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## Post Hurricane Katrina-Rita Planning, Recovery and Resiliency, New Orleans, Louisiana 2005-2011: Faith + Fortitude + Plans = Resurrection

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**Post Hurricane Katrina-Rita Planning, Recovery and Resiliency  
New Orleans, Louisiana 2005-2011: Faith + Fortitude + Plans = Resurrection**

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Pierce Lewis, a world renowned geographer and author, famously described New Orleans as “The Impossible but Inevitable City”<sup>1</sup>. The storms of 2005 emphatically proved his point. In the ensuing years, New Orleans has proved its resiliency as a city and as a people. Today, it is back after overcoming seemingly insurmountable odds. Some say the city is better than before. That is for history to decide, but the post-Katrina / Rita recovery of New Orleans is a long and drawn out tale of trial, tribulation and, ultimately, triumph. This is my personal account of the rebirth of New Orleans’ as a work in progress.

As a resident of New Orleans for the past 30 years, a Katrina evacuee, a member of multiple post-disaster recovery planning teams, as well as the long serving Chairman of the Central Business District Historic Districts Landmark Commission, I have a unique perspective on these storms and the resultant planning processes that were used in the city’s recovery. I also have first-hand experience with both processes and projects that have become central to New Orleans’ recovery during our post-disaster reconstruction.

Since the focus of this paper is urban resiliency, I will discuss its role both in our history and in our recent recovery. I will conclude with a brief overview of New Orleans in late 2011. I will also answer the following questions in the context of our continuing saga: How did New Orleans originally use resiliency as it grew and developed? How did the 2005 Hurricanes affect Louisiana and New Orleans? How did the country, the state and the city respond to the massive destruction? How was resiliency incorporated into the plans for NO’s reconstruction and repopulation? What lessons have we learned in the intervening years?

Given our unique geography, on a deltaic plain next to the Mississippi River, with low elevations and in a flood-prone area, citizens of New Orleans originally built raised buildings on “high ground” in anticipation of annual floods. Low lying areas of the city were avoided until the later part of the 1800s. This is an early example of our forefathers’ appreciation of urban resiliency: they built appropriate buildings in appropriate places.

Soon after New Orleans was founded in 1718, owners of upriver plantations, citizens of small river towns, as well as residents of New Orleans started building earthen levees along the banks of the Mississippi River to protect themselves and

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<sup>1</sup> Lewis, P. (1973). *New Orleans: The Making of an Urban Landscape*. Santa Fe, NM: Center For American Places, (1,2):pg.19

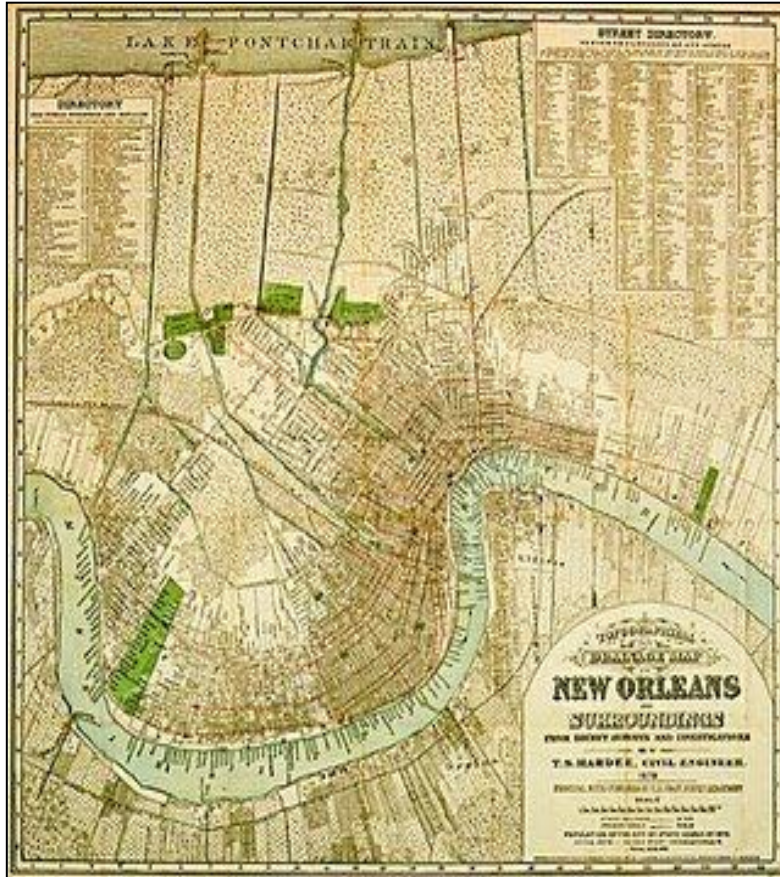
their property from the river's annual floods. These earthen levees offered little protection from hurricanes and were overtopped or breached during periods of high water, but they did offer some protection under normal river conditions. These primitive forms of flood protection, although strengthened and raised over the years, still retain their vital function today, although their stability remains a worry to some.

Starting in the late 1890's things in New Orleans began to change in a rather remarkable manner. The Sewerage and Water Board of the City of New Orleans (SWB) began constructing a world-renowned drainage system using massive pumps (the patented Woods Screw Pumps were used worldwide but they were invented by a SWB engineer in the early 1900s), pump stations and outfall canals to drain the city and "dewater" it's low lands to increase the city's buildable area. This was the first large scale attempt to "beat Mother Nature" in New Orleans, but it would not be the last.



A Baldwin Woods under a Woods Screw Pump  
Image source: [www.nola.com](http://www.nola.com)

In large part, before technology "triumphed Mother Nature", our forefathers got it right. They built where the city was most naturally resilient, on our naturally high ground. An 1878 map by Civil Engineer T. S. Hardee shows the City of New Orleans with 200,000 residents confined to the "Sliver on the River". This area suffered only minor flooding from Katrina. Areas labeled "cypress swamp" on this and earlier maps include present day neighborhoods including Lakeview, most of Gentilly, NO East, Broadmoor and the Lower 9. During Katrina, these neighborhoods received the worst flooding given their naturally low elevations. Note that the unflooded areas on the post-Katrina map are almost identical to the populated areas of New Orleans on the 1878 map. Our historic neighborhoods and their flood conscious architecture played a major part in New Orleans' resiliency because they weathered the storm with minimal damage. They were the first areas to repopulate and today have the highest real estate values. Pre-Katrina, the real estate maxim was "Location-Location-Location". Immediately after Katrina it became "Elevation-Elevation-Elevation."



1878 Map of New Orleans: T. S. Hardee  
Image Source: Louisiana State Museum

After Hurricane Betsy devastated New Orleans as a Category 4 storm in 1965, the US Army Corps of Engineers was directed by Congress to build an extensive flood protection system around New Orleans. This system was comprised of higher and stronger earthen levees and massive concrete floodwalls. Unfortunately this flood protection system was still not complete when Katrina hit New Orleans in 2005 and is still incomplete today, although it is almost finished. With these manmade interventions, citizens in New Orleans assumed they were safe and secure... until the flaws of this system were tragically revealed by Katrina's floodwaters.

So what was Hurricane Katrina? First, it was a massive Category 3 storm with winds in excess of 125 mph. Katrina impacted the entire Central Gulf Coast: Louisiana, Mississippi, Alabama and Florida; not just New Orleans and southern LA. While the Mississippi Gulf Coast was especially hard hit by Katrina's winds and 30' storm surges, 80% of New Orleans flooded from breaches in our federally designed and constructed flood protection system. All



The Twin Spans over Lake Pontchartrain  
Image Source: gatewayno.com

utilities and telecommunications systems failed. All surface transportation systems were flooded. These systems were basically impassable for months and some were completely destroyed: i.e. the Twin Spans bridge over Lake Pontchartrain. However, the Port of New Orleans reopened after 13 days, thanks to access provided by the Mississippi River. Katrina became the most destructive and costliest natural / manmade disaster in the history of the US due to its immense size and its destructive storm surges.

But for New Orleans, Katrina was both a natural and manmade disaster. It was just made worse by our natural topography and our protection systems. New Orleans is a natural bowl ringed at its edges by either earthen levees or floodwalls. Roughly 50% of the greater NO region is below sea level.

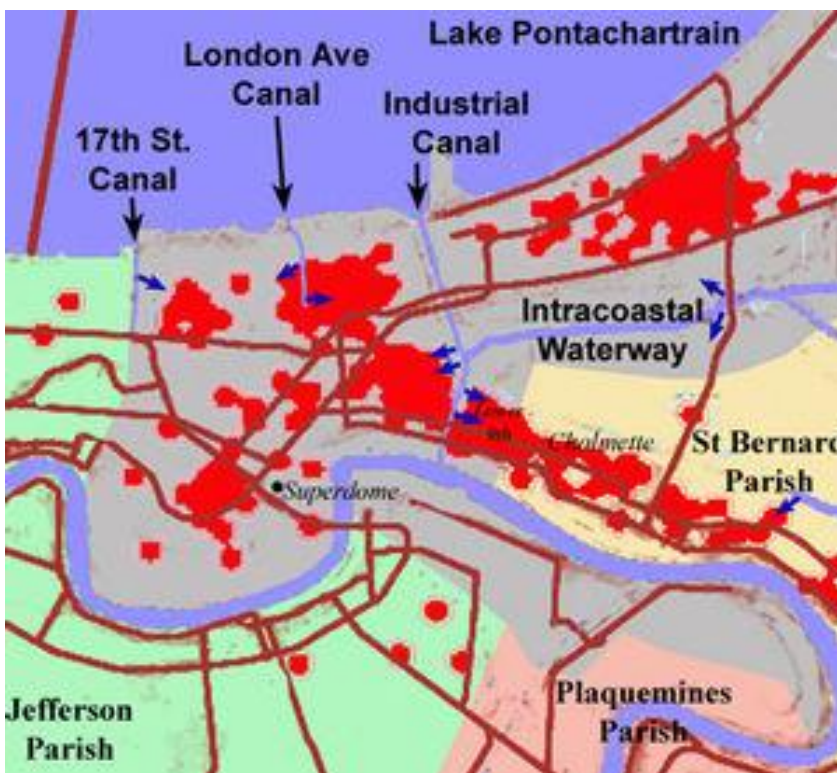


Image Source: [www.nola.com](http://www.nola.com)

The map shown below indicates with the dark blue arrows where the levees were breached (**50 sites total**) during Katrina. The city's naturally low elevation and the failed flood protection system was a fatal combination. The red areas on the map indicate the locations where deaths occurred. A computer generated simulation of the Katrina flooding in the New Orleans region is available at: [www.nola.com/katrina/graphics/flashflood.swf](http://www.nola.com/katrina/graphics/flashflood.swf).

Hurricane Rita hit just 3 weeks later, with winds estimated at 120 mph. It caused more coastal erosion, a second evacuation for impacted areas, localized flooding and additional structural failures. While Rita's impact was most severe in southwestern LA and Texas, New Orleans still suffered surges in excess of 8 ft. and breaches occurred in some provisionally-repaired levees. These failures caused a second flood (2'-3') in certain neighborhoods. Rita added "insult to injury" in a horrific replay of Katrina for New Orleans.

Horrifying images of Katrina's destruction in New Orleans and along the Gulf Coast were broadcast via cable networks and television in late August and early September, 2005. However, today, the enormity of these storms and their destructive powers is still hard to imagine. By most recent accounts, these storms in combination caused over \$200B in losses and 1,800 deaths; 200,000 homes and 18,000 businesses were destroyed; some parishes were 100% destroyed; 19 of 64 parishes in LA were severely affected. LA lost over 100 square miles of coastal wetlands, a 50 yr. natural equivalent. New Orleans sustained 57% of LA's total loss. Access to New Orleans was severely restricted for 5 weeks. Most importantly, roughly 100,000 residents have not yet returned to New Orleans. Six years later, the images and statistics are still shocking. In some areas of New Orleans evidence of the storm's damage remains today.

Given the devastation to the city and to Louisiana as a whole, what did we do to respond? Gov. Kathleen Blanco created the Louisiana Recovery Authority (LRA) in mid-October, 2005. The LRA became key to the state's and city's recovery because it was designated as the administrator of all federal recovery funds (\$10.4B) allocated to Louisiana by the US Congress. The distribution of these monies was dependent on individual recovery plans submitted by all 19 affected parishes. In both Louisiana and in New Orleans, creating a comprehensive and inclusive recovery plan became a long and difficult process. This was, in part, due to a strong sense of being rooted to the history, the culture and the communities of the state and the neighborhoods in New Orleans. This unique characteristic was common in citizens that were devastated by Katrina, Rita or both. This "rootedness" often clashed with recovery planning processes that attempted to limit the areas that would be repopulated.

Almost simultaneously, in New Orleans, Mayor C. Ray Nagin created Bring New Orleans Back (BNOB), a 17 member committee of city leaders, to respond to the devastation and deliver a city-wide Recovery Plan within 90 days. This was the first impossible deadline imposed on the planning process. It was unfortunately not the last.



Image Source: Amdal 2006

In order to maximize citizen input, BNOB was organized into committees and subcommittees. They included: Land Use; Infrastructure (flood protection, public transit, criminal justice); Culture; Education; Health and Human Services; Economic Development; Government Effectiveness. These committees held hundreds of individual meetings over a 3 month period. In my opinion, this was the beginning of an "illness" that befell thousands in New Orleans. I call it "planningitis".

Citizens felt obligated to attend hundreds, if not thousands, of meetings citywide or in their individual neighborhoods regarding recovery and post-disaster rebuilding. In some neighborhoods these meetings continue today.

However, significant projects resulted from these early BNOB meetings and the resultant recovery plans which grew from them. As a result of BNOB and its citizens input, pump stations were moved to the lakefront and the Mississippi River Gulf Outlet (a 1960's era manmade shipping shortcut to the Gulf of Mexico) was closed. Equally important, the Corps of Engineers strengthened our levees and floodwalls, installed surge protecting floodgates at the lakefront, and are now in the final stages of completing the federally mandated Flood Protection System. All of these decisions were made to address the city's resilience to future storms.

Soon after the formation of the LRA and BNOB, the Urban Land Institute (ULI), a Washington DC Not -For-Profit was invited to New Orleans to brainstorm with community, business, and academic leaders on the future of New Orleans. The ULI team was composed of professionals from both the public and private sector including planners, landscape architects, mayors, developers, finance experts and public administrators. After a week of analyzing New Orleans' situation, the ULI team prepared a Recovery Plan based on their cumulative experience and expertise. Their recommendations included: shrinking the city's footprint; strategically planning for a reduced population; converting heavily damaged neighborhoods into open space. They were the first group to suggest that neighborhoods needed to prove their validity in order to participate in the city's recovery efforts. They also suggested a four month moratorium on issuing building permits.

All of these ideas encompassed various aspects of "resiliency": i.e. to prevent the repopulation of the areas most at risk. Although reasonable and professionally sound, ULI's concepts created confusion, fear, and abject rejection due to their implied impacts. Most of their recommendations were flatly and vocally rejected. Their plan and its recommendations also raised thorny tangential issues: the rights of property owners remained unanswered; the rootedness of many neighborhoods was ignored; the idea of replacing residential properties with green space / retention ponds. This plan also seemed to pit one neighborhood against another. Citizens asked: What is a viable neighborhood? According to whose standards? Who decides? These were all valid questions with no answers, at least at the time. Due to political realities, most of the ULI recommendations were rejected almost immediately by the Mayor. He chose instead to adopt a market-driven approach to redevelopment and repopulation. With this decision, the idea of imposing terms and conditions on redevelopment and repopulation was dropped from civic discourse.

But the community knew what citizens could do on their own. Almost immediately after returning to New Orleans, citizens realized that they could provide immediate help to the city in a multitude of ways. This was and continues to be an important part of the city's resiliency: its people and the diverse roles they have played in the city's recovery and resurrection can't be over emphasized.



Image Source: cleanno.org

The Katrina Krewe, a knockoff of Mardi Gras terminology, voluntarily cleaned the streets, parks, and medians throughout the city. Civic volunteerism, from locals as well as volunteer groups from around the US and abroad, became a necessary response to the scale of the damage and pace of the government's response at all levels. Citizens pitched in where necessary to enhance or accelerate efforts being made by the city, private contractors, the National Guard and others.

Non-Governmental Organizations (i.e. Habitat for Humanity; Global Green and countless others) came to New Orleans to spearhead individual projects. The Musicians Village in the Upper 9th Ward is just one example of their lasting contribution. This project is now occupied as permanent housing and recently opened the Ellis Marsalis Center for Music as a multi-purpose arts facility.



Image Source: Amdal 2007



When the final BNOB Report was released in January 2006, the citizens reacted with “Fear and Loathing”. In response, Recovery Steering Committees were formed in most, if not all, neighborhoods. They were grouped into planning districts based on pre-Katrina designations made by the City Planning Commission. Their primary mission was to prove their neighborhood’s viability and value. The net result of the BNOB plan was a renewed sense of worth and purpose for neighborhood organizations city-wide. But they also realized they needed professional help to develop “credible” recovery plans. And at that time, no one knew how that help was going to be provided. During deliberations with FEMA in early 2006, it was determined that FEMA funding could not be used for recovery planning.

**The Times-Picayune**

12 CENTS 50th year No. 323      WEDNESDAY, JANUARY 11, 2006      EAST JEFFERSON EDITION

# 4 MONTHS TO DECIDE

**NAGIN PANEL SAYS HARDEST-HIT AREAS MUST PROVE VIABILITY**  
**CITY'S FOOTPRINT MAY SHRINK; FULL BUYOUTS PROPOSED FOR THOSE FORCED TO MOVE**  
*New housing to be developed in vast swaths of New Orleans' higher ground*

### PLAN FOR THE FUTURE

The Bigg New Orleans Stock Commission will unveil a sweeping \$17 billion plan today that calls for a vast reworking of the city's neighborhoods and housing patterns, but in the four-month period when the fine print is hashed out in 13 districts over who can build where, all renovation will be halted in the flooded zone.

- Areas where rebuilding allowed now
- Building restrictions until neighborhoods prove viability
- Approximate areas of expected to become parks and greenspace
- Areas to be redeveloped, some with new housing for relocated homeowners

### Q&A

**Does this plan shrink the footprint of the city or allow rebuilding everywhere?**

The plan, if adopted, would not mandate which areas should be rebuilt and which should not; it simply starts a four-month process. First off, for those neighborhoods that suffered little or minimal damage, the plan has little impact on development, but for heavily damaged areas, it puts the onus on residents to show that enough people will return to make the neighborhood sustainable. The plan calls for a four-month study period — during which there would be a moratorium on building permits — so that planners can hold neighborhood meetings and gather information on who plans to return. Those neighborhoods that prove sustainable would be allowed to rebuild, while those that do not would be subject to a buyout program designed to help residents relocate to areas offering greater safety from flooding, higher population density and full city services.

**I live in an area that looks unlikely to be rebuilt, so it may be targeted to be park land. What's in store for me?**

If the neighborhood planning group recommends a park where your home is located, a buyout program would provide homeowners no less than 60 percent of their pre-Katrina equity — as long as proposed federal legislation sponsored by U.S. Rep. Richard Baker, R-District 7, is adopted. The Nagin commission's plan further recommends that business-

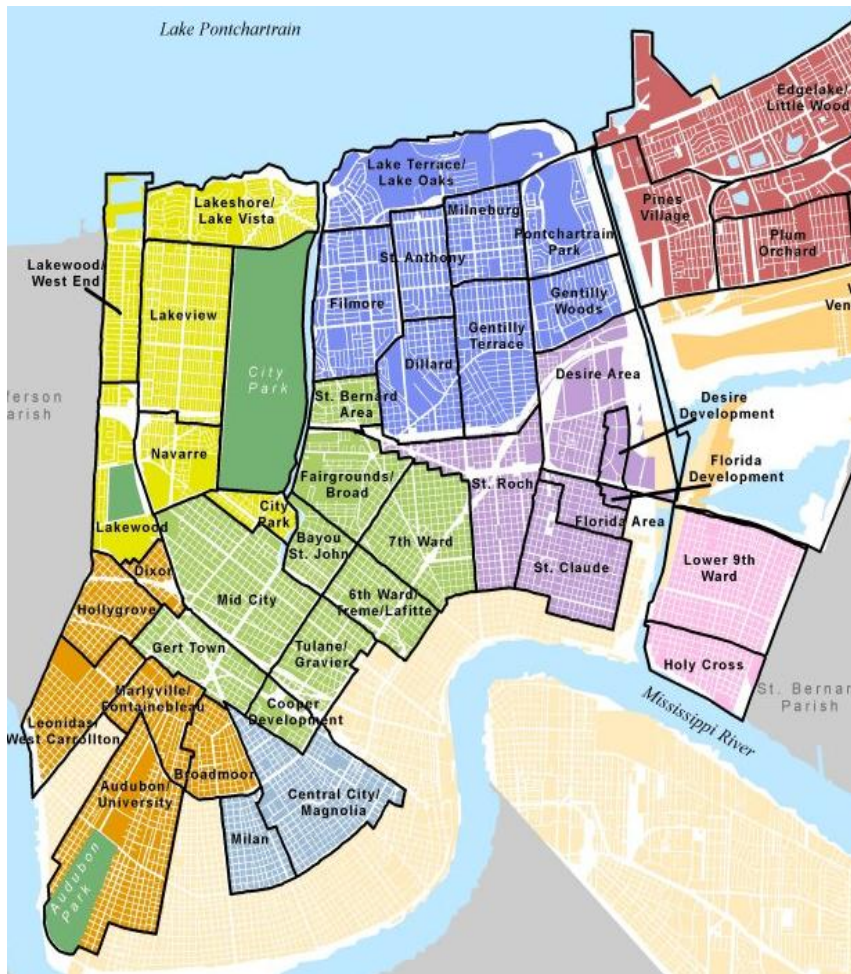


By Frank Duroso and Gordon Russell  
Staff writers

tortion on building permits is shattered areas covering most of the city, while residents there must be made aware to their neighborhoods. But ultimately, commissioners say, not every neighborhood will be sustainable and those will be

Image Source: [www.nola.com](http://www.nola.com)

So, with this decision, a major question remained unanswered. Who would provide the needed professional resources to develop individual neighborhood recovery plans and how would they get paid? Paul Lambert, a Miami based housing expert under contract to the New Orleans City Council, came up with the answers. He had past experience in recovery efforts in Dade County Florida after Hurricane Andrew hit Miami in 1992. He knew that unspent CDBG funds were available for recovery planning in the “wet” neighborhoods of New Orleans, just as they were used in Florida. “Dry” neighborhoods were ineligible. He formed a team of local and national professionals and they began work in early 2006 on the 46 “wet” neighborhoods using CDBG funds. The areas shown with black borders were included in the “wet” neighborhoods.



The principal planner responsible for what became known as the Lambert Plan was my friend, Alfredo Sanchez with Miami-based Bermello Ajamil & Partners. He and I worked with the District 5 Recovery Steering Committee and citizen advocates on their Neighborhood Rebuilding Plan for most of 2006. I originally volunteered to assist the District 5 Recovery Steering Committee before the Lambert Plan was even underway.

Image Source: City of New Orleans Neighborhood Rebuilding Plan report

This collection of neighborhoods is located immediately city-side of the infamous 17<sup>th</sup> Street drainage canal, which ruptured during Katrina. This area flooded with over 10 feet of water and many homes were filled with 6 feet of mud and debris. District 5 (light olive color in map's upper left) was basically wiped out.

Today these neighborhoods (7 in total) are roughly 70% to 90% repopulated with both newly built or rehabbed houses. Harrison Avenue, District 5's commercial corridor, is now thriving. Hynes Elementary School is in the final stages of completion as a new facility on its original site. But this has only happened after years of dedicated work by citizen activists, strong neighborhood organizations, and significant leadership provided by numerous religious institutions and their affiliated schools. The importance of the religious community of all faiths cannot be over emphasized.

The individual neighborhood organizations joined together to form the District 5 Recovery Steering Committee while the Mayor created the BNOB and the Governor created the LRA. The District 5 Recovery Steering Committee created over 72 different categories for citizen involvement. Meeting at least once every two weeks for a period of several months, these committees added important citizen input into the overall planning process. However, this highly regimented organization, its member organizations' collective history of advocacy as well as their relative affluence were the keys to District 5's recovery. Their track record made a real difference when it came time for civic mobilization and political action.



Image Source: St. Dominics



Image Source: St. Dominics

The Lambert Plan incorporated 48 individual neighborhood rebuilding plans and was published as a 1200 page (11" x 17" color printed both sides) document. The total costs for its implementation were estimated at \$4.4B. Its projects were prioritized based on when they should be implemented. This plan represented an incredible effort on the part of the respective neighborhood leaders, citizens, as well as the planning team to devise a recovery / rebuilding plan for the flooded parts of the city. However, the Lambert Plan did not and could not address those neighborhoods that did not flood since they were not "distressed" as defined by federal regulations. Therefore it could not be used as the city's Recovery Plan to access funds from the LRA. Thus, the Unified New Orleans Plan (UNOP) was born.

So what was the Unified New Orleans Plan? It was a privately financed planning process that attempted to divorce the planning process from “politics as usual”. In reality it just replaced one form of politics with another. UNOP included all neighborhoods in the city, both wet and dry, and sought to incorporate all previous plans into its process and product. These included the BNOB, Lambert Neighborhood Rebuilding Plans as well as independent recovery plans created by third party advocates, as well as LA Speaks, the state’s recovery plan. Therefore, it could, and eventually was, used by the City to access recovery monies from the LRA.

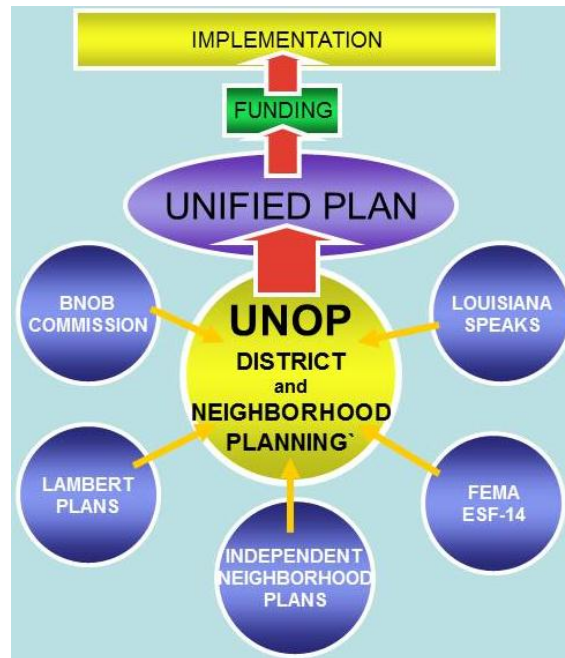


Image Source: UNOP

Why did it succeed? In large part, UNOP’s Community Congresses were the key to its success. There were three, each was an eight hour session held on a Saturday. Thousands of citizens participated via hi-tech communication with each other and the Congress facilitators during these meetings. An interactive technique helped convince the LRA that UNOP was the city’s recovery plan, based on input from residents and those still in the diaspora. Citizens participated, regardless of where they were living at the time, and reached consensus on goals, objectives, policies and projects. This was UNOP’s most important contribution.



Image Source: UNOP

UNOP analyzed city-wide systems as well as all 72 individual neighborhoods with a particular emphasis on risk management. This map illustrates the depth of flooding within the City as established by aerial photography. As you can clearly see, the “sliver on the river” was spared most of the flooding.

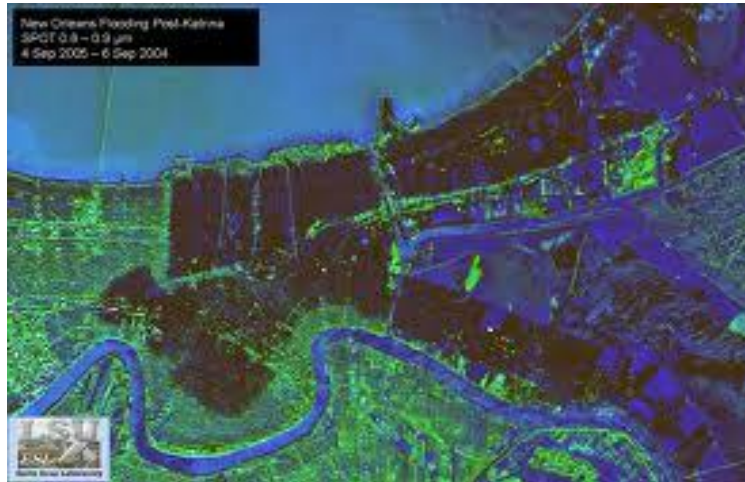


Image Source: [www.katrina.esl.lsu.edu](http://www.katrina.esl.lsu.edu)

UNOP also attempted to forecast repopulation using a variety of indicators: utility hookups, mail deliveries, permit activity by classification, etc... This proved to be very problematic and unreasonable, in the end. However, it was one way of approaching an uncertain future.



Image Source: UNOP

UNOP also made city-wide assessments of systems and selected both projects and programs to be included in its final list of recommendations. These were broadly prioritized in time (immediate, mid-term, long-term) as they had been in previous recovery and rebuilding plans. But it was the community engagement process, not the product, that sold UNOP to the people of New Orleans, the elected and appointed officials. The costs associated with UNOP's policies and programs were in excess of \$14B, given its incorporation of all neighborhoods in the city and their individual needs.

A significant part of UNOP was its planning for the "dry" neighborhoods. In approaching these particular neighborhoods, it became clear that their damage was economic, not physical. I served on the District 1 Recovery Steering Committee which incorporated both the Central Business District and the French Quarter. When these two distinctly different neighborhoods were combined as District 1 and began meeting, they soon realized that they shared a common challenge: the perception that New Orleans was a continuing disaster with no future. This meant severely reduced visitor numbers (tourists and conventioners) and an extremely altered economy. However, by working together, their individual interests were joined in mutually reinforcing plans, programs and projects that benefitted both neighborhoods as well as the city. These included multiple marketing and promotional campaigns by New Orleans, the State of Louisiana, the Visitors and Convention Bureau and many others. Their overall goal was to restore tourism so that our economy could recover and grow. Individually and collectively these efforts were very successful. As just one indicator, there are now 300 more restaurants operating in New Orleans than before Katrina.



Image Source: UNOP

For District 1, UNOP proposed a concentration of performing arts venues at a prime intersection in the CBD. “Broadway South” is now being realized at the upper end of Canal Street, the traditional commercial corridor in the CBD. The 1927 Saenger Theater, an entertainment icon for the City, is being renovated to recapture its historic past while employing cutting edge technologies for the performing arts. Across the street, the 1947 Joy Theater is also being renovated for live performances. A new \$70 mixed use development, primarily residential, has also just been approved by the City Council and groundbreaking will begin this year. All of this development has only begun in the last twenty four months.



Image Source: Amdal 2010

UNOP’s District 1 plan also envisioned specific nodes of development and particular characteristics per project. A part of bio-medical research / bio-technology sector was recently realized with the opening of the Bio-Innovation Center, a \$60M incubator for research and development in the medical sciences. Also included in this emerging economic sector is a new Health Sciences Center that includes a new LSU Teaching Hospital and a new VA Hospital, currently being built at a cost of \$2B in portions of Mid-City, a neighborhood just lakeside of the CBD. These new hospitals have been a source of heated debate for the last several years in the community at-large but are now under construction.



Image Source: Southeast Louisiana Veterans

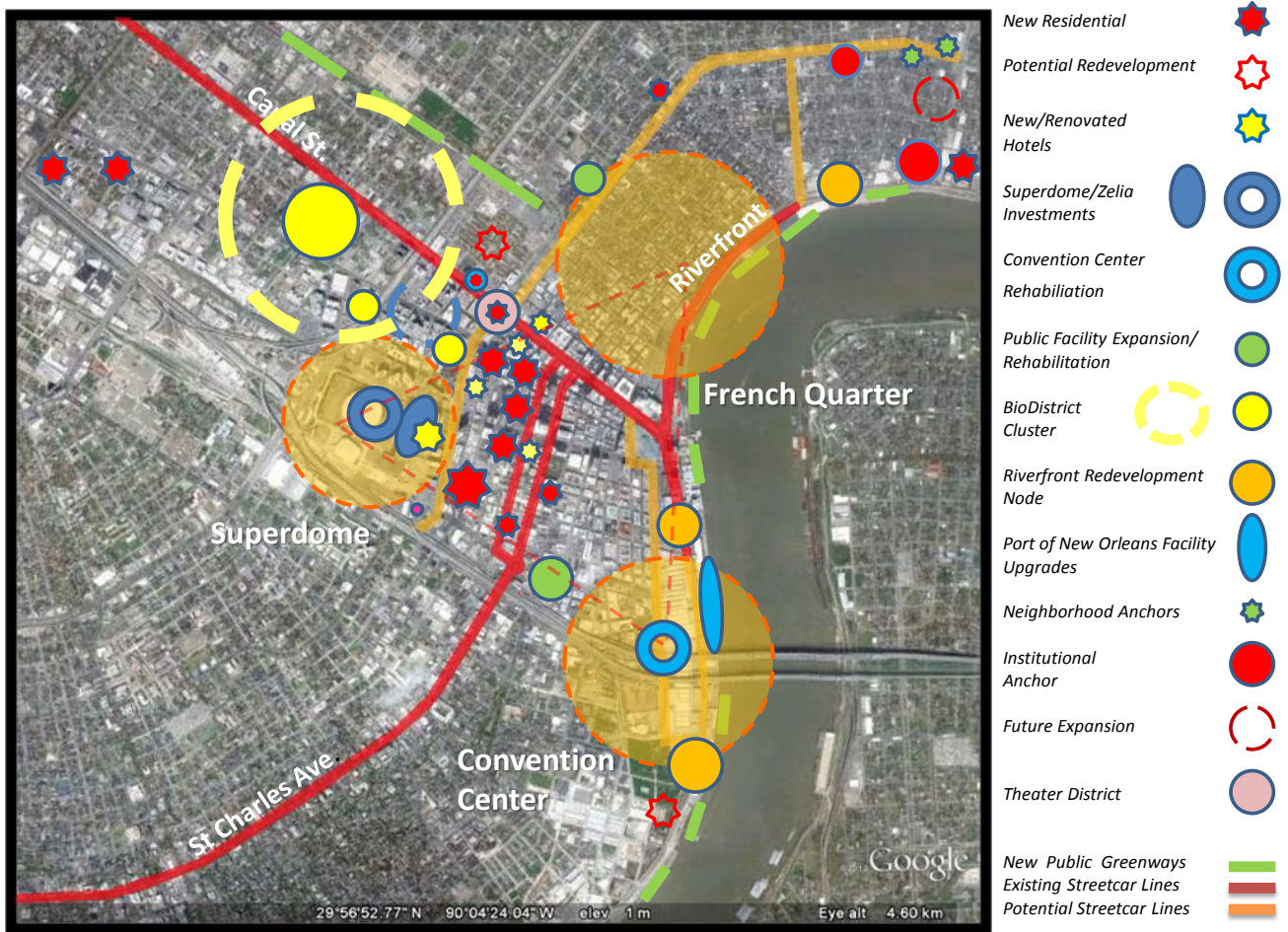
Although UNOP was expansive in its scale and cost, remarkably much of it is now being realized. On just one upper CBD corridor, a new \$45M streetcar line is being built, with 100% federal funds, while within 3 blocks of its route over \$1.3B of new development has been planned or built since Katrina. These include a newly renovated Superdome, the soon to be reopened Hyatt Regency Hotel, the Benson Tower and the Saratoga Apartments, a 1950s office building being converted to 150 units of downtown rental housing. The CBD's first grocery store opened in mid-October, 2011. Most of these projects have only happened in the last couple of years.



Image Source: Amdal 2010



I began documenting New Orleans' recovery planning process in the spring of 2007, when Professor Isabel Maret of the University of Montreal and her French associates Phillipe Jamet, of the French Embassy in Washington and Professor Frederique Vincent of ISIGE brought 20 graduate students in municipal engineering to visit New Orleans post-Katrina. At that time, Bob Hebert, a columnist for the NYT's, noted that New Orleans was like the fairy tale character Humpty Dumpty who fell off the wall and nobody knew how to put him back together again. At the time, his assessment about the city was correct "A great American cultural center like New Orleans was all but washed away, and no one knows how to put it back together again." (Bob Herbert, NYT 2/22/07). I'm glad to report we have figured a lot out in the last 4 years.



## Conceptual Map: Development Dynamics Post-Katrina New Orleans

Image Source: Amdal 2010

Within the Central Business District and the French Quarter traditional development patterns have been augmented by new centers of investment activity. The Superdome and its immediate environs are seeing over \$800M invested in renovations and new construction within a 4 block radius. The Convention Center

and the Central Area Riverfront are also seeing additions to their traditional offerings: a new cruise ship terminal, expanded convention facilities and extensive renovations to Riverwalk, a specialty retail center overlooking the Mississippi River. The French Quarter is thriving within its historic context and “toute ensemble”.

However, the Lower 9 is still struggling after 6 years of planning, advocacy, and major investments by foundations and support organizations. The Make It Right Foundation is in the process of building 150 environmentally friendly homes in the Lower 9 which was basically destroyed by Katrina’s floodwaters. The new houses are elevated 8 feet and feature Energy-Star windows and appliances, formaldehyde-free cabinets and paints free of VOCs. The ultimate success of this initiative is still up in the air in spite of its laudable intent and significant investment. Retail and institutional anchors have been slow to reemerge after the storm however, it was recently announced that a new 25,000 square foot grocery would be built in the neighborhood to serve area residents.



Image Source: [makeitrightnola.org](http://makeitrightnola.org)

Treme, a historic neighborhood founded by “free men of color” in the 1840s, is hoping the redevelopment of the Claiborne elevated highway (I-10) into a grade level boulevard will help restore the once thriving Claiborne Avenue mixed use corridor. This is a direct outgrowth of both plans, however, at this time, the project remains a vision, not a reality.



Image Source: [nola.com](http://nola.com)

The Regional Planning Commission, the Metropolitan Planning Organization for the New Orleans region, in partnership with the LA Department of Transportation and Development and the Federal Highway Administration created the Submerged Roads Program to specifically fund the repair New Orleans' major arterial roadways post-flood. Before the storm, local roads were not great but after the flood they were horrible. They also were deteriorating at an alarming rate, due to the influx of salt water with the flooding. This program has been able to repair over 56 miles of roadways in the city and significantly add to the local bike path system by specifically designating bike routes within the newly reconstructed roadways. Finally, the Submerged Roads Program could not address the needs of the interior roadways; i.e. the streets of the neighborhoods. How these repairs will be funded remains another unanswered question.

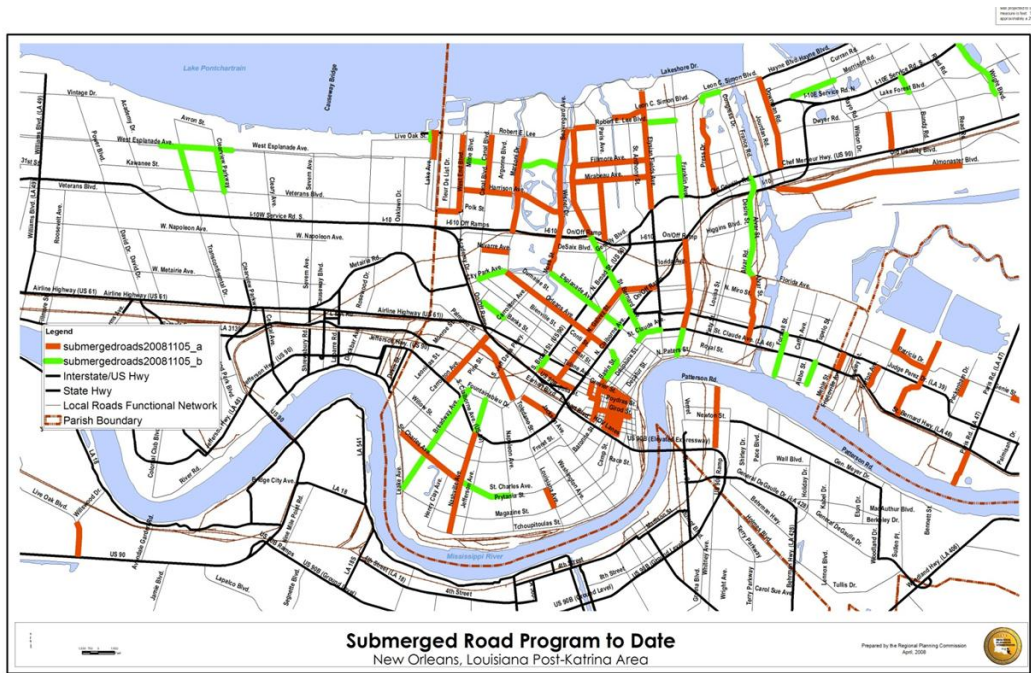


Image Source: Regional Planning Commission

Attention has also been given to expanding options for mobility with a special emphasis on improving and enlarging alternative transportation systems: specifically for pedestrians, the mobility impaired and cyclists of all types and ages. Through a coordinated plan that addresses multiple needs throughout the city, we've grown our bicycle network from a meager 5 miles in 2004 to over 40 miles in 2011. From 2010 to 2011 bicycle use increased 20%. The network includes bike lanes within roadways, sharrows as well as bike trails. In the coming months we will begin the construction of the Lafitte Greenway. This 3.1 mile project is converting an abandoned freight rail right-of-way into a multi-functional linear green space that will accommodate a variety of users: from toddlers to the elderly. Walkers, cyclists, skateboarders, rollerblade aficionados as well as young families with strollers will use this new amenity. This project, long a dream for a core constituency, is now being heralded as the ultimate urban renaissance: turning an abandoned industrial

eyesore into a community asset. When complete it will serve multiple neighborhoods along its path, from the French Quarter to Bayou St. John in Mid-City.



Image Source: Billy Fields, PhD Assistant Professor Texas State University  
New Orleans Active Transportation Symposium

On another front, after the floods, elevating houses became a new “art” form, especially in neighborhoods that were built after WWII in newly developed areas within the city. These houses were typically “slab on grade” and present costly challenges for the homeowner and has created some visually disturbing results in many instances. The original elevation program provided up to \$30K per residence for “house raising”. This amount was recently found to be inadequate and was amended upwards to provide residents with the funds necessary to properly raise their homes. Another problem with this program was its timing. The original “Road Home” program that provided funds for rehab or reconstruction of damaged homes was awarded several years before the elevation program was activated. This complicated the entire rehab / reconstruction funding decision for homeowners. Equally troubling, abuses are now being reported of unqualified contractors being hired for these projects. Although paid through state administered programs, fraud claims are common and becoming more so. Finally, there are no design standards for “house raising” which can lead to unintended consequences. Many individual homes look slightly “out of place” in the context of neighboring houses and the overall streetscape.



Image Source: Amdal 2011

Since Katrina, the USACOE (the Corps.) has spent over \$14B upgrading, repairing and completing the New Orleans area storm protection system. This was and remains our most important resiliency component. One major project is the surge protection barrier recently built in Lake Borne at a cost of \$1.1 B. When complete in 2012, the projects undertaken by the Corps will provide protection for a CAT 3 storm for the greater New Orleans region. However, many believe this system should offer protection from a CAT 5 storm but the costs are astronomical and currently this upgrade is not being pursued. These flood protection projects, as well as the rest of our recovery activities, have shielded the New Orleans region, in large part, from the economic ills currently afflicting the United States. We became an isolated bubble of reconstruction activity recovering from the storms of 2005.



Image Source: mimdan.com

Relative to public education, by 2016, every public school student in New Orleans will be attending a new or renovated school, designed and constructed with resilience as a core requirement. This \$2B rebuilding program is being administered by the Recovery School District, a state agency that replaced the highly politicized pre-Katrina Orleans School Board. An alternate program of charter schools, largely administered by parents and teachers, has proven extremely successful in post-Katrina New Orleans, to the delight of local and national advocates. Fully 78% of today's public school students are being educated in a charter school, making New Orleans a model for national public education reform.

Public housing has also been transformed post-Katrina into mixed income developments by an aggressive partnership between the Department of Housing and Urban Development, the Housing Authority of New Orleans and a number of local and national private sector developers. Before Katrina, more than 5,000 families lived in public housing, but today only one-third have returned to the newly built replacements. Former residents have mixed emotions about their new “neighborhoods” with some decrying the higher rents and utility bills. Others miss their former neighbors who have not returned. It remains to be seen if this “new model” of public housing will fare better than those they replaced. Only time will tell.

Post-Katrina, New Orleans has become a hot spot for young entrepreneurs. Many were first drawn to the city by the disaster, but once becoming part of the community, many have stayed and prospered. As a colleague noted during a UNOP District 1 Recovery Steering Committee Meeting, “these folks can be anywhere.” Their businesses are lap-top based, but they’ve chosen New Orleans due its limitless opportunities for growth and development. The Idea Village, a local Not- For-Profit founded in 2000, has emerged post-Katrina as a nexus for entrepreneurial initiatives.



Image Source: [www.bestofneworleans.com](http://www.bestofneworleans.com)

Despite our post-storm recovery, long-standing problems still persist in New Orleans. Crime remains an on-going problem for residents and visitors alike. There exists today in the city over 48,000 blighted and/or vacant properties, both structures and lots, according to figures recently released by the Greater New Orleans Community Data Center. New Orleans ranks #2 in the US for income disparity and the 2010 British Petroleum deep-water oil spill is still affecting the local and state’s economy.

The post-Katrina recovery of New Orleans presents a unique opportunity for others to learn from our successes and failures. Today New Orleans may be the best

laboratory in the world for academic and applied research in the ever-expanding disciplines of disaster recovery and urban resilience. There exist countless avenues of investigation: from public health to economic revitalization. New Orleans has demonstrated success, in spite of overwhelming odds, in neighborhoods throughout the city. Each offers a unique perspective on disaster recovery at many levels: the individual citizen, the neighborhood leader, and city, state or national policymakers.

Resilience has many different faces in post-Katrina New Orleans: the physical, the social, the historic and the organizational. The city has excelled in each of these arenas: in some more than others, but all have been successful. New Orleans over the last six years has been revisioned, rebuilt and resurrected from the floodwaters of 2005. Post-Katrina New Orleans clearly has much to offer the international community in understanding and learning from our efforts in disaster recovery and urban resilience.