

## COMMUNITY ASSESSMENT

### I. Introduction

#### 1.1 Purpose

The Community Assessment lays the foundation for the rest of Plaquemines Parish Comprehensive Master Plan. The goal of the Master Plan is to work with the community to formulate a future vision and to develop an implementation strategy to make that vision a reality. In particular, this document provides a comprehensive review of the issues and opportunities that will affect the future growth of the community based on the many planning studies that have been done for the Parish in the past and based on the input from leading citizens and government officials.

#### 1.2 Scope

The Comprehensive Master plan includes an in-depth look into a variety of elements or areas of community interest. These elements include:

- Population and Demographics
- Economic Development
- Multi-modal Transportation Systems
- Water and Wastewater Systems
- Coastal Protection
- Drainage and Stormwater Management Facilities
- Public Facilities and Services
- Parks and Recreation Facilities and Services
- Parish-owned Properties
- Existing Land Use
- Government Structure



*Plaquemines Ferry Sign*

Section II of this summary report provides an outline of the key findings for each of these elements.

This report also presents the public concerns and interests that were identified through the public involvement effort. This includes comments received from the project website, at the visioning workshops, and from interviews conducted with parish officials and interested citizens.

Finally, the last section of this report summarizes the conclusions from this Assessment effort, which include the overall guiding principles or goals of the master plan and a description of the steps that need to be taken to complete the master plan.

#### 1.3 Methodology

In preparing this plan, JJG worked with Parish staff to collect what studies have been completed to date, reviewed their findings and extracted key components to serve as the foundation for planning effort. A list of these key reports can be found in beginning of Section II. As the list demonstrates a wide variety of studies and reports had been prepared for the Parish or

reported on conditions within the Parish over the past 20 years. Some of these planning efforts are still on-going and JJG contacted the project managers of these efforts to share information and coordinate findings. Important on-going studies include the Joint Land Use Study (JLUS) for the Naval Air Station JRB New Orleans and the Plaquemines Parish Coastal Restoration Plan.

JJG also conducted interviews with Parish Council members, Parish department officials, leading Parish citizens, and business representatives. These interviews help focus on the key issues and opportunities that will affect the future growth of the Parish.

Finally, this plan benefited from the input of concerns citizens that attended a series of six visioning workshops held through the Parish in May and June, 2010. Unfortunately, these coincided with the Deepwater Horizon Oil Disaster as it was unfolding in the Gulf of Mexico just off the Plaquemines Parish shore. Rightfully so, the attentions of most government officials and citizens were focused on the disaster and relief efforts, so turnout for the meetings was lower than was than expected. To mitigate the impact of the disaster on these planning efforts, the project planning team rescheduled several of the public meetings and restructured the public outreach effort to include focus groups and speaker engagements. Throughout the project, a project web site was maintained that also provided another venue for interested citizens to comment on the planning efforts and public notification. More traditional methods of public notification such as the newspaper press releases and public flyers and signs were also used to help raise public awareness.

Table 1.1 presents a simplified schedule for the project. This report summarizes the results of phases 2 and 3 of the project. Separate reports, the Technical Addendum to the Community Assessment and the Visioning Workshop Summary, present more detailed results of these two project phases.

**Table 1.1: Plaquemines Parish Comprehensive Master Plan Simplified Schedule**

	2010												2011					
Project Phase	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
PHASE 1: PROJECT INITIATION	█	█	█															
PHASE 2: COMMUNITY ASSESSMENT			█	█	█	█	█	█										
PHASE 3: VISIONING				█	█	█	█	█	█									
PHASE 4: COMMUNITY AGENDA									█	█	█	█						
PHASE 5: ACTION PLAN												█	█	█	█			
PHASE 6: DOCUMENTATION AND ADOPTION															█	█	█	█

## II. Key Findings

### 2.1 Planning efforts and data sources

This section summarizes the historical underpinnings and existing conditions of Plaquemines Parish in 2010. It provides a composite view of the prevailing trends and practices in the parish along with the underlying challenges being experienced by the Plaquemines Parish Government and its people. The key findings are provided by each Master Plan element with detailed, supporting data provided in the Technical Addendum.

A primary objective of these key findings was to compile existing data into one concise document that brings together disparate data sources and studies, thereby providing a complete perspective on the core characteristics of Plaquemines Parish. As such, much of the data provided herein is a product of recent studies. Below is a list of the key studies and data sources reviewed as a part of this effort.

*Public concerns and interests, collected in tandem with the data assessment, are not incorporated in this key findings section but outlined in Section III. The Strategic Framework Document being produced in response to the Community Assessment will combine the technical knowledge base with the key public concerns and interests.*

---

#### Sample List of Data Sources for the Community Assessment

*Baptiste Collette Bayou Navigation Channel Deepening Section 203 Study - In Progress Review Document (October 2009)*

*Charting the Future of the Port of New Orleans: Master Plan 2020, Jemison & Partners (Feb 2008)*

*Coordinated Public Transit-Human Services Transportation Plan, Regional Planning Commission for the New Orleans Metropolitan Area (2009)*

*Fort Jackson-Plaquemines Parish Master Plan, Metro Consulting and Research Firm (April 2004)*

*General Aviation Airport Feasibility Study Plaquemines Parish, LA (March 16, 2009)*

*Hazard Mitigation and Land Use Planning in Coastal LA: Recommendations for the Future, Louisiana State University (Dec. 2007)*

*Joint Land Use Study (JLUS) for the Naval Air Station JRB New Orleans, GCR (currently underway)*

*Joint Use Sewer - Water System Feasibility Study for Orleans, Plaquemines and St. Bernard Parishes (April 2004)*

*Louisiana Coastal Protection and Restoration Summary Report (September 2009)*

*Louisiana's Comprehensive Master Plan for a Sustainable Coast, CPRA April 2007*

*Louisiana Statewide Bicycle and Pedestrian Master Plan September 2009)*

*Louisiana Speaks Regional Plan and Strategic Implementation Plan, Louisiana Recovery Authority (May 2007)*

*Plaquemines Parish Coastal Restoration Plan, GCR (currently underway)*

*Plaquemines Parish Compensation/Classification Plan Study (2007)*

*Plaquemines Parish Government 2010 Adopted Budget Oil & Gas Price Summary.*

*Plaquemines Parish Government, 5-Year Capital Improvements Budget, Feb. 25, 2010 Council Meeting.*

*Plaquemines Parish Hazard Mitigation Plan (December 20, 2005)*

*Plaquemines Parish Library Emergency Plan (2008)*

*Plaquemines Parish Library Study (September 2009)*

*Plaquemines Parish Master Port Plan (Sept. 1, 1994)*

*Plaquemines Parish Preliminary Master Plan, SJB Group (August 2005).*

*Plaquemines Parish Primary Government Financial Statements for 2006-2008, Statements B and D.*

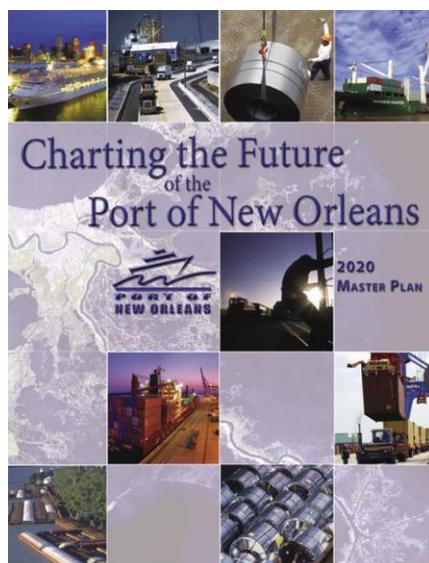
*Plaquemines Parish Strategic Implementation Plan (August 14, 2008)*

*Plaquemines Parish Water and Sewerage Planning; Linfield, Hunter & Junius, Inc. (June 2002 and Revised September 2002).*

*Replace Belle Chasse Tunnel and Bridge Stage 0 Feasibility Study (July 2009)*

*St. Bernard and Plaquemines Land Use and Transportation Vision Plan, Regional Planning Commission for the New Orleans Metropolitan Area (2008)*

*Transportation Improvement Program, New Orleans Urbanized Area, FY 2009-2012, Regional Planning Commission for the New Orleans Metropolitan Area (2009)*



## ST. BERNARD PLAQUEMINES PARISHES

### Land Use and Transportation Vision Plan 2008

St. Bernard and Plaquemines Parishes, LA  
State Project No. 700-92-0018  
FAP No. STP-9206(500)  
RPC No. 0018-STB

Submitted to  
The Regional Planning Commission

November 2008

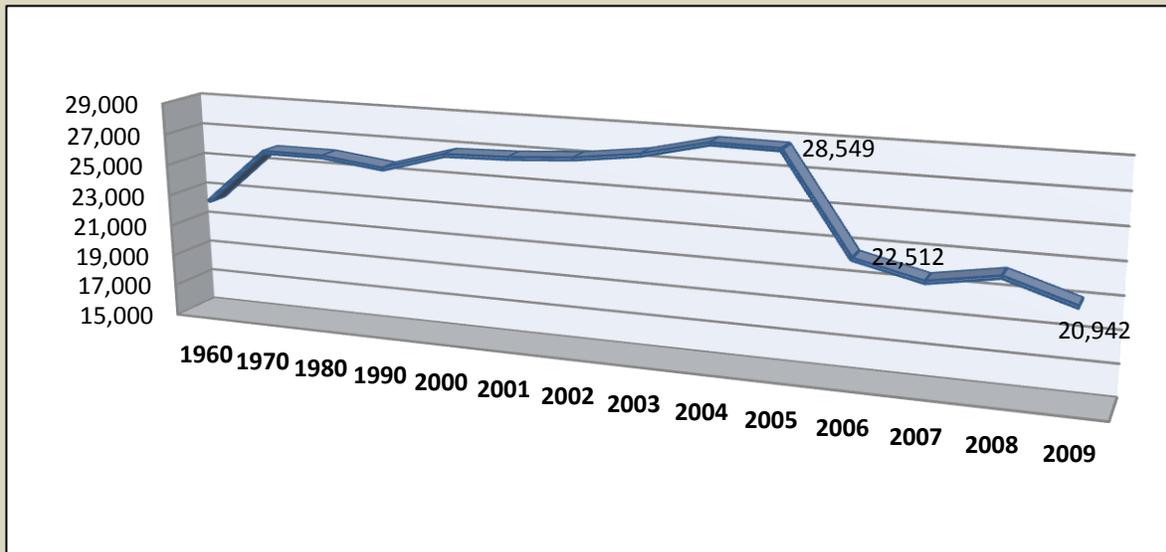
## 2.2 Population and Demographics

**PURPOSE STATEMENT:** Shifts in the characteristics of the Plaquemines Parish population influence the livelihood of the parish. These shifts ultimately impact schools, water and sewer service, location of private businesses, and more. Having a thorough understanding of the characteristics and associated needs of the resident population will help Parish leadership make decisions that improve the quality of life.

### Existing Conditions

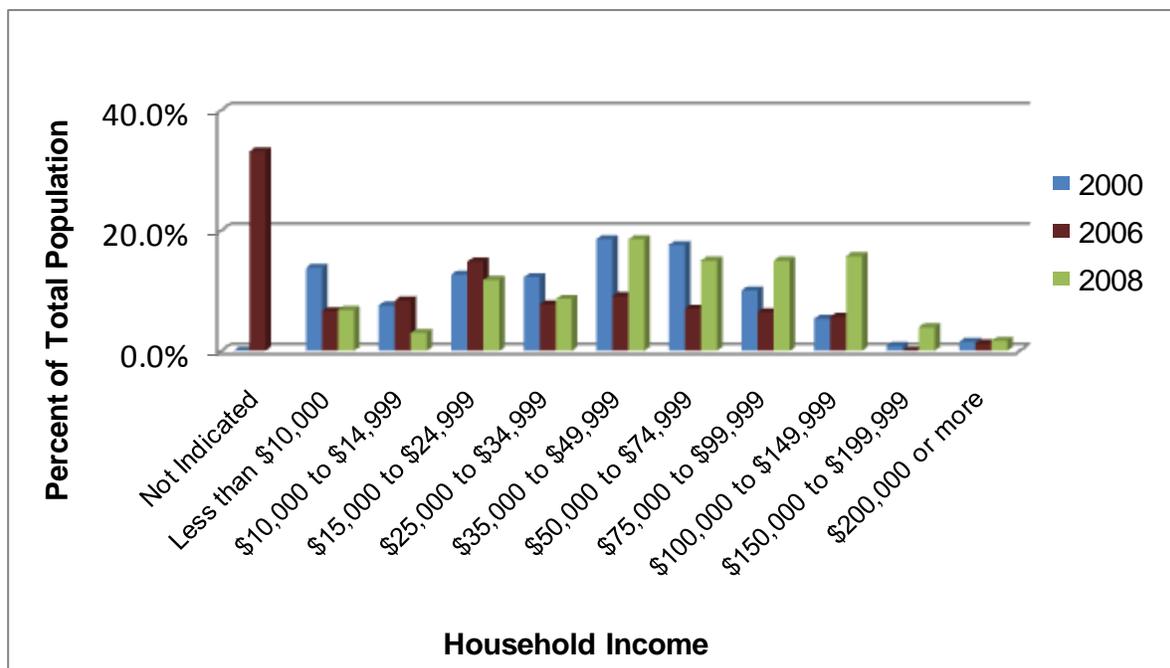
- The population of Plaquemines Parish is estimated to have reached an all-time high of 28,565 in July 2005, a few months prior to Hurricane Katrina. Plaquemines Parish population was estimated at 20,942 in July 2009 by the U.S. Census Bureau – continuing a downward trend in the parish’s population, see Figure 2.1.
- In 2008, 12 percent of the population was either at or above the retirement age of 65. 30 percent of the Plaquemines Parish population is 19 years old or younger and another 30 percent is between 35 and 54 years old.
- Between 2000 and 2006, the percentage of Plaquemines residents with a Bachelor’s degree or higher increased from 10.8 percent to 18.5 percent.
- Between 1990 and 2000 the Plaquemines Parish population began shifting from lower portions of the parish to more northern locations, and that trend has continued.
- The American Community Survey reports that an estimated 68 percent of occupied housing units in the Parish are owner-occupied and another 32 percent are renter-occupied. The New Orleans metropolitan area has the same estimated ratio of owner to renter occupied housing from 2006-2008.
- The average household size (AHS) was 2.89 people in 2000. This figure is notably larger than Jefferson, Orleans and St. Bernard Parishes – with AHS of 2.56, 2.48, and 2.64 respectively.
- School enrollment within Plaquemines Parish approached 4,700 in fall 2009, representing 79 percent of pre-Katrina enrollment levels. Roughly 850 of these students were enrolled at Belle Chasse Academy, with the remainder enrolled in the Plaquemines Parish School System.
- The estimated average median household income (AMHI) for 2006-2008 was \$50,899 in Plaquemines. This compares to an AMHI of \$39,398 in Orleans Parish, \$48,227 in Jefferson Parish, \$40,342 in St. Bernard Parish, and \$48,014 for the New Orleans metropolitan area. See Figure 2.2.
- Various federal anti-poverty programs, such as WIC and Medicaid, are available to those between 125 and 185 percent of the poverty level. According to 2006 poverty levels for the Parish, between 14 and 34 percent of the Parish would be eligible for these programs.

**Figure 2.1: Plaquemines Parish Population, 1960 to 2009**



Source: (1960-2000) U.S. Census Counts; (2001-2005; 2009) Annual Estimates of the Resident Population for Louisiana Counties: July 2000 to July 1, 2009; (2006) 2006 Louisiana Health and Population Survey; (2007-2008) State of Louisiana Office of the State Treasurer.

**Figure 2.2: Plaquemines Parish Household Income Distribution, 2000, 2006 & 2008**



Source: U.S. Census Bureau, Census 2000 & American Community Survey 2006-2008 Estimates; 2006 Louisiana Health and Population Survey.

## 2.3 Coastal Protection and Restoration

**PURPOSE STATEMENT:** (1) The coastal restoration programs in Plaquemines Parish must achieve a balance between adequately protecting the valuable wetland habitats and offering flood protection for the residents of the Parish. (2) The program must be aligned with the Federal and State coastal protection objectives. (3) The implementation goals of the comprehensive coastal restoration program include the establishment of a safe and sustainable coast that will protect the community, the Nation’s critical energy infrastructure, and fragile natural resources, and the promotion of local development interrupted by the 2005 hurricanes.

### Existing Conditions

Unlike other parishes that need levee protection in only some areas, Plaquemines Parish is bordered by levees on all sides. The wetlands surrounding Plaquemines Parish are the natural spawning grounds and nurseries for much of the nation’s desirable seafood. Wetlands provide natural flood control, hurricane protection and water filtration. For the past five decades, an average of 34 square miles of South Louisiana land, mostly marsh, has disappeared each year (USGS), and as much as 80 percent of the nation’s coastal wetland loss occurred in Louisiana.

### Planned Investments

A 12-year Coastal Restoration Plan is currently underway in Plaquemines Parish and involves three phases, see Figure 2.3:

- (1) Phase I is focused on coastal protection for the marsh and parish levees, which begins in 2010 and takes about 2 to 3 years to complete.
- (2) Phase II requires four more years and aims to improve wetland habitats.
- (3) Phase III takes up to 6 years and includes shoreline restoration of barrier islands.

The Parish would need up to \$250 million to install the forested ridges shown in Figure 2.4 along the entire stretch of the parish on both sides of the river, and \$45 million to

begin the first phase of the projects between Venice and Boothville.

The Parish has started implementation discussions for the planned project with appropriate State and Federal agencies.

### PLANNED INVESTMENTS

Currently, there is a budget of over \$700 million of projects in Plaquemines Parish committed to coastal restoration (at various stages):

#### Construction Recently Completed

- Chaland Pass to Grant Bayou Pass Barrier
- Shoreline Restoration and Bay Hoe Wise

#### Under Construction

- East Grand Terre
- Pelican Island and Pass Le Mer to Chaland Pass
- Lake Hermitage Marsh Creation

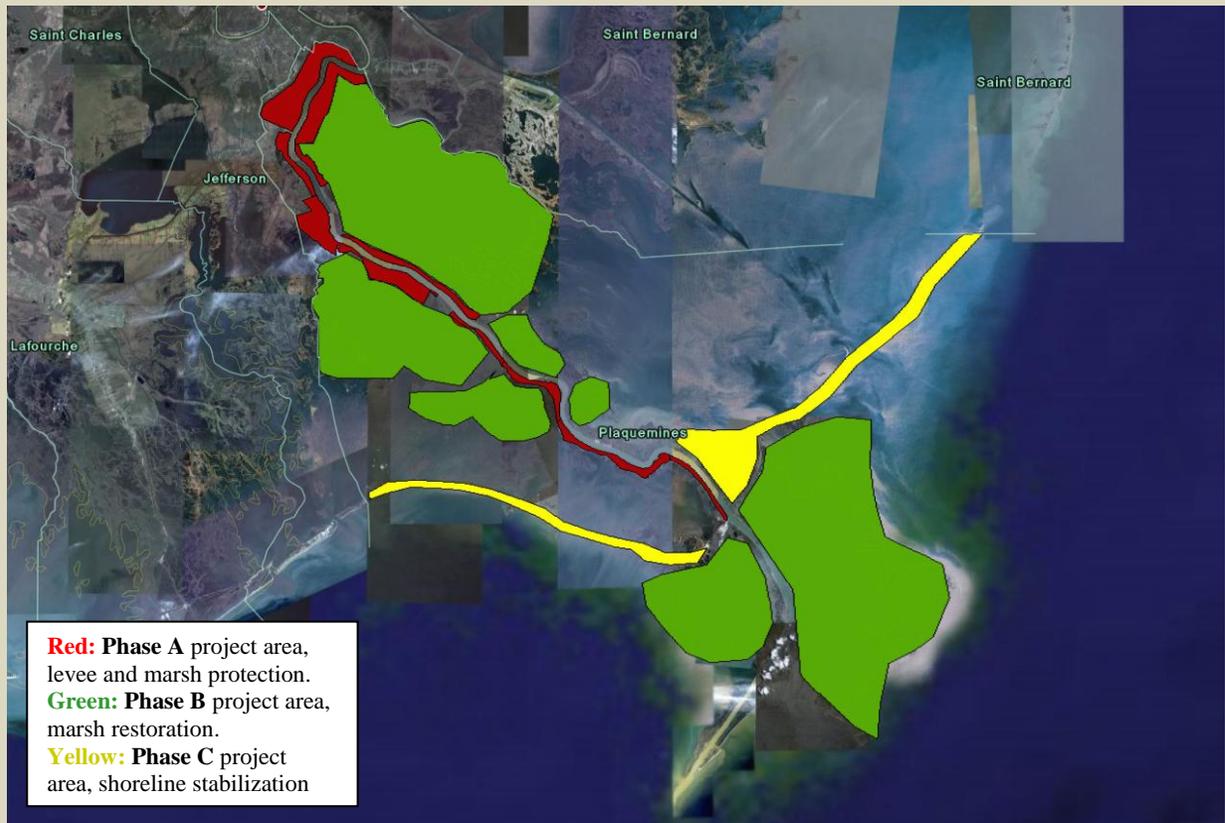
#### In Design

- West Pointe a La Hache Outfall Management
- Bayou Lamoque Floodgate Removal
- Long Distance MS Sediment Pipeline
- Jump Basin Dredging and Marsh Creation
- Scofield Island Restoration
- Bayou Dupont
- Myrtle Grove Modeling Effort
- Fringe Marsh Repair
- Update to Coastal Management Plan
- West Pointe a la Hache Marsh Creation
- Venice Ponds Marsh Creation and Crevasses
- Bohemia MS River Reintroduction Project
- Bertrandville Siphon

#### Feasibility Investigation

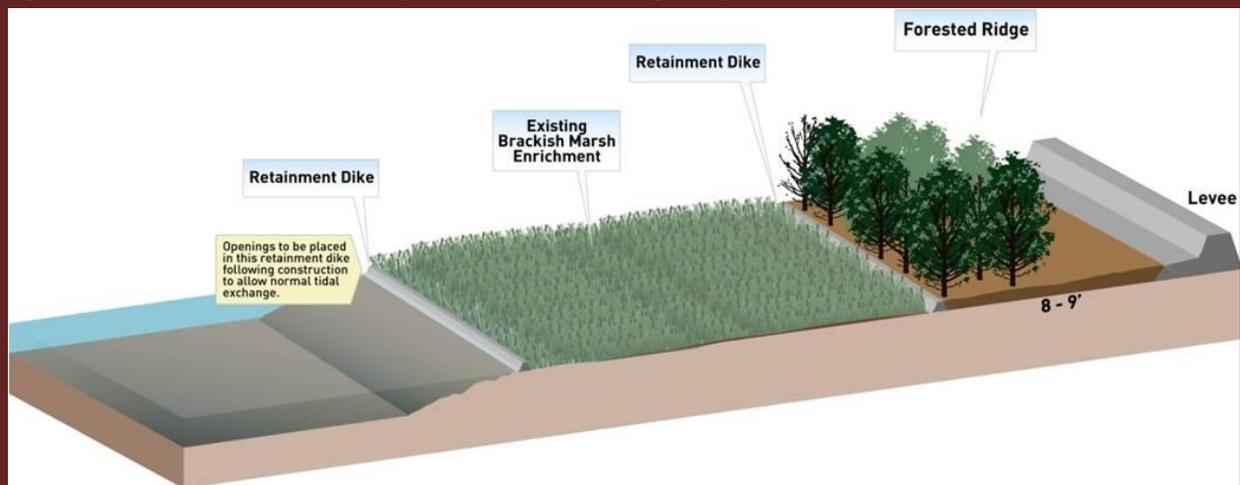
- Fort Jackson Diversion
- LCA Barataria Basin Shoreline
- LCA Diversion at White Ditch
- Mississippi River Delta Management Plan

**Figure 2.3: Proposed Multi-phase Plaquemines Parish Coastal Restoration Projects**



Source: GCR Associates, Inc.

**Figure 2.4: Cross Section of Proposed Forested Ridge Improvements**



Forest ridge improvements result in the reduction of the wave action on top of tidal surge to a level below levee height, helping achieve the 100-year flood protection for the protected area in the Parish.

Source: Plaquemines Parish, "Coastal Restoration in Plaquemines Parish", a PowerPoint presentation given by Bill Nungesser, 2010.

## 2.4 Economic Development

**PURPOSE STATEMENT:** To understand base conditions of the local and regional economy and to identify ways to strengthen and improve the local business environment, employment opportunities, and workforce development.

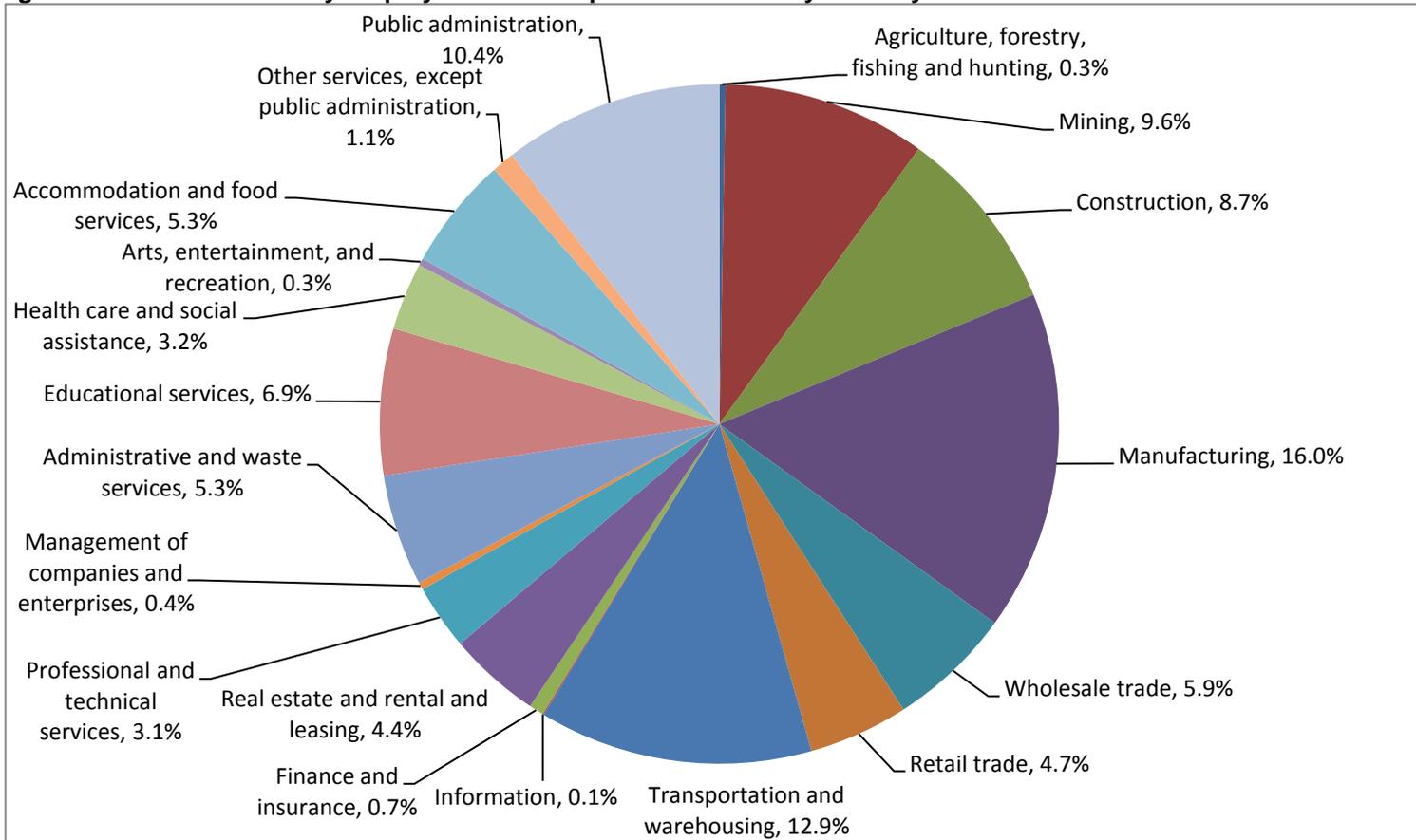
### Existing Conditions

- Plaquemines Parish is part of the metropolitan New Orleans labor market with total wages of \$23.4 billion in 2008.
- The Parish's total 2009 non-military employment was approximately 14,290 – this reflects workers living inside and outside of the parish. See Figure 2.5 for the breakdown of parish employment by industry.
- 64 percent of the Plaquemines workforce is employed in the parish, another 36 percent travels elsewhere to work.
- Plaquemines Parish has a low unemployment rate (those parish residents looking for work but without a job): 5.5 percent in March 2010, compared to 6 percent unemployment for the New Orleans metropolitan area, 6.9 percent for Louisiana, and 10.2 percent for the United States overall. This compares to a 5.8 percent unemployment rate for Plaquemines Parish in March 2009. (Source: U.S. Bureau of Labor Statistics. Local Area Unemployment Statistics.)
- Plaquemines serves as the operational center for offshore oil and gas industry – producing 17 million barrels of oil and 105 million cubic ft. of gas and accounts for ~25 percent of the annual state severance revenues (\$100 million) and annual royalty revenues (\$140 million).
- In 2009, Plaquemines Parish produced 1/3 of the state's oysters, 1/5 of the state's shrimp, and 3/5 of the State's menhaden – with a total fisheries and wildlife gross farm value of \$57 million. Plaquemines produces 62 percent of the State's citrus, including navels, satsumas, and other citrus
- The Mississippi River connects to the Gulf of Mexico in the Plaquemines Parish, creating a unique ecotourism destination and an important commercial route.
- Plaquemines is home to Naval Air Station Joint Army Reserve located in Belle Chasse, which currently maintains a civilian and military staff of 7,100, with expected employment to increase to 9,550 by 2011. The army base contributes over \$600 million dollars to local economy.
- Plaquemines Parish has issued 860 occupational licenses since 2007.
- Since June 2004, the Plaquemines Association of Business & Industry has been representing the interests of companies in Plaquemines Parish.

### Planned Investments

- Port facility expansion near Braithwaite or in central area of the parish.
- Development of a port to increase trade routes from the Panama Canal to the Gulf of Mexico.
- Ecotourism – including Wetlands Discovery Center.
- Investment in Fort Jackson, Fort St. Phillip, and other historic sites to increase tourism impact in region.

**Figure 2.5: 2009 Non-Military Employment\* in Plaquemines Parish by Industry Sector**



Source: Louisiana Workforce Commission. Percentages are based on average monthly employment for the third quarter of 2009. \*Employment reflects jobs covered by the Louisiana Employment and Security Law.

**MAJOR EMPLOYERS**

Education

Belle Chasse Academy

Fisheries & Agriculture

Daybrook Fisheries

Military

Naval Air Station Joint

Reserve Base New

Orleans

Oil, Gas, and

Petrochemicals

ConocoPhillips

Company

Chevron Oronite Co.

Oil and Gas Industry

Support

ART Catering

Fab-Con Inc.

Versatruss Americas LLC

Shipyards & Marine

Support

BJ Services Co.

C & C Services

Transportation,

Warehousing, & Storage

Teco Bulk Terminal

Stolthaven

Waste Management

Environmental

Operators, LLC

Other Services

Industrial Pipe, Inc.

Point Eight Power

Scott Armature LLC

## 2.5 Multi-modal Transportation Systems

**PURPOSE STATEMENT:** The Plaquemines Parish transportation system is diverse. It includes highways and local automobile traffic, rail, aviation, ports, and ferries. The transportation element of the Master Plan will serve to address needs related to daily commutes and hurricane evacuation, in providing dependable, reliable transportation infrastructure to promote economic needs and desirable growth patterns.

### Existing Conditions

The existing transportation network in the parish offers many prospects for system-wide benefits. The parish is served by four major highways, an active freight rail line with up to three trains per day, over 20 airport/civilian aviation/heliport facilities, 20 port terminals and facilities, and two ferry crossings over the Mississippi River. As such, system maintenance, increasing capacity, and access are key considerations in the transportation plan.

- Belle Chasse Highway is the most traveled roadway in the parish with up to 32,000 vehicles per day.
- The Belle Chasse Bridge opens an average of ten times daily for seven minutes at a time for marine traffic. Often times, the bridge openings result in extensive congestion and delay for northbound travelers on Belle Chasse Highway.
- Ferry crossings provide much-needed east-west mobility for not only Plaquemines Parish residents but also commuters from St. Bernard Parish. The ferry at Belle Chasse hauls 50,000 vehicles per month, and the ferry at Pointe a la Hache, 5,000 vehicles per month. The current vessel fleet is underpowered given the strong river currents.

### Planned Investments

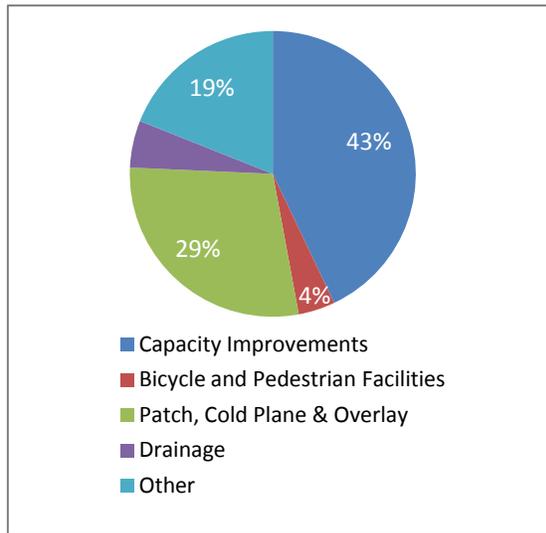
More than \$60 million in transportation infrastructure investments are currently

programmed for Plaquemines Parish. See Figure 2.6. Top priorities include:

- Extend Peters Road in Jefferson Parish south to Belle Chasse Highway in Plaquemines Parish, including a bridge over the Intracoastal Waterway which will provide a bypass around the congested Belle Chasse area, improve access to the Naval Base, and provide a critical link between rail and port facilities. Groundbreaking is scheduled for early 2011.
- Widen Belle Chasse Highway to four lanes between Happy Jack and Port Sulphur - A feasibility study is currently underway for this project, which would relieve congestion on this important roadway.
- Replace Belle Chasse Bridge and Tunnel - An Environmental Assessment will be conducted to evaluate the impacts associated with an upgraded bridge over the Intracoastal Waterway.
- Elevate Belle Chasse Highway near Myrtle Grove to prevent flooding during high tide and large rainfall events.
- Widen and raise Tidewater Road to help offset seasonal street flooding during high tide and other high water events. Construction of Phase 2, from Coast Guard Road to Marina Road, is in the final design phase.

Many of these improvements are depicted in Figure 2.7.

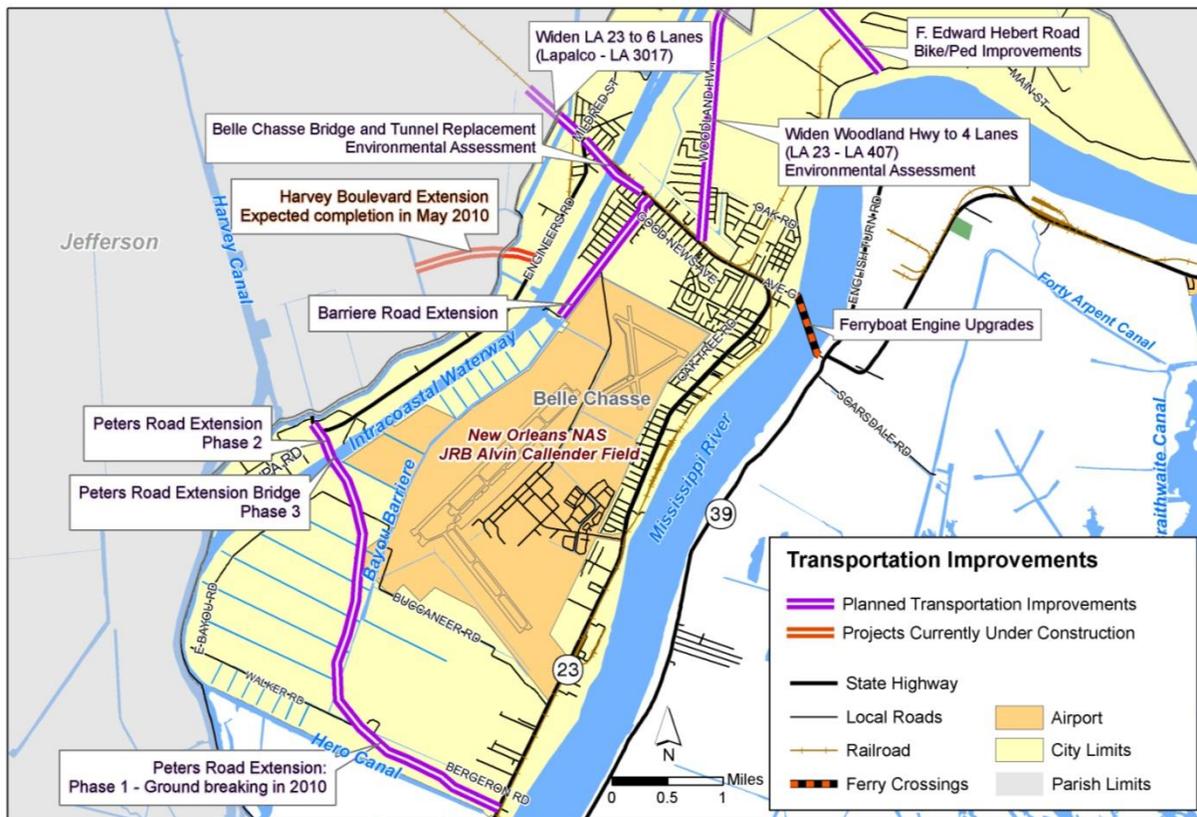
**Figure 2.6: Transportation Improvements Funding Breakdown, FY 2010-2013**



Source: Regional Planning Commission.



**Figure 2.7: Transportation Improvements in Belle Chasse Area**



## 2.6 Water and Wastewater Systems

### Water System

**PURPOSE STATEMENT:** The purpose of this component is to identify opportunities for improving the delivery of safe drinking water within the parish and to coordinate the expansion of programs and facilities with the community's changing needs and settlement patterns.

#### Water System - Existing Conditions

- The Plaquemines Parish water system is operated by Severn Trent Services, an environmental services company who has served the Parish since the mid-1990's. The Water Service Area Map on page 17 highlights water service areas and facilities.
- Potable water is provided to all of Plaquemines Parish by treatment of raw water from the Mississippi River.
- 5 Water Treatment Plants provide treated water:
  - Belle Chasse WTP (7.5 MGD)
  - Port Sulphur WTP (4.0 MGD)
  - Boothville WTP (2 MGD)
  - Dalcour WTP (Braithwaite) (1.0 MGD)
  - Pointe a la Hache WTP (0.5 MGD)
- For periods of saltwater intrusion, raw water reservoirs are maintained at Boothville, Pointe a la Hache and Davant. The Davant Reservoir is currently closed due to salt-water intrusion from recent hurricanes.
- Elevated Storage (Water Tanks) are located throughout the Parish, including:
  - Engineer's Road (Belle Chasse, 500,000 gallons)
  - Cedar Grove (500,000 gallons)
  - Home Place (500,000 gallons)
  - Buras (300,000 gallons)
  - Boothville (500,000 gallons)
  - Pointe a la Hache (100,000 gallons)
  - Braithwaite (500,000 gallons)

- Booster Stations are located at Cedar Grove, Diamond, and Empire.
- Plaquemines Parish operates a total of 8,719 water meters (7,523 residential, 1,100 commercial, and 96 other public). Through split/shared meters, the Parish serves a total of 9,682 customers.
- Many areas of the parish are still served by aging cast-iron water pipes. Water lines on the east bank were being upgraded as funds became available prior to Hurricane Katrina in 2005.
- Plaquemines Parish operates 1,989 fire hydrants.

#### Fire Protection

Two interconnects with the west bank of Jefferson Parish provide potable water to Belle Chasse in times of shortage, but the increased flow and pressure provided by this connection do not present an adequate solution to fire protection flow and pressure shortages. This situation also adversely affects the Parish's fire rating.

The fire rating will not improve until larger lines are in place. The adequate solution for fire protection is to replace the three-inch water lines with appropriate size lines, which will require conducting a comprehensive water distribution model.

If the improved system of larger lines does not adequately deliver the required flow and pressure with the larger size lines, more interconnects with neighboring parishes, strategically located booster stations, and

increased elevated storage capacity could help alleviate the problem and improve the Parish's fire rating.

### **Water System - Completed Investments**

Plaquemines Parish has completed the following investments:

- Lake Hermitage Water Line
- Water line at Naomi (Pelican Place)
- Water line at St. Thomas
- Buras Water Tower & Waterline
- Boothville Water Booster Pumps
- Fire Hydrant Assembly and Waterline Repairs

A new prison facility in the Phoenix area will increase population and place more fire protection and potable water demands on the system.

### **Water System - Planned Investments**

Plaquemines Parish has currently planned the following investments:

- Expansion of the Pointe à la Hache Water Treatment Plant
- Improvements to the Dalcour Water Treatment Plant
- Davant Raw Water Siphon System
- Waterline Extension/Hydrants on Espy Lane
- Waterline Replacement-Braithwaite to Phoenix
- Port Sulphur Water Treatment Plant
- Boothville Water Intake Structure
- Boothville Water Treatment Plant

Braithwaite Elevated Storage Tank



## Wastewater System

**PURPOSE STATEMENT:** The purpose of this component is to identify opportunities for improving the delivery of sewer services within the parish and to coordinate the expansion of programs and facilities with the community's changing needs and settlement patterns.

### Wastewater System - Existing Conditions

- Sewer and wastewater collection system and plants are currently operated by Severn Trent Services (STS), an environmental services company who has served the Parish since the mid-1990s. The Sewer Service Area Map on page 18 highlights service areas and related facilities.
- Plaquemines Parish operates a combination of gravity and low-pressure sewer systems.
- Plaquemines Parish, through STS, operates five Wastewater Treatment Plants (WWTP):
  - Belle Chasse WWTP (3.0 MGD)
  - Port Sulphur WWTP (1.0 MGD)
  - Buras WWTP (2.5 MGD)
  - Boothville WWTP (0.5 MGD)
  - Davant WWTP (0.2 MGD)
- Three **package plants** are operated at Braithwaite, Woodlawn, and the Parish Health Unit.
- Privately operated sewer treatment systems exist in various areas of parish.
- By permit, the Parish Sewer System can only accept domestic wastewater. The Parish is not permitted to treat industrial wastewater.
- Plaquemines Parish Sewer System treats wastewater (by agreement) from the Joint Reserve Base Naval Air Station New Orleans.

- Plaquemines Parish operates 135 sewer lift stations. Approximately 100 were inundated and damaged by Hurricane Katrina. Those 100 are in various stages of repair. Parish lift stations are inspected regularly and repaired as needed.
- The Parish currently maintains an active **Inflow and Infiltration (I&I)** abatement program to reduce loads on treatment facilities. This program includes cured in place pipe (CIPP), capping of open services, and corrective actions related to **cross connections**.

### Wastewater System - Recent Investments

Plaquemines Parish has completed the following investments:

- Harlem Sewer Project (August 2008)
- Davant Oxidation Pond (September 2009)
- Happy Jack Sewer Lines (October 2009)
- Buras WWTP Phases I and II (November 2009)
- Buras WWTP Electrical and Mechanical Repairs (October 2008)
- Boothville Sewer Lift Station

### Wastewater System - Planned Investments

Plaquemines Parish has planned the following investments:

- Rehabilitation of East Bank Sewer Lift Stations
- Rehabilitation of Braithwaite Sewer Treatment Plant
- P-1 Lift Station Replacement

- Re-routing of Lift Station No. 4 Force Main (July 2010)
- Belle Chasse WWTP Rehabilitation (December 2011)
- Port Sulphur WWTP Rehabilitation (October 2010)
- Port Sulphur Lift Stations and Ironton Pond Improvements (December 2010)
- Buras Lift Stations
- Boothville WWTP Rehabilitation (October 2010)
- Bourgeois Lane to Venice Sewer Line
- Repairs to Sewer Lift Stations 4, 7, & 8
- Sewer Plant Upgrades-Davant and Ironton



## RECENT INVESTMENTS

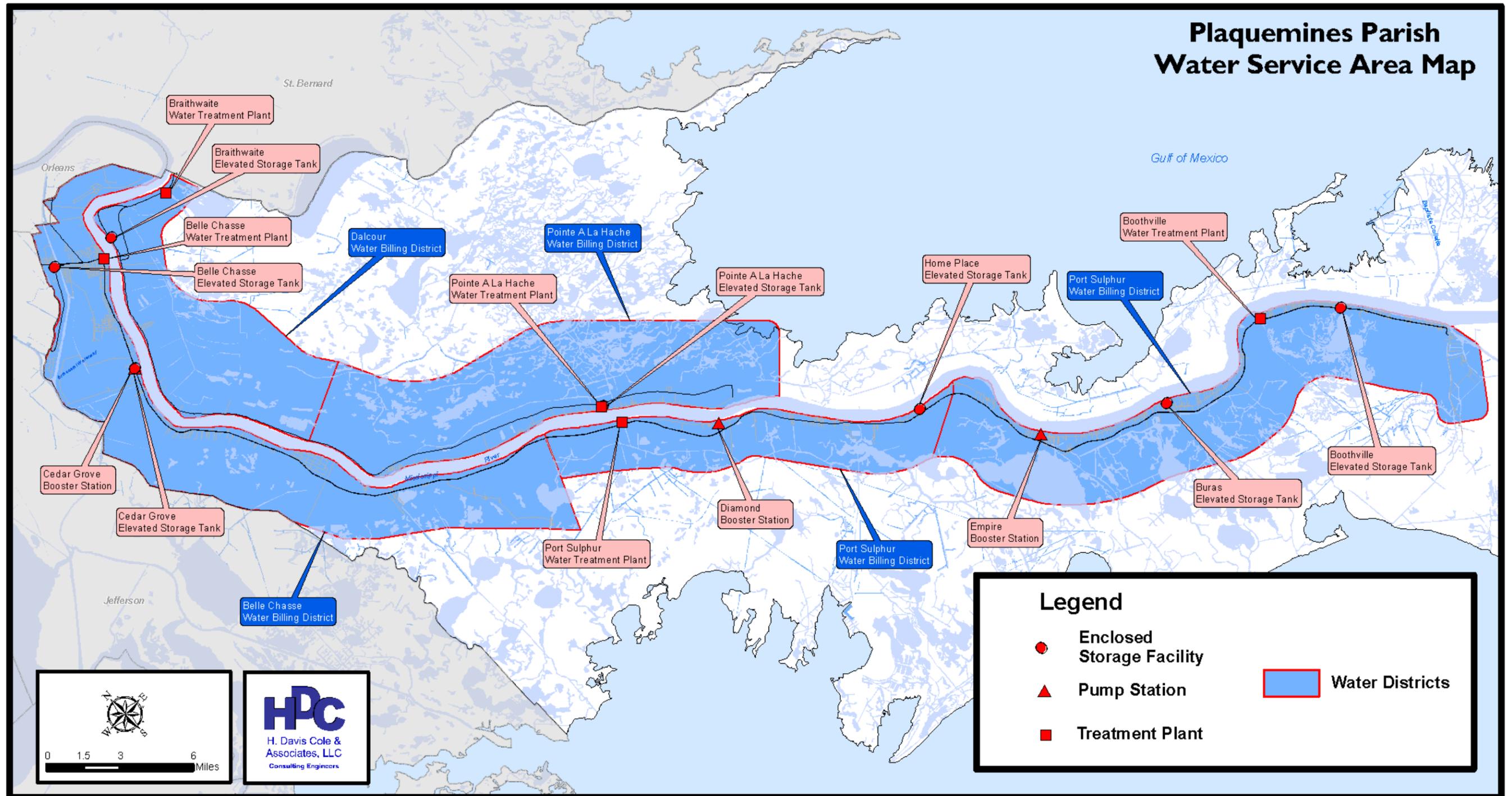
Plaquemines Parish has completed the following investments:

- Harlem Sewer Project (August 2008)
- Davant Oxidation Pond (September 2009)
- Happy Jack Sewer Lines (October 2009)
- Buras WWTP Phases I and II (November 2009)
- Buras WWTP Electrical and Mechanical Repairs (October 2008)
- Boothville Sewer Lift Station

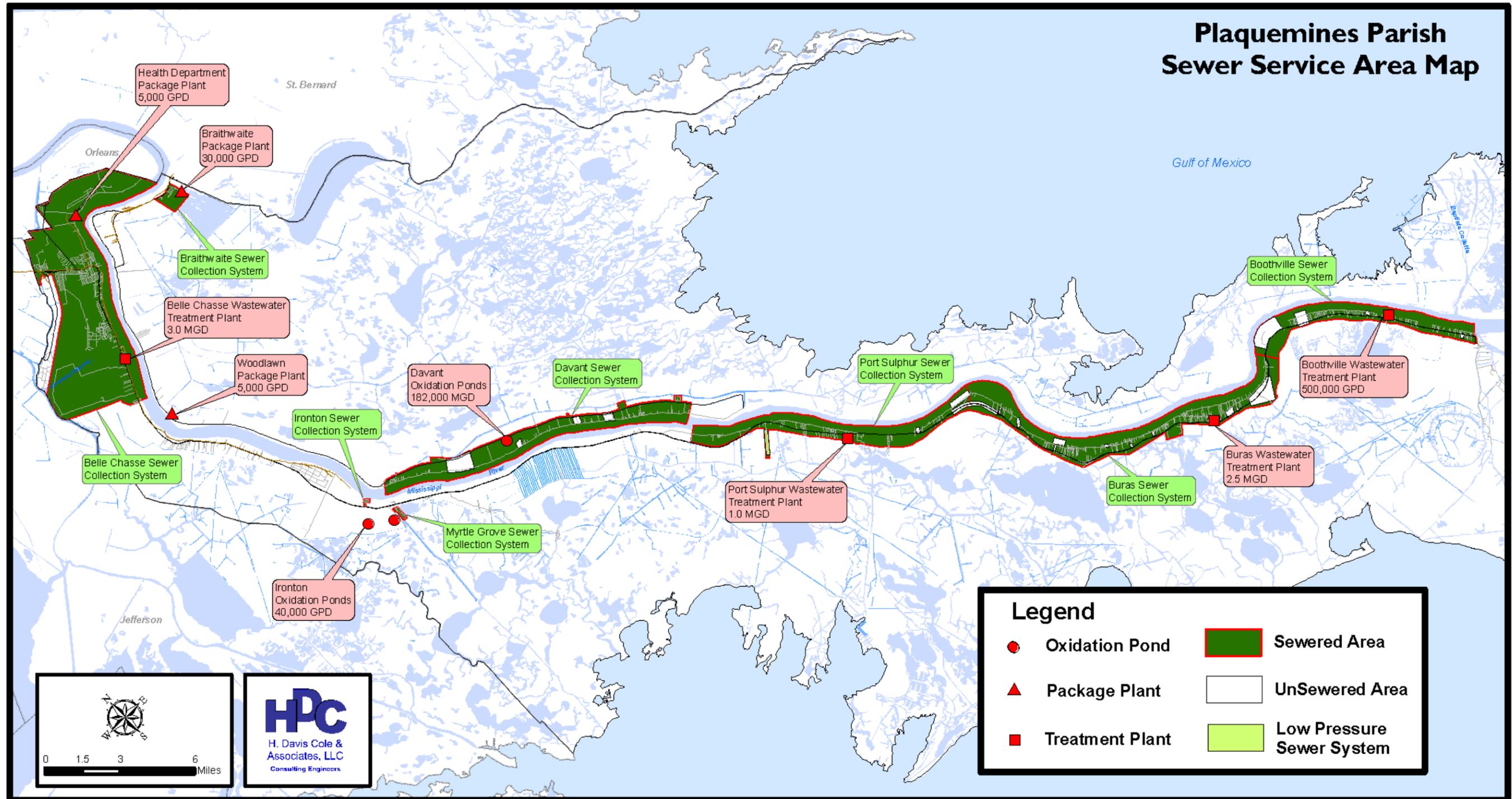
## PLANNED INVESTMENTS

Plaquemines Parish has planned the following investments:

- Rehabilitation of East Bank Sewer Lift Stations
- Rehabilitation of Braithwaite Sewer Treatment Plant
- P-1 Lift Station Replacement
- Re-routing of Lift Station No. 4 Force Main (July 2010)
- Belle Chasse WWTP Rehabilitation (December 2011)
- Port Sulphur WWTP Rehabilitation (October 2010)
- Port Sulphur Lift Stations and Ironton Pond Improvements (December 2010)
- Buras Lift Stations
- Boothville WWTP Rehabilitation (October 2010)
- Bourgeois Lane to Venice Sewer Line
- Repairs to Sewer Lift Stations 4, 7, & 8
- Sewer Plant Upgrades-Davant and Ironton



08/26/2010



08/26/2010

## 2.7 Drainage and Stormwater Management Facilities

**PURPOSE STATEMENT:** (1) To develop a comprehensive understanding of the drainage issues and flood control capacity; (2) With consideration of the planned drainage improvement projects, to determine if the resulting flood control capacity meets the long term needs of the Parish, and (3) To establish a long-range flood control strategy.

### Existing Conditions

#### *Drainage System*

Flooding in the low-lying areas of Plaquemines Parish can be attributed to a variety of sources including the following: intense rainfall, high tides in the Gulf of Mexico, hurricanes, and tropical storms. In the northern portion of the parish, including Belle Chasse, the predominant flooding source is rainfall runoff, which cannot be discharged by the pumping facilities expeditiously. For the areas in the southern portion, the greater flood threat is due to storm surge inundation resulting from hurricanes or other disturbances in the Gulf.

The drainage system in Plaquemines Parish is operated and maintained by the Parish Drainage Department. It primarily consists of drainage canals and ditches: drainage pipes in urban developed areas and 21 drainage pumping stations. The drainage areas are typically bounded by Mississippi River levees on the river side and hurricane protection levee on the Gulf side. Drainage pump stations play a critical role in flood protection.

#### *Levees*

Within Plaquemines Parish, most levees are owned by the U.S. Army Corps of Engineers (USACE) [referred to as federal levees] or Plaquemines Parish [referred to as non-federal levees or back levees]. The levees along the Mississippi River are owned by

the USACE, and they function to retain the high waters in the Mississippi River. The levee system maintained by USACE protects less than 4 percent of the land mass in Plaquemines Parish.

Back levees were constructed to protect storm surge from the Gulf, and they provide flood protection from hurricanes and other tropical disturbances. There are 12 levee systems in Plaquemines Parish. Each levee system provides protection to a drainage district. The levee system will also contain drainage pump stations. The 12 levee systems are listed in the inventory in Table 2.1. Sub-basin locations are shown in Figure 2.8.

#### *Subsidence*

It is widely believed that coastal Louisiana sinks at a rate between 0.04 inches and 0.3 inches per year as a collective result of sediment deposition from Mississippi River to the deltaic coast, compaction and oxidation of sediments, oil and water pumping activities, and sea level rise due to climate change.

### Planned Investments

- Following Hurricane Katrina, all 21 pump stations underwent at least minor repairs. Eight pump stations underwent major repairs, which involved rebuilding and replacing key components of the pumps. These eight pump stations are Diamond, Hayes, Gainard Woods #2, Sunrise #2,

Scarsdale #2, Scarsdale, Bellevue, East and West Pointe a la Hache.

- Five Plaquemines Parish drainage pump stations are being rebuilt to comply with the Advisory Base Flood Elevation (ABFE) standards, see Table 2.2, using 2009 funding assistance provided by the Federal Emergency Management Agency (FEMA). This \$46.5 million investment will add new pump capacity. The pump station investments include: \$7.6 million for Triumph Drainage Pump Station (Upper), \$8.0 million for Braithwaite Drainage Pump Station, \$7.7 million to the Belair Drainage Pump Station, \$7.4 million to the Sunrise #1 Drainage Pump Station, and \$15.8 million to the Gainard Woods #1 Drainage Pump Station. FEMA also provided \$6.5 million for installation of 17 temporary pumps throughout Plaquemines Parish.
- The USACE is currently inspecting all of the levees that are owned by the USACE. The purpose of these inspections is to cite any deficiencies and to prioritize possible repair/improvement projects. The results of these inspections will likely be published in 2011.
- The on-going, USACE’s B-2 Levee improvement is scheduled to completed by December 2011.

**Table 2.1: Inventory of Levee Systems  
Plaquemines Parish**

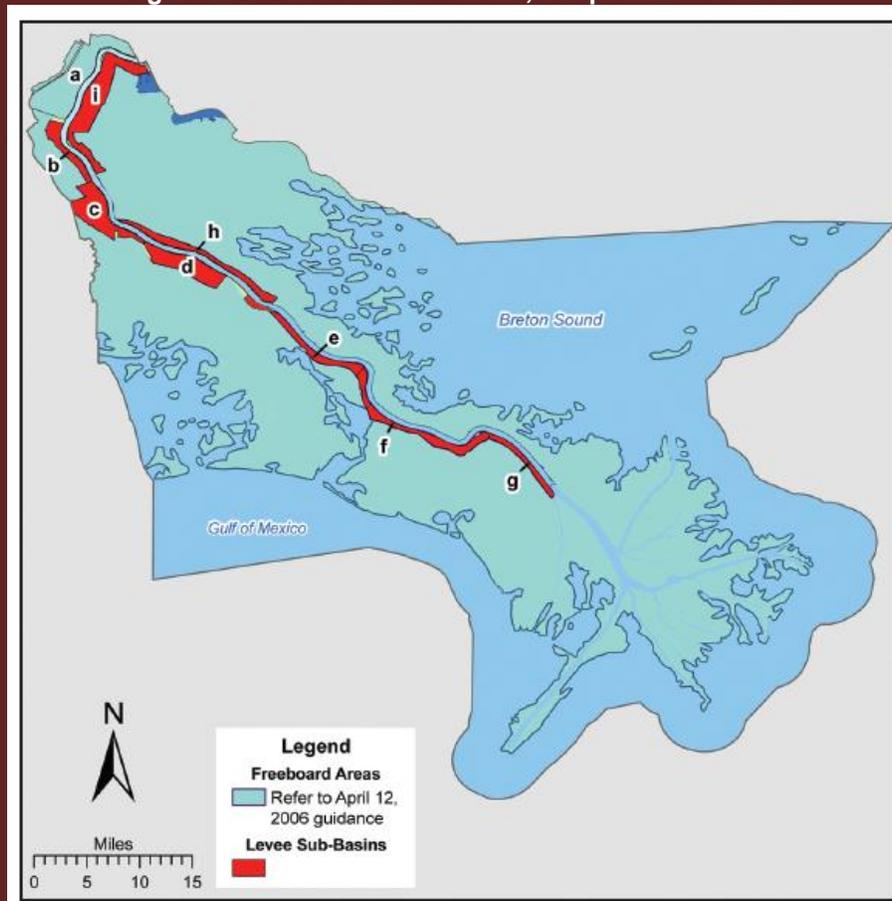
Drainage District	Existing Levee Grade	Authorized Levee Grade	Miles of Levee
<b>West Bank</b>			
Belle Chasse	10'	14'	28.16
Ollie	7.4'	11.5'	12.34
West Pointe a la Hache	9'	11.5'-12'	2.22
Diamond	7'-11'	12.6'-13'	5.11
Hayes	12.7'	13'-15'	11.75
Gainard Woods	13'	13'-15'	17.58
Sunrise	11'-15'	15.5'	8.94
Grand DeLiard	11.5'	15.5'	12.54
Duvic	14'	15.5'-16.5'	16.06
<b>East Bank</b>			
Braithwaite	9.2'	11.5'	2.96
Scarsdale	9.4'	11.5'	31.23
East Pointe a la Hache	14.1'	17.5'	29.64



**Table 2.2: Updated Advisory Base Flood Elevation Guidelines, Plaquemines Parish**

Parish ABFE Levee Sub-Basin Identification Code	USACE Levee Polder Name	FEMA ABFE Based on USACE SWELs (in feet, NAVD88)
a	Belle Chasse	Refer to April 12, 2006 guidance
b	Plaquemines, Non-Federal, Area 6 West	8 feet
c	Plaquemines, Non-Federal, Area 5 West	9 feet
d	Plaquemines, Non-Federal, Area 4 West	10 feet
e	Plaquemines West Bank, Reach A	12 feet
f	Plaquemines West Bank, Reach B-1	11 feet
g	Plaquemines West Bank, Reach B-2	11 feet
h	Plaquemines East Bank, Reach C	16 feet
i	N/A (non-USACE levee polder on east bank)	18 feet

**Figure 2.8: Sub-basin Locations, Plaquemines Parish**



Source: Federal Emergency Management Agency (FEMA), USACE.

## 2.8 Public Facilities and Services

**PURPOSE STATEMENT:** The destruction caused by Hurricanes Katrina, Rita, and Gustav severely damaged many parish government and community service facilities. The purpose of this component is to identify opportunities for improving the delivery of services within the parish and to coordinate the expansion of programs and facilities with the community's changing needs and settlement patterns.

### Existing Conditions

#### **Public Safety**

- Law enforcement in Plaquemines Parish is provided by the Sheriff's Office. Plaquemines is under 24-hour patrol by the criminal division. All patrol vehicles are radio equipped to maintain constant contact with headquarters in Port Sulphur. The Sheriff's Office also maintains a Marine Search and Rescue Division consisting of a fleet of boats that patrol the parish's recreational and commercial waterways. This division works closely with the US Coast Guard and LA Department of Wildlife and Fisheries.
- In addition to traditional services provided by a law enforcement agency the Sheriff's Office is responsible for the collection of property taxes, serving court orders, subpoenas, and performing civil seizures for the courts.
- The Sheriff's Office has three patrol districts: 1<sup>st</sup> District (Belle Chasse south to Myrtle Grove); 2<sup>nd</sup> District (Myrtle Grove south to Venice); and 3<sup>rd</sup> District (entire east bank). Three captains command these districts. They are assisted by 58 deputies. (*Plaquemines Parish Sheriff's Office Website*. <[www.ppsso.net](http://www.ppsso.net)> June 2010.)

#### **Fire Protection**

- Plaquemines Parish is divided into 7 fire districts with a network of 12 fire stations serving the parish.
- Until recently this system was staffed entirely by volunteer fire fighters; however, the one percent Parish sales tax increase established in January is dedicated to funding a paid fire fighter system.
- In early 2010, the Parish ordered nine new fire fighting vehicles for five of the seven fire districts: Point a La Hache, Woodlawn, Port Sulphur, Buras and Boothville-Venice. The three commercial mini pumpers, three commercial pumpers, one commercial air support van, a 77-foot ladder truck, and commercial hose tender are scheduled to arrive between April and August, 2010.
- The O'Brien (Empire), Braithwaite, Phoenix, and Lake Hermitage fire stations were completed in 2009 and four new fire stations are scheduled to open this year: Buras (February), Port Sulphur (March), Boothville-Venice (April) and Point a La Hache (Summer). (*Plaquemines Parish Press Release, "Plaquemines Parish orders nine new fire trucks" January 29, 2010.*)

#### **Parish Government Offices**

Pointe a la Hache has been the seat of government in Plaquemines since the formation of the Parish. On January 12, 2002 the Parish courthouse there was

severely damaged by arson. Since then, the Parish government has used several temporary buildings in Belle Chasse.

- The Parish maintains approximately 139 buildings located throughout the parish ranging from pump stations to Council offices. Hurricane Katrina damaged or destroyed many of these structures, the list of capital improvement projects included here (see Table 2.3) provides an update on the status of their rebuilding and repair.

**Healthcare Services**

- Before the 2005 Hurricane Season, Plaquemines residents could receive medical care and health services at the Plaquemines Medical Center Hospital and the Medical Human Resources Annex building. Both facilities were destroyed during the storm. As of last fall, FEMA had agreed to allow funding previously provided for the replacement of each of the two destroyed medical buildings to be consolidated into one grant with that will fund the construction of a new, three-story medical facility in Port Sulphur. Construction of the new facility began in February 2010. (*LRA, Recovery News release, September 15, 2009*).

**Schools**

- There are currently seven public schools in the parish. After Hurricane Katrina, the three flooded high schools on the West Bank (Boothville-Venice, Port Sulfur and Phoenix) were permanently consolidated into the new South Plaquemines High

School located at the site of Buras High School.

- Phoenix High School is the only school on the East Bank. It services students in Pre-K through 12th grade.
- Pre-Katrina public school enrollment was 4,975.
- Public school enrollment (Fall 2009) was 3,851. Belle Chasse Academy (private school) enrollment was approximately 850 (Fall 2009). See Table 2.4.

**Table 2.4: Fall 2009 School Enrollment, Plaquemines Parish**

School	Enrollment
Belle Chasse High School	893
Belle Chasse Middle School	678
Belle Chasse Primary School	1070
Boothville-Venice Elementary School	392
Phoenix High School	191
South Plaquemines Elementary School	262
South Plaquemines High School	365
<b>TOTAL</b>	<b>3851</b>

**Libraries**

- There are three library facilities in the parish: Belle Chasse, Buras and Port Sulphur. The Buras and Port Sulphur libraries were destroyed by Hurricane Katrina, with the Belle Chasse library also sustaining damage. The Buras library has been rebuilt, with a new 8,900 sq. ft. facility. Reconstruction of the Port Sulphur library has been delayed as an alternate site is considered; however, the

**Table 2.3: Capital Improvements****Completed Improvements**

Edna LaFrance Building, Braithwaite Parish Offices - Completed 2008  
 Lake Hermitage Fire House - Completed 2009  
 O'Brien Fire House - Completed 2009  
 Phoenix Fire Substation - Completed 2009  
 Popich Building Elevator Repairs, Belle Chasse Parish Office - Completed 2010  
 Buras Auditorium Repairs - Completed April 2010  
 District 8 Council Building - Completed April 2010

**Under Construction**

Animal Control Renovations  
 Diamond Community Center, Empire Civic Center Repairs and Port Sulphur Council on Aging  
 Boothville-Venice Fire Station - Expected completion summer 2010  
 Buras Community Center - Expected Completion May 2010  
 Buras Library Repairs - Expected Completion: June 2010  
 Buras Fire Station Repairs - Expected Completion May 2010  
 (Rev. Percy M. Griffin) Davant Community Center, Magnolia Center and District Council Office -  
 Expected completion April or May 2010  
 Pointe a la Hache Fire Station - Expected completion summer 2010  
 Port Sulphur Civic Center Repairs  
 Port Sulphur Medical Center  
 Port Sulphur Government Building  
 Domestic Violence Office & Port Sulphur Lockup  
 Boothville-Venice Senior Center, Venice Community Center and District 9 Council Office  
 Public Right of Way Maintenance Building PROM

**On Hold**

Braithwaite Auditorium - Pending Woodlawn Building Acquisition  
 Port Sulphur Library - Pending relocation decision  
 Port Sulphur Fire Station/EMS - Delayed due to cold weather  
 Parish Welcome Center  
 Buras Library Parking

**Unscheduled/Pending Funds**

Renovation/Repair - Woodlawn Fire Station  
 Parish Welcome Center  
 Pointe a la Hache Old School Board Building  
 District 1 Council Building  
 Woodlawn Building Acquisition and Renovations  
 New Government Complex  
 Courthouse Renovations  
 Acquisition of Building – Special Needs Citizens  
 Emergency Operations Center  
 Sheriff's Office Building Complex  
 Belle Chasse Fire Station Renovation/Repair  
 New Parish Courthouse  
 Empire Maintenance Building Repairs

- temporary library located in a trailer continues to operate. Additionally, a large, fully equipped bookmobile was purchased by the Gulf Coast Libraries Project to serve as a replacement. This library provides weekly service to Buras, Port Sulphur, Boothville, Woodlawn (East Bank), Ironton, and Jesuit Bend.
- A needs assessment for a new Belle Chasse library was completed in September 2009 and recommends razing the current library building and constructing a new state-of-the-art facility to serve as the headquarters of the Plaquemines Parish Library System.
- After an initial post-Katrina drop in circulation, library usage is rebounding. In 2007 the circulation was 16,789; however, this grew to 25,179 in 2008 when the temporary Port Sulphur location was opened.

### ***Community Centers***

- Pre-Katrina there were ten community service facilities in Plaquemines.
- In 2008, FEMA approved the Parish's plan to consolidate these facilities into four new community centers located in Port Sulphur, Boothville, Buras, and Davant. These new centers are being provided through partnerships between the Plaquemines Parish Council, FEMA, LRA, United Way, YMCA, and local businesses.

### ***Solid Waste***

- The Parish operates three solid waste transfer / collection facilities located in Belle Chasse, Port Sulphur, and Boothville.
- The Parish provides curbside residential solid waste collection service for citizens and utilizes the transfer stations for staging prior to transport to landfill facilities.
- The Parish provides residential collection services for yard waste and debris.
- The landfill facilities currently disposing of waste from Plaquemines Parish include Coast Guard Road Landfill for MSW and Industrial Pipe Landfill for C&D waste.
- The transfer/collection facilities provide recycling containers for various items. The Parish also provides recycle drop-off bins for paper, plastics, and other recyclables.

*(below)* Public library in Belle Chasse



## 2.9 Parks and Recreation Facilities and Services

**PURPOSE STATEMENT:** Plaquemines Parish has an on-going demand for recreation programming and a growing need to expand and improve existing parks and recreational facilities. The purpose of this component is to identify opportunities and strengths and coordinate the expansion of programs and facilities with the needs of the community.

### Existing Conditions

- Fifteen Parish park sites, including sports fields, community centers, and playgrounds, totaling approximately 400 acres
- Organized programs include football, basketball, baseball, and softball
- Plaquemines Parish has a partnership with the Naval Air Station for soccer facilities
- Existing park facilities in need of repair and maintenance programs
- Linear nature of parish and limited access between east and west banks impacts connectivity of recreational facilities
- Park facilities are not equally accessible to residents from every community due to the unique geography of the Parish.
- Shortage of suitable land for future facility development

Table 2.5 shows an inventory of existing recreation facilities in Plaquemines Parish.

Football	2	Fields
Basketball	2	Courts
Baseball/Softball	19	Fields
Soccer**	0	Fields
Tennis	10	Courts
Multipurpose	1	Field
Playgrounds	3	
Walking	4	Trails
Nature Trail	13	Miles
Pool	1	
Historic/Monument	3	Sites

*\*Inventory based on interviews and GIS data.  
\*\*Soccer facilities shared with Military Base.*

### Planned Investments

- Additional gymnasium space
- Expansion of existing parks and acquisition of land for new parks
- Expansion of programming to include adult and senior citizen program activities
- New playgrounds; new skatepark
- Needs assessment for recreation facilities
- Lower Mississippi Wetlands Discovery Center
- Develop regulation sports complex near military base

Table 2.6 shows the recreational needs of a community with the population size of Plaquemines Parish according to national standards for open space, recreation, and facilities.

Open Space:	131-220	Acres
Football:	1.0	Field
Ball Fields:	4.2	Fields
Tennis:	10.5	Courts
Basketball:	4.2	Courts

## 2.10 Existing Land Use

**PURPOSE STATEMENT:** To determine current land use patterns in Plaquemines Parish in order to identify areas that should be preserved, those in need of revitalization and those appropriate for development in order to determine appropriate strategies for land use and development for the future.

### Existing Conditions

The largest and southernmost parish in Louisiana, Plaquemines Parish is a peninsula that covers some 90 miles south of New Orleans which is bisected by the Mississippi River. Despite the large size, very little of the parish is actually dry land (5 percent) most of it is water or low-lying wetlands. See Table 2.6.

<i>Land Classification</i>	<i>Acres</i>	<i>% of Parish</i>
Developed	72,613	5%
Undeveloped	430,616	28%
Water	1,025,079	67%
<b>Total</b>	<b>1,528,308</b>	<b>100%</b>

Data Sources: LRA 5/1/07 Land Use Data for S. LA and NORPC

Although not “developable” by conventional standards, the wetlands and water areas of the parish are arguably the most used areas of the parish. The Plaquemines Parish economy is heavily dependent on the oil and gas industries and marine fisheries. Large oil and natural gas reserves are located in the coastal waters surrounding the parish. The warm Gulf waters and extensive estuary systems in the parish support the aquaculture industry; Plaquemines is ranked fourth nationally in volume of annual fish and shellfish harvests. Additionally, the vast marshlands and the

excellent sport fishing available fuel the Parish’s tourism industry.

Due to its unique geography, the majority of the areas suitable for development within the parish lie in the two thin strips of dry land located within the levee system on either side of the river. Hurricanes have destroyed or significantly damaged the majority of structures south of Belle Chasse.

Rebuilding began almost immediately and many residents have used the Road Home program to finance residential rebuilding while the Parish government has been successful in leveraging federal funds to re-establish community facilities and services.

### Land Development

Development in Plaquemines Parish is overseen by the Parish Permitting Department which administers a number of Parish ordinances. The Plaquemines Parish Zoning Ordinance controls the uses and densities of various land uses throughout the Parish, the Subdivision Regulations that provide oversight for the division of parcels and development of new (residential) subdivisions and communities and the Coastal Zone Management and Floodplain Development Regulations that control development and economic activity in these sensitive environmental areas. The Parish is divided into 20 zoning districts. Table 2.7 shows the classification of developed land in the parish.

**Table 2.7: Developed Areas - Land Use Analysis**

Land Use	Acres	% of Developed Area
Industrial	10,206	14.06%
Transport - Communication	500	0.69%
Residential	9,574	13.19%
Forest	7,836	10.79%
Commercial	924	1.27%
Agricultural	39,926	54.98%
Civic or Institutional	2,895	3.99%
Parks or Open Space	752	1.04%
<b>Total</b>	<b>72,613</b>	<b>100%</b>

Data Sources: LRA 5/1/07 Land Use Data for S. LA and NORPC



Rural Residential Development



Civic/Institutional Uses

**Land use in the parish falls into a number of categories.**

**Industrial:** The Parish’s natural resources coupled with its location at the mouth of one of the world’s most important waterways for the transport of goods and materials has led to significant industrial land development throughout the Plaquemines.

**Agricultural:** Activities in these areas include livestock pastures, citrus groves, and areas with logging or mining activity. These areas are located between the many small communities along the east bank and south of Belle Chasse on the west bank.

**Residential:** Residential land uses include households living in single and multi-family structures as well as institutional living arrangements including nursing homes, correctional institutes, college dormitories, etc. The largest concentration of residential land use is in the Belle Chasse area. Current estimates show 8,701 housing units in Plaquemines<sup>1</sup>, of these approximately 6,807 (78 percent) are occupied: 4,635 (68 percent) owner occupied and the remaining 32 percent (2,172) rental properties<sup>1</sup>. (<sup>1</sup> U.S. Census Bureau, 2006-2008 American Community Survey, 3-year Estimates.)

**Commercial:** Commercial land uses encompass retail and service establishments. These land uses are mostly located in Belle Chasse, although there is some commercial activity in Braithwaite on the east bank. The rural development pattern and unique geography of the Parish create challenges for delivering goods and services to residents in the southern end of the parish due to high costs of transport and comparatively low-demand.

**Transportation and Communications:** This category contains a variety of uses including cell towers, airports, road right-of-ways for major roads, and ferry landings.

**Civic/Institutional:** The land use category includes public and semi-public land uses such as schools, medical facilities, government offices, churches and community centers. The largest civic/institutional land use in Plaquemines is the Naval Air Station Joint Reserve Base located in Belle Chasse. The highest concentration of civic/institutional land use is in Belle Chasse; however there are Parish government offices, community centers, schools, and churches spread throughout the Parish.

**Parks and Open Space:** A little over one percent of the developed area of the parish is comprised of parks and open space. This category includes areas such the Cypress, Oakville and Diamond parks as well as Ft. Jackson and Ft. Saint Phillip. A number of the Parish’s recreation facilities sustained damage from Hurricane Katrina and steady progress has been made in repairing and rebuilding affected facilities as well as expanding facilities and adding new ones to better serve the community.

## 2.11 Government Structure

**PURPOSE STATEMENT:** To examine the current structure of Plaquemines Parish Government's organization, budget, and finances in order to improve its effectiveness and prepare for future needs of a growing population and economic base.

### Existing Conditions

Plaquemines Parish has a relatively small population (22nd smallest parish population in Louisiana) and the largest combined land and water area in Louisiana. It is located on a long, narrow peninsula that is divided by the Mississippi River and levees, making two separate slivers of land to be serviced—the west bank and east bank. Parts of the Parish are only accessible by a circuitous road system and two ferries that are 20 miles apart. Except for Belle Chasse, most Parish residents are remote from supply chains and service centers. The population lives at very low density that is expensive to serve. A number of specialized services are provided – levees, diversions, coastal restoration, mosquito control, ferries, ports, oil and gas mineral rights, boat harbors and marinas, oyster conveyors, etc. These conditions make government structure and finance more difficult.

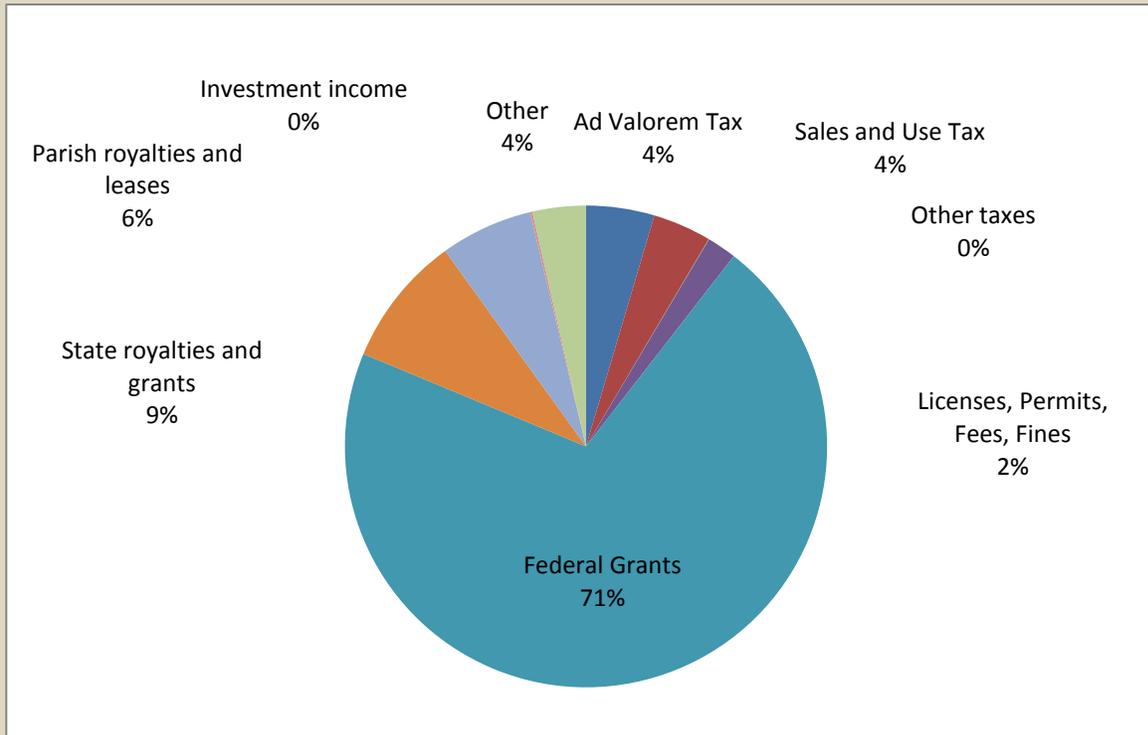
The finances of Plaquemines Parish are heavily reliant on property taxes, sales taxes, federal grants and oil and gas royalties to support government operations. Of the total government revenues in 2009, federal grants provided the largest share, 70.8 percent; state grants, with state oil and gas royalties provided 8.8 percent; Parish oil and gas royalties and other property leases provided 6.2 percent. More traditional sources of revenue such as Ad Valorem (property) tax, sales and use taxes, licenses and fees, investment income and other revenues provided the remaining 14.2 percent. See Figure 2.9.

Figure 2.10 shows the changing distribution of Parish revenues each year from 2006 to 2009. Clearly federal grants are a dominant factor and federal grants grew sharply since Hurricanes Katrina, Rita, and Gustav battered the Parish. State funds and oil and gas royalties are also very large annual contributors and grew substantially during the 2006-2008 timeframe.

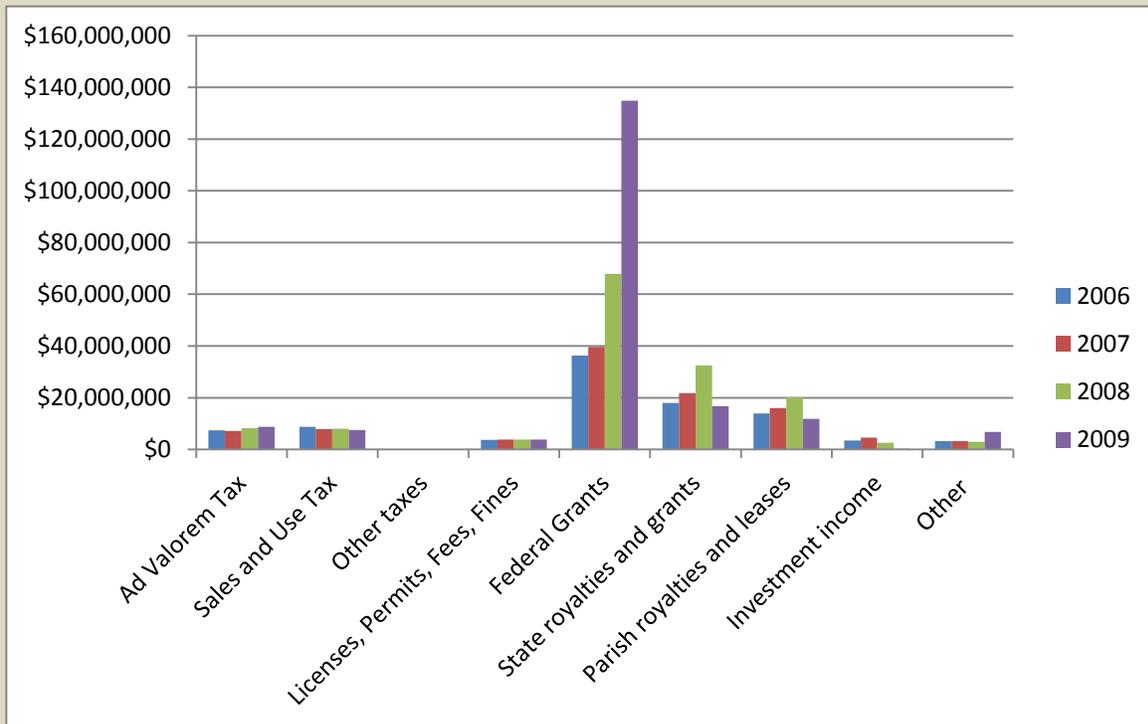
Oil and Gas revenues and sales taxes are can be volatile, varying with fluctuations in the economy. In order to minimize the impact of fluctuations in the oil and gas market, the Parish dedicates portions of the oil and gas revenues each year to a fund balance designated to bonded indebtedness. The fund accumulates the oil and gas revenue received that exceeds established price levels, to be set aside and used for payment of bonded debt in years when oil and gas revenues are low. The fund has a cap of \$10 million.

Figure 2.11 shows the distribution of Parish expenditures by category in 2009. The largest major expense category is Public Works, which constituted 82 percent of Plaquemines Government expenses in 2009 because of post-Katrina reconstruction financed largely by federal funds. Figure 2.12 shows how Parish Governmental Funds expenses have changed during the past four years. Public Works has usually been a smaller share of total expenses (about 25 percent in 2007). Overall, the Parish's total Government Fund expenditures grew from around \$83 million

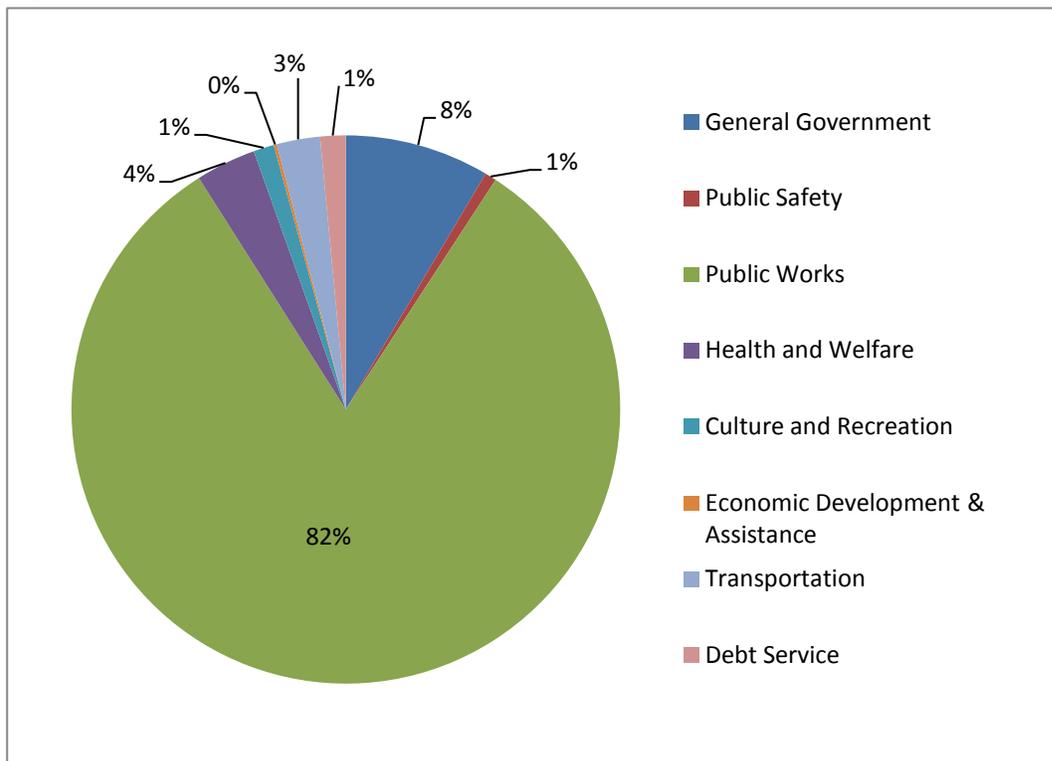
**Figure 2.9: Plaquemines Parish 2009 Governmental Fund Revenues by Source**



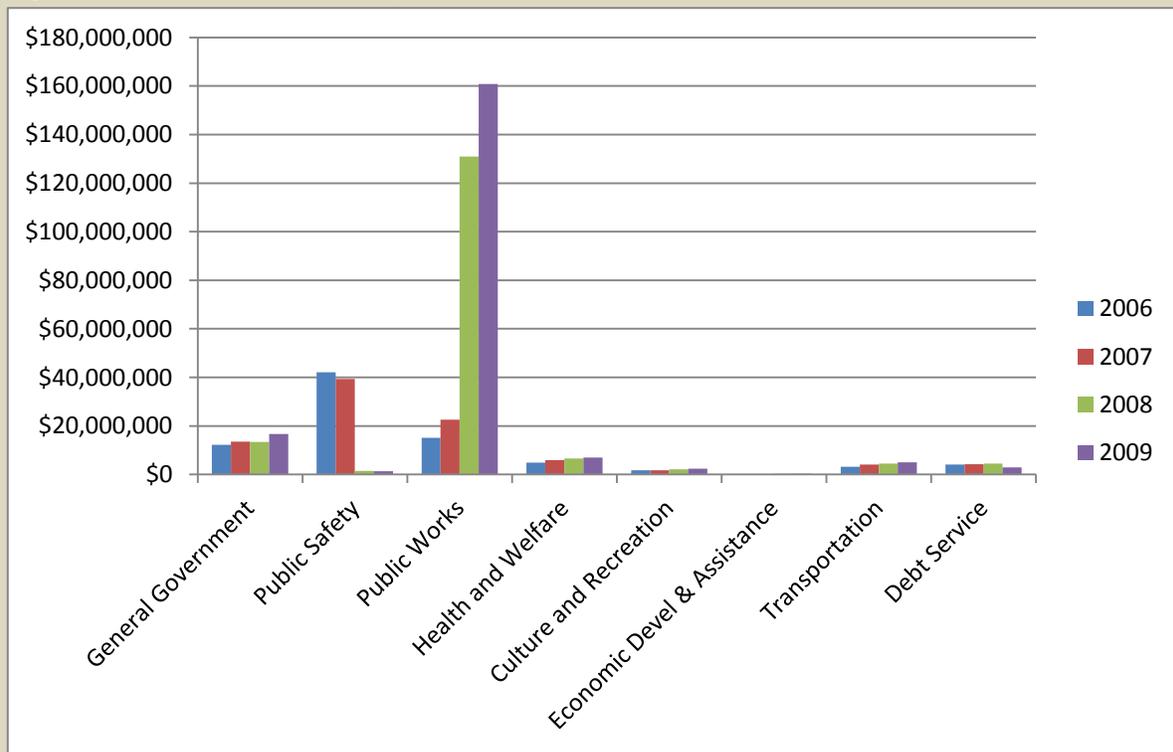
**Figure 2.10: Trends in Plaquemines Parish Governmental Fund Revenues by Source, 2006-2009**



**Figure 2.11: 2009 Total Expenditures, Plaquemines Parish Government Funds**



**Figure 2.12: Trends in Total Expenditures, Plaquemines Parish Government Funds, 2006-2009**



(about 25 percent in 2007). Overall, the Parish's total Government Fund expenditures grew from around \$83 million in 2006 to \$164 million in 2009, but most of that increase was explained by increased Public Works expenditures.

There are four special government activities of Plaquemines Parish that are considered to be "business-type" activities, or Enterprise Funds. These are:

- Water and Sewer
- Port, Harbor, and Terminal
- Boat Harbors and Shipyards
- Port Sulphur Golf Course

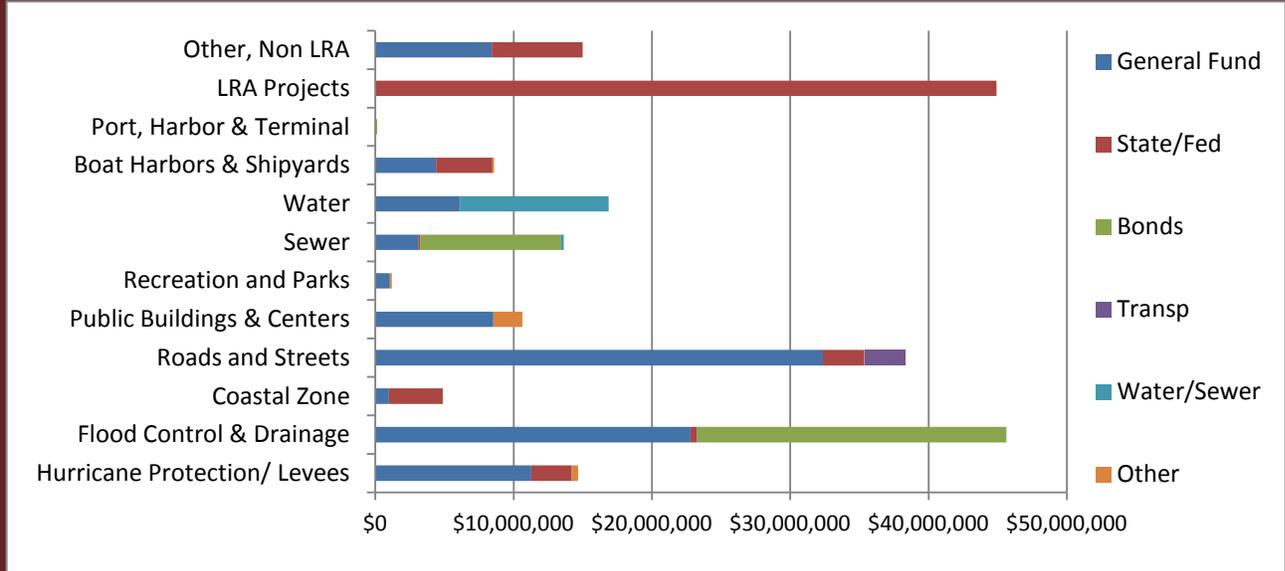
The costs of these activities are supposed to be funded entirely from user fees and other direct revenues derived from the activity, not from the general fund; however, the business-type activities of the Parish reported a total operating loss of \$9.3 million in 2007. In 2009, user charges covered only 46.9 percent of total operating costs, while capital grants and contributions provided 15 percent, and property taxes provided 21.5 percent of the revenues required for these government functions.

Plaquemines Parish has a five-year Capital Improvements Program (CIP) with projects totaling \$218.8 million. See Figure 2.13 (back of booklet). The CIP includes \$14.6 million for Hurricane protection and levees, \$45.4 million for flood control and \$45 million for projects funded by the Louisiana Recovery Authority (LRA). Less than one-third of the total capital improvements program was funded by state and federal grants. Most of these projects are funded

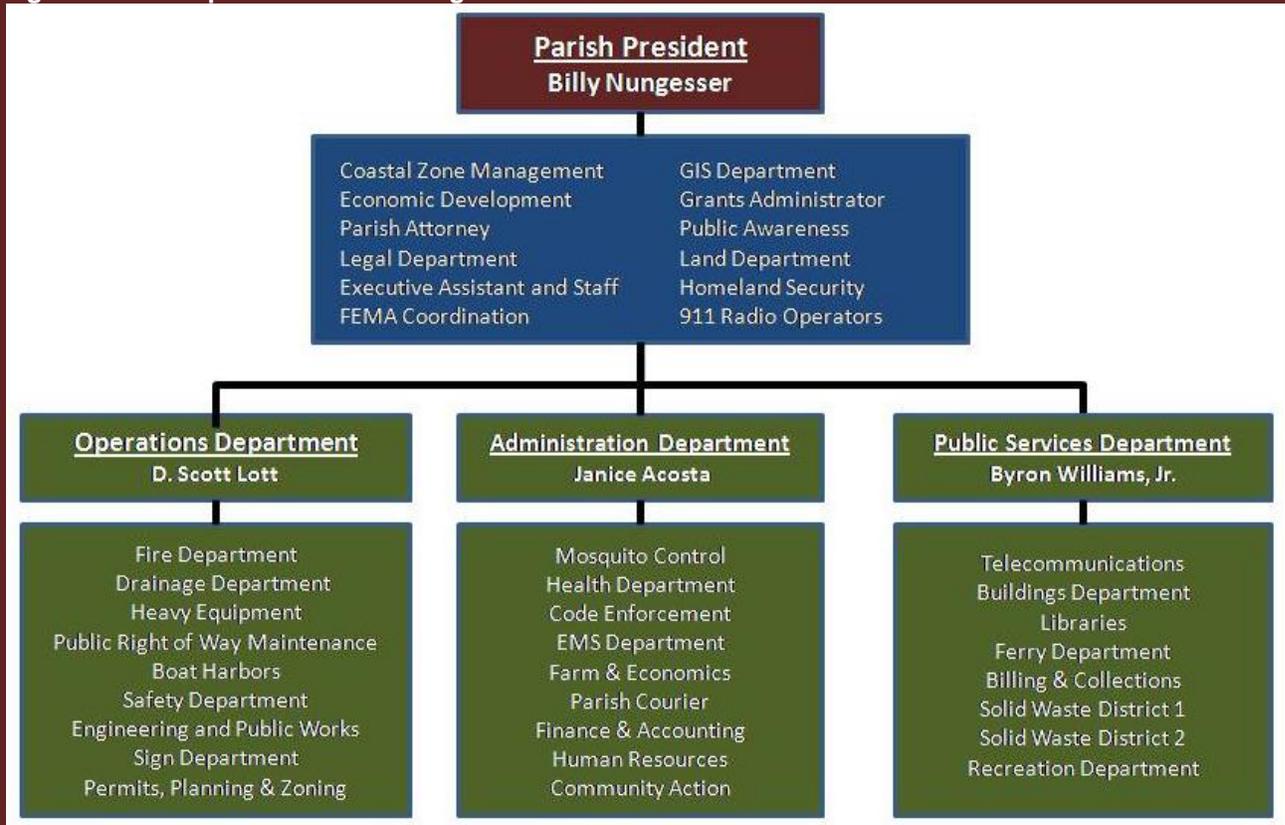
from Plaquemines Parish's general fund. Approximately \$32.5 million of capital projects are financed with bonds. Plaquemines Parish is organized in accordance with the Charter for Local Self-Government that was approved by voters in April, 1986. The organization provides for a Parish President and a nine-member Parish Council who serve population in their respective Council Districts. The Parish Council is also the governing body for special districts including the Port, Harbor and Terminal District and levee districts. Parish Council is the legislative branch that establishes ordinances and policies, and the Parish President is responsible for all government administration. Parish administration is currently organized into three primary Departments: Administration, Operations, and Public Services. See Figure 2.14. The largest of these three departments is the Operations Department.

Altogether, in 2010 Plaquemines Parish government employs 648 classified and unclassified employees to manage a wide range of functions and powers including economic development, road and bridge construction and maintenance, drainage, water and sewerage, solid waste disposal, fire protection, parks and recreation, public health, ferry service, boats and harbors, oil and mineral leasing, coastal zone management, zoning and building permits and other public services. There are constitutional officers such as the Sheriff Office, Coroner, Clerk of Court, Registrar of Voters, District Attorney, and Tax Assessor.

**Figure 2.13: Capital Improvements Budget by Project Type and Funding Source**



**Figure 2.14: Plaquemines Parish Organizational Chart**



## 2.12 Parish-owned Properties

**PURPOSE STATEMENT:** To inventory Parish owned properties to identify appropriate locations for future Parish facilities, land available for existing facility expansion, and underutilized properties that may best be sold to private interests

### Existing Conditions

- In working on this element of the plan, the Project Team started with several sources of information provided by the Parish in the form of a Geographic Information System (GIS) geo-database. This database included separate files for parcels, (tax) assessor data, parish departments, parks, schools, sanitary sewer infrastructure, water infrastructure, (drainage) pump stations, and landmarks. Additionally, separate lists of public facilities, and a parish-produced list of economic development sites were consulted.
- It was quickly discovered that inconsistencies exist between these various files; many are missing current information and/or include outdated information. The result is an incomplete and only partially accurate accounting of the land Plaquemines Parish owns.
- Since the Tax Assessor does not send out property tax bills to Parish owned land, the Assessor's database does not recognize the existence of some parcels, resulting in literal holes in the Parish's parcel data base.
- To begin to fill in the gaps in information, a field survey was undertaken to compare the database and list(s) of parish facilities with current "on the ground" conditions. This exercise resulted in the discovery that many of the facilities are mislabeled in one source or another.
- Due to reconstruction efforts after the storms many of the databases still includes facilities that were abandoned or destroyed without indication of the new locations if their replacements. Additionally, several new facilities have been constructed, but the various databases have not been updated accordingly
- The result of the Project Team's field survey is more up to date and accurate inventory of existing parish facilities. The community facilities field survey also helped improve the understanding of parish owned properties, assuming that the facilities are or were located on properties owned by the Parish.
- Now, the area of information most lacking is on vacant land owned by the Parish. The CMP team is working with Parish staff to identify as many of these properties as possible and determine what if any plans exist for them.



Empty Parish-owned property in the Belle Chasse area slated for the new government center.

### Next Steps

- As outlined in the Public Facilities section, there are many plans for major public investment in the Parish that will require property acquisition. It is not the intent of the Master Plan to identify all the key sites for future facilities, rather this effort will identify and present the merits of optional sites or discern general areas appropriate for facility siting in an effort to provide the most value for the community investment.
- Once a current inventory of parish owned property is achieved, the properties will be divided into categories of vacant, redevelopable or developed and then compared to the list of facilities planned or identified as necessary for the Parish over the next twenty years.
- Ideal site conditions will for future facilities be identified, such as acreage, water, sewer, and road infrastructure access, and surrounding population concentration.
- The comparison of potential facilities to potential sites will help identify where future facilities should be located, opportunities to co-locate new facilities with existing ones, and identify opportunities for the parish to acquire new properties or dispose of those no longer needed.

### III. Key Facts

As can be seen from the summary of each element just presented, a Comprehensive Master Plan by its very nature includes and documents a multitude of facts and figures. Following are a few key facts drawn from the assessment that help to illustrate trends, issues and opportunities that the Parish now faces.

#### ***The People and Services***

1. In 1990, two-thirds of the population of Plaquemines Parish lived in the lower end of the Parish, between Port Sulphur and Venice. Currently over 70% of the population lives north of Jesuit Bend.
2. 90% of the Parish has access to public water and about 40% of the Parish has access to public sewer.
3. In 2009 FEMA funds for Plaquemines Parish topped \$135 million up from \$68 million in 2008.

#### ***The Coast***

4. Wetlands in Plaquemines Parish are disappearing at the rate of 34 square miles per year.
5. There are over \$700 million in coastal restoration projects planned for Plaquemines Parish. Implementation of the Parish's Coastal Restoration Plan could reduce by five feet the need for elevating structures to meet 100 year flood protection.

#### ***Economy***

6. Plaquemines Parish has issued 860 occupational licenses for new businesses since 2007.
7. The NAS-JRB Belle Chasse is currently the 5<sup>th</sup> largest employer in Louisiana with 7,100 employees and a payroll of \$402.7 million per year. By the time its expansion is completed it will employ 9,548 persons and become the 3<sup>rd</sup> largest employer in the state with a payroll of about \$600 million per year.
8. Before the Horizon oil disaster, Plaquemines Parish was the largest producer of seafood in Louisiana.
9. Plaquemines Parish is a sportsman's paradise with some of the best commercial and sports fishing in the world.
10. Plaquemines Parish is the state's largest citrus grower, with 64% of the state's citrus production.



Community members continue to rally behind local festivals like the Orange Festival.

*Photo compliments Robert Spears.*



Wetlands are a critical part of the Parish's economy and unique character.



Plaquemines Parish is recognized for both commercial and recreational fishing.

*Photo compliments Robert Spears.*



Transportation and logistics are a major industry in Plaquemines Parish.

### ***The River***

11. Plaquemines Parish is located at the mouth of the Mississippi River which is the most cost-effective global shipping route to ten Midwestern states in the heartland of the US.
12. Plaquemines port is the eighth largest in the U.S. and is noted for its exports of coal, petro-chemicals and grain to world markets.
13. Deepening the channel of Baptiste Collette to 26 ft. will make Venice Port the closest port available for deep draft vessels needed to service the 1.3 million acres of oil leases being opened in the eastern Gulf of Mexico.
14. This deeper navigational channel, along with large unencumbered tracts of land, and closer proximity to the Gulf of Mexico than the Mississippi River port facilities of the Port of New Orleans makes the Plaquemines Port District a prime candidate for a container terminal facility.

### ***Energy***

15. One fourth of the nation's energy supply comes from or through Plaquemines Parish.
16. Plaquemines Parish has 11,000 oil and gas wells, has 247,000 barrels of daily refining capacity, and employs almost 1,800 people in the oil and gas industry.
17. In 2008, oil and gas revenues accounted for over \$52 million, or 36% of the Parish budget. However in 2009 oil and gas revenues fell by nearly 50 percent in one year.
18. Plaquemines Parish has received a proposal from Wind Energy Systems Technology to build a windmill farm in Barataria Bay that would generate 12.5 Megawatts, enough to power the entire electricity demand of the Parish.
19. Three areas along the Mississippi River in Plaquemines Parish have been identified as sites meeting the requirements to have river turbines installed to generate electric power.



Oil and gas revenues are a critical component to the local and state economy.

## IV. Public Concerns and Interests

The results of the public outreach effort for this project are presented in separate document entitled *Visioning Workshop Summary*. Following are a few excerpts from this document that summarize the public concerns and interests for the future and this planning effort.

### 4.1 Workshop Findings

In order of priority, highest to lowest, workshop attendees listed the following issues as important for future development of the parish:

1. **Coastal restoration** and Safety from Storms & Flooding
2. **Job creation** and Building a Healthy Economy
3. **Education** and job training
4. Improved **transportation** facilities and maintenance
5. Better **land use** decisions and regulatory enforcement
6. **Parish governance**, including better communication with the public and need for more consensus on the Council
7. Limited **housing** options
8. Greater diversification of **parks and recreation** services
9. Better provision of **community services**
10. Lack of **commercial goods and services** in certain portions of the parish.
11. Improved **drainage** capacity
12. Lack of support for and services on the **East Bank**

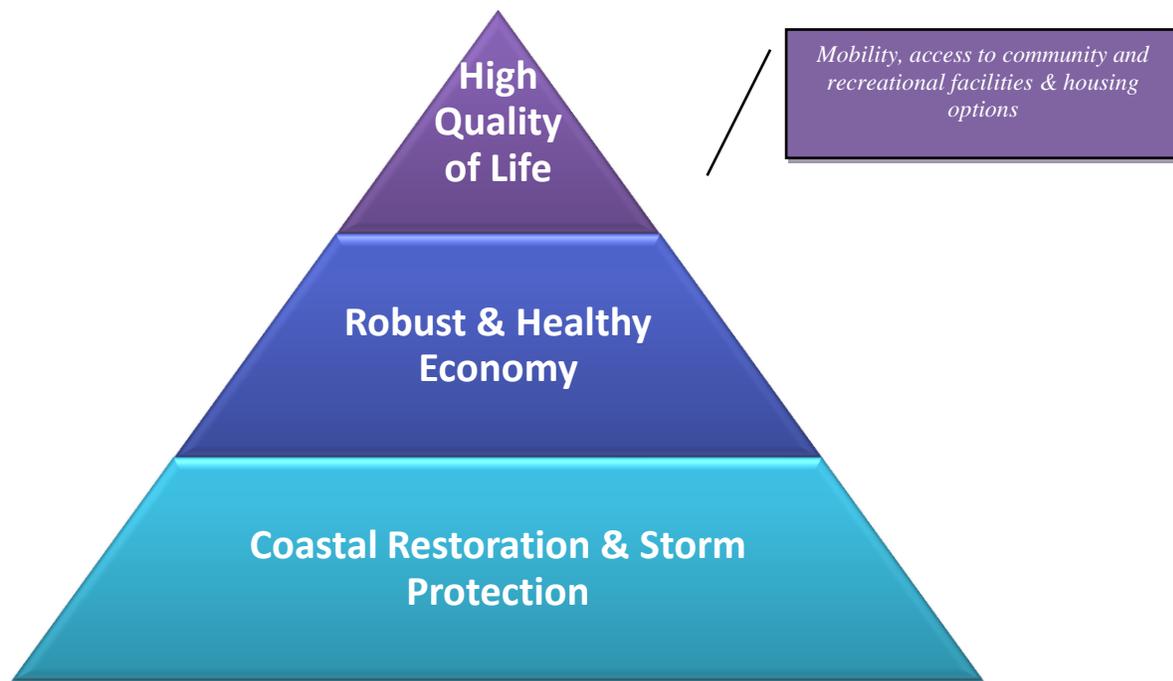
Community workshops highlighted shared goals across the parish, while solidifying community specific needs.



All of the Visioning Workshops reflected the community's desire to see Plaquemines Parish endure sustainably into the future. Most attendees live in Plaquemines Parish because they have invested in property and have enjoyed the high quality of life and sense of community that the Plaquemines lifestyle provides. Workshop attendees have confidence that the government can run more efficiently and that with the right proactive steps Plaquemines Parish can be safer, stronger and better – largely by developing the needed coastal restoration and hurricane protection systems, building a broader and stronger economy with more opportunities for employment, and by maintaining a high quality of life.

Despite threats posed by hurricanes and other environmental conditions, the area's assets – including overall safety, sense of community and access to good schools and recreational activities, and other characteristics – make a desirable case for living in Plaquemines Parish. The overall vision for the future of the Parish is one that is sustainable and preserves and

enhances that high quality of life. This future vision can be represented by the image of a pyramid.



**Figure 3.1: Representation of the Parish future vision**

Coastal restoration and levee protection are essential pieces of the Plaquemines Parish foundation and form the base of the pyramid. Without them, the parish and its residents and businesses will have a tough time surviving. This says that the Master Plan should ensure that the parish is moving forward sustainably; taking care of its most basic needs safety from storms and other disasters. The importance of coastal protection is followed by economic security. Economic security rests on the security of coastal protection. Finally, at the apex of the pyramid is quality of life. Quality of life for residents of Plaquemines Parish comes from enjoying the outdoors in a traditional way that celebrates living together in a close-knit community.

The community spirit and resilience of the Plaquemines Parish people gives them a vision for a sustainable future. The Comprehensive Master Plan will be the guiding light that propels the parish forward into a sustainable future and insures their quality of life with adequate housing, transportation, and access to community centers and recreational facilities.

## **4.2 Drivers of Change**

Multiple factors, including a variety of public and private decisions made at local, regional, and national levels, will influence the growth of Plaquemines Parish in the future. Natural conditions and storms plus the community's preparation for and response to those conditions

will also have an important influence. These influencing factors will be both large and small in nature with varying degrees of impact.

Based on the key findings from the assessment of existing conditions and public sentiment captured in public meetings and stakeholder interviews, four major factors have been identified as the drivers of change for the future growth of Plaquemines Parish:

1. Effectiveness of coastal restoration efforts
2. Changes in the energy industry
3. Storm preparedness
4. Quality of life

The ability of Plaquemines Parish and its partners to manage these drivers of change and prepare for their influence will shape the parish and the livelihood of its residents and businesses in the years to come. In turn, these factors will be an underlying consideration in the development of an action agenda for the Comprehensive Master Plan.

### **Effectiveness of Coastal Restoration Efforts**

Plaquemines Parish is a peninsula, surrounded by water on most borders and interspersed with channels, wetlands, and marshes. A current land use analysis classifies 67 percent of Plaquemines Parish area as water. Because of these characteristics, Plaquemines Parish faces multiple threats including subsidence, rising sea levels, susceptibility to tropical storms and hurricanes, erosion of coastal lands, and flooding. This unique environment along with the relative youth of the area as a land mass pose challenges to the preservation of developable areas and protection of the unique resources that thrive here.



A Coastal Restoration Plan is currently underway in the parish. It will address many of these issues. The Plan is a three phase process that includes a combination of levee enhancements, improvements to wetland habitats, and restoration of barrier islands. The Plan is designed to build back the coast and its unique ecosystem with a base goal of protecting the island from future storms.

These improvements are essential to securing the livability and functionality of multiple areas of the parish, particularly those areas on the eastern and southern portions of the parish. Impacts of the Deepwater Horizon Disaster, the extent of which is still uncertain, will also require mitigation efforts that will influence the effectiveness of coastal restoration effort.

### **Changes in the Energy Industry**

The Plaquemines Parish economy is heavily based in the natural gas and oil industry. There are multiple on and offshore oil rigs and pipelines along with oil processing facilities that produce hundreds of direct jobs each year for the parish. In addition, these operations create numerous

indirect and induced jobs through companies that support them. Royalties and severance payments also have an important impact on the Parish's revenue stream.

Because the energy industry is so important to the Plaquemines economy and livelihood, it is crucial that the parish prepare the economy for the diminishing supply of oil and gas as well as conversion to green energy sources as promoted by the Federal Government. New industry and revenue streams will be essential to sustaining the tax base and providing employment opportunities.

### Storm Preparedness

In the past, Plaquemines Parish has been ravaged by multiple storms. Most recently, Hurricanes Katrina and Rita (2005) and Hurricane Gustav (2008) hit in and around Plaquemines Parish and in the greater New Orleans area. The 2005 storms had notable impacts on the parish's built environment and also highlighted safety issues in more vulnerable areas.

The way in which Plaquemines continues to rebuild and channel growth can reduce the potential impact of storms. Zoning and land use regulations along with infrastructure investments can influence where new development occurs. Maintaining and enforcing building codes that meet guidelines for flood prone areas will also secure the safety of residents and workers. Location of public facilities in less vulnerable areas will also help minimize the impact of storms on the community's services and resources thereby making the area a more desirable place to live and do work. Having an effective evacuation plan is essential to the immediate safety of community members in the case of storms, and in the long-term, enhancement of the levees and other coastal restoration efforts will increase investors' confidence in the area and protect people's investments.

### Quality of Life

Quality of life can be defined as the general ease and relative happiness that people experience in relation to day to day activities, resources, and services. The high quality of life is a central reason why many people choose to live in Plaquemines Parish. Through public input channels, community members identified good schools, limited traffic, recreational opportunities, strong community connections, and the Parish's low crime rate, among other factors, as core assets of Plaquemines Parish.



The decisions that the Parish makes in providing ongoing and new services will influence the decision of residents to remain in or leave Plaquemines Parish as well as help the Parish attract or detract new businesses. Short and long term government decisions associated with land use, public land, schools, and government facilities and services have the ability to strengthen the quality of life in the parish. Because housing is a core factor in residential decisions, the Parish's ability to promote desirable and safe housing options for new and existing residents and workers will also be important component to the overall quality of life.

### 4.3 Areas of Special Concern

Plaquemines Parish faces several critical issues and opportunities that will impact its future development. Following is summary of some of these areas of special concern that need to be addressed in the Master Plan.

#### Population and Demographics

- Economic development decisions have historically had a huge influence on population growth and settlement patterns in the Parish. What economic trends will influence future growth?
- Providing safe living environments for the population is a primary need. What guidance can be offer to Parish officials to smart land use decisions and provide adequate storm protection?
- How will the population be impacted by subsidence, rising sea levels, and other environmental uncertainties?
- As our population ages, what new or expanded services are needed? Is Plaquemines Parish an accommodating location for the aging population?
- Provision of safe and affordable housing for full-time and part-time residents is important to offering a high quality of life. What role should the Parish government play in addressing this housing need, or should it be left up to the market place?
- Are services and facilities distributed appropriately to serve the population?

#### Coastal Protection and Restoration

- The levee system maintained by the Corps of Engineers protects less than 4 percent of the land mass in Plaquemines Parish. What critical areas of the Parish are not protected and what level public investment is needed to ensure that?
- FEMA will begin to develop a new set of flood maps with updated Base Flood Elevations, which set building height elevations that account for improvements to the regional levee system. Plaquemines officials are concerned that without the enhanced protections around the levees, such as a “Forested Ridge,” prior to FEMA’s update, much of the parish could be placed into a high-risk flood zone that could stymie development.

Planning for a safe living environment through appropriate housing for the population and adequate protection against storms will be essential implementation priorities.



- What impact will the recovery effort from the Deepwater Horizon Disaster have on other coastal recovery efforts?

### Economic Development

- Traffic congestion in Belle Chasse along US 23 is a deterrent to attracting new businesses. New improvements such as the extension of Peters Road the relocation of the rail line will help, but are they enough?
- What will be the long term impact of the Deepwater Horizon Disaster be on the local economy?
- New port facilities have the potential to bring additional revenue and stature to Plaquemines Parish and the New Orleans metropolitan area. Competition for such facilities is high, will the Parish's unique location at the mouth of the Mississippi River and the proposed timing of such facilities coming on-line be enough to offset the cost of investment.
- Currently, there is a lot of interest and push on the part of the federal government to promote alternative or green energy sources. Fortunately Plaquemines natural assets (high winds and strong river currents) place it in good position in relation to this trend. What further steps can the Parish take to capitalize on that?



### Multi-modal Transportation Systems

- What transportation investments are necessary to improve disaster responsiveness (response, evacuation, and recovery)?
- What will be the land use and economic impacts of planned transportation improvements, particularly programmed road and bridge improvements in the Belle Chasse area?
- How to best pay for the improvement, maintenance, and operation costs of the ferries?
- How to best accommodate and balance the conflicting transportation needs of different Parish interests (e.g., freight and commuter trips that require capacity improvements vs. tourism promotion that require improved bicycle and pedestrian access)? The narrowness of the land area limits the ability of providing meaningful alternative routes for different modes of traffic.



### Water System

- How will the Parish provide adequate fire protection and potable water service to all areas of the Parish, particularly during times of salt-water migration or pollution in the Mississippi River?
- How long will aging infrastructure, such as the cast-iron pipes on the east bank, hold up?
- What water quality impact will building another port facility on the Mississippi River have on the Parish's water supply?
- How safe is the water system from future storms and salt-water intrusion?

### Wastewater Treatment System

- Does the Parish continue to push for low-pressure sewer systems in areas without sewer service?
- There is a lack of adequate funding for sewer expansion; the current service is underpriced and supplemented by other revenue sources. Should the Parish raise its sewer rates to better cover its operating and improvement costs?
- Some areas of the parish are still un-sewered and may pose a hindrance to business recruitment in those areas. Should the system be extended into these areas or should businesses be encouraged to locate in area's already served?

### Drainage & Stormwater Management Facilities

- Most of the levees are several feet below the authorized elevation set by the USACE. Plaquemines Parish and the USACE are working to bring these levees up to authorized elevations. Will these improvements be made before the next big storm?
- Advisory Base Flood Elevation (ABFE) and the pending FEMA flood maps are critical to the parish's development as zones on the Flood Maps affect the flood insurance. What steps can the Parish take to lower the ABFE?
- What strategies can be developed to enhance the conveyance capacity in parish canals and to add new pump stations.



### Public Facilities and Services

- The Parish has an aggressive capital improvement program currently underway to replace damaged facilities from the storms. How will the Parish government pay for their adequate staffing and maintenance?
- Should the government consolidate facilities and services to reduce operating costs and space needs while maintaining tailored services/facilities as a focal point in each community? And if so where should those consolidated facilities be located?
- Are facilities and services provided in a fair and equitable manner, particularly in light of recent population shifts?

### Parks and Recreation Facilities and Services

- How should the Parish inform residents and visitors of recreation opportunities?
- What recreation elements might be connected by a parish-wide trail?
- How can local parks and recreation facilities directly benefit tourism?
- What areas of the parish have the greatest demand for recreational programs?
- What potential recreational activities might best serve adults and seniors in the community?

### Existing Land Use

- Will the Parish adopt FEMA's National Flood Insurance Program Advisory Base Flood Elevations (ABFEs) for new and rebuilt structures?
- What opportunities are available for developing affordable housing in the Parish?
- The Parish recognizes that it needs to update its land development codes reflect current development best practices, including open space preservation, building codes, and stormwater management regulations. Updating the codes is only half the battle, however, what positions need to be created or responsibilities transferred to existing staff to properly interpret and enforce these new regulations after they are adopted?

### Government Structure

- Can the Parish win sufficient state and federal grants to achieve goals in coastal restoration and flood control?
- How should the fee structure be restructured to achieve cost recovery in Enterprise Funds?
- What sources of revenue can the government tap into to provide greater diversity and stability in its revenue stream?
- How will the 2010 Census re-align Parish Council districts and how should Parish representation be re-aligned to provide fair representation?
- How does parish government need to be re-organized to reduce span of control and be better equipped to address future needs?

## V. Definitions

**FEMA** - Federal Emergency Management Agency

Cross connections – Any piping configuration that would allow flow from a user to get back into the distribution system.

**GIS – Geographic Information System**

Any scientific effort to combine data to help visualize, analyze, and explore geographically referenced information.

**Inflow and Infiltration (I&I)** – Inflow is stormwater that enters into sanitary sewer systems at points of direct connection to the systems. These sources are typically improperly or illegally connected to sanitary sewer systems and include drainage downspouts, sumps, etc. Infiltration is groundwater that enters sanitary sewer systems through cracks and/or leaks in the sanitary sewer pipes and manholes.

**Low Pressure Sewer System** – Low Pressure Sewer Systems are a low-head pressure wastewater collection system and an alternative to gravity sewer or a septic tank. Low Pressure Sewer Systems have been in use since the late 1970's and are commonly used as an alternative to gravity sewer systems and septic tanks.

**MGD** – Million Gallons per Day

**Package Plants** – Package Plants are pre-engineered and pre-fabricated units that are generally sized to provide secondary treatment for small wastewater flows. They are modular units, having all of the unit processes of a larger facility and can meet normal permit requirements when not over-loaded and operated and maintained properly. They are often used to treat wastewater from a sub-division or a business that is not connected to a centralized sewer system.

**USACE** - United States Army Corps of Engineers