Recovering Affordable Housing in Eastern North Carolina Post-Hurricane Matthew: A Strategy Forward

Hurricane Matthew Disaster Recovery and Resilience Initiative
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Executive Summary

Hurricane Matthew made landfall on October 8, 2016, and precipitation and riverine flooding devastated many Eastern North Carolina neighborhoods and communities during the following week. Floodwaters damaged 35,000 households, sending hundreds of people to shelters and generating long-term housing recovery needs across a broad swath of the region.

This report, developed through the Hurricane Matthew Disaster Recovery and Resilience Initiative (HMDRRI), provides analysis and initial strategies and recommendations for long-term housing recovery post-Hurricane Matthew. It focuses specifically on the funding, preservation, and development of affordable housing in Eastern North Carolina counties affected by the hurricane. Based on the research conducted by our HMDRRI research team during the summer of 2017, we offer key findings of our analysis in this executive summary.

1. There is a need for affordable housing at all income levels and with additional focus on some special populations, including:

- Single-family housing that is resilient to storms and energy efficient in a range of affordability levels (at 30%, 50%, 80%, 100%, and 120% AMI),
- Multi-family rental housing in a range of affordability (at 30%, 50%, 80%, 100%, and 120% AMI),
- Multi-family housing for young professionals (e.g. teachers),
- Housing to accommodate aging and disabled populations, and
- New neighborhoods with affordable housing that reflects community preferences in design and siting, such as rental housing with more space between homes for a garden.

2. The current stock of affordable housing in Eastern North Carolina has limitations, including:

- Affordable mobile and modular homes, which are abundant in Eastern North Carolina, are not resilient to extreme weather events,
- Modular homes that are placed on slab foundations with septic systems are more susceptible to flood damage,
- Mobile and modular homes that have higher loan interest rates do not provide the wealth building opportunities of stick-built homes, and
- Older housing stock that is affordable may be energy inefficient and impose higher utility costs to heat and cool, creating cost-burdens for low- or fixed-income households.
- Existing vacant housing is often not available for rehabilitation due to unclear titles and excessive liens.

3. There is a lack of capital for affordable housing, including:

- A shortage of capital for both low and moderate income homebuyers, Community Development Corporations (CDCs), and others interested in developing or rehabilitating affordable housing,
- Limited funding for Low Income Tax Credit Housing, which is the primary funding vehicle for the creation of affordable multi-family housing, and
- A significant reduction in Community Development Block Grant (CDBG) funds to be used for housing.

4. There is limited organizational capacity to build affordable housing due to:

- A loss of CDBG and other state funding to support administrative capacities at CDCs, other non-profit affordable housing developers, and governmental agencies which has resulted in a reduction in new affordable housing and
- Insufficient qualified labor to meet the demand for post-disaster housing construction/rehabilitation and to conduct title searches.

5. Historical patterns of segregation and poverty create uneven rates of recovery. For example,

- Income, education, and health disparities across racial and ethnic groups create greater challenges to improve income and housing for some groups,
- The loss of jobs, particularly in manufacturing, in the region has resulted in the out migration of younger, healthier, and more highly educated individuals, and
- Households with Housing Choice Vouchers (HCVs) are not always able to rent homes that will meet HUD housing quality standards thereby concentrating these families in lower quality housing and neighborhoods that have a high concentration of poverty.

6. The four counties most heavily impacted by Hurricane Matthew, Cumberland, Edgecombe, Robeson, and Wayne, will require a variety of public and private strategies for affordable housing.

- Cumberland County, and to some degree Wayne County, have a stronger outlook for private investment in housing than do Robeson and Edgecombe Counties, and
- Edgecombe County faces serious economic challenges that may require alternative funding models to generate the capital needed for affordable housing development and maintenance.

7. An holistic strategy to address storm-related and longer-term affordable housing issues in Eastern North Carolina must address state-level commitment, housing supply and finance, economic development, local capacity, and flood resilience. Our main recommendations include:

- Form a standing committee to recommend policy, programmatic, and funding strategies to encourage development of affordable housing in Eastern NC,
- Create funding and other policy opportunities to reserve and maintain existing affordable housing,
- Promote housing development in geographies of opportunity,
- Align policy and programming to meet the housing development challenges in Eastern NC,
- Include economic development as part of affordable housing strategies in Eastern NC,
- Build civic capacity in Eastern NC to champion and implement affordable housing programs,
- Make homes more resilient to flooding and extreme weather,
- Support education and training to create capacity among residents of Eastern NC to rehabilitate and build affordable housing, and
- Provide additional funding to make urgent repairs to existing affordable housing and make homes more energy efficient to reduce housing costs burdens.

I. Introduction

Eastern North Carolina has some of the most extreme housing conditions in the state, as measured by unaffordability and overcrowding. This is particularly the case in rural areas in this region.[1] Eastern North Carolina also suffered the most damage during Hurricane Matthew in October of 2016. Displacement of families from their homes after the hurricane has further exacerbated the unavailability of quality, affordable housing. The State of North Carolina has stressed the importance of affordable housing recovery as a central aspect of its disaster recovery efforts.[2]

This report, "Recovering Affordable Housing in Eastern North Carolina Post-Hurricane Matthew," offers initial analysis and guidance to the state and its stakeholders on how to work with private and non-profit sectors to build high quality, affordable housing in hurricane affected counties in Eastern North Carolina. The authors of this report are members of the Hurricane Matthew Disaster Recover and Resilience Initiative (HMDRRI), a "think tank" at the University of North Carolina directed by Dr. Gavin Smith that was developed to conduct high-impact, applied research to guide long-term recovery planning and policy in the region.

Housing is considered "affordable" if a household's total housing costs including mortgage or rent payments, utility costs, taxes, and reasonable upkeep total no more than 30 percent of household income. If households pay more than 30 percent of household income on housing costs, they are considered to be "housing cost burdened." In addition to costs, the quality of the living environment and its accessibility to critical resources are important factors in assessing the relative value of housing. The quality of the home includes structural aspects such as its adherence to building codes and energy efficiency. The home should have running water, working bathrooms, and be structurally sound (i.e. foundation, flooring, and roof). It should also meet the accessibility requirements of the inhabitants, such as having a ramp or steps that support access to and from the home or doorways and bathrooms that accommodate passage and use for individuals with wheelchairs or walkers. It is also critical that affordable housing be accessible to employment opportunities, grocery stores with healthy foods, and medical care and pharmacies.

In this report, we discuss the ways affordable housing and vulnerable populations are typically impacted by natural disasters such as hurricane-driven winds and flooding and briefly relate interventions found to effectively address these vulnerabilities. We also review policy and funding changes in North Carolina since Hurricane Floyd struck the same region in 1999. To better understand the baseline need for affordable housing in Eastern North Carolina prior to Hurricane Matthew, we employ Census data from the American Community Survey. This baseline identifies patterns of race, poverty, and poor housing conditions across the region. A preliminary housing demand study of Cumberland, Edgecombe, Robeson, and Wayne Counties provides a deeper analysis of the causes of these patterns and suggests opportunities for affordable housing development. Finally, we offer a series of recommendations for next steps to increase the availability of high-quality, accessible, affordable housing in Eastern North Carolina.

Data for this report is drawn from a variety of sources. Key informant interviews (see Appendix A) provided critical reflection on the need for, barriers to, and facilitators of affordable housing development in Eastern North Carolina. Additional information is drawn from Federal, State, and other non-governmental reports, newspaper articles, and website content. Estimates of population change are

[1] Rohe, W., Owen, T., Kerns, S. (2017) Extreme Housing Conditions in North Carolina. *UNC Center for Urban and Regional Studies*, Chapel Hill, NC.
[2] State of North Carolina CDBG-DR Action Plan, March 31, 2017 http://nchousing.org/resource/cdbg-dr-action-plan-2017/

derived from the 2005-2009 and 2010-2015 American Community Survey in addition to the 2000-2010 Decennial Census. The housing demand projections were created using data on demographic, housing, and industry projections up to the year 2022 from ESRI Business Analysis, the Bureau of Labor Statics, the US American Community Survey, PolicyMap, and other residential real estate search engines/ listing websites. Finally, a broad review of the academic literature investigating the effects of natural disasters on vulnerable populations and specific impacts on affordable housing was used to support our study and resulting recommendations.

II. Hurricane Matthew Impact

Hurricane Matthew made landfall on October 8, 2016. While it had been downgraded to a Category 1 storm at that point, the precipitation was very heavy in some places and the storm system moved slowly across a wide swath of eastern and central North Carolina. A prior tropical storm system had already saturated the ground in some places. Some communities received flooding at the time of the storm, while many more low-lying communities in the eastern coastal plain were flooded in the days after the storm when storm water rushed downstream. Consequently, much of the greatest damage occurred in the coastal plain and not at the coast.

In North Carolina, nearly 35,000 households experienced flood damage as a result of Hurricane Matthew.[3] Of those households, nearly 5,000 had "major" or "severe" home damage. Over half of the housing units where major or severe damage occurred were clustered in particularly vulnerable areas. According to the Department of Commerce, 52 percent of these homes are located in just 13 towns, 64 percent are in four counties, and 41 percent are in 14 Census tracts. In addition, 264 public housing units were damaged beyond habitability in Lumberton, 105 units were damaged in Greenville, and roughly 400 units owned by the North Carolina Housing Finance Agency were damaged.

Slightly over half of the housing units with major or severe damage were owner-occupied; two thirds of these are estimated to be single-family homes or duplexes, and another one third mobile homes. Of the renters with major or severe damage, 45 percent lived in apartments, 40 percent in single-family homes or duplexes, and 13 percent in mobile homes.

Matthew's flood damage occurred disproportionately in socially vulnerable communities. Data show that half to two-thirds of the flooding at all levels of severity occurred in homes that were owned by households with low or moderate incomes.[4] Eighty-six percent of renters were low- and moderate-income and 68 percent earn less than $20,000 per year. According to the Department of Commerce, severely impacted neighborhoods have greater shares of low-income residents, residents of color, and households without access to a car.[5]

[3] State of North Carolina CDBG-DR Action Plan, March 31, 2017 http://nchousing.org/resource/cdbg-dr-action-plan-2017/
[4] Ibid.
[5] Ibid.

III. Meeting Affordable Housing Needs

To meet the affordable housing needs of those living in Eastern North Carolina, it is important to recognize and leverage existing organizational infrastructure and capacities. To better understand the organizational infrastructure and capacities that exist to fund, preserve, and build affordable housing, we conducted semi-structured interviews of 25 affordable housing stakeholders. These interviews are the basis for the findings in this section. (A list of those interviewed is included in Appendix A and the survey questions can be found in Appendix B.)

Agencies and organizations that can significantly contribute to affordable housing include councils of government (COGs), community development corporations (CDCs), local planning departments, county health and social services departments, public housing agencies, and others who provide housing services to community members and support to local governments. These agencies and organizations conduct data collection and analysis, plan for and expend federal, state, and local funds, and deliver vital services and supports to community members. During and after natural disasters these organizations serve as critical responders and coordinate with FEMA, NC Emergency Management, Long-term Recovery Groups, and other emergency responders.

These organizations have a great variety of capacities that can be leveraged to improve the availability, accessibility, and maintenance of affordable housing. Councils of government can provide regional planning and data analysis and contribute expert training and support to local governments and community groups on issues ranging from land use and transportation to services for the aging. Community Development Corporations have the experience and capacity to partner with state and other regional actors to conduct economic development and housing needs analyses, facilitate stakeholder meetings to generate consensus community plans, and implement key development initiatives. Local planning department staff are key to coordinating and implementing land use and housing plans. Public housing agencies work to meet the housing needs of some of the most vulnerable households (often those whose income is 30% or less of the AMI). Finally, local Departments of Social Services and Public Health are responsible for the health and well-being of all those residing in their counties. As part of that task, they must participate in a community-wide needs assessment and develop action plans to address the community's most pressing needs including safe and affordable housing, transportation access, and poverty reduction strategies. Unfortunately, many of these organizations are underutilized or underfunded and thus, are unable to focus their attention and work on addressing the significant affordable housing needs in Eastern North Carolina.

As North Carolina communities work on recovering from Hurricane Matthew, it is helpful to revisit lessons learned from Hurricane Floyd. Floyd struck North Carolina on September 15, 1999, affecting many of the same communities as Matthew. In interviews with Matthew survivors, many expressed disbelief that they could be impacted again so severely less than 20 years after Floyd. Although the storms' impacts and trajectories were similar, the funding and organizational capacity to respond has been different.

One year after Floyd, FEMA officials reported that 88,500 North Carolinians had applied for state and federal aid within the 167 day application period. Within a similar application period, 81,979 survivors of Matthew have applied for aid[6]. While the number of households affected by Hurricane Floyd and Matthew are similar, the financial commitment to disaster recovery from the Federal and State Governments to date for Hurricane Matthew does not seem to be on par with the amount spent on Floyd.

[6] North Carolina Department of Public Safety https://www.ncdps.gov/hurricane-matthew-2016 (retrieved August 11, 2017)

Financial resources committed to Floyd survivors totaled almost $4 billion. Federal funds included $310,207,808 from FEMA/Stafford Act Programs, $1.7 million in Mental Health Services Grants, and $2,138,712,515 received through the Consolidated Appropriations Act of 1999. State assistance for Floyd totaled $836 million drawn from budget reserves and the Rainy Day Fund. These funds were committed to housing, economic recovery, environmental impact, public health, and to offset tax losses to local governments. Finally, private contributions totaled approximately $19 million.

The funding response to Matthew has yet to be finalized. At the release of this report, the North Carolina State Legislature provided $201 million in recovery funds through the Disaster Recovery Act of 2016. These funds include backing for multiple programs that directly or indirectly support permanent housing recovery such as single family rehabilitation grants, financing for shovel-ready affordable housing development, loans for rehabilitation of rental housing, and grants to repair infrastructure or provide new infrastructure for residential development outside the 100-year floodplain. Funds for permanent housing repair are being administered by North Carolina Housing Finance Agency, North Carolina Community Development Initiative, Golden LEAF Foundation, and Department of Commerce.

In 2017 the State dedicated $100 million to Matthew recovery through Senate Bill 338, titled "Disaster Recovery Act of 2017." This included $25 million for housing-related recovery efforts, $30 million to local governments and non-profits to support local infrastructure repair and replacement, $20 million for agricultural purposes, and $2.7 million to the Community College system. The state appropriation also included $22.3 million to serve as the state match for Federal Disaster Assistance. FEMA and HUD have provided approximately $300 million for disaster and housing assistance so far. Additional Federal funding also remains in flux; so far roughly $40 million of the more than $900 million requested by Governor Cooper has been approved by the U.S. Congress.[7]

Policy Impact on Affordable Housing

Funding committed to Floyd housing recovery was effectively deployed through an existing infrastructure of CDCs and others already working with Community Development Block Grant (CDBG) funding to develop and rehabilitate affordable housing. Throughout the 1990s and early 2000s, state funds were committed to the administrative support of CDCs which empowered the agencies to hire staff that could effectively plan and manage local economic development initiatives including the planning and development of affordable housing. Likewise, state CDBG funds were made available to local communities to fund both affordable housing rehabilitation and new housing development.

When Matthew struck in 2016, the affordable housing infrastructure, which had led much of the state's housing recovery post Floyd, was gone. The Great Recession resulted in huge cuts to the state budget and changes in legislative priorities meant that funding lost during the Recession period has not yet been restored. In 2011, local communities were informed that they could no longer use CDBG funds for creation of local affordable housing and budget provisions in 2011 eliminated funding used to support administration and planning within CDCs.[8] The impact of these budget reductions was further exacerbated by cuts to state rehabilitation and weatherization funds. Together, these funding losses resulted in significant reductions in the creation of new affordable housing stock and in unchecked degradation of existing housing stock.

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[7] Bennett, Abbie (August 1, 2017) $31.8 million in Hurricane Matthew federal relief money headed to NC. *News and Observer.*

[8] NC Session Law 2011-145, House Bill 200, Current Operations and Capital Improvements Appropriations Act of 2011.

As other funding streams declined, Low Income Housing Tax Credits (LIHTC) became the primary vehicle for affordable housing creation. LIHTC is a federal tax credit program that encourages private investment in affordable housing development and requires that at least 40 percent of the property's units be set aside for households earning 60 percent of the Area Median Income (AMI) or 20 percent of the total units for households earning 50 percent or less of AMI.[9] In North Carolina, LIHTC funds are administered by the NC Housing Finance Agency. LIHTC funds are awarded through a competitive application process. While a key resource for affordable housing, application for and management of tax credit properties can be an administrative hassle for developers. The scoring rubric for LIHTC applications awards fewer loans to projects in rural or distressed communities and focuses on development of dense or multi-family community projects. Some funding should be set aside for less dense community models including creation of duplex units. In addition, unlike other affordable housing administered by Public Housing Agencies or CDCs, LIHTC properties' affordable housing set asides expire within 15 to 30 years (see Appendix C) and can be sold if the buyer pays compensation for the tax credits already granted.

Together, low-income LIHTC and Public Housing units provide an important source of affordable housing for extremely low-income (30% of AMI) and low-income households (50% of AMI). Access to these housing resources is not uniform across the 45 counties affected by Matthew. Seven counties (Brunswick, Currituck, Dare, Greene, Hoke, Pender, and Perquimans) have no development-based public housing at all, while Tyrell and Washington counties have no LIHTC developments. Within the four most affected counties; Robeson and Wayne have a high number of development-based public housing units (1,309 and 1,351) respective to their population. Cumberland, the most populous of the four has 1,130 public housing units and 1,986 LIHTC units. Edgecombe has relatively low numbers of both public housing (543) and LIHTC units (414), particularly for its size. As communities in Eastern North Carolina consider their options for affordable housing creation, they will need to evaluate not only their existing affordable housing stock but if that stock will expire, as is the case with LIHTC, or become too expensive to maintain as is often the case with older development-based public housing. Both public housing and LIHTC units were heavily damaged in Robeson and Edgecombe counties.

The Economic Context of Housing

The Great Recession also contributed to the erosion of jobs and the economy in Eastern North Carolina. Eastern North Carolina largely avoided the devastation of the foreclosure crisis that struck other parts of the state and country. This is not because it was more stable financially, but because it had already suffered the economic losses of manufacturing in the years prior to the 2009 recession. Some of the existing affordable housing prior to Hurricane Matthew was "heir property,"—property that was inherited. Heir properties also comprise a significant portion of the existing affordable rental properties in Eastern North Carolina and these properties may not qualify for aid post-disaster if ownership and titles are not clear.

Low household income, an aging population, and the loss of funding for weatherization and rehabilitation of owner-occupied housing has resulted in housing of particularly low quality across the region. Staff at the Chowan Area Development Association (CADA) indicated that a reduction in their funds available for housing rehabilitation has created backlogs of as many as seven years for repairs. Bertie County, one of the six counties served by CADA, has experienced three major and several smaller floods in the past

[9] Community Affairs Department. (April 2014). *Low-Income Housing Tax Credits: Affordable Housing Investment Opportunities for Banks.* Washington, D.C., Office of the Comptroller of the Currency.

few years. As a result, Bertie has generated a higher number of repair requests. Although CADA had 148 pending requests within the county, they have funds to respond to just 14. Across all six counties, the program has 748 pending applications but funding for just 62. Staff point out that the cost of repairs and costs to inhabitants' health and well-being rise precipitously as roofs, flooring, bathrooms, and HVAC systems fail and are not replaced or repaired in a timely manner.

In addition to the high cost of maintaining older, poorly constructed properties, utility costs associated with heating and cooling these homes is extremely high. According to the American Council for an Energy Efficient Economy, low-income households spend between seven and eight percent of their household income on utility costs as compared to non-low-income households that spend approximately two percent of their incomes.[10]

Manufactured housing – mobile homes and modular homes – are a common source of affordable housing and are particularly prevalent in Eastern North Carolina in part as a result of a manufacturing base in the region. Interviews with stakeholders noted a reduction in the availability of mobile homes for rent as mobile home communities have been replaced with more lucrative housing and mixed-use commercial development. This was noted particularly in the faster growing counties such as Cumberland.

Despite their value as affordable housing, mobile and modular homes are less resilient in storms and do not offer the kinds of wealth building opportunities present in traditional site-built properties. In a region that is more likely to experience extreme weather events, like hurricanes and tornados, mobile homes fall within mandatory evacuation orders and are not built to withstand high winds.[11] Modular homes are often built on slab foundations and hooked to septic systems, both of which make them more susceptible to flood damage. Finally, manufactured housing is subject to different, higher interest, loan structures and does not hold the same value for resale or equity thereby limiting wealth-building opportunities.[12]

Public housing — including development-based units for families and elderly residents and Housing Choice Vouchers (HCVs) (more often referred to as Section 8 vouchers) — serves a critical role in meeting the housing needs of the very lowest income households. Development-based public housing units have generally been reduced over time in favor of HCVs. The exception to this decline, both nationally and in Eastern North Carolina, is an overall increase in development-based and other multi-family properties dedicated to elderly and disabled populations. Development-based housing for these populations is favored because it enables service delivery and advantageous siting of supportive facilities such as rehabilitation or medical facilities.

Interviews with a variety of stakeholders indicated interest in and need for more multi-family units that could be targeted to the accessibility and health needs of elderly and disabled moderate, low, and very low-income households. Although supply of this type of housing is more available than other types of affordable multi-family units, Eastern North Carolina has a greater than average and growing population of low-income elderly and disabled consumers.

Vouchers are the preferred vehicle for low-income family housing as it is intended to empower the voucher holder to rent high-quality housing in "opportunity" neighborhoods – those with better access to

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[10] McHugh, P. & Ripley, A. (2016) The Power of Energy Efficiency: Expanding Access to Energy Efficiency Improvements for Low and Moderate Income North Carolina Household. NC Justice Center. Raleigh, NC.
[11] Baker, et al. (2014) Rapid Flood Exposure Assessment of Vermont Mobile Home Parks Following Tropical Storm Irene. *Natural Hazards Review*. 15:1 p. 27-37.
[12] Pendall, et al., (2012) Vulnerable people, precarious housing, and regional resilience: an exploratory analysis. *Housing Policy Debate*. 22:2 p. 271-296.

job, education, and recreational opportunities. Unfortunately, families are unable to realize renting in opportunity neighborhoods because of the insufficient supply of affordable rental property available to households with an HCV. This is due to several factors. First, there is an undersupply of rental property (houses or apartments). Second, some affordable rental properties do not meet HUD's Housing Quality Standards due to poor maintenance and upkeep. Finally, although Fair Housing Standards prohibit housing discrimination based on race, ethnicity, and other factors such as family composition, it is legal for landlords to refuse an HCV. Landlords argue their refusal is related to Public Housing Agency regulations not the households holding the voucher. Some communities have elected to address this problem by passing non-discrimination laws that explicitly address the use of HCVs. Until these shortcomings are addressed, households with HCVs will continue to struggle to locate affordable, high-quality, rental housing.[13]

The Next Stage of Hurricane Matthew Recovery

North Carolina communities' experience with affordable housing creation and recovery in the aftermath of a natural disaster has not been so very different from communities in other states. Affordable housing is often built on the least expensive land. In North Carolina and across the country that is often property at greatest risk of flooding[14][15] and in close proximity to Locally Unwanted Land Uses (LULUs) such as hog lagoons, landfills, or industrial sites.[16] Due to a legacy of segregation, these Census tracts are also most often historical communities of color that never benefited from lasting economic benefits.[17] It is common for the housing in these communities to be less resilient to natural disasters as a result of lower-cost construction processes and materials and a household's inability to afford upkeep and repairs to the home.[18]

The particular vulnerabilities of this population – low income, elderly, under resourced, and in poor health – exacerbates the challenges experienced when a natural disaster does strike. Elderly and disabled populations are more likely to experience additional detrimental effects as a result of dislocation due to extreme weather events.[19] It is challenging to find accessible emergency shelter and health conditions may be aggravated by dislocation from their home communities. Those we interviewed discussed needing to find hotel rooms during periods of Temporary Shelter Assistance that could accommodate individuals in wheelchairs and of dislocated storm victims being unable to follow-through on critical medical care such as scheduled dialysis. Further, the challenges associated with navigating the bureaucratic processes of aid can disadvantage elderly and very low income households. Previous research on the effects of

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[13] Pendall, R., Foster, K. A., & Cowell, M. (2010). Resilience and regions: building understanding of the metaphor. *Cambridge Journal of Regions, Economy and Society*, *3*(1), 71–84.

[14] Burby, R. J., Beatley, T., Berke, P. R., Deyle, R. E., French, S. P., Godschalk, D. R., … Platt, R. H. (1999). Unleashing the Power of Planning to Create Disaster-Resistant Communities. *Journal of the American Planning Association*, *65*(3), 247–258.

[15] Lee, D., & Jung, J. (2014). The growth of low-income population in floodplains: A case study of Austin, TX. *KSCE Journal of Civil Engineering*, *18*(2), 683–693.

[16] Been, V. (1994). Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics? *The Yale Law Journal*, *103*(6), 1383–1422.

[17] Massey, D., & Denton, N. A. (1993). *American apartheid : segregation and the making of the underclass*. Cambridge, MA. Harvard University Press.

[18] Binder, S. B., Baker, C. K., & Barile, J. P. (2015). Rebuild or Relocate? Resilience and Postdisaster Decision-Making After Hurricane Sandy. *American Journal of Community Psychology*, *56*(1–2), 180–196.

[19] Marcelin, J. M., Horner, M. W., Ozguven, E. E., & Kocatepe, A. (2016). How does accessibility to post-disaster relief compare between the aging and the general population? A spatial network optimization analysis of hurricane relief facility locations. *International Journal of Disaster Risk Reduction*, *15*, 61–72.

natural disasters on highly vulnerable populations has found that "poor and poor communities received less aid…than others because of the complex application process" and inaccessible transportation.[20]

Interviews with both state and local stakeholders pointed out the disproportionate impacts of storm damage on vulnerable populations – particularly the effects of storms in communities of concentrated racial minorities that are also low income. The town of Princeville represents both the historic legacy of institutional racism, as the land available for purchase to the newly emancipated Freemen was on the low-lying side of the Tar River, and of the possibilities for affirmative rehabilitation. Interviewees urged that plans for affordable housing recognize the legacy of segregation and its impact on economic development and wealth creation.

Sustainable solutions for the development and rehabilitation of affordable housing for vulnerable populations in the wake of a disaster are complex. While additional funding is needed for all affordable housing, when working in vulnerable communities, it is critical that extensive community participation and support informs the practical and cultural needs of individual communities.[21] A "bottom-up approach" not only improves owner and tax-base retention, but can also educate community members on sustainable building practices.[22] When the interaction of social networks, local governments, and community-based organizations are well understood, creative and locally-resilient solutions can be implemented.[23] [24]

The efforts led by the HMDRRI HomePlace team to work within the six most affected communities of Fair Bluff, Kinston, Lumberton, Princeville, Seven Springs, and Windsor are reflective of the kinds of community-centered, holistic economic and social processes needed to rebuild resilient and whole communities. This team is working in the communities to discuss viable economic development strategies and have created a set of affordable, cost-efficient, and storm-resilient home designs that fit the architectural character of the communities. The home designs and cost estimates also incorporate critical energy efficiency components to reduce the overall cost burden of the new housing. This kind of community-based process, led by the HMDRRI team and other state and local stakeholders, will help the region maintain the spirit of place while creating economic, social, educational, and housing opportunities to improve the overall well-being of residents.

In the next section, we explore the population, economic, and housing conditions in the 45 Eastern North Carolina counties affected by Hurricane Matthew. To understand the challenges to and resources for affordable housing in this region, we must recognize the baseline demographics. We then investigate the specific conditions in Cumberland, Edgecombe, Robeson, and Wayne counties to better understand affordable housing needs and potential. Thereafter, we provide a series of recommendations based on the findings from this preliminary investigation.

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[20] Dash, N. (1997). The Use of Geographical Information Systems in Disaster Research. *International Journal of Mass Emergencies and Disasters*, *15*(1), 135–146.
[21] Davidson, C. H., Johnson, C., Lizarralde, G., Dikmen, N., & Sliwinski, A. (2007). Truths and myths about community participation in post-disaster housing projects. *Habitat International*, *31*(1), 100–115.
[22] Ibid
[23] Berke, P. R., Kartez, J., & Wenger, D. (1993). Recovery after Disaster: Achieving Sustainable Development, Mitigation and Equity. *Disasters*, *17*(2), 93–109.
[24] Airriess, C. A., Li, W., Leong, K. J., Chen, A. C.-C., & Keith, V. M. (2008). Church-based social capital, networks and geographical scale: Katrina evacuation, relocation, and recovery in a New Orleans Vietnamese American community. *Geoforum*, *39*(3), 1333–1346.

IV. Drivers of Supply and Demand of Affordable Housing in Eastern North Carolina before Hurricane Matthew

The causes and effects of housing unaffordability are not uniform across all of Eastern North Carolina. Data from the U.S. Census Bureau, including population and housing estimates, the Decennial Census, and the American Community Survey, provide indicators of housing affordability burdens. They also point to the economic and demographic conditions that may cause housing affordability problems, or at the very least, must be considered in the development of policy, programming, and investment to address housing needs in the region.

In this section, we examine these indicators in the 45 counties that were declared eligible for FEMA Individual Assistance, an indication of households with storm damage. We find that some counties in the region are growing, while the areas with the greatest affordability challenges are losing population or gaining only moderately. One in two renters in this region is cost-burdened; one in three homeowners with a mortgage is cost-burdened, and one in six homeowners without a mortgage is cost-burdened by housing costs, indicating very low incomes and high utility costs or property taxes. We suggest that high levels of poverty and low median incomes are driving housing cost burdens in most parts of this region, although some areas with healthier housing markets near the coast and near Raleigh may have affordability challenges that are driven more by rising housing costs.

Population and Demographic Shifts Affecting Housing

Following Hurricane Matthew, a Presidential Disaster Declaration made residents in 45 counties eligible for FEMA Individual Assistance (see Figure 1). These 45 counties account for nearly 4 million residents, or almost 40 percent of the state's population. It includes the coastal plains of Eastern North Carolina, the communities of the Outer Banks, and a significant portion of the capital region, including Wake County itself.

According to U.S. Census Bureau population estimates, the rate of growth in this region from 2010-2016 was 6.1 percent, the exact same rate of growth as in North Carolina as a whole over the same time period. The storm-impacted region, defined by the 45 counties eligible for FEMA Individual Assistance (IA), includes several larger counties with lesser damage, such as Wake County and Chatham County. Wake County is a rapidly growing, urban county that has much different housing trends than the rest of Eastern North Carolina. To examine the region without Wake County offers a different picture of population dynamics. Without Wake County, the storm-impacted region includes 2.9 million residents, with a growth rate of 3.2 percent over the past six years. Between 2010 and 2016, the IA-declared counties increased housing units by 5.9 percent, although without Wake County, that figure falls to 3.9 percent. This is lower than the statewide increase, 4.8 percent, over the same time period.

Figure 1: Counties declared for FEMA Individual Assistance

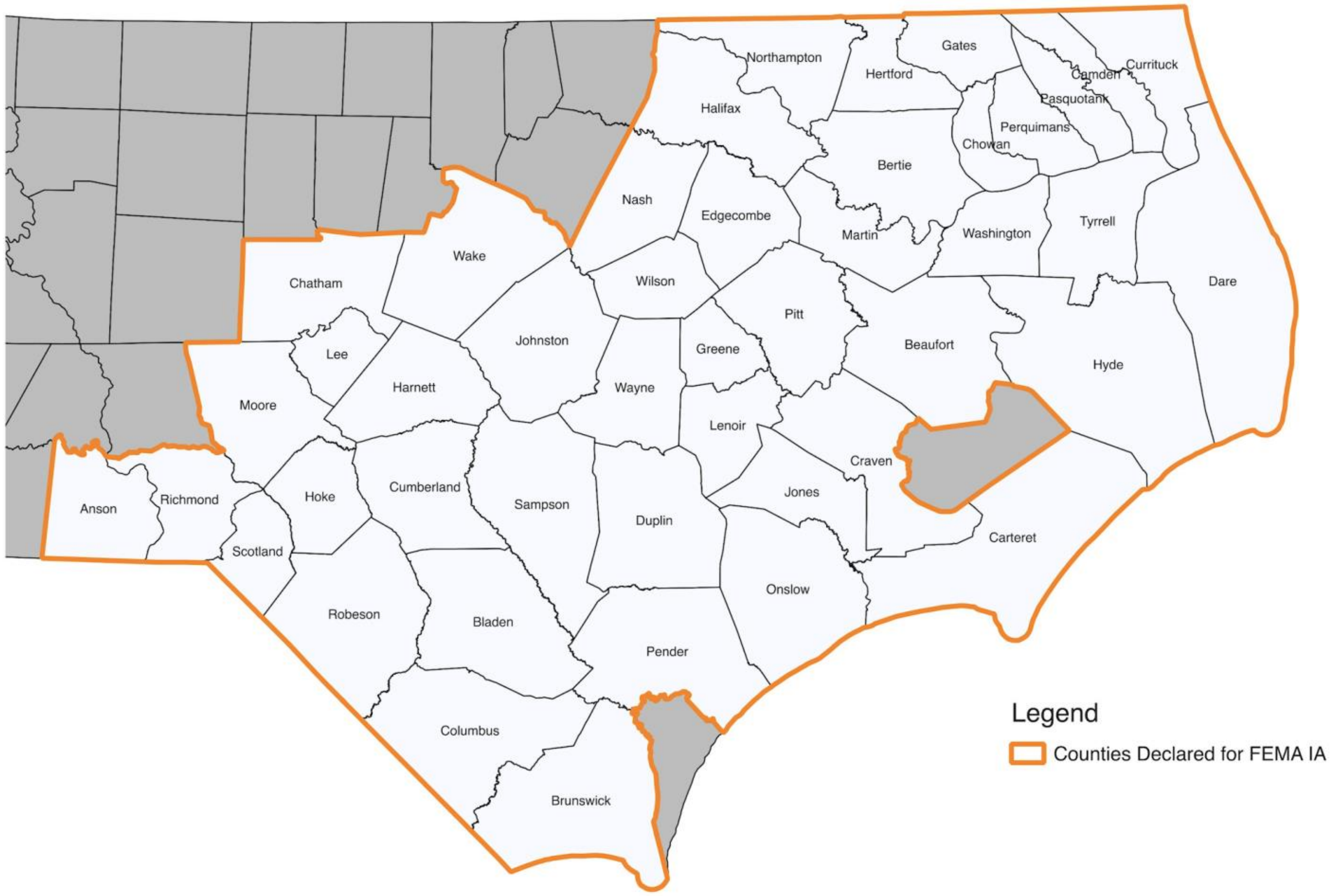
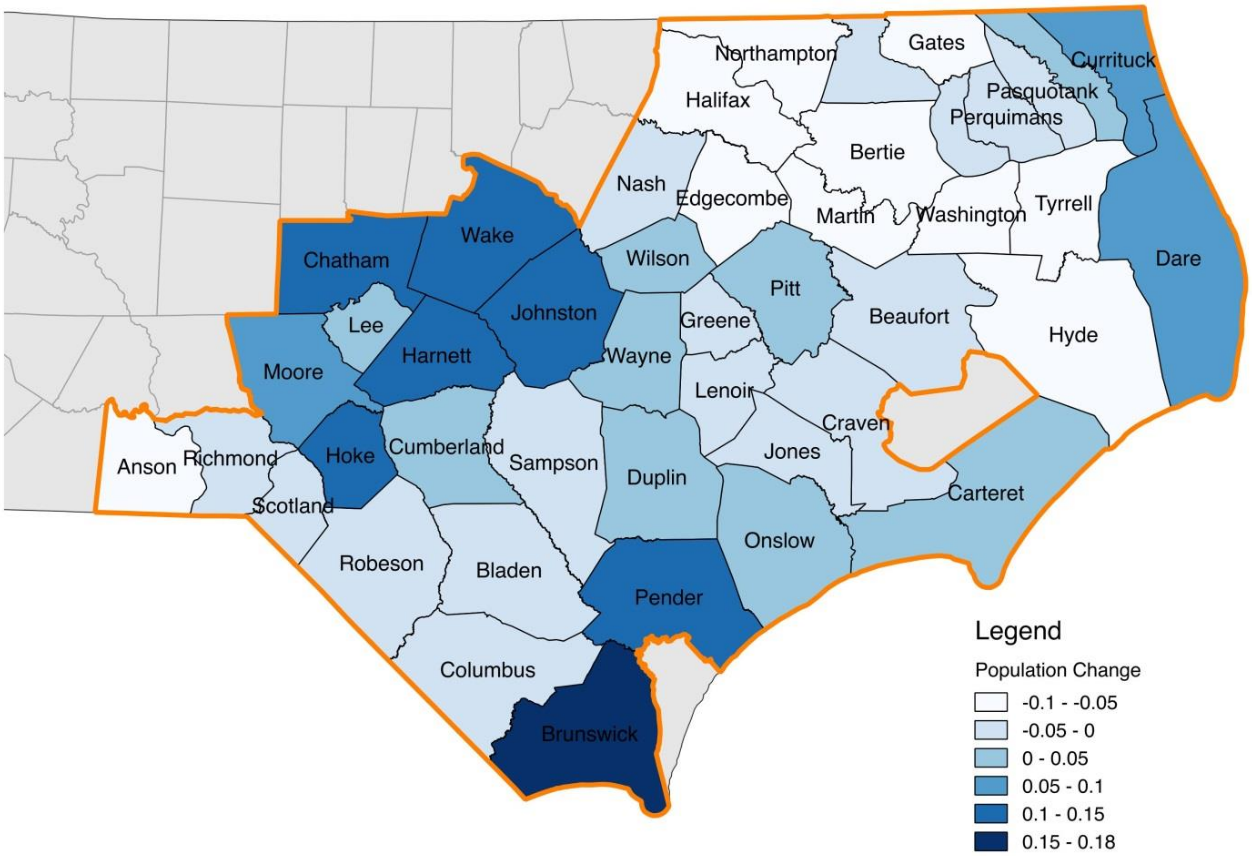


Figure 2: Population change 2010-2016



Source: U.S. Census Bureau Population Estimates Program

Population and housing change are highly variable across this region (see Figure 2). Population growth is concentrated in counties near the state capital, Raleigh, and along the Atlantic Coast, especially in the Wilmington region. Between 2010 and 2016, half the counties in the impacted area lost population. Northampton and Washington Counties have had the greatest loss between 2010 and 2016, at 9.1 percent and 7.4 percent loss, respectively.

Table 1: Population and Housing Unit Estimates by North Carolina County, 2010-2016

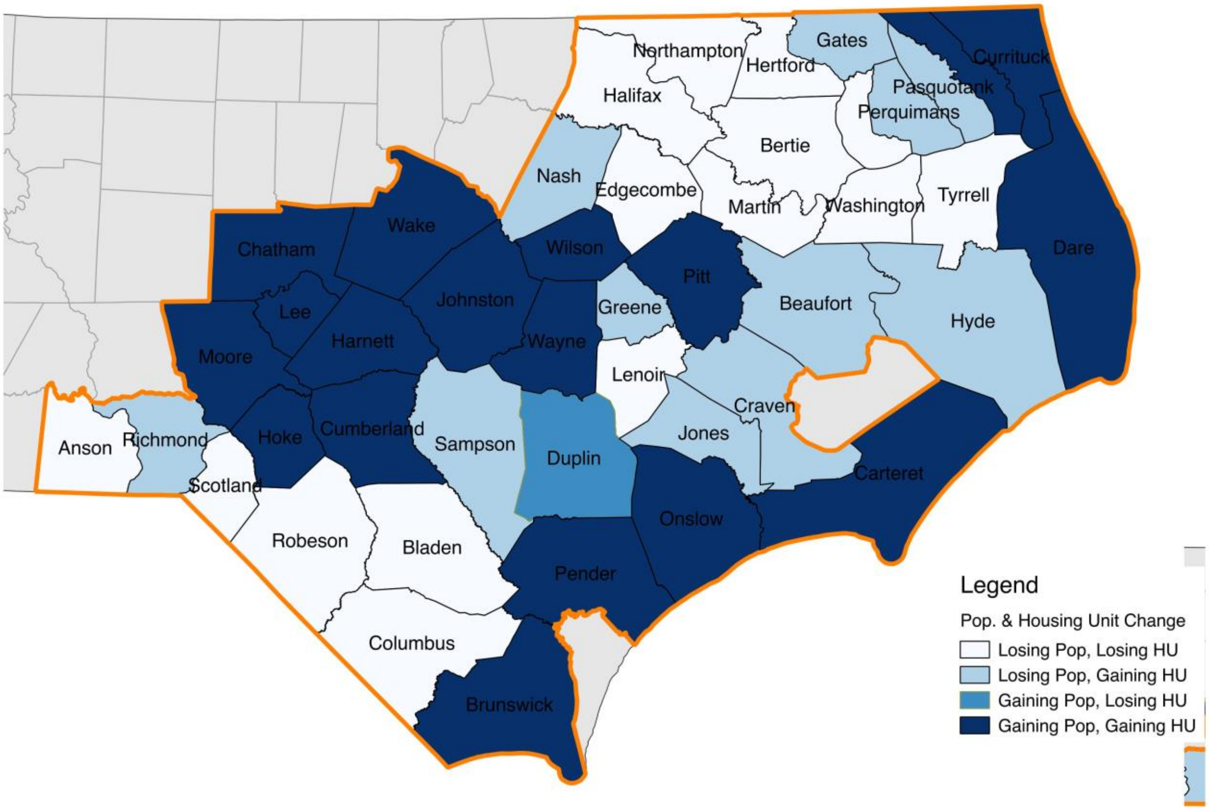
County	2016 Population	2010-2016 Pop Change	2016 Housing Units	2010-2016 Housing Unit Change
	Losing Population, Losing Housing (or no change)			
Anson	25,448	-5.2%	11,486	-0.7%
Bertie	19,854	-6.5%	9,754	-0.7%
Bladen	33,741	-4.0%	17,697	0.0%
Chowan	14,383	-2.5%	7,245	-0.6%
Columbus	56,505	-2.5%	26,014	-0.1%
Edgecombe	53,318	-5.8%	24,715	-0.4%
Halifax	51,766	-5.0%	25,706	-0.2%
Hertford	24,136	-1.9%	10,547	-0.9%
Lenoir	57,307	-3.7%	27,407	-0.1%
Martin	23,172	-5.3%	11,491	-1.8%
Northampton	20,000	-9.1%	11,511	-1.3%
Robeson	133,235	-0.9%	52,155	-1.1%
Scotland	35,244	-2.3%	15,191	0.0%
Tyrrell	4,141	-6.2%	2,063	-0.2%
Washington	12,195	-7.4%	6,424	-0.9%
	Losing Population, Gaining Housing			
Beaufort	47,526	-0.5%	25,695	4.0%
Craven	103,445	-0.5%	46,410	3.0%
Gates	11,478	-5.6%	5,241	0.6%
Greene	21,168	-0.9%	8,234	0.3%
Hyde	5,517	-5.1%	3,368	0.6%
Jones	9,845	-2.3%	4,900	1.3%
Nash	94,005	-1.9%	42,565	0.6%
Pasquotank	39,864	-2.1%	16,994	0.8%
Perquimans	13,335	-1.1%	7,041	0.7%
Richmond	44,939	-3.6%	21,200	2.2%
Sampson	63,124	-0.7%	27,324	0.3%
	Gaining Population, Losing Housing			
Duplin	58,969	0.6%	25,582	-0.4%

	Gaining Population, Gaining Housing			
Brunswick	126,953	17.5%	85,161	9.6%
Camden	10,418	4.4%	4,193	2.1%
Carteret	68,890	3.3%	49,362	2.5%
Chatham	72,243	13.2%	31,100	8.0%
Cumberland	327,127	2.2%	145,289	6.9%
Currituck	25,809	9.1%	15,368	6.2%
Dare	35,964	5.8%	34,428	2.7%
Harnett	130,881	13.1%	50,615	8.0%
Hoke	53,262	12.4%	20,355	11.3%
Johnston	191,450	12.8%	72,404	6.8%
Lee	59,616	3.0%	24,280	0.6%
Moore	95,776	8.1%	46,299	5.2%
Onslow	187,136	4.2%	77,785	13.2%
Pender	59,090	12.9%	28,212	5.6%
Pitt	177,220	5.0%	77,914	3.8%
Wake	1,046,791	15.4%	420,410	12.8%
Wayne	124,150	1.0%	53,393	0.8%
Wilson	81,661	0.5%	35,882	0.9%
	Averages			
County mean		6.1%		2.5%
County mean, weighted by population (regional rate)		6.7%		6.2%

Source: Census Bureau Population Estimates Program, 2010-2016

Table 1 demonstrates that almost all counties that are gaining population are gaining housing, but some counties that are losing population are also gaining housing. Figure 3 illustrates these changes on a map. White counties like those around Robeson County in the south and Bertie County in the north are losing population and housing. These are counties where the housing market is most troubled, and loss of housing units is likely due to neglect and abandonment, suggesting that the housing stock that remains may be subject to deterioration and substandard conditions. Light blue counties are losing population but gaining housing, suggesting that there is a mismatch between supply and demand, which could have to do with housing quality or housing type. A county-by-county analysis could suggest what types of housing are vacant and what types are being developed. Only one county, Duplin, is gaining population but losing housing, which may suggest that the market could respond to additional demand. Finally, navy blue counties are gaining population and gaining housing, which indicates that the housing market is strong but that there could be affordability issues driven in part by rising home prices and rents.

Figure 3: Population and housing unit change 2010-2016, Hurricane Impacted Counties



Source: U.S. Census Bureau Population Estimates

For those counties that are losing population, it seems that losses are concentrated among younger age brackets. Among all age groups, the state is growing fastest among seniors and slowest among children, but the growth rates of ages 65+ and 85+ are even larger in the storm-affected region than in the state as a whole. Every county gained seniors, even those that lost population as a whole, and the average county growth rate for residents 65 and older was 23.7 percent between 2010 and 2016. Average county adult (ages 18-64) population change was a loss of two percent, and average county youth population change was a loss of 5.2 percent. These data suggest that losses of families are playing a leading role in counties with overall population decreases. Normally we assume that economic conditions are driving population losses, although it is possible that housing also plays a role, given evidence from some of our interviews that the stock of affordable, quality housing for families is strained.

The region is fairly stable demographically. Around two-thirds of the population is White and another quarter of the population is African American, but both figures are declining slightly. The American Indian/Alaska Native is increasing slightly, around three percent, and the Asian population increased in the region between the 2000 Census and 2010, when just under three percent of the region was Asian. Finally, Latino population growth is the most dramatic among all racial/ethnic minorities, growing 102.6% adding 160,830 individuals between 2000 and 2010 (see Table 2).

Table 2: Racial and Ethnic Composition in the Hurricane Impacted Counties

Race/ethnicity (alone or in combination)	2000	%	2010	%	Change '00-'10	% Change
White	2,022,917	65.6	2,390,490	64.5	367,573	18.2
African American	868,763	28.2	1,013,295	27.3	144,532	16.6
American Indian/Alaska Native	88,725	2.9	115,917	3.1	27,192	30.6
Asian	50,121	1.6	98,700	2.7	48,579	96.9
Native Hawaiian/Pacific Islander	4,630	0.2	7,784	0.2	3,154	68.1
Some other race	97,266	3.2	178,776	4.8	81,510	83.8
Hispanic/Latino	156,744	5.1	317,574	8.6	160,830	102.6
Total Pop	3,082,849		3,705,747		622,898	20.2

Source: U.S Census Bureau, 2000 and 2010

Housing Cost Burden

The affordable housing challenges within Eastern North Carolina encompass cost burden, deferred maintenance, limited access to credit, low non-profit capacity, and poor housing development markets. In this section, we examine housing trends in Eastern North Carolina and explore one of the primary measures of housing affordability: housing cost burden.

The most accurate detailed data on housing come from Decennial Censuses. At the 2010 Decennial Census, there were 1.7 million housing units in Eastern North Carolina, around 86 percent of which were occupied (see Table 3). The 14 percent vacancy rate increased by one percentage point between 2000 and 2010. Around five percent of the total housing stock was vacant at the time of the Census (April 1 of the Census year) because the housing is for seasonal, recreational, or occasional use. This figure is driven by vacation homes on the Outer Banks. Of owner-occupied units, one third was inhabited by renters in 2010 while two-thirds were owner-occupied (see Table 4). Between 2000-2010, the number of renter households increased at twice the rate of owner-occupied households.

Table 3: Total Housing and Vacancy, 2000-2010

	2000		2010		2000-2010 Change	
	Number	%	Number	%	Number	% Change
Total housing units	1,345,920		1,663,947			
Occupied housing units	1,168,007	86.8	1,429,998	85.9	261,991	22
Vacant housing units	177,913	13.2	233,949	14.1	56,036	31
Vacant housing units - For seasonal, recreational, or occasional use	65,497	4.9	85,615	5.1	20,118	31

Source: U.S. Census Bureau, 2000 and 2010

Table 4: Renter and Owner Occupied Housing Units, 2000-2010

	2000		2010		2000-2010 Change	
Occupied housing units	1,168,007		1,429,998		261,991	
Owner-occupied housing units	801,128	69%	941,137	66%	140,009	+17%
Renter-occupied housing units	366,879	31%	488,861	34%	121,982	+33%
Average household size of owner-occupied unit	2.59		2.55			
Average household size of renter-occupied unit	2.45		2.45			

Source: U.S. Census Bureau Census 2000 and 2010

By common definition, housing is considered *affordable* if the total cost for housing, including rent or mortgage payments, utilities, and property taxes, a household spends is less than 30% of its income. Households are considered *cost-burdened* if they spend more than that.

Table 5: Mean County-Level Housing Cost Burden

	2006-2010, Spending >30% income on housing	2011-2015, Spending >30% income on housing	Difference in percentage points
Homeowners with mortgage	35.8%	34.3%	-1.5
Homeowners without mortgage	17.8%	17.0%	-0.8
Renters	53.6%	51.3%	-2.3

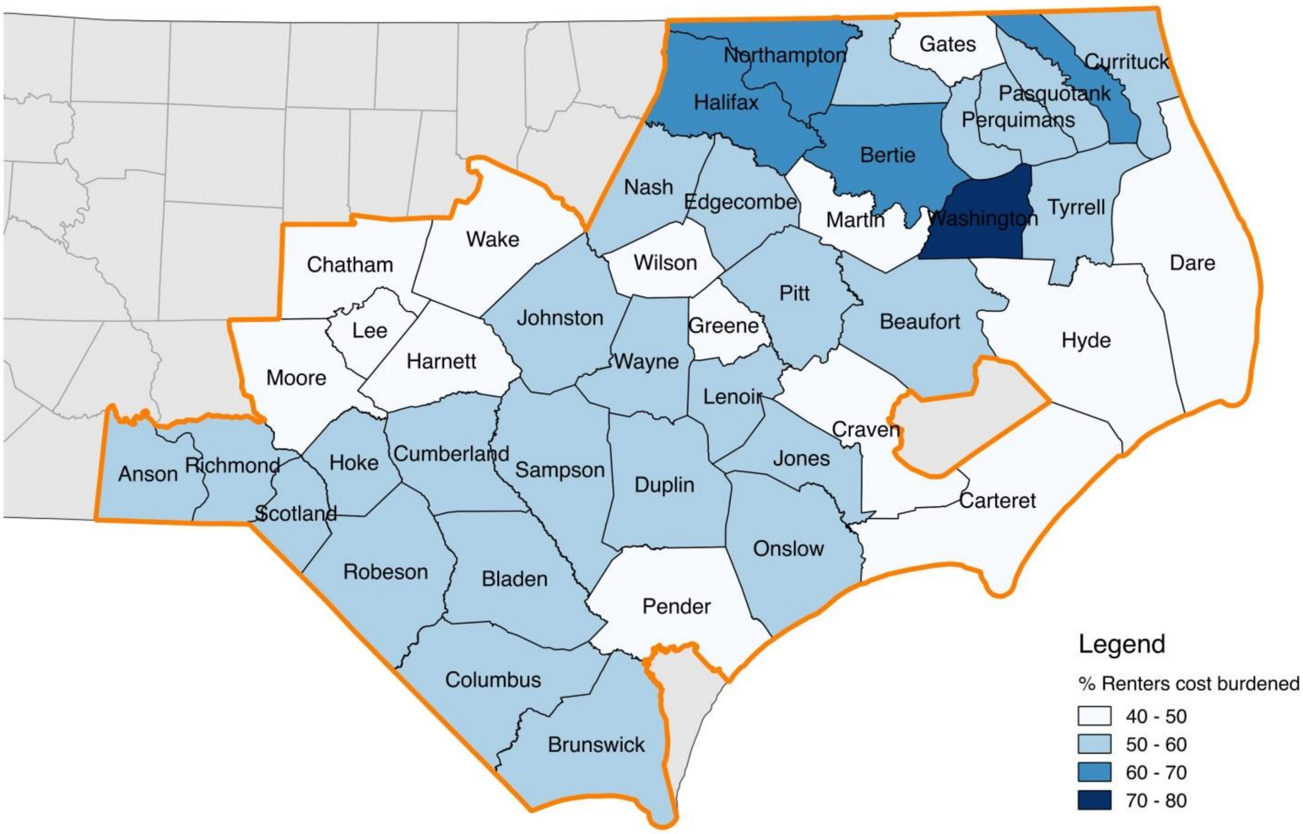
Source: American Community Survey, U.S. Census Bureau, 2006-2010 and 2011-2015

The average cost burden in the region is worst among renters (see Table 5), although it has declined slightly in recent years. Renters account for about a third of all households in the 45 county region, and on average, one in two of these renters is cost-burdened. As Figure 3 illustrates, all counties in the region have renter cost burden levels above 40 percent. Renter cost burden is worst in the northeastern region of the state, particularly in Washington County, with 71.6 percent of renters cost-burdened, as well as in Bertie, Northampton, Halifax, and Chatham Counties.

On average, approximately one third of homeowners with mortgages are cost-burdened in the region. Figure 4 illustrates that the rate of cost burden among homeowners with mortgages is varied across the region, ranging from 20 to 45 percent in different counties. Counties with the highest rates of cost burden for homeowners are spread across a variety of types of counties, from urban Wake County to tourism-oriented Dare County to Bertie, Perquimans, and Pasquotank in the northeast. This range of counties with relatively elevated levels of cost burden for homeowners with mortgages reflects different drivers of cost burden for these households. In higher growth counties, cost burden may be driven in part by high home values, while in poorer counties the driver is likely to be low incomes or loss of income.

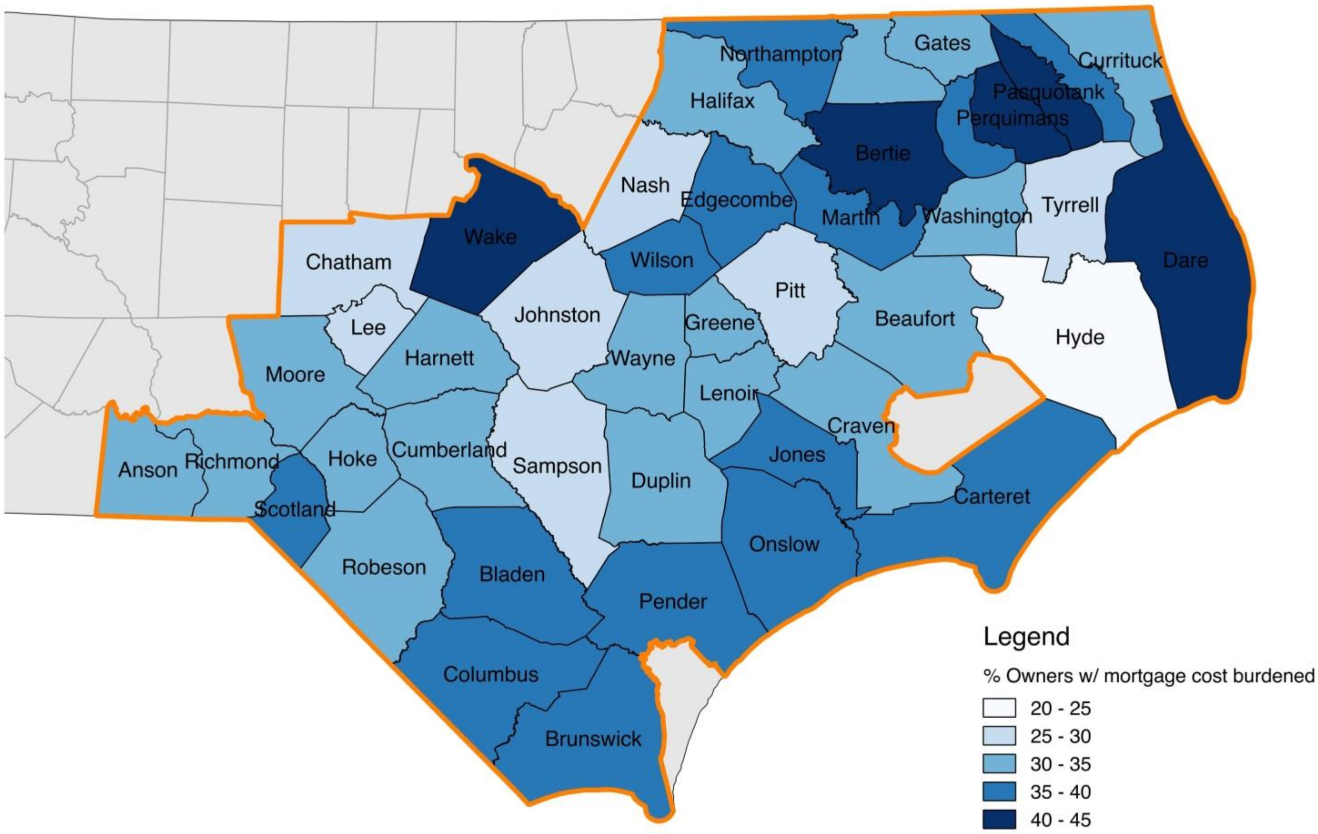
Finally, on average, one in six homeowners without a mortgage is cost burdened. Cost-burdened homeowners without mortgages are likely to be seniors or heir property owners with very low incomes and high utility costs or possibly high property taxes. Figure 5 shows that the geographic patterns of cost burden for homeowners without mortgages is similar to that of renters, greatest in the northeastern counties, which suggests that similar economic drivers are behind both, likely low incomes and population decline.

Figure 3: Percentage of renters who are cost-burdened



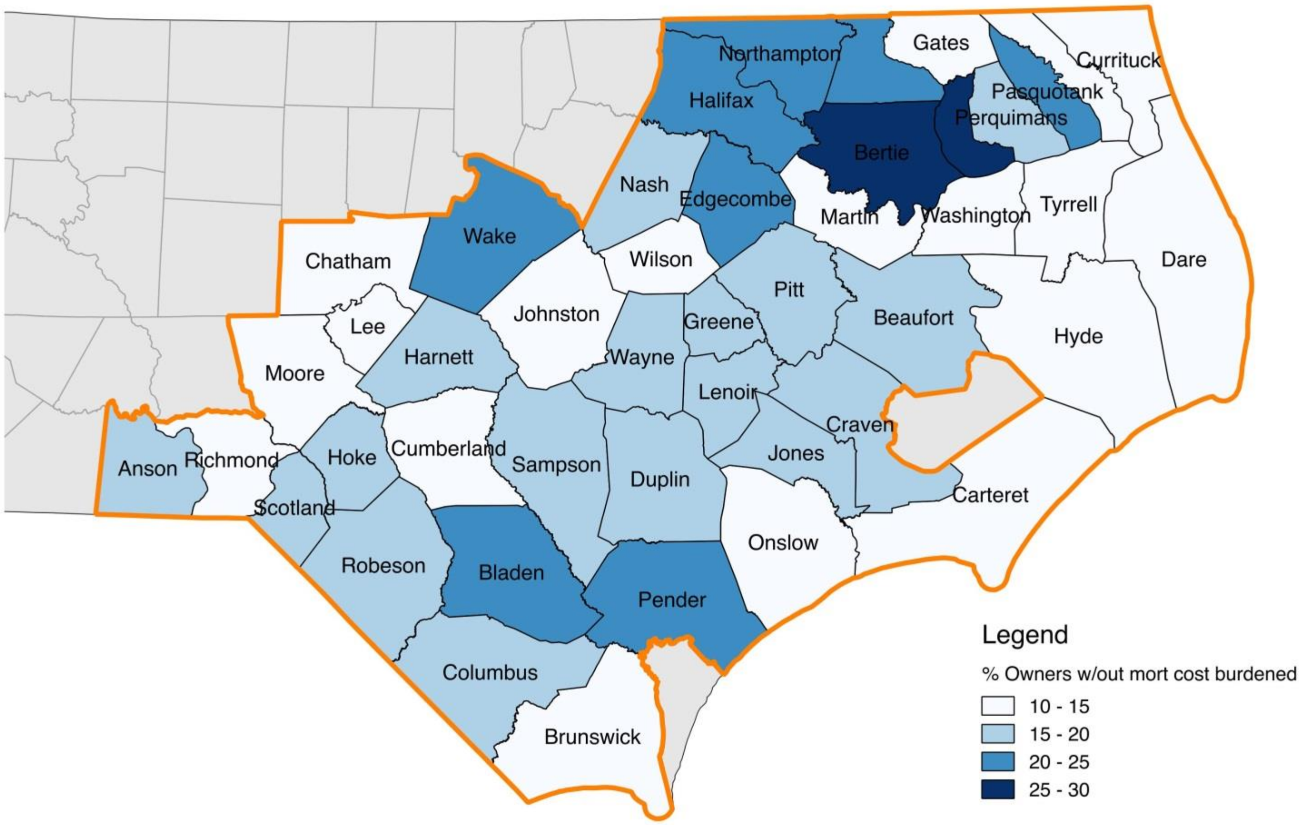
Source: U.S. Census American Community Survey, 2011-2016

Figure 4: Share of homeowners with mortgages who are cost-burdened



Source: U.S. Census American Community Survey, 2011-2016

Figure 5: Share of homeowners without mortgages who are cost-burdened



Source: U.S. Census American Community Survey, 2011-2016

Economic drivers of housing affordability

Housing affordability is not just about the cost of housing, it is also about the incomes and economic drivers that allow households to afford their housing. In Eastern North Carolina, poverty, unemployment, and declining median incomes make it difficult for households to afford housing and for developers to generate new housing at levels that would be affordable to many households.

While many cost-burdened households do not live under the poverty line, most households that live in poverty struggle to maintain housing that is affordable without a subsidy or financial support. Poverty in the region is high and climbing in some areas. Average county poverty rate for individuals is 20.6 percent, up from 18.6 percent in 2006-2010. Figure 6 illustrates that poverty levels are elevated across a north-south strip of the region, from rates above 27 percent in Northampton and Washington in the north to Scotland, Robeson, and Bladen in the south. Poverty levels are lowest in the far northeastern part of the state, near the northern Outer Banks and the Hampton Roads/Virginia Beach area. Table 6 shows that sixteen counties in the region had statistically significant increases in poverty, while only one, Gates County, had a statistically significant decline. Even in places with higher population growth like Moore and Brunswick counties, increases in poverty levels, suggest that in places where the population is growing and the housing market is likely to be more responsive, there is a need for subsidized affordable housing for households with very low incomes.

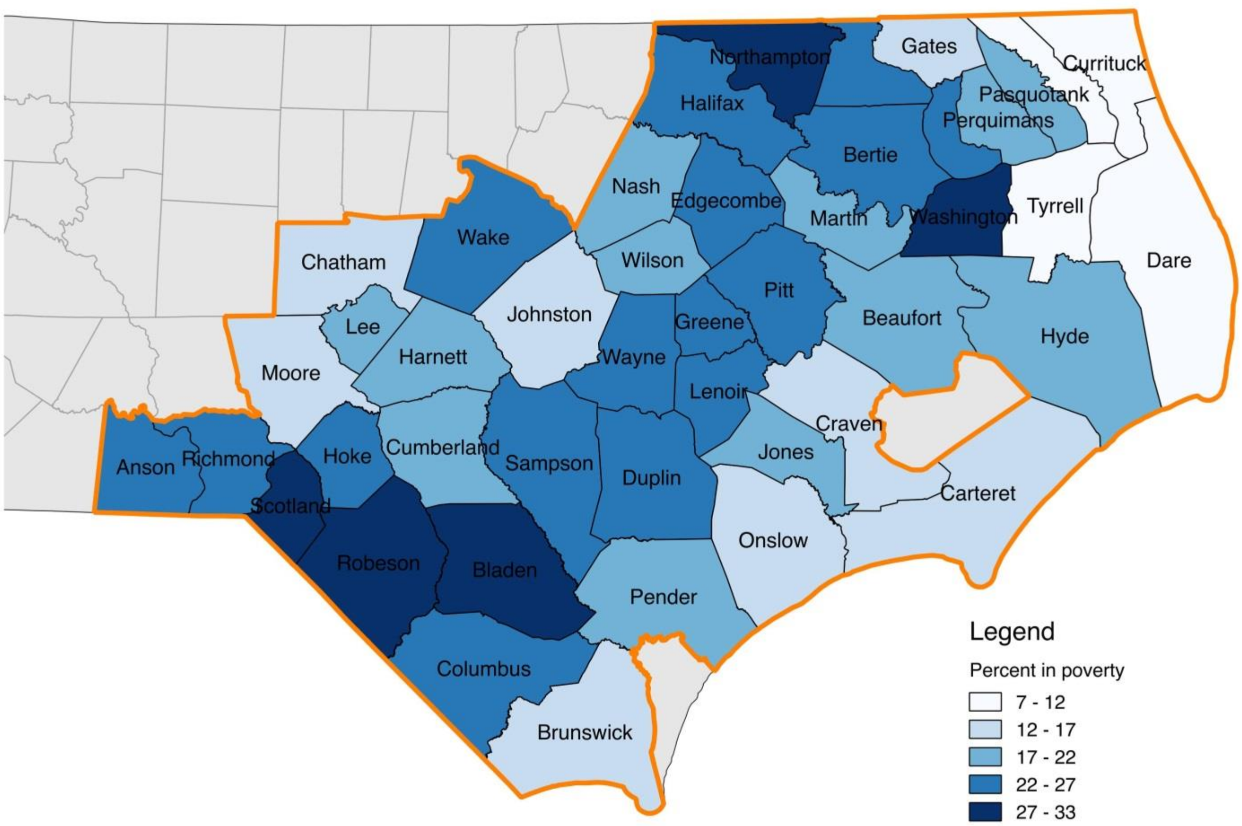
Table 6: Change in Household Economic Conditions

County	% People in poverty, 2006-2010	% People in poverty, 2011-2015	Statistical sig. of change between periods*	Median income 2006-2010 (2015 dollars)	Median income 2011-2015 (2015 dollars)	Statistical significance of change between periods*	Unemployment rate 2016	Unemployment rate change 2009-2016	Unemployment rate change 2006-2016
Anson	20.5	24.2		37,624	33,228	*	5.8	-9.0	-1.7
Beaufort	17.2	18.4		44,327	40,391	*	5.7	-5.7	0.0
Bertie	23.3	22.3		31,552	30,027		6.7	-4.3	0.2
Bladen	24.1	27.4		33,005	30,096		6.9	-5.2	0.6
Brunswick	13.5	16.3	*	49,711	46,859	*	6.4	-4.3	1.9
Camden	9.3	7.9		66,536	58,780	*	5.3	-3.1	1.0
Carteret	12.2	15	*	50,029	48,457		5.2	-3.5	1.0
Chatham	12.2	13.6		60,900	56,642	*	4.2	-3.7	0.4
Chowan	17.4	26.6	*	39,757	38,759		6.4	-5.4	1.4
Columbus	21.4	23.5		38,425	34,949	*	6.4	-6.5	0.8
Craven	16	15.6		48,258	47,985		5.3	-5.1	0.9
Cumberland	16.6	17.5		47,443	44,171	*	6.3	-2.6	1.0
Currituck	8.5	10.3		60,256	60,600		5.2	-1.7	1.8
Dare	10.5	8.3		58,638	54,496		7.0	-3.5	2.3
Duplin	23.7	26.7		35,905	35,035		5.4	-4.1	0.2
Edgecombe	22.3	26.3	*	35,653	32,659	*	8.6	-7.2	0.6
Gates	20.5	14.2	*	49,762	49,258		5.2	-2.2	1.2
Greene	18.4	25.7	*	45,072	35,777	*	5.2	-5.2	-0.2
Halifax	23.8	26.3		33,168	32,245		8.0	-5.6	1.5
Harnett	16.5	18.3	*	46,443	46,353		5.7	-5.6	0.8
Hertford	24.1	25.6		33,720	33,008		6.5	-3.1	1.0
Hoke	21.2	22.2		46,693	41,542	*	6.5	-1.5	1.2
Hyde	20.4	17.7		41,898	42,897		9.6	0.5	4.2
Johnston	15.1	15.4		53,890	50,512	*	4.6	-5.3	0.7
Jones	16.8	21.5		41,633	34,005	*	5.3	-5.5	0.7
Lee	15	18.1	*	47,463	45,608		5.9	-8.3	0.5
Lenoir	22.7	23.2		36,652	34,717	*	5.9	-5.9	0.3
Madison	16.9	18.1		41,606	39,133		4.9	-4.5	0.7
Moore	12.9	15.2	*	52,730	50,998		5.0	-5.1	0.3
Nash	14.1	18.5	*	48,372	42,713	*	6.6	-5.5	1.1
Northampton	21.7	28.1	*	33,179	30,429		7.3	-4.0	1.6
Onslow	13.8	14.6		47,385	46,335		5.3	-4.7	0.7
Pasquotank	18.1	19.2		47,901	45,378		6.3	-3.6	1.3
Pender	14.8	18.5	*	48,178	44,828		5.3	-5.7	1.1
Perquimans	18	19.6		46,670	44,329		5.5	-5.8	-0.7
Pitt	23.9	25.5		41,996	41,119		4.9	-6.3	0.3

Richmond	25.2	25.7		33,250	32,687		7.0	-7.0	-0.6
Robeson	30.2	31.6		32,151	30,608		6.7	-9.6	-1.1
Sampson	20.4	25.5	*	38,705	35,490	*	5.4	-3.3	0.9
Scotland	29.5	31.2		31,868	30,958		4.9	-4.4	0.7
Union	8.5	10.2	*	68,722	65,903	*	7.2	-6.5	-0.3
Warren	27	24.1		33,259	34,254		7.3	-5.9	0.9
Watauga	24.8	31.4	*	35,370	37,656		4.5	-3.5	0.7
Wilkes	19.2	23.3	*	36,205	33,232	*	4.8	-7.9	-0.6
Average	18.7	20.6		43,908	41,480		6.0	-4.9	0.7
North Carolina							5.1	-5.5	0.3

** indicates that the change is statistically significant at 90% confidence level*
Source: U.S. Census American Community Survey, 2006-2010 and 2011-2015

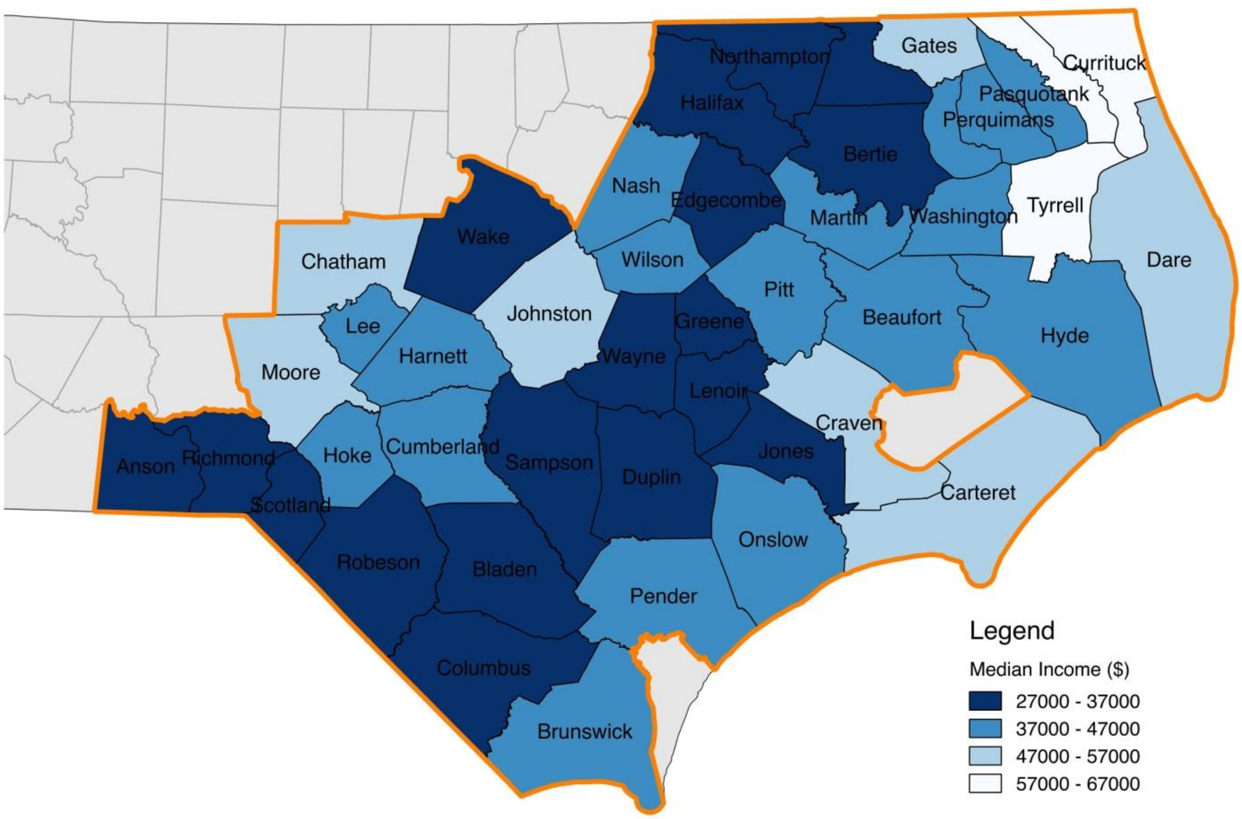
Figure 6: Percentage of population in poverty



Source: U.S. Census American Community Survey, 2011-2016

Median income is declining across the region. Using figures adjusted to 2015 dollars, the mean county median income in 2006-2010 was $43,890, and in 2011-2016, it was $41,398, according to the American Community Survey. No county in the region had a statistically significant gain in median income between the two time periods, which suggests that raising incomes is not just a challenge for areas with low median income or high poverty. Figure 8 shows that, as with poverty, lower median incomes run across a swath of the storm-impacted region. Highest median incomes are in the far northeast counties – Currituck, Camden, Tyrell – but relatively high median incomes ($47,000-57,000 in 2015 dollars) can be found along coastal areas as well as a few counties near the Research Triangle or in the Pinehurst/Southern Pines area.

Figure 7: Median income by county



Source: U.S. Census American Community Survey, 2011-2016

Unemployment is variable in the region. In 2016, the average county unemployment rate in the storm-impacted region is 6.0 percent, compared with a 5.6 percent average county unemployment rate in the state. Counties with the highest unemployment rates are Hyde, Edgecombe, and Halifax. Almost all counties' unemployment rates are down from the height of the recession in 2009, but many are slightly up from ten years ago. The demographic patterns of unemployment lend important clues to economic development strategies that might improve employment outcomes. According to the American Community Survey's 2015 estimates, unemployment in North Carolina is worse for younger workers and for workers of color. Labor force participants under the age of 30 have higher unemployment rates than the state average, at 12.3 percent for ages 20-24 and even higher for teens. Unemployment for the white population was estimated at 5.4 percent, while it was 11.5 percent for African-Americans, 8.2 percent for Native Americans, and 7.3 percent for Hispanic/Latino of any race. For people below poverty, unemployment is 23.6 percent.

The drivers of demand and supply of housing that is affordable – that is, housing that costs households 30% or less of their incomes – are diverse across the region. Many counties with declining populations, low median incomes and high rates of poverty have elevated levels of cost burden for both renters and homeowners without mortgages. Drivers of cost burden for homeowners with mortgages appears to be more diverse, shared across counties with low incomes and population loss as well as counties with population gains where housing prices may contribute to the burden. It is important to note that poor households living in high growth areas are likely to encounter private market housing costs that are unaffordable. Each of these counties warrants further close analysis to understand individual barriers and opportunities for expanding the affordability of housing through working with the private housing market as well as innovative public-private models for development, preservation, and maintenance. In the next section, we conduct an analysis of the housing costs and potential in four counties: Cumberland, Edgecombe, Robeson, and Wayne.

V. Affordable Housing Market Analysis

Composed of key local economic indicators, this analysis provides the estimated future market demand for affordable housing in the four counties most heavily affected by Hurricane Matthew: Cumberland, Edgecombe, Robeson, and Wayne.[25] It also describes the economic state of the four counties before they were impacted by Hurricane Matthew, as more recent annual data are not yet available. Together, this analysis demonstrates that the counties vary in regards to economic growth trajectories and housing affordability challenges.

Cumberland County is most likely to see private market investment due to its growing economy and retail surplus, but it also has the largest relative and absolute need for additional affordable housing. Wayne County is challenged by a relative lack of retail and commercial activity, but still has a positive outlook for population and income growth. Robeson County has the lowest median rents and meets the greatest share of its affordable housing demand, at 28 percent. Edgecombe has the most serious economic obstacles to affordable housing development; with low projected income growth and a projected population decline, it will be difficult to convince developers to invest in building housing in the county.

County Demographic Profiles

Cumberland County has a population of 327,127. This population is 39% Black, 52% White, and 11% Latino.[26] The county has a total of 122,643 households. Of occupied housing units, 53% are occupied by owners and 47% are occupied by renters. The median household income is $44,171.

Edgecombe County has a population of 53,318. This population is 58% Black, 40% White, and 4% Latino. The county has a total of 21,026 households. Of occupied housing units, 60% are occupied by owners and 40% are occupied by renters. The median household income is $32,659.

Wayne County has a population of 124,150. This population is 33% Black, 63% White, and 12% Latino. The county has a total of 47,530 households. Of occupied housing units, 60% are occupied by owners and 40% are occupied by renters. The median household income is $40,390.

Robeson County has a population of 133,235. This population is 24% Black, 31% White, 41% American Indian, and 9% Hispanic. The county has a total of 45,773 households. Of this total, 63% are occupied by owners and 37% are occupied by renters. The median household income is $30,608.

Source: 2016 Census population estimates and 2011-2015 American Community Survey estimates

[25] Damaged units in Cumberland, Edgecombe, Robeson and Wayne made up 64% of the major to severely damaged units in North Carolina, according to the April 21, 2017 State of North Carolina CDBG-DR Action Plan, which determined these four counties to be most heavily impacted in the state.

[26] Hispanic/Latino ethnicity is estimated independent of race. Data are from 2016 Census population estimates and 2011-2015 American Community Survey estimates.

The economic conditions of these four counties will influence future private actor development decisions and the location of their investments. There are several economic indicators, including median income, demographic projections, employment projections, and commercial trends that illustrate the conditions of a county's housing market with respect to its attractiveness for private investment. In addition, indicators of the long-term needs of lower-income households help community-oriented developers understand the unmet needs in areas where they might invest. Each of these indicators is explored for each county in the section that follows.

Demographic Projections

Table 7: Projected Percent Change in Demographics, 2017-2022

	Robeson	Cumberland	Wayne	Edgecombe
Median Income	7%	9%	9%	3%
Renter Households	2%	3%	3%	-4%
Owner Households	1%	3%	2%	-5%
Population	1%	3%	2%	-4%

Source: ESRI Business Analyst, 2017

Table 7 shows the demographic projection for each of the four counties between the years 2017 and 2022. Measures of economic growth that interest housing developers include projected growth in median income, renter households, owner households, and overall population. By these metrics, Cumberland County has the healthiest economic projections, along with Wayne County. Edgecombe County is projected to grow the least in median income; a three percent increase is unlikely to beat the inflation rate, and the decline in projected households and population is problematic for housing developers because it may create an oversupply of housing. Therefore, in Edgecombe, affordable housing maintenance will play an extremely important role in meeting the county's affordable housing needs.

Commercial and Industry Trends

Retail gap analyses reveal consumer spending patterns within each county that are indicative of commercial and industry trends. A negative retail gap suggests there is a surplus of spending in the county compared to its relative population. A positive number reveals that residents in the county spend more money than county retailers acquire. This is known as *leakage*; in other words, people are leaving the county to purchase goods elsewhere. The retail gap analysis is generated through a detailed report of spending by various categories for each county. For this analysis, spending in certain retail and food sectors serve as a proxy for the growth or lack of growth in commercial activity, especially commercial and retail activity associated with shopping and eating in restaurants. The categories combined in this retail gap include spending at Sporting Goods, Hobby, Book and Music Stores; Miscellaneous stores (Florist, office supply, etc.); Grocery Stores; Clothing Stores & Accessories Stores; and Food Services and Drinking Places.

Table 8: Retail Gap Analysis, 2017

	Robeson	Cumberland	Wayne	Edgecombe
Retail Gap	$60,041,329	$ -212,717,420	$43,405,529	$104,930,277

Source: Esri Business Analyst, 2017

Cumberland County has a retail surplus of over $212 million, thereby attracting substantial retail spending from individuals living in other counties. However, Edgecombe, Robeson, and Wayne Counties have significant retail leakages (see Table 8). Edgecombe has the largest retail leakage, over $104 million, despite having the smallest population, indicating that residents of the county are leaving the county to purchase goods elsewhere more often than residents of other three counties. Robeson and Wayne have retail leakages of $60 million and $43 million respectively. The retail gap analysis suggests that Cumberland County is outperforming the three other counties, in concurrence with the projections of demographic and income growth. However, the analysis also shows that Wayne and Robeson Counties are further behind than the projections alone suggest. Unfortunately, the outlook for Edgecombe is equally poor by both sets of indicators.

Five-year employment change rates provide context for the current relationship between income and the amount households are spending on rent in each of the four counties. The largest direct employers in each of the four counties are accommodation and food services, retail trade, manufacturing, and health care and social assistance, as reported by the U.S. Bureau of Labor Statistics (figures do not include agriculture).

Table 9: Five-year Employment Change in Major Industries, 2011-2016

	Robeson	Cumberland	Wayne	Edgecombe
Accommodation and food services	16%	12%	12%	18%
Retail trade	1%	11%	14%	5%
Manufacturing	11%	-11%	8%	5%
Health care and social assistance	-5%	8%	3%	0%

Source: US Bureau of Labor Statistics, QCEW 2011, 2016

Employment growth is strongest in accommodation and food services in all four counties, ranging from 12 to 18 percent (see Table 9). Strength in this area reflects a shift from the region's reliance on manufacturing to service jobs. Manufacturing jobs provide a mixed picture for growth, with increases over the past five years in Robeson, Wayne, and Edgecombe Counties, but an 11 percent loss in Cumberland County. Retail trade jobs have overall fared well, particularly in Cumberland and Wayne Counties, while the results are more mixed for health care and social assistance jobs.

Table 10: 2022 Projected Major Industry Average Wage and Affordable Rent
(Assumed to track with 2% inflation)

	Projected 2022 annual state average wage	Affordable rent at 30% of wage
Accommodation and food services	$15,075	$377
Retail trade	$27,707	$693
Manufacturing	$48,718	$1,218
Health care and social assistance	$42,162	$1,054

Source: US Bureau of Labor Statistics, QCEW 2011, 2015, 2016 and NC Department of Commerce 2017

In Table 10, we estimate projected industry average wages in relation to the corresponding affordable rent. Projected annual wages are highest for manufacturing ($48,718) and health care and social assistance ($42,162) jobs and much lower for retail trade ($27,707) and accommodation and food services

($15,075).[27] Jobs in manufacturing and health care and social assistance, on average, provide salaries above the amount needed to afford median rent in each of the counties. Communities with more jobs in these industries may be able to attract private sector developers to build market-rate housing, and they may be more successful at including affordable or subsidized units in multi-unit developments. In contrast, places with more retail and accommodations and food services jobs may require higher and more overall subsidies and increased focus on economic development to attract commercial developers. In these communities, economic development should also be viewed within the context of an affordable housing strategy.

Projected Affordable Housing Need, 2022[28]

Policymakers, local officials, and residents all have an interest in better understanding the need for affordable housing, particularly when making decisions about the allocation of public resources. Community-oriented developers are likely better able to create affordable housing in areas that are growing economically while also demonstrating commitment to communities with the greatest needs. The next set of indicators estimates the unmet need for *affordable rental housing* in the four most storm-impacted counties. Renters are by far the most cost-burdened population in Eastern North Carolina, which is why we focus on the unmet need for rental housing. However, there are unmet needs for affordable owner-occupied housing as well and future research should estimate the unmet need for owner-occupied housing. These projections assume no new housing or population growth between 2017-2022.

Estimating the need for affordable rental housing requires some assumptions and calculations, as illustrated in Table 11. First, the average market rent is assumed to be the median gross rent including estimated utility costs for a two-bedroom unit, as reported in the 2011-2015 American Community Survey. Affordability is defined as spending no more than 30% of household income on housing costs. To determine the income required for market rent in each county, the assumed market rent is divided by 0.3, yielding the household income required. Data on household income in each county provides an estimate of the number of households with income under that amount; this is assumed to be the total number of cost-burdened households. From this estimate of cost-burdened households, we subtract subsidized housing units provided through LIHTC, HUD Multifamily, USDA Rural Development, and HUD Public Housing.[29]

The figure that remains is the "unmet need," or the households with need for housing provided under the market rate. This figure ranges from 1,676 households in Edgecombe County, which has the smallest population of the four counties, to 4,527 households in Cumberland County, which has the largest population.

To compare the need among four counties of different sizes, it is helpful to look at the ratio of the supply of subsidized affordable housing to the total demand for that housing, known as the supply/demand ratio. A low ratio indicates that there is a low supply of subsidized affordable housing compared to demand, while a high ratio means that the county is meeting a greater share of its demand for subsidized housing. Robeson County has the highest supply/demand, 0.28 or 28%, followed by Edgecombe County.

[27] Annual wages were projected by applying a the current 1.88% inflation rate, compounded annually, to 2015 industry-level wage data

[28] Projections assume no new housing and no population growth

[29] Subsidized housing figures were sourced from PolicyMap's data on four different federal housing subsidized programs by county, HUD Multifamily, LIHTC, USDA Rural Development, and HUD Public Housing. The files give a breakdown of each housing project/development including number of units, year built, restrictions etc. Data were cross-referenced by address to eliminate any overlap caused by multiple programs used to subsidized the same housing development. This may not include all subsidized housing, but it should represent a significant proportion.

Cumberland has the lowest ratio of supply to demand, at 0.14 or 14%. Although Cumberland County has the highest median income and the strongest economic indicators of the four counties, it also has the most significant relative and absolute need for rental housing provided below market rate.

Table 10: Affordable Rental Housing Demand Projections, 2022

	Robeson	Cumberland	Wayne	Edgecombe
Market rental assumption (median rent)	$441	$752	$791	$580
Household income required market rent to be affordable	$17,621	$30,075	$31,621	$23,186
Estimated number of households making less than the above amount	11,114	31,980	13,739	7,034
Total subsidized affordable units supplied	3,121	4,527	2,733	1,676
Unmet need	7,993	27,453	11,006	5,358
Supply / demand ratio	28%	14%	20%	24%

Source: Authors' Analysis

Major Project Affecting Housing Demand: CSX Facility in Rocky Mount, NC

The projections above do not account for pipeline projects underway that will have dramatic effects on employment opportunities. One such project is the CSX Carolina Connector Facility that is projected to open in 2019. The facility is expected to bring 1,500 jobs to the state, with hundreds of jobs created on-site.[30] The salaries for these positions are estimated to be between $32,000-$38,000 a year.[31] This is within the range of the median household income for Edgecombe County. The increasing number of employees and their families will increase demand for moderately priced housing in the county during the construction phase and once the facility is operational.

Affordable Housing Market Analysis Conclusions

The four counties most impacted by Hurricane Matthew differ in their economic standing and needs for affordable housing. It is clear from a host of economic indicators that Cumberland County has the greatest current economic potential, as it has the largest projections for population and income growth, the highest current median income, and a retail surplus. However, Cumberland County also has the highest share of renters and the lowest ratio of supply of affordable housing to demand, with an estimated unmet need for 27,400 affordable housing units. High-growth housing markets do not necessarily provide an appropriate range of affordable housing at different income levels. Also of concern, Cumberland County lost 11 percent of its manufacturing employment over the five years between 2011-2016; manufacturing jobs have higher wages than other top employment industries in the region.

Wayne County has a median income that is nearly as high as Cumberland County, projections for income and demographic growth that almost match Cumberland's, and projections for employment growth that exceed Cumberland's in some categories. However, Wayne County does not fully service its residents'

[30] Transport Topics. (August 7, 2017). CSX Rail Hub in North Carolina Expected to Create 1,500 Jobs. Downloaded at: http://www.ttnews.com/articles/csx-rail-hub-north-carolina-expected-create-1500-jobs
[31] Ibid.

retail needs, resulting in retail leakage to surrounding communities. Wayne County median rents are the highest of the four counties, which may contribute to a total unmet need for affordable housing at 11,000 units, a supply/demand ratio of 20 percent.

Robeson County has a mixed outlook for attracting affordable housing developers. While it has the lowest median income of the four counties, it is still projected to experience population growth, a key indicator of support for further housing development. Robeson has a retail gap of $60 million, and jobs are growing in both the low wage industry of accommodation and food services and the higher wage industry of manufacturing. Robeson does the best job of the four counties at meeting its need for affordable housing, at 28% of total demand. Nonetheless, the estimated need for additional affordable housing stands at nearly 8,000 units.

Finally, Edgecombe County has the greatest challenges for long-term economic prosperity and housing development. While its median household income is above that of Robeson, the five-year projection for income growth is just three percent, which is unlikely to keep pace with inflation. (These projections do not consider the new jobs created by the CSX facility). It has the largest retail leakage, over $100 million of spending that leaves the county annually, and by far the greatest employment growth is in accommodation and food services, jobs which do not pay enough on average to afford area rents. Edgecombe County has a projected need for 5,300 units of affordable housing; attracting developers with the county's current economic outlook is likely to be a major challenge.

VI. Affordable Housing Strategies & Recommendations

Eastern North Carolina faces many economic and social challenges but it also poses opportunities for growth and social change. Extreme events, like Hurricane Matthew, provide an opportunity for federal, state, and local stakeholders to come together with community members to develop a new vision. Across the region community groups have come together to heal and rebuild and continue to meet in a spirit of what could be. Interviews with key stakeholders suggest there is commitment to this region that can be realized with changes in funding, policy, and focus. Based on our analysis, we offer the following strategies and recommendations to advance affordable housing goals in Eastern North Carolina.

1. The Governor's Office should form a standing committee to recommend policy, programmatic, and funding strategies to encourage development of affordable housing in Eastern North Carolina.

- This committee should include statewide housing experts, development professionals, disaster recovery officials, and economic development planners and facilitators. Key stakeholders to include are: NC Council of Governments, NC Housing Finance Agency, NC Emergency Management, Commerce's Rural Development Division, the NC Community Development Initiative, the NC Housing Coalition, the NC Association of CDCs in addition to key CDCs with expertise in housing development in eastern North Carolina, community college business development officials, private developers active in the Eastern North Carolina housing market, two state legislators from each chamber, elected officials from a diversity of cities and towns, policy officials within the administration, and academic experts.
- Funding is required for a staff person half-time or greater to staff the committee.
- The role of the committee is to develop holistic recommendations for expanding affordability in Eastern North Carolina, including strategies likely to catalyze economic development that will raise incomes and quality of life. These recommendations should take into account recovery funding but should also address opportunities created by long-term federal, state, local, philanthropic, and private sector funding. The committee should draft policies and practices that would address housing needs in the region.
- The committee should generate recommendations for both the executive and legislative branch within six months of being formed, and present semi-annual updates to the governor.

2. Preserve and maintain existing affordable housing

- In areas with shrinking populations, preserve and maintain housing that is affordable and appropriate to the demography of the area.
- Increase funding for weatherization, rehabilitation, and accessibility programs that make housing more resilient to storms, energy efficient, and responsive to the needs of elderly and/or handicapped residents.
- Build capacity among local governments to enforce housing codes and pursue tax foreclosures to address vacant or dilapidated property that negatively impacts neighborhood conditions and property values.

3. Promote housing development in geographies of opportunity

- Encourage new models for financing affordable housing construction in markets that are failing to provide private sector housing.

- In areas with stronger housing markets, encourage the development of market-rate homes that are affordable to moderate-income households.
- Promote LIHTC or other subsidized development in areas with high potential for follow-on investment, without disturbing the general geographic equity that the Qualified Allocation Plan provides, including areas near medical and educational institutions, as well as economic development initiatives and other private investments.
- Revise the current LIHTC Qualified Allocation Plan to include a target percentage of affordable housing developments in rural communities that may be less dense and include duplex units.
- Consider land banking in areas where landlords have deferred maintenance for their properties, particularly those landlords with rental properties damaged by the storm that are yet to be rehabilitated.
- Recognize and proactively address the effects of institutional racism in this region and the effects on housing disparities.
- Consider passage of non-discrimination laws that support use of Housing Choice Vouchers in “opportunity neighborhoods.”
- Build capacity among local government officials and staff to implement low-cost ways (i.e. zoning changes, reduce parking requirements) to incentivize housing development or rehabilitation.

4. Align policy and programming to meet the housing development challenges in Eastern NC

- Use a mix of local and state subsidy models to build single family and multi-family housing that is affordable (no more than 30% of income including utility costs and taxes) at a range of income levels (30%, 50%, 80%, 100%, and 120% of AMI). A more diverse housing stock, particularly at 80%, 100% and 120% of AMI, may stem the tide of outmigration of young professionals and families.
- Restore previous funding levels for the Community Development Initiative and other agencies that distribute working capital to local non-profit housing developers.
- Restore previous funding levels to the Housing Trust Fund to increase rehabilitation programs that prevent the decline of older homes that are currently affordable.
- Structure funding and development opportunities to benefit a more diverse population of households in need of affordable housing, not only seniors and the very low income.
- Make capital more readily available and easier to obtain without increasing the risk of foreclosure.
- Encourage broader investment in community economic development and housing creation through the Community Reinvestment Act.
- The state should lobby the federal government for policy changes advantageous to solving economic and housing problems in Eastern North Carolina, such as restoring funding for the USDA Rural Housing program to previous levels.

5. Include economic development as part of affordable housing strategies in Eastern NC

- Seek to stabilize housing decline and cost burdens generated by very low incomes through expanding industries and economic opportunity in Eastern North Carolina.
- Include economic development professionals in housing committees and vice versa.
- Provide funding to Community Development Financial Institutions to provide capital and technical assistance to fund the establishment of small and home based businesses. Funding could include loan loss reserves to accommodate aggressive risk model.

- Expand funding for programs already generating entrepreneurship and workforce development in Eastern North Carolina, such as that within the community college system.
- Housing recovery efforts can be one mechanism for economic development if residents are trained in housing construction, repair, and rehabilitation; disaster mitigation; and searching titles.
- Homeownership programs should be funded and expanded to allow households with low incomes or limited/poor credit greater access to homeownership, especially in the non-subsidized affordable housing market to allow households to gain equity in their homes.
- Engage major private employers in a regional marketing campaign to demonstrate the value to employers of contributing to local vitality. This can occur through encouraging employees to live in the area as well as general placemaking that promotes further economic development/investment and enhances quality of life.
- Invest in development projects that have the potential to be catalytic drivers of economic development for communities. Engage the Development Finance Institute in the School of Government to identify and analyze financial feasibility of development projects.

6. Build civic capacity in Eastern NC to champion and implement affordable housing programs

- Use COGs to distribute training to elected officials on rural housing and economic development leadership and programs. Some additional training to COGs may be necessary to do so.
- Invest in leadership development among younger generations in eastern North Carolina. For example, establish a leadership academy for young adults who are interested in running for local office.
- State funding should be restored for those statewide organizations that had helped provide operating capital to community development corporations. If this is not restored soon, institutional memory and skills may be lost.
- The state should publicly recognize successful partnerships and collaborations that result in realized solutions to housing problems in eastern North Carolina.
- Utilize successful builders and lessons learned from Hurricane Floyd to guide Matthew housing recovery.

7. Make homes more resilient to flooding and extreme weather

- Use HMDRRI’s Homeplace design recommendations, crafted by NC State’s College of Design, as models for developing high quality affordable, culturally appropriate, and flood resilient housing
- Remove or rehabilitate dilapidated/poor quality housing that pose a danger to public health and safety and reduces home and community values.
- Supplement funding for the Hazard Mitigation Grant Program so that more homes can be relocated, elevated, or rebuilt more resiliently.

Appendix A: List of Interviewees

I Interviewees for this report were identified through several methods. First, a list of key partners in housing recovery was obtained through the NC Emergency Management Housing Recovery group. This led to interviews with staff at FEMA, the NC Housing Finance Agency, Self-Help, and the Robeson Department of Social Services among others. We also attended community meetings in Robeson and Edgecombe Counties and interviewed agency staff participating in these meetings. As part of our interview protocol (see Appendix B), we asked these individuals to identify others who could provide critical information about affordable housing needs, barriers, and facilitators. This snowball sample approach led us to contact staff at various CDCs, long-term recovery groups and Councils of Government who suggested that we speak to others. Interviewees also provided reports and other materials vital to understanding affordable housing in the region. While not an exhaustive approach to gathering data, it has provided us with a wide variety of informants who shared their perspectives on needs and challenges to make high-quality, affordable housing available to low and moderate income households in Eastern North Carolina. Notes from these interviews were analyzed to identify common themes and compared to the existing literature on the effects of natural disasters on vulnerable populations and affordable housing. When appropriate, those interviewed were contacted and asked additional questions to clarify findings or recommendations.

1. Paul D'Angelo, Affordable Housing Specialist at Tribute Companies, Inc. and Chair of Cape Fear Housing Coalition
2. Erika Brandt, Support Analyst, NC Housing Finance Agency
3. Tara Campbell, Senior Vice President of Lending and Investments, NC Community Development Initiative
4. Tina Dawson, Child Protective Services Program Manager, Robeson County Dept. of Social Services
5. Joyce Dickens, Executive Director, Affordable Housing Director, Rocky Mount Edgecombe Community Development Corporation
6. Matt Duncan, Urgent Repair and Single Family Rehabilitation Coordinator, Choanoke Area Development Association
7. Al Foote, Adult Services Coordinator, Cumberland County Dept. of Social Services
8. Riley Foster, Intern, NC Community Development Initiative
9. Dawn Gavasci, Adoption & Foster Care Program Manager, Robeson County Dept. of Social Services
10. Gary Hooker, Intern, NC Housing Finance Agency
11. Andrea Harris, Senior Fellow, Self-Help Credit Union
12. Kevin Harris, Affordable Housing Director, Rocky Mount Edgecombe Community Development Corporation
13. LeMarc Harris, Director, Pembroke Public Housing Agency
14. Lea Henry, Community Development Manager, Upper Coastal Plain Council of Governments
15. Will Parry-Hill, Manager of Government and Industry Relations, NC Housing Finance Agency
16. Wayne Horne, Lumberton City Manager, City of Lumberton City
17. William Kenney, North Carolina Director of Single Family Housing, US Department of Agriculture
18. D. Faye Lewis, Rural Planning Organization Technician, Mid-Carolina Council of Governments
19. Brandon Love, Planning Director, City of Lumberton
10. Adrian Lowry, Director, Lumberton Public Housing Agency
21. Terry Pate, Owner, Terry Pate Realty
22. Charlotte Steward, Policy and Program Analyst, NC Housing Finance Agency
23. Emila Sutton, Senior Policy and Program Analyst, NC Housing Finance Agency
24. Sonyia Tuner, Intern, NC Community Development Initiative
25. Roy Worrells, Weatherization Coordinator, Choanoke Area Development Association

Appendix B: Key Informant Interview Questions

Please tell us your name, title, and how long you have worked for [agency]
Please describe what your agency does.
Where does [your agency] operate – in which counties or towns?

In your experience, where are the greatest needs for affordable housing?
What characteristics of housing are most in demand for low-income households? E.g. type, amenities, disability/senior, etc.

Are you able to meet those needs?

- What are the major barriers to developing low cost housing in eastern NC?
    - With subsidy
    - Without subsidy
    - Single family homes
    - Multifamily / mixed use
    - Rental homes
    - Senior friendly homes
    - Disaster resilient homes
    - At affordability at different levels, below 30% AMI, 30-50% AMI, 50-80%AMI, 81-100% AMI, etc.
- What do you need to better meet those needs? – Are there policies or programs that are serving as barriers or that could be better leveraged?

What strategies have you used that have been more successful to develop affordable housing? Why do you think they worked?

What strategies have not worked? Why do you think they didn't work (or work as well as you would have liked)?

If you could wave a magic wand and get exactly what was needed for this area, what would you ask for?

Finally, can you recommend others we should speak with about affordable housing in Eastern North Carolina?

Appendix C: LIHTC Properties in 45 Counties Declared for FEMA-Individual Assistance

County	Public Housing	LIHTC								Total Low-Income Units	Percent of Total Affordable Units Expiring					
				30 years from Put In Service (PIS)							30 years from PIS					
	All Units	All Units	Low-Income Units	All Units			Low-income units			LIHTC & PH	All Units			Low-income LIHTC Units		
				2020	2030	2040	2020	2030	2040		2020	2030	2040	2020	2030	2040
Anson	175	128	128	0	0	128	0	0	128	303	0.0%	0.0%	42.2%	0.0%	0.0%	42.2%
Beaufort	412	300	300	0	152	300	0	152	300	712	0.0%	21.3%	42.1%	0.0%	21.3%	42.1%
Bertie	28	56	56	0	24	56	0	24	56	84	0.0%	28.6%	66.7%	0.0%	28.6%	66.7%
Bladen	154	116	116	0	76	76	0	76	76	270	0.0%	28.1%	28.1%	0.0%	28.1%	28.1%
Brunswick	0	248	305	0	44	224	0	44	209	305	0.0%	17.7%	90.3%	0.0%	14.4%	68.5%
Carteret	245	384	432	0	136	344	0	136	344	677	0.0%	21.6%	54.7%	0.0%	20.1%	50.8%
Chatham	1891	376	300	40	172	220	40	172	220	2191	1.8%	7.6%	9.7%	1.8%	7.9%	10.0%
Chowan	100	239	238	0	0	201	0	0	199	338	0.0%	0.0%	59.3%	0.0%	0.0%	58.9%
Columbus	54	421	373	40	56	293	40	56	293	427	8.4%	11.8%	61.7%	9.4%	13.1%	68.6%
Craven	268	463	467	27	137	337	27	137	337	735	3.7%	18.7%	46.1%	3.7%	18.6%	45.9%
Cumberland	1130	2104	1986	0	232	1356	0	232	1356	3116	0.0%	7.2%	41.9%	0.0%	7.4%	43.5%
Currituck	0	44	44	0	44	44	0	44	44	44	0.0%	100.0%	100.0%	0.0%	100.0%	100.0%
Dare	0	46	46	0	0	0	0	0	0	46	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Duplin	48	272	286	36	100	272	36	100	270	334	11.3%	31.3%	85.0%	10.8%	29.9%	80.8%
Edgecombe	543	419	414	0	136	291	0	132	286	957	0.0%	14.1%	30.2%	0.0%	13.8%	29.9%
Greene	0	128	168	0	96	128	0	96	128	168	0.0%	75.0%	100.0%	0.0%	57.1%	76.2%
Halifax	417	468	454	42	108	316	42	108	302	871	4.7%	12.2%	35.7%	4.8%	12.4%	34.7%
Harnett	183	259	344	40	126	259	40	126	259	527	9.0%	28.5%	58.6%	7.6%	23.9%	49.1%
Hertford	149	138	138	0	97	138	0	97	138	287	0.0%	33.8%	48.1%	0.0%	33.8%	48.1%
Hoke	0	254	252	28	28	234	28	28	232	252	11.0%	11.0%	92.1%	11.1%	11.1%	92.1%
Hyde	20	16	16	0	16	16	0	16	16	36	0.0%	44.4%	44.4%	0.0%	44.4%	44.4%
Johnston	563	766	760	34	378	669	34	378	663	1323	2.6%	28.4%	50.3%	2.6%	28.6%	50.1%
Jones	218	49	48	0	0	25	0	0	24	266	0.0%	0.0%	9.4%	0.0%	0.0%	9.0%
Lee	444	475	472	24	279	415	24	276	412	916	2.6%	30.4%	45.2%	2.6%	30.1%	45.0%
Lenoir	375	240	315	0	151	240	0	150	239	690	0.0%	24.6%	39.0%	0.0%	21.7%	34.6%
Martin	108	74	74	0	24	74	0	24	74	182	0.0%	13.2%	40.7%	0.0%	13.2%	40.7%
Moore	101	326	326	16	104	276	16	104	276	427	3.7%	24.4%	64.6%	3.7%	24.4%	64.6%
Nash	363	377	375	32	83	377	32	83	375	738	4.3%	11.2%	50.9%	4.3%	11.2%	50.8%
Northampton	158	56	56	32	56	56	32	56	56	214	15.0%	26.2%	26.2%	15.0%	26.2%	26.2%
Onslow	21	1123	1029	0	520	995	0	427	901	1050	0.0%	45.5%	87.0%	0.0%	40.7%	85.8%
Pasquotank	330	404	438	32	101	304	30	99	302	768	4.4%	13.8%	41.4%	3.9%	12.9%	39.3%
Pender	0	124	124	0	40	124	0	40	124	124	0.0%	32.3%	100.0%	0.0%	32.3%	100.0%
Perquimans	0	36	38	0	36	36	0	36	36	38	0.0%	100.0%	100.0%	0.0%	94.7%	94.7%
Pitt	1063	635	699	0	225	568	0	225	566	1762	0.0%	13.3%	33.5%	0.0%	12.8%	32.1%
Richmond	432	309	348	32	92	269	32	92	269	780	4.3%	12.4%	36.3%	4.1%	11.8%	34.5%
Robeson	1309	674	724	22	306	574	22	306	574	2033	1.1%	15.4%	28.9%	1.1%	15.1%	28.2%
Sampson	205	138	138	40	64	138	40	64	138	343	11.7%	18.7%	40.2%	11.7%	18.7%	40.2%
Scotland	17	391	390	0	72	267	0	72	267	407	0.0%	17.6%	65.4%	0.0%	17.7%	65.6%
Tyrell	35	0	0	0	0	0	0	0	0	35	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wake	1640	6849	7004	273	3361	5824	271	3269	5682	8644	3.2%	39.6%	68.6%	3.1%	37.8%	65.7%
Washington	240	0	0	0	0	0	0	0	0	240	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Wayne	1351	537	597	40	114	387	40	114	387	1948	2.1%	6.0%	20.5%	2.1%	5.9%	19.9%
Wilson	744	930	859	59	262	643	257	638	0	1603	3.5%	15.7%	38.4%	16.0%	39.8%	0.0%