charge base fee and use building permit valuation table to determine add on cost. Current schedule has itemized list of fixtures, appliances and materials. | February 1, 2016               |
| Fire Protection Permit Fees:                 |                  |                                                                                                                                                             |                                |
| Fire Protection Permit \$1- \$2,000          | \$60             |                                                                                                                                                             | June 5, 2006/June 16, 2008     |
| Fire Protection Permit \$2,001 to \$50,000   | \$64             | + \$4/ each additional \$1,000 up to \$50,000                                                                                                               | June 5, 2006/June 16, 2008     |
| Fire Protection Permit \$50,001 to \$100,000 | \$255            | + \$3/ each additional \$1,000 up to \$100,000                                                                                                              | June 5, 2006/June 16, 2008     |
| Fire Protection Permit over \$100,000        | \$402            | + \$3/ each additional \$1,000                                                                                                                              | June 5, 2006/June 16, 2008     |
| Fire Line to Building                        | varies           | Use Fire Protection Permit fee Schedule                                                                                                                     | June 5, 2006 /February 1, 2016 |
| Tank (Removal or Installation)               | \$50             |                                                                                                                                                             | 5-Jun-06                       |
| Miscellaneous Fee                            | \$1              |                                                                                                                                                             | 5-Jun-06                       |

## NDS Fee Schedule

| Type of Fee                                    | Current Fee (\$)    | Additional Costs/Comments                                                       | Approval Dates                 |
|------------------------------------------------|---------------------|---------------------------------------------------------------------------------|--------------------------------|
| Suppression System -Commercial Kitchen Hood    | \$50                |                                                                                 | June 5, 2006 /February 1, 2016 |
| Waived                                         | \$0                 |                                                                                 | 5-Jun-06                       |
|                                                |                     |                                                                                 |                                |
| Building Code Board of Appeals Application Fee | \$100               |                                                                                 | 16-Aug-10                      |
| Temporary Certificate of Occupancy Fee         |                     | Was \$400 per 30 days until 10/20/14. the break down by use is indicated below. | 16-Aug-10                      |
| Residential                                    | \$50/unit per month |                                                                                 | 20-Oct-14                      |
| Non-Residential                                | \$1/sq ft per month |                                                                                 | 20-Oct-14                      |
| Landscape Only                                 | \$500 per month     |                                                                                 | 20-Oct-14                      |
| Single Family Res.                             | \$250 per unit      |                                                                                 | 20-Oct-14                      |
| Working Without a Permit Fee                   | Permit Fee X 2      | Inapplicable to homeowner's primary residence                                   | 16-Aug-10                      |
| Revisions to Approved Building Plan Fee        | \$30                |                                                                                 | 16-Aug-10                      |
| Code Modification Application Fees:            |                     |                                                                                 |                                |
| Residential Code Modification                  | \$75                |                                                                                 | 19-Dec-11                      |
| All other Code Modifications                   | \$150               |                                                                                 | 19-Dec-11                      |
| Special Event Building Inspection Fees:        |                     |                                                                                 |                                |
| Up to 50 Person Occupancy                      | \$50                |                                                                                 | 19-Dec-11                      |
| 51-299 Person Occupancy                        | \$100               |                                                                                 | 19-Dec-11                      |
| 300-500 Person Occupancy                       | \$200               |                                                                                 | 19-Dec-11                      |
| Over 500 person Occupancy                      | \$300               |                                                                                 | 19-Dec-11                      |
| Elevator Administrative Fee                    | \$45                |                                                                                 | 19-Dec-11                      |
| Permit System Maintenance Fees:                |                     |                                                                                 |                                |
| Permits under \$200                            | \$10                |                                                                                 | 19-Dec-11                      |
| Permits \$200-\$499.99                         | \$20                |                                                                                 | 19-Dec-11                      |

## NDS Fee Schedule

| Type of Fee                                                                                          | Current Fee (\$) | Additional Costs/Comments                                 | Approval Dates                 |
|------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------|--------------------------------|
| Permits \$500-\$1000                                                                                 | \$35             |                                                           | 19-Dec-11                      |
| Permits over \$1000                                                                                  | \$50             |                                                           | 19-Dec-11                      |
| <b>WATER PROTECTION<br/>(CHAPTER 10)</b>                                                             |                  |                                                           |                                |
| E&S Plan Application fee (for sites with land disturbance equal to or greater than 6000sf)           | \$500 + \$125AC  |                                                           | June 5, 2006 /February 1, 2016 |
| E&S Plan Amendment (for sites with land disturbance equal to or greater than 6000sf)                 | \$200            |                                                           | June 5, 2006 /February 1, 2016 |
| Erosion and Sediment Control Agreement in Lieu of Plan (Single Family Detached)                      | \$150            |                                                           | 5-Jun-06                       |
| Stormwater Management Plan Application Fee (for sites with land disturbance between 6000sf and 1 AC) | \$500            | Includes fees for inspections pursuant to City Code 10-58 | June 5, 2006 /February 1, 2016 |
| Stormwater Management Plan Amendment (for sites with land disturbance between 6000sf and 1 AC)       | \$200            |                                                           | June 5, 2006 /February 1, 2016 |



-This chart shows where Charlottesville permit fees are in relation to other jurisdictions of similar size, or population, or density around the state

-The fees shown are all based on a test house of 3500 SF with a value of \$450,000. Some jurisdictions use the square foot (SF) method and some use project value to determine their fee.

-Currently, Charlottesville has one of the lowest fee structures in the area and we base the value on .3% of the project that is put on the permit application.

-We are proposing to raise the Base Rate from .3% to .7%.

-The permit values for each of the jurisdictions are based on the actual fees and add-ons that they charge for each permit. Example- Fredricksburg has a base SF rate of only .36% but they have an add of \$646 for each residential permit which makes them look higher than if we only looked at the per square foot rate.

|                           |                |               |            |             | Test house 3500 square ft<br>\$450,000 base permit fee |                     |                        |                                        |          |                |             |       |
|---------------------------|----------------|---------------|------------|-------------|--------------------------------------------------------|---------------------|------------------------|----------------------------------------|----------|----------------|-------------|-------|
|                           |                |               |            |             | by square<br>foot                                      | by cost or<br>value | by individual<br>items | Commercial based on<br>IA construction | Type     | Base Rate (BR) |             |       |
| 2023 Population           |                | Density (mi²) | Area (mi²) |             |                                                        |                     |                        |                                        |          |                |             |       |
| Albemarle commercial      |                |               |            |             | \$                                                     | 0.350               |                        | \$                                     | 1,275.00 |                |             |       |
| Charlottesville           | 47,477         |               | 4,634      | 10.24       |                                                        |                     | \$                     | 0.003                                  | \$       | 1,452.00       | \$ 1,452.00 | 0.003 |
| Lynchburg                 | 80,041         | *             | 1,634      | 48.97       |                                                        |                     | \$                     |                                        | \$       | 1,510.00       |             |       |
| Herndon-commercial        |                | *             |            |             | \$                                                     | 0.391               |                        |                                        | \$       | 1,618.50       |             |       |
| Manassas                  | 44,257         | *             | 4,494      | 9.85        | \$                                                     | 0.450               |                        |                                        | \$       | 1,645.00       |             |       |
| Greene                    |                | *             |            |             | \$                                                     | 0.480               |                        |                                        | \$       | 1,680.00       |             |       |
| Hampton                   | 137,061        | *             | 2,664      | 51.46       |                                                        |                     | \$                     | 0.0039                                 | \$       | 1,755.00       | \$ 1,802.00 | 0.004 |
| Roanoke                   | 100,905        |               | 2,373      | 42.52       |                                                        |                     |                        |                                        | \$       | 1,831.50       |             |       |
| Fredericksburg            | 29,092         | *             | 2,784      | 10.45       | \$                                                     | 0.360               |                        |                                        | \$       | 1,906.00       |             |       |
| Greene-commercial         |                |               |            |             | \$                                                     | 0.500               |                        |                                        | \$       | 2,000.00       | \$ 2,152.00 | 0.005 |
| Fredericksburg-commercial |                |               |            |             | \$                                                     | 0.390               |                        |                                        | \$       | 2,240.00       |             |       |
| nelson                    | 14,790         |               | 31.2       | 474         |                                                        |                     | \$                     | 0.005                                  | \$       | 2,250.00       | \$ 2,502.00 | 0.006 |
| Albemarle                 |                | *             |            |             | \$                                                     | 0.720               |                        |                                        | \$       | 2,530.08       |             |       |
| Alexandria                | 165,317        | *             | 11,070     | 14.93       | \$                                                     | 0.750               |                        |                                        | \$       | 2,719.50       |             |       |
| Harrisonburg              | 52,684         | *             | 3,038      | 17.34       |                                                        |                     | \$                     | 0.00600                                | \$       | 2,748.00       |             |       |
| Richmond                  |                |               |            |             |                                                        |                     | \$                     | 0.00607                                | \$       | 2,794.50       | \$ 2,852.00 | 0.007 |
| Alexandria-commercial     |                |               |            |             |                                                        |                     | \$                     | 0.00730                                | \$       | 3,285.00       |             |       |
| Richmond-commercial       |                |               |            |             |                                                        |                     | \$                     | 0.00805                                | \$       | 3,685.50       |             |       |
| Loudoun-commercial        |                | *             |            |             | \$                                                     | 0.620               |                        |                                        | \$       | 4,969.95       |             |       |
|                           |                |               |            |             | Average                                                |                     |                        | \$                                     | 2,310.29 |                |             |       |
| Charlottesville           | base rate (BR) |               | 0.003      | \$ 1,452.00 |                                                        |                     |                        |                                        |          |                |             |       |
|                           |                |               | 0.004      | \$ 1,802.00 |                                                        |                     |                        |                                        |          |                |             |       |
|                           |                |               | 0.005      | \$ 2,152.00 |                                                        |                     |                        |                                        |          |                |             |       |
|                           |                |               | 0.006      | \$ 2,502.00 |                                                        |                     |                        |                                        |          |                |             |       |
|                           |                |               | 0.007      | \$ 2,852.00 |                                                        |                     |                        |                                        |          |                |             |       |

This is the new Fee Schedule matrix that we would like approved. We have taken the current Fee Schedule, condensed it down, incorporated better descriptions for each fee, and adjusted the current fees to be more consistent. The current Base Rate that the city uses for Building, Mechanical, and Plumbing permits is .3% and Electrical permits is 1.0%. This is one of the reasons that raising the three lower permit Base Rates and lowering the Electrical permit Base Rate will make the Fees consistent and fair for all trades. We have a minimum fee of \$75 for the basic four trade permits up to \$1500 and then it increases by the new Base Rate of .7%. As you can see from the first graph, our permit review time has gone down from 80+ days to 2 weeks or less. The onsite inspections have gone from over two weeks away to next day now. The quality of our inspections have increased dramatically with the addition of the new building inspector position and having filled all other inspector positions. We are also going from 4-5 inspections a day to at least 25-30 inspections everyday.

### Building Inspection Fee Schedule

| Type of Fee                                                                                        | Current Fee (\$)    | Additional Costs/Comments                                                                                                                                                 | Approval Dates |
|----------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| <b>BUILDING REGS (CHAPTER 5)</b>                                                                   |                     |                                                                                                                                                                           |                |
| Building Inspections Base Rate ( <b>BR</b> )                                                       | .7% or <b>BR</b>    | Rate that permit fees are based on                                                                                                                                        | Mar-23         |
| State Levy fee or ALL permits of all types                                                         |                     | * In addition to the permit fees below, a surcharge of 2.00% of the total fee shall be imposed as required under state law                                                | Mar-23         |
| Permit System Maintenance Fees:                                                                    |                     | Fee Applies to ALL Permits                                                                                                                                                | Mar-23         |
| Permits under \$200                                                                                | \$10                |                                                                                                                                                                           | Mar-23         |
| Permits \$200-\$499.99                                                                             | \$20                |                                                                                                                                                                           | Mar-23         |
| Permits \$500-\$1000                                                                               | \$35                |                                                                                                                                                                           | Mar-23         |
| Permits over \$1000                                                                                | \$50                |                                                                                                                                                                           | Mar-23         |
| Amendment Fee on all residential and commercial permits                                            | \$75 Min            | Fee - \$75 minimum. \$75 Fee Based on additional project value up to \$1,500. Over \$1,500 of additional project value is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Non-refundable portion of ALL Permit fees with Project Value up to \$2000                          | \$25                | Flat Fee. Where reviews underway. No inspections scheduled or completed                                                                                                   | Mar-23         |
| Non-refundable portion of ALL permits with Project Value over \$2000                               | \$75                | Flat Fee. Where reviews underway. No inspections scheduled or completed                                                                                                   | Mar-23         |
| Not Ready Fee                                                                                      | \$100               | inspection can not be done because they are still working on it or work is not fully done yet                                                                             | Mar-23         |
| Reinspection Fee                                                                                   | \$100               | Fee starts after 2nd inspection of same violation                                                                                                                         | Mar-23         |
| Working Without a Permit Fee Commercial & Residential                                              | Permit Fee X 2      | Work being performed where no valid building permit has been issued                                                                                                       | Mar-23         |
| Stop Work Order Fee                                                                                | \$150               | Fee applies each day until work has stopped                                                                                                                               | Mar-23         |
| Code Modification Application Fees: Residential / Commercial & Others                              | \$75/\$150          |                                                                                                                                                                           | Mar-23         |
| Issue Certificate of Occupancy not required by USBC Single Family/Other                            | \$60/\$125          | Typically where no work has been done and new tenant needs a CO for VDH or Insurance.                                                                                     | Mar-23         |
| Voided/Waived Permit                                                                               | \$0                 | Administrative procedure in writing                                                                                                                                       | Mar-23         |
| Building Code Board of Appeals Application Fee                                                     | \$250               | Per each Appeals Application                                                                                                                                              | Mar-23         |
| Temporary Certificate of Occupancy Fee                                                             |                     |                                                                                                                                                                           | Mar-23         |
| Residential - R1, R2, R3, R4, R5 USES                                                              | \$75/month          | For all R-USES with fee based on each bedroom for each month or partial month                                                                                             | Mar-23         |
| Non-Residential                                                                                    | \$1/sq ft per month | All other USES, based on Gross Square Feet for each month or partial month                                                                                                | Mar-23         |
| Amusement Ride Fees;                                                                               |                     | Per the Virginia Amusement Device Regulations (VADR) current year adoption                                                                                                | Mar-23         |
| Each Circular Ride or Flat Ride less than 20 ft in height                                          | \$25                | Each                                                                                                                                                                      | Mar-23         |
| Small mechanical ride or inflatable (Kiddie Ride)                                                  | \$35                | Each                                                                                                                                                                      | Mar-23         |
| Each Spectacular Ride                                                                              | \$75                | All rides which cannot be inspected as a Circular or Flat Ride as above due to complexity or height. Per Each                                                             | Mar-23         |
| Coasters which exceed 30 ft in height                                                              | \$200               | Each                                                                                                                                                                      | Mar-23         |
| Special Event Inspection Fee                                                                       | \$50 + \$.25/person | Based on number of persons listed on application                                                                                                                          | Mar-23         |
| Tent Fee - Temporary                                                                               | \$50                | Per each tent                                                                                                                                                             | Mar-23         |
| Manufactured Trailer Change-out Single or Double wide Fee                                          | \$150               | Each                                                                                                                                                                      | Mar-23         |
| Temporary Construction Office Trailer (1 Year Maximum Use)                                         | \$150               | Each                                                                                                                                                                      | Mar-23         |
| Occupant Load Signs; Single Exit Spaces/All Others                                                 | \$50/\$150          |                                                                                                                                                                           | Mar-23         |
| Blasting Permit Fee                                                                                | \$75                | Special Use Permit Required                                                                                                                                               | Mar-23         |
| Demolition permit Fee                                                                              | \$75 Min            | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b>                  | Mar-23         |
| Tank (Removal or Installation): (UST) Underground Storage Tank OR (AGST) Above Ground Storage Tank | \$75 Min            | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b>                  | Mar-23         |

| Type of Fee                                                                                        | Current Fee (\$) | Additional Costs/Comments                                                                                                                                | Approval Dates |
|----------------------------------------------------------------------------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| Commercial Kitchen Hood - Type 1 only                                                              | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Residential Electrical Repairs less than \$1000                                                    | \$75             | Repair work on <u>Existing</u> residential electrical system - NOT for adding new work, only repairing or replacing existing outlets & switches.         | Mar-23         |
| Electric/Plug-In Vehicle Charger                                                                   | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Building Permit Fees                                                                               | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Electrical Permit Fees                                                                             | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Mechanical Permit Fees                                                                             | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Plumbing Permit Fees                                                                               | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Gas Permit Fees                                                                                    | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Fire Protection Permit Fees - Does not include Fire Line to Building or Utility Department Tap Fee | \$75 Min         | Fee - \$75 minimum. \$75 Fee Based on project value up to \$1,500. Over \$1,500 of project value, Fee is \$75 plus project value multiplied by <b>BR</b> | Mar-23         |
| Fire Line to Building - Does not include Utility Department Tap Fee                                | varies           | Use Fire Protection Permit fee plus contact Utility Department for their Tap Fee                                                                         | Mar-23         |
| Other Fee not described above                                                                      | TBD              | Requires approval of Building Official, Director and Deputy Director of NDS. This fee may be challenged by the LBBCA only.                               | Mar-23         |

**AN ORDINANCE APPROVING AND ADOPTING A NEW FEE SCHEDULE FOR  
BUILDING PERMIT AND RELATED FEES ASSOCIATED WITH PERMITS ISSUED  
UNDER THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE**

**WHEREAS**, Virginia Code sections 15.2-2241 and 15.2-2286 of the Code of Virginia, as amended, provides for the collection of fees to cover the cost of making inspections, issuing permits, advertising, of notices and other expenses incident to the administration and processing of a subdivision or zoning ordinance; and

**WHEREAS**, Virginia Code § 36-105 establishes that fees may be levied by the local governing body to be paid by applicants for the issuance of a building permit; and

**WHEREAS**, the Virginia Administrative Code (13VAC5-63-70. Section 107) authorizes localities to charge fees to defray the cost of enforcing the Virginia Uniform Statewide Building Code; and

**WHEREAS**, Section 14, Subsection Twenty of the Charlottesville City Charter authorizes the passage of ordinances, not repugnant to the Constitution and laws of the State, deemed necessary for the good order and government of the city, the management of its property, and the conduct of its affairs; and

**WHEREAS**, the Code of the City of Charlottesville, as amended, provides in various places for the City Council's approval from time to time of a schedule of fees associated with other types of applications, petitions, inspections, permits, and approvals administered by the City's Department of Neighborhood Development Services (NDS); and

**WHEREAS**, the Charlottesville building permit fee schedule has not been updated since 2008; and

**WHEREAS**, the cost of enforcing the Statewide Building Code has increased generally and specifically with the addition of a new building inspector position and new permit application software; now, therefore,

**BE IT ORDAINED** by the Council of the City of Charlottesville, the Charlottesville fee schedule for permits issued under the Virginia Uniform Statewide Building Code is hereby adopted as shown on the attached fee schedule document.



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                     |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                       |
| Action Required: | Approval of Appropriation                                                                                                           |
| Presenter:       | Garland Williams, Director of Transit                                                                                               |
| Staff Contacts:  | Garland Williams, Director of Transit                                                                                               |
| Title:           | <b>Supplemental Appropriation of Federal Transit Operating and State and Federal Capital Grants - \$7,886,856 (1 of 2 readings)</b> |

**Background**

**Total Appropriation of \$7,886,856 to be utilized as follows:**

**Increased State Operating Assistance Award - \$656,581** The Virginia Department of Rail and Public Transportation award for Charlottesville Area Transit (CAT) is greater than the adopted FY2023 budget by \$656,581.

**Increased Federal Operating Funding - \$4,939,780.** The FTA's award for CAT is greater than the adopted FY2023 budget by \$938,323. Additionally, CAT was awarded \$4,001,457 in American Recovery Plan Act funding to support the operations of daily fixed-route and maintenance support.

**Appropriation of Funds: Jaunt - \$2,290,495.** The FTA has awarded \$2,290,495 to Jaunt: \$956,676 represents 25% of the total federal allocation for the section 5307 funding and \$1,333,819 represents 25% of the American Recovery Plan Act (ARPA) funding. This funding is a pass-through and the City is the fiscal agent.

**Discussion**

**Alignment with City Council's Vision and Strategic Plan**

Approval of this agenda item aligns directly with City Council's vision for Charlottesville as a Connected Community, where the City is part of a comprehensive transportation system that enables citizens of all ages and incomes to easily navigate our community. It also aligns with Strategic Plan Goal 3: A Beautiful and Sustainable Natural and Built Environment, Objective 3.3: Provide a variety of transportation and mobility options.

**Community Engagement**

Charlottesville Area Transit utilizes the Metropolitan Planning Organization's Public Participation Plan to fulfill its public engagement requirements. This includes an opportunity for members of the public to request a public hearing on Charlottesville Area Transit's Program of Projects. No public hearing

was requested through those means. However, due to the amount of change to the Charlottesville Area Transit budget, a public hearing is required prior to appropriation.

### **Budgetary Impact**

There is no impact to the General Fund. Local match requirements for the Operating Assistance is covered through the previously appropriated City contribution from the General Fund and Albemarle County's contribution. Additionally, the pass through of grant funds for JAUNT has no budget impact on the General Fund.

### **Recommendation**

Staff recommends approval and appropriation of funds.

### **Alternatives**

City Council may choose not to appropriate the match funds. Without this appropriation, CAT will not be able accept the federal operating and capital funding. CAT will not be able to provide pass-through funding to Jaunt.

### **Attachments**

1. FY2023 Supplemental Appropriation of Federal Funding 3-28-23

CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA



|                         |                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Agenda Date:</b>     | April 3, 2023                                                                                                     |
| <b>Action Required:</b> | Public Hearing and Approve Supplemental Appropriation                                                             |
| <b>Staff Contact:</b>   | Garland Williams, Director of Transit Division                                                                    |
| <b>Presenter:</b>       | Garland Williams, Director of Transit Division                                                                    |
| <b>Title:</b>           | Supplemental Appropriation of Federal Transit Operating and State and Federal Capital Grants - <b>\$7,886,856</b> |

**Background and Discussion:**

**Increased State Operating Assistance Award - \$656,581** The Virginia Department of Rail and Public Transportation award for Charlottesville Area Transit (CAT) is greater than the adopted FY2023 budget by \$656,581.

**Increased Federal Operating Funding - \$4,939,780.** The FTA's award for CAT is greater than the adopted FY2023 budget by \$938,323. Additionally, CAT was awarded \$4,001,457 in American Recovery Plan Act funding to support the operations of daily fixed-route and maintenance support.

**Appropriation of Funds: Jaunt - \$2,290,495.** The FTA has awarded \$2,290,495 to Jaunt: \$956,676 represents 25% of the total federal allocation for the section 5307 funding and \$1,333,819 represents 25% of the American Recovery Plan Act (ARPA) funding. This funding is a pass-through and the City is the fiscal agent.

| Transit Grant by Type                  | FY23 Budget      | FY23 Award        | Change to Appropriation |
|----------------------------------------|------------------|-------------------|-------------------------|
| State Operating Assistance             | 2,574,484        | 3,231,065         | 656,581                 |
| Federal Operating Assistance           | 1,929,042        | 2,867,365         | 938,323                 |
| American Recovery Plan Act (ARPA)      | -                | 4,001,457         | 4,001,457               |
| <b>TOTAL OPERATING CHANGE</b>          | <b>4,503,526</b> | <b>10,099,887</b> | <b>5,596,361</b>        |
|                                        |                  |                   |                         |
| <b>TOTAL JAUNT(Pass-through Funds)</b> | <b>-</b>         | <b>2,290,495</b>  | <b>2,290,495</b>        |
|                                        |                  |                   |                         |
| <b>TOTAL APPROPRIATION REQUEST</b>     | <b>-</b>         | <b>-</b>          | <b>7,886,856</b>        |
|                                        |                  |                   |                         |

### **Community Engagement:**

Charlottesville Area Transit utilizes the Metropolitan Planning Organization's Public Participation Plan to fulfill its public engagement requirements. This includes an opportunity for members of the public to request a public hearing on Charlottesville Area Transit's Program of Projects. No public hearing was requested through those means. However, due to the amount of change to the Charlottesville Area Transit budget, a public hearing is required prior to appropriation.

### **Alignment with City Council's Vision and Priority Areas:**

Approval of this agenda item aligns directly with City Council's vision for Charlottesville as a Connected Community, where the City is part of a comprehensive transportation system that enables citizens of all ages and incomes to easily navigate our community. It also aligns with Strategic Plan Goal 3: A Beautiful and Sustainable Natural and Built Environment, Objective 3.3: Provide a variety of transportation and mobility options.

### **Budget Impact:**

There is no impact to the General Fund. Local match requirements for the Operating Assistance is covered through the previously appropriated City contribution from the General Fund and Albemarle County's contribution. Additionally, the pass through of grant funds for Jaunt has no budget impact on the General Fund.

### **Recommendation:**

Staff recommends approval and appropriation of funds.

### **Alternatives:**

City Council may choose not to appropriate the match funds. Without this appropriation, CAT will not be able accept the federal operating and capital funding. CAT will not be able to provide pass-through funding to Jaunt.

### **Attachments:**

Resolution Appropriating Funds

**RESOLUTION APPROPRIATING FUNDS FOR  
Federal Transit Operating Grants  
\$7,886,856**

**WHEREAS**, State Operating Grant of **\$3,231,065**, which is **\$656,581** greater than the adopted FY23 for the City of Charlottesville; and

**WHEREAS**, Federal Operating Grant of **\$4,939,780**, which is **\$938,323** greater than the adopted FY23 for the City of Charlottesville; and

**WHEREAS**, The FY23 Federal Operating Grant has been awarded to Jaunt in the amount of **\$2,290,495**; these funds must pass through the City of Charlottesville as required; and

**NOW, THEREFORE, BE IT RESOLVED** by the Council of the City of Charlottesville, Virginia that the following is hereby appropriated in the following manner, contingent upon receipt of the grant funds:

**Revenue (Operating)**

|             |           |                         |                              |
|-------------|-----------|-------------------------|------------------------------|
| \$ 656,581  | Fund: 245 | Cost Center: 2801003000 | G/L: 430080 State Assistance |
| \$ 938,323  | Fund: 245 | Cost Center: 2801003000 | G/L: 431010 Fed Assistance   |
| \$4,001,457 | Fund: 245 | Internal Order: 2200073 | G/L: 431010 Federal Grants   |

**Expenditures (Operating)**

|             |           |                         |                      |
|-------------|-----------|-------------------------|----------------------|
| \$1,574,904 | Fund: 245 | Cost Center: 2801003000 | G/L: 599999 Lump Sum |
| \$4,001,457 | Fund: 245 | Internal Order: 2200073 | G/L: 599999 Lump Sum |

**Revenue (JAUNT)**

|             |           |                         |                            |
|-------------|-----------|-------------------------|----------------------------|
| \$ 956,676  | Fund: 245 | Cost Center: 2821002000 | G/L: 431010 Federal Grants |
| \$1,333,819 | Fund: 245 | Internal Order: 2200074 | G/L: 431010 Federal Grants |

**Expenditures (JAUNT)**

|             |           |                         |                           |
|-------------|-----------|-------------------------|---------------------------|
| \$ 956,676  | Fund: 245 | Cost Center: 2821002000 | G/L: 540365 JAUNT Payment |
| \$1,333,819 | Fund:245  | Internal Order: 2200074 | G/L: 540365 JAUNT Payment |

**BE IT FURTHER RESOLVED**, that this appropriation is conditional upon the receipt of additional **\$7,230,275** from the Federal Transit Administration and additional **\$656,581** from the Virginia Department of Rail and Public Transportation.



**CITY OF CHARLOTTESVILLE, VIRGINIA  
CITY COUNCIL AGENDA**



|                  |                                                                                                                                                 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Agenda Date:     | April 3, 2023                                                                                                                                   |
| Action Required: | Approve Resolution                                                                                                                              |
| Presenter:       | Samuel Sanders, Jr., Deputy City Manager                                                                                                        |
| Staff Contacts:  | Samuel Sanders, Jr., Deputy City Manager<br>Michael Rogers, City Manager                                                                        |
| Title:           | <b>Appropriating \$5,000,000 to Charlottesville Redevelopment and Housing Authority for acquisition of Dogwood Properties (1 of 2 readings)</b> |

**Background**

CRHA has an opportunity to acquire multiple units of naturally occurring affordable housing that were on the market and will likely no longer be affordable after a sale to any owner who may not operate as exclusively affordable. The portfolio includes a total of 84 units within 26 individual parcels. In late 2022 CRHA began discussing the acquisition of the Dogwood Properties portfolio from Woodard Properties. The Dogwood Properties is currently available for \$10 million dollars. The CRHA is requesting the City of Charlottesville invest \$5 million dollars into ensuring the affordability in perpetuity of Dogwood Properties. The CRHA will ensure this by adding the City of Charlottesville to the deed with 1/2 interest. The CRHA has been in discussions with a philanthropic donor on providing a 10-year- interest-free loan which will allow CRHA to continue to keep the homes deeply affordable. If the portfolio is acquired, the CRHA would add the properties to the CRP and remove the housing barriers that exist in other federal programs and in the housing market.

It is a very strong likelihood that this portfolio will exit affordability if sold on the open market due to the current property values and increased land speculation around the rezoning plan. A few of the parcels are in proposed high-density zones which will drastically inflate their values on the open market.

**Discussion**

The decision points that remain include:

- Will this funding be issued as a non-repayable grant, forgivable loan, or deferred loan?
- Will there be an associated interest rate at any point in the course of the agreement?
- Will there be any additional conditions that should be attached to the agreement? (i.e. directive to include in the Sustainability Plan consideration, new Proformas required for specific milestone periods, reporting to the Council schedule, % of annual rent increase guidance, and any consideration of post-debt elimination regarding revenues)

CRHA has confirmed its ability to secure the remaining funds needed to acquire the portfolio as offered by Woodard Properties. The acquisition price is \$10 million and that initial amount is a repayable loan over a 10-year period. This loan will be in a first position, with the city's assuming second position should repayment be desired, thus deferred repayment until year eleven (11) of operations post acquisition.

CRHA is committed to prioritizing occupancy of the units at or below 60% AMI to be achieved through lease attrition as no current tenant will be displaced by this acquisition. CRHA has further indicated a commitment to using Housing Choice Vouchers within this portfolio as often as possible and to ensure the highest revenue potential absent rent increases, which are also available on an annual basis.

### **Alignment with City Council's Vision and Strategic Plan**

**Affordable Housing Plan Guiding principles:** Racial equity, regional collaboration and comprehensive approach

### **Comprehensive Plan Guiding Principles:**

- Equity & Opportunity - All people will be able to thrive in Charlottesville.
- Community Culture and Unity - Charlottesville's rich and diverse culture and form will be celebrated, and the entire community will feel welcomed, valued and respected.

**Strategic Plan (2018-2020) Goals:** Goal 1.3 to increase affordable housing options, Goal 1.5 to intentionally address issues of race and equity; and Goal 5.4 to foster effective community engagement.

### **Community Engagement**

There have been several community engagement meetings and activities conducted as part of the comprehensive plan update and affordable housing planning process. City staff has also been engaged with CRHA on a regular basis regarding redevelopment activities, including exploring proactive ways to spur affordable housing one of which is this proposal to acquire naturally occurring affordable housing and sustaining that opportunity for residents.

### **Budgetary Impact**

The requested \$5,000,000 will be included as a bondable activity within City Council's FY24 Budget for use by CRHA for this property acquisition. The attached Resolution would allow the use of CIP contingency funds in advance of Council's adopting of the FY24 budget with a return of funds to the contingency account in July 2023.

### **Recommendation**

The City manager and staff recommend that the City Council approve the proposed request to use funding to acquire the Dogwood Properties Portfolio to be deed-restricted permanently, as units of affordable housing.

**Alternatives**

Council may elect not to approve the recommendations, which would forego the opportunity to ensure that these affordable units could be permanently dedicated as unit of affordable housing.

**Attachments**

1. Dogwood

## **RESOLUTION**

### **Appropriating \$5,000,000 To CRHA to Support the Acquisition of the Dogwood Properties Portfolio as Permanent Units of Affordable Housing**

**WHEREAS**, pursuant to Virginia Code §36-19 (2) and (4) the Charlottesville Redevelopment and Housing Authority (“CRHA”) has the power and authority to acquire real estate for residential use, and to operate buildings for residential occupancy; and

**WHEREAS**, pursuant to Virginia Code §36-7 the City of Charlottesville (“City”) is authorized to lend or donate money to CRHA to enable CRHA to carry out its purposes; and

**WHEREAS**, CRHA is requesting the authorization of the Council of the City of Charlottesville (“City Council”) to provide the amount of Five Million Dollars (\$5,000,000.00) to fund the acquisition of land, buildings and residential properties (collectively, “Real Estate”) within a scattered site portfolio referred to as Dogwood Properties; and

**WHEREAS**, City Council wishes to allocate \$5,000,000.00 from the City’s Capital Improvements Fund and donate it to CRHA for the acquisition of the Real Estate;

**WHEREAS**, City Council requires the recording of one-half interest in each unit of the portfolio and the funding is to be used with other private funding to acquire all of the dwelling units that will be permanently reserved for use as affordable dwelling units; now, therefore,

**BE IT RESOLVED**, that the amount of \$5,000,000.00 is hereby appropriated and allocated for donation to CRHA for use in acquiring Real Estate for the Dogwood Properties Portfolio from Woodard Properties.

**BE IT FURTHER RESOLVED**, that it shall be a condition of this donation that, immediately following the recordation of an instrument conveying title to the Real Estate to CRHA, CRHA shall record a covenant restricting the use of the Real Estate to residential uses, and requiring that all dwelling units located on the Real Estate will be affordable dwelling units.

**BE IT FURTHER RESOLVED**, that the City Manager for the City of Charlottesville will provide CRHA with a declaration of covenants to accomplish the land use restriction, which shall be executed by CRHA and recorded on the same date as the instrument by which CRHA obtains title to the Real Estate.

#### **Revenues**

\$5,000,000      Fund: 426      WBS: 990000000      G/L Account: 499010

**Expenses**

\$5,000,000

Fund: 426

WBS: P-00937

G/L Account: 599999