



VOLUME 3
chapter 2
NEW ORLEANS YESTERDAY AND TODAY: POPULATION AND LAND USE TRENDS

Introduction

More than ten years after the worst disaster to befall any U.S. city in American history—necessitating the almost total evacuation of the population—the City of New Orleans has exceeded expectations in population recovery. ¹ By the end of 2015, the city had regained nearly 86% of its pre-Katrina population, with nearly 390,000 people calling the city home.¹ More than half of neighborhoods have recovered over 90 percent of the population they had before the levees failed.² Only four neighborhoods have less than half the population they had prior to Katrina; the Lower Ninth Ward, one of the City’s most damaged neighborhoods; and three neighborhoods which include three public housing sites that have been demolished to make way for new mixed-income housing.³ Despite the City’s remarkable population recovery, there are still challenges that remain as we shift our focus from recovery to resilience.

This chapter describes the post-World War II demographic and land use trends that shaped the New Orleans of today. This period in New Orleans’ history is part of a larger story of urban decline which lasted through the 1990s and affected all American cities—and the beginning of an urban renaissance that gathered steam in the early 2000s and continues today. New Orleans was part of this story, including the beginnings of urban renaissance, in its own way and based on its own history. While Hurricane Katrina and the failure of the levee system severely impacted the progress of the City, more than 10 years after the storm the City has overcome many challenges. Today, there are new challenges that confront the region – climate change and rising sea levels, land subsidence and coastal erosion, and lack of equity and opportunity for all New Orleanians to grow and thrive.

¹ U.S. Census Bureau (2015, December). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015*. Retrieved August 19, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table Pre-Katrina population estimated at 453,726

² The Data Center (2016, August 15). *Neighborhood Recovery Rates: Growth continues through 2016 in New Orleans neighborhoods*. Retrieved August 19, 2016 from http://www.datacenterresearch.org/reports_analysis/neighborhood-recovery-rates-growth-continues-through-2016-in-new-orleans-neighborhoods/

³ Ibid.

Factsheet

Population

2010 Census: 343,829⁴

2015 Estimate: 389,617⁵

Age Composition (2010 Census)

Under 18 years: 21%

Over 18 years: 79%

65 and older: 12%

Gender Composition (2010 Census)

Male: 48%

Female: 52%

Racial Composition (2010 Census)

White: 33%

Black: 60.2%

Asian: 2.9%

American Indian and Alaska Native 0.3%

Other: 1.9%

Ethnic Composition (2010 Census)

Non Hispanic or Latino: 94.8%

Hispanic or Latino: 5.2%

Households⁶

Total: 142,158

Families: 53.9%

Households with Children under 18: 22.7%

Married Couple Households: 27.5%

Married with Children: 9.7%

Single Mother Households: 10.8%

Non-Family Households: 46.1%

Income⁷

Median Household Income: \$36,964

Median Family Income: \$48,381

Poverty

Individuals: 27.7%

Families: 22.7%

Families with Children under 18: 34.7%

Single Mother Households: 55.8%

Educational Attainment for the 25+ Population⁸

High School Diploma: 24%

Bachelor's Degree: 19.7%

Graduate or Professional Degree: 14.8%

Persons with Disabilities⁹

Percentage of population: 13.6%

Under 5 years: 1.3%

5 to 17 years: 6.1%

18 to 64 years: 12.0%

65 and over: 40.4%

White: 10.1%

Black: 16.1%

⁴ U.S. Census Bureau (2011, May 26). *2010 Census Interactive Population Search*. Retrieved August 19, 2016, from

<http://www.census.gov/2010census/popmap/ipmte xt.php?fl=22:22071>

⁵ U.S. Census Bureau (2015, December). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015*. Retrieved August 19, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table

⁶ U.S. Census Bureau. *Profile of General Population and Housing Characteristics: 2010*. Retrieved August 19, 2016, from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=DEC_10_SF1_SF1DP1&prodType=table

⁷ U.S. Census Bureau. *Selected Economic Characteristics: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 19, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table

⁸ U.S. Census Bureau. *Educational Attainment: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 19, 2016, from

http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S1501&prodType=table

⁹ U.S. Census Bureau. *Disability Characteristics: U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 19, 2016, from

http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S1810&prodType=table

Asian: 6.8%

American Indian and Alaska Native: 22.6%

Other: 7.6%

Hispanic (of any race): 7.6%

Findings: Population and Demographic Trends

New Orleans' demographic profile in the second half of the 20th century and the early years of the 21st century was consistent with population changes in many older American cities—until the catastrophe of Hurricane Katrina. Since Hurricane Katrina, the city has regained population at a faster rate than initially predicted. Key demographic characteristics and trends include:

- As of December 2015 the population of New Orleans was estimated at 389,617—approximately 86 percent of New Orleans' pre-Hurricane Katrina population¹⁰
 - Overall, population recovery has exceeded initial expectations after Hurricane Katrina, though recovery varies significantly from neighborhood to neighborhood. More than half of neighborhoods have recovered over 90 percent of the population they had prior to Katrina. Only four neighborhoods have less than half the population they had prior to Katrina; the Lower Ninth Ward, one of the City's most damaged neighborhoods; and three neighborhoods which include three public housing sites that have been demolished to make way for new mixed-income housing
 - The City of New Orleans' population fell 21 percent in the thirty years between the peak population of 627,625 in 1960 and 1990, when it was 496,938.
 - During the 1990s, New Orleans' population was stabilizing, with a small decline in population resulting from smaller household size and a slight increase in the number of households.
 - While the city grew wealthier in absolute terms 1960–1990, it grew wealthier at a much slower rate than its neighboring suburban parishes. The median family income in New Orleans was 96 percent of the metropolitan median in 1960, but by 1990 it had declined to 76 percent of the metropolitan area median.
 - Since Hurricane Katrina, New Orleans' population has shifted demographically, resulting in a city that is somewhat more White, older, more educated, and richer. The Hispanic population has increased by at least 28.8 percent since 2000.
- > New Orleans has a moderately smaller percentage of African American residents than it had prior to the Hurricane.
- > In spite of the challenges faced by elderly residents, there is little evidence that the city has experienced a disproportionate decline in its elderly population.
- > The city has a smaller percentage of children than it did prior to Hurricane Katrina.
- > The recovery of the public school population has lagged behind the recovery of the population overall. The income, racial and ethnic characteristics of public school students has shifted slightly compared to the pre-storm profile. The percentage of economically disadvantaged students increased 7 percentage points. In terms of race, the number of African American students saw a 5 percent decrease, while the percentage of White and Other students increased. The Hispanic student population also saw a 5 percent increase.
- > A 2011 study indicates that about 10 percent (over 30,000 people) of the estimated 2008 post-Hurricane Katrina population came to New Orleans after the storm.
- > Limited statistical evidence suggests a post-storm influx of young professionals.
- > Households continue to have a higher median income, however the percentage of the population that lives below the poverty line is currently trending upward and is equivalent to 1999 levels despite falling in the years after Hurricane Katrina.

¹⁰ U.S. Census Bureau (2015, December). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015*. Retrieved August 19, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table Pre-Katrina population estimated at 453,726.

> The city continues to have a bifurcated educational profile with a higher percentage than the national average of adults lacking a high school degree or diploma and, at the same time, a higher percentage of adults who have obtained at least a 4-year college degree. Since Hurricane Katrina, the percentage of the adult population of New Orleans that has a high school degree or diploma has continued to increase as has the percentage of adults who have a 4-year college degree or higher.

FINDINGS: LAND USE TRENDS

The overall distribution of land uses in New Orleans has not changed significantly since Hurricane Katrina, though the amount of blight and vacant or underutilized property has increased dramatically as a result of the storm. The number of blighted or vacant properties has significantly decreased over the subsequent years.

- Neighborhoods built before World War II characteristically contain a mixture of small- to medium-scale residential types, from single family homes to small apartment buildings, and often include pedestrian-oriented mixed use commercial corridors.
- Neighborhoods built after World War II are predominantly composed of suburban style single family subdivisions separated from strip malls and other retail areas and from large-scale multifamily developments. They are typically vehicle-oriented areas.
- The draining of wetlands after 1913 allowed the city to expand beyond the riverfront and the ridges, increasing the urbanized area of the city by more than 40 square miles or 100 percent between 1913 and 2000.
- By 2000, 40 percent of the city's housing units had been built since 1960, mostly in the form of suburban-style single-family houses.
- In 2000, New Orleans had some 26,000 vacant dwelling units, which included some non-blighted units such as those for sale or rent and unoccupied second homes.
- In 2014, the city had approximately 40,901 vacant residential addresses, or 21.4 percent of the city's total housing stock (191,310).
- Changes in residential land use following Hurricane Katrina are overwhelmingly the result of flood impact and a diminished residential population rather than any intentional effort to alter the residential character of neighborhoods' pre-storm condition.
- Downtown retail had been in decline in the city since the mid-1980s however has seen an uptick, like many other areas of the city.
- Retail malls in various parts of the city were losing tenants and in decline before Hurricane Katrina.
- Residential neighborhoods that suffered significant flooding, especially New Orleans East, lack neighborhood-serving retail.
- Independent, "boutique" retail continues to be relatively successful along Magazine Street, in the French Quarter, and in some other scattered sites throughout the city - predominantly in older neighborhoods.
- National retailers tend to locate in adjacent parishes rather than in Orleans Parish, though in recent years there has been an uptick in the number of national retailers locating in Orleans Parish.
- Office uses continue to cluster in the Central Business District, with a good supply of well-priced Class A office space, though are expanding outward into other neighborhoods.
- Many of New Orleans' industrial areas are underutilized.
- New port investment can be accommodated in existing port areas, so some industrial areas associated with the Port and other maritime uses are in transition.

A. DEMOGRAPHIC CHARACTERISTICS AND TRENDS IN NEW ORLEANS, 1940–2015

In 1940, the City of New Orleans was the largest city in the southern United States; a major American port, trade hub, and center of commerce; and a growing metropolis of half a million people. During the second half of the twentieth century, New Orleans suffered the same fate as most established urban centers in the United States: population decline, migration of wealthier residents from the older city center to outlying neighborhoods and suburbs, economic dislocation and disinvestment, and, towards the end of the century, signs of stabilization. In the decades following World War II, the city comprised a decreasing portion of the metropolitan area's population and shrank in prominence and economic importance relative to other, faster growing American cities.

Unlike many older cities, however, New Orleans was able to capture some of the demand for suburban living because it had created a significant amount of developable land by draining low-lying and wet areas. Neighborhoods such as Lakeview, Gentilly, New Orleans East, and parts of Algiers emerged in the decades after 1960, expanding New Orleans' urban footprint with suburban-style subdivisions and garden apartments.

A note on data sources

The discussion of demographic trends in this report is based upon several sources of data, including historical Census data, the 2000 Census, and the Census Bureau's American Community Survey (ACS) for the years 2005, 2006, and 2007. The American Community Survey is a set of estimates based on sample data. Multiple data sets have been utilized because each has discrete strengths and weaknesses. While the 2000 decennial census is the most comprehensive and complete data source with information at more detailed geographic levels, it does not reflect the actual conditions in the community today.

US Census Bureau:

- Total population estimates: In January 2009, the Census Bureau revised upward its 2007 estimate of New Orleans population in response to the City's challenge. The City's challenge was based on demographic analysis by the Greater New Orleans Community Data Center.
- Population composition: Census Bureau ACS estimates remain the best source of information on the current demographic composition of New Orleans' population (that is, the distribution of gender, age, households and other characteristics in the population), as the data come from a wide sample of households and group quarters residents.

Locally generated data:

- GCR & Associates, utility account data, population estimates and projections of future population use.
- The Data Center estimates, based on postal addresses, building permits, utility accounts and utility usage.

National data sources:

- ESRI and Claritas—widely-cited proprietary data sources
- The New Orleans Index and The New Orleans Index at Ten—quarterly report produced by the Data Center and the Brookings Institution that provides supplemental data collected to measure quality of life, such as health and education indicators and that tracks a number of recovery measures
- Kaiser Family Foundation surveys. In an effort to put the characteristics of New Orleans in context, this document will also routinely compare data describing local conditions to a consistent selection of other American cities— thereby highlighting important regional, historical, economic and demographic similarities and distinctions. Data for these cities have been collected from a variety of sources, including their respective state departments of education and a host of U.S. Census Bureau data products.

Land use data:

- Land use patterns pre-Hurricane Katrina are based on analysis of existing land use in the City Planning Commission’s 1999 Land Use Plan

Population Trends

New Orleans, like other American cities, lost population in the second half of the twentieth century, but was showing signs of population stabilization by 2000. Unlike other cities, of course, New Orleans was devastated by the catastrophe of Hurricane Katrina in August 2005. Eleven years later, with an estimated population of 389,617, the city had already recovered approximately 86 percent of its estimated 2005 population.¹¹

**TABLE 2.1: CITY OF NEW ORLEANS
POPULATION BY DECADE**

YEAR	POPULATION	% CHANGE
1950	570,445	
1960	627,525	10.0%
1970	593,471	-5.4%
1980	557,515	-6.1%
1990	496,938	-10.9%
2000	484,674	-2.5%
2010	343,829	-29.1%

SOURCE: U.S. CENSUS BUREAU

WORLD WAR II TO 1990: THE SUBURBAN HALF-CENTURY

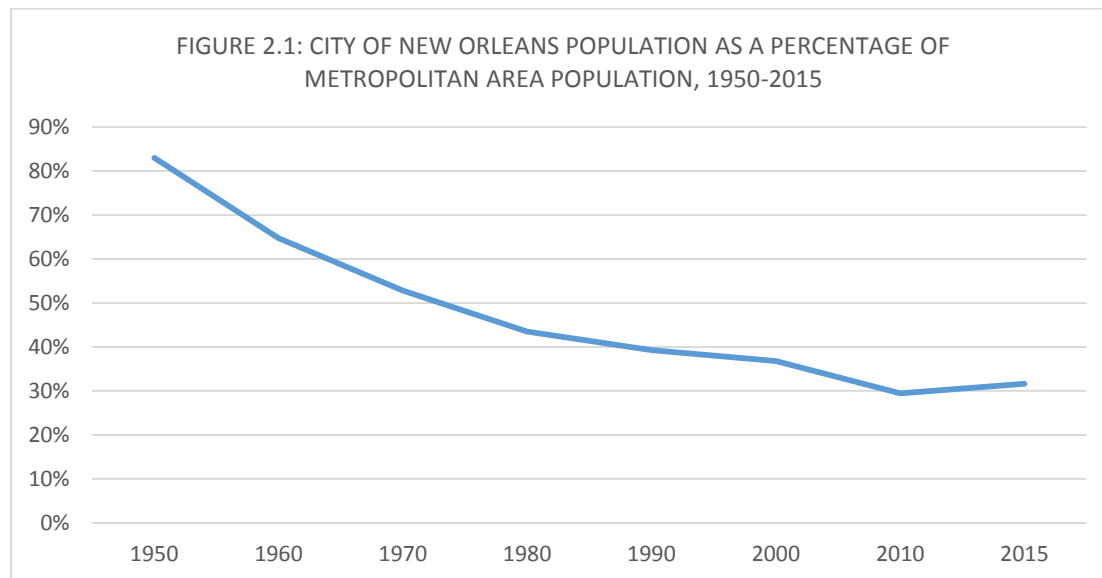
Between World War II and the last decade of the twentieth century, New Orleans, like most urban centers in the United States, suffered a long-term decline in population, falling 21 percent from a peak of 627,525 in 1960 to 496,938 by 1990.¹² While many cities began their decline almost immediately after World War II, the population of New Orleans increased during the 1940s and 1950s, gaining almost 133,000 people between 1940 and 1960.5 Because the city’s economy was based on trade, energy and tourism, and it had a relatively small industrial sector, it was not as affected by declines in

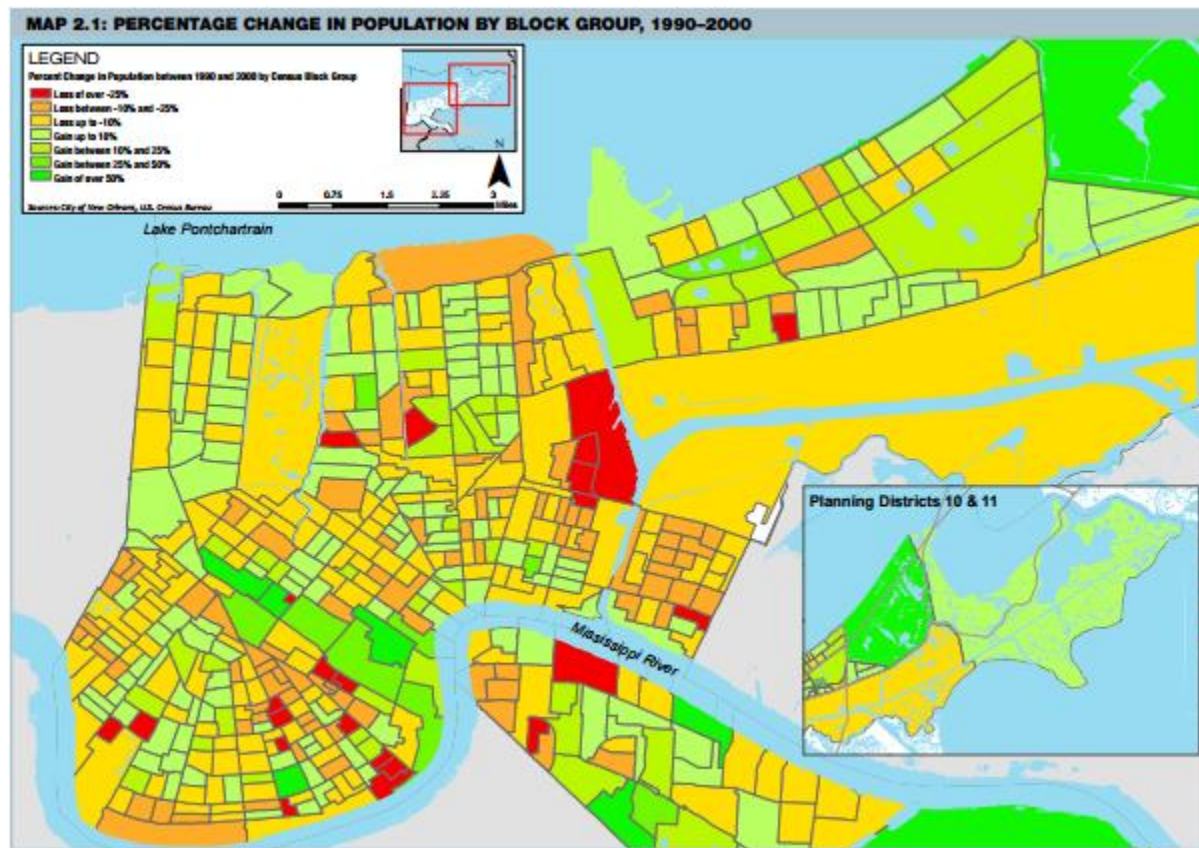
¹¹ U.S. Census Bureau (2015, December). *Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015*. Retrieved August 19, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPANNRES&prodType=table Pre-Katrina population estimated at 453,726

¹² U.S. Census Bureau

manufacturing as other American cities. While the 1960s marked the beginning of a period of population decline, continued investment in the post-war period ensured that the population losses suffered by New Orleans were far less severe than those experienced by other cities over the same period, such as Cleveland, Pittsburgh, and St. Louis.

Population and economic decline were particularly acute in the latter half of the 1980s because of the oil bust of the mid 1980s. The faltering economy in the 1980s affected not only the city of New Orleans but also the metropolitan area at large. Neighboring Jefferson Parish, for example, saw practically no growth between 1980 and 1990, while regional competitors such as metropolitan Charlotte, Nashville, and Houston continued to see growth in both their central cities and their suburbs at much higher rates.





1990 – 2005: SMALLER HOUSEHOLDS AND URBAN STABILIZATION BEFORE THE HURRICANE KATRINA CATASTROPHE

Census data indicate population was stabilizing during the 1990s and there is reason to believe that this trend was continuing before Hurricane Katrina. New Orleans lost 12,164 residents between 1990 and 2000, but this decline was entirely due to smaller household size rather than outmigration. The number of households actually inched up from 1990 to 2000, from 188,235 to 188,251.7

After the precipitous decline in the oil and gas economy during the 1980s, New Orleans' economy began to stabilize in the mid-1990s, largely due to the continued rise of the convention and tourism industry, and at the same time, violent crime declined significantly. Moreover, in relation to the entire metropolitan area, New Orleans' median family income increased slightly from 1990 to 2000, from 75.7 percent of the metropolitan median to 75.9 percent of the metropolitan median.¹³ Another statistic that confirms New Orleans' newfound stability in the 1990s is the fact that the city did not experience a decline in its median family income relative to the entire metro area. From 1990 to 2000, New Orleans grew wealthier at a faster rate than adjacent suburban parishes.

While population estimates from the Census Bureau indicated that New Orleans had experienced a significant loss in population from 2000 to 2005, there is compelling evidence to suggest that its population was in fact holding steady during the first half of the decade.¹⁴

¹³ U.S. Census Bureau

¹⁴ [10 The City of New Orleans, using analysis provided by the Greater New Orleans Community Data Center \(GNOCDC\), submitted a challenge to the Census Population Estimate for Orleans Parish for July, 2007. In researching this case, GNOCDC scrutinized evidence, including building permits, utility account data, and USPS](#)

On the district and neighborhood level, few meaningful conclusions can be made about the pattern of population loss and gain between 1990 and 2000. Losses were seen in some block groups, particularly those that contained public housing projects closed during the period, but modest growth was also experienced in parts of neighborhoods all across the city.

HURRICANE KATRINA TO TODAY—RECOVERING POPULATION

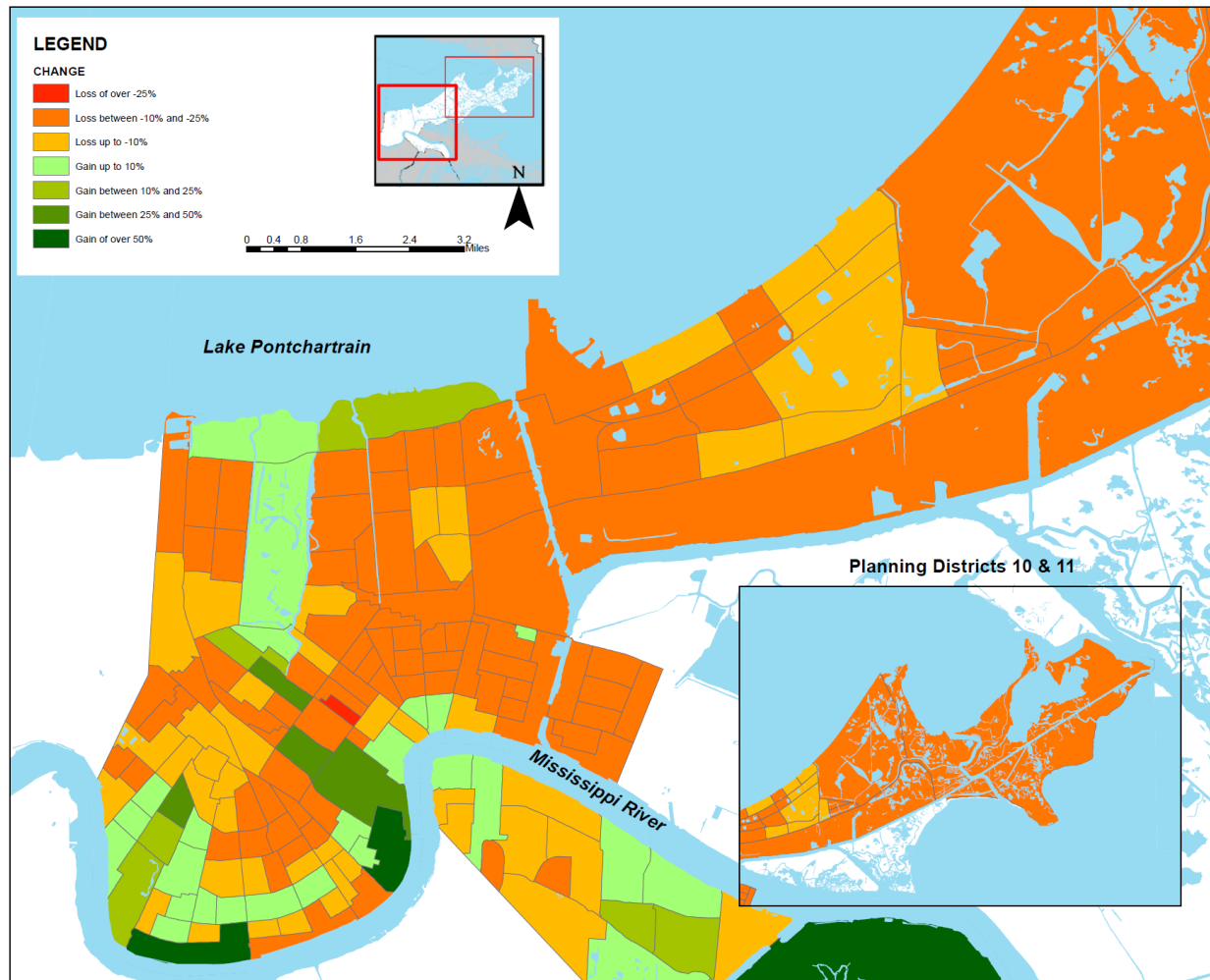
In August 2005, Hurricane Katrina and the failure of levees caused a level of destruction and dislocation that the United States had not witnessed since the San Francisco earthquake of 1906. Of the city's 188,251 occupied housing units, fully 134,334—or 71 percent—were flooded. According to FEMA estimates, over 55 percent of the city's housing stock was classified in the “major” or “severe” damage categories.¹⁵ Nearly 100 percent of the population left the city because of the lingering floodwaters. Despite this level of devastation, accompanying population loss and severe economic disruption, New Orleans has rebounded much more quickly than many demographers initially projected.¹⁶ The RAND Corporation initially estimated that by September 1, 2008 the city would have a population of 272,000, but estimated population at that time was 328,758, more than 20 percent greater. Though still well below the Census Bureau's pre-Hurricane Katrina population estimate of 453,726, New Orleans' 2015, estimated population of 389,617 demonstrates a population recovery of nearly 86 percent.

counts of active addresses, all of which suggested a significant undercount of the pre-Hurricane Katrina population of New Orleans in the Census Bureau's population estimate for July 1, 2005.

¹⁵ FEMA official damage estimates

¹⁶ RAND Corporation report, “The Repopulation of New Orleans After Hurricane Katrina” published March 2006

MAP 2.1.1: PERCENTAGE CHANGE IN POPULATION BY CENSUS TRACT, 2000 - 2010



Eleven years after Katrina, the New Orleans population continues to grow. The estimated 2015 population of 389,617 is a 13 percent increase over the 2010 population of 343,829.¹⁷ Approximately 40 of New Orleans' 72 neighborhoods have recovered over 90 percent of the population.¹⁸ Four neighborhoods have a smaller population than before the storm; the Lower Ninth Ward, one of the City's most damaged neighborhoods; and three neighborhoods which include three public housing sites that have been demolished to make way for new mixed-income housing.¹⁹

Population Characteristics

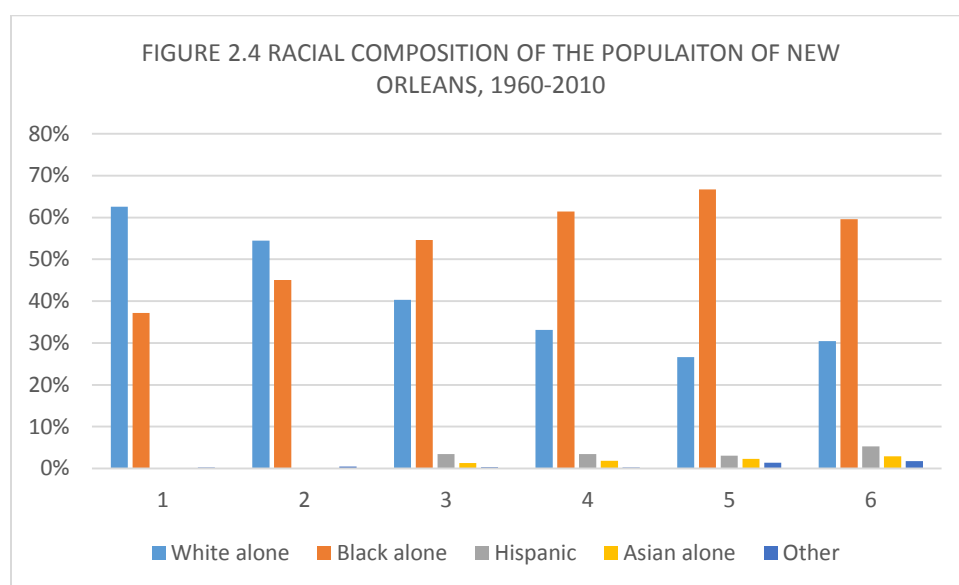
RACIAL AND ETHNIC COMPOSITION

¹⁷ U.S. Census 2010 Census and Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2015.

¹⁸ The Data Center (2016, August 15). *Neighborhood Recovery Rates: Growth continues through 2016 in New Orleans neighborhoods*. Retrieved August 19, 2016 from http://www.datacenterresearch.org/reports_analysis/neighborhood-recovery-rates-growth-continues-through-2016-in-new-orleans-neighborhoods/

¹⁹ Ibid.

While New Orleans had a majority African-American population for a period early in the 19th century, by 1950 the city's population had long been over 50 percent White.²⁰ Five decades later, New Orleans was 67 percent Black, 28 percent White, 2 percent Asian, and 2 percent other race. The city experienced the out-migration of a significant number of wealthy residents—largely (though not exclusively) White—that was typical of the suburban exodus from American cities, and an influx of rural African-Americans seeking opportunity. School desegregation, and housing and tax policy all played a role in these changes. At the same time, research on the net migration of African-Americans shows that New Orleans was the only major Southern city that continued to experience a net loss of African-Americans in the late 1990s, when other Southern cities were attracting Black migrants, particularly college graduates. (Louisiana was second only to New York—a much larger state—in outmigration of African-American college graduates during 1995–2000.)²¹ New Orleans was traditionally less residentially segregated than most American cities. In 2000, the average Black New Orleanian lived in a neighborhood that was 82 percent African-American.



Because Hispanics can be of any race, they are counted as an ethnic category rather than a racial category. According to the 2000 Census, 3.1 percent of New Orleans population was Hispanic or Latino. While the percentages have historically been small, New Orleans has long been home to tight knit, widely recognized communities of Asians (particularly Vietnamese) and Hispanics (particularly Central Americans). Hispanic migrant workers came to New Orleans after the storm to work in the construction industry, but because many are transient and undocumented, they are likely underrepresented in the Census Bureau surveys. Informal estimates by groups such as the Gulf Coast Latin American Association, which delivers social services to Latinos, suggested that there had been an influx of as many as 30,000 Latino workers to the metropolitan area immediately following Hurricane Katrina in 2005.²² Estimates from sample surveys conducted by the Louisiana Public Health Institute indicate that the proportion of

²⁰ U.S. Census Bureau

²¹ William H. Frey, "The New Great Migration: Black Americans' Return to the South, 1965-2000", (Washington, DC: The Brookings Institution, May 2004).

²² "The Changing Face of the Gulf Coast: Immigration to Louisiana, Mississippi, and Alabama". Migration Policy Institute, Katharine Donato and Shirin Hakimzadeh. January 2006.

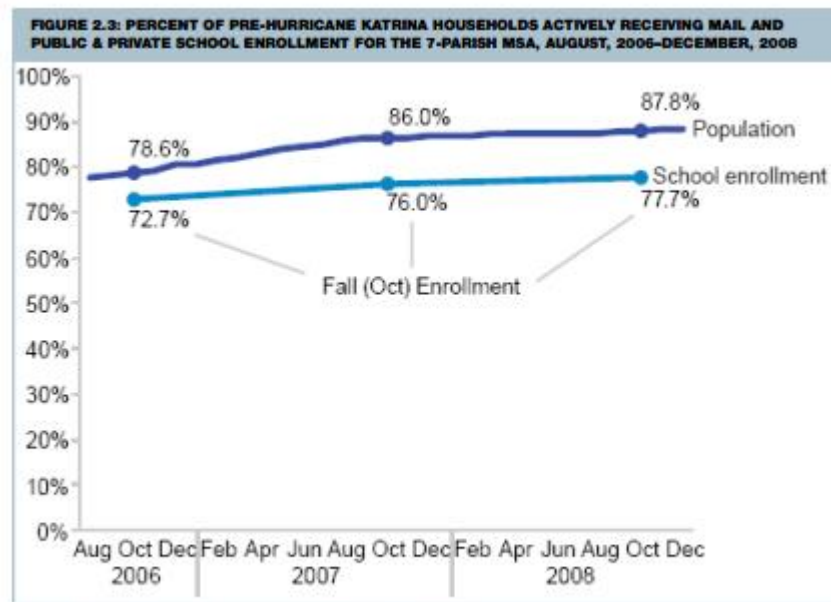
Hispanics in the city’s population may have been as high as 9.6 percent in the summer of 2006.²³ According to the 2010 Census, 5.2% of the population identified as Hispanic or Latino.

In the aftermath of Hurricane Katrina, population estimates indicate a moderate decline in the African-American percentage of the population. The Census Bureau estimated the city’s pre-Hurricane Katrina population as 68 percent African-American and 28 percent White. ESRI, a national demographics firm, estimated New Orleans in 2008 to be 64 percent African-American, 30 percent White and 5.5 percent other races. As of 2014, 60.5% of the New Orleans population is African-American, 33% is White, 2.9% is Asian, and 3.6% is some other race.²⁴ According to the Data Center, there are now 95,625 fewer African Americans living in New Orleans compared to 2000, but there are also 6,811 fewer whites; however, the number of Hispanics grew by 7,023.²⁵

AGE COMPOSITION

In the aftermath of Hurricane Katrina, there was much discussion about the potential loss of the city’s elderly population, due to the burden of evacuating, the loss of housing, and the damage to the region’s healthcare infrastructure. However, the elderly population appears to have grown slightly in proportion to the population as a whole. In 2005, the percentage of the city’s population estimated to be 65 years or older was 11 percent; it was estimated to be 12.5% in 2015.²⁶

In contrast, a primary indicator of the school-age child population, public and private school enrollment, has not kept pace with the return of the general population. In October 2008, school enrollment was almost 25 percent below pre-Hurricane Katrina numbers. The 2015 population estimates suggest that 20.4% of the population is under the age of 18, which is a decrease from 26.7% in 2000.²⁷



²³ “The 2006 Louisiana Health and Population Survey”. Louisiana Public Health Institute. popest.org/popestla2006/

²⁴ U.S. Census Bureau. *ACS Demographic and Housing Estimates: 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 23, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP05&prodType=table

²⁵ The Data Center. (2016, June 29). *Who Lives in New Orleans and Metro Parishes Now?*. Retrieved August 23, 2016 from <http://www.datacenterresearch.org/data-resources/who-lives-in-new-orleans-now/>

²⁶ U.S. Census Bureau. *Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2015*. Retrieved August 23, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=PEP_2015_PEPAGESEX&prodType=table

²⁷ *Ibid.* & 2000 Census.

Anecdotal reports suggest that New Orleans has experienced significant influx of new residents, particularly young professionals around the ages of 18–34. The Kaiser Family Foundation’s 2008 survey of New Orleans residents found that 10 percent of its respondents had come to New Orleans since Hurricane Katrina, which would account for over 30,000 persons. This means that most people who have returned to the city were living there before Hurricane Katrina, but a substantial number of people have made the choice to live in post-Hurricane Katrina New Orleans. While it should be noted that “young professionals” only comprise a subset of that particular age demographic, this age group has in fact grown slightly as a share of the city’s total population, from 26.5 percent in 2005 to 28.4% in 2015.²⁸

HOUSEHOLD COMPOSITION

Nationally, since 1960 the number of households with children has been declining and the number of single-person households has been increasing. While 48 percent of U.S. households in 1960 included children under 18 and only 13 percent were single-person households, by 2000, only one-third of households included children and the percentage of single-person households had doubled to 26 percent.²⁹ These trends are even more visible in cities, and New Orleans’ household composition is consistent with these trends. According to 2014 American Community Survey (ACS) estimates, 51 percent of households in New Orleans were family households (made up of people related by blood or marriage), compared to 60 percent in 2000. Similarly, the percentage of all households in New Orleans with at least one child under 18 declined from 35 percent in 2000 to an estimated 22 percent in 2014. An estimated 24 percent of New Orleans households were single-person households in 2014, compared to 33 percent in 2000. The percentage of households headed by single women with their own children declined from 14 percent of all households in 2000 to an estimate close to 11 percent of all households in 2014.³⁰

SCHOOL ENROLLMENT

Public school enrollment in New Orleans peaked at approximately 110,000 students in 1970 and had declined by almost half, to approximately 60,000, by 2005, before Hurricane Katrina.³¹ In the year before Hurricane Katrina, with an overall population that was 67 percent African American, the city’s public schools were over 93 percent African American.³² By contrast, private school students in Orleans Parish were 45 percent African American in the same year. According to data from the Cowen Institute for Public Education Initiatives for the 2014-2015 school year, public school enrollment in New Orleans had reached 46,000 students,³³ continuing its upward trend since the post-Katrina low of 12,000 students.

²⁸ Ibid.

²⁹ U.S. Census Bureau

³⁰ U.S. Census Bureau. *ACS Households and Families Estimates: 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 24, 2016, from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S1101&prodType=table

³¹ A Blueprint: Building 21st Century Schools in New Orleans, School Facilities Master Plan for New Orleans, August 2008, p. 23.

³² U.S. Census Bureau and Louisiana Department of Education

³³ Rossmeier, Vincent & Sims, Patrick. *Tulane University Cowen Institute for Public Education Initiatives: The State of Public Education in New Orleans: 10 Years After Hurricane Katrina*. Retrieved August 24, 2016 from <http://www.speno2015.com/images/SPENO.2015.small.single.pdf>

For the 2014-2015 school year, according to data released by the Louisiana Department of Education, over 87 percent of public school students were African American, 6 percent White, and 7 percent Other. Enrollment numbers released from the 2013-2014 school year found that the enrollment of Hispanic students had reached 5 percent, an increase from 1 percent during the 2004-2005 school year.³⁴ By contrast, private school enrollment for the 2008-2009 school year was 18,493 students, 58 percent of whom were White, 37 percent African American, 3 percent Hispanic, and 3 percent Asian. 1,055 other races. Since Hurricane Katrina, the landscape of education in New Orleans has changed dramatically. New Orleans public schools are currently administered by two school districts, the State-run Recovery School District (RSD) and the Orleans Parish School Board (OPSB)—the pre-Hurricane Katrina manager of most public schools. Under Act 91, signed into law by Governor John Bel Edwards on May 12, 2016, all RSD schools must return to the OPSB by July 1, 2018 (with the possibility of a one year extension under special circumstances). At that point, OPSB will be the primary governing authority for Orleans Parish public education.³⁵ As of the 2014-2015 school year, over 90 percent of the public schools in Orleans Parish were charter schools, with 57 under the direction of the RSD and 14 overseen by the OPSB.³⁶ (Cowen) Since the beginning of the first full, post- Hurricane Katrina school year beginning in the fall of 2006, public school enrollment, including charter schools, has grown 63.9 percent; yet enrollment still stands at only about 70 percent of the pre-storm figure of 66,372 (Cowen + original # of 66k). Private school enrollment since Hurricane Katrina had been regaining pre-Hurricane Katrina levels of enrollment somewhat faster than that of public schools. However, data from 2014 indicate only 14,280 students in private schools.³⁷ This is in contrast to the 26,008 students that were enrolled in private schools in the 2004-2005 school year, and more recently the 18,493 students in 2008-2009. The Great Recession, as well as perceived improvements to the New Orleans public education landscape, may have had a correlative effect on this number.

The socioeconomic composition of public school systems is measured primarily by the percentage of students eligible for the federal free and reduced price lunch program. As of June 2015 school year, 83 percent of the total public school student population in New Orleans qualified (Cowen).

INCOME PROFILE

Before Hurricane Katrina, median incomes in New Orleans had stabilized in comparison to the metropolitan area after having fallen for decades. According to 2014 ACS estimates, the median family income in the City of New Orleans (\$48,381) was slightly above the New Orleans-Metairie Metro Area median family income (\$47,412).

³⁴ Louisiana Department of Education. *Student Enrollment & Demographics*. Retrieved August 24, 2016 from <http://www.louisianabelieves.com/docs/default-source/katrina/final-louisiana-believes-v5-enrollment-demographics22f9e85b8c9b66d6b292ff0000215f92.pdf?sfvrsn=2>

³⁵ Orleans Parish School Board website. Retrieved August 24, 2016 from <http://opsb.us/nola-schools-unification/>

³⁶ Rossmeier, Vincent & Sims, Patrick. *Tulane University Cowen Institute for Public Education Initiatives: The State of Public Education in New Orleans: 10 Years After Hurricane Katrina*. Retrieved August 24, 2016 from <http://www.speno2015.com/images/SPENO.2015.small.single.pdf>

³⁷ U.S. Census Bureau. *ACS: Sex by School Enrollment by Level of School by Type of School for the Population 3 Years and Over. Universe: Population 3 years and over. 2010-2014 American Community Survey 5-Year Estimates*.

	CITY OF NEW ORLEANS				NEW ORLEANS METROPOLITAN AREA			
	1999	2005	2007	2012	1999	2005	2007	2012
\$0 to \$24,999	46.4%	43.3%	35.40%	37+.1%	36.1%	33.7%	25.70%	27.6%
\$25,000 to \$49,999	27.5%	25.5%	25.00%	24.1%	29.2%	26.1%	25.60%	24.8%
\$50,000 to \$74,999	12.6%	12.4%	16.30%	14.4%	17.0%	15.7%	18.10%	16.7%
\$75,000 to \$99,000	5.7%	6.3%	9.20%	8.6%	8.4%	10.0%	12.60%	11.3%
\$100,000 to \$149,999	4.2%	7.0%	7.00%	8.4%	5.8%	9.2%	10.80%	11.8%
over \$150,000	3.6%	5.5%	7.20%	7.2%	3.5%	5.2%	7.20%	7.8%

SOURCE: U.S. CENSUS BUREAU; 2005 AND 2007 ESTIMATES

INDIVIDUALS AND HOUSEHOLDS IN POVERTY

Of all 50 U.S. states, Louisiana in 2014 had the third highest percentage (19.6 percent) of persons living below the poverty line, behind New Mexico (20.9 percent) and Mississippi (22.6 percent).³⁸ The state was ranked second highest in 2000 and 2007.³⁹ While an analysis of 2000 Census data found that New Orleans ranked second among large U.S. cities in the rate of concentrated poverty—the percentage of all impoverished people in the city who lived in extreme-poverty neighborhoods (where more than 40 percent of residents live below the poverty line)—more recent research places New Orleans at 40th (2009–2013). This was largely spurred by the Great Recession.⁴⁰ Map 2.3 below shows the census tracts in New Orleans characterized by moderate to severe poverty in 2000. 2014 data from ACS found that over 35 percent of African American residents in New Orleans had incomes below the poverty line⁴¹ while just under 14 percent of White residents in New Orleans were living in poverty.⁴² Poverty rates across the board, including among the White population, are still very high relative to national standards.

Since Hurricane Katrina, rates of family poverty initially declined in New Orleans, while poverty among individuals increased. Although the percentage of families in poverty dropped from 21.8

³⁸ U.S. Census Bureau. *ACS Selected Economic Characteristics: 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 25, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table

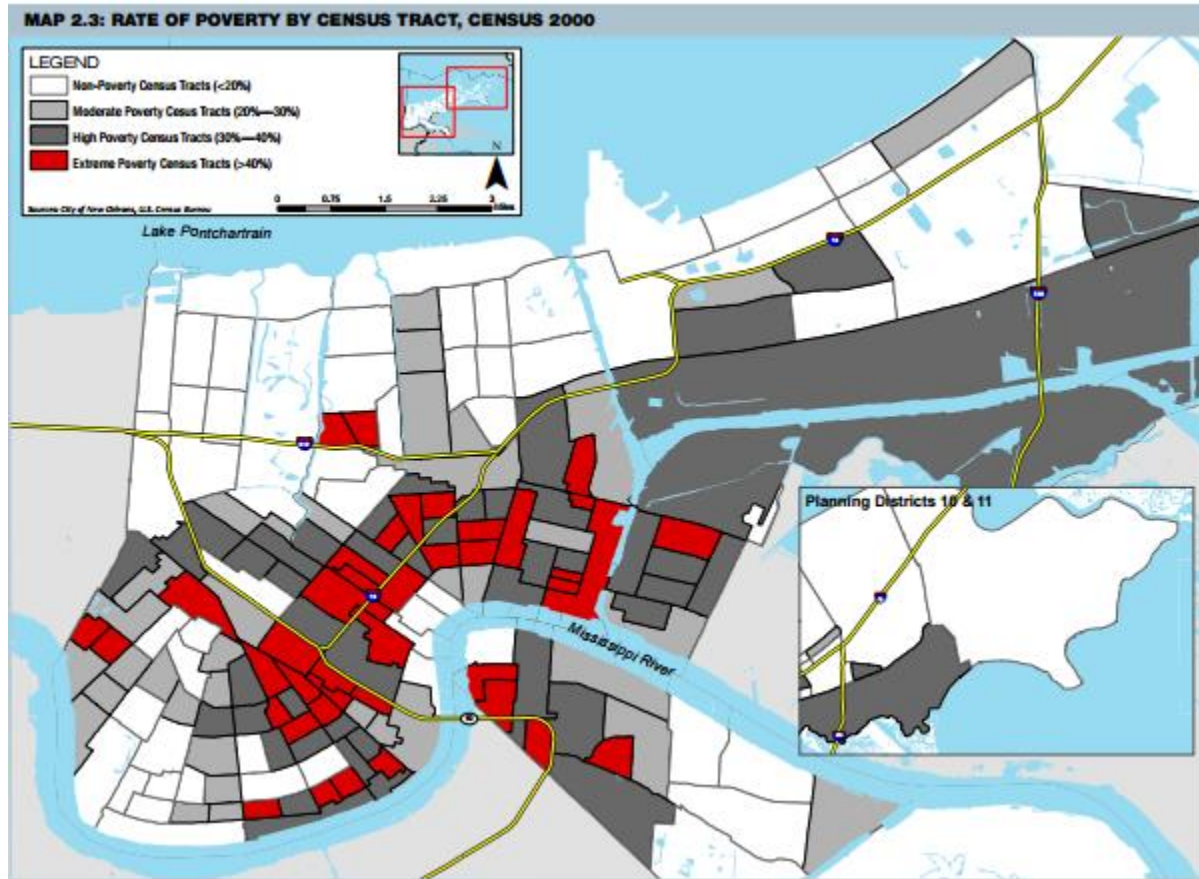
³⁹ Alan Berube and Bruce Katz, “Hurricane Katrina’s Window: Confronting Concentrated Poverty Across America,” (Washington, DC: The Brookings Institution, October 2005), 3.

⁴⁰ Alan Berube and Natalie Holmes, “Concentrated poverty in New Orleans 10 years after Katrina,” (Washington, D.C.: The Brookings Institution, August 2015). Retrieved August 26, 2016 from <https://www.brookings.edu/blog/the-avenue/2015/08/27/concentrated-poverty-in-new-orleans-10-years-after-katrina/>

⁴¹ U.S. Census Bureau. *ACS Poverty Status in the Past 12 Months by Age (Black or African American Alone)*. Universe: Black or African American alone population for whom poverty status is determined: 2010-2015 American Community Survey 5-Year Estimates. Retrieved August 26, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B17020B&prodType=table

⁴² U.S. Census Bureau. *ACS Poverty Status in the Past 12 Months by Age (White Alone)*. Universe: White alone population for whom poverty status is determined: 2010-2015 American Community Survey 5-Year Estimates. Retrieved August 26, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B17020A&prodType=table

percent in 2005 to 15.3 percent in 2007, by 2014, it had increased to 22.7 percent.⁴³ New Orleans had a higher family poverty rate than both the metropolitan area in 2012 (21.8 percent in New Orleans compared to 13.6 percent in the Metro area⁴⁴) and Louisiana in 2014 (15.1 percent in Louisiana compared to 22.7 percent in New Orleans⁴⁵).



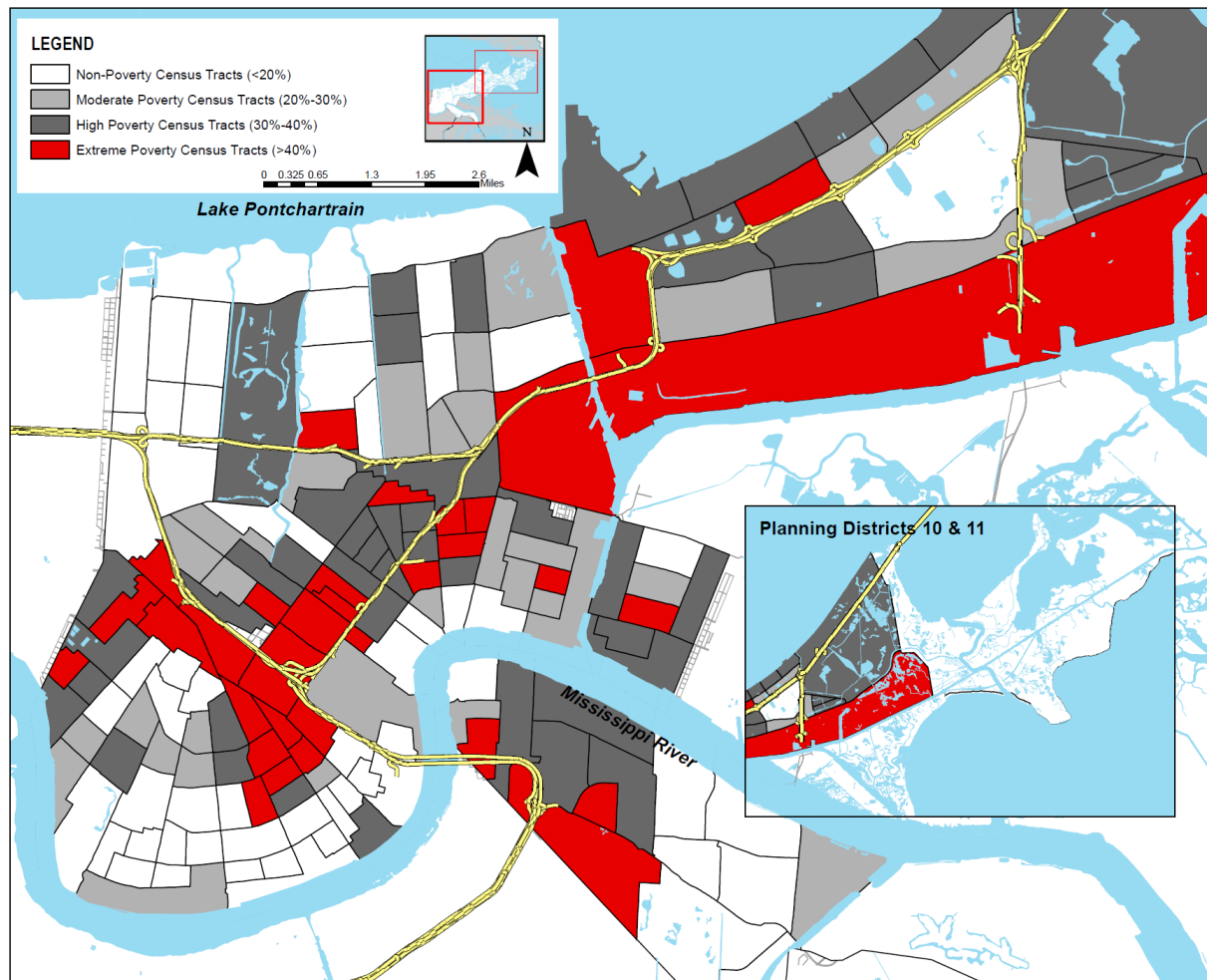
⁴³ American Community Survey, Selected Economic Characteristics. 2010-2014 American Community Survey 5-Year Estimates. Retrieved on August 26, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table

⁴⁴ American Community Survey, Poverty Status in the Past 12 Months of Families: 2008-2012 American Community Survey 5-Year Estimates. Retrieved on August 30, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_5YR_S1702&prodType=table

⁴⁵ American Community Survey, Poverty Status in the Past 12 Months of Families: 2010-2014 American Community Survey 5-Year Estimates. Retrieved on August 30, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table

American Community Survey, Poverty Status in the Past 12 Months of Families: 2008-2012 American Community Survey 5-Year Estimates. Retrieved on August 30, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_5YR_S1702&prodType=table

MAP 2.3.1: RATE OF POVERTY BY CENSUS TRACT, 2010



Since Hurricane Katrina, there have been many changes in the composition of the impoverished population. Though the percentage of New Orleanians living in poverty who were under 18 years old had dropped from 38 percent in 2005 to 31.8 percent in 2007, in 2015 that percentage had increased to 41.5 percent. Additionally, while the percentage of families in poverty that have children under 18 dropped from 32.8 percent in 2005 to 24.2 percent in 2007, that number has begun to rise. As of 2015, it is at 34.7 percent. The percentage of families in poverty that have very young children (defined as under the age of 5) had also declined from 29.5 percent in 2005 down to 13.4 percent in 2007. This is also on the rise, and as of 2015 has reached 29.8 percent. The city has also witnessed a return to poverty rates among its senior population similar to those seen in 2005. The elderly—defined as those over the age of 65—represent 16.8 percent of individuals in poverty, up from 11.4 percent in 2007.⁴⁶

In light of these changes in the profile of the impoverished population from 2005 to 2007, there has been an increase in the percentage of adult individuals in the city's impoverished population. In 2007, unrelated individuals over 15 years of age accounted for 30 percent of the impoverished population, up from 25 percent in 2005. The trend continued to increase, and in 2015, this category accounts for 33.2

⁴⁶ U.S. Census Bureau. *ACS Selected Economic Characteristics: 2010-2014 American Community Survey 5-Year Estimates*. Retrieved August 25, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_DP03&prodType=table

percent.⁴⁷ Anecdotal evidence suggests this increase is in part attributable to the arrival of migrant workers who came to New Orleans in search of rebuilding and construction work. The fact that many of these migrant workers may be undocumented residents implies that the number of poor adults may be even higher. Whether from the region or some other part of the world, this population has become increasingly visible to the population at large in the increasing homeless population.

According to UNITY of New Orleans, a social service provider for the homeless, the homeless population in March of 2008 was estimated to be 12,000, or almost 1 in every 25 residents of the city. According to a UNITY of Greater New Orleans, a social service provider for the homeless, report released in 2015, New Orleans' per capita rate of homelessness is out of proportion with that of other comparably sized cities. The report takes into account both Orleans and Jefferson Parishes and finds that the rate of homeless is down 13 percent since 2014 with 1,703 literally homeless people (down from almost 12,000 in 2007) and 423 chronically homeless people on any given night.⁴⁸

EDUCATIONAL ATTAINMENT

New Orleans' educational profile shows high numbers at both ends of the scale. Nearly 35 percent of adults over 25 have a college degree, but over 15 percent do not have a high school diploma. While the percentage of New Orleanians without a high school degree or diploma exceeds the national average of 13.6 percent, the number of New Orleanians with college degrees from four year institutions (34.4 percent) also exceeds the national average (29.3 percent).⁴⁹

	NEW ORLEANS	U.S.
HIGH SCHOOL DIPLOMA	84.8%	86.3%
4-YEAR COLLEGE DEGREE	34.4%	29.3%

The bifurcated educational profile of the city also holds true in comparison with the metropolitan area as a whole. In 2012, the most recent data available, a higher percentage of New Orleans residents were college graduates than metropolitan area residents (33 percent in New Orleans compared to 26.5 percent in the metro area). While in the past, a higher percentage of New Orleans residents lacked a high school diploma in comparison to metro area residents overall, that gap is closing and is now barely distinguishable (15.3 percent in New Orleans compared to 15.2 percent in the metro area have a high school diploma or degree).⁵⁰ In 2005, before Hurricane Katrina, the city was estimated to have a much higher percentage of residents without a high school diploma: 28 percent. This increase in the percentage of New Orleanians with a high school diploma or degree may be partially correlated with the in-migration of a more educated and older demographic in the years immediately following Hurricane Katrina.

⁴⁷ *Ibid*

⁴⁸ *Unity of Greater New Orleans. A Home for Every New Orleanian: A Report on Progress Toward Ending Homelessness Since Hurricane Katrina.* August 2015. Retrieved August 25, 2016 from <http://unitygno.org/wp-content/uploads/2015/08/A-Home-for-Every-New-Orleanian.pdf>

⁴⁹ *American Community Survey.* Retrieved August 25, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S1501&prodType=table

⁵⁰ *American Community Survey.* Retrieved August 25, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_12_5YR_S1501&prodType=table

B. LAND USE

A land use profile of a particular city, county, or parish outlines the geographical location of various categories of land uses. Typical land use categories include residential, commercial, agricultural, and industrial. A land use profile may also delineate areas of high or low concentration, such as high-, medium- and low-density residential areas, mixed use areas, and so on.

Land use is distinct from zoning in that a land use category is a broad characteristic, whereas zoning regulates more specific characteristics of place. Whereas land use specifies general categories of uses, zoning regulates the specific character of each type of land use, including the basic physical characteristics of buildings (e.g., height, setback, and sometimes shape or form), and often more specific physical characteristics, such as design features, landscape elements, signage characteristics, stormwater elements, and so on. Zoning may also specify some operational functions such as parking requirements, hours of operation, and specific types of uses (e.g. a particular location within a commercial land use category could be zoned to allow restaurants but not bars).

While the general distribution of land uses has not changed significantly since Hurricane Katrina, the severe flooding associated with the storm has resulted in the vacancy or abandonment of many properties that were previously actively used for residential, commercial, or industrial purposes before Hurricane Katrina.

HISTORICAL DEVELOPMENT PATTERNS IN NEW ORLEANS

The corporate boundaries of the City of New Orleans have been static since the nineteenth century, but the urban footprint of the city has expanded significantly over the past 100 years. Before the beginning of the 20th century, the urbanized area of the city was confined to the natural high ground close to the Mississippi River and along a series of natural ridges, such as Esplanade Ridge. With the utilization of the screw pump in 1913 and the beginnings of a levee system, land development spread into lower lying areas that had historically been swamp land. The urbanized area of the city grew more than 40 square miles or almost 100 percent between 1913 and 2000.⁵¹

Rapid expansion into wetland areas was underway in New Orleans well before the 1940s. Pre-war neighborhoods such as Broadmoor and Mid-City were made possible by the draining of low lying areas. The pattern of developing previously undevelopable wetlands continued unabated for several decades after World War II, as neighborhoods like Gentilly and Lakeview supplied homes to baby boomer families.

Unlike many older, established cities with fixed boundaries, New Orleans had ample new land for post-war development. In fact, the large amount of previously undevelopable land permitted suburban expansion well beyond the immediate post-war period. New Orleans East and much of the west bank Algiers area were developed in the 1960s, 1970s, and even well into the 1980s. From 1939 to 1990, the

⁵¹ [Spatial Analysis and Urbanized Area Map Series by Richard Campanella, Professor at Tulane and member of the Tulane/Xavier Center for Bioenvironmental Research. The work also appears in his book *Geographies of New Orleans*](#)

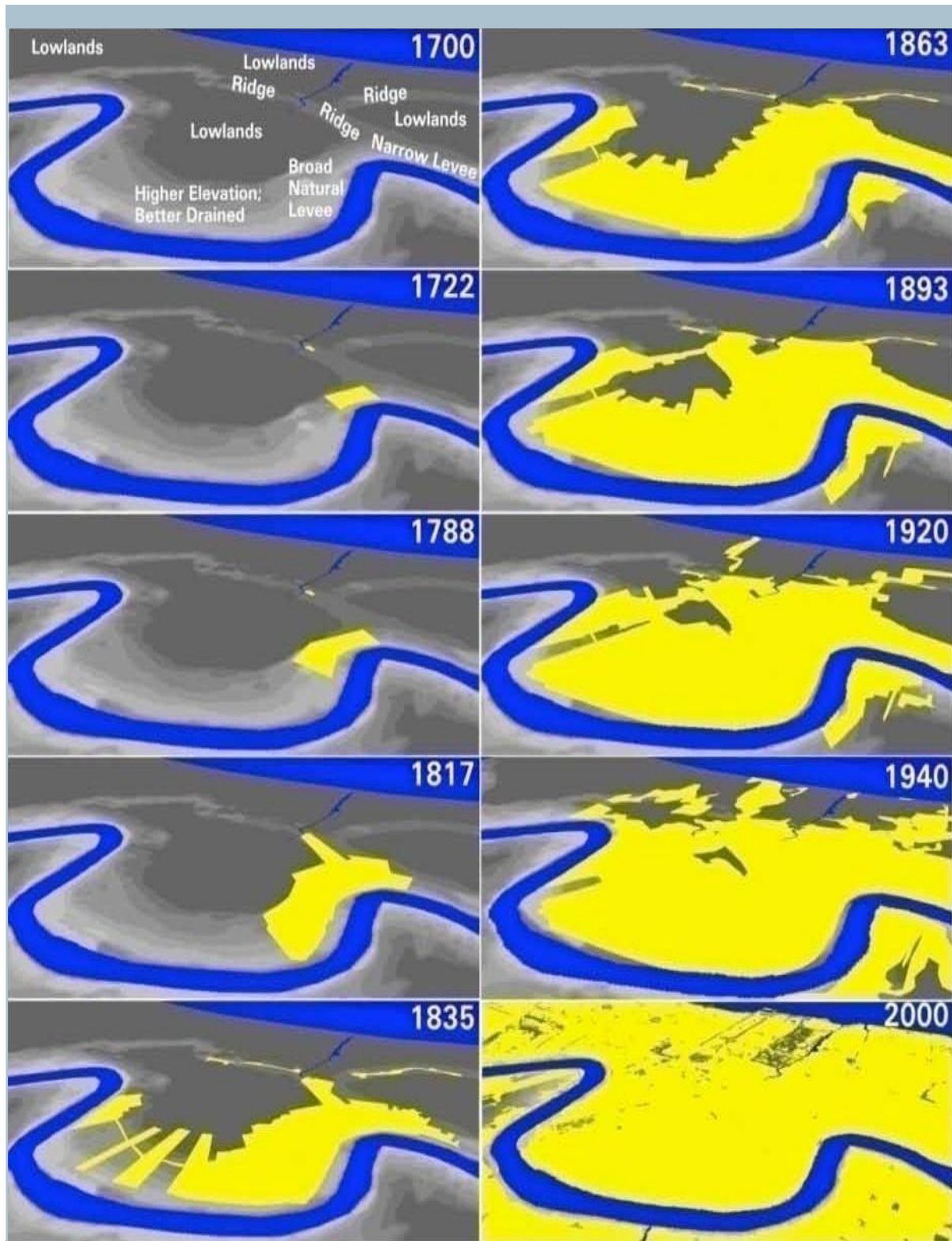
city's urbanized footprint grew from approximately 42 square miles to approximately 71.25 square miles, a 70 percent increase.⁵² As a result, New Orleans has numerous neighborhoods whose density, architectural profile, and overall aesthetic would not be out of place in many suburban locations. At the same time that newer neighborhoods were gaining wealth, population, and new investment, many of the city's older neighborhoods were experiencing disinvestment. The new, "suburb within a city" phenomenon that New Orleans experienced helped to stave off the kind of especially severe erosion of its population and economic base that plagued other cities during the same period.

The geographical extent of urbanized land in New Orleans has been relatively constant since the mid-1980s, with notable exceptions such as the English Turn subdivision in the Lower Coast of Algiers and the Eastover and McKendall Estates subdivisions in New Orleans East. The pace of new, "greenfield" development—development on previously undeveloped land—slowed considerably because of the relative paucity of large tracts of developable land left within the city limits, the downturn in the regional economy as a result of the oil bust of the mid-1980s, and continued concerns about quality of life issues such as crime and public education.

While New Orleans witnessed very little new, suburban-style development within its boundaries in the 1990s, the city began to see the kind of urban-focused new investment found in cities throughout the country: small scale reinvestment within the city's established neighborhoods and larger "infill" projects within and around the Central Business District (CBD). Changes in the city's land use profile in the years leading up to Hurricane Katrina were relatively minor. The urban core—particularly in the Warehouse District and Central Business District—witnessed a continued, steady trend of adaptive re-use and limited infill development. The only other major change in the intervening years was the continued demolition and redevelopment of New Orleans' public housing developments, a process that began in the early 1990s.

Since Hurricane Katrina, because of the degree of flooding and the myriad impediments to recovery, many structures remain vacant; many others have been demolished and replaced by vacant lots or new development. Not coincidentally, the neighborhoods that are grappling with the blight wrought by Hurricane Katrina are for the most part those whose development was made possible by the wetland drainage and the levee protection system. When the levees and floodwalls failed in August 2005, these lower lying areas bore the brunt of the flooding. Within these severely impacted neighborhoods, therefore, the major change in their land use profile has been the exponential increase in the amount of vacant and underutilized property.

⁵² [Spatial Analysis and Urbanized Area Map Series by Richard Campanella, Professor at Tulane and member of the Tulane/Xavier Center for Bioenvironmental Research. The work also appears in his book *Geographies of New Orleans*](#)



Yellow indicates general extent of urbanized area, according to historical maps from selected years. interpretation and graphic by R. Campanella.

RESIDENTIAL USES

RESIDENTIAL USES AND CHARACTER

Residential uses account for approximately 25 percent of the total land area of the city.⁵³ Of 215,091 housing units counted in the 2000 Census, 57 percent were single family homes, 23 percent were in two to four unit structures, and 29 percent were in structures of five units or more.⁵⁴ Of 191,310 housing units estimated in 2015, 57 percent were single family homes, 22 percent were in two to four unit structures, and 19 percent were in structures of five units or more.⁵⁵ Both the vintage and the typology of the city's housing stock are extremely diverse, largely as a result of the fact that New Orleans witnessed a steady pace of development from the 18th century through the 1980s. Thirty percent of housing units were built before 1940, but fully 40 percent of the residential units were built after 1960.⁵⁶ Approximately 30 percent of housing units were built before 1940, 22 percent were built between 1940 to 1959, 26 percent were built between 1960 and 1979, 12 percent were built between 1980 and 1999, and roughly 10 percent of the housing stock has been built since 2000.

The residential character of neighborhoods built before 1940 is distinct from the post-World War II suburban-style development. The predominant residential character of the city's pre-World War II historic neighborhoods is a mixture of low-rise single family, two family, and small multifamily (generally no more than 5 unit) structures. In contrast, the single family house, often (but not always) a one-story slab-on-grade home, predominates in post-war neighborhoods such as Lakeview, Gentilly, New Orleans East, and much of Algiers. In the city's postwar neighborhoods, there is little of the intermediate density, interspersing of residential types, and residential uses on upper floors with commercial use on the ground floor, found in the historic core. Instead, residential density in Algiers, New Orleans East, and, to a lesser extent, Gentilly, tends to be either single family detached or large-scale multifamily development. In the neighborhoods where they are found, these two building types also are usually physically separated, whether by fencing, a major roadway, or some other impediment such as a drainage canal.

RESIDENTIAL DEVELOPMENT 1990-2005

In 2004, the last full year before the Hurricane, the City issued permits for the construction of 887 new residential units. This total was somewhat higher than what the city had witnessed in the preceding 10 years when New Orleans averaged 598 permitted new units annually.⁵⁷ New building activity in New Orleans was substantially below the level of construction seen in booming urban residential markets such as Miami, Atlanta, and Seattle, though it was somewhat stronger than the totals seen in slower growth cities. Table 3.6 provides building permit totals over several years for New Orleans and other cities that, like New Orleans, have fixed boundaries and a limited amount of developable land.

⁵³ New Orleans City Planning Commission.

⁵⁴ U.S. Census Bureau

⁵⁵ "U.S. Census Bureau. Units in Structure: Housing Units 2010-2014 ACS 5-Year Estimates

. Retrieved August 24, 2016, from

http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25024&prodType=table

⁵⁶ U.S. Census Bureau

⁵⁷ U.S. Census Bureau, Censtats database

During this period, a few new greenfield subdivisions (subdivisions on previously undeveloped or agricultural land) were built at the city’s urban edge, such as English Turn in Algiers and the newer phases of the Eastover development in New Orleans East. There was also the steady march of small scale home renovations and infill construction in many of New Orleans’ historic neighborhoods, such as Old Algiers and the Irish Channel. Finally, there was also an increasing number of new infill and adaptive re-use projects at a larger, multiunit scale, particularly in the Warehouse District neighborhood.

The single biggest change in residential land use that New Orleans witnessed prior to Hurricane Katrina was the redevelopment of its major public housing complexes. As of 1997, before large scale, coordinated demolition and redevelopment had begun, the Housing Authority of New Orleans (HANO) managed a total of 12,935 public housing units, approximately 6 percent of the city’s total housing stock. From the standpoint of total units and residents, HANO was the 10th largest urban public housing authority in the country, despite the fact that New Orleans was only the 31st largest city in the country.⁵⁸ Following the precedent set by other public housing agencies around the country, HANO’s goal was to create less dense developments that provided housing options at a range of income levels. In the two to three years before Hurricane Katrina, this process had started in earnest at the sites of the former St. Thomas and Desire housing developments. Redevelopment plans had also been announced for the Fischer and Guste developments.

SOURCE: "US CENSUS BUREAU CENSTATS DATABASE

TABLE 2.5: PERMITS GRANTED FOR NEW RESIDENTIAL UNITS IN SELECT FIXED BOUNDARY CITIES ⁵⁹							
	CLEVELAND	PITTSBURGH	MINNEAPOLIS	ST. LOUIS	CINCINNATI	ATLANTA	NEW ORLEANS
1996	493	166	127	395	370	3,216	991
1997	393	290	525	227	144	1,704	395
1998	406	245	357	162	219	2,272	335
1999	451	367	1,141	487	212	3,888	1,151
2000	373	249	347	397	336	5,819	679
2001	389	151	745	178	336	6,794	627
2002	439	641	1,889	291	758	6,649	616
2003	450	209	1,235	1,215	641	6,893	917
2004	457	146	1,700	455	276	9,726	887
2005	443	65	1,506	865	616	7,974	617
2006	347	129	1,757	446	892	10,779	823
2007	248	117	944	517	458	9,297	3,246
2008	158	185	362	379	123	2,370	2,574
2009	123	118	398	254	45	919	1,561
2010	127	147	878	259	181	279	1,080

⁵⁸ U.S. Department of Housing and Urban Development (HUD) “1997 Picture of Subsidized Households” www.huduser.org. Population and housing unit data from U.S. Census Bureau, 2000 Census.

⁵⁹ U.S. Census Bureau. Building Permit Estimates - U.S., State, and Metropolitan Areas. Retrieved August 24, 2016 from <http://censtats.census.gov/bldg/bldgprmt.shtml>

2011	129	284	616	218	254	737	1,094
2012	177	137	3,303	605	450	2,123	966
2013	226	100	3,322	240	164	5,543	895
2014	124	338	1,959	758	601	4,505	1026
2015	172	1,270	1,489	548	216	6,697	496
TOTAL RESIDENTIAL UNITS PERMITTED 1996-2015	6,125	5,354	24,600	8,896	7,292	98,184	20,976
AVERAGE ANNUAL RESIDENTIAL UNITS	306	268	1,230	445	365	4,909	1,049

THE IMPACT OF HURRICANE KATRINA ON RESIDENTIAL LAND USE

The biggest change in the residential landscape since Hurricane Katrina centers on the number of residential units and neighborhoods that were severely flooded. In general, the older neighborhoods on higher ground fared best while the newer, 20th century (and post-War in particular) areas suffered the worst effects. In those neighborhoods that were minimally impacted, the residential land use pattern remains virtually unchanged from its pre-Hurricane Katrina condition (some have a slightly higher number of households as of 2009 than they did before the storm). Conversely, neighborhoods that were severely flooded still bear the scars of that flooding over a decade later. Many previously occupied structures either lie vacant or have been demolished. More than half of neighborhoods have recovered over 90 percent of the population they had before the levees failed.⁶⁰ Only four neighborhoods have less than half the population they had prior to Katrina; the Lower Ninth Ward, one of the City's most damaged neighborhoods; and three neighborhoods which include three public housing sites that have been demolished to make way for new mixed-income housing.⁶¹

New Orleans has seen the introduction of new densities and building types since Hurricane Katrina in the form of new infill development on formerly commercial parcels. New, higher density infill projects have been announced and are underway not only in areas that were experiencing this kind of development before the storm (the CBD and Warehouse District for example) but also on underutilized commercial parcels at the edge of lower density neighborhoods. The Tulane Avenue corridor in Mid-City in particular has seen a flurry of multifamily development. A number of multifamily infill projects have also been announced in formerly commercial areas of the Bywater neighborhood. Virtually none of these infill projects is on land that was previously lower density residential in use. In contrast, several institutional,

⁶⁰ The Data Center (2016, August 15). *Neighborhood Recovery Rates: Growth continues through 2016 in New Orleans neighborhoods*. Retrieved August 19, 2016 from http://www.datacenterresearch.org/reports_analysis/neighborhood-recovery-rates-growth-continues-through-2016-in-new-orleans-neighborhoods/

⁶¹ *Ibid.*

industrial, or former commercial structures have been converted to multi-family dwellings that are located in areas that were traditionally lower density.

COMMERCIAL USES

RETAIL

Since before Hurricane Katrina, the key issue with respect to retail land use in New Orleans has not been the location or amount of land designated for retail use, but whether active retail uses occupy the land. While approximately 4 percent of the city's land area was in commercial use prior to Hurricane Katrina,⁶² a number of vacant or partially vacant malls, strip shopping centers, and neighborhood-oriented commercial corridors were included in that tally. Since the 1980s, retailers and developers chose to develop or relocate to suburban locations, such as neighboring Jefferson Parish. Hurricane Katrina followed by a national recession created unfavorable retail conditions in the City. In late 2009, the city was home to a single department store and only about half of the grocery stores that it had before Hurricane Katrina. By 2014 the number of grocery stores had increased to about 68 percent while the number of department stores remained stable.⁶³ New Orleans also lacked the variety of major clothing, electronics, appliance, sporting goods, toy, and book stores that could be found in suburban parishes. In fall 2007, suburban Jefferson Parish had an estimated 10.5 million square feet of retail space for its 446,686 residents, while New Orleans had only 2.0 million square feet of retail—a quarter of the per capita retail space of Jefferson.⁶⁵ The lack of retail uses was not only an inconvenience to residents but a loss of potential tax revenue for the City as residents frequently traveled outside of Orleans parish to shop.

Reflecting the diversity of its neighborhoods, retail land use in New Orleans has traditionally taken a variety of forms, ranging from small-scale, neighborhood oriented commercial uses to newer big box development. Since the sudden decline of the region's oil and gas sector in the late 1980s, New Orleans had experienced a considerable overall loss of retail activity, especially national chain retail. As with residential land use patterns, the impact of Hurricane Katrina upon the retail landscape has been mixed, reflecting both pre-existing conditions and the extent of flooding.

New Orleans is competing with surrounding suburban parishes for retail establishments that can realistically serve its population. In 2011, Mayor Mitch Landrieu and local business and civic leaders created the New Orleans Business Alliance as a public-private partnership model with the City of New Orleans and charged it with bringing new retail investment to the City. Since 2010, over 122 million square feet of retail space has been created in New Orleans, and as a result an additional \$65 million in retail sales tax collections has been

⁶² City Planning Commission.

⁶³ U.S. Census Bureau. Geography Area Series: County Business Patterns, 2014 Business Patterns. Retrieved August 30, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=BP_2014_00A1&prodType=table

⁶⁴ Inventory conducted by GCR & Associates

⁶⁵ "2008 Metropolitan New Orleans Real Estate Market Analysis" published by the UNO Institute for Economic Development & Real Estate Research. Figures are estimated for Fall 2007. Jefferson population estimate from ESRI.

generated.⁶⁶ Between 2011 and 2016, there has been an additional 39 percent increase in retail sales and an additional \$65 million in retail sales tax collections supporting city services. In 2015, over thirty new retailers either opened or announced they would be opening in New Orleans, including Michael's, PetSmart, and TJ Maxx, and retail sales tax collections exceeded \$205 million—more than any year in recent history.⁶⁷

- Canal Street: Still viable in the mid-1980s with five major department stores (locally owned), specialty retail and national chains. Many mid-priced and high-end retail has been replaced by tourist-oriented and value (low-priced) retail. The Shops at Canal Place, at the foot of Canal Street, boasts luxury retail stores such as Saks Fifth Avenue, Armani Exchange, and Brooks Brothers. As of early 2016, the 260,000 square foot site had a 96 percent occupancy rate and had just been purchased by a New York real estate investor.⁶⁸
- Shopping Malls: New Orleans Centre, near the Superdome; Lake Forest Plaza in New Orleans East; Uptown Square near Audubon Park—all had high vacancy rates before Hurricane Katrina in 2005. Malls doing well were Canal Place, Riverwalk Mall (tourist-oriented) and neighborhood strip malls in the lake neighborhoods, Gentilly, and Uptown. Retail in New Orleans East and Algiers was viable with notable losses of supermarkets, electronics, and furniture stores. The Riverwalk Mall underwent an \$82 million renovation and opened in 2014 as The Outlet Collection at Riverwalk with stores such as Gap Factory Store, Fossil, and Coach Outlet. During the renovation, the mall was expanded to 250,000 square feet and in its first year exceeded \$100 million in sales.⁶⁹ Mid-City Market, developed along North Carrollton with over 100,000 square feet of commercial space, houses Winn-Dixie as an anchor business, as well as Office Depot, Jefferson Feed Pet & Garden Center, among other retailers, restaurants, and Ochsner Health Center. Lake Forest Plaza may soon have a new developer.
- “Big box” stores: Before Hurricane Katrina, “big box” stores included three Walmarts—in New Orleans East along I-10, in a supercenter that was built as part of the redevelopment of the former St. Thomas public housing development, and in a supercenter built on a greenfield site along Behrman Highway in Algiers. There was also a Lowe's in Gentilly and, in New Orleans East, Sam's, Home Depot, Sears, and Campo stores. As of 2016, a fourth Walmart had opened in New Orleans East. Multiple home improvement stores, such as Lowe's and Home Depot are in existence. Major big box store Costco opened on South Carrollton Avenue in 2013.
- Neighborhood and boutique retail: Historic districts with mixed-use streets, such as Magazine Street and Oak Street, with small scale, neighborhood-oriented and boutique retail, service and entertainment businesses, continue to be vibrant.

⁶⁶ New Orleans Business Alliance. 2015 Annual Report. <http://issuu.com/markwag123/docs/nolaba-reportlayout-7-19-digital-fi/13?e=3311656/37317719>

⁶⁷ New Orleans Business Alliance. Retrieved August 30, 2016 from <http://www.nolaba.org/wp-content/uploads/2016/02/2016InvestorPackage.pdf>

⁶⁸ Greg LaRose, NOLA.com. “The Shops at Canal Place sells to New York investor.” Retrieved August 30, 2016 from http://www.nola.com/business/index.ssf/2016/02/the_shops_at_canal_place_sells.html

⁶⁹ Katherine Sayre, NOLA.com. “A year after Riverwalk's rebirth: Is Outlet Collection a success? Q&A with general manager.” Retrieved August 30, 2016 from http://www.nola.com/business/index.ssf/2015/05/was_the_riverwalks_first_year.html

- Grocery stores: Grocery stores have opened disproportionately across the city with a heavy concentration on the Uptown side of the French Quarter. Although in 2008, New Orleans East only had a single grocery store, several more—including a Winn-Dixie—have opened in the area. Walmart also fills this need for residents in the East and has increased sales tax revenue for the area by 30 percent. The Mid-City area has experienced an increase in the number of grocery stores, including Rouses, Winn-Dixie, and Whole Foods. The Upper Ninth Ward remains fairly isolated from full-service grocery stores. A few miles away in the Seventh Ward, Circle Food Store reopened in early 2014, providing the community with much needed access to fresh foods. The Central Business District gained a Rouses in late 2011, providing a needed service to not only downtown workers but also to residents and future residents.

OFFICE USES

Because office uses in New Orleans have continued to cluster in the downtown area, which experienced little flooding, the recovery of office space has been rapid, aiding the economic recovery of the city. The best inventory of local office space comes from the UNO Real Estate Market Data Center, which estimates that the city in 2008 had 7.8 million square feet of Class A office space or 90.2 percent of its pre-Hurricane Katrina total.⁷⁰ This compares very favorably with downtown’s pre-Hurricane Katrina (2005) occupancy rate of 85.9 percent.⁷¹ The volume of relatively affordable Class A office space in downtown New Orleans, much of it built during the 1970s and 1980s, is a principal reason why the CBD remains an attractive place for companies to locate.

No real estate project announced since Hurricane Katrina has included a major office component in spite of consistently high occupancy rates in existing office space. Meanwhile, much of the older Class B and C office space in downtown New Orleans has been adapted to non-office uses over the past fifteen years. Many of these buildings have been converted into hotels, and some have been converted to multifamily residential uses. Both before and since Hurricane Katrina, few major nodes of office activity in the city exist outside of the CBD:

- The Canal Street corridor from Claiborne Avenue to City Park Avenue has traditionally been home to a mixture of older (1950s and 1960s) mid-rise office buildings as well as low rise residential buildings that have been converted to office use. Despite moderate to substantial flooding along the corridor and a number of vacancies, many of these office spaces have been reoccupied.
- The UNO Research and Technology Park, adjacent to the UNO campus, is home to approximately 800,000 square feet of Class A offices that house a combination of government, university, and private employers with a UNO relationship.⁷² While occupancy was temporarily disrupted after Hurricane Katrina,

⁷⁰ 2008 Metropolitan New Orleans Real Estate Market Analysis” published by the UNO Institute for Economic Development & Real Estate Research. Figures are estimated for Fall 2007.

⁷¹ 2008 Metropolitan New Orleans Real Estate Market Analysis” published by the UNO Institute for Economic Development & Real Estate Research. Figures are estimated for Fall 2007.

⁷² Correspondence with Norma Grace, Vice-Chancellor of Technology and Economic Development, University of New Orleans

as of late 2009 the office park was in full use. In 2015, Whitney Bank signed a 10-year lease agreement for use of a 104,000-square foot space within the Park.

- The General de Gaulle corridor in Algiers includes a number of office buildings in office park settings. One of these office parks, Westpark, was occupied prior to Hurricane Gustav in September of 2008 but sustained wind damage as a result of Gustav. In 2015, Hertz Investment Group sold the building to local owners who are leasing the property to businesses; in the long term, however, they are considering converting it into condominiums. Another office park at General de Gaulle and West Bend Parkway contains offices that have recovered as well as two entire buildings that have not been reoccupied since Hurricane Katrina.
- In New Orleans East, some of the limited amount of office space that existed before Hurricane Katrina has been reoccupied. New Orleans East's office inventory includes the Executive Plaza building at 10001 Lake Forest Boulevard. Executive Plaza was closed following Hurricane Katrina, but is back in operation, though with several suites available for lease.
- Throughout the remainder of the city, office uses generally take the form of low rise, small scale structures. The recovery of these buildings generally parallels the recovery status of the neighborhoods in which they are located. A recent trend in co-working spaces has expanded across the city from the Central Business District, to Central City, to Broadmoor, to the Bywater. Numerous other offices are embedded in neighborhoods around the city as well.

A final noteworthy development in the local office market is the loss of medical offices since Hurricane Katrina. The post-storm status of private medical office buildings generally tracks the recovery status of adjacent anchor medical facilities. A limited number of private medical offices have reopened in the medical office building at 5640 Read Boulevard adjacent to the shuttered Methodist Hospital in New Orleans East, but the majority of medical office space in the vicinity of Methodist remains closed. Virtually all of the private medical offices within and adjacent to the shuttered Lindy Boggs Hospital in Mid-City and the Lakeland Medical Pavilion in New Orleans East also remain closed. One medical facility that did suffer severe flooding but has been restored is the Ochsner Baptist Hospital (formerly Tenet) in the Freret neighborhood. As core hospital facilities and functions are slowly being brought back on line, private medical offices within and around the Ochsner complex have been restored. Ochsner has expanded its facilities to include health centers within the Mid-City Market development on North Carrollton Avenue and in Algiers. Other medical offices have been developed, particularly in the form of neighborhood-based clinics totaling over 60, 42 of which are federally-qualified.

MIXED USE DEVELOPMENT

The term "mixed use" is used to describe structures that contain more than one land use type (sometimes called "vertical" mixed use) and districts where a variety of land uses coexist side by side ("horizontal" mixed use). The 1999 Land Use map did not show a category for mixed-use areas, but field observation indicates that much of the land located in the pre-1940 city that is classified as "commercial" is in fact mixed use, with ground floor retail, office, or entertainment uses and upper floor residential use. The Magazine

Street corridor, the French Quarter, Faubourg Marigny, Bywater, Old Algiers, and other historic neighborhoods are notable for the combination of residential and commercial uses within many of their historic buildings. Because mixed use areas are primarily located within older neighborhoods on higher ground, the mixed use inventory in the city was not substantially affected by Hurricane Katrina's floodwaters.

Many recent residential infill projects in New Orleans (mostly located in the Warehouse District), have included a ground floor commercial component. The new South Market District within Downtown New Orleans is a recent example of a mixed-use development. A five-block area bounded by Loyola Avenue, Lafayette Street, Baronne Street, and Julia Street, the South Market District is home to three residential (one condo and two apartment) buildings with commercial space as well as another building with various retailers, including its anchor Arhaus furniture and CVS, and a parking garage. However, residential and daytime populations remain too limited to support robust retail or service uses. In addition, many ground floors are devoted to parking instead of commercial uses because of the perceived demand for on-site parking, and the infeasibility of building underground parking in New Orleans.

INDUSTRIAL USES

Despite its history as a major urban center during the era of urban manufacturing, New Orleans never had the large industrial footprint of other established American cities. Approximately 8 percent of the city's land area was active or vacant industrial land use category.⁷³ In the years and even decades before Hurricane Katrina, there was very little growth in industrial uses within the city.

The major nodes for industrial land use are in a select few locations:

- The Earhart Boulevard corridor is currently home to a number of small manufacturers and warehouses, such as Universal Furniture and Comeaux Furniture. The Earhart corridor has seen the closure of a number of key industrial facilities including the relocation of the regional Coca-Cola bottling plant to Jefferson Parish in 1996, the closure of the Blue Plate Mayonnaise factory shortly thereafter, and the relocation of The *Times-Picayune* printing services from Howard Avenue to Mobile, Alabama in 2016.
- The Tchoupitoulas Street corridor still includes some storage and ancillary industrial functions, though most of this land area is devoted to the Port of New Orleans. There are few, if any, "value added" industrial uses adjacent to the Port, such as manufacturing facilities or major distribution centers. A 47-acre portion of vacant property along the river, between the Pontchartrain Expressway and the Market Street power plant may soon be redeveloped by the Convention Center and partners, not only providing greater access to the riverfront but also further expanding the city's ability to compete for conventions. Riverfront redevelopment plans stem from Riverfront Vision 2005, written by the City Planning Commission. There is also a growing trend in breweries opening along the corridor such as NOLA Brewing and Urban South Brewery.

⁷³ New Orleans City Planning Commission.

- The Industrial Canal, separating the historic core of the city from New Orleans East and the Lower 9th Ward, has been a traditional locus for maritime-oriented industrial activity. The closure of the Mississippi River Gulf Outlet (MRGO), the longstanding bottleneck at the narrow lock connecting the Canal to the River, and significant damage to port facilities as a result of Hurricane Katrina have clouded the future of the Industrial Canal corridor. Despite damage from Hurricane Katrina and the aforementioned concerns, a number of industrial activities continue to operate along the Canal, including Trinity Yachts, the Bunny Bread bakery, a major UPS distribution facility, and the Luzianne coffee and tea plant.
- The New Orleans Regional Business Park (NORBP), located between Chef Menteur Highway and the Intracoastal Waterway in New Orleans East, is home to two of the region’s largest industrial facilities: NASA’s Michoud assembly plant and the Folgers Coffee Roasting plant. Both facilities, which together employ an estimated 4,400 people,⁷⁴ escaped relatively unscathed from Hurricane Katrina. The two facilities are also two of the only major tenants within the approximately 7,000 acres that are zoned for industrial use within NORBP.⁷⁵ Other NORBP tenants include waste management, automotive disposal, shipping, and construction companies. NORBP has never fully realized its potential in spite of ample industrial land and convenient access to water, rail, and truck transportation infrastructure.
- The Press Street corridor, which extends from the riverfront, separating the Marigny and Bywater neighborhoods, north to Almonaster Avenue, is an industrial corridor surrounding freight rail lines. Some historic industrial structures along the southern portion of this corridor (towards the river) have been rehabilitated and converted into non-industrial uses—including arts and educational facilities, residential units, and restaurants— in recent years.
- In addition to these major industrial nodes, a number of other industrial facilities are interspersed throughout non-industrial neighborhoods.

UNDEVELOPED LAND, RECREATION AREAS AND WETLANDS

Before Hurricane Katrina, approximately 60 percent of the City’s land area was in the categories of “Parkland/Recreation/Open Space” and “Non-urban/Wetland/Undeveloped” areas.⁷⁶ Much of this land lies in New Orleans East, east of Interstate 510, and in the Lower Coast of Algiers. Approximately 23,000 acres lie within the Bayou Sauvage National Wildlife Refuge, a federal nature preserve that was established in 1990. Between 1999 and 2005, several new residential subdivisions were developed in New Orleans East to the east of Bullard Avenue and south of Lake Forest Boulevard; new automobile dealerships were constructed along the Interstate 10 Service Road immediately to the west of I-510; and the Six Flags amusement park was built just east of I-510. All of these areas flooded during Hurricane Katrina. The Six Flags site is currently owned by the Industrial Development Board, and its fate is currently undecided. The undeveloped land in both Algiers and the Lower Coast of Algiers is somewhat qualitatively different from

⁷⁴ New Orleans Times-Picayune, February 2, 2008; “P&G plans to spin off Folgers coffee; 440 employed in N.O. operation” by Jen DeGregorio & The Advocate, January 10, 2008; “Jones to run Michoud facility” by Joe Gyan.

⁷⁵ New Orleans Regional Business Park website www.norbp.net.

⁷⁶ New Orleans City Planning Commission.

that in New Orleans East. Nevertheless, much of it is low lying; and according to surge models, much of it would be inundated if a major storm with a more westerly track than Hurricane Katrina's were to strike the city.

Since Hurricane Katrina, new public parks and recreation areas have been developed across the city. Crescent Park, opened in early 2014, is a 1.4 mile long, 20 acre linear park along the riverfront running from Elysian Fields to Mazant Street in the Marigny and Bywater neighborhoods. It is developed with biking and jogging paths, a dog run, seating areas, picnic tables, and gardens. The walking paths within the gardens are made with permeable asphalt which discourages stormwater run-off. The Park's development also included the adaptive reuse of two wharves. Crescent Park provides views of the Mississippi River and Downtown New Orleans and hosts events such as arts markets, exercise classes, and 4th of July fireworks viewing.

The Lafitte Greenway, which opened in November 2015, is a 2.6 mile pedestrian and bicycle urban trail running from Tremé to Mid-City. The former transportation corridor (initially a canal and later a railroad) has been newly redeveloped with landscaping, bioswales and other stormwater retention features, LED lighting, curb extensions, and high visibility crosswalks. The Lafitte Greenway also has ADA-compliant ramps at sidewalk corner curbs. In addition, the Greenway offers public programming including exercise classes, walking and biking tours, and Greenway cleanups.

INSTITUTIONAL, PUBLIC, AND SEMI-PUBLIC USES

An estimated 3 percent of the city's physical area is classified as "Institutional, Public and Semi-Public" use.⁷⁷ This classification consists of a wide variety of uses including public and private schools, municipal facilities such as court buildings and administrative complexes, hospitals, military installations, cemeteries, religious facilities, and colleges and universities.

There was very little change in the quality and quantity of land in this category between the most recent analysis of land use conducted by the CPC in 1999 and the immediate, pre-storm period in the summer of 2005. Immediately before Hurricane Katrina the federal Defense Base Closure and Realignment Commission (BRAC) announced that the two major military facilities in New Orleans—the Naval Support Activity (NSA) base in Bywater and the Naval Support Activity base in Algiers—would be decommissioned. As a result of an ambitious, forward thinking plan and aggressive advocacy, BRAC subsequently modified their position and endorsed the concept of a consolidated "Federal City" at the NSA Algiers site. BRAC maintained their position that the Bywater NSA facility should be closed but supported the idea that numerous military and affiliated civilian activities could be combined at the present NSA site between General Meyer Avenue and the Mississippi River on the West Bank. When Federal City is completed, it will be home to thousands of military and non-military jobs and substantial supporting retail and residential development. While portions of the site will be accessible only with security clearance, much of the site as envisioned will interface with the surrounding residential neighborhoods.

⁷⁷ New Orleans City Planning Commission.

The Justice Facilities Master Plan proposed redevelopment of the Criminal Justice complex located at Tulane Avenue and Broad Street into a campus divided into three zones: Police, Courts and Sheriff. The plan includes 12 prison facilities and several administrative buildings, and recommends use of existing facilities as well as new facilities to consolidate compatible uses. Funding for many of these projects is still unsure. A proposal for a new judicial center which would consolidate criminal, civil and municipal courts on a site adjacent to the existing district court building at Tulane and Broad has encountered resistance by the legal community and other downtown interests, who favor keeping all court activities downtown. A new law enforcement center, which will also house the city's fire department and emergency preparedness agency, is planned to replace the New Orleans Police Department headquarters.

A new Orleans Parish Prison jail facility opened in 2015. The jail, with 1,438 beds, cost \$145 million to complete and also includes a courtroom and private meeting rooms.

The New Orleans Juvenile Justice Center, opened in May 2016, brings New Orleans' juvenile services under one roof. The 59,000 square foot facility houses the New Orleans Youth Study Center, the detention center for males and females under the age of 18, and also houses the Orleans Parish Juvenile Court, a New Orleans Police Department juvenile reception center, and other related services. The Center is located in the St. Bernard neighborhood near City Park. The \$47 million facility was funded using FEMA recovery dollars, insurance, City bonds and Law Enforcement District bonds.

The only other major announcement prior to Hurricane Katrina relative to institutional land use was Tulane University's plan to develop a satellite campus at the site of the former Uptown Square Mall. While the initial proposal was met with substantial community opposition, a compromise site plan was eventually developed and subsequently approved. However, that proposal has been put on hold indefinitely since Hurricane Katrina.

A number of other major changes to the city's inventory of institutional land have occurred since the storm. The School Facilities Master Plan has identified school board property for adaptive reuse or decommissioning. The original plan, from 2008, eliminated about 40 school campuses, or one-third of pre-storm schools. It has not been revised since a 2011 amendments process. Meanwhile, the demand for new schools has grown, particularly as charter agencies buy and express interest in buying decommissioned school buildings. The School Facilities Master Plan is primarily a recovery document; thus, a longer-term plan is needed.

The University Medical Center opened in August 2015, replacing Charity Hospital—one of the oldest continuously operating public hospitals in the world, which never reopened post-Katrina. The UMC, along with the Southeast Louisiana Veterans Health Care System (VA Hospital), was a contentious topic among community members as the state-of-the-art facilities are built on the footprint of the Lower Mid-City neighborhood that was expropriated, partially relocated, and razed in the years following Hurricane Katrina. The 2.3 million square foot University Medical Center, built at a cost of \$1.1 billion, is spread across 34 acres bounded by Canal Street, South Galvez Street, Tulane Avenue, and South Claiborne Avenue. The neighboring VA Hospital is located on 30 acres bounded by Canal Street, S. Rocheblave Street, S. Galvez

Street, and Tulane Avenue. The VA plans to open in phases, beginning in December the first of which opened in November 2016. Meanwhile, Charity Hospital remains shuttered as the state seeks proposals for its eventual adaptive reuse.

The New Orleans East Hospital replaces Methodist Hospital, which was devastated in the aftermath of Hurricane Katrina. The new hospital, opened in July 2014, serves patients from New Orleans East, the Lower Ninth Ward, and St. Bernard Parish. The facility cost \$130 million to build and has 80 beds—significantly smaller than the 306 bed pre-Katrina hospital which served an area population of 200,000. The hospital plans to expand, as needed.

The Lindy Boggs Medical Center remains shuttered at this time, the lawsuit concerning the site was recently settled, and the ownership is remediating environmental issues with the building and exploring specific redevelopment.

VACANT LAND: CHALLENGES AND OPPORTUNITIES

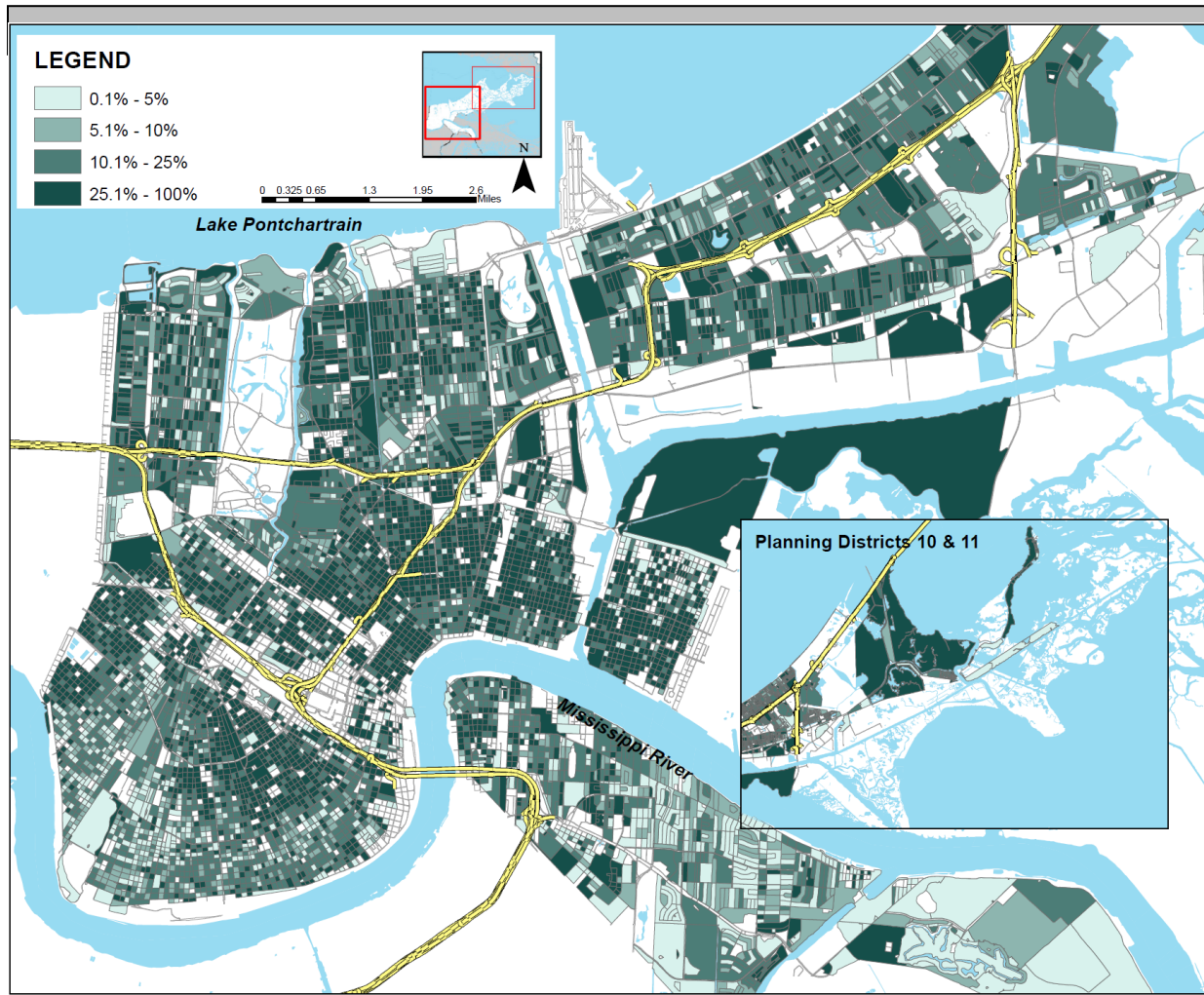
Since Hurricane Katrina, there has been no comprehensive field survey of vacant lots and unoccupied structures in the city. An analysis of HUD-aggregated USPS data conducted by the Greater New Orleans Community Data Center, now the Data Center, in 2012 estimated that the city had approximately 35,700 vacant residential addresses on vacant or blighted lots, compared to 59,000 in 2009.⁷⁸ 2014 ACS data indicates an increase in vacant housing (40,901), 21.4 percent of total housing (191,310).⁷⁹ Before Hurricane Katrina, New Orleans already had a substantial number of blighted properties. According to the 2000 Census, 26,000 (12.6 percent) of the city's housing units were vacant, including vacation rentals, units for sale or rent, and other non-blighted units. Nationwide, the housing vacancy rate was only 11.6 percent while the vacancy rate for the metro area as a whole stood at 9.1 percent. Map 2.4 illustrates the concentration of residential vacancy by Census block in 2000.

Another way of looking at the current inventory of vacant and blighted property is to examine the location of unoccupied parcels through an even sharper lens. By comparing those utility accounts that were active in July of 2005 with currently active utility accounts, one can isolate the addresses and parcels that are currently unoccupied (See Map 2.5.). The volume and the dispersed geographical location of these vacant properties present a number of pressing land use challenges.

⁷⁸ Allison Plyer and Elaine Ortiz, Greater New Orleans Community Data Center. *Benchmarks for Blight: How much blight does New Orleans Have?* August 21, 2012. Retrieved August 26, 2016 from https://gnocdc.s3.amazonaws.com/reports/GNOCDC_BenchmarksForBlight_March2012.pdf

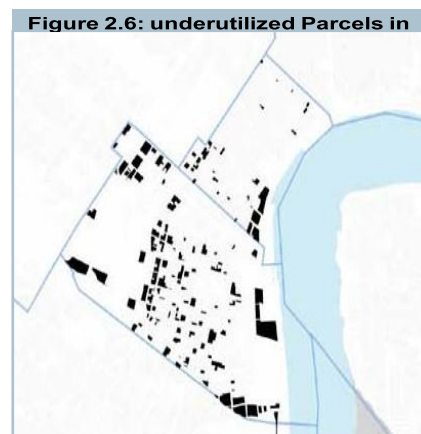
⁷⁹ ACS. Retrieved September 1, 2016 from http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B25002&prodType=table

MAP 2.4: PERCENTAGE OF HOUSING UNITS VACANT, 2000



DEVELOPMENT PATTERNS AND DENSITY

Reflecting its diversity of neighborhoods and more than 200-year-old building stock, residential densities across New Orleans vary substantially. The highest density neighborhoods—the Seventh Ward and Central City for example—have gross densities of 20 to 23 dwelling units per acre. Meanwhile, the lowest density neighborhoods, such as the fishing camps in Venetian Isles and the more rural, exurban residences in English Turn, have gross densities of less than 1.15 units per acre.⁸⁰ As mentioned previously, there have been very few developments at New



Orleans' fringe in recent years. Much of the discussion about density in New Orleans therefore revolves around two topics. The first concerns returning the city's most heavily damaged neighborhoods to their pre-Hurricane Katrina density and overall level of activity. The second conversation—which has been less prominent—is about the city's potential to accommodate significantly greater densities within its urban core. Aerial photographs or a simple walk around the city's core neighborhoods, such as the CBD, Warehouse District, and (to a lesser extent) the French Quarter, reveal that there is ample land that is underutilized and available for redevelopment. Surface parking lots, empty lots, abandoned gas stations, and vacant historic buildings all provide substantial opportunities for redevelopment. Figure 3.10 illustrates the location and area of unbuilt parcels in the core of the city. This inventory understates the total land vacant or underutilized structures that could be adaptively reused.

If the vacant parcels identified in Figure 2.6 were all developed at a typical Warehouse District density of 38.71 units per acre, the French Quarter, CBD, and Warehouse District could accommodate another 3,859 dwelling units.⁸¹ At the average household size in District 1 of 1.52 persons per household,⁸² these units could accommodate an additional 5,866 residents. This capacity analysis is fundamentally conservative as well. The potential capacity for additional units could even be higher than this for two reasons: the aforementioned opportunities for the adaptive re-use of vacant structures (this analysis only examined vacant lots) and the fact that densities substantially greater than 39 units per acre would be appropriate and could easily be accommodated along major streets in this area such as Poydras Street and Loyola Avenue.

⁸⁰ Calculation completed by GCR & Associates based on acreage and data from 2000 Census.

⁸¹ The density calculations cited were performed by GCR & Associates, using the density of The Cotton Mill apartment and condo building at 920 Poeyfarre St as an example of the predominant Warehouse District typology. The building, which fully occupies its footprint of 7.415 acres, contains 287 units in its five floors.

⁸² U.S. Census Bureau and geospatial analysis conducted by GCR & Associates

DEVELOPMENT AND REDEVELOPMENT PROPOSALS

Spurred by financial incentives such as expanded federal New Markets Tax Credits and Historic Rehabilitation Tax Credits, numerous infill projects have been announced by developers.⁸³ Between 2010 and 2014, over 200 development projects, both public and private, have been completed or are underway and total \$7.04 billion in investment. As of January 2015, 3,571 residential units were in development within Planning District 1A alone (the area that comprises the Warehouse District and CBD), with 2,000 additional ones planned. If current population per household figures within the planning district are held constant, as many as 7,600 new residents could call Planning District One home, which would more than double the area's population as of the 2000 Census.⁸⁴ While the vast majority of the proposed mixed use and residential projects are in the downtown area, a considerable number are interspersed throughout the city. Excluding downtown and excluding the redevelopment of public housing, over 11,000 proposed new units totaling as many as 27,000 residents⁸⁵ may be built within the city's neighborhoods.

The New Orleans Ernest N. Morial Convention Center is seeking to create a 47-acre mixed-use development on vacant land upriver from the Convention Center from the Pontchartrain Expressway to the Market Street power plant. The development plan could spend up to \$175 million on infrastructure and improvements along Convention Center Boulevard in order to attract a wealth of private investment, including a new hotel, condos, apartments, retail and entertainment space, and restaurants. In 2015, an economic development district for the area, called the New Orleans Exhibition Hall Authority Economic Growth and Development District, was created at the state level—and plans for it to have taxing authority are a possibility. Additional visions for the proposed redevelopment include reducing the street from four to lanes, creating a linear park, and installing a people mover, all in time for the city's Tricentennial in 2018.

C. THE FUTURE POPULATION OF NEW ORLEANS

Demographers emphasize that population “projections” are not “predictions.” Even under the most routine of conditions, the reliability of projections more than ten years in the future declines with each succeeding year. Typically, population projections are made based on judgments about the likelihood of existing trends continuing. Population change is made up of net natural increase (births minus deaths) and net migration (immigration minus outmigration), both of which can take unpredictable turns—especially migration. Population projections for New Orleans are thus exceptionally problematic in the aftermath of Hurricane Katrina.

The most important demographic numbers for cities is the number of households, not the number of people as a whole. Everyone in New Orleans seems to know that the city's population was 627,000 in 1960, declining significantly since, especially in the 1980s. As noted earlier, urban population decline is a

⁸³ Expanded federal tax credits were approved as part of the federal GOZONE legislation following Hurricane Katrina.

⁸⁴ Analysis completed by GCR & Associates, based on inventory of residential development projects and 2000 Census data.

⁸⁵ This calculation assumes 2.48 residents per household, the resident per household figure for Orleans Parish from the 2000 Census. The gross unit count is also from GCR's inventory of residential development projects.

phenomenon common to all American cities in the second half of the twentieth century, but because the average number of people in a household has been on the decline—for example many more people live alone—it is the number of households that is the key figure for urban development. This means that, even if New Orleans’ population in the next 20 years remains below historic highs, the number of households may grow significantly, filling both existing and new housing units.

After Hurricane Katrina, the population of New Orleans was in a state of constant flux, with substantial changes seen on a month-to-month basis. However, repopulation has outstripped the pessimistic estimates of the early months after the storm and the city continues to gain new residents: through the first eight months of 2008, the city gained an average of approximately 2,450 new residents per month, based on utility account activity. As of 2015, New Orleans’ population had reached an estimate of 389,617, or 86% of the pre-Katrina population.⁸⁶ The city is continuing to experience population growth; as of 2016, 20 neighborhoods across the city now have more “active” addresses than prior to the flooding that followed Hurricane Katrina. Additionally, over half of New Orleans neighborhoods (40 out of 72) have recovered more than 90 percent of their pre-Katrina populations. The majority of this growth is located in neighborhoods along the Mississippi River and on the west bank. According to U.S. Census estimates, the New Orleans population grew by 13 percent between 2010 and 2015. The Central Business District in particular has seen an increase of 1,818 residences since 2010.⁸⁷

In addition to Hurricane Katrina-related issues, the future trajectory of the city in terms of improving quality of life and economic performance will affect future population figures. The city has many of the ingredients that make cities successful in retaining and attracting residents, but it also has weaknesses that need attention. If the city can overcome these weaknesses, growth will accelerate as its success becomes well-known.

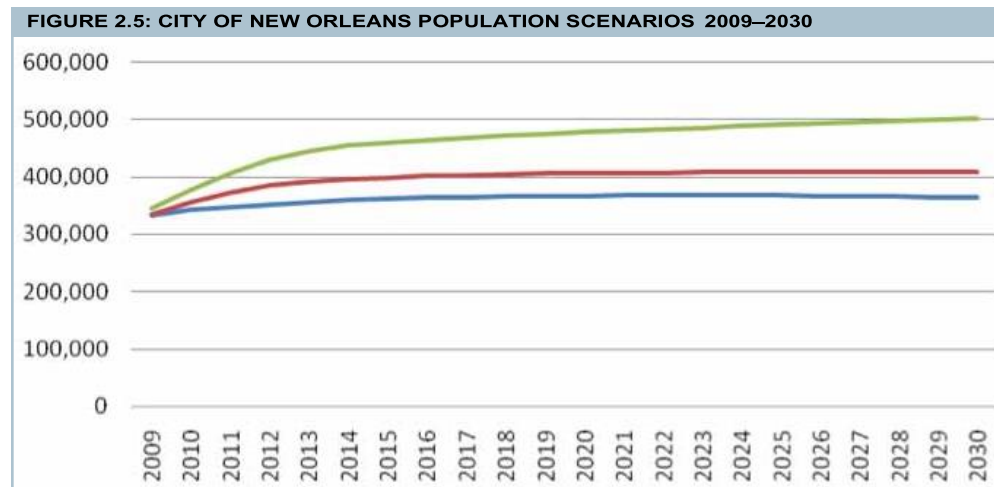
The three population and household scenarios shown here should be understood in the context of New Orleans exceedingly dynamic situation. They were prepared using the following assumptions:

	2009	2015	2030
LOW	332,502	361,846	364,818
MODERATE	335,607	399,764	409,296
HIGH	345,629	461,233	502,651

⁸⁶ The Data Center. “Total population by parish for the New Orleans metro.” March 25, 2016. Retrieved September 2, 2016 from <http://www.datacenterresearch.org/data-resources/population-by-parish/>

⁸⁷ Allison Plyer, The Data Center. *Neighborhood Recovery Rates: Growth continues through 2016 in New Orleans neighborhoods*. August 15, 2016. Retrieved on August 26, 2016 from https://s3.amazonaws.com/gnocdc/reports/TheDataCenter_NeighborhoodRecovery2016.pdf

SOURCE: GCR



SOURCE: GCR

LOW SCENARIO

MODERATE SCENARIO

HIGH SCENARIO

- In the post-Hurricane Katrina situation, the historical trend data (base population, natural increase and net migration) typically used to prepare projections are not valid. Post-Hurricane Katrina evidence indicates somewhat different age composition, racial composition, socioeconomic makeup, and migration than pre-Hurricane Katrina. Traditional methods of measuring internal migration—IRS and Medicare data—have proven inaccurate. This is why the Census Bureau accepted the City’s challenge to the 2007 census estimates of population and why the state estimates prepared before the Census Bureau’s decision are not accurate.
- The Census Bureau accepts analysis of housing units as an alternative methodology for estimating population. There is trend line data 2006–2007 for assuming the number of housing units that will be brought on line through small scale renovations, and reasonable estimates for the number of units in the pipeline from other sources.
- The projections are based on housing production with assumptions for rate of production of new units (based on financing, economic conditions), absorption rates (based on economic conditions/demand), and household size (based on local and national trends in changes in household size).
- **Base population growth.** Small-scale recovery and investment continues at a slower rate of return. The three scenarios (high, low, moderate) differ based on the rate of deceleration.
- **NORA properties.** NORA’s stockpile of properties consists of blighted, adjudicated, and Louisiana Land Trust (*i.e.*, Road Home) properties, some of which will be rehabilitated and redeveloped. A discount factor was applied for the Lot Next Door program (which will not produce any housing units) and

assumptions about capacity and overall market demand were factored into an estimated rate of production.

- **Small rental program.** The small rental program has about 4,500 eligible property owners enrolled in New Orleans, totaling about 7,000 units. The LRA is overhauling the program to make it more usable by small landlords. Assumptions about how many people would ultimately qualify rates of production, and rates of absorption are applied to each of the three scenarios.
- **Orleans Parish Prison.** The jail is expected to grow by 1,000 net new beds. The three scenarios make assumptions as to when those beds will be brought on-line.
- **HANO housing developments.** Each of the three scenarios assume that all planned units will be built eventually, but they make different assumptions about the rate at which they will be completed.
- **Low Income Housing Tax Credit Units.** There are thousands of tax credit units that are nominally in the pipeline as a result of the GOZONE legislation. Cost of construction, insurance and market uncertainty affect financing and the current credit crisis adds to normal uncertainty. The three scenarios make assumptions about how many of these units will actually come on-line based on their current status (financing closed, financing still uncertain, under construction, *etc.*) and the rate at which the units will be produced.
- **Market rate infill development.** The three scenarios make assumptions about what percentage will actually be built and how quickly they will be occupied. Many of these projects are subsidized through New Markets Tax Credits, GO Zone bonds, historic rehab credits, but financing may be problematic in the short term.
- **Project based section 8 units.** Once again, different assumptions for different scenarios, relative to rate of recovery/production of damaged units.
- **Household size.** The high scenario assumes no further change in household size. The low and moderate scenario, however, assume a continuation of decreasing household size based on varying rates of decline. The low scenario assumes the steepest decline in average household size. For new infill construction, a much smaller household size was assumed, in line with Warehouse District households, compared to the citywide average. Thus, all categories were not treated equally when population was ascribed to different kinds of housing units.

In summary, population and land use trends suggest that population recovery since Hurricane Katrina has exceeded initial expectations and is likely to continue at a moderate pace. The trend toward smaller households means that the population is likely to consume more housing units per total population than in the city's past, expediting the recovery of New Orleans' diverse range of neighborhoods as well as the construction of new housing units and inhabitation of the downtown neighborhoods. Meanwhile, underutilized and underdeveloped commercial and industrial land continues to presents significant

opportunity for new infill development, including commercial and office uses, institutions, new housing types, and parks and open space.

