

TO: LIRPC

FROM: Seth Forman, Chief Planner

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RE: Why Census 2010 Population Counts for LI and NYC Were Less Than Anticipated: More Vacancies, Fewer Unauthorized Immigrants

Summary of Findings

1. In all likelihood, both the Census Bureau's Population Estimates program and the LIPA annual population survey did not capture the sudden but widespread effect on the region's housing and immigrant populations of the 2007-2010 economic down turn. That is, an increase in the number of housing vacancies, caused by home foreclosures and the departure of low-skilled, mostly undocumented immigrant laborers from abroad due to job declines, eluded the most commonly used survey and forecasting methods.
2. This led to annual population estimates leading up to the 2010 census that raised anticipated population counts for the region.
3. The Census Bureau itself, in its annual Population Estimates program, and the Long Island Power Authority, in its annual Long Island Population Survey, appear to have "overestimated" the counties' populations, most likely the result of a steeper than expected increase in the number of residential vacancies, and a steeper than expected decline in the number of unauthorized residents.
4. While the Census Bureau's decennial census is not perfect and a full count of the nation's population remains an elusive goal, it is a reliable measure of residential vacancies, and is the only survey that provides door to door canvassing.
5. For Long Island (Nassau and Suffolk counties) the Census Bureau's 2009 population estimate of 2,875,904 was 43,022 (1.5%) higher than the actual 2010 census count of 2,832,882. In New York City, the Census Bureau population estimate for 2009 was 8,391,881, or 216,748 (2.7%) higher than the 2010 census count of 8,175,133.
6. For Long Island the difference between the 2009 LIPA estimate and the 2010 census was 38,000, or 1.3% of the 2010 census population count. (Despite problems discussed here, LIPA has very much improved its survey method. Ten years ago LIPA's population estimate diverged from the 2000 census by a 3.8% percent margin).
7. In the 2010 census, the Nassau-Suffolk region had a 2 percentage point increase in the proportion of total residential housing units that were vacant compared to

2000. This translates into a 26,054 increase in the number of vacant housing units for Long Island.
8. Using conservative estimates, the 26,054 increase in vacant housing units would result in a loss in the number of residents of approximately 38,556. This number is precisely the same as the 2009 LIPA “overestimate” and within 10 percent of the census population “overestimate” for 2009.
 9. An increase in foreclosures and rental abandonment between 2007 and 2010 may have played the major role in the difference between LIPA’s 2009 estimate of Long Island’s population and the 2010 census. In many foreclosure proceedings or quick rental abandonments, it takes time to contact LIPA to discontinue electrical service to the housing unit, so a vacancy would not be recorded.
 10. The increases in annual foreclosure filings for 2007-2010, using 2006 as the base year, totaled 20,258 on Long Island.
 11. Seasonal homes, mostly located on the east end of Long Island, do not appear to account for the increase in housing vacancies. The ten years between 2000 and 2010 saw only 405 more seasonal homes built on Long Island’s east end than the ten years between 1990 and 2000.
 12. In New York City, the 2010 census found an increase of 81,954 in the number of vacant housing units since 2000. These additional vacant housing units are estimated to result in approximately 163,908 fewer residents of the city.
 13. In contrast to LIPA, which may have had difficulty capturing housing vacancies, the Census Bureau’s Population Estimates program, which doesn’t count housing units, appears to have had difficulty capturing a decline in the unauthorized immigrant population.
 14. The Census Bureau’s Population Estimates program, which like other Census programs, does not ask about the legal status of immigrants, assumed that net international migration remained relatively flat between 2007 and 2009 (2010 data is not available), showing a decline of just 931 for Long Island. For New York City, the estimated annual decline between 2007 and 2009 totaled 8,037.
 15. Using data supplied by the U.S. Department of Homeland Security, though, it is estimated that New York City’s unauthorized population shrank by 69,300 between 2007 and 2009, from 492,800 to 423,500. For Long Island, the unauthorized population is estimated to have declined by 10,583 between 2007 and 2009, from 91,526 to 80,943.
 16. The conclusion to be drawn is that the economic down turn of 2007 to 2010 greatly reduced the ability of the most reliable population measures to capture rapid and steep population movements among “hard to count” populations.

17. This conclusion is backed by a small but relevant example, the community of Montauk, in East Hampton, Long Island. The decline in total population in Montauk of 16%, or 525 people (3,326 vs. 3851) between 2000 and 2010, is almost precisely equal to the loss of Hispanic residents in Montauk of 537, a 41.3% decline between 2000 and 2010. The majority of low-skilled, possibly unauthorized migrant workers on Long Island's east end are of Hispanic origin.

Analysis

Many analysts and government officials have been surprised by the lower than expected 2010 census population counts for Long Island and New York City, and indeed, the entire state of New York. In fact, the Census Bureau itself, in its annual population estimates program, and the Long Island Power Authority, in its annual Long Island Population Survey, appears to have overestimated the counties' populations, most likely the result of a steeper than expected increase in the number of residential vacancies, and a steeper than expected decline in the number of illegal/unauthorized residents.

In the 2009 population estimates, the Census Bureau estimated Nassau county's population to be 1,357,429, or 17,897 (1.3%) above the 2010 census count of 1,339,532. In Suffolk, the population estimate for 2009 was 1,518,475, or 25,125 (1.7%) above the 2010 census count of 1,493,350. Together, for Long Island (Nassau and Suffolk counties) the Census Bureau's 2009 population estimate of 2,875,904 was 43,022 (1.5%) higher than the actual 2010 census count of 2,832,882. In New York City, the Census Bureau population estimate for 2009 was 8,391,881, or 216,748 (2.7%) higher than the 2010 census count of 8,175,133.

The Long Island Power Authority, whose utility connection records were the basis for the successful challenge of Nassau and Suffolk counties to the Census Bureau's 2007 population estimates, estimated in their last population survey before the census (2009) that Suffolk county had a population of 1,511 million in 2009, while the 2010 census put Suffolk's population at 1.493 million, a difference of 18,000 (1.2%). In 2009, LIPA estimated Nassau's population to be 1.360 million, while the 2010 census had Nassau at 1.340 million, a difference of 20,000 (1.5%). For Nassau and Suffolk together the difference between the 2009 LIPA estimate and the 2010 census was 38,000, or 1.3% of the 2010 census population count.

In all likelihood, both the Census Bureau's Population Estimates program and the LIPA annual population survey did not capture the sudden but widespread effect on the region's housing and international migration patterns of the 2007-2010 economic downturn. That is, an increase in the number of housing vacancies, caused by home foreclosures and the departure of low-skilled, mostly unauthorized immigrant laborers from abroad due to job declines, eluded the most commonly used survey and forecasting methods.

The 2010 decennial census reveals that there was, in fact, a substantial rise in the number of housing unit vacancies on Long Island and in New York City between the 2000 and 2010 censuses, though not as much as for the nation as a whole, which includes regions

with the highest amount of new construction. Nationally, in 2000, vacant housing units constituted 8.9 percent of the total number of housing units (10.4 million out of 115.9 million). In 2010, vacant housing units constituted 12.8 percent of the total number of housing units (14.9 million out of 131.7 million), an increase of 4 percentage points.

Still, on Long Island and in NYC vacancies came fast with the onset of the recession, which made its impact on population difficult to measure.

In the 2010 census, Suffolk is reported to have had 70,065 vacant housing units, or 12.2 percent of all housing units. In 2000, Suffolk had 53,024 vacant housing units, or 10.2% of the total. Nassau county in 2010 had 19,818 vacant housing units, or 4.2% of total units, while in 2000 Nassau had 10,764 vacant housing units, or 2.3% of the total. So, basically, the Nassau-Suffolk region had a 2 percentage point increase in the proportion of total residential housing units that were vacant since 2000, which translates into 17,000 additional vacant units in Suffolk, and 9,054 additional vacant units in Nassau, for a total increase in the number of vacant housing units for Long Island of 26,054.

Census data show that the average number of occupants per residential housing unit in the region is around 2.96. Using a conservative assumption that only 50 percent of the additional vacant housing units resulted in 2.96 former occupants leaving Long Island (the other 50 percent presumably found housing on Long Island), this would come to a loss in the number of residents of 38,556. Note that this number is precisely the same as the 2009 LIPA “overestimate” and within 10 percent of the census population “overestimate” for 2009.

New York City, whose leaders have screamed loudly about the 2010 census counts, experienced something very similar, but on a larger scale. The 2000 census reported that New York City had 179,324 vacant housing units, or 5.6 percent of the total number of housing units of 3,200,913. In 2010 the city had 261,278 vacant housing units (a 46% increase in the number of vacant units over 2000), or 7.8% of total housing units of 3,371,062. That represents an increase in vacant housing units as a percentage of total housing units of 2.2 percentage points, or 81,954, since 2000. Assuming a mean household size of 2.5 for NYC, that increase in vacant housing units could result in a loss of former housing unit occupants of 204,885. Using a more conservative estimate (given NYC’s very high domestic migration rate, smaller housing unit size, and less flexible housing stock) that 80% of former housing occupants relocated outside of NYC, additional vacant housing units since 2000 would have accounted for 163,908 of the Census Bureau’s 216,748 “overestimate” of NYC’s population in 2009.

It is not likely that an increase in the number of seasonal homes, many of which are vacant during the first three months of the year when the decennial census is being taken, account for the overestimation. In the first place, Nassau county, with virtually no seasonal housing construction, had the same 2 percentage point increase in vacancies for 2010 over 2000 as Suffolk, whose east end contains most of the seasonal housing units on Long Island.

The difference in construction of seasonal housing between 2000 and 2010 on Suffolk's east end does not appear to be all that meaningful in terms of population estimates. Using residential construction permits, between 2000 and 2009 there were an estimated 4,908 seasonal housing units built in the 5 east end towns of Suffolk (i.e. half of all residential construction, and 25 percent of all residential construction in Riverhead). This is compared with 4,503 estimated seasonal housing units built on Long Island between 1990 and 1999, a small difference of 405 units. Assuming 2.96 occupants per housing unit, that would account for only 1,199 of the 43,022 and 38,000 population estimate discrepancy for Census Population Estimates and LIPA, respectively, in 2009.

In fact, LIPA went from a substantial "underestimate" of Long Island's population in 1999, compared to the 2000 census, to the overestimate of 38,000 in 2010. In 1999, LIPA estimated the total population of Nassau and Suffolk counties to be 2,652,115, while the 2010 census total population count was 2,753,145, a difference of 101,030 (3.8%). The big problem here for LIPA was the difficulty in estimating vacancies. In most foreclosure proceedings or quick rental abandonments, LIPA is not contacted to discontinue service to the housing unit. If this happened at a faster pace with the onset of the recession, it is likely that the housing unit-based decennial census population counts would diverge from the meter-based LIPA population estimates. Numbers from RealtyTrac published in *Newsday* show that the increases in annual foreclosure filings for 2007-2010, using 2006 as the base year, total 20,258 on Long Island.

Table 1 Number of Households named in foreclosure filings yearly on Long Island

2006	6,534
2007	9,659
2008	9,984
2009	13,646
2010	13,105

Source: RealtyTrac; *Newsday*

While the Census Bureau is not perfect and a full count of the nation's population remains an elusive goal, it is the most accurate measure of residential vacancies. The Census Bureau starts with address information from the prior census, and updates the file with information from the U.S. Postal Service, local governments, and canvassing by field personnel. Generally speaking, the U.S. Postal Service does not deliver mail to vacant housing units. They return these forms back to the Census as undeliverable. To be sure these housing units are vacant, Census sends workers to follow-up on these addresses. During that process addresses are either validated as an occupied unit, a vacant unit, or eliminated as a valid address.

For units to which the census form was delivered but was not returned, field personnel attempt to contact the household either on the phone or in person. In 2000, of the 106 million occupied housing units, only about 1.5 million, 1.39 percent, never yielded a contact. For those housing units with no household data available, the Bureau has a substitution procedure that assigns those households the characteristics of nearby

households. After the census is complete, the Bureau then conducts studies to try to determine the completeness and accuracy of the data collected.ⁱ

This is a far different method than that used by the Census Bureau’s Population Estimates program, which provides the annual estimates used to distribute federal and state aid. The population estimates use a "components of change" method, and therefore don’t consider housing units or vacancies at all, a fact that probably render the estimates less robust in times of high foreclosures and vacancies. The Population Estimates program attempts to measure changes in four major population components, using official records: 1. Natural increase/decrease (i.e. births over deaths) 2. net international migration (i.e. immigration) 3. Group Quarters population, and 4. net domestic migration. Of these components, the one that seems most problematic now that the 2010 census has been released is net international migration, which includes the “hard to count” unauthorized immigrant population.

In the recent past, especially with the surge in immigration to the country beginning in the 1990s, the criticism of the Census was that it “undercounted” these “hard to count” immigrant groups. The Census Bureau performs a post enumeration survey after each decennial census, which in 2000 estimated that the undercount rate for illegal aliens was 12.5 percent. This compares with a tiny “over-count” of 0.49 percent overall. The Census Bureau now uses an adjustment factor to calculate the number of foreign born, designed with the assumption that this group is under-counted.

This year, though, the 2010 decennial census may be showing that the annual Population Estimates program has over-counted unauthorized immigrants for the last few years. It may be that the Population Estimates were ineffective at accounting for a rapid and steep decline in the number of low-skilled, foreign born migrants, precipitated by the massive decline in jobs beginning in late 2007. The Population Estimates program, in other words, showed less of a decline in annual net international migration between 2000 and 2009 than probably occurred.

This raised the expectations of government officials and planners in Suffolk, Nassau, and New York City for higher population counts in the 2010 census.

Table 1 – Net International Migration

	Net International Migration										Change
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2007-2009
Nassau	1,062	4,582	4,172	3,454	3,023	3,102	3,098	2,742	2,639	2,588	30,462
Suffolk	1,050	4,319	3,938	3,266	2,927	2,967	3,044	2,716	2,629	2,623	29,479
LI	2,112	8,901	8,110	6,720	5,950	6,069	6,142	5,458	5,268	5,211	59,941
Change								-684	-190	-57	-931
NYC	24,138	94,386	86,412	73,142	63,489	64,764	65,711	59,362	57,598	57,674	
Change		70,248	-7,974	-13,270	-9,653	1,275	947	-6,349	-1,764	76	-8,037

Source: U.S. Census Bureau Population Estimates

As Table 1 above indicates, the Population Estimates program assumed that Net International Migration remained relatively flat between 2007 and 2009 (2010 data is not

available), showing a decline of just 931. For New York City, Population Estimates assumed annual declines in Net International Migration totaling 8,037 between 2007 and 2009.

However, another arm of the federal government, the Department of Homeland Security, attempts to estimate the number of illegal migrants living in the United States every year in their *Estimates of the Unauthorized Immigrant Population Residing in the United States*. In contrast to the Population Estimates program, this report shows a sharp decline in the number of foreign born living in the United States and in New York state in the last few years.

The DOHS estimates the number of illegal aliens living in the United States through a “residual” method. Since the census household surveys (both the annual American Community Survey and the decennial census) do not ask about legal status of the foreign born, DOHS subtracts the number of legal migrants, temporary migrants, and migrants applying for legal status (records the DOHS maintains) from the number of people claiming on the census form that they are “foreign born” (usually from the ACS survey). From this they derive the number of illegal foreign born living in the United States and in each state.

The Department of Homeland Security estimated that the unauthorized population living in the United States fell by 1,030,000 between 2007 and 2009, from 11,780,000 to 10,750,000. The DOHS also estimates that the number of unauthorized people living in New York state fell by 90,000 between 2007 and 2009, from 640,000 to 550,000.

Extrapolating from this down to the local level, using the same proportion of the general population accounted for by each jurisdiction, the Long Island Regional Planning Council estimates that New York City’s unauthorized population shrank by 69,300 between 2007 and 2009, from 492,800 to 423,500. Nevertheless, the Census Bureau’s population estimates showed only an 8,037 decline in the net international migration for the three years 2007 to 2009. For Long Island, the Long Island Regional Planning Council estimates that the unauthorized population declined by 10,583 between 2007 and 2009, from 91,526 to 80,943. But the Census Bureau’s Population Estimates showed only a slight decline in net international migration for Long Island of 931 for the years 2007 to 2009. It should be noted that the number of foreign born residents, whether legal or illegal, is not the same as the number of immigrants. But the two numbers are closely related.

Table 2 – Estimate of Unauthorized Immigrant Population and Annual Change

Illegal Pop. Est.	2000	2004	2005	2006	2007	2008	2009
Nassau County	37,976	36,400	39,326	37,079	43,331	44,383	38,205
Suffolk County	40,390	39,949	44,275	41,108	48,196	49,657	42,738
Nassau-Suffolk	78,366	76,349	83,601	78,188	91,526	94,040	80,943
NYC	227,886	396,550	431,200	415,800	492,800	492,800	423,500
Annual Change in Illegal Pop.							
		2004	2005	2006	2007	2008	2009
Nassau County			2,927	-2,247	6,251	1,053	-6,178
Suffolk County			4,325	-3,166	7,087	1,461	-6,919
Nassau Suffolk			7,252	-5,414	13,339	2,514	-13,097
NYC			34,650	-15,400	77,000	0	-69,300

Source: LI Regional Planning Council; estimates from data supplied by U.S. Department of Homeland Security.

The conclusion to be drawn from this data is that a rapid and steep increase in the number of vacant homes and the possibly related decline in the number of low-skilled, foreign born workers, was not captured by the most commonly used and reliable population surveys provided by the Census Bureau and by LIPA.

This conclusion is backed by a small but relevant example, the community of Montauk, in East Hampton, Long Island. The decline in total population in Montauk of 16%, or 525 people (3,326 vs. 3851) between 2000 and 2010, is almost precisely equal to the loss of Hispanics in Montauk of 537, a 41.3% decline between 2000 and 2010. The majority of low-skilled, migrant workers on Long Island’s east end are of Hispanic origin. The number of occupied housing units declined in Montauk from 1,593 in 2000, to 1,422, or 171 units. Assuming an average occupancy size of 2.96, the decline in the number of occupied units in Montauk translates into a loss of 506 residents, a number in line with the decline in both the total population and in Hispanic residents. There was a much smaller increase in vacant housing units in Montauk between 2000 and 2010 (3,222 vs. 3,244), probably because some of the housing of migrants in Montauk consists of rental apartments in hotels that are easily converted back into hotel rooms, and thus taken out of the permanent housing stock.

ⁱ Nancy Bolton, “The Challenge of Accurately Estimating the Population of Illegal Immigrants,” *Social Compact* (Summer 2007).