AC44
ALBEMARLE COUNTY 2044

Resilient Community Crosswalk

OVERVIEW

Note: In performing staff reviews of the Resilient Community Chapter draft, the information within the draft covered topics presented in other chapters such as the Environmental Stewardship and Community Facilities chapters – although perhaps not to the same level of detail. Rather than keeping this content within a brief, standalone chapter, staff has decided to relocate the content within the Environmental Stewardship and Community Facilities chapters. Staff have determined this realignment to be more efficient and better organized by topic themes.

This attachment is a crosswalk of subjects added into other chapters; no data or Plan recommendations will be lost in this consolidation.

ENVIRONMENTAL STEWARDSHIP CROSSWALK

The following content was previously included in the Resilient Community chapter and will be added to the end of Environmental Stewardship chapter:

ENVIRONMENTAL RESILIENCE

As a response to the increasing impacts of climate change, the County has established two major planning and implementation efforts: the County's adopted Climate Action Plan (2020) and the Resilient Together project currently underway. The Climate Action Plan focuses on climate mitigation strategies, including greenhouse gas reduction. The Resilient Together project includes recommendations for resilience to natural hazards and the effects of climate change. Resilient Together also provides recommendations to improve health outcomes in our community, which includes local food systems. These efforts to improve community health are detailed within our Community Facilities and Services chapter.

KEY TERMS

- **Equity:** Providing resources and opportunities that each person needs to be successful. Equity recognizes that people have different circumstances and needs. Equity is different from equality, which assumes that everyone starts at the same place and faces the same challenges.
- **Resilience:** The capacity of a system (can be social, economic, or natural) to cope with a hazardous event, trend, or disturbance; the ability to bounce back and recover after a climate impact.
- **Vulnerability:** Social, health, or economic factors that increase the likelihood of harm or difficulty when exposed to a hazard.

Resilient communities ensure equitable access to a safe, healthy future, but disparities in access to services and daily needs create vulnerabilities during extreme weather. For example, those without air conditioning or access to green spaces face greater risks from heat waves and poor air quality. These community members have a different baseline, or starting point, compared to individuals with air conditioning and access to shade, and therefore are more at risk to extreme heat. Using data and mapping, we can target investments in street trees, parks, and building upgrades like weatherization to reduce vulnerability. Addressing these disparities collaboratively strengthens a community's resilience, benefiting the local economy, quality of life, and the natural environment.

Mitigation:

In terms of climate change, this refers to reducing greenhouse gas emissions, either by reducing sources of these gases (for example, the burning of fossil fuels for electricity, heat, or transport) or enhancing the "sinks" that absorb and remove these gases from the atmosphere (such as the oceans, forests, and soil). The goal of mitigation is to avoid additional significant human interference with Earth's climate, "stabilize greenhouse gas levels in a timeframe sufficient to allow ecosystems to adapt naturally to climate change, ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner" (from the 2014 report on Mitigation of Climate Change).

Adaptation:

In terms of climate change, this refers to adjusting to the actual or expected future climate and helping people withstand the effects of climate change. The goal is to reduce our risk from the harmful effects of climate change (like sea-level rise, more intense extreme weather events, or food insecurity).

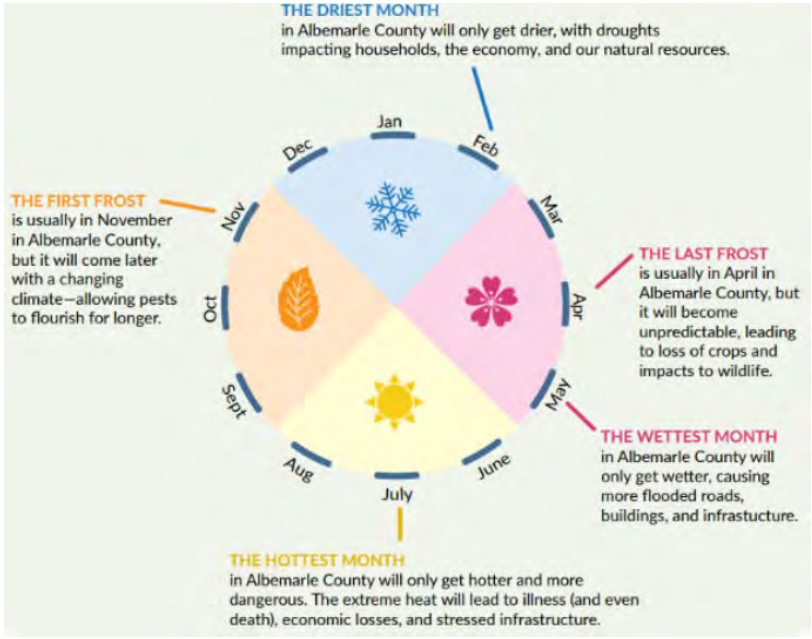
MAJOR FINDINGS AND TRENDS

The first step in resilience planning is to assess a locality's risks and vulnerabilities. Albemarle County completed a climate-related risk and vulnerabilities assessment in 2022, "Preparing for Resilience" and analyzed what hazards the county can expect, who and what will be most exposed, and where there is greater vulnerability to adverse impacts. The following is information from the report related to AC44:

- The temperature in Albemarle County has been rising at an accelerating rate. Since 1920, average temperatures have increased about 0.2 degrees per decade; since 1980, that rate of warming has tripled. The timing of seasonal changes—like when flowers bloom or mosquitoes are active—has shifted as well. The analysis estimated 5-7 times as many heat advisories (heat index over 100 degrees) and about a month longer for mosquito activity by 2050.
- The amount of precipitation that falls in Albemarle County, as either rain or snow, has been increasing at an accelerating rate. Over the last 100 years, total annual precipitation increased at a rate of about 0.48 inches per decade; since 1980, that rate of increase has doubled to over an inch per decade. However, that increase in total precipitation hides a counterintuitive climate trend—drought is also increasing.
- It is estimated that every $1 spent on climate resilience and preparedness saves communities $13 in damages, cleanup costs, and economic impacts. Proactive investment helps the County to be better prepared for disaster and can preserve jobs and household incomes, reduce the number of people displaced from their homes, and help local economies rebound faster. If a major disaster does not occur, the community benefits in multiple ways such as enhanced protections for the natural environment, job creation, and improvements to the built environment (e.g. home repair and weatherization, more shade trees, better access to parks, etc.). [Sources: U.S. Chamber of Commerce, Allstate, U.S. Chamber of Commerce Foundation]

CLIMATE CHANGE AND NATURAL HAZARDS

Our community is already being impacted by climate change, including extreme heat (over 95 degrees), increased precipitation and flooding, and wildfire smoke. For example, we are experiencing longer periods between rain but with more intense rain events when they occur. These compound the effects of droughts, as abnormally dry ground cannot absorb moisture as effectively, making flooding worse.



How climate change will affect Albemarle County from "Preparing for Resilience"

While the effects of climate change will be seen everywhere, the impacts and costs will not fall equally on all people. The disruptions and impacts from extreme weather compound existing challenges for community members. For example, a community member may already be struggling to afford their electricity bill and is then unable to afford to run their air conditioner throughout the summer as hotter days grow more frequent and extreme.

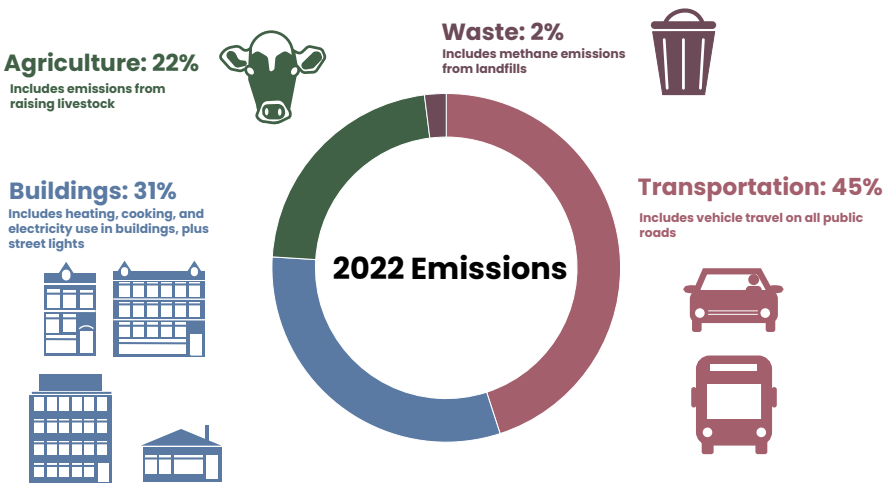
Local roadway impeded by flood waters

Albemarle County's Climate Action Plan builds on the County's history of local environmental stewardship and growth management and addresses room for improvement. The purpose of the Climate Action Plan is to reduce the community's contributions to global climate change while advancing the County's vision of a thriving, vibrant community for every resident. Albemarle County's target is to reduce greenhouse gas emissions in the community by 45% from 2008 levels by 2030 and to achieve net zero emissions by 2050.

The Plan identifies goals, strategies, and actions across five sectors for taking action:

- Transportation & Land Use
- Buildings
- Renewable Energy Sourcing
- Sustainable Materials Management
- Landscape, Natural Resources & Agriculture

These emissions sectors and related climate action targets show how mitigation is related to all topics in the Comprehensive Plan. Our Growth Management Policy calls for dense, mixed-use and connected development and infill which affects how we lay out our communities. Sprawl, or very spread-out land uses, makes it nearly impossible to walk to daily needs and serve areas with transit. By



Albemarle County major emissions sources, 2022

Regional Hazard Mitigation Plan:

Hazard mitigation is any action taken to reduce or eliminate long term risk to people and property from natural hazards. Hazard mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage. The Thomas Jefferson Planning District Commission (TJPDC) works with the Federal Emergency Management Agency (FEMA), the Virginia Department of Emergency Management, and localities to develop and regularly update a Regional Hazard Mitigation Plan (RHMP). The RHMP plan is updated every five years and was last updated in 2023. The RHMP has actions each TJPDC locality can take to prepare for natural hazards and mitigate their impacts. For Albemarle County, this includes implementing our Climate Action Plan and completing and implementing the Climate Resilience Plan. The RHMP is adopted as part of the Comprehensive Plan in the Appendix.

contrast, compact and mixed-use neighborhoods make it possible to reach daily needs by foot or by transit, reducing transportation emissions. In addition, mixed-use neighborhoods can also impact energy emissions. Multifamily and mixed-use buildings naturally insulate units with shared walls and realize efficiencies in shared building systems and shared infrastructure, such as streets, parking, and utilities. In the Rural Area, regenerative land use practices can improve soil health and increase its ability to trap and store carbon.

Along with the implementation measures in the Climate Action Plan and Climate Resilience Plan, this chapter of the Comprehensive Plan includes a variety of actions to increase community resilience, including developing a Flood Resilience Plan, ensuring that dam and stormwater management infrastructure functions properly, implementing wildland fire prevention strategies, and using nature-based solutions. A Flood Resilience Plan details how the County might anticipate, prepare, respond to, and recover from a flood event to minimize the impacts to well-being, health, the economy

Example of Stormwater Infrastructure with interpretive signage in Crozet

and environment. This type of plan usually inventories existing conditions and provides strategies responsive to County priorities. In the past, Viriginia Department of Conservation & Recreation (DCR) has provided funding to localities to develop a Flood Resilience Plan through their Community Flood Preparedness Fund. Recommendations related to community health and wellbeing will also strengthen our community's baseline and are detailed in the Community Facilities and Services chapter of AC44.

RENEWABLE ENERGY AND SOLAR

Solar energy is a key renewable energy source at all levels of production. Renewable energy utility construction and maintenance creates local jobs in the clean energy sector. Local community renewable energy can increase the electricity-generation capacity of the regional grid when combined with battery energy storage facilities and bolster the resilience of the electric grid when demand is high or when storms damage transmission lines.

Solar projects in the Development Areas are typically at a smaller scale than solar projects in the Rural Area and are better able to use existing structures and larger impervious surface areas. For example, Albemarle County has installed solar panels on multiple public schools and on the roof of Crozet Library. The County prioritizes rooftops and parking lots for as much solar energy generation as possible. Additionally, the County prioritizes brownfields, landfills, and post-industrial or other open lands over forested lands, grassland, or other ecologically valuable land for utility-scale solar energy generation.

Solar installation with covered parking in Riverside Village in Albemarle County

Objective and Actions to be added to the Environmental Stewardship chapter:

OBJECTIVE	1: *Increase the community's capacity to prepare for and recover from natural and manmade hazards and the impacts of climate change, including excessive heat, drought, flooding, and wildfires.*
ACTION	
1.1	Pair Comprehensive Plan implementation with implementation of priority recommendations from the County's Climate Action Plan and Climate Resilience Plan (Resilient Together).
1.2.	Implement the recommendations of Albemarle County's Hazard Mitigation Plan within the broader Regional Natural Hazard Mitigation Plan.
1.3.	Develop a countywide Flood Resilience Plan to assess flood risk and identify and implement projects, activities, and processes to mitigate the most consequential risks.
1.4.	Recognizing the large number of Virginia-regulated dams within Albemarle County and the lack of information known about most of these, engage in emergency preparedness planning related to public and private dams.
1.5.	Provide education to private owners of dams regarding best management practices for operation and maintenance.
1.6.	Ensure that public and private stormwater management and flood control infrastructure is properly maintained to protect public safety, property, and the environment.
1.7.	Ensure that private stormwater management facilities continue to perform as intended through a program incorporating inspections, owner engagement, and enforcement.
1.8.	Explore participation in the Community Rating System (CRS) of the National Flood Insurance Program (NFIP) to improve the effectiveness of their floodplain management programs and reduce the risk of flood damage.
1.9.	Assess the feasibility and costs/benefits of establishing a fire hazard risk overlay.
1.10.	Collaborate with local and state partners to implement wildland fire prevention strategies, including community outreach/education, vegetation management, land use planning and development, and emergency preparedness. Refer to best practices including from Fire Adapt and FireWise.
1.11	Work with private property owners to establish more dry hydrants throughout the county.
1.12	Identify and promote potential sustainable and resilient technologies for construction, including fire resistant materials and design during the legislative review and development review process.

1.13	Use an urban tree canopy analysis to identify priority areas for tree planting and preservation in the Development Areas to decrease urban heat island effects.
1.14	Pursue federal funding opportunities for nature-based solutions to increase community resilience, including through FEMA, HUD, and/or the EPA.
1.15	Increase community drought resilience by implementing relevant strategies and projects in the Climate Adaptation and Resilience Plan, in collaboration with ACSA and RWSA.
1.16	Collaborate with ACSA and RWSA to develop equitable water restriction policies to be implemented in the event of a major drought.

COMMUNITY FACILITIES CROSSWALK

The following content was previously included in the Resilient Community chapter and will be added to the Community Facilities and Services chapter:

COMMUNITY RESILIENCE HUBS

Community Resilience Hubs offer many ways to support the health and wellbeing of nearby residents; these facilities may be in either urban or rural communities. These Hubs are typically associated with community facilities (e.g. schools or community centers) that are upgraded to support community members before, during, and after a local emergency, such as a flood or extended power outage. Such emergency relief is increasingly important as the impacts of climate change increase the frequency of extreme weather events. Community Resilience Hubs can also include privately-owned buildings that can serve as gathering places and information resource hubs. As shown in the following graphic, Hubs can be designed as engagement centers, relief stations, and/or emergency shelters.

Three tiers of community resilience hubs

Community Resilience Hubs typically work best in places that community members are already comfortable going to and using. This could look like a country store or community center in the Rural Area, or a school or library in the Development Areas. Improvements, such as the addition of solar panels, generators, weatherization, or the creation of a Community Resilience Hub program manager, increase the physical and social resilience of facilities, enhance current and future programming, and support existing community networks.

Examples of services and programs that could be provided at Community Resilience Hubs include:

- Community gardens
- Community programs and classes
- Health services
- Wi-Fi and device charging station
- Warming/cooling station
- Library
- Food pantry
- Recreation such as walking paths, trails, and sports facilities
- Renewable energy sources (e.g. solar panels)
- Emergency shelter and associated uses (e.g. emergency alerts and kits)

Regional Hazard Mitigation Plan:

The community resilience hub recommendations support implementation of the Regional Hazard Mitigation Plan (RHMP), including the following mitigation and community RHMP action for Albemarle County: *During the Comp Plan update, consider loosening restrictions on the types of County improvements in Rural Areas to accommodate community support facilities.*

LOCAL FOOD SYSTEMS

A strong local food system benefits our community by reducing food waste and associated emissions, promoting sustainable agricultural practices that increase soil health, supporting farmers' markets and other locations that sell locally and regionally grown food (reducing emissions from transporting food long distances), and providing affordable and healthy food options for community members. Loaves and Fishes, a food pantry in Albemarle County serving the regional community, collects and distributes food from the Blue Ridge Area Foodbank, local groceries, farmers, orchards, food distributors, food drives, donations, and purchases from wholesale vendors. They provide excess or unsuitable food to pig farmers, so that the food does not go to waste. They also provide recipes and cooking classes to share healthy and nutritious ways to use ingredients and promote nutritious eating.

The USDA defines food insecurity as the lack of consistent access to sufficient food to lead an active and healthy life. According to the most recent 2022 Map the Meal Gap report by Feeding America, in Albemarle County, about 9.7% of our residents were experiencing food insecurity, slightly lower than Virginia's 11.1% rate. Feeding America estimates only about half of those in need qualify for Supplemental Nutrition Assistance Program (SNAP) benefits, meaning they make 130% or less of the federal poverty line, which was $32,630 for a family of four. Not only do they not qualify for SNAP benefits but also struggle to afford food, housing, transportation, and other necessities. This highlights the importance of food pantries like Loaves and Fishes and the Blue Ridge Area Foodbank.

With over 850 farms, Albemarle County ranks second in Virginia for fruit, nut, and berry sales. We can increase access to locally grown food by allowing farmers markets and community gardens in more locations and allowing urban agriculture where community members can grow their own food right at home. The County can also continue to collaborate with and support local organizations that provide food directly to community members, such as Loaves and Fishes and Blue Ridge Area Foodbank.

Harvesting vegetables at Yancey Community Center community garden

No Cost Farm Stand event at Yancey Community Center, sponsored by Sentara Martha Jefferson Hospital

Objective and Actions to be added to the Community Facilities chapter:

OBJECTIVE	1: *Increase equitable access to services, programs, and activities that benefit community health and wellbeing.*
ACTION	
1.1	Collaborate with community partners to increase equitable access to healthcare such that the life expectancy gap between any two census tracts is less than 5 years. Explore the use of innovative and flexible services in the Rural Area such as mobile healthcare services and services in resilience hubs.
1.2.	Identify existing community facilities, clubs/community centers, or privately-owned buildings that could serve as community resilience hubs.
1.3.	Establish new community resilience hubs or upgrade existing buildings to be used as hubs. Collaborate with local organizations and partners (including BRHD) to prioritize locations by analyzing community health indicators and vulnerability to climate and environmental risks.
1.4.	Connect rural businesses and organizations with grant opportunities for resilience upgrades (such as energy-efficiency or back-up generators) to create small-scale resilience hubs.
1.5.	Collaborate with local partners to provide community resources and programs, information-sharing, emergency shelters and preparedness toolkits, food access, job training, and other programs at resilience hubs.
1.6.	Champion and leverage grassroots initiatives driven by community members for environmental stewardship, community activities, resilience, or small business support.
1.7.	Coordinate with transit partners (including JAUNT and CAT) to connect community members with healthcare facilities and health related services.

OBJECTIVE	2: *Improve and expand the ability of individuals and households to obtain a healthy and affordable local food system to meet their dietary needs and maintain and healthy and active lifestyle.*
ACTION	
2.1	Update the Zoning Ordinance to allow farmers markets, produce stands, urban agriculture, community gardens, and related opportunities in more locations.
2.2.	Identify opportunities to allow and encourage community gardens in public parks, on publicly owned land, and as part of community resilience hubs.
2.3.	Collaborate with and support community partners, such as Loaves and Fishes, Blue Ridge Area Foodbank, Cultivate Charlottesville, and the Blue Ridge Health District (BHRD), to increase affordable food access, using community health indicators to prioritize areas of high need.

1.4.	Partner with community partners/organizations to increase the use of composting and share information on how to reduce food waste.
1.5.	Continue to participate in the Virginia Department of Education's Virginia Farm to School program and explore additional options for expanding public school student's access to affordable, local, healthy food options.