



ACTION PLAN RESULTS

**Union County
Community Disaster Risk Reduction
Action Plan Meeting Results
January 27, 2026**



Introduction

The Union County Community Action Plan Meeting was organized by the SC BEACON Project¹ Team and funding provided by USC's Institute for Rural Education and Development. The community meeting took place on November 15th, 2025, at the New Chapel AME Church at 249 Bird St. in Union, SC.

The meeting was a follow-up to the Union County Community Field Practicum held just prior to the Action Plan meeting on November 14, 2025. The Field Practicum focused on an overview and initial assessment of significant hazards in Union County that had/have potential to lead to disasters. During the Field Practicum the community identified three hazards of principal concern: extreme weather, unhealthy housing, and aging infrastructure. The action plan meeting focused on these three hazards. A detailed Field Practicum report, also known as a disaster risk assessment (see Appendix A), was produced following the activities.

The meeting was organized and facilitated by members of the SC BEACON Project core team and community liaison Shayne Kinloch, from the South Carolina Energy Justice Coalition (SCEJC). The meeting was attended by 25 people, including 17 from Union County. A total of 12 people participated in an online voting activity (Kahoot!) to select community-focused vision and goal statements. Objectives for the meeting were to decide on Vision and Goal statements and accompanying objectives and activities to guide the next steps in development of a community Disaster Risk Reduction action plan.

Methods and Results: Vision and Goals

The SC BEACON Team developed several draft options for vision and goal statements prior to the meeting to facilitate the discussion at the meeting. These options were intended to help the group move expeditiously through a process that in some instances can require an extended period of time. The options were not meant to be prescriptive in any sense, but rather to give some examples that community members could consider, adopt,

¹ South Carolina Building Environmental Action for Community Opportunity and Network (SC BEACON), former Environmental Justice (EJ) Strong, is a partnership between the University of South Carolina (USC), the Lowcountry Alliance for Model Communities (LAMC), and the College of Charleston (CofC)..

modify, or reject entirely as they saw fit. Six vision and six goal statement options were provided and reviewed with the participants. Then, an online engagement tool, Kahoot (<https://kahoot.com/>, 2025), was used to collect input from the participants. Kahoot is an online game-based learning and engagement platform that makes use of participants' electronic devices to submit votes. It allows workshop moderators to set up entertaining and accessible web-based group learning and feedback activity.

The Kahoot platform was used to collect attendees' preferences for vision and goal statements. Vision and goal statements were displayed on a big screen while participants answered and selected their favorite statements on their smart phones or tablets. Each answer for vision and goals was given a particular color and shape code for easy recognition on the screen. Preferences for a single vision statement were collected first, followed by votes for a favorite goal statement. After all participants cast their votes, the results (Table 1) were presented to the group for discussion. While most attendees participated in the Kahoot voting, input from the SC BEACON team and any other non-community members has been listed separately in this report to ensure that the results represented the preferences of the community.

The most favored vision statement among community members was vision number 4: **“Our vision is for governmental, volunteer and private organizations, with effective plans, necessary resources, and training for variable and efficient disaster response.”** (Table 1 (a)). This vision received votes from 4 of the 11 community members (36%) and 0 of 5 (0%) from other attendees with the total number of votes 4 out of 16 (25%). It is important to note that no other attendees voted for this option, however it was the most favored among community members. The next most selected vision statement among community members was statement 3: “The County of Union is aware of disaster risks and implements efforts to reduce those risks.” This statement received 3 community member votes (27%) and 1 (20%) from other attendees, for a total of 4 votes (25% of all participants). Two (2) community members selected option 2 with 2 votes from other attendees: “The County of Union seeks to promote a safer, less vulnerable community with the capacity and resilience to cope with hazards and disasters.” Options 1 and 4 were selected by one community member, respectively. Option 6 was not selected by any community members during

the voting process and only 1 other member voted for it. Although the top three vision statements received a total of 4 votes each (community members and other attendees), it is important to highlight that vision number 4 was the most favored vision statement among community members. It is recommended these statements and respective votes be revisited by the community to finalize consensus.

The results for the goal statements showed statement number 4 receiving the most votes among community members and other attendees: **“To collaborate, coordinate, and communicate with the County of Union and across the larger county for disaster relief/planning initiatives.”** (Table 1 (b)). This goal statement was voted for by 6 of 14 community members (43%) and 3 of 5 (60%) other attendees, with the total number of 9 of 19 (47%) votes. The next most selected goal statements were statements 2 and 5 with 3 votes each (21%), 3 by community members (17%), and 1 by other attendees (10%), in both cases. Goal statement number 3 was: “To have a plan in place that can withstand disaster surges including climate change impacts.” Goal statement number 5 was: “To empower the County of Union to prepare for and recover from disasters and use these efforts to address broader challenges of housing, development, education, and environmental justice.”

Even though the results point to favorite options for vision and goal statements, more feedback and discussion may be needed to refine the final vision and goal statements.

Table 1 (a): Numbers of votes by participants who used an online tool, Kahoot, to select options for a Union County Vision Statement.

Vision Statement	Number of Votes by Community Members (n=11)	Number of Votes of Other Attendees (n=5)	Total Number of Votes (N=16)
1. Union County is a community that is effectively prepared to handle current and upcoming hazards to avoid disaster events.	1	0	1
2. Union County seeks to promote a safer, less vulnerable community with the capacity and resilience to cope with hazards and disasters.	2	2	4
3. Union County is aware of disaster risks and implements efforts to reduce those risks.	3	1	4
4. Union County is prepared for and can successfully recover from disasters and use these efforts to address broader challenges of housing, development, education, and environmental justice.	1	1	2
5. Our vision is for governmental, volunteer and private organizations, with effective plans, necessary resources, and training for variable and efficient disaster response.	4	0	4
6. Every household in the Union County understands risks, takes action, and accesses resources for a safer future.	0	1	1

Table 1 (b): Numbers of votes by participants who used an online tool, Kahoot, to select options for Goal Statement.

Goal Statement	Number of Votes by Community Members (n=14)	Number of Votes of Other Attendees (n=5)	Total Number of Votes (N=19)
1. Union County implements and communicates their disaster risk reduction efforts.	0	0	0
2. No matter what happens, we will ensure our primary needs to stay alive and comfortable are met and resilient.	3	1	4
3. To have a plan in place that can withstand disaster surges including climate change impacts.	0	0	0
4. To collaborate, coordinate, and communicate with Union County and across the larger county for disaster relief/planning initiatives.	6	3	9
5. To empower Union County to prepare for and recover from disasters and use these efforts to address broader challenges of housing, development, education, and environmental justice.	3	0	1
6. To ensure that all Union County households have access to risk education, emergency preparedness resources, and recovery support services.	2	1	3

Methods and Results: Objectives

The participants were divided into three groups to address a specific hazard. The teams were: Team Extreme Weather, Team Unhealthy Housing, and Team Aging Infrastructure. Team members were directed to the Participants' Manual for Objectives and Activities table with potential goals and actions to consider in addressing the selected hazard. Each group conducted an in-depth discussion and collaborative selection of Objectives and Activities as it pertained to their experience with such hazards. The result of the collective work is presented below (Table 2 and 3). This activity included choosing or modifying preferred objectives from a provided list, or adding new objectives, followed by identification of priority activities by each Team.

Table 2: Extreme-Weather participants collaboratively selected Objectives and Activities.

Extreme Weather
Objective: Make a resiliency hub to protect from extreme weather by the end of 2026. Activity 1: Obtain food, water, batteries, stock, generator, and solar panels. Activity 2: Identify grants and funding to support a resiliency hub Activity 3: Consider the amenities of portable showers, washers and dryers, and bathrooms. Activity 4: Start with identifying a group/committee to oversee decisions and implementation of the hub.

Table 3: Unhealthy-Housing participants collaboratively selected Objectives and Activities.

Unhealthy Housing
Objective: Inventory of how many homes in each community are considered to be “unhealthy” within 6 months. Activity 1: Come up with a definition of unhealthy housing within 6 months and per community in Union Co. Activity 2: Identify resources (library of resources) to provide and utilize within 1 year. Activity 3: Meet with sub-teams bi-annually to ensure jobs are being accomplished.

Table 4: Aging-Infrastructure participants collaboratively selected Objectives and Activities.

Aging Infrastructure
Objective 1: Collect water reports next quarter, (what is in our water?) Is it healthy? (3 months), among the 3 service providers. Activity 1.1: State revolving agency to do an audit. Activity 1.2: Get together and compare/review reports. Activity 1.3: Analyze report findings and determine next actions/steps. Objective 2: Carry out a student-led project to map old infrastructure of utilities and new infrastructure over the next 2 years. Activity 2.1: Collect utility plans Activity 2.2: Engage university Activity 2.3: Map utility services (separation of infrastructure types)

Discussion

The results of the Action Plan are expected to be presented to the citizens and leadership of Union County during the Spring of 2026. The intention is to review each proposed objective and respective activities and discuss potential revisions and implementation.

Extreme Weather: As was evidenced by Hurricane Helene, extreme weather is a frequent and disruptive hazard in Union County, encompassing hurricanes, tornadoes, thunderstorms, flash flooding, snowstorms (including recent Ice storm Fern), and periods of extreme heat.

From the Field Practicum Report for Union County, the following recommendation summary was provided: “To better prepare for extreme weather, residents and local partners should strengthen coordination across emergency management, health, faith, and community sectors, with early emphasis on Southwest Union Proper. Key strategies include improving communication and evacuation systems, expanding backup power options, and establishing a Resilience Hub in Union Proper to provide essential services during disasters and support community functions year-round.” The objective and respective activities provided by Team Extreme-Weather meet an important need related to sheltering/evacuation during extreme weather. Additional focus on coordination among health, faith, and community partners for emergency preparedness and mitigation planning, training, and exercising is encouraged. These efforts could take place at the proposed resilience hub, however, should be implemented as soon as possible. The focal area within Union County for emergency preparedness and mitigation efforts should start with Southwest Union Proper, Southeast Union Proper, and Buffalo due to the overlapping environmental hazards and social vulnerability.

Unhealthy Housing: Unhealthy homes represent a significant environmental health hazard in Union County with concerns related to mold, pest infestations, lead-based paint in older structures, chemical pesticide exposure, asbestos in aging building materials, carbon monoxide risks, poor ventilation, water leaks, and failing roofs and windows. Recommendations provided in Union’s Field Practicum Report included “...assessing high-risk homes for lead, mold, asbestos, and structural issues; connecting residents with remediation programs; strengthening renter protections; and integrating healthy homes initiatives into broader resilience planning.” The objective and respective activities from Team Unhealthy-Housing provide an important first step to effectively address these housing-related hazards in the county. Applying for funding currently available through the Climate Smart Communities Initiative 2026 Grant is also encouraged.

Aging Infrastructure: Aging infrastructure in Union County is characterized by widespread deterioration and neglect including outdated

materials, corrosion, wear and tear, and structural decline that are made worse by extreme weather, inconsistent maintenance, and constrained local budgets. Recommendations provided in Union's Field Practicum Report included "...a countywide assessment to identify where deteriorating systems intersect with high vulnerability, supported by expanded maintenance strategies, community reporting, and pursuit of state and federal funding opportunities." The two objectives and respective activities proposed by Team Aging-Infrastructure address the salient recommendations from the Field Practicum Report. Additional funding for graduate student support for the assessment and mapping project should be explored. Additional student support could be explored for researching and cataloguing water reports among Union's various service providers. A distinction between drinking water, well water, waste-water, and septic services providers and resources is also encouraged. Furthermore, the ways aging infrastructure intersect with Union's energy system (affordability, reliability, accessibility, healthfulness) must be considered.

Finally, additional input from community members is warranted to finalize the plan's vision and goal statements, team objectives and activities, adequate implementation, and proposed evaluation of the plan.

Conclusions and Next Steps

The Action Planning meeting participants formulated the following action items:

- Establish at least one (1) stationary resiliency hub to protect residents from extreme weather by the end of 2026.
- Inventory of how many homes in each community are considered to be "unhealthy" within 6 months.
- Collect water reports next quarter (what is in our water?), is it healthy? (3 months), among the 3 service providers.
- Carry out a student-led project to map old infrastructure of utilities and new infrastructure over the next 2 years.

For reference, the Field Practicum Report for Union County is included in Appendix A.

Appendix A – Union County Field Practicum Report

Union County Disaster Field Practicum Report

December 2025



A project of EJ Strong/SC-BEACON and in partnership with the South Carolina Energy Justice Coalition. Funding for the project was provided by the University of South Carolina's Institute for Rural Education and Development.

Executive Summary

For members of the South Carolina Energy Justice Coalition and Union Community.

On November 14 – 15, 2025, community leaders and members, along with the South Carolina Energy Justice Coalition Team and the BEACON Assessment Team, conducted a field practicum in Union, South Carolina, to complete a set of community-managed disaster risk reduction (CMDRR) and hazard assessments. Three assessments were completed, including:

1. Identification of the primary hazards and energy burdens of concern within the community,
2. Analysis of the vulnerabilities contributing to those hazards and burdens, and
3. Documentation of the capacities within Union to prevent, mitigate, and adapt to these risks.

These three assessments informed a final, comprehensive evaluation of the community's overall risk and resilience profile, known as the Participatory Disaster Risk Assessment (PDRA). This report includes the completed assessments, their findings, and the BEACON Assessment Team's recommendations for strengthening community resilience, advancing energy justice, and supporting self-determined local solutions.

Per our discussion during the field practicum, the BEACON Team committed to sharing the findings from these assessments by **December 2025**. The following document provides a summary of these findings and the recommendations that emerged through your community's leadership, lived experience, and participation.

Cross-Cutting Findings

Across Union County, several cross-cutting patterns emerge. Southwest Union Proper, Southeast Union Proper, and Buffalo exhibit the highest social vulnerability, with concentrated low-wealth populations, higher unemployment, lower educational attainment, and larger proportions of people of color. These areas are therefore priority locations for preparedness, mitigation, response, recovery, and housing interventions. Housing emerges as a central point of risk across all three hazards: older homes, mobile homes, and unhealthy housing conditions – such as mold, lead, pests, and structural deficiencies – are major drivers of exposure and vulnerability. The hazards themselves are compounding. Extreme weather, aging infrastructure, and unhealthy homes interact in ways that intensify risk: storms and extreme heat further strain already weakened infrastructure and substandard housing, which in turn deepen health, safety, and economic impacts. Efforts to address these issues are further constrained by data gaps, particularly around the age and condition of water, sewer, and other utilities, as well as the socio-economic status of households in hazard-risk areas. These gaps limit the ability to design fully targeted and equitable interventions and point to the need for additional analysis.

Aging Infrastructure

Aging infrastructure in Union County is characterized by widespread deterioration and neglect. Outdated materials, corrosion, wear and tear, and structural decline are made worse by extreme weather, inconsistent maintenance, and constrained local budgets. This deterioration creates significant health and safety risks, including exposure to asbestos, chemicals, unmanaged waste, and unstable or partially collapsed structures, all of which contribute to unhealthy living environments and unsafe public and residential spaces. Economically and socially, neglected infrastructure drives blight, reduces property values, and can lead to loss of critical services, such as the closure of hospitals, contributing to long-term disenfranchisement in communities that are already overburdened. These local conditions mirror broader national and state-level concerns.

Extreme Weather

Extreme weather is a frequent and disruptive hazard in Union County, encompassing hurricanes, tornadoes, thunderstorms, flash flooding, snowstorms (less frequent), and periods of extreme heat. Hurricane Helene was cited as a recent example that left much of the county without power for over a week, highlighting both the intensity of events and the fragility of local systems. Overall, Helene's impacts included: (1) The county and its municipalities were without power (blackouts lasted for 8 days). (2) Residents were unable to access basic materials. (3) Food, gas, and necessities were restricted as stores were offline. (4) Wi-Fi, cell service, and other communication methods were offline.

Such events routinely damage homes and utilities, bringing down trees and power lines, damaging roofs and structures, causing localized flooding, and blocking roads. These impacts compromise residents' ability to access work, school, medical care, food, and other essential services and place sustained strain on utilities and infrastructure. Housing is particularly at risk: approximately 96% of homes have some level of wind risk from hurricanes, tornadoes, or severe storms; around 97% of homes face major extreme heat risk; and roughly 99% of homes have some wildfire risk over the next 30 years. Even a seemingly minor 6.2% flood risk still represents about 1,152 properties, whose socio-economic status is not yet known. Capacity and equity issues compound these physical risks. Gaps include limited transportation options especially for reaching shelters which are few or no shelters or resilience hubs, a lack of backup power, limited communication options when outages occur, and emergency planning that is often reactive rather than proactive. These gaps disproportionately affect elderly residents, low-wealth households, and those without strong institutional or social connections.

Unhealthy Homes

Unhealthy homes represent a significant environmental health hazard in Union County. Many homes are affected by mold, pest infestations, lead-based paint in older structures, chemical pesticide exposure, asbestos in aging building materials, carbon monoxide risks, poor ventilation, water leaks, and failing roofs and windows. While these issues can appear at the level of individual homes, in neighborhoods like Southwest Union Proper they occur at a scale that creates a community-level hazard, particularly when combined with low wealth, lower

educational attainment, and higher proportions of people of color. Legacy pollutants and nearby sites add to the risk, including concerns about a brownfield and a man-made retention pond where ongoing or future development could disturb contaminated soils and degrade water quality. The housing stock itself intensifies vulnerability: There are 2,812 mobile homes in the county, with the highest concentration in Union Proper, and 2,014 homes built before 1959, which increases the likelihood of lead exposure. Southern Union Proper is a 90–95th percentile hotspot for lead risk. Additionally, about 31% of households, approximately 3,607, are renters, raising issues related to renter protections, housing quality standards, and the ability of tenants to secure safe and healthy living conditions.

Summary of Recommendations

Union County should focus on its resilience investments in the communities where social vulnerability and environmental hazards most overlap, especially Southwest Union Proper, Southeast Union Proper, and Buffalo. Strengthening resilience in these areas requires prioritizing equity in all planning efforts and improving data systems that track infrastructure conditions and hazard exposure. Addressing aging infrastructure will require a countywide assessment to identify where deteriorating systems intersect with high vulnerability, supported by expanded maintenance strategies, community reporting, and pursuit of state and federal funding opportunities.

To better prepare for extreme weather, residents and local partners should strengthen coordination across emergency management, health, faith, and community sectors, with early emphasis on Southwest Union Proper. Key strategies include improving communication and evacuation systems, expanding backup power options, and establishing a Resilience Hub in Union Proper to provide essential services during disasters and support community functions year-round.

Improving unhealthy housing conditions -- especially in older, low-wealth neighborhoods is essential for public health and climate resilience. This includes assessing high-risk homes for lead, mold, asbestos, and structural issues; connecting residents with remediation programs; strengthening renter protections; and integrating healthy homes initiatives into broader resilience planning. These efforts align well with funding opportunities available through the Climate Smart Communities Initiative 2026 Grant currently open.

The BEACON team is developing an Action Plan that directly addresses the data gaps, community capacity needs, and priority recommendations identified through this field practicum. This plan will outline targeted strategies for improving data collection and analysis, strengthening local systems and partnerships, and supporting communities in implementing resilience, housing, and infrastructure improvements. By building on the insights and voices captured in this practicum, the Action Plan aims to advance equitable, community-centered solutions that enhance long-term preparedness and well-being across Union County.

Sincerely,
The BEACON Assessment Team

Field Practicum

I. Background

The University of South Carolina (UofSC) leads EJ Strong, a statewide initiative focused on strengthening disaster resilience in Environmental Justice (EJ) communities across South Carolina. Through a multidisciplinary network of partners, UofSC is guiding the development and implementation of a holistic Community-Managed Disaster Risk Reduction (CMDRR) planning approach.

EJ Strong centers communities that face disproportionate environmental risks and long-standing systemic inequities. Many participants live in EJ designated neighborhoods, and the initiative works to build their knowledge, skills, and capacity to prepare for disasters, respond effectively during emergencies, and support long-term recovery and resilience.



We use the term empower intentionally to emphasize identifying, recognizing, and strengthening the community's existing capacity and competence. Our engagement approach considers the full ecosystem of a community and addresses the causes, impacts, prevention, and reduction of hazards throughout a disaster lifecycle. Legacy pollution from former textile mills in the Union area may present challenges for redevelopment, especially near the former Buffalo Mill and Union Mill sites. No environmental assessments (such as Phase I or Phase II Environmental Site Assessments) have been conducted for this report, so these observations are based on general experience with similar historic textile sites rather than confirmed conditions in Union County.

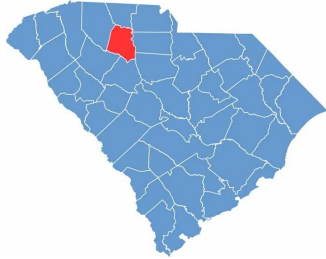
Decommissioned textile factories are often linked to several environmental concerns that can complicate reuse or redevelopment. Former textile operations commonly leave behind soil and groundwater contamination from dyes, bleaches, heavy metals, and solvents used during production. Many older mill structures also contain hazardous building materials, such as asbestos and lead-based paint, along with leaking roofs, unstable foundations, and unsecured access points that pose safety risks after years of neglect. These conditions can result in significant cleanup needs, lengthy remediation timelines, and increased redevelopment costs. While these issues reflect general risks historically associated with textile mills, they are not site-specific findings; confirming environmental conditions at any Union area mill properties would require formal environmental assessments.

Union's Field Practicum Report is supported by a broad collaborative network, including:

- South Carolina Energy Justice Coalition
- South Carolina Environmental Justice Network

- South Carolina Public Health Association
- Lowcountry Alliance for Model Communities
- Clemson University – College of Behavioral, Social, and Health Sciences
- College of Charleston – Center for Coastal Environmental & Human Health
- University of South Carolina – Arnold School of Public Health (**Lead Agency**)

II. History



The City and County of Union and surrounding Townships are urban and rural in setting and context, with a storied past. The area is known to be inhabited by the Cherokee Indians as hunting grounds. Our site visits to the area with residents included statements about finding arrowheads as children, and some recalled that people still find arrowheads in the rural parts. Union saw its greatest migration at the beginning of the Revolutionary War. The local host for this effort stated that Union was the temporary state capital when the state capital was moved under threat during the Civil War.

The city and county derive their names from an early “Union Church,” a shared interdenominational place of worship that served the surrounding community.

Union holds a distinctive place in the state’s history, particularly in the resilience and institution-building of its Black community. One of the earliest Black congregations in the town, Corinth Baptist Church, was established in 1883 and remains an active landmark today. Union was among the earliest settled towns in the region and notably remained untouched during the Civil War. When Columbia was threatened and ultimately burned by Union forces in 1865, Union briefly served as the state’s temporary capital, with government functions relocating to the Dawkins House. The town is also home to the first Carnegie library ever built in South Carolina and was a site of Rosenwald Schools, which expanded educational access for Black children in the early 20th century.

Following Emancipation, many Black residents worked as sharecroppers and later were the main workforce for textile mills, while education was sustained through both formal and nontraditional institutions, including traveling teachers such as Agnes Cohen, who operated a school serving Black children from kindergarten through 12th grade. Sims High School, once the only high school available to Black students during segregation, still stands and is now a protected historic site. Healthcare access was anchored by the L.W. Long Community Center, formerly the town’s only Black hospital, led by Dr. Long and still holding birth records for generations of Black residents. Carolina Mortuary, founded by Son Green, further reflects Union’s Black entrepreneurial legacy, employing one of the first Black women morticians in South Carolina, Annie Ruth Spears, and serving as a cornerstone institution for Black families in the community.

Thomas Cary Duncan, who founded Union and Buffalo mill factories, was a well-known capitalist and industrialist. He started his own railyard company to connect Union and Buffalo.

Hundreds of people moved to Union for an opportunity to work in the cotton mills. Union County's current industrial base is diverse, including the manufacturing of roller bearings, felt products, bath products, cordage, metal forgings, textile fiber, woven goods, finished textile products and paper pulp. There also are machine shops and metal fabrication facilities.

Residents we engaged expressed ongoing frustration with how investment priorities are distributed across Union, SC. They noted that the urban centers are receiving visible reinvestments such as new housing, park improvements, stormwater upgrades, and enhancements to essential services, including health care facilities.

In contrast, residents from Black neighborhoods reported that these investments do not reflect the realities they experience in their communities. They emphasized that, whether located in urban or rural parts of Union, Black residents are not seeing comparable improvements in infrastructure, services, or overall quality of life.

Residents attributed recent shifts in investment to the influx of remote workers moving into the area, drawn by Union's low cost of living, rural setting, and proximity to major city centers such as Greenville, Columbia, Spartanburg, and Charlotte, NC. They reported that these newcomers are bringing early signs of gentrification, illustrated by the opening of a Starbucks within a month of our visit.

While many might view a Starbucks as a marker of progress, residents interpreted it as a sign of gentrification and an unwelcome change that does not reflect their needs or priorities.

III. Field Observations

During our field visit, we observed crumbling infrastructure such as deteriorating sidewalks, dilapidated housing, and a lack of multimodal transportation options, including gaps in sidewalk networks and the absence of public transit. Numerous buildings were vacant, including former commercial properties, a hospital, housing units, schools, and community centers.



Residents shared that many people living in Union do not have access to cars and must walk to essential services such as grocery stores and health care facilities. The only public health service building (hospital) within walking distance of the focus area in the urban core was recently closed, and a new hospital was built in a suburban area approximately five miles away. This relocation has created significant access challenges for residents who rely on walking or do not have reliable transportation. Spatial features observed during the field visit reflect significant disparities in infrastructure quality, connectivity, and access to essential services. Fragmented sidewalks, the absence of public transit, disinvestment in historically Black neighborhoods, and the relocation of critical health facilities contribute to environmental

and mobility challenges that shape daily life for Union residents.

The Sims High/Jr. High School site and the Buffalo Creek retention pond represent two critical assets that can anchor Union’s long-term resilience efforts. The historic Sims campus offers a culturally significant and centrally located space that can be repurposed to support community preparedness, education, and revitalization. Likewise, the Buffalo Creek retention pond provides a natural infrastructure opportunity to strengthen flood management, enhance environmental health, and integrate

nature-based resilience strategies. Together, these sites present a unique opportunity to advance a holistic vision for a more resilient, equitable, and sustainable Union.

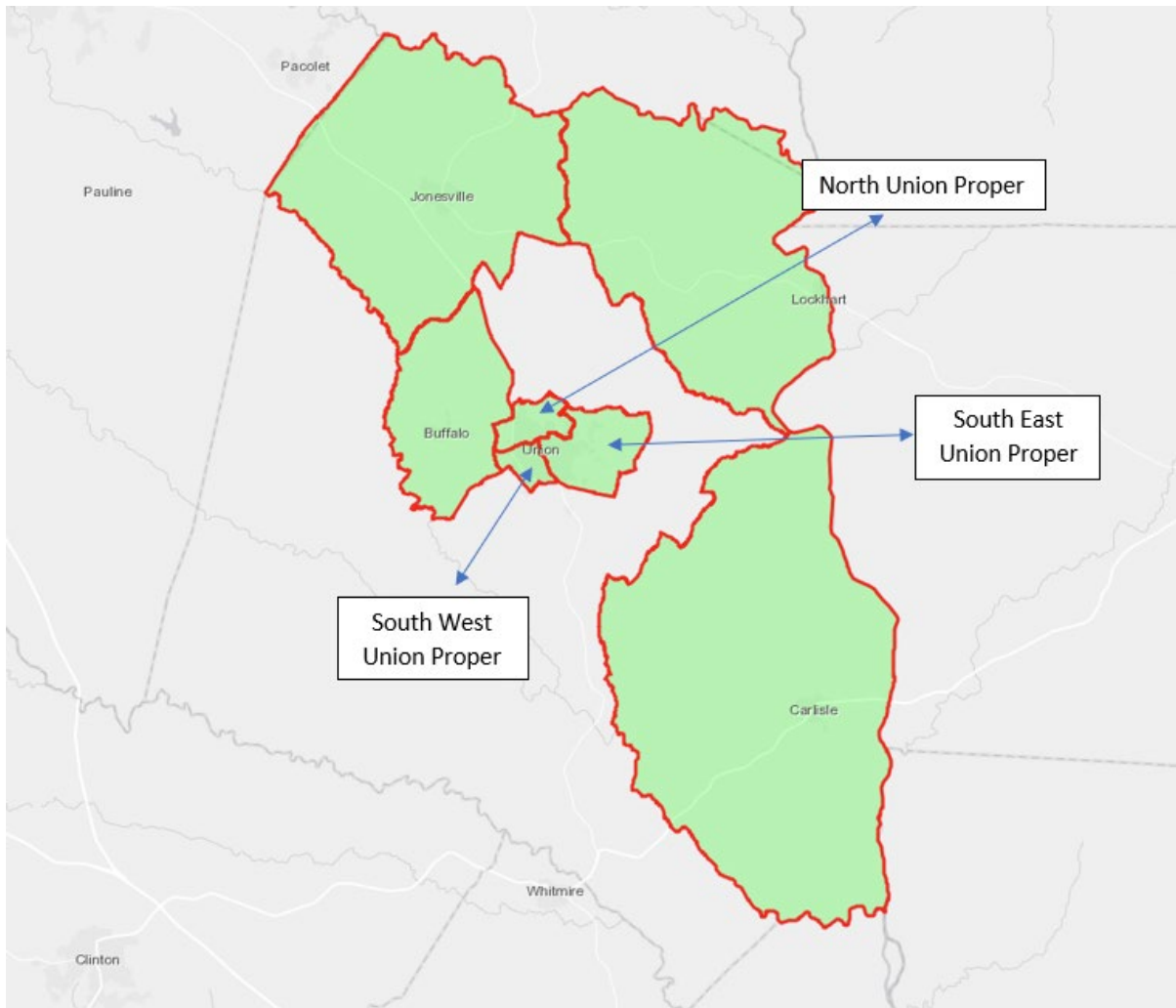


To transform the Sims High/Jr. High School site and the Buffalo Creek retention pond as cornerstone resilience assets, Union will need to address aging infrastructure, environmental uncertainties, limited funding, coordination challenges, and equity concerns. Overcoming these barriers will require community-centered planning, strong partnerships, and sustained investment in both natural and built environments. It is important to note the retention pond displayed a notice of an active Vegetative

Conveyance Area (VCA - a shallow, vegetated channel or swale designed to move stormwater runoff toward a retention or detention pond while also treating the water), but it was unclear who is responsible. Additional follow-up is warranted for this potential resilience asset.

IV. Data

Major Municipalities of Union County by Census Tract Data



Descriptive Overview of the Union County Study Area

(Census-Based Geographic Profile)

No analysis included — descriptive only

The study area consists of seven municipalities and census-defined regions in Union County – North Union Proper, South West Union Proper, South East Union Proper, Buffalo, Jonesville, Lockhart, and Carlisle. These communities represent the county’s primary population centers and surrounding rural areas, each differing in size, settlement patterns, and basic characteristics. The following summaries provide descriptive population and structural profiles based on available EJSCREEN, U.S. Census, and American Community Survey data.

<u>Location:</u>	<u>Low-income residents</u>	<u>In limited English-speaking Households</u>	<u>Unemployed Adults</u>	<u>Less Than High School Education</u>	<u>Under Age 5</u>	<u>Over Age 64</u>	<u>People of Color</u>
	# of ppl (%)	# of ppl (%)	# of ppl (%)	# of ppl (%)	# of ppl (%)	# of ppl (%)	# of ppl (%)
North Union Proper	903 (41)	0 (0)	38 (2)	220 (10)	132 (6)	639 (29)	947 (43)
SW Union Proper	1,782 (64)	56 (2)	645 (28)	919 (33)	167 (6)	501 (18)	1,503 (54)
SE Union Proper	1,748 (47)	0 (0)	267 (9)	595 (16)	298 (8)	707 (19)	1,488 (40)
Buffalo	1,748 (65)	0 (0)	151 (7)	641 (21)	214 (7)	305 (10)	3,050 (15)
Jonesville	1,102 (34)	0 (0)	224 (8)	648 (20)	130 (4)	778 (24)	972 (30)
Lockhart	985 (41)	0 (0)	187 (9)	312 (13)	96 (4)	625 (4)	408 (17)
Carlisle	779 (44)	0 (0)	216 (14)	389 (22)	35 (2)	301 (17)	1,257 (71)

North Union Proper

North Union Proper is a small, predominantly rural census area with a total population of 2,202 residents. The population includes notable proportions of older adults, households with low-income residents, and individuals with varying educational backgrounds. The region contains approximately 1,040 occupied housing units, one school, and one medical facility, along with a single water supply center. The area contains a total of 10 essential service establishments, such as grocery and hardware stores. North Union Proper does not include hazardous waste sites, electric supply centers, or wastewater facilities.

South West Union Proper

South West Union Proper is one of the more densely settled regions in the county, with 2,784 residents. The area includes diverse age groups, income levels, and occupational statuses. The region contains 1,405 occupied housing units, and while it does not include schools or hospitals, it has six essential businesses serving the population. There are no electric, water, or wastewater infrastructure centers within the mapped boundary, though the Tosch's Creek Wastewater Plant lies approximately 0.5 miles outside the area.

South East Union Proper

South East Union Proper is the largest of the Union Proper, with a population of 3,720 residents. The area includes a wide range of household and demographic characteristics. It contains 1,632 occupied housing units, one school, and several essential businesses (seven total). The region does not include hospitals, hazardous waste sites, or major utility facilities.

Buffalo

Buffalo is a mid-sized township within Union County, home to 3,050 residents. The area contains 1,158 occupied housing units, one school, one hospital, and a wastewater center. Buffalo includes four essential businesses and does not contain hazardous waste, electric, or water supply sites. The community's demographic composition includes a mix of age groups, educational levels, and income categories.

Jonesville

Jonesville is home to 3,240 residents and serves as another key community cluster within Union County. The region contains 1,372 occupied housing units, one school, and five essential businesses. It does not include hospitals, hazardous waste areas, or major utility and infrastructure centers. Jonesville's population includes diverse household types and demographic characteristics distributed across age, income, and educational attainment profiles.

Lockhart

Lockhart has a total population of 2,402 residents and contains 1,113 occupied housing units. The community does not have schools or hospitals within its boundaries but includes four essential businesses. Lockhart does contain a water supply center but does not host electric supply sites, wastewater infrastructure, or hazardous waste facilities. The area features a mix of demographic groups across age, income, and education demographics.

Carlisle

Carlisle is one of the smaller municipalities in the study area, with 1,770 residents and 707 occupied housing units. The community includes a water supply center and two essential

businesses, but does not contain hospitals, schools, wastewater facilities, or hazardous waste locations. Carlisle’s demographic profile includes varied income levels, educational attainment categories, and a significant proportion of residents aged 64 and older.



Analysis of Population, Vulnerability Indicators, and Community Features Across Union County Municipalities

Socioeconomic vulnerability varies widely across Union County. Low-wealth rates are highest in South West Union Proper (64%), Buffalo (65%), and Carlisle (44%), which also show elevated levels of adults without a high school diploma. In contrast, Jonesville (34%) and North Union Proper (41%) have lower concentrations of low-wealth households. Unemployment rates follow a similar pattern, with South West Union Proper (28%) showing the highest unemployment, while North Union Proper (2%) has the lowest. Age-based vulnerability is also uneven, with North Union Proper, Jonesville, and Lockhart having the largest proportions of older adults, while South East Union Proper and Buffalo have the highest shares of young children.

Racial and educational disparities further shape community vulnerability. Carlisle (71%), South West Union Proper (54%), and North Union Proper (43%) have the highest proportions of residents of color, while Buffalo and Lockhart have significantly lower percentages. Educational vulnerability is greatest in South West Union Proper (33%), Carlisle (22%), Buffalo (21%), and Jonesville (20%), which may limit access to stable employment, technical training, or resilience programs. These overlapping conditions suggest a need for targeted outreach, accessible training, and culturally relevant resilience and energy-efficiency programs to support communities facing the greatest socioeconomic and educational barriers.

Why Educational Vulnerability Matters

Lower educational attainment limits access to stable, well-paying jobs and increases the likelihood of unemployment, reinforcing financial stress especially during disasters, utility outages, or rising energy costs. It can also reduce a community’s ability to participate in technical

or resilience-focused training programs, such as weatherization, solar installation, or emergency management, which often require baseline literacy and technical skills.

Educational vulnerability also affects a household's ability to navigate energy programs, understand rate structures, or access weatherization and home-upgrade opportunities especially when combined with barriers like limited broadband, historical disinvestment, or lack of representation in utility decision-making. These factors can lead to higher energy burdens and fewer opportunities to reduce costs. In emergencies, lower literacy or limited access to clear information can make disaster preparedness and response materials harder to use, reducing community readiness.

Access to Community Infrastructure and Essential Services

Access to essential services and critical facilities varies substantially across the municipalities:

Healthcare & Schools

- Only North Union Proper, Buffalo, Jonesville, and South East Union Proper have schools.
- Only North Union Proper and Buffalo have hospital within their boundaries.

Utility Infrastructure

- North Union Proper has one water supply center
- Lockhart and Carlisle also each have a water supply center
- Only Buffalo contains a wastewater center

Essential Businesses (food, fuel, hardware, stores) availability varies widely:

- North Union Proper has the highest number of essential services (10).
- South East Union Proper has seven, while South West Union Proper has six.
- Buffalo (4), Jonesville (5), Lockhart (4), and Carlisle (2) have more limited essential business access.

Regions with fewer essential businesses may face larger service gaps, especially during emergencies or disruptions.

Union County

Union County, South Carolina has a population of 27,158, reflecting a mix of rural areas and small towns. EJSCREEN estimates indicate approximately 12,764 low-wealth residents, 2,716 unemployed working-age adults, and 4,889 residents without a high school diploma. The county includes about 1,630 children under five and 5,704 adults aged 65 or older, along with 9,777 people of color. No households are identified as limited English-speaking.

Union County contains 11,580 occupied housing units, along with seven schools and two hospitals serving the community. EJSCREEN data show no Superfund or hazardous waste sites in the county.

Mobile Homes in Union County: Analysis for Hazard Mitigation and Resilience Planning

Mobile homes represent a significant component of Union County's overall housing stock. As of 2021, the county contained 2,812 mobile homes, accounting for 20.8% of all housing units. This proportion is notable, as it indicates that more than one in five households reside in manufactured housing an important factor in assessing community vulnerability, resilience capacity, and long-term planning needs.

Role of Mobile Homes in the Housing Landscape

Mobile homes serve as a primary source of affordable housing for many residents, particularly in rural areas of the county. While they provide an accessible housing option for households with limited financial resources, they are often associated with structural and economic vulnerabilities. Manufactured housing generally depreciates over time and may be financed through higher-interest personal property loans rather than traditional mortgages, which can increase the financial burden on residents and limit opportunities for home improvement investments.

Vulnerability to Hazards

The prevalence of mobile homes has direct implications for hazard mitigation planning. Manufactured housing is typically more susceptible to damage from high winds, severe storms, flooding, and tornadoes. These vulnerabilities are well documented in the 2024 Union County Hazard Mitigation Plan, which identifies mobile home residents as a population requiring targeted outreach and preparedness support due to the elevated structural risk associated with these units.

Given Union County's exposure to severe weather events, the condition and location of mobile homes must be considered when developing emergency response strategies, risk communication plans, and community sheltering options.

Socioeconomic and Equity Considerations

Mobile home residents may also face socioeconomic conditions that intersect with hazard vulnerability. Communities with high concentrations of manufactured housing often overlap with areas experiencing lower incomes, limited access to financing, or underinvestment in infrastructure. These systemic factors can reduce the capacity of households to:

- Retrofit or reinforce their homes
- Access affordable insurance
- Cover costs associated with evacuation, displacement, or recovery
- Participate in energy efficiency or resilience programs

As a result, mobile home communities represent an important focus for ensuring equitable access to mitigation funding, resilience upgrades, and emergency preparedness resources.

Planning Implications and Opportunities

Recognizing mobile homes as both an essential housing resource and a potential vulnerability category supports more effective and equitable planning. The high proportion of manufactured housing in Union County highlights the need for:

- Targeted mitigation strategies, such as tie-down support, structural retrofits, or weatherization programs
- Accessible energy efficiency interventions that account for the unique characteristics of manufactured homes
- Risk communication tailored to mobile home communities, especially in areas with limited broadband or transportation access
- Partnerships with local organizations, housing advocates, and state agencies to expand resources for residents

Integrating mobile home considerations into countywide resilience efforts will help ensure that hazard planning, emergency response, and long-term housing strategies address the needs of a substantial portion of the population.

Service providers' coverage

Union County's energy and utility landscape is served by multiple providers, creating a patchwork of service territories across the county. Electric service is delivered by Broad River Electric Cooperative, Lockhart Power Company, Union City Utilities, and Dominion Energy

South Carolina, each covering different regions that reflect the county's rural/urban character. Natural gas service is more limited, with the City of Union Utilities operating the primary distribution system, serving about 6,500 customers through 428 miles of underground pipeline, while communities such as Carlisle and Lockhart lack natural gas access entirely and rely on alternative fuels.

These energy access gaps have implications for household energy affordability, heating reliability, and community resilience. Residents without gas may face higher winter costs and greater vulnerability during electric outages. Addressing these disparities will require targeted weatherization support, appliance upgrades, and planning strategies that account for infrastructure limitations and long-term hazard mitigation needs.

Water and sewer services in Union County are delivered through a combination of municipal and district systems. Multiple entities, including the City of Union and several rural water districts, supply drinking water, though the age of water lines is unknown. Sewer service is provided by the City of Union, Jonesville, Lockhart, and, as of 2023, Carlisle following a state-supported extension connecting Carlisle to Union's system. The county's main treatment facility, the Tosch Creek Wastewater Treatment Plant (est. 2010), along with Union's 14 pumping stations and 105 miles of sewer line, forms the backbone of wastewater management and regulatory compliance.

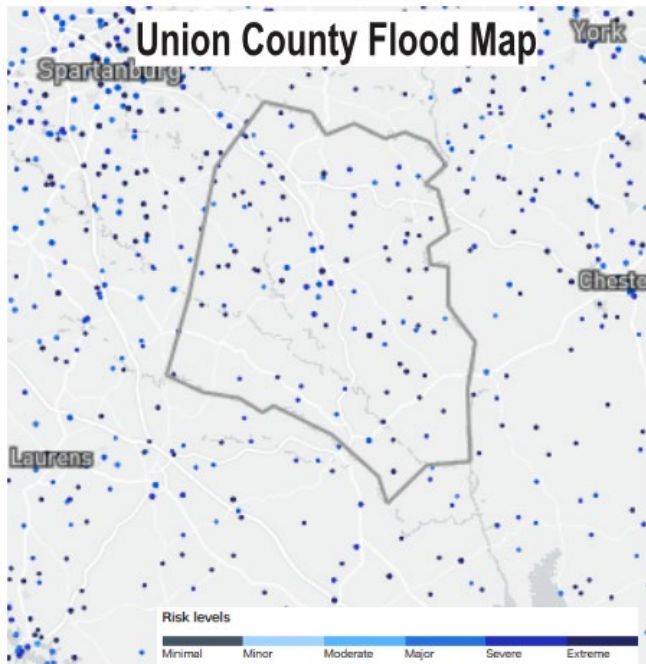
Union's history also includes a unique and consequential utility structure that continues to shape daily life for residents. Unlike most municipalities, Union bills water and energy together through a consolidated utilities system. While administratively efficient, this structure creates serious equity implications: residents are unable to pay for one essential service without paying for the other. As a result, an inability to cover a full utility bill can lead to the shutoff of both water and energy simultaneously. This practice disproportionately impacts low-income households, seniors, and families experiencing temporary financial hardship, compounding vulnerability and deepening existing disparities by cutting off multiple necessities at once.

First Street Risk Maps¹

Union County faces a minor but measurable risk from flooding. An estimated 1,152 properties, approximately 6.2% of all parcels in the county, are projected to experience some level of flood risk over the next 30 years. Flooding poses risks not only to structures but also to essential services. Disruptions may include loss of access to utilities, emergency response, transportation routes, and impacts to the county's overall economic stability.

According to First Street's flood-risk models, Union County has experienced one major flooding event, with Hurricane Florence in September 2018 affecting at least one documented property. While the county's overall flood risk is categorized as minor, even limited flooding events can have significant consequences for vulnerable households, critical facilities, and community resilience .

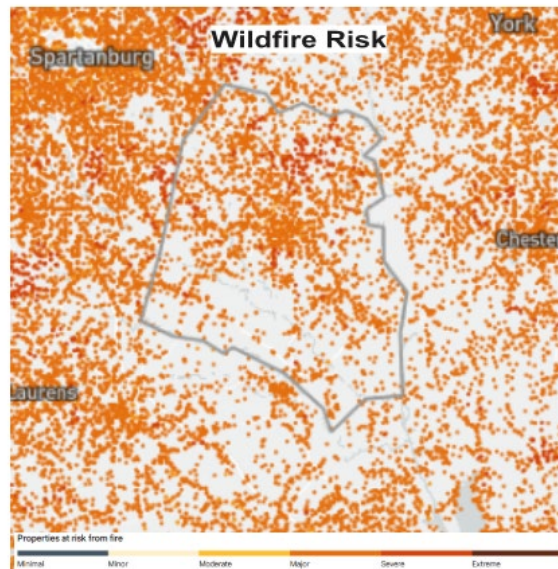
¹ https://firststreet.org/county/union-county-sc/45087_fsid/flood



A “1-in-100-year flood” doesn’t mean it happens only once every 100 years. It means that every year, there is a 1% chance of a very big flood happening. Over the length of a 30-year mortgage, that adds up to about a 26% chance, roughly 1 in 4, that such a major flood will happen at least once. If a flood of this size happened today, it could impact about 915 properties in Union County. Because the climate and environment are changing, 30 years from now, the same type of rare but severe flood is expected to affect even more properties, around 940. This is simply to say major floods are unlikely each year, but not impossible. Over time, the chance

adds up, and more homes may be affected in the future as flood risk slowly increases.

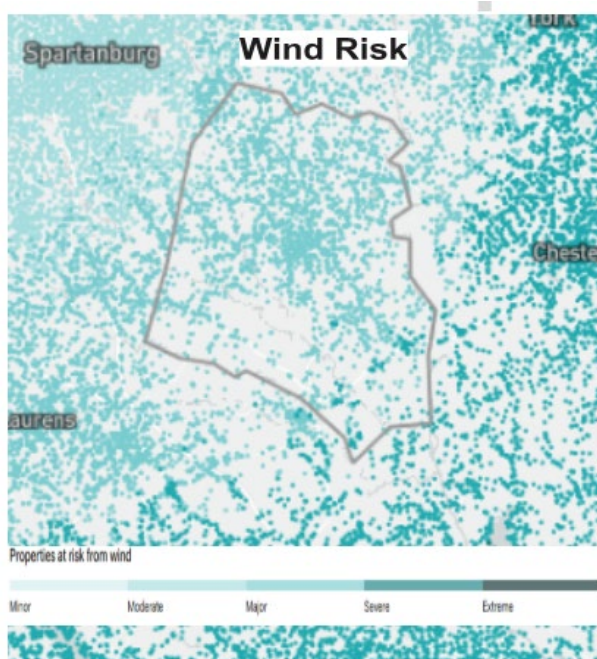
Union County faces a moderate risk of wildfire over the next 30 years, with 18,492 properties, approximately 99% of all properties in the county, exhibiting some level of exposure. While the likelihood or frequency of major wildfires may vary, the widespread distribution of risk indicates that nearly all residential, commercial, and critical facilities could be affected during a significant wildfire event. Wildfires pose threats beyond property damage. They can disrupt utilities, delay or restrict emergency services, compromise evacuation routes, and negatively impact the local economy. These impacts can complicate recovery efforts and increase the vulnerability of households, businesses, and essential community assets.



Risk by Sector

- **Residential (Moderate Risk):**
18,041 of 18,045 homes in Union County are considered at risk
- **Infrastructure (Moderate Risk):**
All 73 essential facilities, including utilities, transportation assets, and other critical infrastructure, are exposed to wildfire risk.
- **Commercial (Moderate Risk):**
All 1,130 commercial properties are at risk, underscoring the potential for economic disruption.
- **Social Facilities (Moderate Risk):**
54 of 79 social service facilities, such as schools, community centers, and healthcare-related sites, face wildfire risk that could affect service continuity and community resilience

Between 1984 and 2021, twelve wildfires were recorded in or near Union County. One notable event occurred in March 2020, when a wildfire burned approximately four square miles and affected two buildings within the county.



Union County faces a moderate wind risk, reflecting the projected likelihood and intensity of hurricane, tornado, and severe storm winds affecting the area. The county is most vulnerable to tropical storm-level winds, and current data show that average maximum wind speeds are higher today than they were 30 years ago. As a result, approximately 96% of homes in Union County face at least some level of wind-related risk. Severe wind events can cause more than property damage, they may topple trees, scatter debris, and pose direct danger to individuals caught outdoors. High winds can also disrupt utilities, emergency services, and transportation routes, with broader implications for the county's economic stability and overall

community resilience.

Out of 18,497 total properties, the wind exposure is distributed as follows:

- Minimal Risk:
0 properties identified at this level.
- Minor Risk:
98 properties at risk
- Moderate Risk:
17,672 properties, representing the vast majority of the county, fall into this category
- Major Risk:
727 properties face elevated exposure to damaging wind events
- Severe Risk:
0 properties identified at this level
- Extreme Risk:
0 properties identified at this level

This distribution indicates that while Union County does not face widespread severe or extreme wind risk, nearly all properties experience at least some level of exposure, with most concentrated in the moderate-risk range.

Union County has experienced 181 recorded wind events, reflecting a long history of storms, high-wind incidents, and tornado activity. Among these events, the most severe occurred in 1994, when a significant tornado impacted the area.

Event Spotlight: F3 Tornado

- Date: August 16, 1994
- Classification: F3 Tornado
- Estimated Damages: \$275,000

This tornado represents the county's most intense recorded wind event and highlights the potential for significant structural and economic impacts even within a region generally categorized as having moderate wind risk.

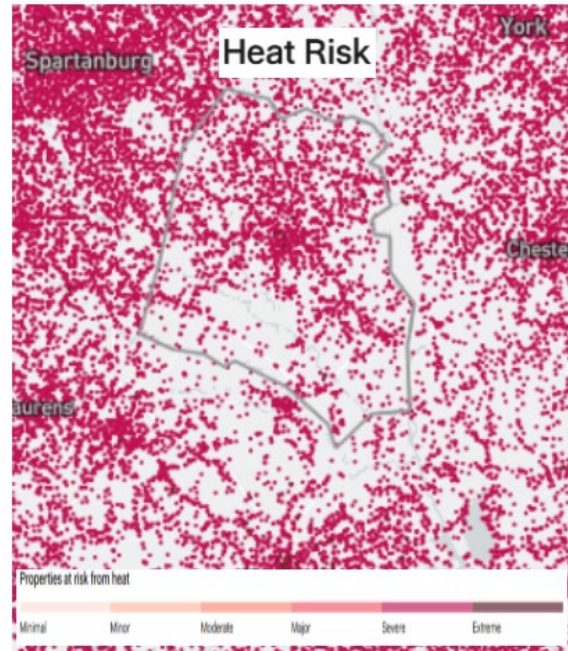
Union County faces a major risk from extreme heat, driven by rising temperatures and widespread exposure across the community. Approximately 97% of homes in the county fall into the major heat risk category, underscoring the significant and growing impact of heat on residents, infrastructure, and daily life. With rising average temperatures, dangerously hot days and heatwaves are expected to occur more frequently in Union County. Heat poses significant health risks, particularly for older adults, young children, outdoor workers, and individuals with chronic health conditions.

- Temperatures above 90°F fall within a health caution range and can be hazardous for high-risk populations.
- Temperatures above 100°F are considered dangerous for everyone, regardless of age or health status.

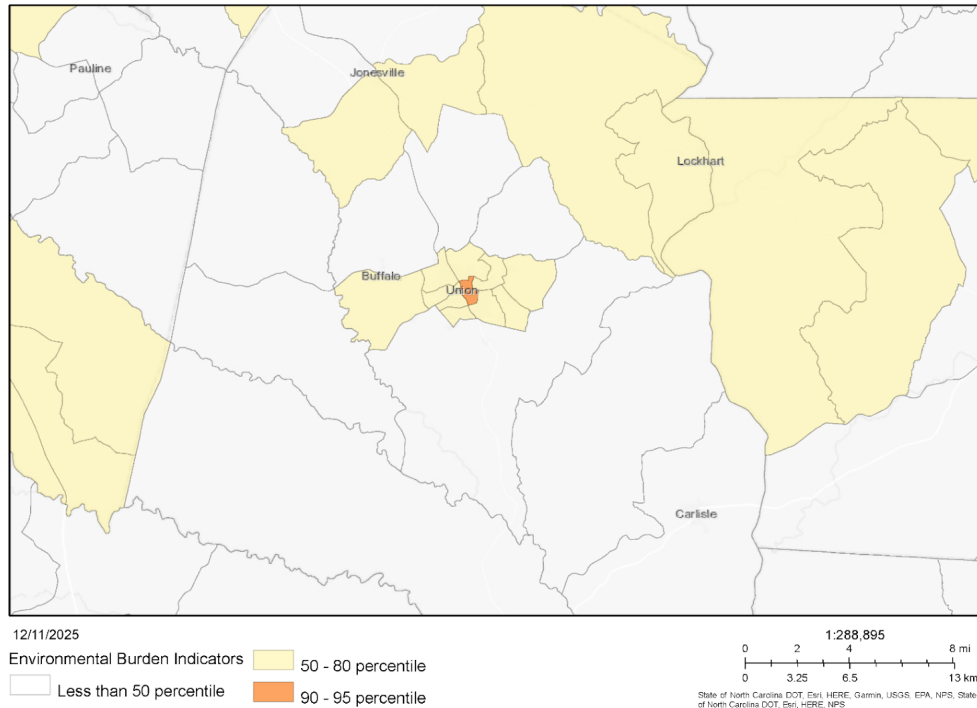
Historical and projected heat data show a clear upward trend:

- Thirty years ago, the county experienced 55 days with temperatures above 90°F, including 13 days with temperatures above 100°F.
- This year: The number of hot days increased to 62 days, with 27 days exceeding 100°F.
- In 30 years: Projections indicate similar total days above 90°F (62 days), but a sharp increase to 46 days with temperatures above 100°F.

These patterns highlight a growing heat-related risk that may affect public health, energy demand, infrastructure performance, and overall community resilience.



Union County Lead Risk



The Union County Lead Risk Map highlights geographic areas within the county where environmental burdens related to lead exposure are elevated. Most neighborhoods in Union County score below the average level of lead risk compared to other places. This means that, overall, the county has a relatively low risk of lead exposure, and most areas are not considered high risk concerns.

However, several areas, particularly those surrounding Buffalo, Jonesville, and portions of Lockhart, fall within the 50th to 80th percentile, suggesting moderate lead risk. These tracts may contain older housing stock, legacy industrial pollution, or other environmental factors that increase the potential for lead exposure.

A small cluster near the City of Union is classified within the 90th to 95th percentile, representing the highest relative lead burden in the county. Communities in these communities may face increased risk due to older infrastructure, deteriorating housing materials, or historical industrial activity. These elevated-risk areas may warrant targeted outreach, lead testing, remediation investments, or public health interventions.

Overall, the map illustrates that while lead risk is relatively low in most parts of Union County, specific pockets of the county experience significantly higher environmental burden, with potential implications for child health, housing conditions, and long-term community well-being.

V. Findings



The BEACON Assessment Team, in partnership with the host organization, engages Union County residents in a structured two-day facilitated process designed to elevate community knowledge, document local concerns, and strengthen community capacity. The process begins with an EJ Community Tour, where residents guide the team through key neighborhoods and sites to highlight lived experiences, environmental challenges, and community assets. Following the tour, participants work through three assessment processes -- each focused on identifying vulnerabilities, mapping community strengths, and prioritizing areas for improvement.

These activities culminate in the development of a Field Practicum Report, which summarizes findings, documents resident perspectives, and outlines the environmental and social conditions observed. Building on this report, the team collaborates with residents and local partners to create a Community Action Plan that defines clear priorities, strategies, and next steps for advancing resilience, equity, and environmental justice within Union County.

HAZARD ASSESSMENT FORM

Hazard: Aging Infrastructure

Characteristics of Hazard	Elements of Characteristic of Hazard	Analytical Description of Hazard	Exposure Variables	
			How will it affect me?	How will it affect my community?
Cause / Origin	-Elements & Materials used -Corrosion (x2) -Wear & Tear -Natural water -Population growth -Worsened climate -Extreme heat -Shortage of workers -High energy consumption -Time (x2) -Old outdated materials -Extreme weather -Poor management -Lack of money and staff -Apathy	-Asbestos, chemicals, waste leftover, structures open/falling, structural deterioration, extreme weather, unsafe for residents -Aging infrastructures are caused by negligence. The material is outdated, and over powered by things of the new. The aging infrastructure is an inconvenience that has been shown to last more than 24 hours. We just had a worst occurrence from Helene. -Infrastructure throughout the U.S. is in dire need of repair or replacement. ASCE gives infrastructure a D+ grade. Trillions of	-Unhealthy living environment -Airborne toxins, health risks, access to healthcare, law enforcement, physical & mental issues -Anxiety -No back up source -Problems in home -Loss of power -Loss of resources -Loss of property -Disruption to services which will make it more difficult to go to school, work, & appointments.	-Loss of livelihood, development of property or non-development of property, valuations decrease in homes. -Loss of resources -Tax money to manage/demolish -Unhealthy homes -Blight -Poorer health -Less wealth
Force	-Extreme weather -Deterioration of materials -Neglect -Inconsistent maintenance -Pollution -Affect the water quality -No/poor service -Disruption -Flooding	-Infrastructure throughout the U.S. is in dire need of repair or replacement. ASCE gives infrastructure a D+ grade. Trillions of		

	-Potholes -Trash -Overgrown ditches	dollars are needed. Neglect of infrastructure is disenfranchising (e.g. closed hospital).		
Warning signs and signals	-Rubble/debris from structures -Structural weakness -Risk of collapse -Cracks -Water damage -System crashes -Slow speeds -Outdated equipment -Unstable foundation -Poor upkeep -Deterioration -Performance Issues -Over time, years			
Forewarning	Years			
Speed of onset	-Months to years (x3) -Immediately			
Frequency	-Yearly -100s per year in mill towns -Constant			
Period of occurrence	-Months to years -Progressive or gradually -Slow to rapid -Anytime -Year round			
Duration	-Days to weeks -Ongoing -Year round			

HAZARD ASSESSMENT FORM

Hazard: Extreme Weather

Characteristics of Hazard	Elements of Characteristic of Hazard	Analytical Description of Hazard	Exposure Variables	
			How will it affect me?	How will it affect my community?
Cause / Origin	-Thunderstorms (x2) -Climate Conditions -High winds (x3) -Excessive rain (x3) -Hail -Snowstorm -Tornado -Unusual warm weather -Lightning (x2) -Overgrown brush -Frozen pipes -Flooding -Climate season	-Flash flooding, lightning, high winds, hail -Excessive winds that cause trees to fall on power lines (x3), damage powerlines & transformers, causing massive loss of power in a city or county. -Unsafe conditions -Clear alerts about potential dangers -Flood waters due to torrential downpours of rain causing rivers to rise, dams to break (x3), or overflow, & streets & creeks (bodies of water) to flood into residential areas -Snow storms caused by	-It can damage my property -It could lead to severe mental health -It could lead to health problems -Loss of power (x5) that causes loss of food (x2), extreme temps in homes, loss of wifi, which means no work from home, no school assignments for college, health risks, extreme heat, respiratory issues, extreme cold -hypothermia, no access to/loss of communication due to not being able to charge phones, loss of transportation due to lack of access to gas or charging station -Damage to homes (roofs) (x2)	- Dangerous hazards and it can cause power outages -Hindering development -Overtime, chronic conditions like hearing and respiratory issues may develop -Loss of life (x3), health risks (x2), extreme damage to businesses & homes (x4), disease (risks), trees/brush not cleared or cleaned up, vandalism, crime, loss of communication -My community is small so any bad weather with devastate our community, no power food loss, our power usually stays out for days at a time.
Force	-Aging Material -Deterioration of foundation -Extreme cold -Extreme heat (x2) -Flood waters -Wind (x5) & downpour of rain -Falling trees (x3) -Power outage -Downed power lines -Power outage	-Snow storms caused by		

Warning signs and signals	-Symbols, colors, pictograms, Dark clouds (x7), news (x4) -Weather conditions -Weather broadcasts -Warnings -Cell phones (x2) -TV -Telephone -Rain -Thunderstorms -Lightning -Thunder -High winds (x2) -Warmth -Quietness	extreme snow & cold temperatures causing hail and ice to fall along with snow. Weight of snow & ice causes loss of power, roofs to collapse. Exposure to cold and temperatures. -Fires caused by sparks Roads become blocked and not favorable which prohibits people from getting goods to survive. -the last major hurricane that came through cause so much damage that the community is still recovering (1 year later) -Act of God	-Going without food, heat/air (x2) -Poor air quality -Health problems -Mental health -No clean, running water. -Floods -Damage from hail and lightning. -Can set fires -Fear (scared)	-Roof tops off of houses -No community center for public to gather -Damage to streets and roads
Forewarning	-Overtime (x2), when it rains heavily -Immediate -Days ahead -Hours ahead -Seconds to minutes -Minutes to hours (x2) -Closing of bridges -Weather			
Speed of onset	-Rapid (x3) -Once -Multiple, back-t-back -Quickly -Long lasting			
Frequency	-Year-round (x3) -Several each year -Summer (x2) -Once per year			

Period of occurrence	-November & December -July-September June-November -Summer to fall -Spring to summer -Mar -Oct.			
Duration	-Minutes to hours (x2) -Hours to days (x3) -Weeks x3) -Year			

HAZARD ASSESSMENT FORM

Hazard: Unhealthy Homes

Characteristics of Hazard	Elements of Characteristic of Hazard	Analytical Description of Hazard	Exposure Variables	
			How will it affect me?	How will it affect my community?
Cause / Origin	-Old, outdated materials -Neglect -Surroundings -Elements -Brownfield -Poor maintenance -Extreme weather -Age/time -Lack of access to resources	-Molds, pests, lead in older homes (paint), chemical pesticides, asbestos, carbon monoxide poisoning, air circulation, water leaks, roofing issues, windows	-Physical & mental health, Respiratory & infectious disease risks (x2), injuries due to unsafe conditions, accidents to elderly & children, stress, anxiety, limited access to healthcare, education & employment, mold & asbestos -Higher rent -Consider relocation	-Increased health risks and the need to respond to health issues, economic health, socio-economic barriers, violence & crimes, property value loss, financial liabilities -Loss of population in town -Limited availability for purchasing adequate property & homes
Force	-Winds -Heat -Foundation -Leaks -Contamination -Water	-Pollution from brownfield and man-made lake. New development in area might push toxins into water.		
Warning signs and signals	-Weak floors & roof (x2) -Cracks in ceiling or walls -Warping in floors -Leaks -Small dead animals -Small increase in health issues -Poor wiring -Spots on ceilings -Outlets that don't work			

	-Undrinkable water -Frequent power outages -Boil water advisories			
Forewarning	-Weeks to years (2x) -Ample			
Speed of onset	-Over time -unnoticeable -Immediate -Slow -Can be rapid			
Frequency	-Yearly costs -Continual -Thousands a year			
Period of occurrence	-Year round (x2) -Any time of year			
Duration	-Ongoing -Days +			

VULNERABILITY ASSESSMENT FORM

Hazard: Extreme Weather, Unhealthy Homes, and Aging Infrastructure

Hazard Profile	Elements at risk	Locations of elements at risk specific to the hazard		
		High vul.	Med. vul.	Low vul.
		<0.5 mi.	0.5 – 1.0 mi.	>1.0 mi.
	Total population ^I	27,158		
	Elderly (65+) ^I	5,704		
	Children <5 ^I	1,630		
	<HS education ^I	4,889		
	Linguistic isolation ^I	0		
	People of color ^I	9,777		
	Low income ^I	12,764		
	<i>Non-human elements</i>			
	Housing units ^{II}	11,580		
	Schools	7		
	Hospitals/clinics	2		
	S-fund/hazardous waste sites	0		
	Electric supply center	2		
	Water supply center	1		
	Wastewater center	1		
	Essential businesses ^{III}	38		

^IData Source: EJ Screen

^{II}2019 American Community Survey

^{III}Gas stations, grocery stores, hardware stores, etc.

Summary of the Vulnerability Assessment

The data provided above represents totals across each element at risk for all of Union County. Please refer to the appendices for municipality-specific data, which is provided at the census tract level for Union's major municipalities. All data is provided at the closest distance (0.5 mile) for each of Union's priority hazards (extreme weather, unhealthy homes, and aging infrastructure) due to the ubiquitous nature of each hazard.

Human elements: The census tracts with the most significant number of low-income residents identified were SW Union Proper (1,782 or 64% of the census tract), SE Union Proper (1,748 or 65% of the census tract), and Buffalo (1,748 or 65% of the census tract). Additionally, SW Union Proper had the highest proportion of unemployed adults (645 or 33%), adults with less than high school education (919 or 33%), and people of color (1,503 or 54%). This is a priority census tract to be considered for additional preparedness, mitigation, response, and recovery.

It is important to note that under-reporting for various demographics during the census is probable and these numbers may be underestimates of the true frequencies. Thus, the disproportionate impact of the proximity to hazards on these various sub-populations is possibly of greater risk than what is being presented. We propose additional focus on this in the recommendation section.

Non-human elements: The non-human elements of concern are primarily related to housing. For example, Union County has moderate wind risk to homes from hurricanes, tornadoes, and severe storms with 96% of homes with at least some risk. Other areas of concern include a major extreme heat risk to 97% of homes. Also, 99% of homes in Union have some risk of being affected by wildfire in the next 30 years. Although flood risk is reportedly minor at 6.2%, this equates to 1,152 properties. It will be important to assess the socio-economic status of these homes with flood risk to determine the overall disaster risk, as this data is currently unavailable and necessitates additional analyses. Finally, the number of mobile homes and age of homes in Union County is worth highlighting. The total number of mobile homes in the county is 2,812 (with the highest number of these in Union Proper - 219), and of the total number of all homes in the county (13,542), 2,014 were constructed before 1959. This presents an increased likelihood of potential lead exposure. The southern block groups of Union Proper comprise a hotspot for potential lead exposure in the 90-95th percentile (see map of Lead risk in appendices). Please refer to the appendices for additional data on non-human elements of concern. Note, the age of drinking water and sewer infrastructure was not readily available, which warrants additional investigation and/or analysis.

CAPACITY ASSESSMENT FORM

Hazard: Aging Infrastructure

Prevention:

Existing	Required	Gaps
Built infrastructure	Maintenance	- Back up system - Efficiency - Optimization - Measure

Mitigation

Existing	Required	Gaps
Built environment	Consistent maintenance	- Workforce - Resources - Civic engagement

Note: When carrying out survivability assessment all elements at risk assessed for level of vulnerability during the vulnerability assessment should be considered here.

Vulnerability: Survivability

Element at Risk	Existing	Required	Gaps
Before the hazard 1.	1. Elderly 2. Hospital	- Reliable service - Adequate upkeep	1. Flexibility 2. Often things don't work
During the hazard 1. [nothing provided]	1. [nothing provided]	1. [nothing provided]	1. [nothing provided]

Community readiness: before the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) - Transportation - Health and medical services - Early warning - Communication - Internal response - Evacuation - Livelihoods - Organizational development & governance - Provisions of food, water, & security - Technology - Ecosystems management & restoration - Coordination & incident command system	- Cash - Satellite phones - Gasoline/fuel 	- Staff - Chain of command - Local employment - Public transport/affordable transportation (no Uber in Union yet)

Community readiness: during the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) - Transportation - Health and medical services - Early warning - Communication - Internal response - Evacuation - Livelihoods - Organizational development & governance - Provisions of food, water, & security	[nothing provided] 	[nothing provided]

10. Technology		
11. Ecosystems management & restoration		
12. Coordination & incident command system		

CAPACITY ASSESSMENT FORM

Hazard: Extreme Weather

Prevention:

Existing	Required	Gaps
• Early Warning Systems (x2) • Emergency Kits and Plans • Staying Informed • Building upgrades/updates • Storm reinforcements to homes • Safe rooms • Raise foundations • Clean overgrowth along power lines • Ditcher around homes	• Call power providers/county or city employees • Training • Fire response	• No access to warning • Let guards down • No backup power (x2) • Rural areas & back roads to be cleared • Lack of services in Union (outsourced) • Transportation – shelters • Chester Connections \$1 to & \$1 from • Awareness

Mitigation

Existing	Required	Gaps
• Insurance • Green infrastructure • Solar energy • Storm windows/shutters • Trim & cut down trees • Shelters • No homeless shelter • Food pantry • Public transportation • Firefighting	• Improvement • City/council meetings • Firefighters	• Lack of coverage for event • Premiums not affordable • Feed homeless

Note: When carrying out survivability assessment all elements at risk assessed for level of vulnerability during the vulnerability assessment should be considered here.

Vulnerability: Survivability

Element at Risk	Existing	Required	Gaps
Before the hazard 2. [nothing provided]	1. Neighbors 2. Churches (x2) 3. Elderly 4. Sick 5. Special needs 6. Homes	- Transportation (x2) - Solar Power (x2) . . . - Early warning	1. Engagement 2. No power supply for outage 3. Meet 4. Voice
During the hazard 2. [nothing provided]	2. [nothing provided]	1. [nothing provided]	1. [nothing provided]

Community readiness: before the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) 1. Transportation 2. Health and medical services 3. Early warning 4. Communication 5. Internal response 6. Evacuation 7. Livelihoods 8. Organizational development & governance 9. Provisions of food, water, & security 10. Technology	1. Known access/Chester Conn. (x4)/Emergency vehicles 2. Knowledge/connection/EMS 3. Systems/communication (x2)/Evacuation Plan 4. Power to charge phones/technology/news (TV) Phone (x2)/Spectrum/Redundant communication 5. Plan of action/Friend, family, neighbor/Warming equipment 6. Jobs/access to work/Church vans/Evacuation Plan 7. Knowledge & connection/Emergency Fund 8. Shelters/food banks/Meet w/ Council	1. Not enough 2. Engagement lacking 3. Elderly 4. No power during outages (x2)/ Cell phone/Lack of information pool/ 5. Reactive not proactive 6. Reactive not proactive/Cash 7. Lack of gas/Lack of employment 8. Not knowing resources/No relationship with county manager/Understaffed 9. No shelters/Knowledge of cooking/Food – batteries/Blankets/Non-perishable food/Tank, grill/Limited resources

11. Ecosystems management & restoration 12. Coordination & incident command system	9. Knowledge for use/Church-food bank/ EBT 10. Resources/ Computer 11. First aid/health/Government (local) 12. 911	10. Training /Not having phones charged 11. Lack training
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Community readiness: during the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) 1. Transportation 2. Health and medical services 3. Early warning 4. Communication 5. Internal response 6. Evacuation 7. Livelihoods 8. Organizational development & governance 9. Provisions of food, water, & security 10. Technology 11. Ecosystems management & restoration 12. Coordination & incident command system	1. Gas/ (school buses) 2. Resilience hub (x2)/Dialysis/Personal information (vital records) 3. Churches/neighbors 4. Satellite/Communications/911/TV Phone 5. Hubs/ Neighbor/First responders 6. . 7. . 8. Meet w/ city government/council/Utilization of resources 9. Church food bank/neighborhood giveaways/Being stocked/Using scarcely	1. Relationship 2. Sims/churches 3. Communication (resources) 4. . 5. Failing to access your resources/Not enough knowledge 6. . 7. . 8. . 9. Overusing

CAPACITY ASSESSMENT FORM

Hazard: Unhealthy Homes

Prevention:

Existing	Required	Gaps
Regular independent upkeep of homes	Regular/annual inspection	Financial access

Mitigation

Existing	Required	Gaps

Note: When carrying out survivability assessment all elements at risk assessed for level of vulnerability during the vulnerability assessment should be considered here.

Vulnerability: Survivability

Element at Risk	Existing	Required	Gaps
Before the hazard 3.	- Assisting disabled family members (those with medical needs) - Debris cleaning of main roads	1. 24-7 power 2. Debris cleaning	1. Access to transportation 2. Access to power
During the hazard 3.	3.		

Community readiness: before the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) 1. Transportation 2. Health and medical services 3. Early warning 4. Communication 5. Internal response 6. Evacuation 7. Livelihoods 8. Organizational development & governance 9. Provisions of food, water, & security 10. Technology 11. Ecosystems management & restoration 12. Coordination & incident command system	1. Chester Connections 2. Union Medical Center 3. County-wide communication	1. Not enough transportation 2. Limited services; location 3. . 4. Power outage/no systematic reporting system

Community readiness: during the hazard

Existing	Required	Gaps
Institutions, systems (THE CIELO PROTEC) 1. Transportation 2. Health and medical services 3. Early warning 4. Communication 5. Internal response 6. Evacuation 7. Livelihoods 8. Organizational development & governance	1. . 2. . 3. Communication to general population and vulnerable communities 4. . 5. . 6. Resilience hubs 7. . 8. . 9. Preserving food	1. No access to streets/small roads 2. . 3. . 4. Power outages

9. Provisions of food, water, & security 10. Technology 11. Ecosystems management & restoration 12. Coordination & incident command system		
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Disaster risk analysis form – Aging Infrastructure

Community profile: Union County is located in the northcentral portion (Piedmont region) of the State of South Carolina. It is primarily a rural county with several municipalities including the city of Union and the towns of Carlisle, Jonesville, and Lockhart. Smaller jurisdictions of the county that were highlighted in the risk assessment included Buffalo, North Union Proper, Southeast Union Proper, and Southwest Union Proper and the census tracts that make up these portions of the City of Union. Many of these areas were previously mill villages. The county has a significant history of industrial activity related to several cotton mills that existed around the turn of the twentieth century up until the 1980s. The textile industry of Union closed by the 1990s, leaving behind concerns related to a struggling economy and legacy pollutants. Union’s economy has diversified in recent decades including varied manufacturing, distribution, and other industries. The population has declined slightly in recent years, with around 28,000 residents, a demographic mix that is majority White with a substantial Black community. The county combines a rich heritage and small-town charm with access to major metropolitan areas in the Carolinas, making it a community with both tradition and evolving economic potential. Although still relatively small, the city of Union has seen rapid development since the COVID-19 pandemic, which has brought elements of concern related to property taxes and gentrification.

Hazard profile: Many communities face significant hazards stemming from aging and deteriorating infrastructure. These risks include the presence of asbestos, residual chemicals, and unmanaged waste, as well as abandoned or collapsing structures that pose immediate safety threats. Continued structural deterioration—exacerbated by extreme weather events such as the recent impacts from Hurricane Helene—further increases vulnerability and makes some areas unsafe for residents. Neglect and deferred maintenance have allowed outdated materials and systems to fall far behind modern standards. In many cases, damaged or failing infrastructure remains unrepaired for extended periods, compounding health, safety, and accessibility concerns. This issue is not limited to local areas; across the United States, infrastructure is widely considered to be in poor condition. The American Society of Civil Engineers (ASCE) has issued a D+ grade for SC’s infrastructure, underscoring the urgent need for millions of dollars in investment. Such neglect can have profound consequences, including the closure of essential community assets like hospitals, ultimately contributing to long-term disenfranchisement and reduced quality of life for affected populations.

Elements at risk	Degree of risk			Individual survivability capacity gaps	Community capacity gaps		
Human elements	High (<0.5mi)	Medium (0.5 – 1mi)	Low (>1 mi)		Readiness gaps	Prevention gaps	Mitigation gaps

Elderly (65+)	5,704			N/A	• Adequate staff / workforce	• Adequate resources for maintenance and improvements	• Adequate resources for maintenance and improvements
Children (<5)	1,630						
<HS education	4,889						
Linguistic isolation	0						
People of color	9,777						
Low income	12,764						
Non-human elements							
Housing units	11,580						
Schools	7						
Hospitals/clinics	2						
S-fund/hazardous waste sites	0						
Electric supply center	2						
Water supply center	1						
Wastewater center	1*						
Essential businesses	38						
Summary of findings: the age of drinking water and sewer infrastructure was not readily available, which warrants additional investigation and/or analysis. The census tracts with the most significant number of low-income residents identified were SW							

Union Proper (1,782 or 64% of the census tract), SE Union Proper (1,748 or 65% of the census tract), and Buffalo (1,748 or 65% of the census tract). Additionally, SW Union Proper had the highest proportion of unemployed adults (645 or 33%), adults with less than high school education (919 or 33%), and people of color (1,503 or 54%). This is a priority census tract to be considered for additional development and resilience efforts. The non-human elements of concern are primarily related to housing. For example, Union County has moderate wind risk to homes from hurricanes, tornadoes, and severe storms with 96% of homes with at least some risk. Other areas of concern include a major extreme heat risk to 97% of homes. Also, 99% of homes in Union have some risk of being affected by wildfire in the next 30 years. Although flood risk is reportedly minor at 6.2%, this equates to 1,152 properties. It is unclear what the socio-economic status of these homes are. Finally, the number of mobile homes and age of homes in Union County is worth highlighting. The total number of mobile homes in the county is 2,812 (with the highest number of these in Union Proper - 219), and of the total number of all homes in the county (13,542), 2,014 were constructed before 1959. This presents an increased likelihood of potential lead exposure. The southern block groups of Union Proper comprise a hotspot for potential lead exposure in the 90-95th percentile (see map of Lead risk in appendices).

Recommendations: A primary recommendation to address aging infrastructure is a focused assessment on the age of electrical, water, and sewer systems, gas lines, and roads in Union County as this is not readily available for the county and its municipalities. A targeted assessment of the status of each sector will provide more granular information to identify areas (communities, neighborhoods, streets, block groups, etc.) at risk. Secondly, connecting with resources including grant opportunities such as SC DES' rural water fund and new technology like artificial intelligence (AI) that supports grant applications for jurisdictions with little grant capacity, will help meet the capacity gap of a small workforce. **Note:** this is an SC BEACON recommendation and may not reflect all partners' positions on AI as an emerging technology, as partners may not promote the use of generative AI. SC BEACON acknowledges that partners have positions on data centers with an emphasis on increased needs for regulation, transparency, and environmental monitoring, which SC BEACON supports. The South Carolina Energy Justice Coalition does not promote, deploy, or support the use of generative artificial intelligence (AI) in its programs, advocacy, or organizational operations.

Disaster risk analysis form – Extreme Weather

Community profile: Union County is located in the northcentral portion (Piedmont region) of the State of South Carolina. It is primarily a rural county with several municipalities including the city of Union and the towns of Carlisle, Jonesville, and Lockhart. Smaller jurisdictions of the county that were highlighted in the risk assessment included Buffalo, North Union Proper, Southeast Union Proper, and Southwest Union Proper and the census tracts that make up these portions of the City of Union. Many of these areas were previously mill villages. The county has a significant history of industrial activity related to several cotton mills that existed around the turn of the twentieth century up until the 1980s. The textile industry of Union closed by the 1990s, leaving behind concerns related to a struggling economy and legacy pollutants. Union’s economy has diversified in recent decades including varied manufacturing, distribution, and other industries. The population has declined slightly in recent years, with around 28,000 residents, a demographic mix that is majority White with a substantial Black community. The county combines a rich heritage and small-town charm with access to major metropolitan areas in the Carolinas, making it a community with both tradition and evolving economic potential. Although still relatively small, the city of Union has seen rapid development since the COVID-19 pandemic, which has brought elements of concern related to property taxes and gentrification.

Hazard profile: Extreme weather is a priority hazard for Union County. This broad hazard category includes hurricanes, tornadoes, thunderstorms, snowstorms, flash flooding, extreme heat etc. The county was hit especially hard during Hurricane Helene leaving the majority of the area without power for over a week. Damage to property like homes and businesses as well as the prolonged disruption of such events is of greatest concern to residents. Debris cleanup was also identified as an area of concern. Typical impacts to expect with extreme weather include: downed trees and powerlines, structural and roof damage, lighting strikes, localized flooding, gusty winds, water-covered, ice-covered, or blocked roads, strain on utilities, heat-related illnesses, and travel hazards.

Elements at risk	Degree of risk			Individual survivability capacity gaps	Community capacity gaps		
Human elements	High (<0.5mi)	Medium (0.5 – 1mi)	Low (>1 mi)		Readiness gaps	Prevention gaps	Mitigation gaps
Elderly (65+)	5,704			Community Engagement w/ Response personnel	Limited transportation options	Limited access to early warning	Tree trimming
Children (<5)	1,630						

<HS education	4,889			(Not knowing resources/No relationship with county manager) • Lack backup power supply • Lack alternative communication options • Elderly lack adequate access to early warning • Knowledge of cooking/Food – batteries/Blankets/Non-perishable food/Tank, grill/Limited resources • Technology training (Not having phones charged)	• Health and medical lack community engagement • Lack of communication options when cell towers are down • Response sector is reactive not proactive • Lack of evacuation planning/coordination between communities and governmental response (many people don’t have access to cash) • Livelihood concerns: lack of employment • Local government (first responders) understaffed • No shelters or lack unawareness of • Lack training in ecosystems management & restoration	• Few w/ backup power • Lack of services in Union (outsourced) • Transportation to shelters • Awareness of Chester Connections	• Insurance premiums unaffordable
Linguistic isolation	0						
People of color	9,777						
Low income	12,764						
Non-human elements							
Housing units	11,580						
Schools	7						
Hospitals/clinics	2						

S-fund/hazardous waste sites	0						
Electric supply center	2						
Water supply center	1						
Wastewater center	1						
Essential businesses	38						

Summary of findings:

The census tracts with the most significant number of low-income residents identified were SW Union Proper (1,782 or 64% of the census tract), SE Union Proper (1,748 or 65% of the census tract), and Buffalo (1,748 or 65% of the census tract). Additionally, SW Union Proper had the highest proportion of unemployed adults (645 or 33%), adults with less than high school education (919 or 33%), and people of color (1,503 or 54%). This is a priority census tract to be considered for additional preparedness, mitigation, response, and recovery. The non-human elements of concern are primarily related to housing. For example, Union County has moderate wind risk to homes from hurricanes, tornadoes, and severe storms with 96% of homes with at least some risk. Other areas of concern include a major extreme heat risk to 97% of homes. Also, 99% of homes in Union have some risk of being affected by wildfire in the next 30 years. Although flood risk is reportedly minor at 6.2%, this equates to 1,152 properties. It is unclear what the socio-economic status of these homes are. Finally, the number of mobile homes and age of homes in Union County is worth highlighting. The total number of mobile homes in the county is 2,812 (with the highest number of these in Union Proper - 219), and of the total number of all homes in the county (13,542), 2,014 were constructed before 1959. This presents an increased likelihood of potential lead exposure. The southern block groups of Union Proper comprise a hotspot for potential lead exposure in the 90-95th percentile (see map of Lead risk in appendices).

Recommendations: A primary recommendation for the highly vulnerable and low-capacity sub-populations and communities of Union County is for greater planning and coordination with county emergency management, first responders, the health and medical sector, and the faith community. Building a stronger relationship of community engagement between emergency management and Union's higher risk communities as well as a coalition among the sectors identified above, will address many of the gaps identified in the capacity assessment. Southwest Union Proper is a particular census tract at risk and efforts among the

faith community and emergency management should focus on hazard and disaster education, evacuation/transportation planning, access to early warning communication, redundant power, heating-cooling, and communication alternatives, and food and water supplies. Finally, a worthy resource to consider for establishing in Union Proper is a resilience hub. This could provide shelter, cooling, heating, charging power, food, water, and sanitation capacity for times of emergency and disaster (gray-skies periods). During blue-skies periods, this facility could be used as a resource such as workforce development, food bank, etc.

Disaster risk analysis form – Unhealthy Homes

Community profile: Union County is located in the northcentral portion (Piedmont region) of the State of South Carolina. It is primarily a rural county with several municipalities including the city of Union and the towns of Carlisle, Jonesville, and Lockhart. Smaller jurisdictions of the county that were highlighted in the risk assessment included Buffalo, North Union Proper, Southeast Union Proper, and Southwest Union Proper and the census tracts that make up these portions of the City of Union. Many of these areas were previously mill villages. The county has a significant history of industrial activity related to several cotton mills that existed around the turn of the twentieth century up until the 1980s. The textile industry of Union closed by the 1990s, leaving behind concerns related to a struggling economy and legacy pollutants. Union’s economy has diversified in recent decades including varied manufacturing, distribution, and other industries. The population has declined slightly in recent years, with around 28,000 residents, a demographic mix that is majority White with a substantial Black community. The county combines a rich heritage and small-town charm with access to major metropolitan areas in the Carolinas, making it a community with both tradition and evolving economic potential. Although still relatively small, the city of Union has seen rapid development since the COVID-19 pandemic, which has brought elements of concern related to property taxes and gentrification.

Hazard profile: Homes in the area face a range of environmental health hazards, including mold growth, pest infestations, lead-based paint in older structures, chemical pesticide exposure, asbestos in aging building materials, carbon monoxide risks, poor indoor air circulation, and moisture-related issues such as water leaks, failing roofs, and deteriorating windows. Beyond individual homes, community-wide concerns include pollution associated with a nearby brownfield site and a man-made lake, where ongoing or proposed development may disturb contaminated soils and potentially release toxins into surrounding waterways.

Elements at risk	Degree of risk			Individual survivability capacity gaps	Community capacity gaps		
Human elements	High (<0.5mi)	Medium (0.5 – 1mi)	Low (>1 mi)		Readiness gaps	Prevention gaps	Mitigation gaps
Elderly (65+)	27,158			1. Monitoring technology e.g. CO monitors, smoke alarms, surge	• Limited transportation services available in residential	• Access to prevention resources/funding	• Access to mitigation resources/funding
Children (<5)	5,704						
<HS education	1,630						

Linguistic isolation	4,889			surveillance 2. Energy efficiency structures and appliances 3. Resources for abatement/cleaning 4. Access to redundant power/energy	• Redundant power/energy options available		
People of color	0						
Low income	9,777						
Non-human elements							
Housing units	11,580						
Schools	7						
Hospitals/clinics	2						
S-fund/hazardous waste sites	0						
Electric supply center	2						
Water supply center	1						
Wastewater center	1						
Essential businesses	38						

Summary of findings: Unhealthy homes as a hazard is somewhat unconventional for a typical disaster risk assessment as this is traditionally a hyper-localized event for individual homes. When numbers of unhealthy homes reach a heightened level, this warrants a community-level concern. This is what is hypothesized for Union County, especially in census tracts like Southwest Union Proper where the socio-economic status is low and environmental hazards like lead paint in homes built prior to 1960 are high. The census tracts with the most significant number of low-income residents identified were SW Union Proper (1,782 or 64% of the census tract), SE Union Proper (1,748 or 65% of the census tract), and Buffalo (1,748 or 65% of the census tract). Additionally, SW Union Proper had the highest proportion of unemployed adults (645 or 33%), adults with less than high school education (919 or 33%), and people of color (1,503 or 54%). This is a priority census tract to be considered for additional planning and intervention. The non-human elements of concern are primarily related to housing. For example, Union County has moderate wind risk to homes from hurricanes, tornadoes, and severe storms with 96% of homes with at least some risk. Although flood risk is reportedly minor at 6.2%, this equates to 1,152 properties. It will be important to assess the socio-economic status of these properties with flood risk to determine the overall disaster risk, as this data is currently unavailable and warrants additional analysis. Finally, the number of mobile homes and age of homes in Union County is worth highlighting. The total number of mobile homes in the county is 2,812 (with the highest number of these in Union Proper - 219), and of the total number of all homes in the county (13,542), 2,014 were constructed before 1959. This presents an increased likelihood of potential lead exposure. The southern block groups of Union Proper comprise a hotspot for potential lead exposure in the 90-95th percentile. Approximately 3,607 households rent their homes, making up about 31% of all households in the county, according to data from the National Low Income Housing Coalition.

Recommendations: A primary recommendation for the highly vulnerable and low-capacity sub-populations and communities of Union County is for greater assessment of unhealthy homes. An initial area of focus would be to identify specific homes built prior to 1960 in low SES neighborhoods and connect these homes with lead abatement resources that may be available through agencies like SC Department of Environmental Services (SCDES), SC Office of Resilience (SCOR), SC Department of Public Health (SCDPH), etc. Southwest Union Proper is a particular census tract at risk and efforts among the local government and state agencies identified above could focus on weatherization, environmental health, energy efficiency, and resilience. Connecting with a resource like Auburn University's Rural Studio to update and retrofit homes may be another option to explore. Finally, renter's insurance may be a worthy area to focus efforts as close to a third of the county consists of renters.

VI. Recommendations

Union County should prioritize investments and interventions in the census tracts where socioeconomic vulnerability and environmental hazards overlap most severely, particularly Southwest Union Proper, Southeast Union Proper, and Buffalo. Strengthening resilience in these areas requires a deep commitment to social equity across all hazard planning, funding, and implementation efforts, centering the needs of low-wealth residents, Black communities, older adults, and renters. Improving local decision-making capacity will also require stronger data systems that document the age and condition of water, sewer, gas, electrical, and road infrastructure and link these system conditions to housing exposures such as flood, wind, heat, and wildfire risk.

To address **aging infrastructure**, Union County residents should conduct a countywide condition assessment that inventories water, sewer, electric, gas, road networks, and critical facilities at the neighborhood or block level. This assessment should identify hotspots where deteriorating systems intersect with high social vulnerability and guide the creation of a Union Infrastructure Condition Baseline. Recommended actions include developing a simple risk-scoring rubric to prioritize repairs, expanding field assessments in areas like Southwest Union Proper, and strengthening maintenance strategies. Pursuing state and federal resilience funding, such as rural water programs, alongside AI-assisted² grant writing and technical support, will help address capacity limitations within the county's small local workforce. Resident participation in monitoring and reporting infrastructure issues should also be encouraged by local jurisdictions to support long-term infrastructure stewardship.

In preparing for **extreme weather**, county residents should expand coordination among emergency management agencies, first responders, health and medical providers, schools, faith institutions, community organizations, and local governments. Priority attention should be given to Southwest Union Proper first then expand to other priority areas, where social vulnerability and hazard exposure converge. Recommended actions include enhancing early-warning and communication systems through multiple outreach channels, expanding backup power options such as generators and solar-plus-storage arrays, and improving evacuation planning by mobilizing public, nonprofit, and community-based transportation resources. Establishing a **Resilience Hub**, particularly in Union Proper, will provide essential services such as shelter, cooling/heating center, charging station, food, water, and sanitation during disasters, and serve as spaces for workforce development, benefits navigation, and community programming year-round. Additional resilience actions include proactive tree management and home-resilience upgrades, especially older homes and mobile homes, to reduce storm-related damage.

² Note: this is an SC BEACON recommendation and may not reflect all partners' positions on AI as an emerging technology, as partners may not promote the use of generative AI. SC BEACON acknowledges that partners may have positions on data centers with an emphasis on increased needs for regulation, transparency, and environmental monitoring. The South Carolina Energy Justice Coalition does not promote, deploy, or support the use of generative artificial intelligence (AI) in its programs, advocacy, or organizational operations.

Improving **unhealthy housing conditions** is essential to advancing both public health and disaster resilience. A targeted housing assessment should focus on older homes, especially those built before 1960 in low-wealth neighborhoods, to identify risks related to lead, mold, asbestos, and structural deterioration. Residents should be connected to remediation programs for weatherization, lead abatement, and healthy homes upgrades, with opportunities to collaborate with partners such as Auburn University’s Rural Studio for home repair and modernization. Addressing renter vulnerability through tenant education, renter’s insurance promotion, and landlord engagement will strengthen the safety and stability of rental housing. Integrating healthy homes strategies into the county’s broader resilience framework linking housing repairs with extreme-weather preparedness, energy efficiency improvements, and indoor air-quality protections will ensure that safe housing is recognized as a foundational component of community resilience. Many of these resilience objects can be supported by [Climate Smart Communities’ Initiative](#) 2026 grant opportunity (Due: March 12, 2026, by 8 pm EST).