



Rising Above: Making the Case for Resilience

CENTER for PLANNING EXCELLENCE

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The 2016 floods that devastated both northern and southern regions of Louisiana make clear that **increasing flood risk is not just a coastal concern – it is a critical statewide issue.**

This paper is the introductory installment of *Rising Above* – a series of publications intended to inform and support ongoing flood recovery efforts and long term resilience-building for communities throughout our state. Produced by the Center for Planning Excellence with support from the Walton Family Foundation, McKnight Foundation, and the Greater New Orleans Foundation, the *Rising Above* series will highlight best planning practices and implementation tools that state and local leaders can use within our specific geographic, regulatory, political, and cultural context. **These papers will assist state agencies, elected officials, and local leaders in maximizing the returns on investment of limited recovery dollars by incorporating resilience-building measures into the recovery process and daily governmental operations.**

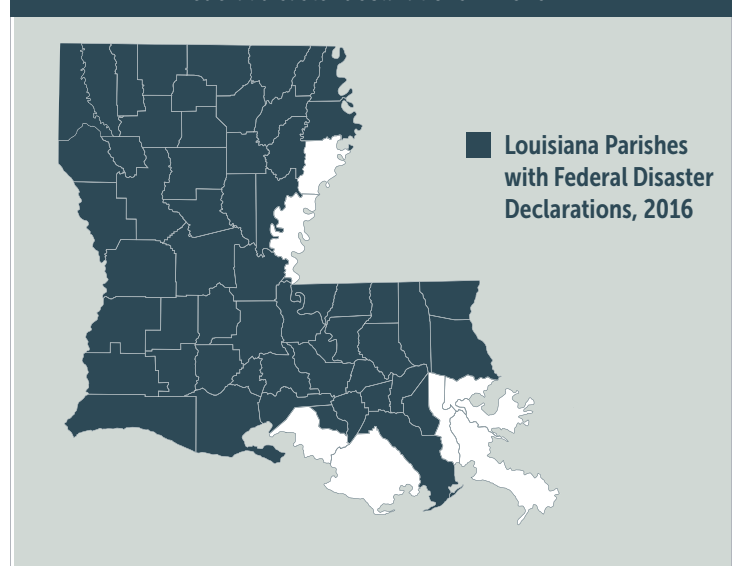
Defining resilience for Louisiana

Resilience has emerged as a crucial planning strategy for cities and states as they seek to secure their futures against the increasing frequency, skyrocketing costs, and variable nature of disaster. Traditional disaster management approaches anticipate the impacts of acute disruptions such as hurricanes and oil spills, but resilience adds a focus on strengthening the underlying systems of infrastructure, governance, economy, information, and social networks that largely determine how well a city, town or region functions on a daily basis *and* during times of disaster. ²

However, what constitutes resilience varies from one community to another. **Every place is unique – and nowhere is this more true than Louisiana.** What resilience entails depends on the particular characteristics of a place. Adapted from the traditional notion of resilience as the capacity of a system to maintain or recover functionality in the event of disruption or disturbance, resilience for regions, states, parishes, and towns can be described as:

“The capacity of individuals, communities, institutions, businesses and systems ... to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.” ³

56 of Louisiana's 64 parishes received
federal disaster declarations in 2016 ¹



A meaningful and effective resilience framework for Louisiana will apply these broad concepts to the specific context of our state and communities. It would incorporate our particular risk profile as well as our cultural assets, social preferences, political environment, demographics, and other factors. That tailored framework would then be implemented through community-driven plans, projects, programs, and activities.

Building resilience isn't easy. It's complex and can be expensive in the near term – though not nearly as expensive as the alternative. Resilience requires political will and an engaged citizenry. It requires confronting realities of risk that many find overwhelming or would prefer to ignore. It means looking beyond the next couple of years, beyond the next election, and beyond the next budget cycle to make better decisions for the long term. Ensuring the sustained viability of Louisiana's communities, culture, and economy will require us to take on these challenges. The value of doing so far exceeds the costs. The United Nations Development Programme has found that "one dollar spent reducing vulnerability to disasters saves around seven dollars in economic losses,"⁴ and other economic analyses have found similar high rates of return. **Beyond the cost-benefit analysis, it is the very survival of many of Louisiana's unique communities, people, and places that is at stake.**

Dollars and sense

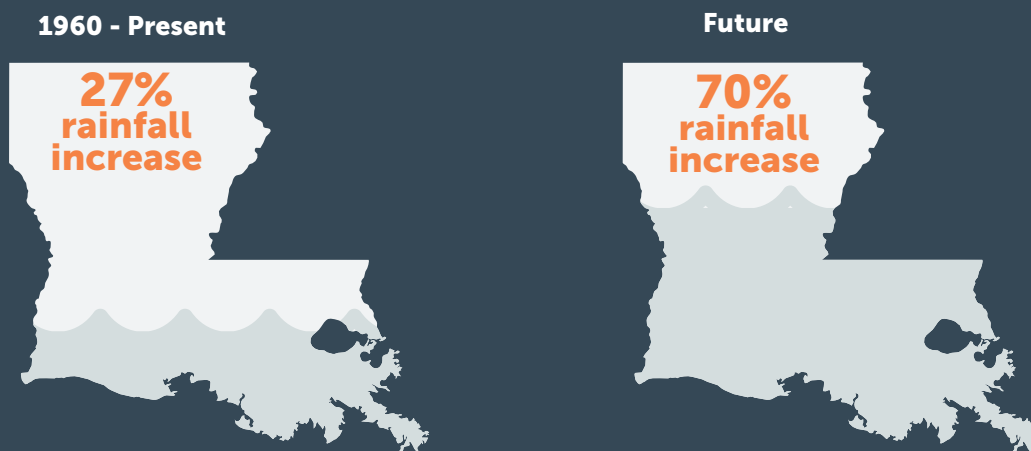
Our state is embarking upon yet another long and expensive disaster recovery process, preparing to program billions in recovery dollars. It is therefore critical – right now – that we leverage recovery investments to protect the long-term interests of our residents and businesses. Resilience should be the guiding principle for planning, programs, evaluation, and investment. Without it, we risk stunting our economy and losing population. **When risk is not managed, businesses will not invest, insurers will not issue policies, and jobs will relocate – and with them will go skilled workers, consumer dollars, and the next generation of Louisianans.**

Understandably, elected officials and residents faced with catastrophic losses want to expedite recovery and return to normal as soon as possible. But the "normal" of yesterday no longer exists. Storms are worse, risk is higher, and Louisiana's land is sinking while the sea is rising. It is also possible that Congress will not fund disaster recovery at historic levels going forward. The current allocation already falls far short of Louisiana's projected needs.⁵

The future is uncertain, but communities can provide the stability needed to anchor and attract residents, businesses, and investment by developing a plan and demonstrating a commitment to resilience that will enable Louisiana communities to weather new and intensified challenges successfully.

More to come:

The intense rainfall and subsequent floods have been described by many as unprecedented. Though this may be true, it is unlikely to remain so.



Source: "The Future Intensification of Hourly Precipitation Extremes," *Nature Climate Change*, Dec. 2016.

Prioritizing resilience in our approach to recovery will help us to avoid replicating the kinds of structural vulnerabilities that exacerbated the impacts of the August floods, so that we can be prepared to withstand future events with fewer losses. Furthermore, recovery plans focused on resilience can also address the broader range of chronic conditions such as poverty, racial division and environmental decline, that increase the negative impacts of disaster.

Planning for more frequent flood events

We know now that flood hazards and resilience needs are not exclusive to New Orleans or the Gulf Coast. Climate and meteorological data consistently predict more frequent, heavier downpours for inland regions. The National Oceanic and Atmospheric Administration found that since 1960, the Southeast U.S. has seen a 27% increase in “very heavy” precipitation. Meanwhile, researchers at the National Science Foundation have found that:

“Extreme precipitation is increasing with temperature in moist, energy-limited environments.” If the “climate continues to warm, the big thunderstorms that cause flash flooding probably will become more frequent and intense, dropping up to 70% more rain.”⁶

These findings are consistent with those of Louisiana’s State Climatologist, Barry Keim, who also predicts more extreme precipitation patterns which, along with relative sea level rise, subsidence, and longer periods of drought, will contribute to increased flood risk throughout the state.⁷ Within this context of a changing climate, we need a more future-focused approach to planning and investment that addresses and reduces vulnerabilities at every scale.



Shown above: Curbside rain garden.
Stormwater management and beautification element of the Bagby Street Reconstruction project in Houston, TX.
Image property of Design Workshop.

Building Resilience through Multiple Community Benefit Projects

Project Profile: 3rd Street Corridor Enhancements in Alexandria, La.

Need: Corridor Revitalization

Project: Transportation Corridor & Streetscape Design – to include upgraded drainage systems, new and widened sidewalks, street lighting, plantings, transportation shelters and additional amenities.

Design Features: Rain garden, bioswale, porous pavers, curb cuts, bio filtration

Multiple Community Benefits: This project improved stormwater management through use of porous pavement, landscaping, and curb cuts that work to retain and filter stormwater thereby reducing demand on the underground drainage system and improving water quality. The design elements also provide a distinctive character for the area, creating desirable destinations and improving safety and accessibility for pedestrians. Together, these improvements attract new businesses, enhance surrounding neighborhoods, and increase property values.⁸

Enhancement of existing projects and development of new projects that build resilience are most effectively and efficiently done within the context of a comprehensive plan informed by an understanding of watershed dynamics and flood risk at local and regional scales — as well as the dynamic interrelations of infrastructure, social networks, cultural preferences, natural assets, environmental features, and government.

Louisiana's risk profile

It's not just the weather

Louisiana's ability to prepare for and recover from natural disasters and other disruptive events is complicated by longstanding vulnerabilities such as widespread entrenched poverty and high rates of economic, racial, and gender disparity. Our small towns and cities alike suffer from high crime rates and extremely high rates of incarceration. As was so painfully evidenced by the violent events and civil unrest in 2016, persistent racial divisions perpetuate distrust and hamper our ability to work together toward a shared vision for the future.

Furthermore, in part due the state's reliance on the oil and gas sector and the absence of protective budget policies, our economy tends toward boom-bust volatility.⁹ Louisiana's transportation infrastructure is in poor condition and lacks the robust multi-modal options needed to support healthy lifestyles, connect people to opportunity and services, and facilitate equitable economic growth.¹⁰

Social and economic vulnerabilities such as these further complicate the weather and climate risk factors, resulting in a very high overall risk profile for the state. A high, multi-factor risk profile creates an environment of uncertainty and makes it difficult to prepare for, withstand, and recover from disasters and other major disruptions.

POVERTY

Louisiana's poverty rate is 19.6% (vs. 13.5% nationally)¹¹

ECONOMIC DISPARITY

African Americans are nearly 3 times as likely as Caucasians to live in poverty - 31% vs. 12%.¹²

GENDER GAP

Women only earn \$.69 for every \$1.00 men earn in Louisiana.¹³

HEALTH DISPARITY

The mortality rate for African Americans is 19.2% higher than for Caucasians in Louisiana.¹⁴

Resilient cities and states have successfully reduced such vulnerabilities on multiple fronts, thereby improving how the entire system – infrastructure, government, civil society, the economy, social networks, and the natural environment – functions on a daily basis and in times of crisis.

What the State is doing:

Louisiana's flood recovery action plan

Louisiana's Office of Community Development Disaster Recovery Unit has released an action plan that establishes the framework and priorities for allocation of \$1.6B in federal disaster recovery funds.¹⁵

The plan supports many of the resiliency objectives described in this paper by recognizing that flood risk is rising for communities throughout the state and calling for a statewide approach. The plan acknowledges the need to focus on strengthening underlying systems of infrastructure and social disparities, and also addresses the need for watershed protection, household and community stormwater capabilities, and planning and risk modeling, all of which are key to long-term resilience building.

The plan does not address transportation infrastructure, presumably due to the financial constraints of the initial allocation. However, especially as the legislature prepares to consider increasing the state's transportation investments, we should be identifying vulnerabilities in this area and potential solutions for the future, to be implemented when possible. **As the current recovery funding is deployed, it will be important to identify ways in which long-term resilience measures can be incorporated into rebuilding efforts designed to meet immediate needs and deliver multiple community benefits.**

Local leaders have an especially important role to play.

In this resource-constrained recovery situation, conducting a resilience audit of comprehensive plans can identify opportunities to incorporate resilience-building measures into existing projects and budgets. Adding a resilience chapter to local plans can provide guidance on maximizing resilience-building opportunities for the future.

Moving ahead

Resilience implies an urgent call to action. It will require courageous leadership, new partnerships, new resources, and new practices. Failure will literally cost lives and livelihoods, as Louisiana communities continue to be destroyed by future weather events.

The **Rising Above** series will engage each of the topics listed below. Together they comprise a post-disaster planning and implementation framework that can meet the immediate needs of residents and businesses while also building the resilience that will be essential to the long-term viability of Louisiana communities.

The series will cover topics including:

Storm water management	Updating ordinances for safety & resilience
Nonstructural risk mitigation	Resilient design standards
Disaster-resistant utilities	Hazard-resistant building materials
Resilient transportation systems	Retrofitting for resilience
Incentivizing blight reduction	Fair & equitable relocation
Coordination at all scales	Community engagement

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