

Louisiana Receiving Communities

*Prioritizing Communities and Reducing
Environmental, Social, and Economic Risk*



PROBLEM STATEMENT

By 2050, approximately 1.2 million people in Louisiana will be affected by sea level rise. Some will adapt in place, but many will move. Where will they go and how can this movement of people result in positive outcomes for both those who move and the communities they enter?

Public agencies, designers and planners can make sure that communities are prepared to embrace and support coastal residents when they decide to move by proactively planning for resettlement that reduces environmental, economic and social vulnerability. Federal funding can be directed to receiving communities to improve resilience for current and future residents.



Source: Josh Haner/NY Times

Table of Contents

Introduction	4-5
Background Research	6-7
Methodology	8-9
Potential Receiving Communities	10-21
Hammond	16-17
Addis & Brusly	18-19
Sunset	20-21
Funding Sources	22-29
Priority Projects	30-31
Conclusion	32-33

ACKNOWLEDGMENTS

This research was funded by Coastal Protection and Restoration Authority, led by Haley Blakeman, FASLA, PLA, and supported by research assistants Debbi La Rue, AICP, Rukhshaba Shehrin, Katie Cass, and Jackson Martingayle. A special thank you to Greg Grandy (CPRA) and Charles Sutcliffe (GOCA) for their knowledge and input.

Introduction

Climate change poses significant risks to both coastal and inland communities in Louisiana. Through the Coastal Master Plan, the Coastal Protection and Restoration Authority (CPRA) and the State are doing incredible work to stabilize our coast and reduce the vulnerability of our coastal communities. The structural and non-structural adaptation measures that CPRA is currently undertaking will protect our coast for the next 30-50 years, giving us time to proactively prepare and adapt for people having to leave their homes due to environmental stressors. Federal funding is also shifting away from reactive disaster spending and toward research-supported, proactive investment in community resilience through Building Resilience in Communities (BRIC) and Flood Mitigation Assistance (FMA) programs, as well as programs that will come out of Build Back Better Framework. This funding prioritizes infrastructure projects key to community resilience, such as food, water, agriculture, health, energy, communications, transportation, education, and affordable housing, and can be directed to receiving communities to increase long-term resilience. The message is clear: we must start strategically investing in receiving communities now in order to be prepared for the displacement of hundreds of thousands of residents over the next 50 years.

People migrating from the coast are looking for new communities that will not only embrace them, but also reduce their vulnerability to environmental, economic, and social risk. As residents migrate from coastal communities, redirecting them to Louisiana communities that are better prepared to reduce their overall vulnerability is critical to protect our people, our culture, and our tax base. As State agencies expand their focus from adaptation to include migration, a methodology for identifying receiving communities and prioritizing needed investments is needed to ensure that receiving communities can attract people dislocated by climate change while improving the quality of life for all residents. This strategy is intended to inform future Coastal Master Plan updates and redefine how resilience funding is allocated to create long-term resilience, as well as where to direct Building Resilience in Communities (BRIC) and Flood Mitigation Assistance (FMA) projects and funding.

By proactively planning for resettlement focused on reducing environmental, economic and social vulnerability public agencies, designers and planners can make sure that communities are prepared to embrace and support coastal residents when they decide to move. Strategic resettlement is a long-term strategy based on data and solid design and planning. CPRA is currently working to relocate residents from eight communities with severe and repetitive flooding. This work ensures that as people resettle, they can relocate to less vulnerable areas.

THIS REPORT

1. Outlines a methodology for identifying receiving communities based on their existing resilience resources
2. Identifies the top twelve communities in southern Louisiana that meet these criteria
3. Recommends four communities to direct adaptation funding towards and to market to people migrating from the coast
4. Recommends improvements to these four communities to further reduce economic, social and physical vulnerability of residents that migrate there from the coast

HOW TO USE THIS DOCUMENT

Climate-induced migration trends and adaptation measures span political boundaries and disciplinary silos. Accordingly, successful climate adaptation requires collaboration and open lines of communication between agencies, governments, and organizations. This report takes a regional perspective in identifying potential receiving communities for people being displaced by increasing environmental changes in Louisiana's Coastal Zone. In explicitly engaging with the concept of receiving communities, this report seeks to galvanize a discussion of what environmental, economic, and social characteristics make a receiving community ideal for future residents, while improving the wellbeing of current residents.

The CPRA, Governor's Office of Coastal Activities (GOCA), Office of Community Development (OCD), Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP), future Office of State Planning and other state agencies should use this as a guide to think proactively and creatively about leveraging projects and funding to create multi-purpose environmental, social, and economic benefits for existing and future residents. This effort should compliment existing protection, restoration, and adaptation measures.

Metropolitan Planning Organizations (MPOs) and non-governmental organizations can use the findings in this report as a tool to understand and plan for anticipated regional shifts in population. It should be used to inform to apply intersectional thinking in comprehensive and strategic planning initiatives, project development, and grant writing as they continue to assist municipalities.

Finally, potential receiving communities can use the findings in this report to understand holistic factors that contribute to risk reduction and resilience, identify gaps in infrastructure and support services, apply for federal funding that meets their resilience needs, and determine if they want to market themselves a receiving community.

Interviews and Literature Review

To launch this project, researchers conducted interviews with select CPRA staff, Louisiana Office of Community Development staff, Louisiana Governor's Office Coastal Activities, Metropolitan Planning Organization staff, and coastal parish planning staff, as well as geographers, sociologists, and public health specialists who specialize in coastal areas and climate change adaptation. These interviews focused on informing factors and metrics for identifying and ranking receiving communities for adaptation funding. In addition, researchers conducted a literature review focused on ways to increase resilience in receiving communities. The themes from both are outlined below.

THEMES FROM INTERVIEWS

- » Lack of affordable housing came up in nearly every interview.
- » Available employment; demand for workers and high wages; affordable quality housing options; affordable quality education from kindergarten to higher ed; quality physical and mental health care; food and water security; proximity and transportation connections to the working coast; accepting, diverse places that will not exacerbate racial, cultural, social, and economic inequities; kinship networks; and festivals, cultural events and clubs attract coastal migrants to receiving communities.
- » People informally test receiving communities through food, festivals, visiting friends and family, or attending other cultural events such as church gatherings. These also aid in social cohesion and make people feel welcome.
- » Effective communication of risks, environmental conditions and forecasts, and opportunities is critical to help people make the right decision for themselves and their families.
- » Rural receiving options as well as small cities are desired.
- » Receiving communities should have physical proximity to the places where people are moving from as some will commute back to coast weekly because of family land, work, and social connections.
- » Potential to grow along evacuation routes, like improved I-49.
- » Land banks may be a strong, region-based alternative to state landholdings to prevent land speculation and ease gentrification pressures.
- » Capacity of municipalities, planners, and MPOs is a big hurdle to accessing federal funding and directing growth. There is also a lack of data sharing between agencies, as well as between agencies and the public. The data that is available is not always useful.
- » Receiving communities must have updated and enforced building codes, and strong leadership to enforce them.
- » FEMA Insurance Rating updates are coming soon with more aggressive buyouts, no replacement structures in V zones, floodplains, or flood zones, and a significant insurance rate increase. People will move as a result.
- » Overall lack of funding for non-structural adaptation measures.

THEMES FROM LITERATURE REVIEW

- » People need to decide when it is time to relocate, based on their own perceived risk (Nelson et al., 2022). Barriers to retreat include: climatic uncertainties, property values, government mistrust, Utopian imaginaries, environmental injustices (Ajibade et al., 2019); culturally insensitive communication tools; place attachment and place identity (Agyeman 2009); high levels of satisfaction, resource barriers, low mobility potential; and natural resource dependence (Adams et al., 2016).
- » Steps must be taken to preserve culture as people migrate from coast.
- » Voluntary acquisition instead of “coordinated resettlement” fosters community fragmentation, resulting in the loss of culture (Colten, 2021).
- » Voluntary piecemeal acquisition undermines traditional cultures and community and concentrates vulnerabilities. Resettlement should strive to leave some preexisting social and cultural fabric and related lifestyles intact (Martin et al., 2014).
- » Enticing more people to resettle is critical in preserving culture and social infrastructure. To do so, must have long-term engagement, trust, community situation of development and housing design, and creation of public spaces (Oliver-Smith, 1991).
- » Migration often reinforces acute and intergenerational social, institutional, and environmental barriers for those that are already at a political, social, and environmental disadvantage (Cernea, 1995).
- » Relocation can diminish mental health, social capital, food security, water supply, health care access, loss of land, loss of homes, marginalization, shared property resources, increased morbidity, etc. if not planned for (Cernea, 1995; Dannenburg et al., 2019).
- » Providing equal or better health and health care services will improve long-term outcomes (Cernea, 1995).
- » People with disabilities are approximately 15% of the population. This group is especially vulnerable in disasters and must be a part of climate migration planning processes (Bell, et al. 2020).

METHODOLOGY FOR PRIORITIZING RECEIVING COMMUNITIES

The following outlines the process for identifying and prioritizing potential receiving communities in south Louisiana, as well as ways to improve resilience in those communities. While this process focused on communities south of Alexandria, Louisiana first, this same process could be expanded to include other areas.

» **STEP 1: ISOLATE LOUISIANA TOWNS WITH POPULATION GREATER THAN 1,000 AND SOUTH OF ALEXANDRIA**

The management of long-range planning and implementation processes essential for successful resettlement require local capacities for administering grants, managing infrastructure projects, implementing comprehensive and hazard mitigation plans, and providing health and social services. Accordingly, unincorporated communities were not investigated for their individual potential as primary receiving communities and cities and towns with populations of less than 1,000 people were also excluded.

Many of the people moving up the bayou or farther inland have strong cultural connections to coastal ecosystems, ancestral lands, and coastal communities. To ease social and cultural transitions, receiving communities should be accessible to coastal areas, permitting routine and cyclical transportation patterns. To encourage the maintenance of these connections, the researchers concentrated on identifying receiving communities with access to the coast, and within the cultural influence of southern Louisiana. Cities and towns located north of the city of Alexandria were excluded.

» **STEP 2: ELIMINATE CITIES AND TOWNS WITH MORE THAN 50% IN FUTURE HIGH RISK FLOOD AREA**

Receiving communities are anticipated to experience growth in residential and commercial development to serve their expanding populations. Repetitive flooding is a financial burden to both residents and municipalities. It is also costly to counteract with both structural and non-structural adaptation measures. Therefore, this research aims to encourage development in areas that reduce flood risk for people moving inland from the coast, cities and towns with more than half of their current land area 1) in an existing floodplain, 2) with anticipated future flood depths of more than 5.5', and/or 3) as projected land loss were excluded from the evaluation process.

» **STEP 3: APPLY CHILD OPPORTUNITY INDEX**

Researchers next reviewed the remaining communities using CDC Child Opportunity Index (COI) 2.0 scores to understand overall community health resources based on a child's current and future wellbeing. Twenty-nine wellbeing factors are distributed among three indices: education, health and environment, and social and education.

Researchers considered a wide variety of data sources to evaluate additional social, environmental, and economic risk such as US Census Data, CPRA Data Viewer, NOAA Coastal Community Snapshot, and a Portrait of Louisiana. However, the CDC COI offers a holistic snapshot of community wellbeing that compiles various census data so that it is easily accessible and analyzed by municipalities, state agencies, NGO's, etc. that may not have the capacity to analyze vast amounts of census or GIS data.

Education Index: The prevalence and quality of early childhood education centers and enrollment, third grade reading and math proficiencies, high school graduation rate, Advanced Placement course enrollment, college enrollment in nearby institutions, school poverty, teacher experience, and adult educational attainment.

Health and Environment Index: Access to healthy food and green space, walkability, housing vacancy rate, prevalence of hazardous waste dump sites and industrial pollutants in the air, water, or soil, amount of airborne microparticles, ozone concentration, extreme heat exposure, and health insurance coverage.

Social and Education Index: Employment rate, commute duration, poverty rate, public assistance rate, homeownership rate, high-skill employment, median household income, and single-headed households.

» **STEP 4: IDENTIFY REPRESENTATIVE COMMUNITIES**

Community size and character vary greatly throughout Louisiana and relocating households should have the option to consider a variety of rural, suburban, and rural receiving communities. Researchers next identified three typologies of representative communities for further investigation including urban, tandem near metro, and rural renaissance communities.

» **STEP 5: ADD QUALITATIVE ANALYSIS**

Representative communities were further evaluated by a range of environmental, social, and economic indicators of their present capacity in each category. Researchers considered 18 indicators of existing social services, healthcare access, cultural identity and sense of place, opportunities to increase community cohesion, nearby prime agriculture land, proximity to evacuation routes, transportation infrastructure, expansion potential, capacity for future planning, CRS Ranking, sensitive habitat protection, economic diversity, job training, and the cost of housing among other factors.

» **STEP 6: FORMULATE RESILIENCE RECOMMENDATIONS**

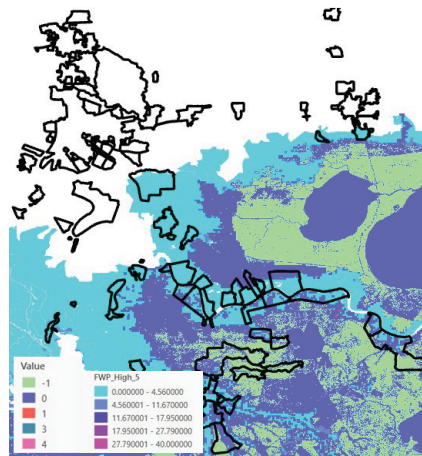
Researchers used the qualitative analysis scores to outline opportunities for increasing resilience in each community.

RECEIVING COMMUNITIES

ISOLATE TOWNS



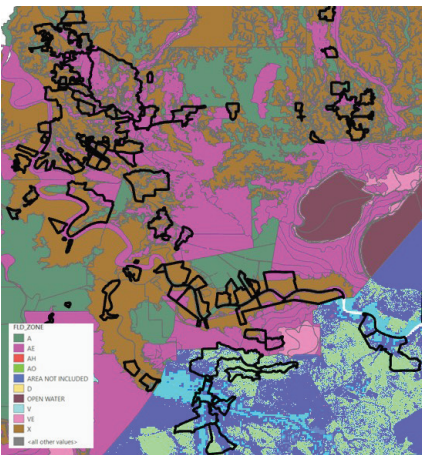
ELIMINATE HIGH RISK SEA LEVEL RISE & SUBSIDENCE



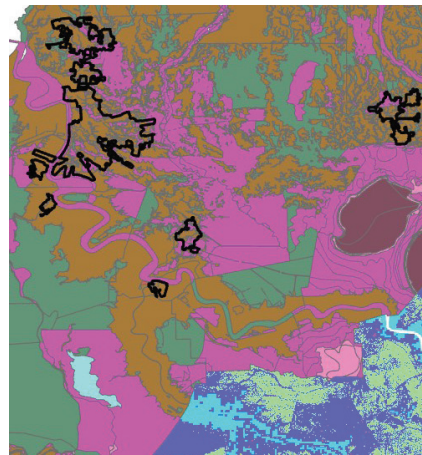
+

+

ELIMINATE HIGH RISK FLOOD ZONES



POTENTIAL COMMUNITIES



=

+

REFINE WITH CHILD OPPORTUNITY INDEX AND QUALITATIVE ANALYSIS

EDUCATION, HEALTH & ENVIRONMENT, AND
SOCIAL & ECONOMIC COI INDICES

+

QUALITATIVE INDICATORS OF EXISTING
SOCIAL, ENVIRONMENTAL, AND ECONOMIC CAPACITY

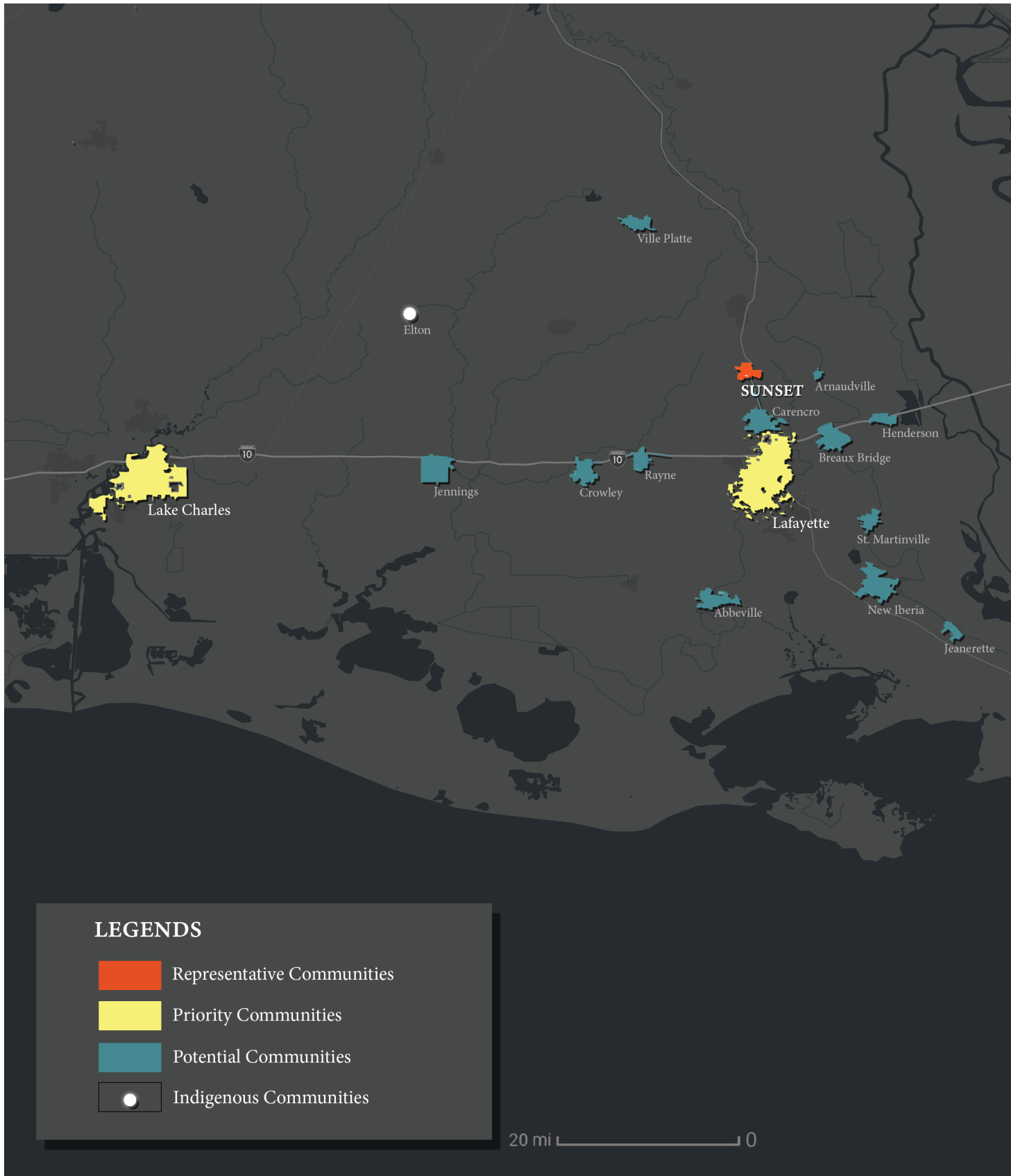
Potential Receiving Communities

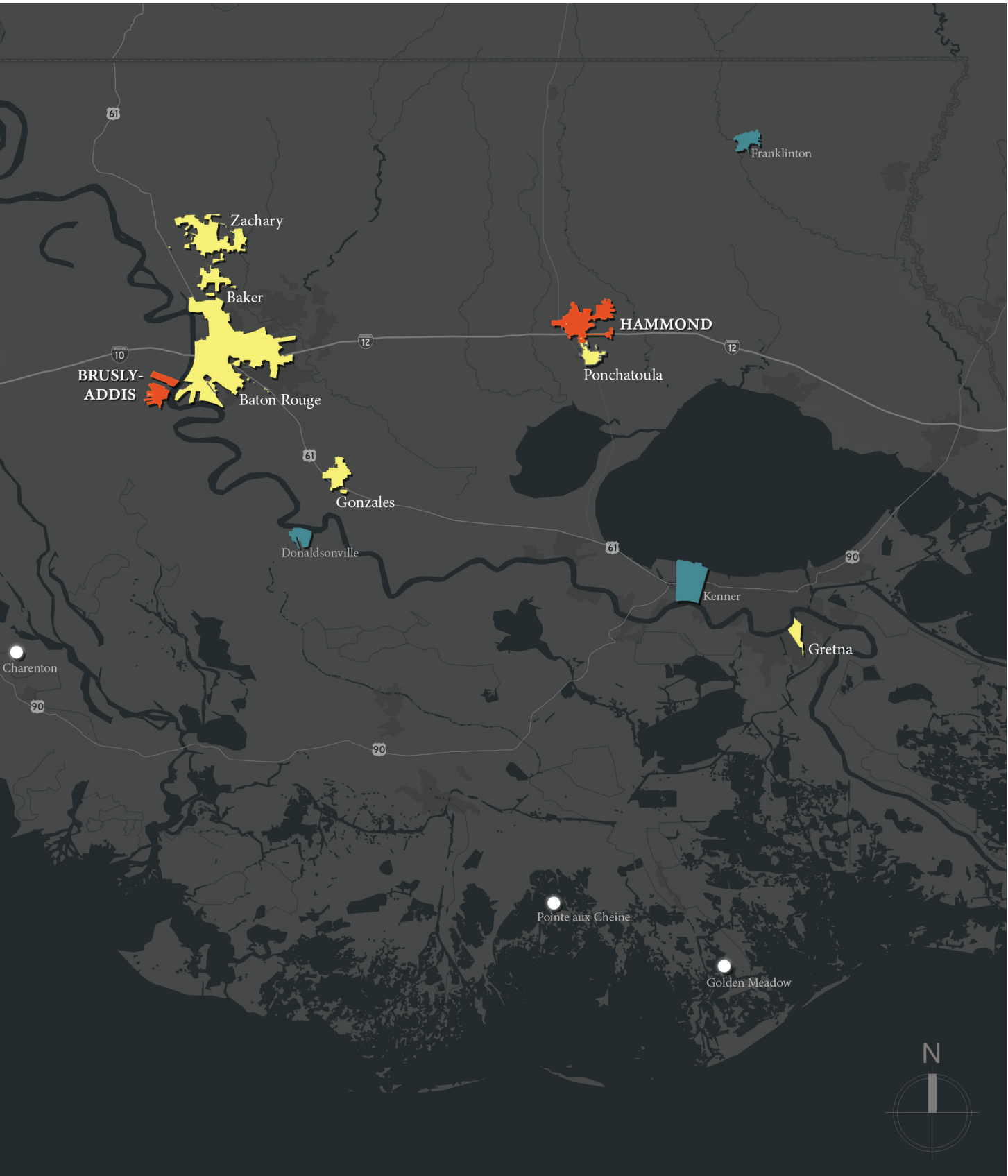
It is imperative that the physical risk is reduced for those that leave the coast due to climate change impacts. Proactively directing people to receiving communities that already have a low risk for current and future flooding helps reduce this risk. By mapping projected flood, sea level rise, and subsidence rates, researchers determined the developable land in each community. The list of 26 municipalities below and on the map on pages 12-13 highlight potential receiving communities with ample space with a low flooding risk. These communities were narrowed for further exploration. In addition, tribal communities of Elton, Charenton, Pointe aux Chene, and Golden Meadow were identified as potential communities to receive resilience funding and tribal members migrating from the coast.

POTENTIAL RECEIVING COMMUNITIES

- » Abbeville
- » Addis
- » Arnaundville
- » Baker
- » Baton Rouge
- » Breaux Bridge
- » Brusly
- » Carencro
- » Crowley
- » Donaldsonville
- » Gonzales
- » Gretna
- » Hammond
- » Henderson
- » Jeanerette
- » Jennings
- » Kenner
- » Lafayette
- » Lake Charles
- » New Iberia
- » Pontchatoula
- » Rayne
- » St. Martinville
- » Sunset
- » Ville Platte
- » Zachary

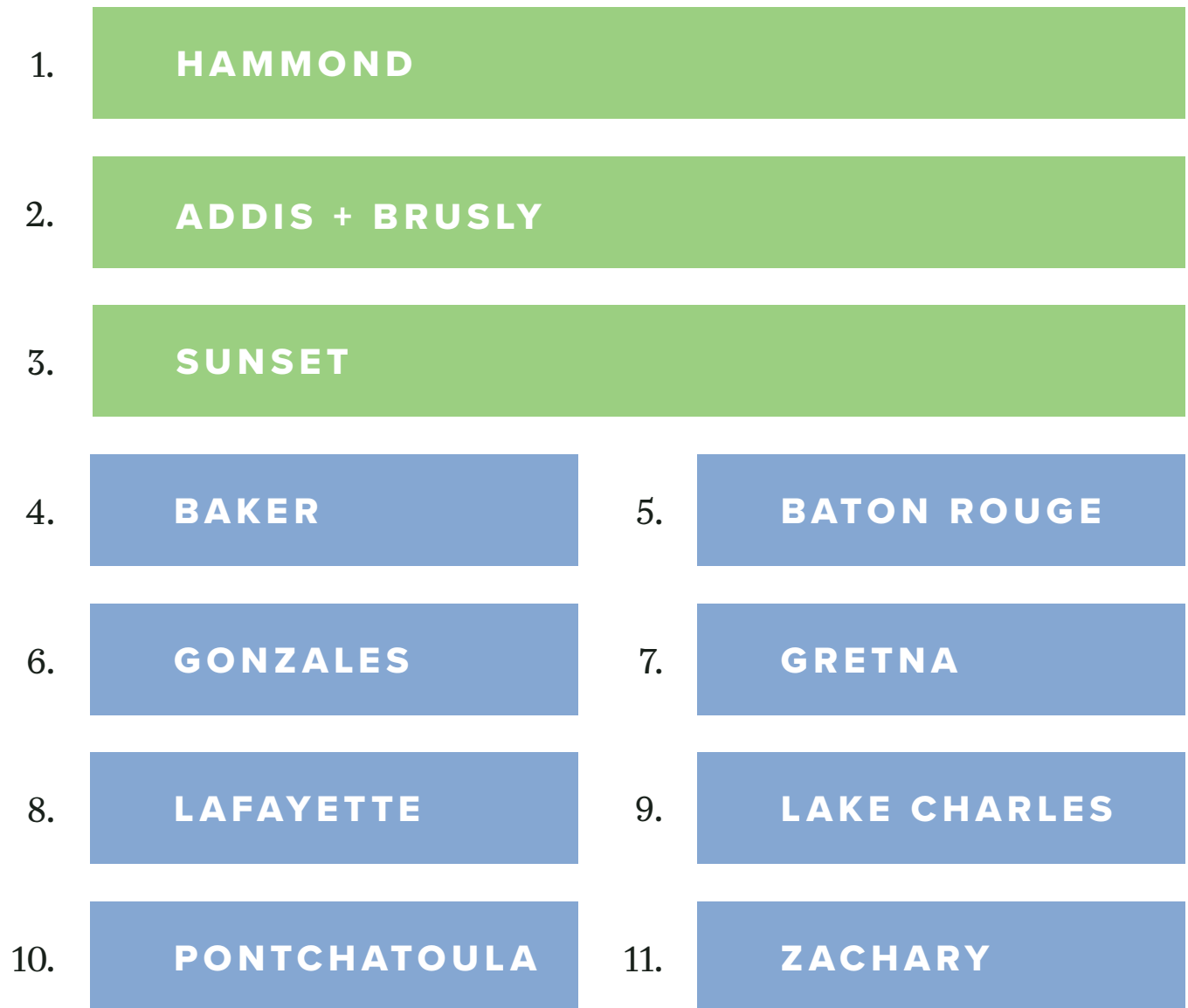
RECEIVING COMMUNITIES





Priority Communities

In order to direct growth to communities that reduce coastal migrants' social, environmental, and economic vulnerability, the CDC Child Opportunity Index was applied to all potential receiving communities to understand their overall wellbeing. The twelve communities below scored highest and should be priority communities for resilience funding and accepting those that migrate from the coast.



Representative Communities

Community size and character vary greatly throughout Louisiana and relocating households should have the option to consider a variety of rural, suburban, and rural receiving communities. To better understand how different types of communities might prepare for climate-driven in-migration shifts, the researchers identified three typologies of representative communities for further investigation including urban, tandem near metro, and rural renaissance communities.

URBAN - HAMMOND

Single city or town that scored with ample social, economical, and environmental resources.

TANDEM NEAR METRO - ADDIS + BRUSLY

Multiple small towns near a city that provide options for friends and families that wish to live nearby but want different things.

RURAL RENAISSANCE - SUNSET

Single city or town that scored with ample social, economical, and environmental resources.

Urban - Hammond

Hammond is a city of over 20,000 residents at the intersection of Interstates 12 and 55 in Tangipahoa Parish. It is an hour north of New Orleans and 50 minutes east of Baton Rouge. Hammond is the home of the fastest growing university in the U.S., Southeastern Louisiana University. This walkable, bikable town boasts a historic downtown filled with character and many family-friendly parks and activities.



Hammond has more services than the other representative communities because of its size. However, Hammond had moderate scores in the CDC Child Opportunity Index for social and economic, education, and health and environmental services. This indicates that while Hammond has a lot to offer residents, it is not fully serving its existing residents. Therefore, it is important to improve and expand services to serve current and future populations. In addition, it is time to update planning and coordination documents, such as the city and parish comprehensive plans and workforce housing plan to improve services and accommodate growth.

STRENGTHS

- Near potential receiving communities of Pontchatoula, Northshore, and Amite
- Access to healthcare, such as hospital, urgent care, specialists, emergency room, mental health and pharmacists
- Variety of social services including affordable school options, daycares and university, WIC office, Medicaid providers, Council on Aging, shelter and food banks
- Diverse population with 55% of residents non-white
- Transportation options such as Amtrak, city bus in Hammond and Pontchatoula, and on-demand bus for seniors. Considered "very walkable" and "bikable" by Walk Score
- On two primary evacuation routes, Interstate 12 and Interstate 55
- Has downtown development district, unified development code (updated 2021), comprehensive plan (2011), workforce housing study (2007), capital improvements plan, transportation plan, economic development plan, emergency operations plan, stormwater management plan. Tangipahoa Parish also has a planning department, comprehensive plan (2008), codes (2021), and hazard mitigation plan (2020), capital improvements plan, economic development plan, emergency operations plan, transportation plan, stormwater management plan, and long-range resilience plan.
- Ample prime agriculture land nearby

WAYS TO IMPROVE RESILIENCE

PLANNING

- » Tangipahoa Parish and Hammond have a lot of plans, but most of them are due for an update. It is a good time to incorporate receiving community accommodations and infrastructure. Tangipahoa has a hazard mitigation plan, but not adopted. In addition, Hammond needs a long-range resilience plan.

INFRASTRUCTURE

- » 51% of residents are housing burdened. Some vacancy and affordable housing available, but more is needed.
- » While bikable and walkable, critical bicycle and pedestrian infrastructure are needed to improve safety and connect to transit.
- » Insurance rates could be reduced if CRS rating increases from 2 to 1 by adding flood relief projects, radios for interagency communication during emergency events, first responders safe room, and hardening of Michael J Kenny Rec Center for storm shelter
- » Public sewerage infrastructure retrofits needed.

SOCIAL

- » Elementary, middle and high schools rank low and need improvement.
- » Better promotion of and more opportunities for social gatherings like festivals, sports leagues, farmers market, etc.

ECONOMIC

- » Lack Building Code Effectiveness Grading Schedule (BCEGS) and FEMA Disaster Resistant Code, which can reduce insurance rates.
- » Median income is 27% lower than the state average. Good spread of industry but need diversification to improve economy.

SIMILAR POTENTIAL RECEIVING COMMUNITIES

Potential receiving communities over 20,000 in population and similar to Hammond are Baton Rouge, Lafayette, Lake Charles, Kenner and New Iberia. All of these have significant developable land outside of projected sea level rise, and have smaller potential receiving communities nearby.

Tandem Near Metro - Addis + Brusly

Addis and Brusly are small towns along the Mississippi River just 15 minutes from Baton Rouge. Historic buildings, agricultural land, and mature trees define the character. Their location allows them to keep this rural character while easily accessing major universities, well-paying jobs, and expanded services.



Addis and Brusly scored the highest out of all of the communities assessed in the CDC Child Opportunity Index, with solid social and economic, education, and health and environment services and factors. While Addis and Brusly are serving its existing residents well, many of its services are across the Mississippi River in Baton Rouge or in nearby Port Allen. While most are within 20-30 minutes, more critical services and infrastructure will be necessary without crossing the bridge.

STRENGTHS

- Near potential receiving communities of Zachary, Baker, and Baton Rouge
- Promotes cultural identity and sense of place through Addis Museum, and Brusly historic markers and landmark commission
- Access to education, social gatherings, high-paying jobs, job training, and services in Baton Rouge and in nearby towns
- Good spread of industry and high-paying jobs
- Housing in Addis is affordable
- On secondary evacuation route and very close to Interstate 10
- West Baton Rouge Parish has a planner, comprehensive plan (2011), zoning ordinances, and adopted hazard mitigation plan (2016)
- Highest CRS ranking of 1, which reduces insurance to the full extent possible
- Ample prime agriculture land nearby

SIMILAR POTENTIAL RECEIVING COMMUNITIES

Potential tandem receiving communities under 20,000 in population and similar to Addis and Brusly are Zachary and Baker, Breaux Bridge and Henderson, Rayne and Crowley, and Jeanerette and Charenton. All of these have significant developable land outside of projected sea level rise, and have larger, anchor potential receiving communities nearby.

WAYS TO IMPROVE RESILIENCE

PLANNING

- » West Baton Rouge Parish has a lot of plans, but most of them are due for an update. It is a good time to incorporate receiving community accommodations and infrastructure. Incorporating a focus area in Addis and Brusly in the parish comprehensive plan and/or long-term resilience plan would help plan for additional people and services to accommodate them.
- » Identify and preserve critical open space to preserve rural character as communities grow.

INFRASTRUCTURE

- » More affordable housing options are needed in Brusly.
- » While there is bike share, there is little bicycle and pedestrian infrastructure. Additional transit options are also needed to connect the east and west bank housing and employment centers, as well as neighborhoods with daily service needs.

SOCIAL

- » There is a moderate level of social services available but most are across the river in Baton Rouge. Consider partnership with Baton Rouge services for satellite services in Brusly and Addis.
- » Need more opportunities for social gatherings on the west bank like festivals, sports leagues, farmers market, etc.
- » Increase diversity in Brusly so it feels welcoming to all (74% white)

ECONOMIC

- » Lack Building Code Effectiveness Grading Schedule (BCEGS) and FEMA Disaster Resistant Code, which can reduce insurance rates.
- » Workforce training needed to translate skills to new jobs.

HEALTH

- » While there is ample access to the full breadth of healthcare, most options are in Baton Rouge. Consider partnership with Baton Rouge services on the west bank of the river to expand healthcare options.

Rural Renaissance - Sunset

Sunset, Louisiana is a small rural town of just under 3,000 people in St. Landry Parish. This historically agricultural community lies midway between Opelousas and Lafayette, in the heart of Cajun country. As a designated Louisiana Cultural District, it boasts art, antiques, and Cajun food and music. Many residents speak both French and English, and continue customs from their Cajun and Creole heritage.



Sunset scored well in the CDC Child Opportunity Index Health and Environment since it is close to Opelousas, Carencro and Lafayette that all offer services nearby. While most are within 20-30 minutes, more services and infrastructure will be necessary within Sunset as its population continues to grow. In addition, the Child Opportunity Index score for education is very low. There is a strong French immersion charter school in Sunset, but the other schools in the area did not score well. Finally, Sunset lacks social service support for existing and future residents.

STRENGTHS

- Near potential receiving communities of Arnaudville, Carencro, Lafayette, Breaux Bridge, and Ville Platte
- Strong Cajun cultural identity that can be seen in food, art, language and traditions
- Close to services in Lafayette and Opelousas, including healthcare, higher education, social services, and jobs
- Room for growth
- Qualifies for Rural Disadvantaged Community for BRIC funding
- Sunset has up-to-date comprehensive plan (2015) and St. Landry Parish has a new comprehensive plan with a sensitive habitat plan, zoning and ordinances
- CRS Ranking of 1

WAYS TO IMPROVE RESILIENCE

PLANNING

- » Developed a hazard mitigation plan in 2016, but not completed or adopted
- » Hire planner to administer comprehensive plan and ordinances.

INFRASTRUCTURE

- » Housing vacancy rate is very low with a 36% housing burden. More affordable options needed.
- » Critical bicycle and pedestrian infrastructure and transit are needed to improve safety and connect to employment centers and services.
- » Public sewerage infrastructure retrofits needed
- » Enhance evacuation route access.

SOCIAL

- » Elementary, middle and high schools rank low and need improvement.
- » Better promotion of and more opportunities for social gatherings like festivals, sports leagues, farmers market, etc.
- » While accessible in Lafayette, Carencro, and Opelousas, Sunset is lacking basic social services like daycares, medicaid providers, senior center, shelter, and food banks.

ECONOMIC

- » Lack Building Code Effectiveness Grading Schedule (BCEGS) and FEMA Disaster Resistant Code, which can reduce insurance rates.
- » Median income is 23% lower than the state average. Need diversification of economic base, high paying wages, and job training to improve economy.

SIMILAR POTENTIAL RECEIVING COMMUNITIES




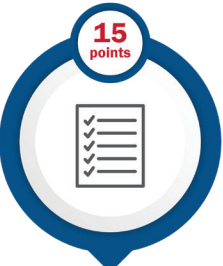
Potential rural renaissance receiving communities under 20,000 in population and similar to Sunset are Arnaudville, Pontchatoula, Carencro, Donaldsonville, Franklinton, Jennings, St. Martinville, and Ville Platte. All of these have significant developable land outside of projected sea level rise, yet need more investment in resilience than some of the other potential receiving communities.

Building Resilient Infrastructure in Communities (BRIC)

Building Resilient Infrastructure in Communities (BRIC) makes federal funds through FEMA available to mitigate the risk to public infrastructure, referred to as "community lifelines". Resulting projects are intended to enhance climate resilience and adaptation, which make this funding source ideal to enhance receiving communities. According to FEMA, stakeholders support prioritizing "projects that integrate nature-based solutions, incentivizing building code improvements, and promoting previous Hazard Mitigation Assistance (HMA) efforts." BRIC projects are scored on technical criteria and qualitative criteria, both outlined below.

BRIC TECHNICAL CRITERIA

The eight technical criteria below are used to score potential BRIC projects. For further information on how to ensure that a project meets the technical criterion and scores as highly as possible, refer to https://www.fema.gov/sites/default/files/documents/fema_fy21-bric-technical-criteria-psm_111521.pdf.

 <p>20 points</p> <p>Infrastructure project</p>	 <p>15 points</p> <p>Mitigates risk to one or more lifelines</p>	 <p>10 points</p> <p>Incorporates nature-based solutions</p>	 <p>20 (or 10) points</p> <p>Applicant has mandatory tribal-, territory-, or state-wide building code adoption requirement <small>(recent versions of International Building Code and International Residential Code)</small></p>
 <p>20 points</p> <p>Subapplicant has Building Code Effectiveness Grading Schedule Rating of 1 to 5</p>	 <p>10 points</p> <p>Application generated from a previous qualifying award or the subapplicant is a past recipient of BRIC non-financial Direct Technical Assistance</p>	 <p>5 points</p> <p>A non-federal cost share of at least 30% <small>(or, for Economically Disadvantaged Rural Communities, a non-federal cost share of at least 12%)</small></p>	 <p>15 points</p> <p>Designation as an Economically Disadvantaged Rural Community</p>

Source: FEMA

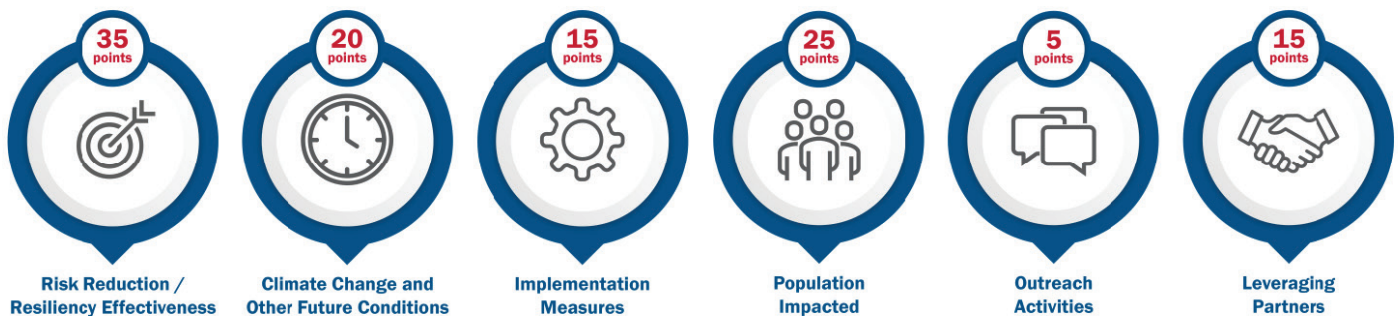
- » **INFRASTRUCTURE PROJECT:** Mitigate natural hazard risk to critical physical structures, facilities, and systems that provide support to a community, its population, and its economy.
- » **MITIGATES LIFELINES:** Mitigate risk to at least one of the seven Community Lifelines to enable the continuous operation of critical government and business functions essential to human health and safety. Lifelines include safety and security; food, water, shelter; health and medical; energy; communications; transportation; and hazardous material business functions essential to human health and safety or economic security.
- » **NATURE-BASED SOLUTIONS:** Incorporate one or more things that restore, mimic, and/or enhance natural systems or processes and support natural hazard risk mitigation as well as economic, environmental, and social resilience efforts (i.e. restoration of rivers, floodplains, wetlands; living shorelines; soil stabilization; aquifer storage and recovery; bioretention systems).
- » **BUILDING CODE REQUIREMENT:** Adopted mandatory tribal-, territory-, or state-wide building code versions of both the International Building Code (IBC) and the International Residential Code (IRC). Louisiana qualifies for 10 of the 20 potential points for state-level code.
- » **BUILDING CODE EFFECTIVENESS GRADING SCHEDULE (BCEGS):** An independent assessment of a community's building code adoption and enforcement activities, scored from 1-10. Subapplicants must have a BCEGS between 1-5.
- » **PREVIOUS QUALIFYING AWARD:** Demonstrate that the subapplication was generated from a previous qualifying award from FEMA HMA Advance Assistance Award (HMPG, BRIC, FMA, PDM); High Hazard Potential Dams (HHPD) award; Department of Homeland Security Cybersecurity & Infrastructure Security Agency's (CISA) Regional Resiliency Assessment Program (RRAP); or BRIC non-financial Direct Technical Assistance (DTA) and the previous award is directly related to the current proposal
- » **INCREASED NON-FEDERAL COST SHARE:** Demonstrate non-federal cost share of least 30% or for Economically Disadvantaged Rural Communities (EDRCs) a non-federal cost share of at least 12%
- » **ECONOMICALLY DISADVANTAGED RURAL COMMUNITY (EDRC):** Document EDRC status, which is defined as a community of fewer than 3,000 with average per capita annual income less than 80% of the national per capita income.

Source: FEMA

Building Resilient Infrastructure in Communities (BRIC)

BRIC QUALITATIVE CRITERIA

The six qualitative criteria below are used to score potential BRIC projects. For further information on how to ensure that a project meets the technical criterion and scores as highly as possible, refer to https://www.fema.gov/sites/default/files/documents/fema_fy21-bric-qualitative-criteria-psm.pdf.



Source: FEMA

- » **RISK REDUCTION/RESILIENCY EFFECTIVENESS:** Explain how the project will reduce various risks, what action will be used to reduce risks, and to what level.
- » **CLIMATE CHANGE AND OTHER FUTURE CONDITIONS:** Outline how project enhances climate adaption; responds to the effects of climate change such as sea level rise; responds to the effects of other future conditions such as population/demographic/land use, etc.; and cites data sources, assumptions, and models.
- » **IMPLEMENTATION MEASURES:** Describe how costs and schedule will be managed; implementation will be successful and innovative implementation techniques will be incorporated; and sufficient technical and managerial staff and resources are identified in scope of work.

- » **POPULATION IMPACTED:** Demonstrate community-wide benefits; population impacted (including disadvantaged communities), and how the project was selected and designed to maximize positive impacts and minimize negative impacts to any disadvantaged populations; and how project benefits a disadvantaged community. Must include a disadvantaged community to score in the top 3 categories.
- » **OUTREACH ACTIVITIES:** Illustrate the outreach strategy and supporting activities to advance community mitigation; types of community planning processes leveraged; how input from a diverse range of stakeholders, including disadvantaged communities, was incorporated.
- » **LEVERAGING PARTNERS:** Include partnerships that ensure the project meets community needs, an explanation on how they benefit disadvantaged communities, and anticipated outcomes of those partnerships (i.e. leveraging financial, material, and educational resources, multi-jurisdictional projects, and/or focus on equity).

Source: FEMA

POTENTIAL BRIC PROJECT TYPES

The following project types have successfully received BRIC funding in the past several years and could help improve resilience in receiving communities.

1. FLOOD CONTROL
2. UTILITY AND INFRASTRUCTURE PROTECTION
3. RELOCATION
4. SHELTER
5. NEW PLAN, PLAN UPDATE & PLANNING RELATED ACTIVITIES
6. CODES & STANDARDS
7. ENGINEERING, ENVIRONMENTAL, FEASIBILITY ANALYSIS
8. FLOODPROOFING
9. ELEVATION
10. GENERATOR
11. MEETINGS, OUTREACH & EDUCATION
12. ACQUISITION
13. STABILIZATION & RESTORATION

Flood Mitigation Assistance (FMA)

Flood Mitigation Assistance (FMA) makes federal funds through FEMA available to reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program (NFIP). Resulting projects are intended to reduce NFIP flood claim payments.

FMA SCORING CRITERIA

There are five categories of potential FMA projects, including 1) project scoping, 2) community flood mitigation projects, 3) individual flood mitigation projects, 4) technical assistance, and 5) flood mitigation planning. Each of the five categories of potential FMA projects has its own scoring criteria listed below. For

further information on how to ensure that a project meets the technical criterion and scores as highly as possible, refer to <https://www.fema.gov/grants/mitigation/floods/fma-resources>.



Source: FEMA

- » **PROJECT SCOPING:** Activities designed to develop mitigation strategies and obtain data to prioritize, select, and develop complete competitive applications in a timely manner. Criteria include: NFIP Insured Multiple Loss Communities, private-partnership cost share, Community Rating System (CRS) participation, Cooperating Technical Partners Program (CTP) participation, and CDC Social Vulnerability Index.
- » **COMMUNITY FLOOD MITIGATION:** Address community flood risk in order to reduce NFIP flood claim payments. Scoring criteria includes: NFIP insured multiple loss communities, NFIP policy older, severe repetitive loss and repetitive loss properties, private-partnership cost share, Community Rating System (CRS) participation, Advance Assistance generated project, Cooperating Technical Partners Program (CTP) participation, and CDC Social Vulnerability Index
- » **INDIVIDUAL FLOOD MITIGATION:** Mitigate flood risk to individual NFIP insured buildings. Individual flood mitigation projects are selected after other four priorities. Criteria include severe repetitive loss or repetitive loss property, substantial damage, not secondary dwelling units, and CDC Social Vulnerability Index.

- » **TECHNICAL ASSISTANCE:** Provides technical assistance for application, project scoping, and grant reporting.
- » **FLOOD MITIGATION PLANNING:** Large-scale planning activities that address flood mitigation.

Source: FEMA

POTENTIAL FMA PROJECT TYPES

The following project types have successfully received FMA funding in the past several years and could help improve resilience in receiving communities.

1. WETLAND RESTORATION & CREATION
2. FLOODPLAIN & STREAM RESTORATION
3. STORMWATER MANAGEMENT
4. COMMUNITY FLOOD CONTROL
5. FLOODWATER STORAGE
6. DAM
7. FLOODWALL
8. ELEVATION
9. ACQUISITION
10. RELOCATION

Additional Potential Funding Sources

In addition to BRIC and FMA, there are a host of other state and federal funding sources that can help receiving communities fill some gaps and improve their resilience.

- » **COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG):** Programs encourage safe and healthy affordable housing opportunities, the provision of services for vulnerable populations, and the retention or expansion of job opportunities. Administered by Louisiana Housing Corporation.
- » **COMMUNITY DEVELOPMENT BLOCK GRANT DISASTER RECOVERY (CDBG-DR):** Program provides supplemental allocations to help rebuild communities after a Presidentially declared disaster. Funding priority is given to low-income areas.
- » **CLEAN WATER STATE REVOLVING FUND:** Louisiana Department of Environmental Quality’s (DEQ) provides low-interest loans to finance infrastructure projects that help bring communities into compliance with the Clean Water Act.
- » **FEMA RECOVERY SUPPORT FUNCTION (RSF):** Funds for key federal agencies and non-profits for short- and long-term storm recovery, but very structured.
- » **HAZARD MITIGATION GRANT PROGRAM (HMGP):** Funds may be administered to state, tribal, and local governments to assist in reconstruction following a Presidentially declared disaster. To be eligible for funding, local governments must maintain Hazard Mitigation Plans. Administered by Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP).
- » **HOME INVESTMENT PARTNERSHIPS PROGRAM:** Offers financing for the construction, acquisition, or rehabilitation of affordable housing. Administered by Louisiana Housing Corporation.
- » **BIPARTISAN INFRASTRUCTURE INVESTMENT AND JOBS ACT (IIJA):** \$1.2 trillion for infrastructure maintenance and improvement is currently being distributed to state, tribal, and local governments through a multitude of programs administered by federal agencies. Funding opportunities will prioritize projects that promote environmental justice, revitalize rural and underserved communities, and address climate change. Funds are earmarked for a wide range of infrastructure projects that will improve resilience such as:
 - High-speed broadband for rural, low-income, and underserved communities;
 - Orphaned oil and gas wells cap and remediation;
 - Revitalization of communities struggling with pollution from oil, gas, and coal industries, and support for the transition to a low-carbon economy;
 - Improvement of transportation networks and safe streets;
 - Protection of clean drinking water supply and watershed resources in rural areas; and
 - Grid resiliency and weatherization.
- » **LOUISIANA WATERSHED INITIATIVE TECHNICAL ASSISTANCE:** Technical assistance for cities and towns with help from University of Lafayette.

- » **LOW-INCOME HOUSING TAX CREDIT (LIHTC):** Provides capital to encourage the development of housing affordable to low-income households. Administered by Louisiana Housing Corporation.
- » **LOW-INCOME HOME ENERGY ASSISTANCE PROGRAM (LIHEAP):** Allocates federal funds to assist eligible households in payment of utility bills. Local partners administer LIHEAP funds to residents.
- » **LAND AND WATER CONSERVATION FUND (LWCF):** Matching funds for state, local, and tribal governments to acquire land for parks, create recreation plans, and design and build recreational facilities, natural areas and parks.
- » **RESTORE GRANT REGION 7:** Fund for climate adaptation.
- » **RECREATIONAL TRAILS PROGRAM (RTP):** Federal Highway Administration provides financial assistance for recreational trails in urban and rural areas. The Louisiana Office of State Parks Division of Outdoor Recreation administers the program in Louisiana.
- » **STORM ACT:** Each state can create its own resilience fund and determine what it can be used for.
- » **USDA:** Good source of funding for housing and infrastructure but can drive sprawl in rural areas if not planned.

<h1>Recommended Priority Projects</h1> <p>● Potential funding sources</p>	BRIC	CDBG	CDBG-DR
HAMMOND			
Conduct coordinated city and parish comprehensive planning update, including codes and ordinances	●		
Increase range of housing options, especially affordable housing	●	●	
Improve diverse business attraction and retention, well-paying jobs, and job training programs		●	
Increase CRS rating by adding flood relief projects, emergency radios, safe room, and storm shelter	●		●
Separate combined water/sewer system	●	●	
ADDIS & BRUSLY			
Improve healthcare quality, quantity , and proximity		●	
Increase transportation options, including bike and pedestrian network and transit	●	●	
Improve quality school choices and quantity		●	
Separate combined water/sewer system	●	●	
Develop open space plan to identify and protect open space to preserve rural character	●		
SUNSET			
Increase range of housing options, especially affordable housing	●	●	
Improve school performance and quantity		●	
Increase proximity and access to social services		●	
Increase transportation options, including bike and pedestrian network and transit connecting housing to employment centers		●	
Improve diverse business attraction and retention, well-paying jobs, and job training programs		●	
Separate combined water/sewer system	●	●	

CLEAN WATER SRF	FEMA RSF	FMA	HMGP	HOME IPP	IIJA PROGRAMS	LWI TA	LIHTC	LIHEAP	LWCF	RESTORE	RTP	STORM ACT	USDA
	●												
	●	●	●				●						●
●	●	●	●		●	●				●			
●			●	●	●			●					●
	●		●		●				●		●		●
	●		●		●								●
●			●	●	●			●					●
									●				
	●	●	●				●						●
			●		●								●
					●								
	●		●		●				●		●		●
●			●	●	●			●					●

Conclusion

People migrating from the coast are looking for new communities that will embrace them and improve their overall wellbeing. As residents migrate from coastal communities, redirecting them to Louisiana communities that are better prepared to reduce their environmental, economic, and social vulnerability is critical to protect our people, our culture, and our tax base. Furthermore, identifying specific vulnerabilities in receiving can help direct federal funding that improves resilience and quality of life for existing and future residents.

This study and data examined revealed several key themes related to receiving communities: 1) some communities are already better positioned to receive people; 2) data shows ways to improve resilience in potential receiving communities; 3) federal funding can be used to address specific needs; and 4) planning for migration is critical to our long-term resilience, along with protection and restoration of coastal areas.

GENERAL RECOMMENDATIONS AND NEXT STEPS

Several key overarching strategies need to be accomplished to support receiving communities including:

- » Determine the carrying capacity of potential receiving communities through data exploration and community engagement
- » Update land use maps and long-term comprehensive plans in receiving communities to accommodate growth and increase resilience
- » Establish State Office of Planning and provide funding to that office and MPOs to assist communities and regionally coordinate infrastructure
- » Establish long-term resilience districts that coordinate projects and funding across agencies
- » Outline systematic way for OCD to choose relocation vs. elevation
- » Connect data, services, options with people that need it with a digital resilience hub

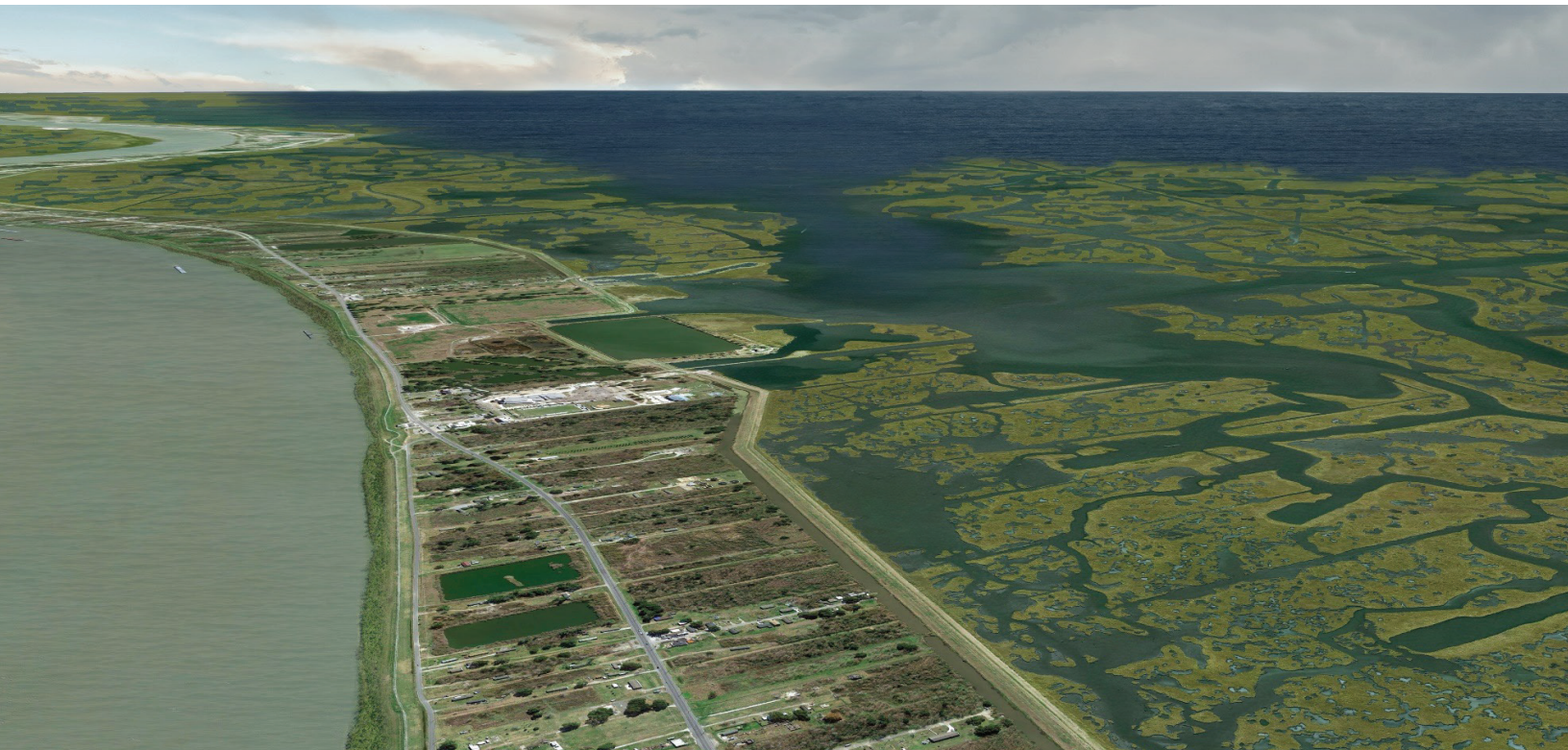
The next steps would be to contact each representative community to see if they are interested in becoming a receiving community and work with them to outline potential resilience projects and funding sources. Then, work with each community to conduct a design charrette with applicable state agencies, engineers, planners, landscape architects, scientists, residents and other stakeholders to conceptualize and design each priority community's first project, followed by a funding proposal application for BRIC and/or FMA to start investing in receiving communities.

If Louisiana proactively and systematically plans for resettlement that supports resilience, then we can take care of those that need to migrate from the coast due to climate change while improving the quality of life for all of our residents.

RESETTLEMENT COORDINATION

The following state agencies are involved in resettlement in Louisiana, each with their own role and access to funding mechanisms. Interagency coordination and a data sharing is needed to ensure projects and funding are maximized.

- 1. GOVERNOR'S OFFICE OF COASTAL ACTIVITIES** - Energy transition and coordination of CPRA and OCD resilience
- 2. COASTAL PROTECTION AND RESTORATION (CPRA)** - Coastal protection, restoration, and adaptation
- 3. OFFICE OF COMMUNITY DEVELOPMENT (OCD)** - Housing, infrastructure, and economic development with focus on low-to-moderate income households
- 4. METROPOLITAN PLANNING ORGANIZATIONS (MPO)** - Planning assistance and funding passthrough for regional municipalities
- 5. LOUISIANA ECONOMIC DEVELOPMENT (LED)** - Economic attraction and retention, and job training
- 6. OTHER STATE AGENCIES** - GOHSEP, LWF, DOTD, DNR, CRT, future Office of State Planning, education, transportation, workforce, corrections, health, children and family services, agriculture and forestry, etc.



Bibliography

ARTICLES AND BOOKS

- Adams, H., Adger, W. N., Ahmad, S., Ahmed, A., Begum, D., Lázár, A. N., Matthews, Z., Rahman, M. M., Streatfield, P. K. (2016). Spatial and temporal dynamics of multi-dimensional well-being, livelihoods and ecosystem services in coastal Bangladesh. *Scientific Data* 3, 60094.
- Agyeman, J., Devine-Wright, P., & Prange, J. (2009). Close to the edge, down by the river? Joining up managed retreat and place attachment in a climate changed world. *Environment & Planning A*, 41(3), 509-513.
- Ajibade, I. (2019). Planned retreat in Global South megacities: Disentangling policy, practice, and environmental justice. *Climate Change*, 157(2), 299-317.
- Bell, S. L., Tabe, T., Bell, S. (2020). Seeking a disability lens within climate change migration discourses, policies and practices. *Disability & Society*, 35(4), 682-687.
- Cernea, M. M. (1995). Understanding and preventing impoverishment from displacement: Reflections on the state of knowledge. *Social Action*, 45(3), 261-276.
- Colten, C. E. (2021). *State of Disaster: A Historical Geography of Louisiana's Land Loss Crisis*. LSU Press.
- Dannenberg, Andrew L., Howard Frumkin, Jeremy J. Hess, and Kristie L. Ebi. 2019. "Managed Retreat as a Strategy for Climate Change Adaptation in Small Communities: Public Health Implications." *Climatic Change* 153(1-2):1-14. doi: 10.1007/s10584-019-02382-0.
- Nelson, M., Ehrenfeucht, R., Birch, T., & Brand, A. (2022). Getting By and Getting Out: How Residents of Louisiana's Frontline Communities Are Adapting to Environmental Change. *Housing Policy Debate*, 32(1), 84-101.
- Martin, S. F., Weerasinghe, S., & Taylor, A. (Eds.). (2014). *Humanitarian crises and migration: Causes, consequences and responses*. Routledge.
- Oliver-Smith, A. (1991). Successes and failures in post-disaster resettlement. *Disasters*, 15(1), 12-23.

WEBSITES

The next generation of emergency preparedness. FEMA.gov. (n.d.). Retrieved from <https://www.fema.gov/>.

Coastal Protection and Restoration Authority. “Future Flood Risk.” 2017 Master Plan Data Viewer. Retrieved from <https://cims.coastal.louisiana.gov/masterplan/GISDownload/>.

Coastal Protection and Restoration Authority. “Land Change.” 2017 Master Plan Data Viewer. Retrieved from <https://cims.coastal.louisiana.gov/masterplan/GISDownload/>.

2015 Child Opportunity Index. Retrieved from <https://diversitydatakids.org>.

FEMA Flood Zones. National Flood Hazard Layer. Retrieved from <https://msc.fema.gov/portal/home>.

U.S. Census Bureau. 2015 TIGER/Lines Shapefiles. Retrieved from <https://www.census.gov/geographies/mapping-files/time-series/geo/tiger-line-file.2015.html>.