Resilient New Orleans
Strategic actions to shape our future city

Climate Action for a Resilient New Orleans

resilientnola.org
Released August 2015

nola.gov/climateaction
Released July 2017
ADAPT TO THRIVE
We are a city that embraces our changing environment.

CONNECT TO OPPORTUNITY
We are an equitable city.

TRANSFORM CITY SYSTEMS
We are a dynamic and prepared city.
City Life: Hot, Fast and Sick

- **High speed streets:** traffic fatalities, less pedestrian activity, less bicycle ridership, less transit access, decreased job access, less recreation, higher obesity and diabetes, decreased mental health

- **Decreased tree canopy:** increased runoff, decreased shading of pavement and roofs, decreased stormwater uptake

- **Dark, impervious surfaces:** absorption of sunlight, retention of heat, increased stormwater runoff, compacted soils, higher peak daytime temperatures, higher energy costs, increased ozone production
Health Outcome Data

*Life expectancy at birth by zip code

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Impact of Different Factors on Risk of Premature Death

60% of health is subject to intervention

- Genetics: 30%
- Individual Behavior: 40%
- Social and Environmental Factors: 20%
- Health Care: 10%

Skills for Resilience Design

- Complete street design
- Green infrastructure design
- Sustainable design
- Placemaking to promote health, happiness, and wellbeing
- Hydraulic and hydrologic modeling
- New Orleans community and project history
- Creativity and innovative design and approaches to community engagement
Design for multiple benefits and equitable outcomes.

- Health
- Economic Development
- Community Cohesion
- Urban Heat
- Workforce Development
- Education
- Flood Risk Reduction
Design for the future, using best available science.

- Green Infrastructure Toolkit
  - Special Specifications and Details
  - Stormwater Calculator
  - Plant List
- Climate Smart Cities Mapping Tool
  - [https://web.tplgis.org/NOLA_CSC/](https://web.tplgis.org/NOLA_CSC/)
- Adaptation Support Tool
- Calibrated Stormwater Management Model (SWMM-5)
Types of Green Infrastructure

- Stormwater Lot
- Bioswale
- Permeable Paving
- Cool/Green Roof
- Walls
- Planters
Designing Complete Streets

• Wider sidewalks
• Vegetated street buffer
• Protected bike lanes
• Road Diets
• Reduced speed limits
• Street trees
• Pervious sidewalks
  • Recycled crumb rubber
  • Improved tree health
Designing Cool Surfaces

- Increasing 0.1 albedo = \(-9 \, ^\circ F\)
- Pavement albedo of 0.3
  - GGBFS Concrete – 0.6
  - Reflective aggregate
  - Bonded concrete over asphalt
  - Portland limestone cement
- Shading pavement
- Pervious pavement
- Narrower streets
Design with communities.
Creative Community Engagement

• Build awareness of the themes of urban environmental adaptation and engaging communities in the design of projects
• Develop a community of neighborhood ambassadors
• Develop knowledge and capacity of emerging environmental stewards
• Identify barriers to healthcare, jobs, and critical services
# Health and the Resilient Environment

## Public Outcome

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<thead>
<tr>
<th>Stormwater Flooding</th>
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<th>Urban Trees</th>
<th>Protected Bike Lanes</th>
<th>Road Diet</th>
<th>Transit Access</th>
<th>Permeable Surfaces</th>
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3. “Climate Change and Extreme Heat Events”, Centers for Disease Control.
National Disaster Resilience Competition

New Orleans was awarded $141M to establish the first-ever Resilience District with several integrated initiatives that will turn Gentilly into a national model for retrofitting post-war suburban neighborhoods into resilient, safe, and equitable communities of opportunity.
Why a District?

- **Focus interventions geographically**: impact visible and largest collective benefit
- **Replicability**: scalable model for the rest of the city, region, and world
- **Projects developed at multiple scales:**
  
  1. House and Garden
  2. Block
  3. Neighborhood
  4. District
Gentilly Resilience District: Urban Water & Community Adaptation Activities
Blue-Green Corridors

Transforms major boulevards in Gentilly into a series of blue and green corridors that reduce flood risk and subsidence while facilitating safe and comfortable spaces to travel and recreate.

Blue Corridors store and circulate stormwater runoff in open canals while Green Corridors capture and convey stormwater runoff.

This project serves as the framework that connects other Gentilly Resilience District projects with the ambition of setting an innovative model for urban adaptation practices in delta communities.

- **Project Goals**
  - Improve stormwater management and reduce flood risk and subsidence
  - Increase high quality multimodal facilities in and across neighborhoods
  - Create new and enhanced civic spaces
  - Enrich social cohesion through community engagement, awareness, and participation
  - Catalyze neighborhood investment and economic vitality
  - Forge a distinct identity for Gentilly

- **Budget**: $45.2 M NDR
St. Anthony Green Streets

Seeks to establish a new standard for neighborhood streets and neighborhood parks that incorporates stormwater management as a key component. With this project, the City has an opportunity to improve upon existing strategies implemented across New Orleans and test new strategies for block-level environmental adaptation that can provide a model for neighborhood blocks across the city.

• **Project Goals**
  • Improve stormwater management and reduce flood risk and subsidence
  • Connect recreational facilities to enhance social cohesion and community well-being
  • Integrate cooling strategies to improve health outcomes
  • Trigger property redevelopment and investment
  • Develop a replicable model for block-by-block strategies for stormwater management and community resilience across the city

• **Budget:** $21.1M NDR, $10M FEMA PA
Milne Campus: History of Serving Youth

New Orleans Recreation Development Commission
Milne Campus

Enhances an existing historic site with green infrastructure features and recreational facilities that reduce the risk of flooding and subsidence in the surrounding neighborhood and further the site’s existing mission of youth development.

- **Project Goals**
  - Improve stormwater management and reduce flood risk and subsidence
  - Enhance and add value to existing and future programs of the site, including NORDC, NOLA FOR LIFE, and water-focus education and economic opportunity activities, with a focus on youth programming.
  - Engage the city’s youth, especially teens, in important topics for the city’s future, including: water management, environmental stewardship, community development, and economic opportunity.

- **Estimated Construction Budget**: $6.04M
Dwyer Canal acts as barrier between two historically segregated neighborhoods developed in the 1950s: Pontchartrain Park to the north and Gentilly Woods to the south.

Pontchartrain Park and Gentilly Woods residents approached NORA in 2008 with a vision for a redesign of the Dwyer Canal and other spaces in the neighborhood to reduce flooding and to make the community more beautiful and walkable.
Drainage improvements to the Dwyer Canal combined with green infrastructure features at vacant lots, streets, and alleyways designed to capture stormwater and beautify the Pontchartrain Park and Gentilly Woods neighborhoods

- **Budget:** $13.5M FEMA HMGP
- **100% Design**
HUD NDR Dwyer Canal Public Space Improvements

Public space and placemaking amenities along and near the Dwyer Canal that connect the Gentilly Woods and Pontchartrain Park neighborhoods and enhance the 100% designed FEMA-funded green infrastructure and drainage improvements

• **Project Goals**
  • Improve walkability, connectivity, and recreational opportunities within and across the Pontchartrain Park and Gentilly Woods neighborhoods
  • Provide spaces for social cohesion and expressions of neighborhood identity and history
  • Promote environmental learning and education of green infrastructure
  • Beautify the Dwyer Canal and adjacent neighborhoods

• **Estimated Construction Budget: $2.1M**
DPW Growth Opportunities

• Integrate green infrastructure into drainage design for non-HM funded projects
• SWMM Modeling for all future projects
• Research into native species’ water uptake
• Design for public health outcomes: recreation, active transportation, heat island effect, air quality, ground level ozone
• Sustainable materials: recycled crumb rubber sidewalks, bonded concrete over asphalt, Portland limestone cement, construction waste reduction, convert mowed areas to meadow grasses
Thank You

nola.gov/resilience