

Using U.S. Postal Service Delivery Statistics To Track the Repopulation of New Orleans & the Metropolitan Area

By Allison Plyer with Joy Bonaguro

Since August/September 2005 when virtually the entire population of New Orleans had to evacuate the city, decision-makers have been clamoring to know how many people are back. Population estimates by neighborhood are needed to determine where to place essential human services such as community clinics and afterschool programs. Moreover, ongoing measurements of neighborhood repopulation are needed to assess the effectiveness of the City's rebuilding strategies in attracting new residents and retaining old ones. And not insignificantly, a sense of the population growth or decline of New Orleans is important for correcting any misperceptions that may be propagated in the national media about the fate of New Orleans.

The problem is that the population in post-Katrina New Orleans is very fluid. Many people are returning every day. Other people are leaving. And lots of new people are coming. All this

means that the number of people in New Orleans may be changing significantly from month to month.

“Postal counts indicate that the population of New Orleans continues to grow”

Standard Data Sources Can't Keep Up

Unfortunately, the standard sources for population estimates are just not set up to measure the kind of rapid change experienced in a post-catastrophe situation. The Census produces only one estimate of the total population of each

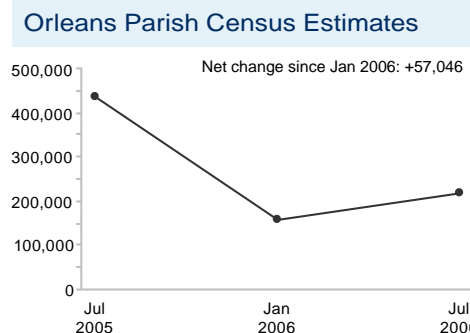
county (parish) in the U.S. each year. And these estimates are released nine months after the date they represent. This means that the Census' estimate of the total population of Orleans Parish that was released on March 22, 2007 actually represented an estimate of our population as of July 1, 2006—nine months earlier.

Last summer, state health officials needed information about the returned population in order to determine how to design a health care system that would meet their needs. So the Louisiana Public Health Institute conducted sample surveying in 18 parishes in south Louisiana. This effort yielded important estimates about population size per parish as well as health conditions, insurance status, etc. However, this surveying work was labor intensive and, therefore, costly, and cannot be easily repeated on a regular basis.

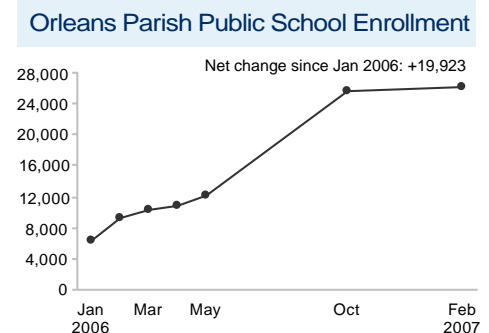
Rapidly Changing Population in Orleans Parish

Although the Census estimates that New Orleans had only 50% of its pre-Katrina household population as of July 1, 2006, this represents an increase of some 57,000 people from six months earlier when the household population was estimated at only 37% of pre-Katrina numbers.

Post-Katrina public school enrollment levels also suggest continued increase of population in New Orleans.



Source: US Census Bureau. January 2006, from the special population estimates for Katrina-affected counties.



Source: Louisiana Department of Education

Alternative sources of estimates are generated by market research companies, but these estimates are not publicly available. Moreover, these estimates are produced only once a year and they often involve lag times similar to the Census.

Other data sources that have been used to develop population estimates in a post-disaster situation have varying limitations. Public school enrollment data may become quickly available after a catastrophe, but these data may be artificially depressed if many public schools cannot reopen and families keep their children out of school or send them to private schools until the situation stabilizes. Traffic volume in outlying and affected areas can be deceptive as residents may be spending more time in their vehicles to make visits to recovery centers, insurance offices, banks, and shopping centers. Building permits are unlikely to be a reliable indicator if the municipal authorities do not have sufficient capacity for permit processing and enforcement. Energy usage data has to be negotiated with individual power companies in the disaster-affected area, and each would have to set up systems for reliable compilation and reporting. Change of address information from the post office, is potentially useful, but is tracked on individuals and, therefore, subject to privacy restrictions.

However, the U.S. post office does track other data that hold great promise for tracking the repopulation of an area following a large-scale disaster.

USPS Counts of Active Residential Deliveries

Every month, the United States Postal Service reports the number of residences actively receiving mail. Commercial demographers have long relied on this data as an indicator of population change. Unfortunately, there is little publicly available research to indicate how closely active residential deliveries may correspond to occupied households, or what the limitations of this data may be. However a brief examination of the data reveals its potential usefulness in a post-disaster context (see Table 1).

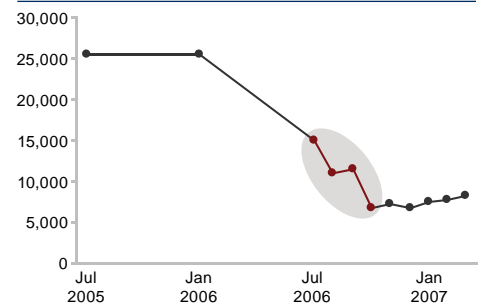
When Disaster Affects Post Office Functioning; Data Less Reliable

When examining the post-Katrina postal counts, the first thing one notices is that the January 2006 active residential deliveries are not dramatically different from those for pre-Katrina July 2005 – even in areas such as Orleans Parish that experienced massive population loss due to the storm. It is not surprising that the local post office couldn't report updated numbers of active residential deliveries for some months after Katrina. The post office, like much of the region, was scrambling to recover basic services for many months. This would suggest that postal counts are not a good indicator of repopulation shortly after a catastrophe that significantly impacts post office functioning. However, eventually the counts “bottom out” and appear to track households as they are reoccupied.

Some Unexplained Variances Month to Month

Scanning over these numbers we notice that there seem to be some variations in the numbers that may not be accounted for by either the recovery status of the local post office itself nor by the occupation of households. For example, in St. Bernard Parish, the postal counts rise and fall in unexplained ways in the latter half of 2006 (See Figure 1).

Figure 1: Unexplained variations in St. Bernard Parish postal counts



Source: Sammamish DataSystems

These variations suggest that there may be reporting or recording artifacts in the data that interject some doubt as to how precisely these counts might correspond to occupied households. Nonetheless, these counts are regularly used by commercial demographers to measure population growth and decline on an annual basis, and it is worth exploring whether they have the potential to assess the direction of population changes on a more frequent basis.

Table 1: Monthly postal counts by parish

	2005		2006						2007		
	July	Jan	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Jefferson	187,612	187,422	185,376	183,308	183,189	183,126	183,099	183,156	183,199	183,291	183,810
Orleans	198,232	198,179	103,448	98,141	102,244	108,048	109,437	116,276	117,450	119,438	122,699
Plaquemines	8,439	8,421	8,712	8,381	8,371	8,350	8,375	8,383	8,414	8,528	8,532
St. Bernard	25,604	25,611	15,025	10,876	11,391	6,736	7,301	6,807	7,379	7,838	8,211
St. Tammany	83,467	83,169	83,971	84,226	83,358	83,747	83,865	84,080	84,514	84,756	85,120

Source: Sammamish DataSystems compiled from the USPS Delivery Statistics Product

Table 2: The lowest postal count approximates the July 2006 Census percentage

July 1, 2006 Census estimate as a percent of the July 1, 2005 estimate	Monthly postal counts as a percent of the July 2005 (pre-Katrina) total										
	2006					2007					
	Jan	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Jefferson	99.9%	98.8%	97.7%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%	97.7%	98.0%
Orleans	100.0%	52.2%	49.5%	51.6%	54.5%	55.2%	58.7%	59.2%	60.3%	61.9%	
Plaquemines	99.8%	103.2%	99.3%	99.2%	98.9%	99.2%	99.3%	99.7%	101.1%	101.1%	
St. Bernard	100.0%	58.7%	42.5%	44.5%	26.3%	28.5%	26.6%	28.8%	30.6%	32.1%	
St. Tammany	99.6%	100.6%	100.9%	99.9%	100.3%	100.5%	100.7%	101.3%	101.5%	102.0%	

Source: Sammamish DataSystems

Postal Count Indicators Mirror Census Indicators

A comparison with Census household population estimates from July 1, 2006 suggests that the postal counts may be useful as a sustainable indicator of population recovery. We calculated how much each month's active residential deliveries represented of the pre-Katrina July 2005 number. Scanning over these percents, we see that in several of the parishes, the lowest postal count represents a percent of the pre-Katrina benchmark that is strikingly close to the percent of the July 2006 Census population estimate compared to the pre-Katrina population estimate (see Table 2). For example:

St. Bernard Parish. These postal counts reach their lowest point in October 2006 at 26.3% of the pre-

Katrina benchmark. Interestingly, the Census population estimate for July 2006 is close to the same proportion at 23.8% of the July 2005 estimate.

Jefferson Parish. Jefferson's postal counts reach their lowest level in November 2006 at 97.6% of the July 2005 postal count. The Census population estimate for July 2006 for Jefferson is close to this proportion at 95.6% of the July 2005 estimate.

Orleans Parish. New Orleans' postal counts reach their lowest point in August 2006 at 49.5% of the July 2005 postal count. The Census population estimate for July 2006 is 49.4% of the July 2005 Census population estimate.

St. Tammany. These postal counts rise after the storm reaching 102% of the pre-Katrina benchmark by March

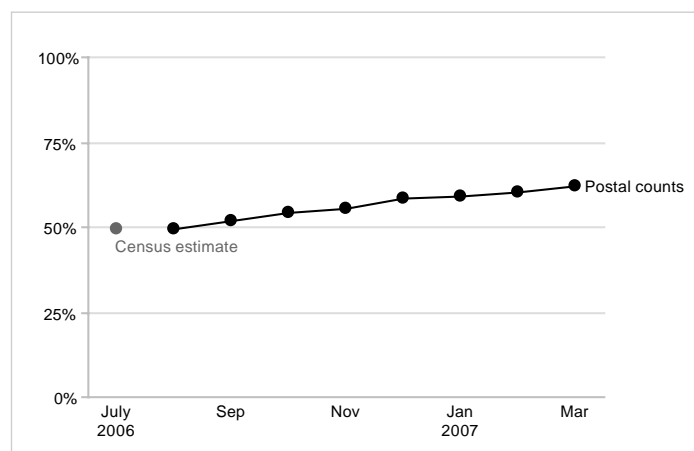
2007. Similarly, the Census population estimate for July 2006 for St. Tammany is 104.9% of the July 2005 estimate.

Plaquemines Parish. The counts of this parish diverge greatly from the Census estimates. They reach their lowest level at 98.9% but the Census estimate for July 2006 represents only 77.9% of the pre-Katrina estimate. This wide difference may be accounted for by the lag in recovery of Plaquemines' postal service as residents and businesses continue to report significant problems receiving mail in Plaquemines Parish as late as spring 2007.¹

The Population of New Orleans Continues to Grow

Although no indicator can yield exact population figures, postal counts may indicate the rate of recovery of the New Orleans area. Looked at in the aggregate, active residential postal counts across the five-parish area have risen to 81.1% of pre-Katrina levels as of March 2007. Specifically, Orleans Parish postal counts have increased from 49.5% of pre-Katrina levels in August 2006 to 61.9% of pre-Katrina levels seven months later (March 2007). Given that Orleans had the largest pre-Katrina population of the five affected parishes in the metropolitan area, and that it experienced the largest displacement of population in sheer numbers, the post-Katrina growth of New Orleans is particularly significant to the recovery of southeast Louisiana as a whole.

Figure 2: Census estimate & postal counts as a percent of pre-Katrina benchmarks



Source: US Census Bureau, Sammamish DataSystems

New Orleans Neighborhoods Repopulating Differentially

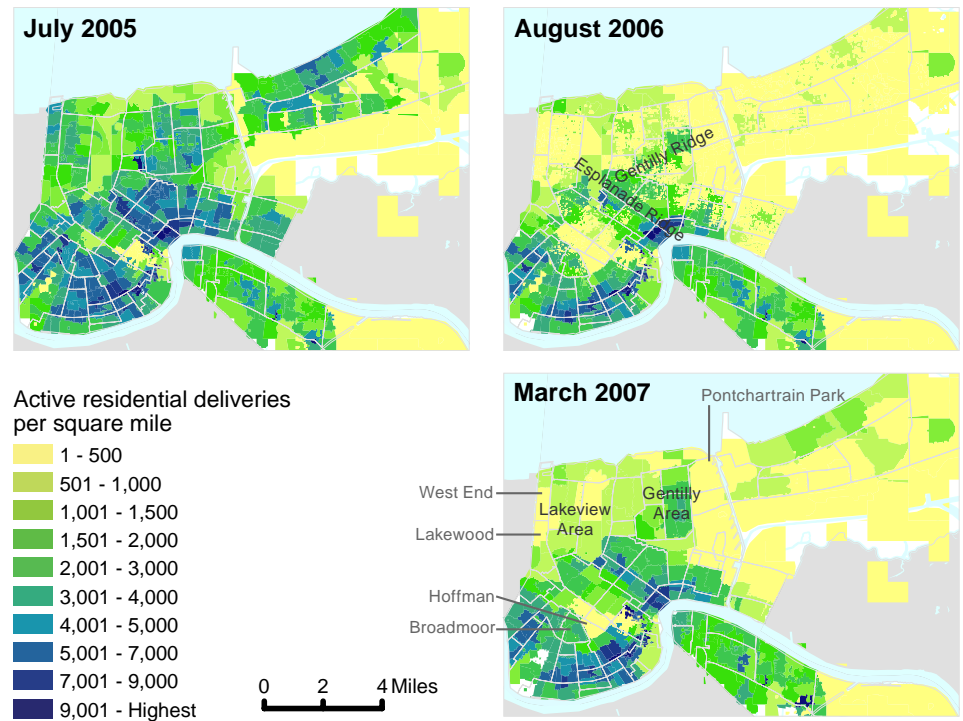
Postal count data are reported by carrier routes (small geographic areas with boundaries that change frequently), meaning that these data cannot be quantitatively compared over time.

However, when postal count data are mapped, we can make some qualitative observations about the repopulation patterns across New Orleans neighborhoods.

In Figure 3, by visually comparing maps of pre-Katrina (July 2005) active residential postal deliveries per square mile, to post-Katrina (August 2006) we see an obvious reduction in the density of active residential deliveries in the most heavily flooded neighborhoods. In addition, Esplanade and Gentilly ridges, which experienced lighter flooding due to their elevation, show faster recovery.

Comparing these maps to the most current map (March 2007), note that parts of the more heavily flooded neighborhoods are now coming back. For example, areas such as Broadmoor that have benefited from strong neighborhood leadership and significant outside support² seem to have rebounded more quickly than the adjacent Hoffman Triangle. And somewhat

Figure 3: Density of postal counts across New Orleans neighborhoods



Sources: Postal counts and carrier routes (Sammamish DataSystems compiled from the USPS Delivery Statistics Product), neighborhoods (New Orleans City Planning), other boundaries (Census TIGER)

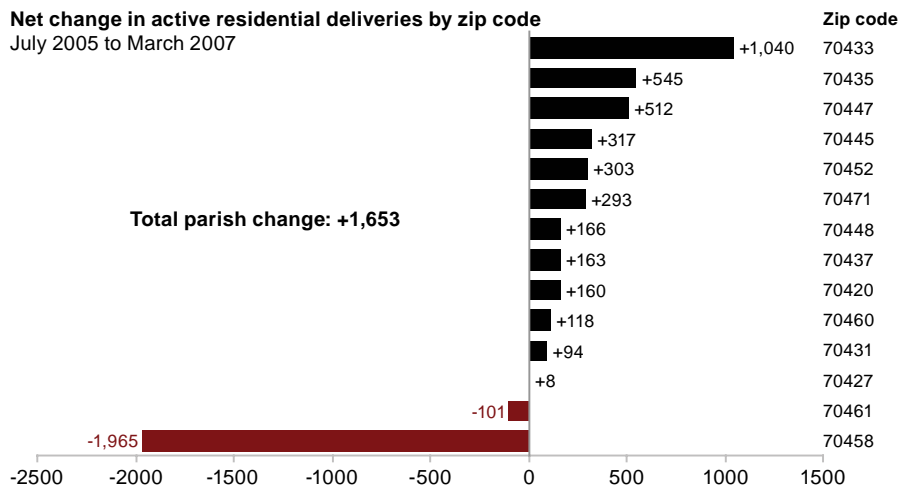
surprisingly, some parts of the more moderate income Gentilly may be repopulating more quickly than higher income Lakeview. This may be slightly deceptive in that Lakeview residents are more likely to have resources to live elsewhere while rebuilding their house, whereas Gentilly residents may be more likely to live in FEMA trailers on their own property. This phenomenon,

along with the purchasing of adjacent plots to build even larger homes in Lakeview, may be resulting in fewer active deliveries per square mile in Lakeview than in Gentilly. And finally, areas with high rates of elderly population seem to be slow to repopulate despite greater resources, as in Pontchartrain Park, West End and Lakewood.

Postal Counts May Help Explain Lack of Growth in St. Tammany Population Estimates

Many St. Tammany residents and officials are certain that the population has surged in that parish, despite the fact that Census and other population estimates suggest only modest growth since Katrina. Counts of active residential deliveries by zip code may shed light on this question.

Active residential deliveries by zip code reveal substantial increases in the central and western parts of the parish, such as 70433, 70435, and 70447 that are countered by decreases in the zip codes in the Slidell area such as 70458.



A Model For Future Disasters

Postal counts are released in a timely manner and on a frequent basis. And the methodology of their collection is transparent and readily understandable. These data are made available to the public by the U.S. Postal Service for a nominal processing fee.

In sum, delivery statistics from the U.S. Postal Service represent an important source of information for tracking the repopulation of American cities struck by major disaster.

Citations

1) Guillet, Jaime. "Snail mail still crawls in N.O. area." *New Orleans CityBusiness* 16 April 2007.

2) "KSG pledges ongoing action in New Orleans, Broadmoor Project." *Harvard University Gazette Online* 22 March 2007.

"National Trust, HGTV to Host Fourth Annual National Trust/HGTV Restore America Gala" *National Trust for Historic Preservation Press Release* 13 June 2006.

RESEARCH NOTE MAY 2007

We will continue to track the repopulation of New Orleans and the metro area by publishing active residential postal deliveries in *The Katrina Index*, a collaborative publication with the Brookings Institution.

To receive this monthly analysis, sign up for our Numbers Talk newsletter at www.gnocdc.org.

About the Data Center

The Greater New Orleans Community Data Center builds sustainable sources of data and information to support planning and decision-making in a rapidly changing environment. By publishing the most reliable data in a highly usable format, www.gnocdc.org has become the definitive source for information about New Orleans and its neighborhoods. The Data Center was founded in 1997 and is currently used by federal agencies, national media, elected officials, neighborhoods organizations, and local nonprofits.

Web site: www.gnocdc.org

Contact: For more information on the limitations and potential applications of USPS delivery statistics as a population indicator, contact the author through the "Ask Allison" feature of the [gnocdc.org](http://www.gnocdc.org) web site.

About the Author



© Rick Olivier Photography

Allison Plyer is Deputy Director of the Greater New Orleans Community Data Center. She works collaboratively with the Brookings Institution to analyze the state of the New Orleans recovery through the monthly publication of *The Katrina Index*. Allison frequently provides commentary on recovery issues to local and national media such as *New Orleans' Times-Picayune*, WDSU television, the Associated Press and the *New York Times*.

Joy Bonaguro manages production for the Greater New Orleans Community Data Center including design, data procurement and quality assurance for *The Katrina Index* and the www.gnocdc.org web site. She draws from a variety of disciplines including geographic information systems, human-computer interactions, and information design.

Acknowledgments

The author would like to thank Ken Hodges at Claritas, Inc and Lynn Wombold at ESRI for their generous sharing of knowledge about USPS delivery statistics; and Jake Cowan for his efforts to document the common uses and limitations of USPS delivery statistics for tracking population changes.

The Data Center would like to thank the Louisiana Public Health Institute for their support of our research into alternative post-disaster population indicators.

