Urban Planning in the Time of Climate Change
(Why do we still live here?)

The (Greater New Orleans) Regional Planning Commission
for
Jefferson, Orleans, St. Bernard, Plaquemines, St. Charles, St. John the Baptist, St. Tammany, and Tangipahoa Parishes
RPC is an open forum for elected officials, community leaders, citizens, and other interested parties to discuss the *Big Picture* and promote the general welfare and prosperity of the entire region.

RPC as the Metro-New Orleans MPO (Metropolitan Planning Organization), in cooperation with LaDOTD, selects projects and sets priorities for federal transportation investments within urban areas.

RPC ensures federal funds (Federal Highway – FHWA and Federal Transit – FTA) are spent within a continuing, cooperative, and comprehensive planning process.

We are what others call a COG (Council of Governments), 1 TMA and 3 smaller MPO areas combined into one organization that also handles EPA, EDA and DOE grants as well. We are also co-housed with traffic engineers for LA DOTD.
Our Focus Geographically

Freight Flows by Highway, Railway, and Waterway: 2018

NOTE: Highway flows depicted in this map are based on the Freight Analysis Framework (FAF) data for 2015—the latest year for which the FAF network flow data is available.

### 2010 CENSUS URBANIZED AREAS

<table>
<thead>
<tr>
<th>PLACE NAME (geography for UZA's will change in 2022)</th>
<th>2020 POP</th>
<th>Population Change 2010 to 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Orleans south shore urban</td>
<td>950,224</td>
<td>5.62%</td>
</tr>
<tr>
<td>Slidell urban</td>
<td>93,503</td>
<td>2.58%</td>
</tr>
<tr>
<td>Mandeville/Covington urban</td>
<td>102,501</td>
<td>15.27%</td>
</tr>
<tr>
<td>Hammond/ Ponchatoula urban</td>
<td>70,641</td>
<td>4.45%</td>
</tr>
<tr>
<td><strong>Total Living in RPC Urbanized Areas</strong></td>
<td>1,216,869</td>
<td>6.05%</td>
</tr>
<tr>
<td><strong>Total Living in RPC 8 Parish Area</strong></td>
<td>1,384,810</td>
<td>29.73% of State Population 2020</td>
</tr>
</tbody>
</table>
## DENSITY CHANGES
Major Metropolitan Area Density decrease of 30% post-Katrina

### Change in Density (Pop. / Sq. Mi.)

<table>
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<tbody>
<tr>
<td>2000</td>
<td>5,077</td>
<td>1,352</td>
<td>1,395</td>
<td>N/A</td>
</tr>
<tr>
<td>2010</td>
<td>3,583</td>
<td>1,365</td>
<td>1,523</td>
<td>885</td>
</tr>
<tr>
<td>% △</td>
<td>-29.4%</td>
<td>+1%</td>
<td>+9.2%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N.O. Southshore – Less people, larger area, significantly lower density than Pre-Katrina

Mand./Cov. – More people, larger area, equal density

Slidell – More people, same area, higher density

Hammond/Pon – Least dense, but now it is an urbanized area
In all, Hurricane Katrina claimed 1,833 lives and at $161 billion is considered the costliest hurricane in U.S. history. The Federal Emergency Management Agency called it "the single most catastrophic natural disaster in U.S. history." Aug 27, 2020
Storm Surge

Gulf Intracoastal Waterway under Paris Road Bridge - This Person shouldn’t be here taking a photo!

Lower 9th Ward Industrial Canal Breach
I-Walls Failed on Interior Canals – not the Earthen Levees

**LEVEES BREACHED**
- 53 I – wall/levee breaches in the region

**EXTENSIVE FLOODING**
- >80% flooding in city
LEVEES & FLOODING

ACTUAL FLOODING
- Standing water for up to 21 days

FLOODING FROM OVERTOPPING

International Impacts on Energy & Movement of Goods
2005 – Hurricanes Katrina & Rita

OIL & GAS CORRIDOR OFFSHORE

Projected path of Hurricane Rita: Thursday, Sept. 22, 4 AM CDT

STORM INFORMATION
- Current center location
- Sustained wind > 73 mph
- Sustained wind 39-73 mph
- Sustained wind < 39 mph
- Day 1-3 potential path area
- Day 4-5 potential path area

REFINERIES
- Large Refinery: Over 75,000 bpd
- Small Refinery: Under 75,000 bpd
It takes a very long time to rebuild a major metropolitan area. Determine Priorities for habitation: traffic control, wild animal/rodent control, water, sewerage, electricity, secure walls, access to food & gas
Questions Residents Needed to Answer

Do You have a temporary place to live where you feel safe?
How long can you stay there?
Are you well enough to return to an area with limited health services?
Do you have children who need to be in schools?
Do you have ample resources to live in a very stressful environment?

Do You Come Home or Do you Find another Place to Live?

Waiting for Trailers
Nearly 90,000 families in Louisiana have requested units of "manufactured housing"—travel trailers or mobile homes—but only about 38,000 requests have been met. Many jurisdictions have resisted efforts to put group sites in their communities.

Source: New York Times
TRACKING Redevelopment ACTIVITY - Setting Priorities for Infrastructure Replacement Based Upon Utility Activity, Road Home Options, Permits

GCR Inc. Electrical Utility Index 2006 used as a part of the Activity Index for RPC Population Projections

RPC Road Home Applicant Options
St. Bernard Parish 2008

Tracking Building and Demolition permits 2006 through 2015
110+ roadway segments in Jefferson, Orleans, and St. Bernard Parishes
$200M in repairs
ADA AND BIKE AMENITIES

Opportunities from Reconstruction – Build Back Better
Tracking Employment

- Tourism
- Creative Media & Design
- Food Manufacturing, Food Processing and Fishing
- Recovery & Redevelopment
- Energy Production, Petrochemicals & Plastics
  - Energy
  - Petrochemicals & Plastics
- Green and Environmental Technology
- Aerospace & Advanced Manufacturing
- International Trade Logistics
- Higher Education
- Healthcare Delivery & Biosciences
Tracking Land Use Regionally
40 acre grid summary of land use data

Legend
TIP/MTP 2014 - 2044 Projects to Date
- TIP - 2014 - 2018
- Tier II - 2019 - 2027
- Tier III - 2028 - 2043

RPC Future Land Use Base - 40 Acre Grid

Land Use
- G1 - Conservation
- G2 - Suburban Min Change
- G3 - Town Centers
- G4 - Suburban Change
- G5 - Urban Min Change
- G6 - Urban Change
- G7 - Centers

Regional State Park Lands, Refuges, State Lands 2011

- G7 - Major Regional Corridors
  - Pumpstations, Corps 2005
  - IPET Flood Control Structures Corps 2008
- Levee System Corps 2008
EVACUATION PLANNING

100-YEAR FLOOD PROTECTION SYSTEM - "GREAT WALL OF LOUISIANA"

The 1.8 mile-long, $1.3 billion Lake Borgne Storm Surge Barrier is the largest civil-works, design-build construction project in the history of the U.S. Army Corps of Engineers.

HURRICANE PREPAREDNESS

Fortress New Orleans

Map showing the St. Bernard Levee Floodwalls and surrounding areas of New Orleans.
LAND USE | PLANNING |
conceptual planning to construction

“L'avenir, tu n'as point à le prévoir mais à le permettre.”
-Antoine de Saint-Exupéry

Allowing the Future to happen
Southeast Louisiana Veterans Health Care System Replacement Medical Center Project

Biotech/medical Hub serving the southeast, Caribbean and South American populations

Shared Medical Facilities (VA & LSU Med) Approximately 30-acre site
Construction complete in 2018

Bioinnovation Center: 66,000 square feet of state of the art wet-lab, office and conference space
Complete Spring 2011
COMPLETE STREETS

MAGAZINE STREET & HIGGINS STREET
- Part of the National World War II Museum

TULANE AVENUE
- Promotes sustainability with new streetscape
Andrew Higgins Corridor Improvement Study

Magazine Street to Constance Street (Block by Block to Convention Center Blvd)
SMART GROWTH PLANNING EFFORTS
Integrated Multi-modal Corridor Planning

Severn Ave.
Jefferson Parish
Part of Fat City Revitalization
Since 2005 RPC funded 3 phases of Redevelopment Smart Growth Studies in coordination with both parishes and stakeholders in levee protection, real estate, land use, zoning, transportation, utilities, marina, park, residential lease holder, the Corps and commercial business in public meeting forums.
Character Analysis: Unifying diverse influences
Downtown (Re)investment

- $6.5 Billion investment since 2005
- Theater renovations: Saenger, Orpheum, Joy, Civic (and growing)
- 120,000 residents, workers, and visitors daily
- 19,769 hotel rooms
- Restaurants and sidewalk cafes
- Growing residential
RESILIENCE: Stormwater Management Integrating Green Infrastructure

CURRENT:
Pump all water out before allowing it to infiltrate into soil

GREEN INFRASTRUCTURE:
Slow the water, allowing it to infiltrate into the soils. Pump remainder.

source: The Water Collaborative
RESILIENCE: Stormwater Management

Canal Street
Jefferson Parish

Sunken Gardens
Canal Blvd, New Orleans

Usable space when dry
Useful space when wet
Reduces localized flooding
RESILIENCE: Stormwater Management
New Materials, New Specifications

Example from Green Streets Stormwater Management Plan, Milwaukee, WI

Truegrid (Parkway Bakery, NOLA)

Flexipave (Lafreniere Park, Jefferson)
Oakwood Shopping Area Gretna - Hector St. Bioswale Retention Area
Esplanade Ave. Road Diet
½ of the people will not like your ideas – that means ½ of them might

Previously, confusing two-lane section to one lane with a separate bike lane and on-street parking. Construction complete. Using Wisner Bike Trail & via the new bridge, Esplanade connects the lake to the river in New Orleans via Wisner.
RESILIENCE: Clean Air Coalition

- Began in August 2014 in preparation for more stringent ozone standards.
- Industry, government, and business stakeholders working to PROACTIVELY reduce ground-level ozone formation from NOx and VOCs.
- GOAL: Keep region in attainment for ozone
ENVIRONMENTAL PROGRAMS

SOUTHEAST LOUISIANA CLEAN FUEL PARTNERSHIP
- Facilitates partnerships among suppliers, distributors and fleets

BROWNFIELD REDEVELOPMENT PROGRAM
- Technical assistance and distribution of EPA Brownfield funding
Over 11,000 oceangoing vessels annually move through the Lower Mississippi River.

500 million tons of cargo

Port of New Orleans No. 1 rubber, No. 2 coffee and No. 3 steel imports

Port of South Louisiana No. 1 in tonnage

Planned Expansion Projects Improving Wharf areas, Intermodal Facilities and Truckway Access. Freight Roundtable meets quarterly discussing needs and alternative solutions.
Port of New Orleans Refrigerated Terminal

140,000 sf warehouse, able to store at least 35 million pounds of product
Complete Fall 2011
New Links – Regional Transit Study

New Links is a planning project to reimagine how public transit connects Orleans, Jefferson, and St. Bernard parishes. The goal of New Links is to propose a redesigned bus and streetcar network that makes public transportation work better for riders and the community.

The New Links planning team has developed a plan for a redesigned transit network based on feedback from riders and community members. View the final recommended plan below.

See our final recommendations for a redesigned regional transit network.

[View the Final Recommended Network]
[Read the Report]
COVID – 19 and New Partnerships

- Beyond Title VI analysis
- Louisiana Department of Health - sharing
- Defining Vulnerabilities – Environmental Justice Areas & Social Vulnerability Areas (SVI)
COVID – 19 – Perhaps some of our service industry such as restaurants were a bit more prepared - adopted meals on wheels quickly as we do post storms.

- Transportation changes over night – What are our new patterns?
- New Developments center on Warehousing for Distribution Centers – Environmental Concerns??

Manning family and Drago's seafood restaurant show support for Tulane Health System employees

Tulane Medical Center
April 08, 2020
Much Greater Emphasis on Economic Recovery & Changing Patterns Post-Covid
Coordination with Argonne Labs on Energy Burden Mapping

https://www.norpc.org/mapping-resources/?filter_mapping_resource_category=interactive-maps
NHC – A USGS water level station near Ocean Springs, Mississippi, measured a peak water level of 10.88 ft NAVD88, which suggests (when converted) a peak inundation of 9-10 ft above ground level in this area from Hurricane #Zeta.

October 2020
According to the NHC, Ida was a **dangerous Category 4 hurricane with maximum winds of 150 mph**. Ida's storm surge was 9 to 14 feet above normally dry ground on the East Bank of the Mississippi River and 6 to 12 feet on the West Bank, including in Jefferson, Lafourche, and Plaquemines Parishes, Louisiana.
Online Assets and State-level Data

- LDH – data affecting health and vulnerabilities
- Broadband efforts state-wide
- Demographic Socio-economic profiles of all types
- Basic data availability online (processed in tables and mapping formats) and increased standardization

- https://www.norpc.org/mapping-resources/?filter_mapping_resource_category=gis-layers
- https://www.norpc.org/resource-library/?fwp_categories=tables-and-graphs
Data delivered to each parish March 2022

https://coast.noaa.gov/digitalcoast/data
New Orleans Region NOAA Metadata
Sharing the funding for and development of Geospatial Resources - New Imagery coming soon – Juneish 2022 (leveraged on Hurricane IDA USDA contracting) New LiDAR coming soon QL1 in coordination with USGS/NRCS LA DOTD – captured, in processing – fall 2022
We used to talk about what schools our children were planning to attend, now we talk about our BFE, our Flood Insurance and our Evacuation Plan and where our children are now living. Festivals have returned & the Food is amazing.
Thank you for the information you have made available to us – we are using it.

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