

Review of Census Bureau Estimates of New York City's Population for July, 2007

Introduction

The U.S. Census Bureau prepares estimates of total population for all counties in the United States on an annual basis, using a demographic procedure known as the “administrative records component of population change” method. This method assumes that post-census population change can be closely approximated by administrative data on births and deaths, along with other data that are symptomatic of migration. We take issue with this assumption because administrative data fall short of what is needed to calculate the components of change in New York City’s five boroughs.

This presentation presents the Census Bureau’s 2007 population estimates for New York City’s five counties (i.e., boroughs). We then present an alternate method for creating population estimates for the boroughs, and discuss the implications of these results for the Census Bureau estimates. Finally, we provide some notes about the data sources used to create the revised estimates.

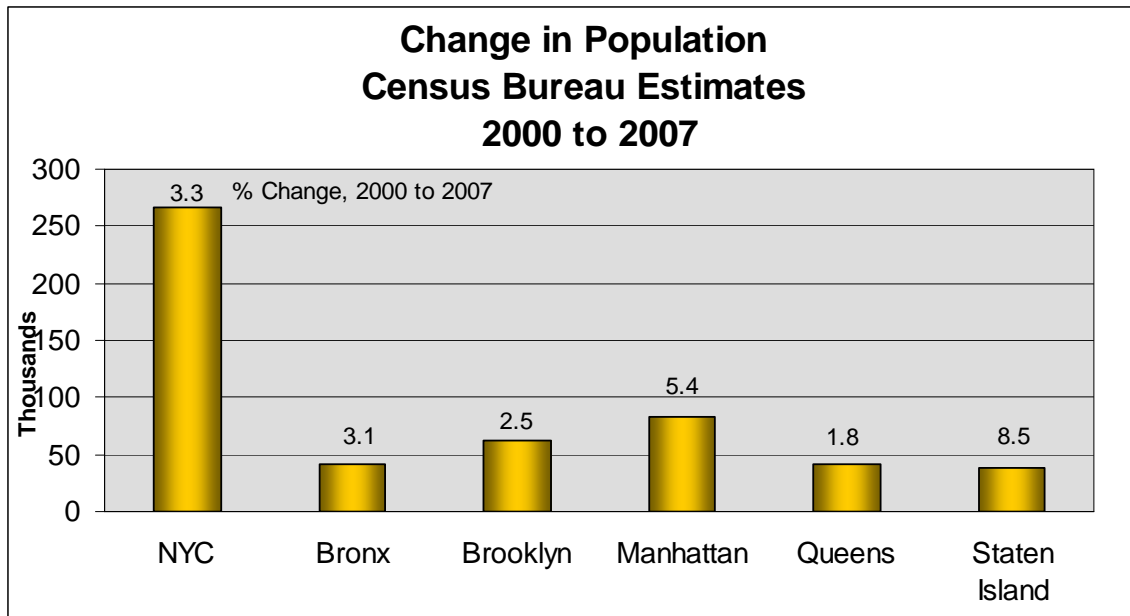
Census Bureau Estimates for July 1, 2007

According to Census Bureau population estimates, New York City’s population increased from 8,008,278 in April of 2000 to 8,274,527 persons in July of 2007. This is an increase of 266,249 persons or about 3.3 percent and incorporates revisions to previous estimates for 2001 through 2006. The change in the city’s population occurred because of increases in Staten Island (8.5 percent), Manhattan (5.4 percent), and the Bronx (3.1 percent). Population change, according to the Bureau, was lower in both Brooklyn (2.5 percent) and Queens (1.8 percent). These estimates are derived using a *component method*, where natural increase (births minus deaths), net international migration, and net domestic migration are estimated separately, using a combination of administrative records and survey data.

Annual Estimates of the Population for Counties of New York: April 1, 2000 to July 1, 2007				
Geographic Area	Population estimates		1-Apr-00	
	1-Jul-07	1-Jul-00	Estimates base	Census base
New York State	19,297,729	18,998,889	18,976,821	18,976,457
New York City	8,274,527	8,017,980	8,008,654	8,008,278
Bronx	1,373,659	1,334,801	1,332,650	1,332,650
Brooklyn	2,528,050	2,466,784	2,465,525	2,465,326
Manhattan	1,620,867	1,539,558	1,537,372	1,537,195
Queens	2,270,338	2,231,312	2,229,379	2,229,379
Staten Island	481,613	445,525	443,728	443,728

Note: The April 1, 2000 Population Estimates base reflects changes to the Census 2000 population from the Count Question Resolution program and geographic program revisions.

Source: Annual Estimates of the Population for Counties of New York, U.S. Census Bureau



Alternative Method for Estimating Population

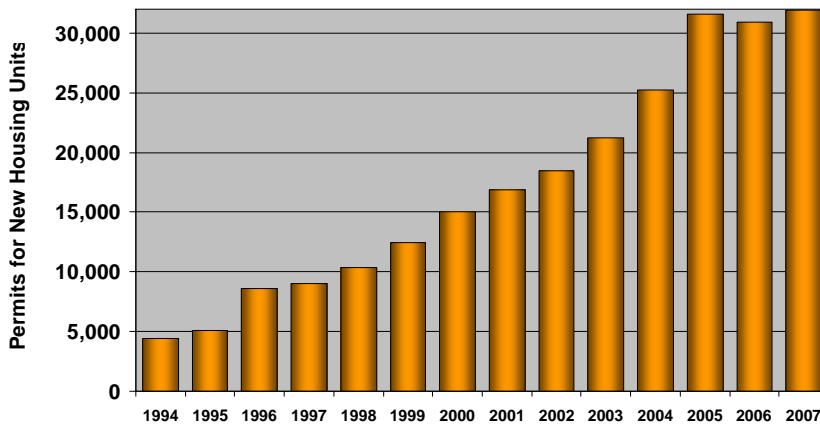
The component method is not the only method available for creating population estimates. An alternative method that is used frequently in jurisdictions where population growth is heavily driven by new housing construction is called the *housing unit method*. The housing unit method calculates the population in households as the product of housing units, occupancy rates and average household size. When persons in group quarters (i.e., prisons, nursing homes, dormitories and other facilities) are added to persons in households, an estimate can be created for the total population.

This method uses local administrative data on new housing to gauge change in housing units. In the absence of updated occupancy rates and persons per household, the Census Bureau recommends that counties preparing alternative estimates for the challenge process hold constant occupancy rates and persons per household from the previous census. This year's estimates include a separate delineation of occupancy rates and average household size by broad building type; one-family versus multi-family buildings. Local administrative data on the number of persons in facilities is used to supplement the previous census's count of group quarters population. In fact, the Census Bureau currently uses a variant of the housing unit method in the population estimates program to allocate county population to subcounty geographic levels (e.g. places, towns) for the nation.

The method relies heavily on the number of housing units created through new construction from certificates of occupancy. In 2006, a special effort was made to include units created through the conversion of commercial/industrial buildings to residential use in all boroughs. The idea of using the housing unit method in the 1980s and 1990s would have been considered unreasonable for New York City because most growth was not a function of new housing. Instead, growth was linked to the creation of new housing units through the subdivision of existing units, which can be difficult to accurately document.

Since the late-1990s, however, New York City’s growth has become more closely tied with new construction, making it a much better candidate for the housing unit method. High levels of new construction have been the hallmark of this latest era. In addition, net additions to the housing stock have occurred by way of building alterations, in the form of conversions from commercial/industrial to residential use. In the past, certificates of occupancy were included for Manhattan and Brooklyn; for the 2006 and 2007 estimates, certificates are included for all five boroughs. Conversions during the time period, July 2006 to June 2007, were not researched and are not part of the 2007 estimates challenge.

New Privately-Owned Residential Building Permits New York City, 1994–2007



The data on units added through new construction and conversion/alteration of existing buildings have been at odds with that from the Census Bureau’s population estimates program, and it is only in the past few years, as a result of incorporating the housing unit method through the estimates review and challenge program, that the population of each borough has come to reflect gains in housing. Increases between 2000 and 2007 in all five boroughs now better reflect the housing gains that have been recorded by local government. For example, the number of permits for new residential construction increased from 2,900 in the year 2000 to 10,900 in 2007 in Brooklyn; from 2,700 to 7,600 in Queens; and from 1,600 to almost 3,100 in the Bronx.

The volume of permits for new construction has been and continues to be substantial in Manhattan, in the range of 9,500 units in 2007. Moreover, the data for Manhattan more closely reflect the true housing situation because virtually all new units are created with permits; in Brooklyn and Queens, the certificates of occupancy that are included in our estimate are not representative of all new units because a sizable number of new units are created outside of the permit process.

Local zoning initiatives have attempted to curb overdevelopment in Staten Island and annual permits for new residential construction have declined, from about 2,700 in 2000 to about 700 in 2007. In all boroughs, new construction is distributed over a wide range of neighborhoods, some without large numbers of immigrants. Moreover, increases in housing in areas which retain large native-born populations continue to be at odds with the Census Bureau's estimate of large domestic net migration losses.

The Department of City Planning recalculated the estimated population, based on certificates of occupancy, demolitions, and change in group quarters population, creating what we believe are more accurate estimates of population all five boroughs. And, as mentioned earlier, certificates of occupancy for housing units created as a result of the conversion of commercial/industrial buildings to residential use were included through June 2006.

According to the certificate of occupancy-driven DCP population estimates, the population of New York City in July of 2007 was 8,310,212, an increase of 301,934 or 3.8 percent since April of 2000 (see Table below). This figure is 35,685 persons higher than the Census Bureau's July 2007 estimate of 8,274,527.

Over the past few years, Brooklyn has lagged in our challenge efforts because housing permits for new residential construction were taking more time than expected to show-up in the form of certificates of occupancy. Using the DCP housing unit estimates, the population of Brooklyn increased by 73,880 between April of 2000 and July of 2007, an increase of 3.0 percent. This is 11,156 persons higher than the Census Bureau's initial estimate for July of 2007.

Similarly, Queens has lagged in our past challenge efforts and still probably suffers from a number of housing units that are created without the "paper trail" necessary for their inclusion in the estimate. Still, however, certificates of occupancy are up in Queens, creating an increase in population of 48,400 persons or 2.2 percent since 2000. This is 7,441 higher than the Census Bureau's estimate for July of 2007, using the component method.

The increment added via the housing unit method was very large for Manhattan in the challenge of the July 2005 estimate. This was testimony to the large number of new units added through the formal permit process, including a hefty number of units added by conversion through June 2006, and, we think, some acute limitations of the component method regarding young migrants. Thus, the increment added last year was modest (about 1,049 persons higher than the Census Bureau's estimate). This year, the increment added is just 4,384 persons. Since April of 2000, Manhattan has added some 88,056 persons, an increase of 5.7 percent, based on the 2007 DCP estimate.

The Bronx registered an increase of 52,472 or 3.9 percent since April of 2000, based on the 2007 DCP estimate. This change represents an increase of 11,463 persons above the July 2007 Census Bureau estimate using the component method.

For Staten Island, the housing unit method yielded a population increase of 39,126 or 8.8 percent since April of 2000. The DCP estimate for 2007 is just 1,241 persons more than

the Census Bureau's July 2007 estimate. As mentioned earlier, planning efforts to place limits on growth in Staten Island from new housing construction have taken effect, leading to declines in the annual number of permits for new construction.

**Change in Population
Census Bureau and DCP Estimates
April 2000 to July 2007**

	2000 Census	2007 Census Bureau Estimates	Change: Census 2000 and Census 2007		2007 DCP Estimates	Change: Census 2000 and DCP 2007	
			Number	Percent		Number	Percent
New York City	8,008,278	8,274,527	266,249	3.3	8,310,212	301,934	3.8
Bronx	1,332,650	1,373,659	41,009	3.1	1,385,122	52,472	3.9
Brooklyn	2,465,326	2,528,050	62,724	2.5	2,539,206	73,880	3.0
Manhattan	1,537,195	1,620,867	83,672	5.4	1,625,251	88,056	5.7
Queens	2,229,379	2,270,338	40,959	1.8	2,277,779	48,400	2.2
Staten Island	443,728	481,613	37,885	8.5	482,854	39,126	8.8

Source: 2000 Census; Census Bureau Current Estimates Program; DCP Estimates of Population

**Difference Between Census Bureau and DCP Population
Estimates
July 2007**

	Census Bureau Estimates	DCP Estimates	Difference: Census 2007 and DCP 2007	
			Number	Percent
New York City	8,274,527	8,310,212	35,685	0.4
Bronx	1,373,659	1,385,122	11,463	0.8
Brooklyn	2,528,050	2,539,206	11,156	0.4
Manhattan	1,620,867	1,625,251	4,384	0.3
Queens	2,270,338	2,277,779	7,441	0.3
Staten Island	481,613	482,854	1,241	0.3

Source: Census Bureau Current Estimates Program
Department of City Planning (DCP) Estimates