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The Impact of Katrina: Race and Class in Storm-Damaged Neighborhoods

Early media reports about the wind damage and flooding caused by Hurricane Katrina focused on New Orleans, and especially on the people who had been unable to escape the city before it flooded. Images of poor and predominantly black people crowded into the Superdome and Convention Center supported the impression that Katrina had disproportionately affected poor, black neighborhoods. The purpose of this report is to evaluate more precisely what neighborhoods were heavily damaged, including not only New Orleans but also the coastal communities in Mississippi that bore the brunt of hurricane-force winds.

In brief an analysis of FEMA storm damage data shows that the storm's impact was disproportionately borne by the region's African American community, by people who rented their homes, and by the poor and unemployed.

1. More than a third of the region's 1.7 million residents lived in areas that suffered flooding or moderate to catastrophic storm damage, according to FEMA. The majority of people living in damaged areas were in the City of New Orleans (over 350,000), with additional concentrations in suburban Jefferson Parish (175,000) and St. Bernard Parish (53,000) and along the Mississippi Coast (54,000).
2. In the region as a whole, the disparities in storm damage are shown in the following comparisons (arranged in order of the degree of disparity):
 - By race. Damaged areas were 45.8% black, compared to 26.4% in undamaged areas.
 - By housing tenure. 45.7% of homes in damaged areas were occupied by renters, compared to 30.9% in undamaged communities.
 - By poverty and employment status. 20.9% of households had incomes below the poverty line in damaged areas, compared to 15.3% in undamaged areas. 7.6% of persons in the labor force were unemployed in damaged areas (before the storm), compared to 6.0% in undamaged areas.
3. These comparisons are heavily influenced by the experience of the City of New Orleans. Outside the city, there were actually smaller shares of African American, poor, and unemployed residents in the damaged areas.
4. Closer inspection of neighborhoods within New Orleans shows that some affluent white neighborhoods were hard hit, while some poor minority neighborhoods were spared. Yet if the post-Katrina city were limited to the population previously living in areas that were undamaged by the storm – that is, if nobody were able to return to damaged neighborhoods – New Orleans is at risk of losing more than 80% of its black population. This means that policy choices affecting who can return, to which neighborhoods, and with what forms of public and private assistance, will greatly affect the future character of the city.

Methods of analysis

Information on affected areas is drawn primarily from FEMA, which has provided detailed maps of zones of flooding and wind damage. Areas of flooding do not further distinguish between areas where water was deeper or remained for a longer time period. FEMA uses a standard system for assessing other storm damage. The “limited damage” category is applied to areas with “generally superficial damage to solid structures (e.g. loss of tiles or roof shingles); some mobile homes and light structures are damaged or displaced.” These areas are not treated as “damaged” in this report. The next more severe category is “moderate damage,” where “solid structures sustain exterior damage (e.g. missing roofs or roof segments); some mobile homes and light structures are destroyed, many are damaged or displaced.” Areas with moderate damage or greater are treated here as “damaged.”

Within parts of the City of New Orleans and St. Bernard Parish, the FEMA map of “full extent” of flood damage does not correspond well with reports on the ground. This primarily affects parts of the French Quarter, Marigny, and Bywater in New Orleans (where flooding was less extensive than reported by FEMA) and St. Bernard Parish (where some additional areas appear to have been flooded). We have corrected the map of flooded areas in these zones based on remote sensing imagery from September 2, 2005, made available by the Dartmouth Flood Observatory (<http://www.dartmouth.edu/~floods>).



Photo by John R. Logan, 12/15/05

The photograph above illustrates the effects of heavy flooding in the Lower Ninth Ward of New Orleans. In other parts of the city there was little structural damage, but many houses needed to be entirely gutted as a result of days or weeks of being submerged in water.

The second photograph illustrates wind damage of the type sustained along much of the Mississippi Coast as well as in New Orleans. This example would likely be classified as moderate, and falls within the definition of damage used in this report.



Photo by John R. Logan, 12/16/05

Information about residents of these zones is from the Census 2000, using tract-level population data. Changes that occurred between 2000 and 2005 are not reflected here. Geographic Information System techniques have been used to determine the proportion of land area identified as “flooded” or “moderately to catastrophically damaged” in each census tract in the region. Where the damaged area only covers a portion of the tract, it is not possible to know with precision how many residents of the tract lived in that portion. The analysis is based on the assumption that people are spread equally across the tract, and that social characteristics of residents of the damaged portion are the same as social characteristics of the tract as a whole. An alternative approach would be to use census data at the level of block groups, which is a finer unit of geography. This would make it possible to line up the neighborhood data more closely with the boundaries of the damaged zones, though the match would still not be exact. However block group data from the census is less reliable than data for census tracts, due to techniques employed by the census bureau to maintain confidentiality of information and to correct for missing data.

A similar analysis has been completed by the Congressional Research Service (available at <http://www.gnocdc.org/reports/crsrept.pdf>). This report reaches similar conclusions regarding the region as a whole, but provides more detailed information about variations among neighborhoods in the City of New Orleans, where the majority of affected persons lived.

The report focuses on the New Orleans and Biloxi-Gulfport metropolitan areas of Louisiana and Mississippi. About 4500 people are estimated to live in areas in the Mobile, AL metropolitan region (Mobile and Baldwin Counties) that meet the FEMA damage criterion used here. A wider geographic area has been designated by FEMA as qualifying for federal disaster relief, including assistance to individuals and to public agencies. A much larger number of people were affected by Katrina, either because they were forced to evacuate from their homes for extended periods, or they suffered damage to their homes, or they lost power or other basic public services (services that in large areas were still in the process of being restored as of January 2005). There is no reliable source of information on the number or social composition of people who were affected in these ways. Attention here, therefore, is limited to identifying whose neighborhoods suffered the greatest impact of the storm, in areas that will likely require the most concentrated attention in the recovery process.

Figure 1. Counties and Parishes in Areas Damaged by Katrina



To supplement this report, Brown University's American Communities Project has developed a web-based map system that includes all of the information analyzed here. The site is <http://www.s4.brown.edu/Katrina/index.html>. It identifies the broad zones of the three-state region where FEMA was authorized to provide assistance. It also shows the more specific areas classified as flooded or moderately to catastrophically storm-damaged by FEMA. At a detailed zoom level, the user can display aerial photographs from early September 2001 that have been made available by the National Oceanic and Atmospheric Administration (NOAA) at <http://ngs.woc.noaa.gov/katrina>. The web system also displays a wide variety of population characteristics from Census 2000 for census tracts. Within the City of New Orleans, it is also possible to see how census tracts are grouped into neighborhoods by the city for planning

purposes. This system also offers the capability to download data for a specific census tract or group of tracts, and to copy the image of any map for use in other applications.

For reference, Figure 1 above provides a map of the affected region. It shows the boundaries of the New Orleans metropolitan area in Louisiana, including the Parishes of Orleans (the city proper), Jefferson, Plaquemine, St. Bernard, St. Charles, St. James, St. John the Baptist, and St. Tammany, and the Biloxi-Gulfport metropolitan area in Mississippi, including the Counties of Hancock, Harrison, and Jackson.

The population in areas of extensive damage

Within New Orleans and Biloxi-Gulfport metropolitan areas, flooding was concentrated in and around New Orleans, and wind damage was focused on a narrow band along the Mississippi Coast. Table 1 provides estimates of the population living in these areas, categorized by metropolitan area and county or parish.

Nearly 650,000 persons, more than a third of the region's population, lived in heavily damaged areas. More than half of these, 354,000, lived in Orleans Parish. Another 175,000 lived in adjacent Jefferson Parish, with 53,000 in St. Bernard Parish, and about 54,000 in the 3-county area along the Mississippi Coast.

St. Bernard and Orleans Parishes had the highest shares of their populations in damaged zones, both above 70%. More than 45% of residents of Hancock County, MS, lived in such areas, as did more than 38% of residents of Jefferson Parish.

Metropolis	County/Parish	Population in damaged areas	Population in other areas	Total population	% of population in damaged areas
Biloxi-Gulfport	Metro Total	54,424	309,564	363,988	15.0%
	Hancock	19,398	23,569	42,967	45.1%
	Harrison	27,779	161,822	189,601	14.7%
	Jackson	7,247	124,173	131,420	5.5%
New Orleans	Metro Total	589,101	748,624	1,337,725	44.0%
	City: Orleans	354,045	130,629	484,674	73.0%
	Suburbs: Jefferson	174,694	280,771	455,465	38.4%
	Plaquemines	4,235	22,522	26,757	15.8%
	St. Bernard	53,029	14,200	67,229	78.9%
	St. Charles	813	47,259	48,072	1.7%
	St. James	0	21,216	21,216	0.0%
	St. John the Baptist	0	43,044	43,044	0.0%
	St. Tammany	2,285	188,983	191,268	1.2%
	Region Total	643,525	1,058,188	1,701,713	37.8%

Note: "Damaged" areas are those identified by FEMA and the Dartmouth Flood Observatory as flooded or with storm damage ranging from moderate to catastrophic.

Social composition of the population in damaged areas

Who are the people who lived in the most damaged areas? One way to answer this question is to compare the social composition of damaged areas with that of the remaining less damaged parts of the region. Table 2 does this for the following areas: the City of New Orleans itself, the larger New Orleans metropolitan region including the city, and the Biloxi-Gulfport metropolitan region in Mississippi. In the final rows are presented the data for all of these areas combined.

Table 2. Population social composition in damaged and undamaged areas (Census 2000)

		Total population	Percent black	Percent poor	Percent unemployed	Percent renters	Percent >65 with disability
Biloxi-Gulfport Metropolis	Damaged	54,424	14.8%	13.8%	6.1%	39.2%	6.8%
	Other	309,564	20.4%	13.9%	6.0%	29.4%	5.2%
City of New Orleans	Damaged	354,045	75.0%	29.2%	10.4%	52.8%	5.7%
	Other	130,629	46.2%	24.7%	7.2%	55.1%	5.3%
New Orleans suburbs	Damaged	235,056	9.1%	10.3%	4.5%	37.3%	5.7%
	Other	617,995	25.2%	14.1%	5.7%	25.5%	4.6%
Total region	Damaged	643,525	45.8%	20.9%	7.6%	45.7%	5.8%
	Other	1,058,188	26.4%	15.3%	6.0%	30.9%	4.8%

The data for the total region show that in several respects the neighborhoods of social groups with least resources were the ones most affected by Katrina. The population of damaged areas was nearly half black (45.8% compared to 26.4% black in the rest of the region), living in rental housing (45.7% compared to 30.9%), and disproportionately below the poverty line (20.9% compared to 15.3%) and unemployed (7.6% compared to 6.0%).

Certainly the storm struck the neighborhoods of many people of all backgrounds. If we examine the absolute numbers behind these percentages, we note that there were almost as many non-Hispanic whites as blacks in damaged areas (294,000 compared to 295,000), and the number of persons in these neighborhoods above the poverty line was much larger than the number of poor persons. This means that the suffering from the storm partly cut across racial and class lines. But the odds of living in a damaged area were clearly much greater for blacks, renters, and poor people. In these respects the most vulnerable residents turned out also to be at greatest risk. As will be discussed in the conclusion, poor and black people also have fewer resources for returning and rebuilding.

Some attention in the aftermath of Katrina was drawn to elderly persons who were stranded in nursing homes or in their own residences. Particular concern has been expressed for elderly persons who are disabled and therefore have the least mobility. Table 2 includes information on the percentage of persons who are over 65 and report at least one disabling condition as defined in Census 2000. Here, too, there is some disparity, but it is modest: 5.8% of persons in damaged areas meet these criteria, only slightly more than the 4.8% in other neighborhoods.

Behind the overall pattern are some large differences within the region. The disparities by race and poverty/unemployment can be traced more specifically to the City of New Orleans. In the city, for example, 75% of residents of damaged areas were black, compared to undamaged areas

where a majority of residents were white. But in the suburbs, including both Jefferson Parish and St. Bernard Parish that were hard hit by Katrina, as well as on the Mississippi Coast, the affected neighborhoods were more likely to be predominantly white, and neighborhoods with larger shares of black residents were actually less likely to be heavily damaged. In these parts of the region, wealthy neighborhoods were as likely, in some cases even more likely, to be damaged as were poor neighborhoods. In Jefferson and St. Bernard Parishes, for example, the neighborhoods with higher educational and professional levels tended to be the hardest hit (this is not shown in the table).

Disparities were reduced along the Mississippi Coast because many of the most desirable pre-Katrina locations were located near the shoreline and therefore exposed to both high winds and storm surge.

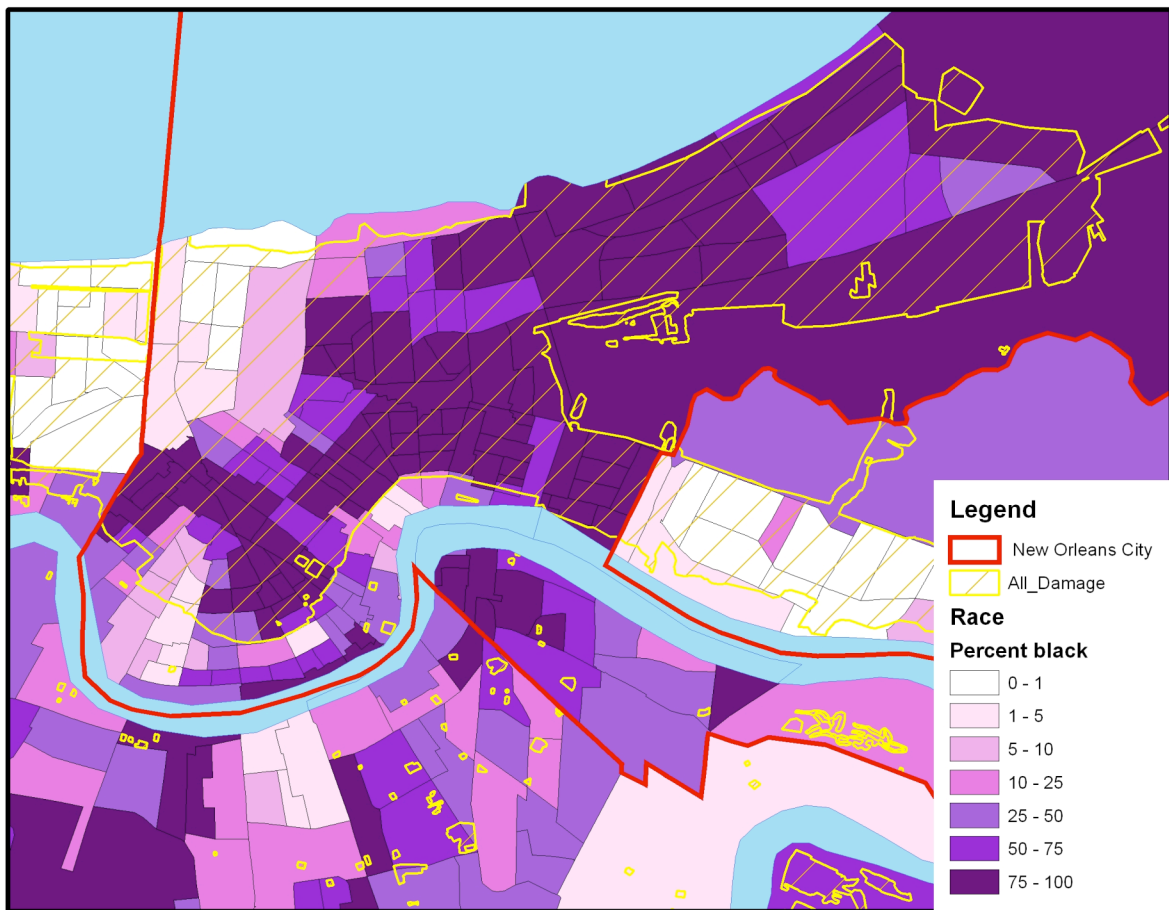
With respect to housing tenure, there is little difference within the City of New Orleans between damaged and undamaged areas. In both sectors within the city the majority of homes were renter-occupied. The overall disadvantage of renters has two sources. First, outside of the city the neighborhoods of renters were more damaged. Second, a larger part of the city population (with its large proportion of renters) was affected.

Differential impacts within the City of New Orleans

Because flooding within the City of New Orleans accounts for such a large share of the impacts of Katrina, the final portion of this report is devoted to analyzing variations across neighborhoods of the city. Figure 2 is a map showing census tracts in New Orleans as well as suburban areas to the west and south. The red vertical line extending into Lake Pontchartrain is the boundary between the city and neighboring Jefferson Parish. Damaged areas are identified with a yellow boundary and yellow hatch lines. The interested reader can peruse similar maps for any part of the three-state region, showing variations by race and many other population characteristics, at <http://www.s4.brown.edu/Katrina/index.html>.

This map shows that the undamaged areas of the city were mainly in two areas. One is just north of the Mississippi River in a zone extending westward from downtown. The other is across the river on the West Bank, in a district known as Algiers. The map shows that some predominantly white neighborhoods in the northwest part of the city were entirely damaged. However almost all of the neighborhoods that were in the range of 75-100% black at the time of Census 2000 were damaged.

Figure 2. New Orleans Neighborhoods, Showing Racial Composition and Damaged Areas



For planning purposes, New Orleans is divided into 13 planning districts and 72 distinct neighborhoods within these districts. The neighborhood names and boundaries are shown in Figure 3 (for reference, see the website of the Greater New Orleans Community Data Center, www.gnocdc.org.)

Figure 3. Neighborhood planning in New Orleans



Table 3 cumulates data from census tracts to these larger units, reporting the total population of neighborhoods and planning districts as well as the number and percentage of residents in damaged areas. Planning districts are listed in order from those with the highest portion of residents in damaged areas to those with the least damage. Neighborhoods within planning districts are listed likewise.

The Algiers Planning District, located across the river in what is called the West Bank, suffered little damage, and it alone accounts for about 50,000 of the 130,000 New Orleans residents in undamaged zones. Other areas with less than the average level of damage include lightly populated New Aurora and Village de l'Est, the French Quarter/CBD, the Central City-Garden District, and the Uptown-Carrollton Planning Districts. There is variation within these areas, however. In the Central City-Garden District, for example, neighborhoods like the Garden District itself, Irish Channel, and Touro had no damage, while 80% or more of residents of Central City/Magnolia and Milan lived in damaged areas.

Table 3. Social characteristics of neighborhoods and planning districts in New Orleans

Planning District	Neighborhood	Percent	Population	Total	Percent	Percent	Percent	Percent
		in	in					
		damaged	damaged	population	black	renter	poor	unemployed
		areas	areas					
Mid-City	Total	100.0%	79,438	79,441	82.9%	72.9%	44.4%	16.4%
	Bayou St. John	100.0%	4,861	4,861	68.1%	67.7%	32.0%	9.2%
	Calliope Project	100.0%	4,339	4,339	98.7%	94.7%	69.2%	27.7%
	Fairgrounds/Broad	100.0%	6,575	6,575	69.5%	54.4%	16.9%	7.1%
	Gerttown/Zion City	100.0%	4,748	4,748	95.0%	76.1%	48.6%	42.5%
	Iberville Project	100.0%	2,540	2,540	98.3%	100.0%	84.2%	44.9%
	Mid-City	100.0%	19,909	19,909	64.7%	71.7%	32.1%	9.5%
	Seventh Ward	100.0%	16,955	16,955	94.1%	67.0%	38.0%	13.8%
	Sixth Ward/Treme/Lafitte	100.0%	8,850	8,853	92.8%	78.3%	56.9%	21.4%
	St. Bernard Area/Project	100.0%	6,427	6,427	97.9%	83.0%	66.0%	20.8%
Tulane/Gravier	100.0%	4,234	4,234	78.4%	81.2%	56.2%	16.0%	
New Orleans East	Total	99.2%	79,192	79,808	86.8%	44.7%	18.9%	7.7%
	Pines Village	100.0%	5,092	5,092	87.9%	36.2%	18.3%	9.7%
	West Lake Forest	100.0%	9,596	9,596	95.9%	76.2%	27.2%	11.0%
	Plum Orchard	99.3%	6,957	7,005	93.7%	42.3%	33.2%	8.5%
	Read Boulevard East	99.3%	8,180	8,240	74.2%	11.4%	11.2%	4.0%
	Edgelake/Little Woods	99.0%	43,871	44,311	86.8%	48.6%	17.4%	7.6%
	Read Boulevard West	98.8%	5,496	5,564	80.3%	14.9%	10.5%	6.3%
	Total	96.5%	42,597	44,133	69.5%	28.2%	15.3%	7.1%
Gentilly	Gentilly Woods	100.0%	4,387	4,387	69.1%	24.3%	14.4%	9.0%
	Gentilly Terrace	100.0%	10,542	10,542	70.4%	30.4%	16.1%	5.7%
	Fillmore	100.0%	6,983	6,983	57.5%	15.4%	11.6%	6.4%
	St. Anthony	100.0%	5,318	5,318	58.9%	40.0%	20.6%	7.1%
	Milneburg	100.0%	5,640	5,640	76.2%	28.7%	14.4%	6.6%
	Dillard	100.0%	6,471	6,471	89.7%	43.3%	20.6%	10.1%
	Pontchartrain Park	99.9%	2,627	2,630	97.3%	7.8%	10.2%	6.6%
	Lake Terrace/Lake Oaks	29.1%	629	2,162	19.4%	4.8%	1.9%	5.5%
	Total	92.6%	18,077	19,515	95.7%	46.0%	34.4%	13.6%
Lower Ninth Ward	Lower Ninth Ward	99.9%	14,000	14,008	98.7%	41.1%	36.4%	13.5%
	Holy Cross	74.0%	4,078	5,507	88.0%	58.0%	29.4%	13.7%
	Total	89.8%	23,259	25,897	2.3%	33.8%	6.3%	2.7%
Lakeview	Navarre	100.0%	2,908	2,908	3.4%	45.1%	8.5%	4.4%
	Lakeview	100.0%	9,875	9,875	0.8%	29.4%	4.9%	2.0%
	City Park	100.0%	2,813	2,813	9.9%	58.4%	12.3%	6.7%
	Lakewood	100.0%	1,961	1,962	1.7%	9.3%	1.3%	0.0%
	Lakewood/West End	87.2%	4,120	4,724	1.7%	39.4%	9.1%	1.9%
	Lakeshore/Lake Vista	43.8%	1,582	3,615	0.7%	14.4%	2.7%	1.3%
	Total	85.4%	35,139	41,163	83.4%	58.4%	38.7%	13.2%
Bywater	Desire Project	100.0%	660	660	99.1%	83.8%	62.5%	28.8%
	Florida Area	100.0%	3,171	3,171	98.7%	41.6%	36.2%	14.8%
	St. Roch	100.0%	11,975	11,975	92.1%	57.9%	37.1%	14.4%

<u>Planning District</u>	<u>Neighborhood</u>	<u>Damaged</u>	<u>Percent damaged</u>	<u>Total population</u>	<u>Percent black</u>	<u>Percent renter</u>	<u>Percent poor</u>	<u>Percent unemployed</u>	
Bywater (continued)	Florida Project	100.0%	1,604	1,604	98.4%	89.5%	79.6%	53.2%	
	Desire Area	99.8%	3,785	3,791	94.5%	52.0%	35.7%	9.1%	
	St. Claude	94.8%	11,112	11,721	90.9%	55.7%	39.0%	13.7%	
	Bywater	43.6%	2,223	5,096	61.3%	61.8%	38.6%	9.6%	
	Marigny	19.4%	609	3,145	18.3%	66.4%	24.1%	7.9%	
Viavant/Venetian Is	Total	78.6%	11,270	14,342	47.8%	48.3%	33.1%	10.6%	
	Viavant/Venetian Isles	78.6%	11,270	14,342	47.8%	48.3%	33.1%	10.6%	
Uptown-Carrollton	Total	60.9%	40,850	67,083	46.6%	53.3%	24.3%	7.3%	
	Broadmoor	100.0%	7,232	7,232	68.9%	51.7%	31.8%	9.6%	
	Dixon	100.0%	1,772	1,772	95.0%	57.2%	31.1%	15.0%	
	Freret	100.0%	2,446	2,446	83.4%	64.3%	33.5%	20.6%	
	Hollygrove	100.0%	6,919	6,919	95.4%	45.7%	28.4%	9.7%	
	Marlyville/Fontainbleau	100.0%	6,740	6,740	28.4%	50.9%	12.9%	4.7%	
	Leonidas/West Carrollton	70.5%	6,315	8,953	75.9%	58.3%	31.5%	10.5%	
	Audubon/University	40.8%	6,085	14,898	5.5%	46.7%	17.9%	3.9%	
	East Carrollton	30.0%	1,332	4,438	31.9%	57.7%	24.5%	4.8%	
	Uptown	29.1%	1,947	6,681	36.3%	56.8%	23.9%	6.1%	
	West Riverside	1.2%	63	5,232	36.7%	57.1%	18.1%	6.8%	
	Black Pearl	0.0%	0	1,772	36.7%	61.9%	26.4%	8.3%	
	Central City/Garden District	Total	46.8%	22,599	48,327	67.8%	73.6%	39.7%	12.3%
Milan		96.9%	7,247	7,480	74.2%	65.6%	28.6%	9.2%	
Central City/Magnolia		79.8%	15,215	19,072	87.4%	83.7%	49.8%	20.4%	
St. Thomas Area		2.0%	122	6,116	34.8%	73.5%	28.5%	6.9%	
St. Thomas Project		0.4%	12	2,957	93.3%	93.0%	69.1%	24.2%	
Touro		0.1%	2	3,242	18.6%	70.4%	15.5%	1.8%	
East Riverside		0.0%	0	3,220	64.1%	57.1%	36.9%	11.5%	
Garden District		0.0%	0	1,970	3.0%	51.6%	11.3%	2.4%	
Irish Channel		0.0%	0	4,270	69.0%	62.9%	41.1%	12.4%	
French Quarter/CBD		Total	12.2%	729	5,970	13.3%	76.4%	16.9%	6.5%
		Central Business District	37.9%	681	1,794	33.6%	79.1%	32.3%	12.0%
		Vieux Carre	1.1%	48	4,176	4.5%	75.5%	10.8%	4.8%
Village de L'Est		Total	10.0%	222	2,213	83.2%	54.3%	7.8%	4.3%
		Village De L'Est	10.0%	222	2,213	83.2%	54.3%	7.8%	4.3%
Algiers	Total	1.2%	612	51,110	56.6%	48.3%	24.1%	7.3%	
	Algiers Whitney	7.1%	183	2,564	85.4%	50.0%	29.3%	14.7%	
	Algiers Naval Station	2.0%	57	2,902	64.1%	49.4%	21.8%	5.1%	
	Tall Timbers/Brechtel	1.2%	142	12,177	55.0%	64.6%	19.4%	6.3%	
	Aurora/Walnut Bend/ Huntlee Village	0.9%	144	15,807	31.3%	26.3%	9.9%	4.9%	
	Algiers Point	0.7%	17	2,381	25.3%	51.7%	17.3%	3.5%	
	Behrman	0.7%	68	10,430	78.0%	53.1%	33.4%	9.8%	
	Fischer Project	0.0%	0	2,034	99.2%	88.5%	88.2%	24.7%	
	McDonogh	0.0%	0	2,815	88.2%	52.9%	48.3%	16.3%	
	New Aurora	Total	1.1%	62	5,672	68.2%	27.0%	24.8%	10.8%
		River Park/Cut Off/ Lower Coast	1.1%	62	5,672	68.2%	27.0%	24.8%	10.8%
City of New Orleans Total		73.0%	354,045	484,674	67.2%	53.5%	27.9%	9.4%	

At the other end of the spectrum, Mid-City, New Orleans East, Gentilly, the Lower Ninth Ward, Bywater, and Lakeview all had 90% or more of their residents in damaged areas.

Table 3 also provides information about the social composition of these areas. The Table reveals great variation within New Orleans. Some largely white neighborhoods of affluent homeowners were completely flooded, while some relatively poor black neighborhoods were spared. However there is a general tendency as shown in Table 2 for blacks and poor residents to have greater odds of being in harm's way.

Discussions of the racially differential impact of Katrina have often emphasized the Lower Ninth Ward (where many homes were entirely demolished by the breach in the levee of the Industrial Canal) and New Orleans East. Most neighborhoods in these planning districts were more than 85% black, and most residences were damaged. A majority of residents of both of these planning districts were homeowners, though there were clear class distinctions between the two areas. More than a third of Lower Ninth Ward residents were below the poverty line, and nearly 14% were unemployed. New Orleans East had a considerably larger middle class component, though it was not among the city's most affluent sections.

Many of the most segregated neighborhoods with the highest poverty rates are those identified as "projects," a reference to the prominence of public housing within their borders. The project neighborhoods typically had poverty rates in the range of 60-80% of the population, unemployment is above 20%, they were all predominantly black (with African Americans accounting for 90% or more of their residents), and 80% or more of residents were renters. There are six such neighborhoods in New Orleans (though there are concentrations of public housing or Section 8 housing in other parts of the city). In five of them with a combined 2000 population of over 15,000 persons (Calliope, Iberville, St. Bernard Area, Desire, and Florida) the entire territory meets this report's definition of damaged areas. The Fischer Project neighborhood in Algiers was little damaged. (A seventh project neighborhood, the St. Thomas Project in the Central City/Garden District, was demolished in 2002, replaced by a Wal-Mart and new predominantly market-rate condominiums. Therefore the census data from 2000 shown in Table 3 do not reflect the population composition at the time of Katrina.)

At the other end of the class spectrum are a number of more advantaged neighborhoods with poverty rates below 10% or unemployment rates below 5%. In the most heavily impacted planning districts, few neighborhoods meet either criterion. These include the Lake-Terrace/Lake Oaks neighborhood in Gentilly and the Read Boulevard East neighborhood in New Orleans East. Most such neighborhoods are in the Lakeview Planning District, which is an area with a small black population, mostly homeowners, and very low rates of poverty and unemployment. Here only the Lakeshore/Lake Vista neighborhood, adjacent to Lake Pontchartrain, was partly spared.

Few residents in the French Quarter, a predominantly white neighborhood with a poverty rate of about 11% and unemployment below 5%, lived in tracts that were flooded.

Among other neighborhoods with a national reputation for affluence, the Garden District neighborhood was not flooded and only 40% of the Audubon/University neighborhood (home of Tulane University and Loyola University) was damaged.

Policy implications

The sheer number of people who lived in heavily damaged areas – over 640,000 – is a reminder of the scale of Katrina’s impact. Because the storm hit large numbers of people of every race and class, it seems likely that public support for policies to assist these people will also cut across race and class lines. However there was also a substantial disproportionate impact on African Americans and people with fewer resources. These disparities stem from within the City of New Orleans itself, and more specifically from vulnerability to flooding. This is a pattern with deep roots, and although Katrina caused the most extensive flooding in memory, prior studies by historians (such as *An Unnatural Metropolis* by Craig Colten) have demonstrated that both high ground and public investments in drainage and pumping systems consistently worked to the advantage of certain neighborhoods in past storms.

There are major variations across the region that are likely to affect the process of recovery. Damage was extensive on the Mississippi Coast, and the area’s largest single source of employment – casino gambling – was knocked out of operation. In comparison to New Orleans, however, the number of people living in areas of moderate or greater damage was small, only about 50,000. And also in contrast to New Orleans, only a small share of these people were black and a majority were homeowners. It is difficult to assess the importance of race in recovery policy in Mississippi, but in a politically conservative state it could make a big difference that white homeowners constitute the bulk of claimants for state assistance. Further, these people are easier to serve for several reasons.

1. First, they are identifiable and – because they retain an ownership interest in their properties – they should prove easier for authorities to contact.
2. Second, since much of the damage wrought by Katrina in this area was by wind and rain damage, standard homeowner policies offer substantial private sector coverage of damage losses. For those with uninsured flood damage, the state government currently expects federal aid to be sufficient to fund payments of \$150,000 to individual homeowners.
3. Third, the low density of housing in this area means that typically even when one’s home was uninhabitable, there was space for a trailer in the driveway. Since in addition the loss of electrical power was relatively short-term in Mississippi, and basic public services could be restored within a reasonable time, homeowners in this region more readily met the requirements for a FEMA-provided trailer – space and confirmed utility hookups.

In contrast, consider the situation in New Orleans. More than half the persons in damaged areas were renters, unlikely to be protected in any way by property insurance, and 30% fell below the poverty line and were therefore unlikely to have personal resources to return to the city. By the end of 2005, power was still unavailable much of the city, and actual connections to electric power required residents to present evidence of inspection by a licensed electrician before power would be restored to an individual home. The utility company (a subsidiary of the Entergy Corporation) had filed for bankruptcy protection in September.

People who previously lived in public housing seem to have the least chances to return, given current policy. All public housing in the affected areas has been closed (and special barriers

bolted to the doors), and residents have been allotted rental housing assistance in areas where they have relocated for up to 18 months. Plans for reopening the projects or for constructing new affordable housing have not become public.

For many of the same reasons that rebuilding will be facilitated on the Mississippi Coast, the white residents of the City of New Orleans are more likely than black residents to be able to return to their neighborhoods, even if the neighborhood is reopened. Whites are more likely to be homeowners (55% compared to 42% among African American households), but more important, they are much more likely to have the personal resources to reinvest in their homes or to find a new residence in a difficult housing market. In the pre-Katrina black population, 35% were below the poverty line and the median household income was only \$25,000. Among whites, only 11% were poor and the median income was more than twice as high – \$61,000. Therefore even among homeowners, blacks are less likely to have the means to rebuild than are whites.

There is potential for political coalitions that cut across the racial and class divisions that have helped structure city politics over the decades. Residents of such very different neighborhoods as Lakeview and the Lower Ninth Ward have a shared interest in short-term assistance programs such as subsidies for temporary housing outside the city. Up to now few city residents have qualified for FEMA trailers outside their homes because they do not own the home, or there is insufficient space for a trailer, or public utilities remain unavailable. As long as issues can be framed so that demands are oriented toward FEMA (an external target) or toward demands for services like electricity or schools or police protection that affect all segments of the public, the appearance of unity can be maintained. The City Council's repeated stands in favor of rebuilding all parts of the city – a question on which the Council is unlikely to have the final word – is a reflection of this temporary unity.

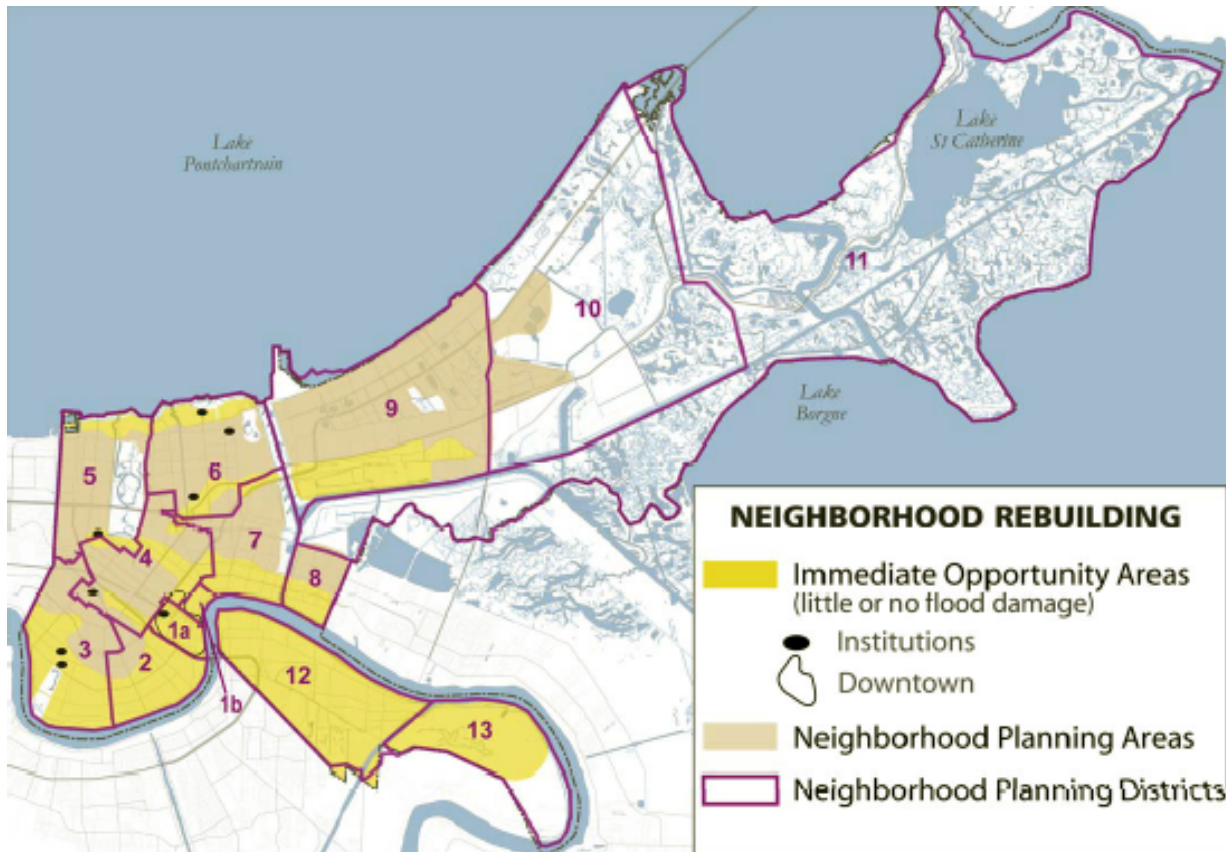
Yet variations across neighborhoods – and across race and class – are likely to support the emergence of a sense of conflicting interests. In December 2005 conflict took the form of opposition to proposals to locate FEMA trailers in public spaces within neighborhoods that sustained less damage. In this case the interests of advantaged neighborhoods (advantaged by protection from flooding and by having residents in place to express their views) were in conflict with the interests of absent residents who have no place to return. Not surprisingly the City Council gave its members veto power over new trailer parks in the areas that they represent.

In the longer term there is likely to be competition between damaged neighborhoods for the supports that will be necessary for rebuilding. In mid-January 2006, the Bring New Orleans Back Commission (a policy group formed by city government) released a planning report that began to address this question. The Commission identified some parts of the city as “immediate opportunity areas.” These areas are shaded in yellow on the map in Figure 4. Compared to the damaged areas shown in Figure 2 above, it is clear that the Commission proposes rebuilding in some areas that were flooded. They include areas along the river near the central business district, Holy Cross in the Lower Ninth Ward Planning District, and Lakewood/West End and Lakeshore/Lake Vista bordering Lake Pontchartrain. Generally these are zones where sustained flooding was under about four feet.

The Commission also recommended the designation of large portions of the city as “neighborhood planning” areas. Within these areas the Commission recommends a temporary

halt on issuance of building permits. Only where there is evidence within the next four months that residents are committed to returning to each neighborhood in large numbers would rebuilding be approved.

Figure 4. Recommended areas of rebuilding in the City of New Orleans



Source: Bring Back New Orleans Commission, Action Plan for New Orleans: The New American City. January 11, 2006. (<http://bringneworleansback.org>)

The precise criteria underlying these designations have not been announced, and the Commission's recommendations have not been formally adopted. This is a temporary solution to the political problem that few public officials are willing to state openly that some areas will not be permitted to be resettled. On its face it leaves the decision to local residents. Clearly some areas are at risk of being closed to reconstruction. In January 2006, the full-time population of the city has been estimated at only 150,000. The analysis in this report suggests that if the future city were limited to the population previously living in zones undamaged by Katrina it would risk losing about 50% of its white residents but more than 80% of its black population. This is why the continuing question about the hurricane is this: whose city will be rebuilt?