

Asheville North Carolina

A ULI Advisory Services Panel Report

July 27–August 1, 2025



COVER: On a calm day, the French Broad River flows steadily through Asheville, North Carolina. (ULI panel)

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Asheville North Carolina

Post-Helene Recovery and Resilience

A ULI Advisory Services Panel Report

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About the Urban Land Institute

THE URBAN LAND INSTITUTE is a global, member-driven organization comprising more than 45,000 real estate and urban development professionals dedicated to advancing the Institute's mission of shaping the future of the built environment for transformative impact in communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and Asia Pacific regions, with members in 84 countries.

The extraordinary impact that ULI makes on land use decision-making is based on its members sharing expertise on a variety of factors affecting the built environment, including urbanization, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate. Each year, thousands of events, both virtual and in person, are held in cities around the world.

Drawing on the work of its members, the Institute recognizes and shares best practices in urban design and development for the benefit of communities around the globe.

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About ULI Charlotte

ULI Charlotte carries forth the mission of ULI by serving Charlotte and Western North Carolina's public and private sectors with pragmatic land use expertise and education. [Visit ULI Charlotte's website.](#)

About ULI Advisory Services

THE GOAL OF THE ULI ADVISORY SERVICES PROGRAM

is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies. Since 1947, this program has assembled well over 700 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfield redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's advisory services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and are screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda of an Advisory Services panel is tailored to meet a sponsor's needs. ULI members are briefed by the sponsor, engage with stakeholders through in-depth interviews, deliberate on their recommendations, and make a final presentation of those recommendations. A report is prepared as a final deliverable.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land Institute, this panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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ULI PANEL

Acknowledgments

This panel is a result of multiple individuals and organizations working together to imagine a new future for Asheville that balances economic growth and activity with environmental protection in its river corridors. The Advisory Services program acknowledges, with gratitude, the leadership and staff at the City of Asheville for their excellent work framing the study, developing and assembling critical resource materials, organizing stakeholder interviews, and hosting meaningful community engagement events during the panel week. ULI would also like to thank the individuals that took time to share their experiences, perspectives, and insights with the panel in interviews and during events throughout the panel week.

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REGGIE TIDWELL AT CURVE THEORY

Introduction and Key Recommendations

IN LATE SEPTEMBER 2024, TROPICAL STORM HELENE BROUGHT HISTORIC RAINFALL, POWERFUL WINDS, AND TORNADOES ACROSS THE SOUTHERN APPALACHIAN REGION. The storm, alongside a predecessor rainfall event, caused widespread flooding and landslides, claiming hundreds of lives and destroying thousands of homes and businesses. Asheville, North Carolina, was among the hardest-hit areas due to its mountainous terrain and position at the confluence of the French Broad and Swannanoa Rivers. With significant federal funds available to support Asheville’s recovery, the City faces a pivotal opportunity to rebuild in ways that strengthen environmental resilience and economic vitality for the future.

Background

Over just two days, from September 25 to September 27, 2024, the Asheville Regional Airport recorded 13.98 inches of rain—almost three months’ worth of precipitation in less than 72 hours. When Tropical Storm Helene (also known as Hurricane Helene) reached the region on September 27, high winds uprooted trees and additional rainfall surged into rivers and streams already swollen from days of heavy rain. The Swannanoa and French Broad Rivers rose more than 20 feet above their banks.

The resulting flood devastated entire communities, with thousands of people losing their homes and businesses. Whole buildings were torn from their foundations and swept downstream, and those that remained were inundated with muddy floodwaters. Across North Carolina and parts of South Carolina, millions of residents lost access to critical services including water, sewer, electricity, telecommunications, and health care facilities. Damage to the North Fork reservoir, Asheville’s water system, left residents without clean drinking water for 53 days.

During and immediately following the storm, emergency responders, utility crews, and residents mobilized to evacuate and rescue those in danger, clear debris, establish temporary housing, and deliver food, water, and critical information to people across the region. This report cannot capture all the stories of courage and collaboration that emerged in the aftermath of Helene. For detailed accounts of the storm and its impacts, the following resources provide additional information:

- [Post-Helene Economic Recovery and Resilience – ULI Advisory Services Briefing Book](#) (City of Asheville)
- [Helene in Southern Appalachia](#) – National Oceanic and Atmospheric Administration (NOAA)
- [2025 Community Development Block Grant – Disaster Recovery Action Plan](#) (City of Asheville)

In the months following the storm, the City of Asheville and its partners shifted slowly from crisis response to long-term recovery, working to understand and address the physical, economic, and social tolls while considering critical questions around rebuilding and resilience. Strengthening the city's recovery are significant federal resources, including significant investments from the Federal Emergency Management Administration (FEMA) and approximately \$225 million in Community Development Block Grant – Disaster Relief (CDBG-DR) funds from the U.S. Department of Housing and Urban Development (HUD). With these resources, the City has an opportunity to address critical issues related to infrastructure, housing, economic revitalization, and public services to build back with resilience in mind and work toward a better future for all of Asheville.

Study Areas

While every part of Asheville experienced the devastation of Helene, the low-lying areas along the Swannanoa River and French Broad River corridors endured the most severe impacts. Located within the 500-year floodplain, these areas remain highly vulnerable to future flooding. They are also home to places of significant economic and social importance, making them priorities for resilience investments. The panel focused their recommendations on the land immediately adjacent to the French Broad and Swannanoa Rivers, encompassing approximately 670 acres across both study areas. The two study areas are described briefly below.

French Broad River Corridor

West of downtown, the French Broad River runs north–south through the city, dividing central Asheville from West Asheville. Two focal areas define the French Broad River Corridor: the River Arts District and the French Broad Recreation Area.

River Arts District: In just a few decades, the River Arts District evolved from deteriorating industrial warehouses into the hub of Asheville's arts community. Before Helene, it hosted more than 300 artists with studios, galleries, and shops, drawing millions of visitors each year and generating substantial cultural and economic value. Flooding from the storm damaged roughly 80 percent of the district, forcing many artists and business owners to relocate.



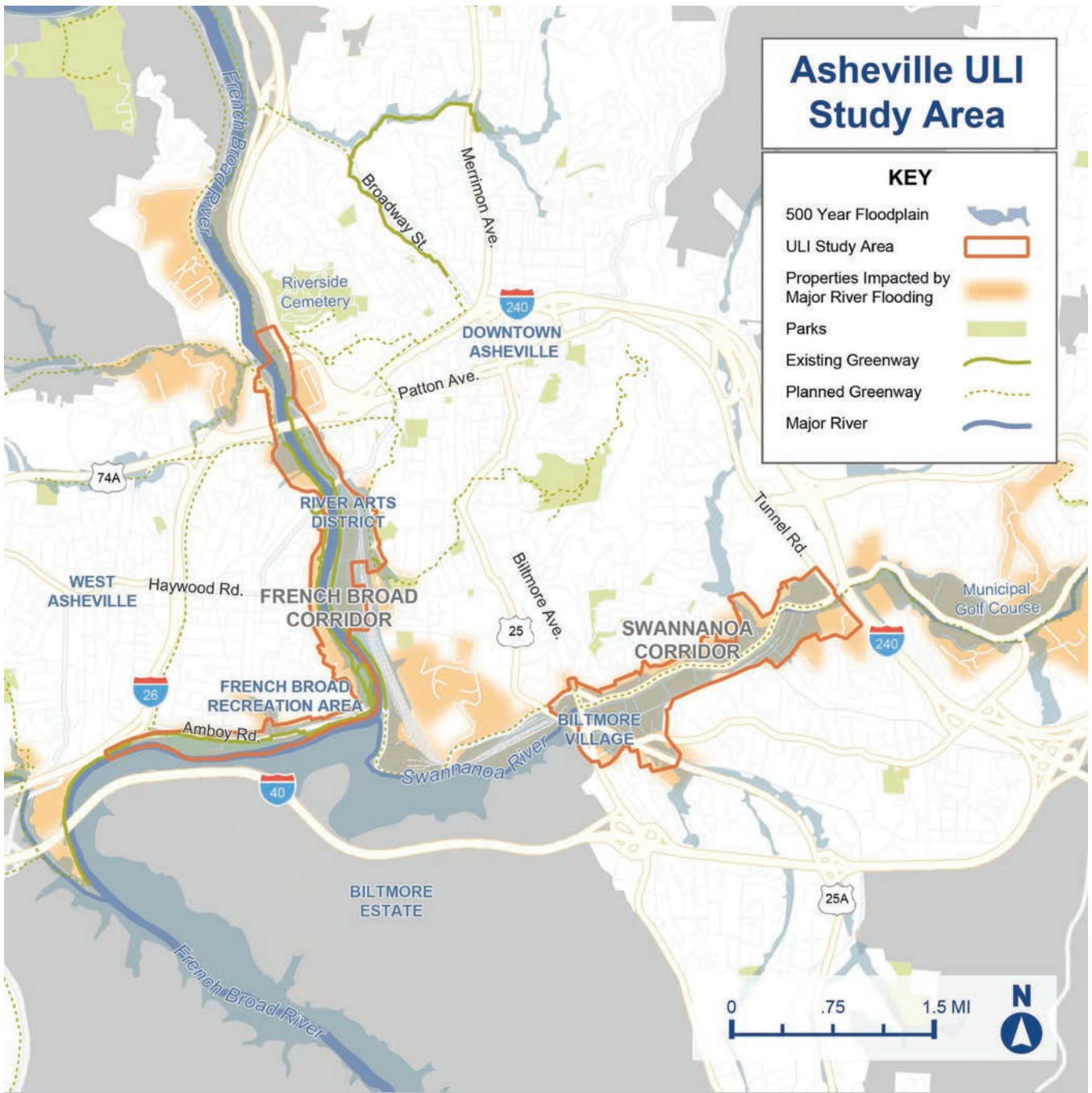
ULI panelists view damage to the River Arts District.

French Broad Recreation Area: The southern part of the study area includes Carrier Park, French Broad River Park, and a popular greenway system. These parks and recreational amenities were almost entirely submerged during the storm, and as of this report, many remain closed.

Swannanoa River Corridor

The Swannanoa River Corridor includes Biltmore Village, a historic commercial area adjacent to the northeast entrance of the Biltmore Estate, as well as Swannanoa River Road between Biltmore Village and Tunnel Road.

Historic Biltmore Village: Established by George W. Vanderbilt in the late 19th century to house estate workers and provide nearby services, Biltmore Village remains one of Asheville's signature commercial districts. Most shops and buildings sustained heavy damage during Helene, forcing many businesses to close for months.



The panel was asked to study the 500-year floodplains along the French Broad and Swannanoa River corridors.

Tunnel Road and Swannanoa River Road Corridors: Tunnel Road is a car-oriented commercial corridor lined with big-box stores and strip retail. Swannanoa River Road follows the river as a key transportation route. Flooding washed out large portions of Swannanoa River Road, requiring major reconstruction.

Panel Assignment

Recognizing the need for new approaches that balance the riverfront's economic contributions with its natural role as a floodplain, the City of Asheville invited ULI to convene an Advisory Services panel to identify strategies for enhancing physical and economic resilience, supporting real estate development, and investing in critical infrastructure for the French Broad and Swannanoa River corridors. Specifically, the panel was asked to address the following questions:

Economy: Industry Resilience and Diversification

1. What tools, regulations, and programs can best help local businesses and commercial districts prepare for and recover from disasters like Helene?
2. What strategies could help Asheville's tourism/hospitality-based sectors bounce back more quickly from disasters like Helene?
3. How can we build in some protection against any one sector becoming as hard-hit as our tourism and hospitality sector became as a result of Helene?
4. In the coming five years, what existing economic assets can be built on to help diversify our economy and support the growth of target industries?
5. Given the economic contributions of the greater riverfront's (study area's) preponderance of historic, cultural, and artistic assets, how might the City stabilize and more safely grow the creative sector in these (and other) districts?

Workforce: Economic Mobility

6. What are our post-disaster opportunities to promote economic mobility and occupational adaptability within our workforce?
7. What are the priorities for economic revitalization of under-resourced areas with an eye toward economic mobility/workforce development, especially for low- to moderate-income individuals who experience the most significant impacts during a disaster?

Real Estate Development

8. How can Asheville grow a foundation within the development community where resilience to natural disasters and a focus on ecological resilience and emergency preparedness is the accepted norm?
9. What government policies, regulations, standards, financial tools, and/or incentives can be used to drive more resilient private development in flood hazard areas?
10. What resilient design strategies should be considered when rebuilding or retrofitting buildings and public spaces to better withstand significant storm events?
 - a. Given the city's steep terrain and topography, what other design considerations should be prioritized to minimize the likelihood and impacts of landslides?

11. How can we balance the community's desire to have vibrant economic activity in the study areas with the desire to provide space for the study area to act optimally as a floodplain?

Public Investment, Infrastructure, and Parks

12. Considering available funding sources, what are the most important public investments to promote flood resilience for the mixed-use/commercial districts along the Swannanoa and French Broad Riverfronts, specifically in the study areas?
13. What investments in the City's stormwater infrastructure should be prioritized?
14. How can the City's French Broad riverfront parks be rebuilt to not only meet community recreation needs, but demonstrate state-of-the-art techniques for flood mitigation, integrate ecological resiliency, and support a more sustainable rebirth of the adjacent mixed-use/commercial districts that serve as economic drivers for the region?
 - a. Consider planning, design, funding, and unique opportunities, for example, more innovative ways to reprogram any newly acquired Hazard Mitigation Grant Program (HMGP) voluntary buy-outs so that their land use complies with federal regulations and contributes to place-based economic development goals.

Panel Process

The ULI Advisory Services panel met over five days. Using a process honed over 75 years, an Advisory Services panel has three key parts: listening and learning, panel deliberation, and presentation of expert recommendations. The listening and learning portion of this panel included a full day of on-the-ground experiences: a briefing by sponsor team, a site tour, and a meet-and-greet event in which the panel heard from residents and other stakeholders to learn their perspectives on the topic. The panel then conducted small-group interviews with more than 100 stakeholders representing a broad cross-section of interests and perspectives, including representatives from local taxing entities, government officials, community leaders, residents, educational leaders, and business owners and developers. Using information gathered during these activities and briefing materials provided by the sponsor team, the Advisory Services panel team spent two days developing and drafting recommendations and producing a presentation. This presentation was made on the last day of the Advisory Services panel. Although time was limited, the panelists made every



Left to right: Jim Heid (panel chair), Jim McRae, David Mazzuca, Samia Byrd, Richard Green, Clare De Briere, Roni Deitz, Andre Brumfield, and John Macomber.

effort to incorporate what they learned and what they heard. The recommendations in this report reflect this effort and what the panel knew at the time.

Key Recommendations

This report includes a comprehensive set of recommendations on actions that the City of Asheville and its partners can take to grow the region's resilience following the devastation of Tropical Storm Helene. Below are highlights of the recommendations found within this report.

- Use Tropical Storm Helene as a catalyst for a movement centered around renewal, rebuilding, and resilience. Take bold steps forward and leverage this once-in-a-generation opportunity to embed resilience across all facets of the city's work.

Physical Resilience – Parks and Open Space

- Create a connected and expanded network of greenspace in the French Broad and Swannanoa River corridors. Leverage the region's rich history of conservation to establish new parks along the rivers, enhancing physical resilience and environmental sustainability through green infrastructure.

Physical Resilience – Community and Connectivity

- Ensure equitable outcomes through recovery efforts by supporting residents in the city's historically Black neighborhoods, also known as legacy neighborhoods.
- Enhance connectivity and accessibility between the legacy neighborhoods and the river corridors to improve access to recreation and quality of life.

- Celebrate and build on the rich history of Asheville's Black community. Incorporate the Black Cultural Heritage Trail in the public realm of the riverfront.
- Expand housing choice in legacy neighborhoods by explaining the need for, and investing in the creation of a range of housing products at all levels of affordability.
- Support Black entrepreneurship and Black business owners through programs and services designed with their needs in mind.
- Develop community hubs that offer social services, recreational facilities, workforce development opportunities, and other supports to legacy residents to help them navigate "blue sky" (normal conditions) and "dark sky" (emergency) days.

Physical Resilience – Water

- Establish a One Water Council to align City, County, Metropolitan Sewerage District, utilities, and neighbors to tackle water quality and stormwater management challenges at a regional scale.
- Launch a countywide Stormwater Master Plan with watershed scale solutions.
- Upgrade drinking water systems (treatment plants, redundant lines, backup wells) and develop a long-term plan for a fourth water treatment plant.
- Repair and expand stormwater conveyance networks to alleviate pinch points.
- Implement on-site stormwater detention standards: require the retention of the first 1- to 1.5-inches of rainfall on site; make low-impact development the default; develop a stormwater improvements bank for in-lieu payments.
- Restore riparian buffers and floodplains using the tree canopy fund and volunteer programs to slow and filter uphill runoff.
- Explore energy recovery fees to offset high operations and maintenance costs for drinking water.
- Aggregate river improvement funds to improve water quality investments along the river.
- Collaborate with and incentivize private landowners for septic-to-sewer conversions.

Physical Resilience – Built Form

- Don't just build back the same—build back for economic recovery and resilience. Make tough choices about how certain areas rebuild, especially given that flooding has happened before and will happen again.
- Evaluate opportunities for arts and culture activities to locate in safer, more resilient areas of the city, out of the floodplain, while maintaining a center of gravity in a centralized location.
- Leverage the FEMA HMGP, land swaps, and transferable development rights (TDRs) to consolidate properties in the floodplain, allowing for larger developments that are better equipped to manage climate risks. Steer buyouts through HMGP toward conservation and public benefit.

Economic Resilience – Economic Reset

- Support the economic resilience of four key sectors: tourism, recreation, workforce development, and the arts.
- Reframe tourism's role: pursue a "destination stewardship" approach that moves past resistance to visitor traffic and focuses on shared value.
- Design places that support organic resident and visitor interaction. Examples: Riverfront District (Chattanooga, Tennessee), Granville Island (Vancouver, British Columbia).
- Support the expansion of Asheville's outdoor recreation economy with a focus on the riverfront. Leverage the riverfront as both an economic and civic space that celebrates culture, ecology, and recreation.
- Build a future-ready workforce. Support training programs and career development opportunities in construction and the trades, with a focus on sustainable construction and clean energy.
- Provide Asheville's artists and creatives with more options for affordable studio and gallery space in areas less vulnerable to future flood risk. Leverage recovery investments to maintain the spirit and affordability of the River Arts District in a more secure location.
- Establish a small-business incubator for Asheville's creative entrepreneurs offering technical assistance, seminars, shared tools and equipment, and mentorship programs about building successful businesses, in a way that speaks to cultural creatives.

Economic Resilience – Housing and Community Development

- Expand efforts to increase housing supply and affordability in Asheville, particularly product types that appeal to singles and couples, which are more prominent in the city than families with children.
- Acknowledge and seek opportunities to address issues that are constraining housing construction and development in Asheville including approval barriers, capital availability, and resident opposition.

Economic Resilience – Land Use

- Create a River District Floodplain Zoning District to reduce the number of land use zones along the riverfront to a manageable few that will help shape the bigger vision.
- Create a River District Mixed-Use Zoning District to encourage the development of dense multifamily housing near the river corridors (but outside the floodplains) with an emphasis on views and physical connections to the river.
- Use federal recovery funds to create an infrastructure grant program for property owners to minimize the financial strain of meeting new stormwater management requirements.
- Establish a soft second mortgage assistance program to provide gap financing for new, resilient development.
- Create a development liaison position at the City to support developers and owners as they navigate new requirements. This person would be the single point of contact for builders developing within the River Districts, helping to navigate various City departments and regulations.

Organizational Resilience – Talk Less, Do More

- Act quickly and boldly. Embrace innovation and be unafraid of failure to move from crisis response to strategic "doer-ship."
- Find strength through partnerships and collaboration. Continue to invest in public/private partnerships. Maximize scarce resources by promoting partnerships among the city's many capable nonprofit organizations while requiring them to collaborate more together.
- Use metrics to monitor progress and promote accountability. Use existing data sets to establish benchmarks and goals around housing, health and wellness indicators, economic development outcomes, and environmental resilience measures.



A Legacy of Resilience

ASHEVILLE DEMONSTRATED REMARKABLE STRENGTH IN THE AFTERMATH OF HELENE, with city leaders and residents coming together in powerful ways to address the physical and emotional devastation that occurred. As Asheville looks ahead to the future, there is an opportunity for Helene to be seen not as a lasting scar, but as a catalyst for a new era marked by community renewal, rebuilding, and resilience.

Community Insights

To more fully understand the challenges that Asheville is facing, and the potential opportunities that might be leveraged in the future, the panel conducted a series of stakeholder interviews, meeting with and hearing from more than 100 residents, community leaders, educational and nonprofit leaders, and more. Through these conversations, as well as community tours and research, the panel identified both the city's strengths as well as its challenges.

The panel discovered that Asheville has an abundance of opportunity, something that many towns of similar size and setting do not enjoy. Asheville is known for its distinctive beauty and character, abundant natural and recreational resources, and a vibrant culture shaped by resilient artists and a rugged community spirit. The city is also supported by a

robust network of nonprofits and civic organizations tackling the region's toughest challenges, alongside residents who are deeply committed to ensuring Asheville grows and adapts without losing its soul.

At the same time, the panel heard from stakeholders about persistent challenges—issues that predated the storm but were intensified in its aftermath. These challenges include the following:

- Recurring flooding—both nuisance and catastrophic—on local properties that require regional-level solutions;
- An aging population and the decline of a younger workforce due to the cost of living and the need for broader employment opportunities;



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Conversations with more than a hundred community members informed the panel's recommendations.

- Issues that are common in other “destination communities,” including a limited supply of attainable housing and transportation options as well as economic stratification; and
- Processes and politics that have stalled many well-intentioned plans, often resulting in the creation of more plans.

While the panel acknowledges that it cannot resolve all of Asheville’s challenges within a five-day engagement, the panel offers its collective experience, national perspective, and deep appreciation for the community’s recent hardships in the hopes of inspiring and catalyzing further action. The current moment presents an opportunity for Asheville to work differently by:

- Confronting and addressing the physical and social vulnerabilities that Helene illuminated,
- Sustaining and institutionalizing the collaborative approaches that emerged under crisis conditions, and
- Leveraging disaster funding strategically to rebuild in a manner that enhances the community’s long-term strength and resilience.

Defining Resilience

Resilience refers to the ability of individuals, communities, and ecosystems to anticipate climate-related risks and disruptions, absorb the impacts of extreme weather events or environmental changes, adapt to evolving conditions, and recover and transform in ways that reduce future vulnerability.

Seizing the Moment

The panel poses the following question to the City: *What do you want the legacy of Helene to be?*

Will the legacy of Helene be defined by the trauma and memories of a generational event that disrupted the community and tested its strength? Or will it be the moment that the community seized a bigger future, to build back stronger, more connected, and more resilient?

The physical, economic, and emotional toll of Tropical Storm Helene has had a profound and lasting impact on the Asheville community. Recognizing and acknowledging this collective trauma is a critical step in the city’s recovery and healing process. At the same time, as Asheville continues to rebuild, there is an opportunity for the storm to become a turning point in the city’s history and a moment defined not by devastation, but by renewal, rebuilding, and resilience.

Physical, Economic, and Organizational Resilience

As Asheville charts a new path, this legacy of resilience will be built into the fabric of the community through infrastructure improvements and physical changes, policy shifts that support economic strength and prosperity, and governance approaches that catalyze action and results. As such, the panel organized its recommendations around three major components of resilience: physical, economic, and organizational.

In this report, physical resilience encompasses necessary improvements to infrastructure (green and grey), buildings, and neighborhoods that will allow them to withstand, adapt to, and recover from physical shocks and stresses. The panelists offer recommendations around enhancing parks and open space, investing in legacy neighborhoods, improving water systems, and minimizing risk for vulnerable places, including the River Arts District and Biltmore Village.

Economic resilience refers to the ability of an economy to withstand, adapt to, and recover from disruptions while maintaining or quickly restoring essential functions, employment, and financial stability. For Asheville, an economy built on resilience will require new approaches to key industry sectors, strategies for increasing housing, and incentives for appropriate development in the study areas.

Finally, the panel offers recommendations around organizational resilience, including the City’s governance structure and priorities to inspire swift action, alignment, and collaboration for maximum impact.



PHYSICAL RESILIENCE



ELIWOOD PHOTOGRAPHY

Parks and Open Space

THE HEALTH AND WELLBEING OF A COMMUNITY ARE CLOSELY LINKED TO THE AVAILABILITY AND ACCESSIBILITY OF PARKS AND OPEN SPACES. These areas contribute to improved physical and mental health, foster social connection and civic engagement, and help shape community identity. As climate change intensifies, parks are also increasingly recognized as critical components of resilience. By functioning as natural infrastructure, they help communities better withstand and recover from environmental stresses and disasters. Parks are a legacy gifted for the protection and wellbeing of future generations.

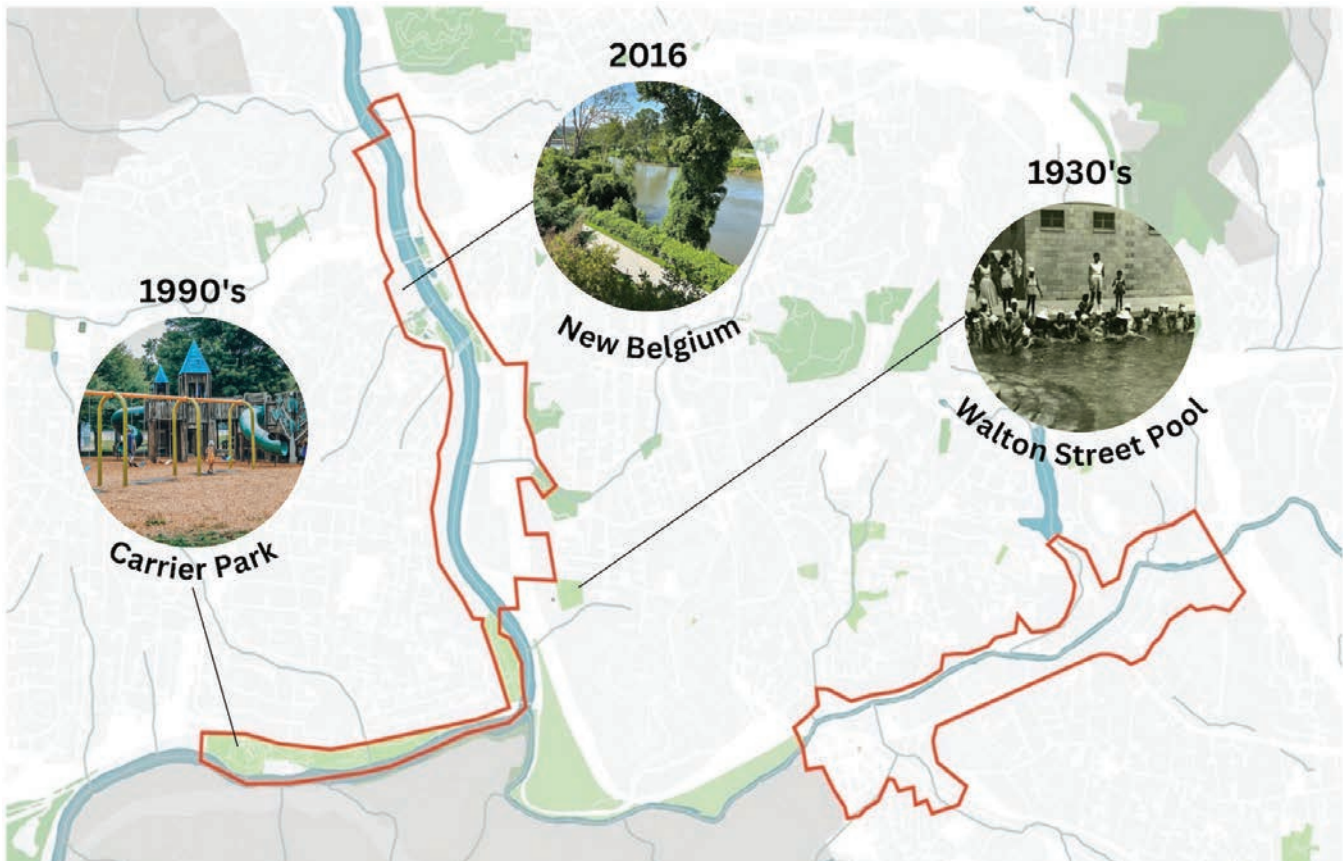
Legacy of Parks and Open Spaces in Asheville and Western North Carolina

Asheville and the surrounding region have a deep-rooted tradition of conservation. An important part of this legacy began 130 years ago with the establishment of the Biltmore Estate. George Vanderbilt and Frederick Law Olmsted envisioned a self-sustaining landscape that preserved over 8,000 acres of forests, streams, and wildlife habitat. This legacy continued with the establishment of Great Smoky Mountains National Park in 1940, a landmark achievement driven by local leaders and conservationists to protect the region’s natural beauty and today is the most visited national

park in the United States. These early commitments to conservation laid the groundwork for a regional ethos that values natural spaces as essential to both quality of life and long-term resilience.

In this critical moment, Asheville has the opportunity to build on this legacy—particularly along its riverfronts. Expanding and connecting existing parks and greenways along the French Broad and Swannanoa Rivers would create a cohesive network of “legacy parks” that serve as both natural floodplains and vibrant centers of culture and economic activity.

Legacy in Progress: The Past



CITY OF ASHEVILLE AND ULI PANEL

Asheville's approach to park and open space development has evolved over time. The future calls for a focus on accessibility and climate adaptation.

Legacy in Progress

Asheville's park legacy has evolved over time, with parks and open space becoming central to community life. One example is the Walton Street Pool in the Southside neighborhood, which served as a vital recreation area for the Black community during government-mandated segregation. While the pool is no longer open, the park is an important neighborhood gathering space and is on the National Register of Historic Places.

One of the most notable transformations in the city's history of parks and open space occurred along the French Broad River. Prior to the 1990s, the riverfront was primarily used for industrial purposes that polluted the river and limited public access. Through the advocacy of dedicated residents and environmental activists, the City and nonprofit partners converted large riverfront areas into parks and open spaces, including French Broad River Park, Amboy Riverfront Park, and Carrier Park. Once a motor speedway, Carrier Park now boasts a playground, sport courts, and wetland education areas.

Private sector contributions have also played a role. The New Belgium Brewery campus on the French Broad River is one

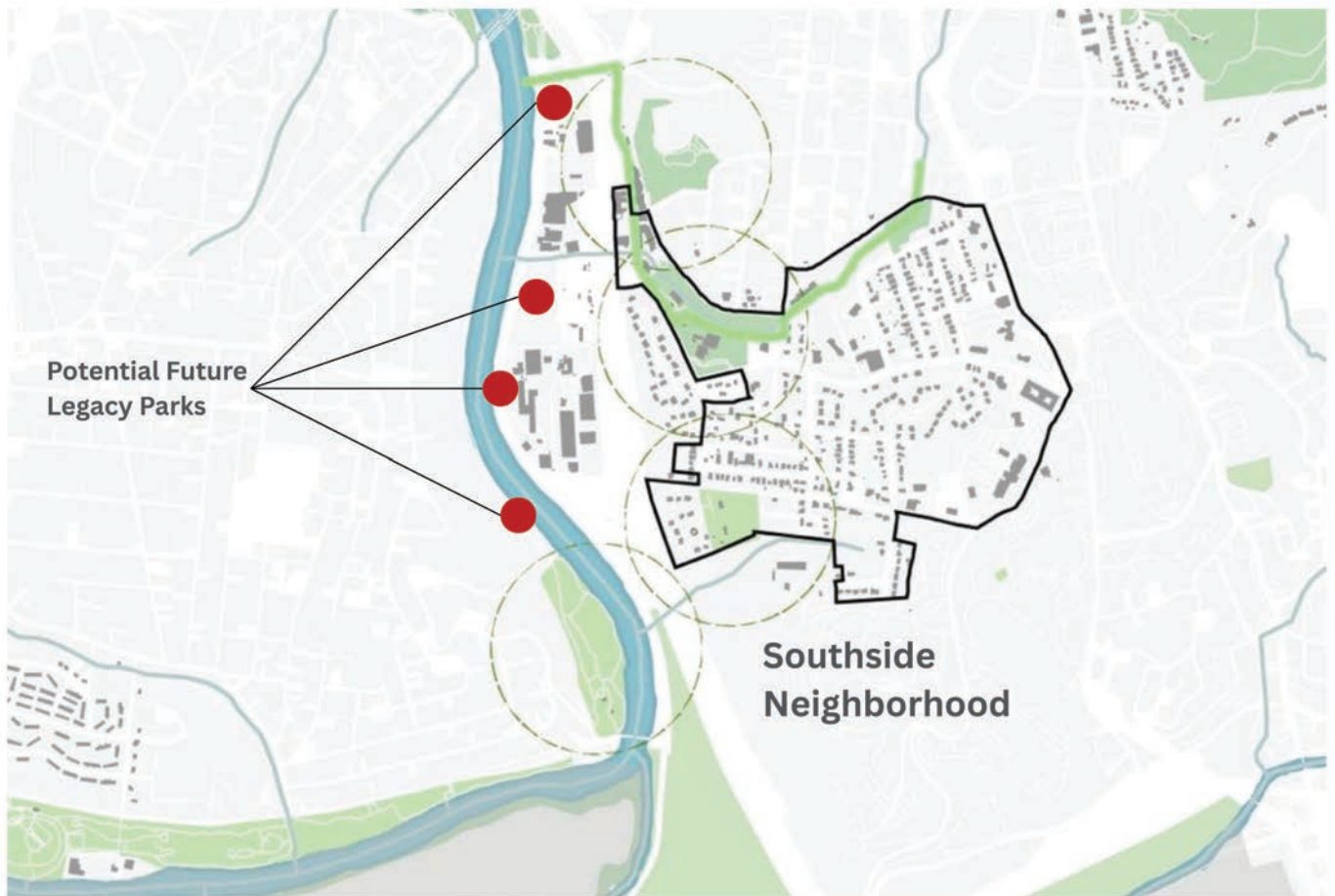
notable example. With more than half of the site covered in native vegetation, it provides a park-like setting that does double-duty as natural habitat and resilient infrastructure.



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New Belgium transformed an industrial brownfield on the French Broad River to their East Coast Brewery, incorporating green infrastructure to manage stormwater and create a park-like atmosphere.

Legacy Fulfilled: Possible Future



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The panel envisions a connected series of parks and greenways along the river corridors, which provide recreational amenities and perform essential ecological services.

Legacy Fulfilled

By building on this legacy, Asheville has a unique opportunity to reclaim its riverfronts as vital economic, cultural, and environmental assets. Cities across the United States and around the world are transforming former industrial riverfronts into parks and open spaces that serve residents and visitors. These areas offer more than recreational value—they also provide significant economic and ecological benefits.

Clean and healthy rivers can serve as powerful economic engines by driving tourism and water-based recreational activities. For example, the city of Bend, Oregon, developed a series of interconnected recreation elements and features, including trails, white water park, and amphitheater along the Deschutes River, enhancing its recreational offerings and attracting both residents and visitors to the river.

Riverfronts are also well suited for outdoor music events, which can attract visitors and boost local economies. Expansive grassy areas can function as event spaces while also helping to slow and absorb floodwaters during

Parks That Protect

Parks That Protect highlights leading-edge waterfront park projects that are designed to protect their neighborhoods from climate threats while improving residents' health and quality of life. In communities around the globe, waterfront parks are ground zero in the fight against climate change—and a key part of building resilient, healthy, and equitable cities for the future. [Read the report.](#)



storms. Likewise, terraced designs can form distinctive outdoor amphitheaters for seating and performances, while simultaneously managing floodwaters and reducing potential damage.

Finally, riverfront parks enhance resilience by creating important natural buffers that provide space for rivers to overflow safely without damaging nearby infrastructure or communities. Parks that are designed for resilience include natural systems including wetlands, floodplains, and

vegetated zones that allow water to slowly infiltrate the soil, reducing runoff and filtering pollutants before they can reach larger bodies of water. These greenspaces also offer habitat for native plants and animals, supporting biodiversity and urban forests.

With investment and intention, Asheville's riverfronts could become a model for integrating greenspace, economic development, and climate resilience—creating a legacy that serves generations to come.

Green Infrastructure

Green infrastructure includes both natural and engineered systems that use vegetation, soils, and other elements to manage water, improve environmental quality, and provide ecosystem services in both urban and rural areas.



The Deschutes River, running through Bend, Oregon, hosts an abundance of water-based recreational activities that attract residents and visitors, and serves as a powerful economic engine.



ELIN OOMI PHOTOGRAPHY

Community and Connectivity

WITH AN INFLUX OF FEDERAL FUNDING AVAILABLE, ASHEVILLE HAS A CRITICAL OPPORTUNITY TO ADDRESS PAST INEQUITIES AND ENSURE ALL NEIGHBORHOODS BENEFIT FROM THE REGION'S RECOVERY. Strengthening physical connections between the riverfronts and surrounding communities—alongside targeted investments in infrastructure, housing, and economic opportunity—will support equitable growth and long-term resilience.

History of Asheville's Legacy Neighborhoods

Asheville is a city of neighborhoods, and the historically Black neighborhoods, also referred to as legacy neighborhoods, hold historic and cultural significance for both the city and broader region. Neighborhoods including Southside, Shiloh, The Block, East End/Valley Street, and Burton Street have long been centers of Black culture and community. Prior to urban renewal policies in the 1960s and 1970s, these areas were bustling centers of thriving Black-owned businesses, churches, schools, and civic institutions, including the YMI Cultural Center, one of the oldest Black community centers in the United States.

Black families and businesses also settled in the low-lying areas near the French Broad River due to limited access to land and housing elsewhere, a result of systemic racial and economic exclusion. This placed them in zones more vulnerable to flooding and environmental hazards. For example, the flood of 1916, in which the French Broad River rose 20 feet over its banks, disproportionately affected these neighborhoods. In the mid-20th century, urban renewal policies in Southside and elsewhere led to further displacement and the loss of generational wealth and opportunities.



The shaded areas in yellow represent several of Asheville's historically Black neighborhoods, including Burton Street, Southside, the Block, and East End. The panel acknowledges that this map may not align with how the community defines neighborhood boundaries. The panel's intention is to illustrate the importance of the legacy neighborhoods and their size and influence within Asheville.



1951



1963



1975

Urban renewal left lasting scars in Asheville's historically Black neighborhoods. The series of photos demonstrate how the Southside changed as a result of these policies.

The legacy of displacement and underinvestment in historically Black neighborhoods has left communities feeling disconnected from the city and its riverfront. Physical and social barriers, the memories of urban renewal, and lack of inclusive redevelopment stand in the way of equitable

recovery. As Asheville envisions its future and a revitalized riverfront, there is an opportunity to reclaim and celebrate Black history, support Black-owned businesses, and ensure that legacy neighborhoods benefit in the changes coming to the city.

Inequitable Park Access

Despite Asheville having numerous parks throughout the city and along the rivers, the panel discovered that less than 40 percent of Asheville residents have a park within a 10-minute walk from their home, according to the Trust for Public Land. Asheville's steep topography also plays a role, making it difficult for residents to access parks that would be otherwise

easy to reach. Certain communities, particularly the city's historically Black neighborhoods, have experienced significant barriers that limit their ability to reap the benefits of the city's greenspaces. Enhancing access to the river for all residents should be a top priority for future investments and federal recovery dollars.



The highlighted areas in green represent the city's distribution of parks and open spaces. According to the Trust for Public Land, around 39 percent of Asheville residents live within a 10-minute walk of a park.

ULI PANEL

Strengthening Legacy Neighborhoods

There have been notable efforts to preserve and amplify the stories of these communities in recent years, thanks to the tireless work of neighborhood leaders and activists, alongside intentional investments by the City. Continuing to strengthen Asheville's Black community and legacy neighborhoods will enhance their resilience to future disasters and contribute to a more equitable recovery overall. In support of this, the panel offers the following recommendations:

- **Build on the rich history of Asheville's Black community.** Efforts such as the Black Cultural Heritage Trail celebrate Black Ashevilleans' contributions to social change in the city. Expanding the Black Cultural Heritage Trail and incorporating it into the public realm of the future riverfront would serve as a powerful and visible reminder of the city's Black history and culture for residents and visitors alike.

- **Retain and grow Asheville's Black population.** Asheville has experienced a decline in its Black population in recent years, which was exacerbated by the impacts of Helene. While Asheville is not unique in this characteristic—cities across the United States are experiencing similar declines—the availability of federal recovery funding allows the City to prioritize investments in the social, economic, and physical wellbeing of the Black community. Strengthening these communities will enhance their resilience to future disasters and contribute to a more equitable recovery.

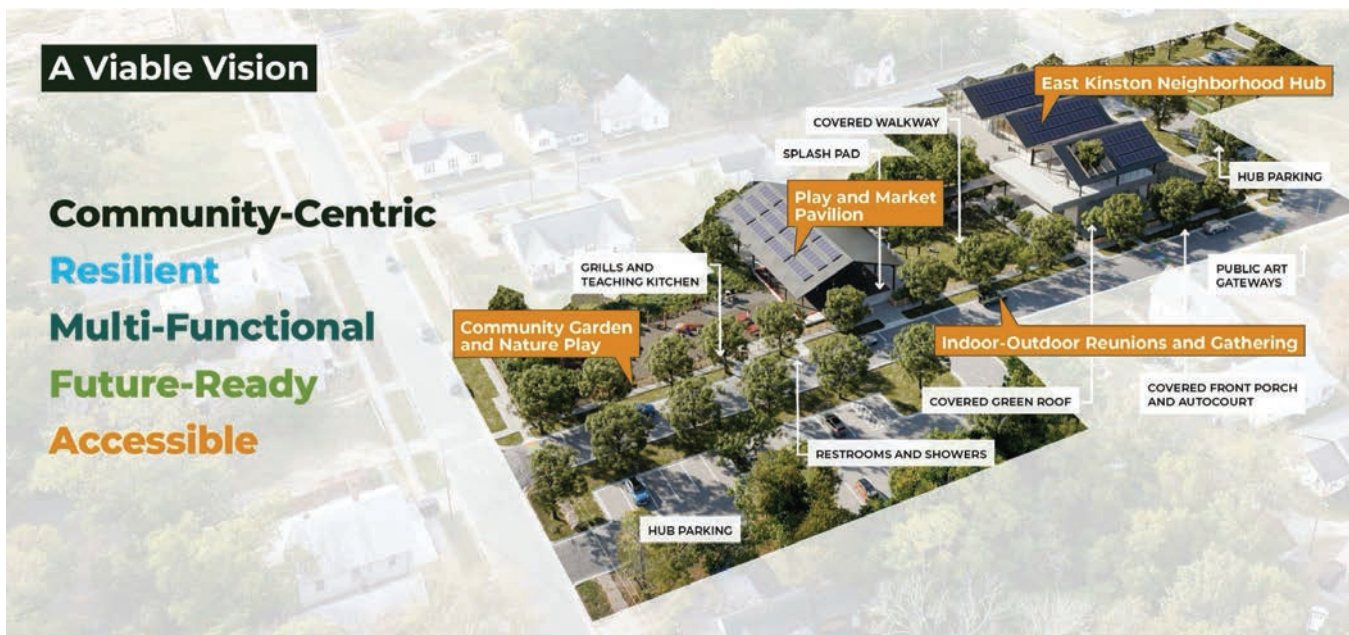
- **Grow the city’s housing supply for all income levels.** To ensure the long-term resilience of the Black community in Asheville, the City should prioritize and neighborhoods need to be more willing to accept strategies that expand housing choice for people at all income levels. This includes both single-family homes as well as higher-density options such as duplexes, townhouses, multifamily units, and others. Housing opportunity at all levels will help mitigate gentrification and support wealth building, economic growth, and overall community resilience.
- **Promote Black entrepreneurship.** Asheville is home to many talented Black business owners, artists, and entrepreneurs. Supporting the city’s existing innovators and attracting new ones through grants, business incubators, training initiatives, and other programs will be critical for the economic vitality of the community, the city’s tourism, and the continued growth of the Black population.
- **Build community resilience hubs.** In addition to greenspace, community hubs that offer social services, recreation facilities, and workforce development programs can go a long way toward supporting the social fabric of the Black community. During extreme weather events and emergencies, these community centers double as resilience hubs, providing shelter space and essential resources and services. The City should expand its investments in community spaces, particularly in vulnerable communities, to ensure that those most in need receive support.

Examples and Case Studies

Community Resilience Hub: East Kinston

Kinston, a small town in eastern North Carolina, was once a thriving community supported by textile manufacturing and tobacco industries. In recent decades, the closure of key industries, economic troubles, and devastating hurricanes have led to Kinston’s decline. Between 1990 and 2010, Kinston lost about 16 percent of its population, resulting in a significant number of vacant properties, particularly in the downtown and surrounding areas. Although some parts of the city have experienced growth and revitalization over the last few years, East Kinston, a historically Black neighborhood, has been slower to regain its footing.

In response, Kinston Teens, a youth-led nonprofit, has championed various projects to revitalize East Kinston. In 2018, the organization transformed an abandoned home into a Neighborhood Hub, offering a community pantry, meeting space, technology, and programming to support residents. As demand grew, the organization began planning an expanded hub to serve residents during both normal conditions (“blue sky” days) and emergencies (“dark sky” days). The new Neighborhood Hub will provide a range of services from small-business training and tutoring to meals, showers, and mental health support. Most importantly, the plan has been driven by and for the community to ensure meaningful, lasting impact.



DESIGN WORKSHOP

The proposed Neighborhood Hub in Kinston will offer support to communities during both normal conditions (“blue sky” days) as well as emergencies (“dark sky” days).

Mixed-Income Housing: Knoxville

Knoxville's Community Development Corporation is leading the redevelopment of First Creek at Austin and transforming a 22-acre public housing site on the edge of the city's emerging downtown into a thriving mixed-use neighborhood. When completed, the site will include 440 units of mixed-income housing and introduces a broad range of housing types, including rowhouses, townhouses, and stacked flats. Some units are income restricted or dedicated specifically for low-income seniors to ensure existing residents can stay in the neighborhood.

The plan was developed in partnership with the community through a robust public participation process and extensive meetings with First Creek residents. The plan includes recommendations for an 18,000-square-foot grocery store, 10,000 square feet of neighborhood supporting retail, and 4 acres of passive and active open spaces along the riverfront that feature on-site playgrounds, gardens, and indoor/outdoor community spaces. [See more about this redevelopment plan.](#)

Community Engagement and Public Realm: Washington, D.C.

The 11th Street Bridge project transformed an aging and underutilized bridge over the Anacostia River in Southeast D.C. into a vibrant civic space. The project represents a partnership between the district government, nonprofit organization Building Bridges Across the River, and the community, working together to envision programming, performance spaces, playgrounds, urban agriculture, and an Environmental Education Center. A series of community design charettes, beginning in 2013, provided an opportunity for residents to share their input and shape the park's design and programming concepts. Prior to redevelopment, the neighborhoods surrounding the bridge had significantly fewer parks and less open space compared to other areas of the city. With a focus on equity, the park aims to anchor inclusive growth and enhance connectivity, while ensuring that nearby residents and small businesses continue to benefit from the park's success.

Greenspace and Economic Opportunity: Chicago

The Englewood Agro-EcoDistrict is an effort by the City of Chicago and local nonprofit organizations to repurpose 1.75 miles of an abandoned railroad to create a natural recreation trail on the city's South Side. Known as the Englewood Nature Trail, the recreational path will provide a neighborhood anchoring amenity to support economic growth and community revitalization. The nature trail serves as the spine of a larger plan to create the nation's first Agro-Eco district and support a vision for Englewood to become an economic center for urban agriculture in a historically disadvantaged and predominantly Black community. The plan has raised more than \$90 million through city, state, and federal grants.



The Englewood Agro-EcoDistrict project aims to transform an abandoned railroad into a natural recreation trail and center for urban agriculture in Chicago's South Side neighborhood.

GENSLER

Investment and New Assets for the Legacy Neighborhoods

Communities of color experience disproportionate impacts from climate change due to a combination of historical, social, and economic factors that increase their vulnerability and limit their access to resources for recovery and adaptation. To build a more equitable and resilient future, Asheville can leverage

federal recovery funds to invest in its legacy neighborhoods through improvements to the public realm, economic opportunity, and housing. These targeted investments will help ensure that Asheville's Black community shares in the benefits of the city's growth and transformation.



Leveraging federal funds to support Asheville's legacy neighborhoods will ensure equitable and inclusive recovery.



ULI/PANEL

Water

WATER IS BOTH A PRECIOUS RESOURCE AND POWERFUL FORCE AND THEREFORE MUST BE MANAGED WITH CARE AND FORESIGHT. Strengthening Asheville's relationship with its water, including its drinking water, wastewater systems, stormwater infrastructure, and its rivers, is critical for rebuilding smarter and stronger. The city's recovery represents a once-in-a-generation opportunity to invest in water resilience, ensuring that all communities are protected for decades to come.

To achieve a resilient water future, the panel recommends that Asheville shifts its mindset, seeing water as a connected and shared resource across the entire water cycle. This **One Water** approach means unifying management efforts and collaborating across silos and neighboring jurisdictions to facilitate necessary infrastructure improvements, secure new funding sources, and protect critical water resources for the city and the broader region.

One Water

Managing all water—drinking water, wastewater, stormwater, and rivers—as one connected resource to ensure a sustainable water future.

Prior Floods and Recent Recommendations

Asheville's history has been shaped by water, and the city is no stranger to flooding. Nine major flood events have occurred in the past century, with the most severe occurring in 1916 and 2004. The city's location within a mountainous "bowl" causes runoff to converge rapidly into narrow valleys, amplifying flood stages, particularly when soils are already saturated. Historically, significant floods have struck the region roughly every 20 years, a cycle that is likely to worsen as climate change drives more frequent and intense extreme weather events.

Prior to Helene, the most recent major flood occurred in September 2004, when the remnants of Hurricanes Frances, Ivan, and Jeanne struck in quick succession. These back-to-back storms drenched the French Broad River basin, saturating soils and producing [the wettest month in Asheville's recorded history](#). Swollen rivers—especially the Swannanoa and French Broad—quickly overflowed their banks, inundating low-lying communities such as Biltmore Village and leaving a lasting mark on the region.

After the 2004 flood, the Asheville-Buncombe Flood Damage Reduction Task Force (the Task Force) was established with the mission to “establish a regional approach and long-range plan for flood damage reduction, floodplain protection, and watershed management.” The Task Force based its approach on [the best management models](#), integrating objectives of flood control, transportation, economic development, land use and community planning, recreation, and environmental preservation. The Task Force gathered information from subject matter experts on a broad spectrum of topics, including flooding, development, transportation, and more, and used this information to analyze strategies to reduce the impacts of future flooding, and analyze current development patterns and the impact on future flooding. Recommendations included actions to reduce flood damage, such as planning and implementing physical measures to reduce flooding, expanding awareness and education, and increasing communication between and across communities, such as expanding the flood warning system, especially below North Fork dam. The Task Force also recommended development strategies to better manage stormwater and steep-slope management, acknowledging that a development plan that considered future growth in the region was needed.

The work completed by the panel acknowledges these prior planning efforts and aims to reinforce and supplement the recommendations.

A Tale of Two Rivers

The French Broad River and the Swannanoa River are quite different in their scale, hydrology, and characteristics. This basis is important when thinking about the role they play in shaping Asheville, as well as the water resource management strategies for each river and its watershed.

Due to its size and scale, the French Broad requires regional-level strategies that include watershed-based planning, upstream stormwater management, and broad water quality initiatives.

The Swannanoa, by contrast, demands targeted, localized interventions including flash flood early warning systems, upland storage, culvert upgrades, floodplain buyouts, and steep-slope development controls.

The French Broad River

The French Broad is a major regional river and one of the oldest rivers [in the world](#), forming part of the Tennessee River Basin. The river's broad watershed covers approximately [5,100 square miles overall, and 2,830 square miles in North Carolina](#). Although the French Broad is considered a high-capacity river, it has a low gradient, meaning that water flows relatively slowly through its watershed. As a result, floodwaters are slow to recede due to its size and downstream flow into the Tennessee River. The French Broad is strongly influenced by upstream land use in a large watershed, making localized interventions more challenging to implement.

The French Broad plays a central role as the primary drainage outlet for the entire watershed and a critical part of regional water quality and aquatic ecosystem health. Although the river is heavily used for recreation and as a scenic corridor, it is subject to nonpoint source pollution from upstream agriculture and urban runoff. Although the French Broad is significantly cleaner than it once was, it regularly has [high levels of bacteria](#), including E. coli, making it less safe for direct contact activities (i.e., swimming).



The French Broad River is a major regional river with a wide, high-capacity channel and slower-moving water compared to the Swannanoa River.

ULI PANEL

Comparing the French Broad and Swannanoa Rivers

	French Broad	Swannanoa
Type and scale	<ul style="list-style-type: none"> • Major regional river • Flows through multiple counties and fed by many tributaries 	<ul style="list-style-type: none"> • Smaller, steep tributary of the French Broad • Originates in the Black Mountains
Hydrology and characteristics	<ul style="list-style-type: none"> • Wide, high-capacity channel with lower gradient than many tributaries • Capable of handling larger base flows, but flood stages can become extreme with heavy rainfall • Slow to recede flooding • Strongly influenced by upstream land use in a large watershed 	<ul style="list-style-type: none"> • Narrow system that is prone to flash floods and debris flows • Responds quickly to rainfall events • Limited floodplain storage to mitigate heavy flows
Water resources role	<ul style="list-style-type: none"> • Primary drainage outlet for the entire watershed • Plays a central role in regional water quality and aquatic ecosystem health • Heavily used for recreation and as a scenic corridor • Subject to pollution from upstream agriculture and urban runoff 	<ul style="list-style-type: none"> • Critical contributor of sediment to the French Broad • Plays a significant role in localized flood risk

The Swannanoa River

The Swannanoa River is a smaller, steep-gradient tributary of the French Broad, with a watershed of [about 130 square miles](#). It originates in the Black Mountains and flows west through Montreat, Black Mountain, and Swannanoa before entering



The Swannanoa River is prone to flash floods due to its steep gradient and narrow channel.

the French Broad River in Asheville. The Swannanoa has a narrow channel that flows down through steep slopes and confined valleys. As a result, the river is [prone to flash floods and debris flows](#), especially when soils are saturated. During flood events, water courses rapidly through narrow channels, often impacting communities before there is time for effective warnings.

The Swannanoa is a critical contributor of sediment and stormwater to the French Broad and plays a significant role in localized flood risk in Buncombe County. Local organizations have recommended the restoration of riparian buffers and upstream floodplain reconnection to reduce downstream flood peaks and water quality issues.

Watershed-level Planning

The panel was asked to study relatively small sections of the French Broad and Swannanoa Rivers near downtown Asheville. However, to comprehensively address rainwater and stormwater management issues for these two rivers, many solutions will need to be implemented in the upper watersheds of both rivers, which fall outside of the study area. By managing water before it reaches the French Broad

and Swannanoa Rivers—through upland storage, restored floodplains, and large-scale green infrastructure—the City can slow and filter stormwater during rainstorms, reducing nuisance flooding in neighborhoods and easing pressure on downstream pipes and treatment systems.

These types of interventions provide benefits during larger storm events, but they must be combined with grey infrastructure investments to properly alleviate flooding. Grey infrastructure includes more traditional approaches to stormwater infrastructure such as upsized pipes and additional conveyance systems. These measures not only lower flood risk and infrastructure damage but also improve water quality by capturing sediment and pollutants before they reach the rivers. Strategic upstream management will allow Asheville to protect its waterways, limit disruptions to families and businesses, and build a system that can withstand future storms.

There is also an opportunity to explore larger, targeted flood storage projects along the Swannanoa River near Biltmore Village—for example, reimagining the roadway system parallel to the river as two one-way roads. This approach could create additional flood storage capacity, reduce peak flows, and provide added protection for one of Asheville's most vulnerable areas.

Strengthening Asheville's Approach to Water Resources

As Asheville looks ahead, now is a pivotal moment for the city and region to rethink how it manages water as a resource. With federal recovery dollars on the table, Asheville can address the root causes of flooding, water quality issues, and infrastructure vulnerabilities, not just patch them. Without coordinated, proactive action, aging infrastructure, development pressures, and the growing impacts of climate change will continue to magnify risk, damage, and costs.

The panel offers the following recommendations for building resilient water systems that protect communities, strengthen the economy, and enhance quality of life. By implementing these measures, Asheville can accomplish the following goals.

- **Unite the region for smarter water planning.** Advance regional collaboration around a shared vision and integrated water planning, saving money while achieving bigger outcomes.
- **Leverage recovery to build resilient drinking and stormwater systems.** Maximize recovery dollars by investing in long-term solutions rather than temporary fixes.

- **Use stormwater planning to shape sustainable growth.** Reduce flooding and property damage through upstream storage and stronger stormwater standards.
- **Enhance river health and recreation opportunities.** Improve water quality and recreation in the French Broad and Swannanoa Rivers, enhancing public health and tourism.



Improving the water quality of the French Broad River will have a host of benefits—both for the health of the ecosystem but also as a draw for recreational activities.

These actions will yield lasting benefits if acted upon now—aligning local and regional partners around solutions that scale. Securing Asheville's water future will require regional coordination to prioritize long-term investments, upgrading and investing in resilient infrastructure, and leveraging recovery funds and creating sustainable revenue streams.

Plan Smarter, Not Harder

Through regional collaboration and the shared prioritization of long-term investments, Asheville can take advantage of existing resources and break down silos, managing regional water systems more effectively and efficiently.

One Water Council

The panel recommends establishing a One Water Council to align water quality and stormwater management challenges at scale. Like many places in the country, Asheville's water systems are currently managed in silos, with misaligned budgets and priorities. A unified council would enable agencies to pool resources, align capital improvement plans, and address regional issues more effectively. This coordinated approach would also support data sharing on water quality and real-time flood response, allowing faster, data-driven decision-making.

This council would include the following agencies and organizations:

- City Water Resources Department (drinking water)
- Metropolitan Sewerage District (MSD) (stormwater and wastewater)
- Buncombe County Planning and Soil and Water Conservation District
- Neighboring utilities (including departments of transportation and utility providers)
- Neighboring communities (e.g., Henderson County, Black Mountain, Woodfin, Weaverville)

Regions across the United States, including San Antonio, New York City, Philadelphia, and Charlotte-Mecklenburg County have embraced integrated approaches to water management, in which water systems are consolidated to align capital planning and meet water quality goals.

Countywide Stormwater Master Plan

The panel recommends developing a countywide stormwater master plan to support watershed-scale planning, introduce more greenspaces, and prioritize projects for maximum impact. Currently, Asheville and Buncombe County lack a unified stormwater strategy leading to inconsistent standards across jurisdictions. This patchwork approach creates regulatory gaps, encouraging development in areas where policies are more relaxed. Without a coordinated, water-first approach, new development will continue to worsen flooding, erosion, and water pollution, and opportunities to retrofit outdated systems will be missed.

The master plan would identify local and regional stormwater challenges—such as impaired streams, culvert bottlenecks, and watershed-scale storage needs—and potential solutions. To address flood storage, water quality, and climate resilience, the plan would explore opportunities for establishing green stormwater infrastructure. This may include pocket parks, restored floodplains, and upland storage to both manage water and provide much-needed greenspace. Upstream planning and land swaps, potentially supported by the HMGP buyouts, could help convert vulnerable properties into parks and flood storage. By aligning standards across the region and outlining long-term investments, the master plan would ensure systems remain resilient, cost effective, and scalable as communities grow.

Rebuilding Today for a Resilient Tomorrow

The panel commends the City for its efforts to address the water system vulnerabilities exposed by Helene. However, Asheville and the region are dynamic and evolving, and long-term planning will be crucial for realizing a resilient future. The City has an opportunity to not just spend recovery money rebuilding what was in place before, but to build a stronger drinking water system and upgrade stormwater infrastructure so it can handle future floods. Climate change and population growth are increasing risks, but proactive investments will build capacity and resilience.



The North Fork Water Treatment Plant was hit hard by Tropical Storm Helene. Establishing a fourth water treatment plant will help alleviate strain on the system and help mitigate the effects of future storms.

Drinking Water System Upgrades

While improvements and upgrades are already planned for Asheville's three water treatment plants, the panel recommends assembling land for a fourth water treatment plant north of the city and outside of the floodplain. This extra redundancy will be essential for the region's long-term growth and resilience, and for alleviating strain on the North Fork Water Treatment Plant. In addition, redundant water transmission lines and backup wells can provide extra layers of security during severe storm events and water system disruptions.

Stormwater System Upgrades and Standards

System upgrades: The new stormwater master plan, which will identify both the system's pinch points and potential solutions, should guide the City's investments. Repairing and expanding conveyance networks should be a key priority, especially in vulnerable communities and flood-prone corridors. In addition, efforts should be made to integrate upland storage in the Swannanoa watershed in the form of detention basins and overflow zones to provide relief for communities downstream.

On-site standards: On new developments, the City should require that the first 1 to 1.5 inches of rainfall is retained on-site to limit runoff at the source and reduce downstream flooding. Cities such as Raleigh have adopted similar retention ordinances and regional retrofit strategies.

Riparian buffers: As referenced earlier in the report, greenspace and open space around river corridors mitigates flooding, improves water quality, and enhances habitat and community spaces. The city's tree canopy fund and volunteer programs can help make these restoration programs possible.

Sustainably Fund the Future

In addition to leveraging recovery funds, creating and maintaining sustainable revenue streams to support water system upgrades will be important for long-term resilience. Funding opportunities and additional improvements could include the following.

- **Energy recovery fees:** The panel acknowledges the unique barriers, such as the Sullivan acts, which limit the price that Asheville can charge customers for drinking water. One way to offset the costs of maintaining Asheville's water system, particularly for non-city customers, is through energy recovery fees. These fees represent additional charges on utility bills that allow service providers to recover specific costs that aren't included in the base service rate, such as operational costs, infrastructure investments, or environmental initiatives. For example, San Diego implemented an energy recovery fee within its water utility rate structure to offset the high energy costs of pumping water through multiple pressure zones into advanced treatment facilities.
- **Stormwater improvement bank:** Developers unable to meet on-site rainfall retention standards would contribute to a City-managed stormwater fund (or "bank"). This fund would support strategic stormwater improvements elsewhere, particularly in upper watersheds where interventions can yield greater impact.
- **Aggregate river improvement funds:** There are many dedicated organizations focused on river health and water quality, water-based recreation, education, and more. By aggregating resources across organizations, larger, more meaningful investments can be made to improve the rivers.
- **Septic to sewer conversions:** Septic tanks, particularly ones that are older or that haven't been maintained regularly threaten water quality and public health. Incentive programs, particularly those focused on low- and moderate-income (LMI) neighborhoods, can help residents convert failing septic tanks to sewer systems to ameliorate water quality issues. In Durham, a cost-share septic program supports landowners with upgrades, protecting streams and improving water quality efforts.

The Tennessee Riverpark Project

The Tennessee Riverpark project catalyzed the transformation of Chattanooga's formerly industrial riverfront into a vibrant public space, spurring significant economic development. The project features scenic trails and greenways, public fishing areas and boat docks, and cultural and recreational amenities including museums, playgrounds, and restaurants. The City of Chattanooga took a watershed-scale approach when planning for the Riverpark and focused on protecting and restoring riparian buffers that enhance greenspace for the community while doubling as stormwater infrastructure.





LULI PANEL

Built Form

TO BUILD OR NOT TO BUILD? In the wake of Helene’s devastation, property owners across the region are facing difficult and emotional questions about how—or whether—to rebuild. Every decision presents an opportunity to prioritize resilience, not only to restore what was lost, but to look ahead to a brighter, more sustainable future.

Asheville faces a pivotal moment: continue with the status quo or embrace a new direction. Federal recovery funds are available now but may not be in the future. Meanwhile, the extensive damage along the river corridors presents both an opportunity and a necessity for a fresh start. With worsening flood risks projected for the French Broad and Swannanoa Rivers, the City has a chance to adopt a pragmatic, forward-looking approach rooted in the following key principles.

- **Arts and culture are too valuable to return to harm’s way.** The River Arts District is a cherished cultural and historic asset in Asheville, but its location in the floodplain will continue to leave it vulnerable to future flood events. Arts and culture are core to the city’s identity, so it is important to maintain the spirit and affordability of the River Arts District in a safer and more resilient location.

- **Asheville is stronger when property owners and communities work together, combining resources toward a common plan.** Asheville’s emergency response to Helene demonstrated the power of working together toward a common goal. This lesson should inspire the City’s approach to land use planning in the study area. A fragmented, individualistic approach risks producing inconsistent outcomes that may not prioritize resilience. Instead of leaving progress to chance, Asheville can lead with a unified plan that aligns efforts and investments for meaningful impact.

- **FEMA Hazard Mitigation Assistance funds are limited; use them wisely and strategically.** These funds enable the City to acquire and upgrade properties that could face future risk. To maximize their impact, Asheville needs a thoughtful, strategic plan for acquisitions and improvements, one that strengthens resilience in the most vulnerable areas. Acting now with intention will lay the foundation for long-term growth and climate preparedness.

Think in Terms of Risk, Readiness, and Resources

Without intervention, market forces may drive slow redevelopment in the study area, driven by the instinct to “build back the same” and insurance policies that encourage replacement over innovation. However, Asheville can envision a different future, one characterized by intentional development in the right places. For both property owners and the city, rebuilding should be guided by three key factors: risk, readiness, and resources.

- **Risk** refers to a property or portfolio’s exposure to future risks like flooding, wildfire, landslides, and utility disruptions. While flooding and landslides are the most pressing concern for Asheville, other risks should also be considered.
- **Readiness** evaluates how well a building or portfolio is prepared to withstand future threats. While extreme examples like a reinforced concrete bunker may be unrealistic, readiness can be measured through resilient construction materials and evacuation capabilities.
- **Resources** reflect the financial capacity to strengthen buildings or rebuild them after a disaster. The starting value of the property, its use, and exposure determines the potential return on investment for adding incremental hardening and resilience. The business case for resilience is grounded on the principle of avoiding future cost by investing in improvements now.

Property owners and communities that understand their risk and capacity to address potential hazards are better equipped to make informed choices and minimize future losses over the long term.

Analyze Individual Paths for Investing in Resilience

After considering risk, readiness, and available resources, the next step is to determine a property’s future. The path toward resilience may include one or more of the following options.

- **Reinforce:** Reinforcing a building or property means hardening and strengthening it to withstand future climate risks. This approach may be most suitable for industrial uses or properties with access to significant resources.
- **Rebound:** Rebounding refers to designing buildings to recover quickly after a hazard. For example, elevating the first floor above anticipated flood levels and allowing lower levels to flood intentionally can enable a faster recovery. Rather than building a fortress that keeps the water out (reinforcing), rebounding is about working with hazards as opposed to against them.
- **Relocate or retreat:** Relocating or retreating refers to physically moving assets and people out of hazardous areas. This can be a formal process led by government agencies or a gradual shift as future generations choose safer locations.
- **Restrict:** Restricting or limiting development in hazardous areas through policy or market forces. Restrictions may come from zoning regulations or financial institutions that decide whether to fund projects in vulnerable areas.
- **Rebuild:** Often the default response after a disaster, rebuilding must be approached thoughtfully considering funding sources, timelines, and long-term resilience rather than simply restoring what was lost.

These five opportunities provide a framework for understanding the different ways that property owners, cities, and communities can respond to threats based on their own unique circumstances. In Asheville, resilience will be different across the study area and the city—what works in one area may not be the right fit elsewhere.

Adapt to the Four Key Areas

The French Broad and Swannanoa River corridors are diverse in their form and function and therefore require tailored approaches to resilience planning. The panel identified four distinct areas—two in each river corridor—that have unique physical, economic, and social characteristics that will need to be considered when determining future recovery and rebuilding efforts.

The River Arts District: The River Arts District became a hub for Asheville’s arts community largely because its older industrial buildings offered affordable spaces for studios and galleries. These low rents were possible because the buildings, while structurally sound, were in poor condition and located on flood-prone land—resulting in minimal property value and cost for landlords. Today, some of these properties still hold little market value. However, if new buildings are constructed in the district, the higher rents associated with new construction would likely be unaffordable for many artists, pushing them to seek space in other parts of the city. In speaking with River Arts District artists, the panel learned that several were open to relocating their businesses outside of the floodplain to avoid future vulnerability.

French Broad Recreation Area: The French Broad Recreation area is one of Asheville’s crown jewels and should remain focused on open space and recreation. The networks of parks and greenways along the corridor provide space for physical activity and connection while also improving water quality, promoting ecological health, and supporting resilience. Any new structures in the area should prioritize adaptability and flexibility to minimize potential losses from future flood events.

Swannanoa River Corridor (East of Biltmore Village): The Swannanoa River Corridor is home to a diverse mix of commercial, industrial, and residential buildings. While some rebounded quickly after Helene, others remain damaged or destroyed. Under normal conditions, the Swannanoa River is a modest stream, but Helene revealed the area’s serious vulnerability to flooding. A key question for Asheville is whether the future of this corridor will be shaped parcel by parcel, or through a coordinated, City-led effort that could result in greater value and resilience for the entire area.

Biltmore Village: Biltmore Village regularly experiences flooding and will continue to do so as climate change becomes more severe. However, the neighborhood’s property owners and users have more available resources to manage their risk and potential readiness for the future.



The Swannanoa River Corridor is characterized by diverse land uses, such as the elevated residential buildings shown here.



Most property owners in Biltmore Village have adequate resources to manage their risk to future flood events.

Collaborate for Greater Value

Among the four areas identified, the River Arts District and the Swannanoa River Corridor (east of Biltmore Village) have particularly high potential for collaborative redevelopment and value creation. While each area is distinct, they share a common crossroads. They can either allow individual property owners to pursue isolated redevelopment efforts, or they can embrace a coordinated approach, leveraging this moment to consolidate properties and rebuild together.

By working collectively, the City can implement a cohesive vision for each area, enhance infrastructure and public amenities, and increase long-term equity for current property owners and residents. Combining land results in bigger, better, and safer development that can provide diverse benefits to the community while minimizing future risk. Allowing development to occur on an individual-property basis could risk the construction of more stilt-supported buildings above base flood elevation like those currently in the Swannanoa River corridor. While technically flood resilient, these structures are

characterized by extensive ground level parking and do not promote walkable, healthy, or connected communities. The consolidation of smaller parcels into larger ones can unlock opportunities for thoughtful mixed-use development. These larger sites can incorporate natural landscaping and green infrastructure buffers that not only protect buildings from future flooding but also create park-like connectivity and public amenities that benefit residents and visitors.

Land swaps and TDRs are common and effective tools to support land consolidation and strategic redevelopment. The most successful swaps result in all parties acquiring assets that are better located and more suitable for their intended use, ultimately generating significantly more value than would be possible through individual efforts. In some cases, these arrangements also involve TDRs. For example, a housing developer might exchange a small parcel in the River Arts District or Swannanoa River Corridor for a larger, less flood-prone site with increased development potential elsewhere. The City of Asheville owns several properties that could be included in such a coordinated exchange, forming the basis of a broader, mutually beneficial redevelopment strategy.

Use Best Practices for a Resilient Rebuild

A “lowest cost of loss” approach should guide any future development in particularly hazardous areas. This concept supports the construction of temporary structures and pop-ups that do not require a significant initial investment and can be replaced easily after a hazard. These low-cost-of-loss structures can provide meaningful civic value if programmed appropriately in partnership with the community. Examples of low-cost-of-loss structures include those that can easily be moved and relocated such as temporary markets, pop-ups, food trucks, and others.



A “lowest cost of loss” approach to development in particularly vulnerable areas prioritizes temporary structures and those that are easy and affordable to replace after a hazard.

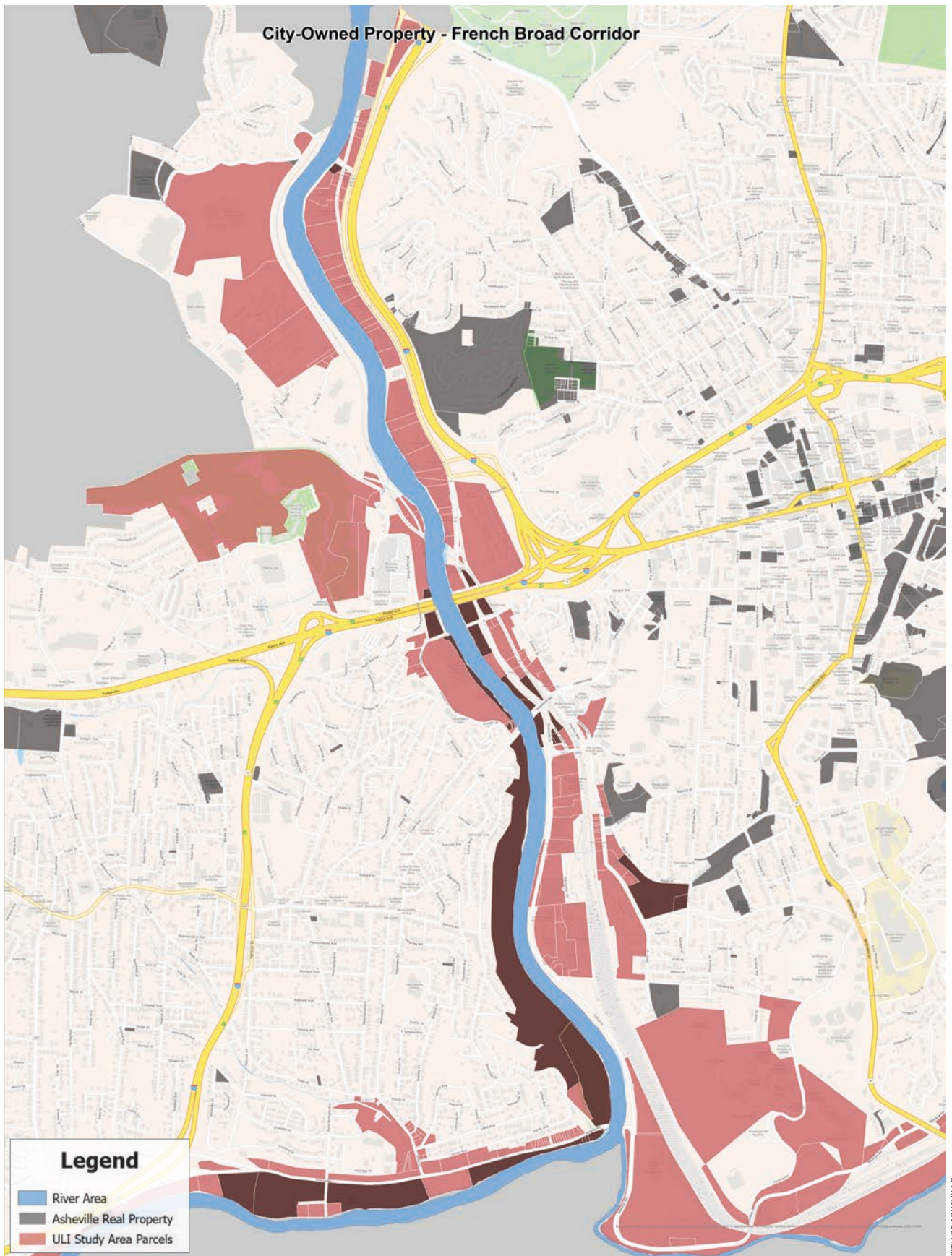
Do the Buyouts Right

The FEMA HMGP program provides federal funding to help the City acquire and upgrade hazardous properties for the purpose of reducing long-term risk to the community. Depending on the location and state of the property, the City can either conserve the land as open space or pursue hardening measures to minimize potential future losses. This program has the potential to unlock creative acquisitions for the City, but it does not inherently account for broader community benefits or strategic land use. Without intentional planning and coordination, the result could be a fragmented landscape—“missing teeth”—with conserved parcels scattered among occupied ones, undermining long-term value and cohesion. By aligning the program with a unified plan for the study area, the City can guide vulnerable parcels into conservation zones while aggregating tax-generating parcels for economic development.

Another important consideration is that land swaps are not required to be one-to-one in acreage. Properties can be contributed to a shared vehicle, pool, or trust at their current value. These assets can then be developed in ways that reflect community goals and environmental sensitivity. Once stabilized, land contributors can be reimbursed, with equity appreciation, creating far greater total value than isolated efforts. In short, this approach builds a larger, more impactful “pie” rather than a collection of small, disconnected “cupcakes.”

It will be crucial to establish a clear and objective framework for evaluating parcels. Criteria might include the following considerations.

- Current use and hazard exposure (e.g., industrial uses near the River Arts District may be appropriate to retain)
- Location and ownership, including City-controlled properties that could be part of the exchange
- Potential for adjacent parcel aggregation, enabling larger-scale redevelopment
- Desirability of removing certain uses from high-risk areas, such as those contributing to environmental hazards
- Connectivity to public assets, such as greenways
- Equity outcomes, especially for private homeowners and residents in legacy neighborhoods



CITY OF ASHEVILLE

The City owns a number of properties in and around the river corridors that could be swapped or assembled to create broader development opportunities.

The good news is that many proven financing and legal structures exist to support this approach. With leadership, coordination, and community engagement, Asheville can transform risk into opportunity—building a more resilient, equitable, and economically vibrant future.

Financing and Legal Structures

Tax Increment Financing (TIF)

TIF is a public financing method used to stimulate economic development in a designated area. When a city invests in infrastructure or redevelopment, the property values in that area typically increase. TIF captures the increase in property tax revenue (the “increment”) resulting from that growth and reinvests it into the area, funding further improvements such as roads, parks, or affordable housing. It’s a way to finance development without raising taxes or using general funds.

Transfer of Development Rights (TDR)

TDR is a land use tool that allows property owners in environmentally sensitive or restricted areas (called sending areas) to sell their development rights to developers in designated receiving areas where growth is encouraged. This helps preserve open space, farmland, or flood-prone land while allowing urban areas to grow more densely. It’s a market-based approach to balance conservation and development.

Land Trusts

Land trusts are nonprofit organizations that work to protect and preserve land for environmental, recreational, agricultural, or cultural purposes. They often acquire land or conservation easements (legal agreements that restrict development) to ensure long-term stewardship. Trusts can partner with cities to manage greenways, floodplains, or historic sites, helping communities preserve valuable land without relying solely on public funding.

Land Conservancies

Land conservancies may include land trusts or governmental entities focused on land conservation. They often manage large-scale public lands such as parks, greenways, or nature preserves. They may also be involved in advocacy, public education, and ecosystem protection beyond land acquisition.

Act in This Moment

Tropical Storm Helene revealed nature’s preferences for land use, particularly in flood-prone areas, and has unlocked a one-time influx of hundreds of millions of dollars in external funding. This funding is temporary and must be leveraged strategically. By evaluating properties through the lens of risk × readiness × resources, and by encouraging collaboration—including the consolidation of properties and strategic land buyouts—Asheville can generate economic value while enhancing physical resilience to future threats.



ECONOMIC RESILIENCE



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Economic Reset

THE FULL ECONOMIC IMPACT OF TROPICAL STORM HELENE ON ASHEVILLE BUSINESSES IS STILL EMERGING, but many have already faced severe damage, operational disruptions, and significant loss of revenue. Some have had to close permanently. To better protect the Asheville economy from future disasters, the panel recommends a fundamental “reset”—a new approach to economic development that builds on the region’s strengths and supports long-term, sustainable wealth creation.

The City is well-positioned to spur the return of visitors, revive the arts, offer new employment skills for its residents, and reposition its riverfront for recreation and resilience. Recovery funds available through CDBG-DR and partnerships with educational institutions and nonprofits can help ensure commercial districts and local businesses are better prepared for the future. The panel recommends economic development strategies that improve both quality of life and quality of opportunity, especially for LMI residents.

Tourism

For over a century, Asheville has attracted visitors with its rich culture and natural beauty. Tourism is deeply embedded in Asheville’s roots, but the city has long had a complex relationship with the hospitality and tourism industries. While

the community welcomes the economic benefits, it has at times resisted the social and environmental pressures that accompany them. Now is the time for Asheville to reframe its relationship with tourism. Rather than a burden, tourism is simply a natural outcome of the city’s historic, social, and environmental assets. In 2023 alone, Asheville welcomed [13.9 million visitors who contributed \\$2.97 billion](#) to the local economy. This level of activity underscores the importance of embracing tourism as a vital economic engine, while also elevating other professional sectors to diversify and strengthen the local economy.

In reframing tourism post-Helene, an approach grounded in **destination stewardship** could be helpful in balancing visitor experiences with resident quality of life. Destination stewardship is a strategic framework for tourism management

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that has been adopted in cities across the country and the world. The approach includes resident input in managing tourism and ultimately seeks to preserve the qualities of a place that make it special to visitors and residents alike. Organizations such as Thrive Asheville have studied the potential benefits of a destination stewardship approach for the region, offering ideas for helping the city move past resistance to visitor traffic and focus on shared value.

Shared Spaces, Shared Value

Ultimately, visitors are not seeking themed or artificial experiences; rather, they want to engage with Asheville's urban and outdoor environments in ways that align with the city's identity. One way to preserve this authenticity is to invest in public spaces or "membranes" that support organic resident and visitor interaction. These spaces would serve residents first and be community-centric, offering amenities and experiences that showcase Asheville's distinct value proposition. Importantly, these spaces would be designed with resilience in mind to help Asheville's tourism and hospitality sectors bounce back more quickly following disruptions. Examples from other cities, such as [Millennium Park](#) in Chicago or [Smorgasburg](#) in Brooklyn demonstrate how spaces established for the community can also function as attractive tourist destinations. [Granville Island](#) in Vancouver, British Columbia, also offers a compelling precedent, where a revitalized waterfront hosts a thriving mix of markets, studios, and live performance venues integrated with daily civic life.

Recreation

Outdoor recreation is a top economic driver and core part of the region's identity. Building on this strong foundation, Asheville might reimagine the River Arts District as a broader "River District," emphasizing the area's natural role as floodplain and promoting recreational uses that are inherently more resilient to climate risks. By integrating green infrastructure, natural landscaping, and extended recreational trails, the redesigned river corridors would offer an inclusive public realm that supports both environmental resilience and the continued growth of the outdoor recreation industry.

The reimagined River District could serve as both a public park and a venue for artistic and cultural programming that reflects Asheville's authentic character. Examples from across the United States—including the 22-mile BeltLine in Atlanta, the Chattanooga Riverwalk and the Hayden Hoopes Amphitheater in Bend, Oregon—demonstrate how engaging



Riverfront greenways offer resilience benefits as well as space for recreation and connection to nature.

public spaces drive economic activity while maintaining community character. The district would also continue to be home to businesses that cater to recreation enthusiasts, such as bike and paddleboard rental companies. Interpretive signage or rotating public art installations would further reflect the region's culture and ecology, reinforcing a sense of place. By building on existing assets, including its historic riverfront, outdoor amenities, and cultural programming, Asheville can diversify its economy while supporting target industries.

Workforce Development

Invest in Creative Entrepreneurs

Artists have faced tremendous difficulty bouncing back after Helene and will require focused investment to thrive. The City might distribute recovery investment funding directly to small businesses (in the form of grants) or allocate a portion of the funds to educational institutions, such as Asheville-Buncombe Technical Community College, to establish a small-business incubator specifically focused on supporting creative entrepreneurs. The incubator would offer technical assistance, marketing support, and other services to help entrepreneurs grow and maintain their businesses. This initiative would build on Western North Carolina's rich history of craft and creativity, nurturing a new generation of creative entrepreneurs. To maximize the impact of available funding, the panel also recommends that the City require partnerships among grant recipients. Consolidating resources into larger, more strategic grants can support high-impact programs, rather than dispersing funds across smaller, less coordinated efforts.

Build a Future-Ready Workforce

To further diversify the economy and upskill workers, Asheville might leverage recovery funding to invest in workforce development and training programs for the trades, with a focus on clean energy and green construction. Clean energy and green construction are growing fields in North Carolina and the United States more broadly and are expected to continue expanding in the years ahead. Partnerships with local educational institutions and the private sector would facilitate the development of the program, which would aim to meet the growing demand for skilled labor and offer career opportunities for Asheville residents.

A relevant model is the [Portland Clean Energy Fund](#) in Oregon. Funded by the City of Portland, the program awards workforce and contractor development grants specifically to build the green economy through apprenticeships in green building, energy efficiency, and solar retrofits. Asheville could adapt this model to serve both its environmental goals and workforce needs, especially as recovery continues post-Helene. To ensure equitable outcomes, enrollment would prioritize LMI residents and neighborhoods through localized workforce training and targeted small-business funding. These efforts will promote resilience, reskilling, and flexible career pathways, helping LMI residents adapt to the city's evolving economic landscape while strengthening Asheville's green construction workforce.

Arts

The City of Asheville has an opportunity to support its arts community by investing in resilient facilities outside of flood-prone areas. A portion of recovery funds could be used to identify and acquire properties that provide safe, affordable spaces for artists to create and sell their work, preserving the spirit of the River Arts District while enhancing long-term resilience. Prior to Helene, the concentration of artists in the River Arts District was a unique and vibrant ecosystem. While the river corridors can continue to host pop-up events, cultural programming, and outdoor public art, relocating studio and gallery space to safer locations ensures continuity and growth. The new arts facilities might also include coworking spaces, shared equipment, and mentorship opportunities for emerging artists.

Beyond the physical structures of these potential new facilities, funding may be used to directly support arts and cultural activities through programming for creative careers. The City might develop educational programming that empowers artists to become successful small-business owners. This could take the form of a rotating seminar series cohosted with local institutions or nonprofits. Such initiatives would help artists build sustainable careers while contributing to Asheville's creative economy. In stabilizing and growing the creative sector, Asheville must not only preserve physical space, but also invest in technical assistance, community support, and affordable commercial leases to ensure that artists can thrive post-disaster.



Foundy Street, an eclectic collection of artist studios, restaurants, and shops in the River Arts District, experienced significant flooding and devastation from Tropical Storm Helene.



ULI | PANEL

Housing and Community Development

AFTER WATER AND EDUCATION, HOUSING IS PERHAPS THE MOST IMPORTANT ELEMENT TO ASSURING HUMAN AND ECONOMIC DEVELOPMENT. Without a stable address, it is difficult for individuals to access employment, education, health care, or community services. With thousands of residential units damaged during Helene and macroeconomic trends limiting new housing production, Asheville must continue to take proactive steps to address housing and support the region's recovery.

During stakeholder interviews, the panel learned that housing cost and availability was a top concern for many community members, particularly after Helene. The panel commends the City on its Affordable Housing Plan, released in September 2024, which outlines strategies to improve housing affordability through inclusive, community-centered processes. The City has also identified housing as a central priority in its long-term recovery plan, underscoring its importance for the long-term health of the region. To support Asheville's continued efforts to address housing, this section offers an analysis of housing and demographic trends to inform future decision-making.

Affordability and Market Dynamics

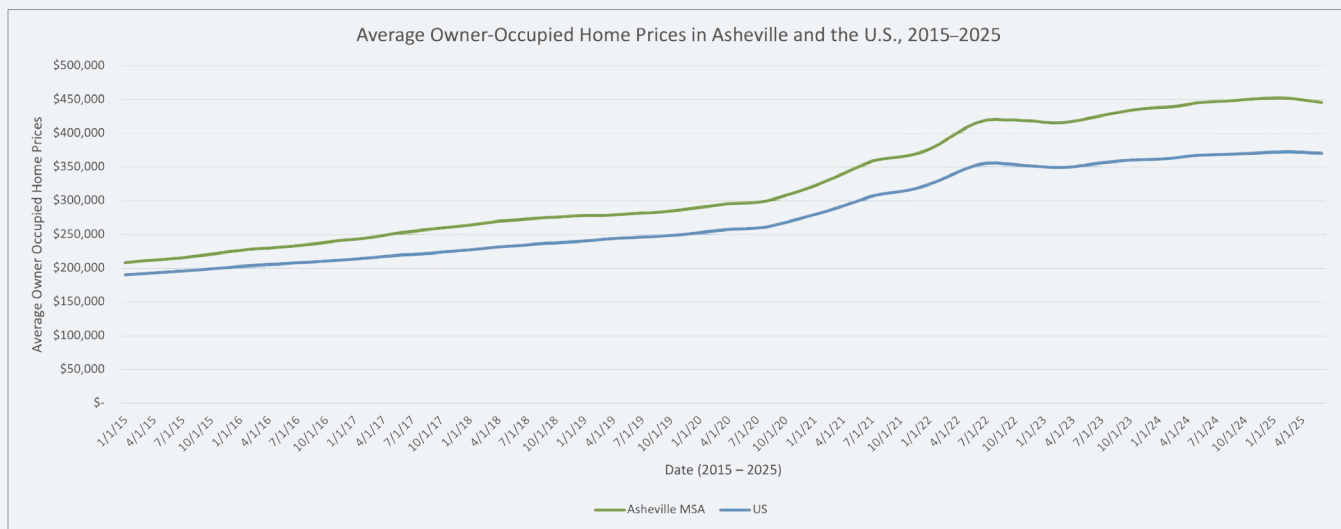
The panel heard from community members that housing is becoming unaffordable across the region. After reviewing data from Zillow and the American Community Survey (ACS), the panel found a notable divergence between the cost of rental and owner-occupied housing over the past 10 years.

Asheville housing is expensive when it comes to owner-occupied homes. Owner-occupied homes are significantly more expensive than the national average—currently

about 20 percent higher, compared to 10 percent above average a decade ago. In contrast, rental housing remains relatively more affordable, although rental prices have gradually increased and are now approaching national levels. Interestingly, rental prices in Asheville have plateaued in recent years, prompting questions about the underlying causes (see figures 1 and 2).

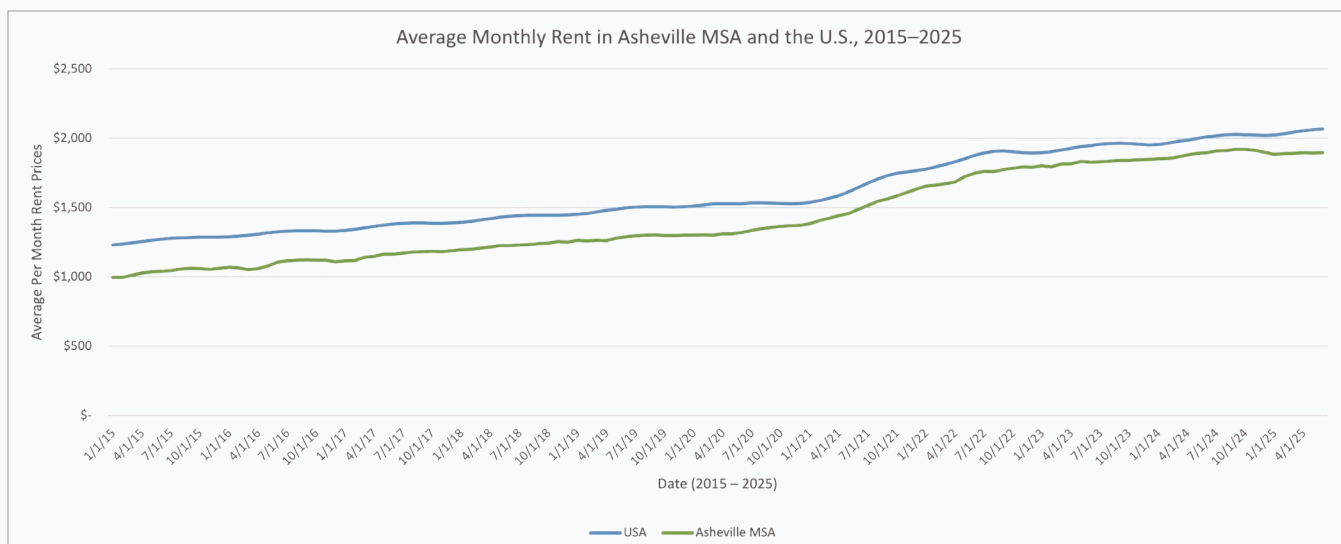
When examining affordability through the lens of cost burden, defined as the percentage of income spent on housing, Asheville, and especially Buncombe County, fares slightly better than the national average (see figure 3, next page). This relative affordability is likely due to the region’s robust housing development, which relative to population occurs at a pace two and a half times the national average and four to five times that of California. However, looking back 50 years to the 1970 U.S.

Figure 1: Asheville Is Expensive



Housing price data from Zillow shows that owner-occupied housing in Asheville is above the national average. Data is from the 2023 American Community Survey (ACS).

Figure 2: Asheville Rent Less than U.S. Average



Rental costs are lower in Asheville compared to the national average. Data is from the 2023 ACS.

Census, only a very small number of households were paying more than 30 percent of their income on housing. Asheville should aim to return to that level of affordability by continuing to increase housing supply.

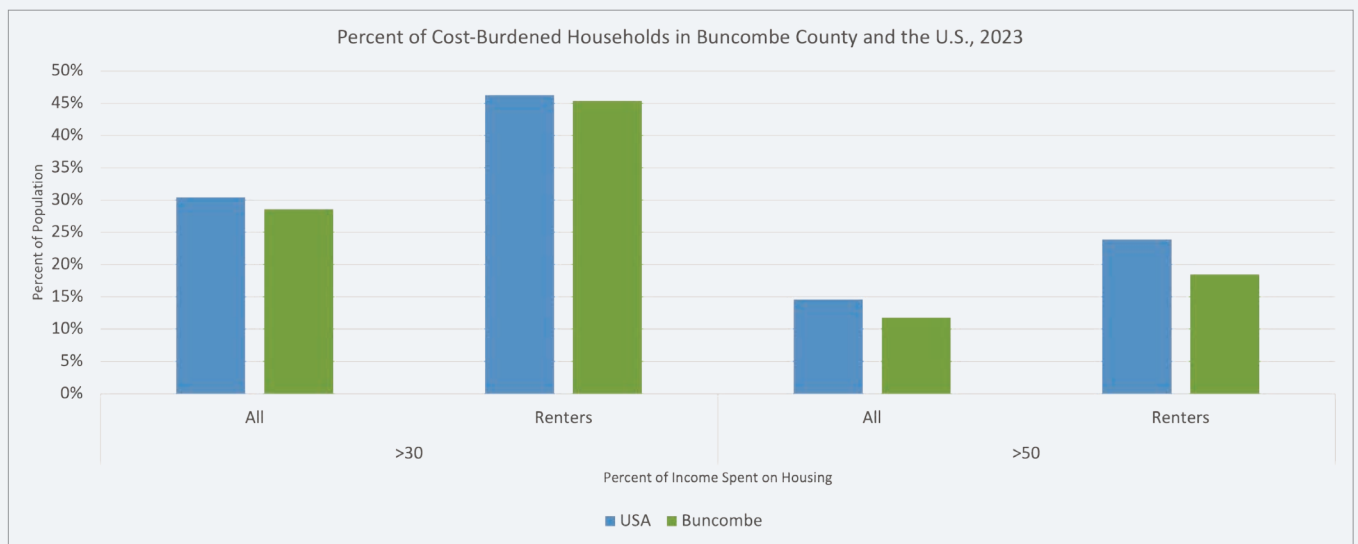
Demographic Realities and Housing Needs

Asheville’s demographic profile diverges from national norms in notable ways. While the region has a higher-than-average population of middle-aged and older adults, it has significantly fewer children, about 20 percent less than the national average

relative to population. This demographic reality suggests that Asheville’s housing needs differ from the traditional American focus on single-family homes (see figure 4).

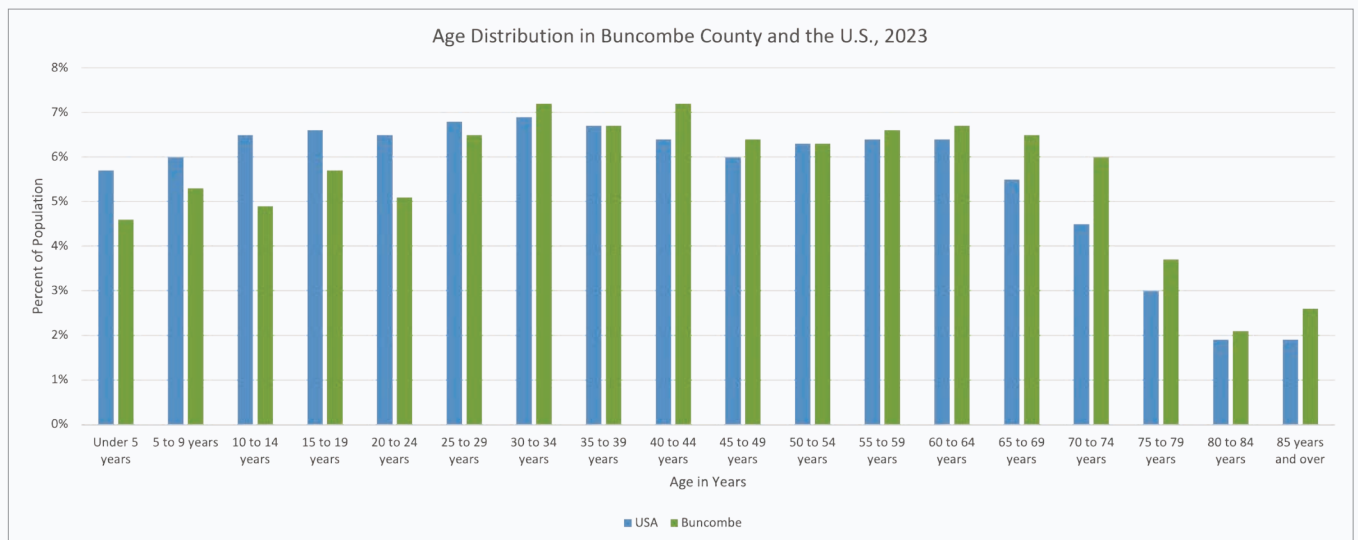
Asheville has, over time, done well in developing “missing middle” housing—buildings with five to nine units that bridge the gap between single-family homes and large apartment complexes. The city has delivered this type of housing at three times the national rate relative to its housing stock. This success should be studied and replicated, as it aligns well with the region’s demographic and economic context (see figure 5, next page).

Figure 3: Cost-Burdened Households



Buncombe County has fewer cost-burdened households compared to the national average. Data is from the 2023 ACS.

Figure 4: Asheville Has Relatively Few Children



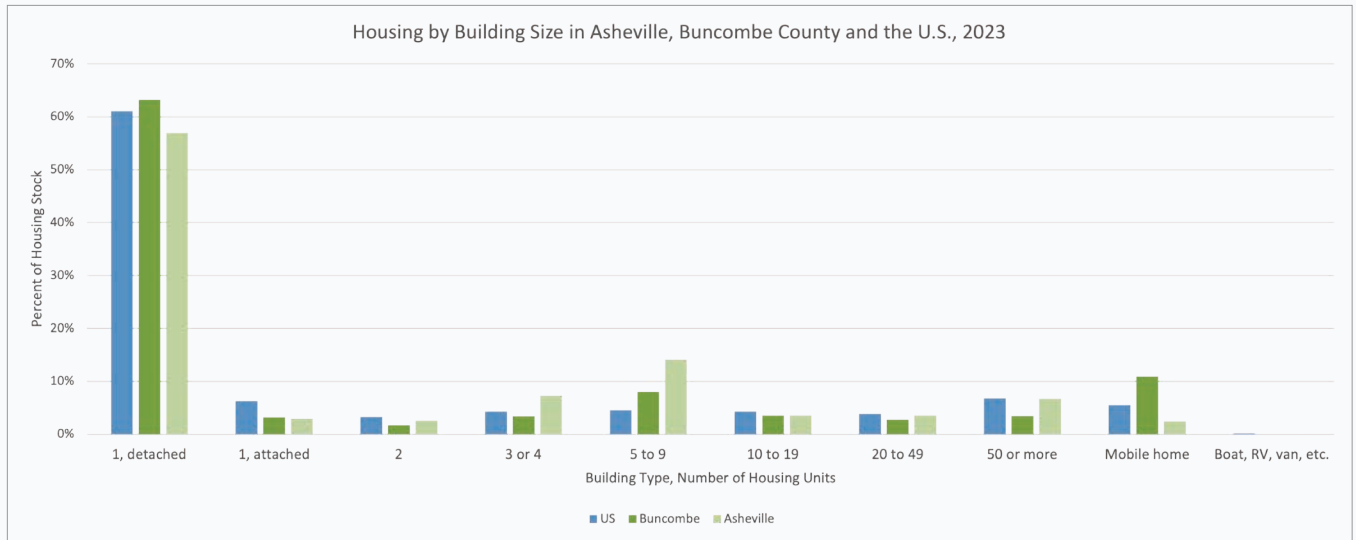
Buncombe County has relatively few children, indicating that the region’s housing needs are different from the traditional American focus on single-family homes. Data is from the 2023 ACS.

Economic Headwinds and Investment Challenges

Despite these successes, Asheville faces significant economic headwinds threatening future housing development. A key issue is the declining financial incentive to build. The return on investment for housing—measured as the ratio of typical rents to house prices—has fallen below the cost of

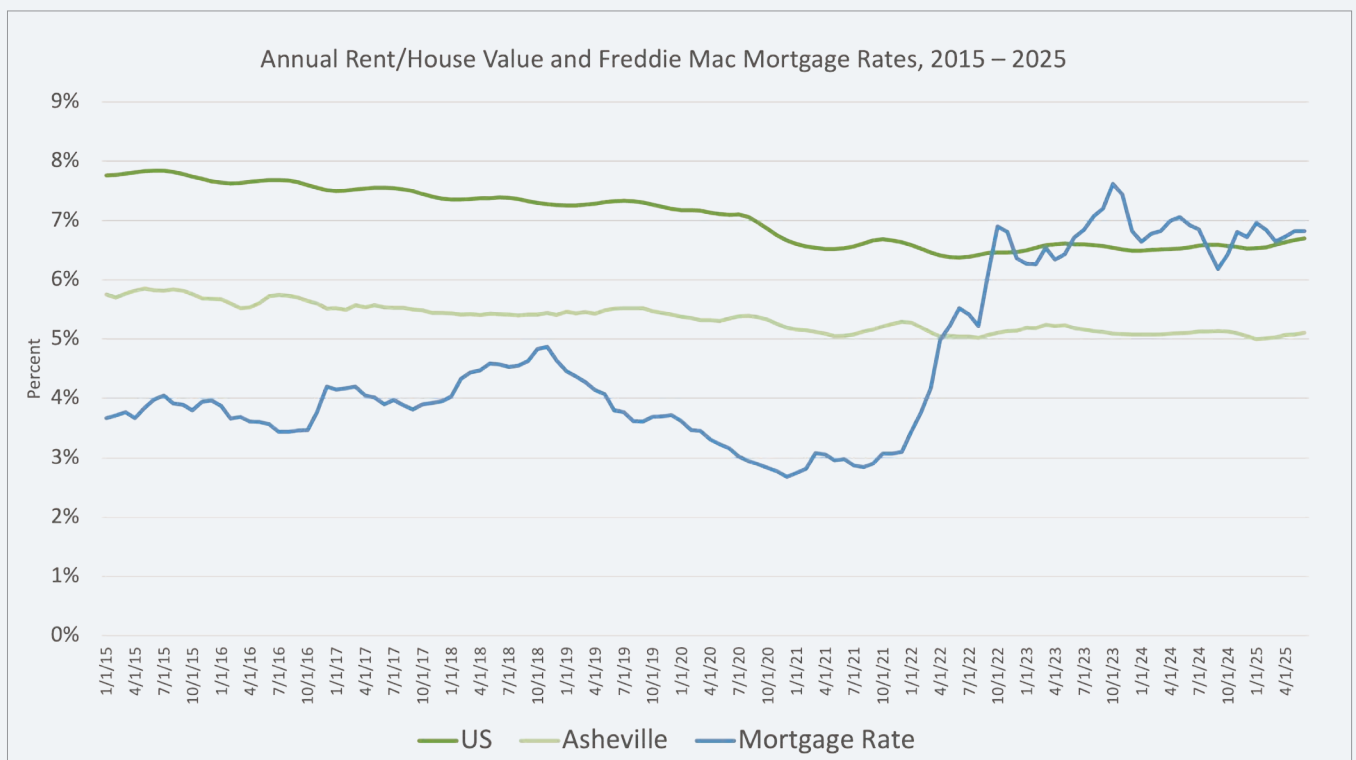
capital (cost to borrow), particularly in Buncombe County. Meanwhile, mortgage rates have risen to levels that match or exceed the return on housing investments, making building or buying homes financially unattractive (see figure 6).

Figure 5: Asheville Has Built Missing Middle Housing



Compared to Buncombe County and the United States, Asheville has more mid-size multifamily buildings, categorized as those with five to nine units. Data is from the 2023 ACS.

Figure 6: Gross Returns to Owner Housing



There are declining financial incentives to build new housing in Asheville, which puts additional pressure on the housing market. Data is from the 2023 ACS.

Feasibility analyses underscore this challenge. Institutional investors can expect a return on equity of just 2.8 percent, while individual investors—such as someone building a duplex to live in and rent out—face returns as low as 1.8 percent. These figures assume land is free, which is rarely the case, meaning actual returns are even lower. With safer investments like U.S. Treasuries yielding over 4 percent, the incentive to invest in housing diminishes sharply.

Feasibility Analysis: Returns on Building a Single Unit Under Current Conditions		
	Institutional (Zillow Rent)	Individual (ACS Rent)
Cost	\$255,000	\$255,000
Gross rent	\$1,900	\$1,300
Operating expense ratio	0.33	0.2
Stabilized vacancy	.06	.06
Net operating income	\$14,360	\$11,731
Mortgage payment at 1.25 discounted cash flow	\$11,487	\$9,384
Mortgage amount (7% interest over 40 years)	\$154,400	\$125,838
Equity needed	\$100,600	\$129,162
Cash flow	\$2,873	\$2,347
Current return on expenses	0.028	.018

The Path Forward

Given the high-cost burden and the economic barriers to new development, Asheville must choose between two paths: increasing housing supply to drive down rents or boosting incomes to improve affordability. While income growth is a broader economic issue, the immediate and actionable strategy lies in continuing to build housing.

To sustain momentum, Asheville must leverage available resources and public investment to support housing development. This includes addressing zoning and land use policies, as outlined in the following section. Ultimately, the region’s resilience depends on its ability to adapt its housing strategies to its unique demographic and economic conditions.



ELIN OOM PHOTOGRAPHY

Land Use

BUILDING A LEGACY OF RESILIENCE WILL REQUIRE THOUGHTFUL LAND USE THAT BALANCES ECONOMIC ACTIVITY WITH ENVIRONMENTAL SUSTAINABILITY. The French Broad and Swannanoa River corridors are composed of an eclectic patchwork of uses, making comprehensive planning for the study areas challenging. Establishing tailored regulatory frameworks for preferred land uses in both corridors will be important for promoting economic revitalization and protecting river health.

The study area consists of a total of 487 parcels, with 288 in the Swannanoa River corridor and 119 parcels in the French Broad River corridor. The median size property is 0.37 acres (16,117 square feet) with a total land value per square foot of \$17.05. There are 52 unique land uses in the study area, almost all of which allow for housing at some level. Generally, the uses fall into the following categories—commercial, government, and utilities—which allows for gasoline sales, as well as auto repairs and industrial uses. Industrial uses include a concrete plant, steel foundry, propane gas facility, and paper recycling processing plant. Many of these industrial uses are not well suited for floodplains and have the potential to threaten the ecological health of the rivers by polluting both the water and soil with hazardous materials.

The Floodplains

Over the past decade, most permits issued in the study area have been for renovation rather than new construction. This trend reflects the challenges of building in floodplains and the high costs of complying with both city and federal regulations. Asheville's flood damage prevention ordinance, aligned with FEMA's standards, governs construction in these areas. However, historic properties are generally exempt from these requirements and may be rebuilt to their original specifications after flooding. As a result, these properties remain vulnerable to repeated flood damage, leading to ongoing property loss and the erosion of important community assets.

Two of Asheville's Historic Districts—the Biltmore Village Local Historic District and the Riverside Industrial Historic



REGGIE TIDWELL/AT CURVE THEORY

The panel recommends establishing a River District Floodplain Zone to protect water quality and reduce flood-related damage.



REGGIE TIDWELL/AT CURVE THEORY

Some of the currently allowed land uses in the floodplain have the potential to leech toxins into the soil and water, causing environmental harm.

District—are located within the floodplain and were heavily affected by flooding from Helene. Much of the land in both districts lies below the base flood elevation, making them especially vulnerable to future flood events. Since September 2024, Asheville’s Board of Adjustment has approved seven flood variances in the Biltmore Village district, allowing severely damaged historic buildings to be rebuilt without meeting base flood elevation standards or implementing protective measures. No flood variances have been granted in the Riverside Industrial Historic District.

Housing

Diverse housing products at a range of price levels will help attract new industries to the city and ensure that existing residents have adequate housing opportunities. The good news is that over the last year, Buncombe County has issued permits for more multifamily units than single-family homes. Additional multifamily housing development, particularly in areas that fall outside of the 500-year floodplain, will be needed to meet the region’s growing demand for housing of all kinds.

Recommendations

For Asheville, simplifying the zoning and permitting processes will promote more environmentally and economically resilient development while facilitating enhanced access to the rivers. To achieve this goal, the panel recommends the strategies detailed below.

Adopt a River District Floodplain Zone

The panel recommends establishing a new River District Floodplain Zone (RDFZ) to protect water quality and reduce flood-related damage. This zone would include all parcels within the 500-year floodplain and prohibit land uses that

could contaminate the river during major flood events. Some existing uses would no longer be permitted. New development within the zone would be required to use low-impact development (LID) strategies and retain the first 1 to 1.5 inches of rainfall on site. For example, a 500-square-foot parcel would need to retain approximately 62.5 square feet of water per rain event. Recommended LID techniques include porous paving materials (e.g., permeable asphalt or concrete), native landscaping, bioswales, and other green infrastructure.

Outside of the two Historic Districts, the RDFZ would not allow variances for property owners rebuilding nonhistoric buildings. Within the Historic Districts, the panel recommends requiring compliance with LID and stormwater management standards to reduce flood damage.

Current nonconforming uses within the RDFZ would be encouraged to participate in FEMA’s HMGP buyout or relocate to surplus City-owned land outside the River District. If property owners decline to voluntarily change their land use, relocate through a land swap, or sell through the HMGP, the City of Asheville may partner with regional stakeholders affected by river pollution and petition the State to condemn the land for long-term public benefit. While enacting this change may be challenging and potentially controversial, it is the single most significant action that the City can take to realize its vision for lasting economic and environmental resilience in the study area and the city more generally.

Adopt a River District Mixed Use Zone

The goal of the River District Mixed Use Zone (RDMUZ) will be to promote the development of multifamily housing that is connected to the River District and the history-rich legacy neighborhoods. As a pilot program, the RDMUZ would set objective design standards for multifamily housing that could potentially be adopted citywide.

The panel's primary recommendation is to eliminate discretionary review for multifamily housing that meets the criteria of the RDMUZ. Within this zone, the City might identify different categories based on building size, to guide design standards and other requirements, ensuring that all developments provide both visual and pedestrian connectivity to the River District from surrounding neighborhoods. In addition, single-family development would not be permitted in the RDMUZ. This restriction helps preserve the character of historic single-family neighborhoods while supporting the City's goals for affordable housing aligned with demographic needs. To incentivize affordability, density bonuses could be offered for projects that include deeply affordable units.

Additional features of the RDMUZ might include the following:

- Reduced parking requirements, consistent with the City's *Missing Middle Housing Study*;
- No minimum lot size requirements;
- Mandatory landscaping and green infrastructure for all project sizes;
- Required view corridors and pedestrian access for all projects, especially large-scale projects;
- Mixed-use development, with ground floors dedicated to activated uses; and
- Adoption of steep slope standards from the *Missing Middle Housing Study*.

Linking Arts and Affordable Housing

Most large projects are required to donate 1 percent of their project cost to the arts. The panel recommends allowing this fee to be used to build artists' studio spaces as part of the development or subsidize rent for a dedicated unit set aside for certified artists (e.g., those approved to contribute to the City's public arts program).

Infrastructure Grant Program

Implementing LID strategies and green infrastructure improvements may present a financial challenge for property owners in the two proposed districts. The panel estimates that updates may cost between \$8 and \$20 per square foot, depending on the lot size and existing infrastructure.

However, without these measures, the city will continue to face recurring nuisance flooding, resulting in physical damage, economic loss, and degraded water quality. To support compliance, the panel recommends establishing an infrastructure grant program funded through available federal resources. This program would help offset costs by reimbursing property owners up to a set amount per square foot of total lot size, with payment issued after final inspection of the completed work.

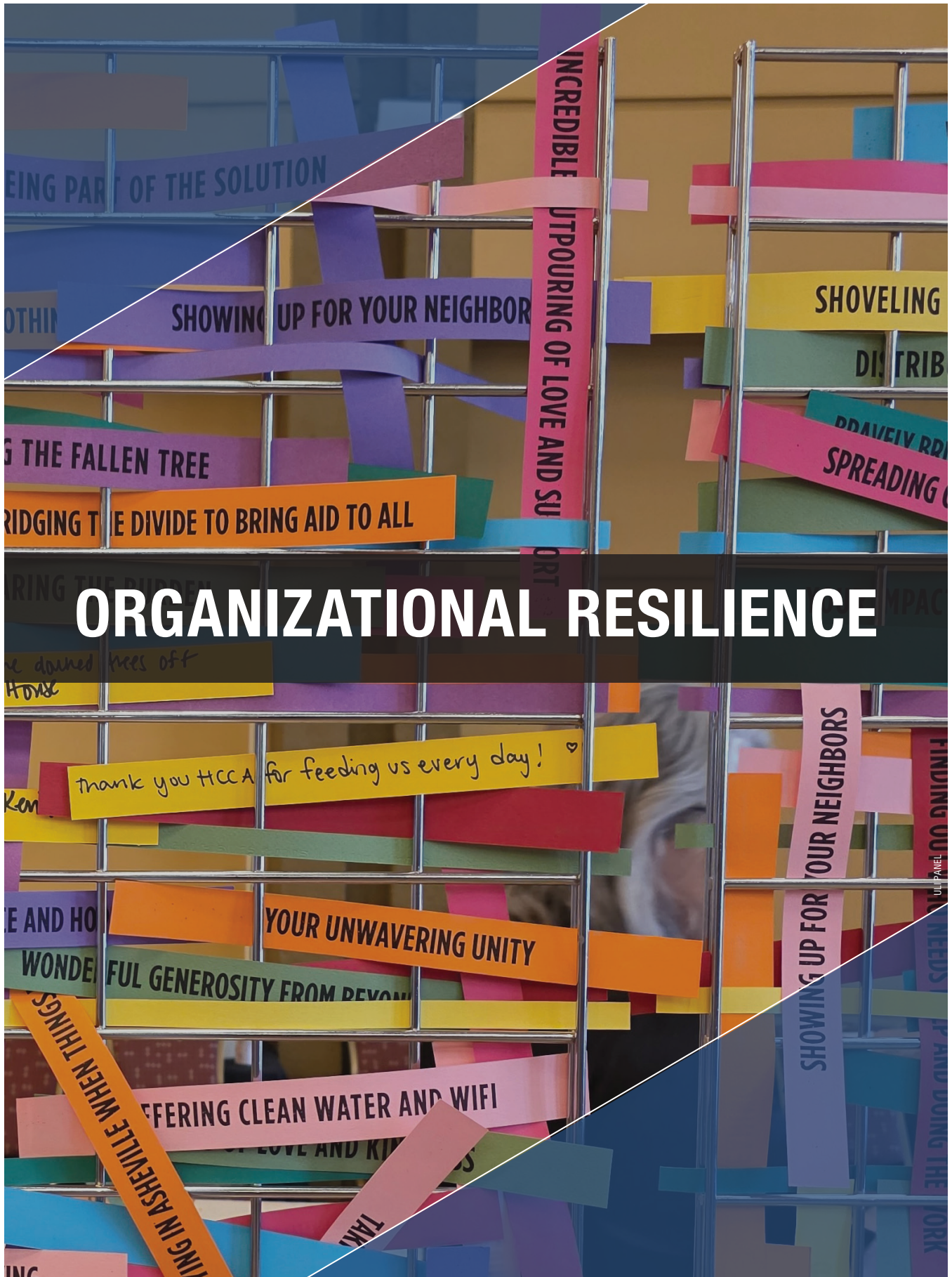
“Soft Second” Mortgage Assistance Program

To support residential development in and around the River District, the panel recommends exploring a soft second mortgage assistance program funded through CDBG-DR. This assistance would act as a secondary, interest-free loan to help developers cover construction costs. The loan would be repaid only upon refinancing or sale of the property. One key benefit of this model is its long-term sustainability: repaid loans would be reinvested into the fund to support future projects. If the program is eventually phased out, any remaining funds could be redirected to other City initiatives.

The Development Liaison

To streamline permitting processes and ultimately speed construction, the panel recommends establishing a development liaison that would serve as the City's single point of contact for the development community, reporting directly to the city manager. This role would be responsible for assisting in the drafting and implementation of new zoning regulations, managing and overseeing the infrastructure grant program and mortgage assistance programs, and acting as a project champion to advance developments that align with the new zoning by coordinating with elected officials, community members, and City staff.

The panel recommends implementing these five key initiatives as soon as possible. Together, they aim to support the vision of a resilient, inclusive River District—one that reconnects legacy neighborhoods to the riverfront, preserves historic resources, enhances recreational opportunities for future generations, and honors the district's rich heritage.



ORGANIZATIONAL RESILIENCE



ULLIPANEL

Talk Less, Do More

THE CITY'S HERCULEAN EFFORTS DURING AND AFTER THE STORM ENSURED THAT RESIDENTS HAD THE INFORMATION, SUPPORT, AND SERVICES THEY NEEDED TO RECOVER AND REBUILD. This work would not have been possible without the City's skillful leadership through crisis, the tireless work of staff across all departments, and the community's strength and resilience in the weeks and months following Helene.

Now, the City is well-positioned to move into its long-term recovery phase, shifting from crisis response to strategic action. This is an opportunity for the City to solidify its role as a regional leader and as an organization defined by doing, not just planning. An approach that is rooted in connection, strategic alignment, and strong relationships will ensure success moving forward. This means consolidating plans into a unified, action-oriented vision; deploying resources in a coordinated manner; and strengthening partnerships across policies, plans, and processes.

Planning for Leadership in Action

The City has completed numerous studies and adopted many long-range plans that serve as a solid foundation for future work. With the cornerstone of a great city being great plans, this moment now requires a plan of action. Energy should be put into developing a single vision and roadmap with a clear and delineated set of priorities that can move from concept to forward progress. Taking risks—even if they do not result in successful outcomes—is preferred over doing nothing. This can be accomplished through an iterative process that is defined by taking bold steps forward, evaluating progress, and adapting future actions.

To begin this process, the panel recommends integrating and prioritizing existing planning efforts. Potential reports and plans to review include the following:

- RADTIP Public Arts Master Plan
- Asheville’s Wayfinding Program – River Arts System
- Public Arts Master Plan
- Asheville’s Riverfront Plan
- The Wilma Dykeman RiverWay Master Plan
- Temporary Activation Program
- Swannanoa River Signage/Greenway Plan
- HellBender Trail Regional Plan

To do this successfully, a paradigm shift is needed, one that reimagines planning as an opportunity to align government, community organizations, and residents under a shared vision for the future. Creating a structure where people are working together under aligned plans and actions will ensure resources are prioritized for maximum impact. As the saying goes, “many hands make light work”—but those hands must be connected and working collaboratively, rather than in silos or isolation, even if they share the same goals. At the same time, planning should be grounded in data, evidence, and trauma-informed insights. Acknowledging the painful memories of Helene alongside other past harms, particularly experienced by people of color, will be important for driving an inclusive and equitable recovery for all.

Reclaiming the Rivers

As a city defined by its rivers, the French Broad and Swannanoa River corridors have the potential to become centerpieces of resilience, rather than reminders of past destruction. Balancing economic resilience and environmental protection, these areas will be characterized by sustainable development and adaptation that work in harmony with nature, rather than against it. Across the floodplain and throughout the city, this vision will take form through expanded greenspaces, adaptive flood strategies, and resilient infrastructure that includes nature in every step. Over time, resilience will be woven into the city’s identity, not added as an afterthought.

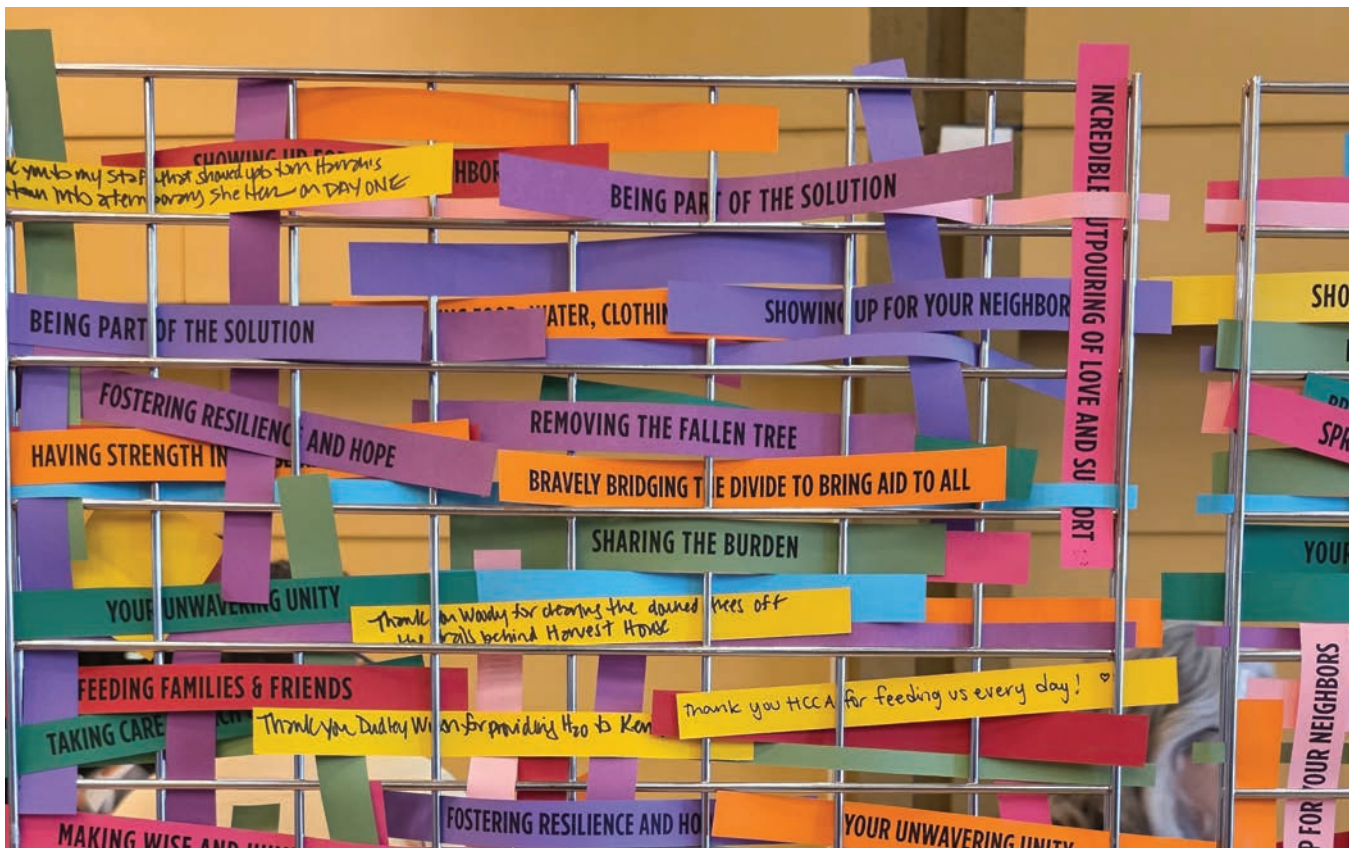
Strength through Partnerships and Collaboration

Partnerships and collaboration will sustain Asheville’s resilience in the years ahead. The City is already a strong connector and convener, as demonstrated by its success implementing public/private partnerships and collaborating with Buncombe County on the forthcoming long-term recovery plan. Continuing to build on these efforts—particularly through continued partnerships with the private sector, educational institutions, and other groups—will ensure available resources are maximized for broader public benefit.

Similarly, unifying groups under shared values and activities can help align efforts, reduce redundancy, and facilitate greater community impact. The city is fortunate to have many nonprofits working tirelessly to improve Asheville and through collaboration, these groups can support more meaningful outcomes across the region. The panel recommends convening housing, economic development, environmental, and cultural groups together on a regular basis to identify opportunities for alignment. Grant proposals that demonstrate strong partnerships and collaboration across organizations should be prioritized for funding. A focus on equity should drive this work, along with a commitment to invest in historically marginalized communities that can benefit most from available resources.

The panel recommends that the City prioritize partnerships and relationships with the following entities:

- **Nonprofit organizations and philanthropies:** Mountain BizWorks, Thrive Asheville, ArtsAVL, RiverLink, Blue Ridge Public Radio, and many others
- **Buncombe County:** Long-term recovery, water, transit, health, schools, housing, tourism, economic development
- **Neighboring governments:** Buncombe, Haywood, Henderson, and Madison on water, transit, health, housing, tourism, and economic development
- **The State of North Carolina:** Water controls, ordinance/zoning changes, grants for incentives, TIF for districtwide capital improvements, and sales tax increases
- **The citizens of Asheville:** Engage a development/planning liaison dedicated to communicating and implementing development strategies
- **Major businesses:** Biltmore, HCA, Norfolk Southern, U-Haul, Duke Energy – engage with both philanthropic and economic development opportunities
- **Major education institutions:** Asheville-Buncombe Technical Community College, Western Carolina University, and University of North Carolina-Asheville



At a community meet-and-greet event during the panel week, attendees added colorful messages to a gratitude wall, highlighting how community members supported one another in the aftermath of Tropical Storm Helene.

CITY OF ASHEVILLE

Measurement and Accountability

Establishing benchmarks to measure success and hold individuals and organizations accountable will be essential for realizing the vision of a resilient Asheville. The city is rich with data, and this information can serve as the foundation for understanding progress around target areas, including housing, health and wellness, economic opportunity, and environmental resilience. Tracking investments and understanding outcomes for people, nature, and the community will help the City and its partners identify what's working and where there may be opportunities for improvement.

In addition, an implementation matrix that identifies short-, medium-, and long-term tasks can help demonstrate progress and future priorities. Clarity around responsible entities, timelines, and anticipated outcomes will support efficient progress and build community trust.

Call to Action

The recommendations outlined in this report are designed to help Asheville strike a meaningful balance between economic activity and environmental sustainability along the river corridors. The devastation of Helene served as a wake-up call and an urgent reminder that building for resilience cannot wait. This is Asheville's opportunity to reflect on its past and redefine its legacy for the future, one rooted in progress, equity, and environmental stewardship.

Perfection must not become the enemy of progress. Bold leadership is needed at every level—top down and bottom up to foster connection, strategic alignment, and strong partnerships. A resilient Asheville is not simply imagined; it is built through deliberate, collective action. The city is not merely enduring challenges and hardships; it is reclaiming its rivers, culture, and communities with intention. What happens next will define not just what Asheville has been, but what it will become.

About the Panel

Jim Heid

Panel Chair
Healdsburg, California

Jim Heid is an infill developer and strategic real estate advisor focused on real estate development as a tool to create better communities. Heid founded CRAFT DnA to focus on incremental development and intentional place-building as a successor to his boutique consultancy UrbanGreen. For over two decades, UrbanGreen pioneered community sustainability strategies for public and private sector clients. Heid's leadership in this space is evidenced by his role leading an international team to develop next generation sustainable development standards for the Emirate of Abu Dhabi.

An active member of the Urban Land Institute, Heid has participated in over 16 Advisory Services panels, chairing panels for *Tower Renewal for Resilience* in Toronto, Canada (2019), *Place Branding Strategies* for Napa's Oxbow District (2018), *Bridging the Divide Through Resilience*, St. Tammany Parish, Louisiana (2015); *Building Resilience and Prosperity*, Northern Colorado (2014), and *Federal Government Relocation Evaluation*, Moscow, Russia (2011).

Heid's book, *Building Small: A Toolkit for Real Estate Entrepreneurs* (ULI, 2021), has received national acclaim by entrepreneurial developers across the United States and captures his current focus on the importance of small scale, incremental approaches to building community. With the success of *Building Small* and his twice-per-year Small Scale Developer Forum, Heid launched buildingsmall.mn.co, an online community for small developers. Now in its second year, the private network is approaching 1,000 members, filling a significant gap for experienced and emerging developers who want to build small.

Trained as a landscape architect at the University of Idaho, Heid went on to receive a masters in real estate development from MIT as way to more effectively integrate economics, development, and design thinking.

Clare De Briere

Los Angeles, California

Clare De Briere is a native Angeleno who has spent her career creating special places for the citizens and visitors of Los Angeles. In 2024, De Briere joined Catalyst Property Company as a founding partner, with the goal to continue to develop teams that were trained and focused on building great places for people while providing unparalleled customer service. With the successful launch of the company, she resigned her role and returned to her LA-focused development company, C+C Ventures.

Prior to joining Catalyst, De Briere served as executive vice president and regional manager in Los Angeles for Skanska USA Commercial Development. Over the course of seven years, she led the company's expansion into Los Angeles, developing the strategy for all acquisitions and development while sitting on the national senior leadership team. While with Skanska, the LA team developed and divested the completed 9000 Wilshire, the first LEED Platinum building in Beverly Hills, and acquired and entitled 8633 Wilshire and 1811 Sacramento Street.

De Briere began her development career in 1991 at The Ratkovich Company. She engaged in property and construction management, leasing, financing, and development management while earning her graduate degree at USC's Lusk Center for Real Estate. Over her 26-year career at the company, De Briere served as chief operating officer and executive vice president, and oversaw the acquisition, entitlement, planning, development, and/or disposition of millions of square feet from The Wiltern Theatre, 5900 Wilshire, 800 Wilshire, The Alhambra, The Hercules Campus in Playa Vista, and The Bloc in downtown Los Angeles.

De Briere received her undergraduate degree in history from UCLA, and her masters in real estate development degree from USC. She sits on the UCLA Ziman Center board, the USC Lusk Center board, and is the chair of the Executive Committee of the Central City Association. She is an active member of the Urban Land Institute serving on the global board, as a member of and the immediate past chair of the America's Executive Committee, as a Global Governing Trustee, and as a member of the governance committee and the Advisory Board of the

Los Angeles district council. She has been named on the *Los Angeles Business Journal's* 500 Most Influential People in LA and their Women Making a Difference lists multiple times and has been on the Real Estate Southern California's Women of Influence list for every year for over a decade. De Briere is also on the advisory board of the UCLA history department and served on the executive committee of the board of the Los Angeles Conservancy. She is a regular volunteer at the Downtown Women's Center.

Andre Brumfield

Chicago, Illinois

Andre Brumfield is a principal and global director of Cities + Urban Design for Gensler in Chicago and sits on Gensler's board of directors. He applies his broad experience in the fields of urban design, planning, and architecture to focus on urban redevelopment; neighborhood and community revitalization; large-scale, high-density urban infill projects; citywide master planning; corporate campus master planning; and the repositioning of inner-city neighborhoods.

Brumfield has committed his career to improving cities and their urban areas. He has extensive experience in revitalizing distressed and economically challenged urban environments across the country, and works with developers, public agencies, and nonprofit organizations to develop affordable and mixed-income housing. His strong background in transit-oriented development, corridor master planning, and repositioning urban industrial centers is represented in his broad range of work and product types. He serves as vice chair of the Chicago Plan Commission, and as a board member of the Chicago Architecture Center and Neighborhood Housing Services.

His specialties include urban design and planning; neighborhood and community revitalization; public housing revitalization; affordable, mixed-income housing; transit-oriented development; citywide and regional planning; and conceptual architecture.

Samia Byrd

Arlington, Virginia

With nearly 30 years of experience guiding housing, land use, development policies, plans, programs, and processes, Samia Byrd is considered a thought leader and practitioner facilitating the creation of healthy, sustainable, equitable, diverse, and inclusive communities. In 2024, Byrd was recognized by the Virginia American Planning Association with the Moeser Award Outstanding Leader, named for the late Dr. John V. Moeser, known as "an advocate for a more just society and Virginia Commonwealth University urban studies trailblazer." She led and assisted in facilitating development and adoption of the Metropolitan Washington Council of Governments regional equitable development principles to operationalize equity in local jurisdiction comprehensive planning.

Byrd currently serves as the director for the Department of Community Planning Housing & Development (CPHD) in Arlington County, Virginia. In this role, Byrd provides leadership to more than 200 interdisciplinary practitioners, and vision, strategy, and direction for the next generation of land use, housing, and development plans and policies. During her more than 18-year tenure with Arlington County, Byrd has served in various roles including as the County's first chief race and equity officer and a deputy county manager whose portfolio included CPHD upon serving for a decade as a principal planner and planning coordinator in the department. Her local government experience builds upon 12 years working in the private and nonprofit sectors as a housing management consultant with Quadel Consulting, director of state fiscal analysis and policy for the National Council of Nonprofit Associations, a research associate with the Urban Land Institute, and an information specialist for community connections at Aspen Systems Corporation, previously contracted to HUD's Office of Community Planning and Development. She holds a bachelor and master of city planning from the University of Virginia and Georgia Tech, respectively, and has actively served in membership with ULI Washington over several years as well as the Government Alliance for Race and Equity.

Of all the acknowledgments, Byrd is a proud member of Delta Sigma Theta Sorority; native of Hampton, Virginia; wife; and mother of two young adult children.

Roni Deitz

Sugar Mountain, North Carolina

Roni Deitz is the global director of climate adaptation at Arcadis, where she leads a worldwide team delivering climate risk analyses, adaptation strategies, and resilient infrastructure solutions for cities, utilities, and private-sector clients. Her work integrates climate science, engineering, and urban design to help organizations plan for multihazard risks and implement future-ready solutions that advance equity, livability, and sustainability. Central to her approach is the ability to build consensus across disciplines and stakeholders, especially in complex urban and coastal contexts.

In the wake of Hurricane Sandy, Roni has managed and led resilience projects across New York City, including a year-long embedment at the NYC Department of Design and Construction to support approvals for the \$1.4 billion East Side Coastal Resiliency project. She has helped secure over \$100 million in federal resilience funding for New York City and Wilmington, Delaware, through FEMA's BRIC, FMA, and HMGP programs—bridging federal compliance with innovative, community-driven design.

Deitz serves on the ULI Resilience Planning Committee and the Industry Advisory Board for Duke University's MEng in Climate and Sustainability. She is a licensed professional engineer and holds a BS in civil engineering and an MS in environmental engineering from Rice University, with a focus in water resources.

Richard Green, PhD

Pasadena, California

Richard K. Green, PhD, holds the Lusk Chair in Real Estate and is professor in the Sol Price School of Public Policy and the Marshall School of Business. He recently finished a year as senior adviser for Housing Finance at the U.S. Department of Housing and Urban Development, and as of July 1, 2016, became a trustee of the Urban Land Institute. Prior to joining the USC faculty, Green spent four years as the Oliver T. Carr Jr. Chair of Real Estate Finance at The George Washington University School of Business. He was director of the Center for Washington Area Studies and the Center for Real Estate and Urban Studies at that institution. Green also taught real estate finance and economics courses for 12 years at the University

of Wisconsin-Madison, where he was Wangard Faculty Scholar and chair of Real Estate and Urban Land Economics. He also has been principal economist and director of financial strategy and policy analysis at Freddie Mac. More recently, he was a visiting professor of real estate at the University of Pennsylvania's Wharton School, and he continues to retain an affiliation with Wharton. He is or has been involved with the Lincoln Institute of Land Policy, the Conference of Business Economists, the Center for Urban Land Economics Research, and the National Association of Industrial and Office Properties. Green also is a Weimer Fellow at the Homer Hoyt Institute, and a member of the faculty of the Selden Institute for Advanced Studies in Real Estate. He was recently president of the American Real Estate and Urban Economics Association.

Green earned his PhD and MS in economics from the University of Wisconsin-Madison. He earned his AB in economics from Harvard University. His research addresses housing markets, housing policy, tax policy, transportation, mortgage finance, and urban growth. He is a member of two academic journal editorial boards, and a reviewer for several others. His work is published in a number of journals including the *American Economic Review*, *Journal of Economic Perspectives*, *Journal of Regional Science*, *Journal of Real Estate Finance and Economics*, *Journal of Urban Economics*, *Land Economics*, *Regional Science and Urban Economics*, *Real Estate Economics*, *Housing Policy Debate*, *Journal of Housing Economics*, and *Urban Studies*. His book with Stephen Malpezzi, *A Primer on U.S. Housing Markets and Housing Policy*, is used at universities throughout the country, and he recently published a book, *Introduction to Mortgages and Mortgage-Backed Securities*. His work has been cited or he has been quoted in the *New York Times*, *The Wall Street Journal*, *The Washington Post*, the *Christian Science Monitor*, the *Los Angeles Times*, *Newsweek*, and the *Economist*, as well as other outlets. He spoke at the 31st annual Federal Reserve Bank of Kansas City Economic Symposium, and he has testified before U.S. Senate and House Committees, as well as California Assembly Committees. The National Association of REALTORS, the Ford Foundation, and the Lincoln Institute for Land Policy have funded grants to support some of Green's research. He consults for the World Bank.

John Macomber

Boston, Massachusetts

John Macomber is a senior lecturer in the finance unit at Harvard Business School. His professional background includes leadership of real estate, construction, and information technology businesses. At HBS, Macomber's work focuses on climate adaptation and the future of cities, particularly as aided by the private finance and delivery of public infrastructure projects in both the developed and emerging worlds. His teaching combines infrastructure finance (including public/private partnerships), investing in resilience (notably in the face of sea rise in some areas and drought in others), economic development, and the impact of new technologies in delivering new infrastructure and making old infrastructure more efficient. His most recent book is *Healthy Buildings: How Indoor Spaces Drive Performance and Productivity* (Harvard University Press, 2020).

Macomber is the faculty chair of the HBS Africa Research Center. He is also engaged in the Business and Environment Initiative and Social Enterprise Initiatives at HBS and is a member of the executive committee of the Harvard University Center for African Studies. He teaches finance, real estate, urbanization, and entrepreneurship courses in the elective curriculum and in executive education.

Macomber is the former chairman and CEO of the George B H Macomber Company, a large regional general contractor. He remains a principal in several real estate partnerships. He is the chairman of the board of trustees of Mount Auburn Hospital in Cambridge, Massachusetts, and he serves or has served on the boards of Young Presidents Organization International, Boston Private Bank, and the WGBH Educational Foundation. Macomber is a graduate of Dartmouth College (mathematics in the social sciences) and Harvard Business School.

David Mazzuca

New York, New York

David Mazzuca is lead instructor at the National Center for Disaster Preparedness at the Columbia Climate School, Columbia University. He leads FEMA-supported training programs focused on whole-community disaster response and long-term recovery, helping state, local, tribal, and territorial governments strengthen resilience in the built environment. His work centers on integrating land use, housing, and infrastructure considerations into post-disaster planning to ensure recovery efforts are community-informed and future-proofed against climate risk.

From 2015 to 2019, Mazzuca served as assistant director for housing recovery in the Sandy Recovery Division for the State of New Jersey. He oversaw the implementation of a \$1.4 billion CDBG-DR portfolio of housing reconstruction and rehabilitation programs following Superstorm Sandy, working across construction, real estate, and municipal planning sectors. His leadership involved close coordination with contractors, local governments, and state officials to expedite rebuilding and reestablish community trust. Preceding his tenure with the State of New Jersey, he served as an economic development fellow with the City of New York and a consultant with the U.S. government services practice of BAE Systems.

Mazzuca's international experience includes research on community-led disaster risk reduction in Japan as a 2022 Hitachi International Affairs Fellow at the Council on Foreign Relations, in residence at Kyoto University's Disaster Prevention Research Institute. He was a 2018 Marshall Memorial Fellow and a 2023 Taiwan-U.S. Policy Program Delegate at the German Marshall Fund of the United States.

He is a special advisor to the National Emergencies Trust and a Stephen M. Kellen term member of the Council on Foreign Relations. He serves on the board of trustees of the New Jersey State Museum Foundation and the board of directors of the Friends of King's College London Association, and holds a BA in urban studies and an MS in real estate development from Columbia University, and an MA in war studies from King's College London.

Jim MacRae

Denver, Colorado

Jim MacRae is a principal urban designer and landscape architect with Design Workshop, a national urban design, land planning, and landscape architectural firm. He is passionate about designing places that honor nature, people, and culture. His career has taken him across the globe; from North America, Asia, and the Middle East, and these professional experiences have sharpened his design and technical capacity and his appreciation for working in diverse natural and urban environments.

For nearly four decades, he has led the planning and design of many award-winning projects in the United States and abroad. He has broad experience but is best known for his planning and design of mixed-use districts, master-planned communities, and sustainable parks and open spaces. Currently, MacRae is working on several large projects including the Point of the Mountain, a 600-acre innovation district that is resiliency focused, incorporating water conservation, ecological enhancements, walkability, and various transit modes for the State of Utah, the owner of the land.

During his career, MacRae has held multiple roles within Design Workshop including partner/board member, managing principal of the Denver office, executive director of DW Shanghai Ltd. Co., ESOP trustee, and operations manager. Outside the firm, he's been on the RidgeGate Design Review Committee and the Symphony Park Design Review Board as well as taught or given lectures at various universities including Arizona State University, Colorado State University, University of Colorado, University of Calgary, Iowa State University, University of California at Irvine, Rutgers University, and Utah State University.

He has authored various articles and spoken at industry conferences including the International Council of Shopping Centers Spring Conference, ULI Alberta Annual Conference, Colorado Real Estate Journal Conference, Iowa Builder and Developer Luncheon, and the Colorado Brownfields Conference. MacRae holds a master of urban design from the University of Colorado at Denver and a bachelor of science in landscape architecture from California Polytechnical State University—San Luis Obispo, where he received several academic honors.



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