

## Estimates of New York City's Population for July 2012

### 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 method" (described below). This method assumes that post-census population change can be closely approximated by vital statistics data on births and deaths, along with other administrative and survey data that provide a picture of migration patterns.

### Census Bureau Estimates for July 1, 2012

#### *Total Population*

According to Census Bureau population estimates, New York City's population increased from 8,175,133 in April of 2010 to 8,336,697 in July of 2012. This is an increase of 161,564 residents or about 2.0 percent over the 2010 mark. The largest percentage change in the city's population occurred in Brooklyn, growing by 2.4 percent or 60,900 persons, followed by Manhattan (2.1 percent or 33,200 persons), Queens (1.9 percent or 42,000 persons), and the Bronx (1.7 percent or 23,400 persons). Staten Island (0.4 percent or 2,000 persons) showed the smallest gains over the 27 month period.

New York City's population increase since April of 2010 represented 84 percent of the total increase in New York State, which slightly raised the city's share of the State's population, from 42.2 percent to 42.6 percent.

<b>Change in Population, Census Bureau Estimates</b>				
<b>April 2010 to July 2012</b>				
	Census 2010	Census Estimates 2012	Change: 2010-2012	
			Number	Percent
<b>New York State</b>	19,378,102	19,570,261	192,159	1.0
<b>New York City</b>	<b>8,175,133</b>	<b>8,336,697</b>	<b>161,564</b>	<b>2.0</b>
<b>Bronx</b>	1,385,108	1,408,473	23,365	1.7
<b>Brooklyn</b>	2,504,700	2,565,635	60,935	2.4
<b>Manhattan</b>	1,585,873	1,619,090	33,217	2.1
<b>Queens</b>	2,230,722	2,272,771	42,049	1.9
<b>Staten Island</b>	468,730	470,728	1,998	0.4
<i>NYC as % of NYS</i>	42.2	42.6	84.1	

Source: 2010 Census; Census Bureau Current Estimates Program

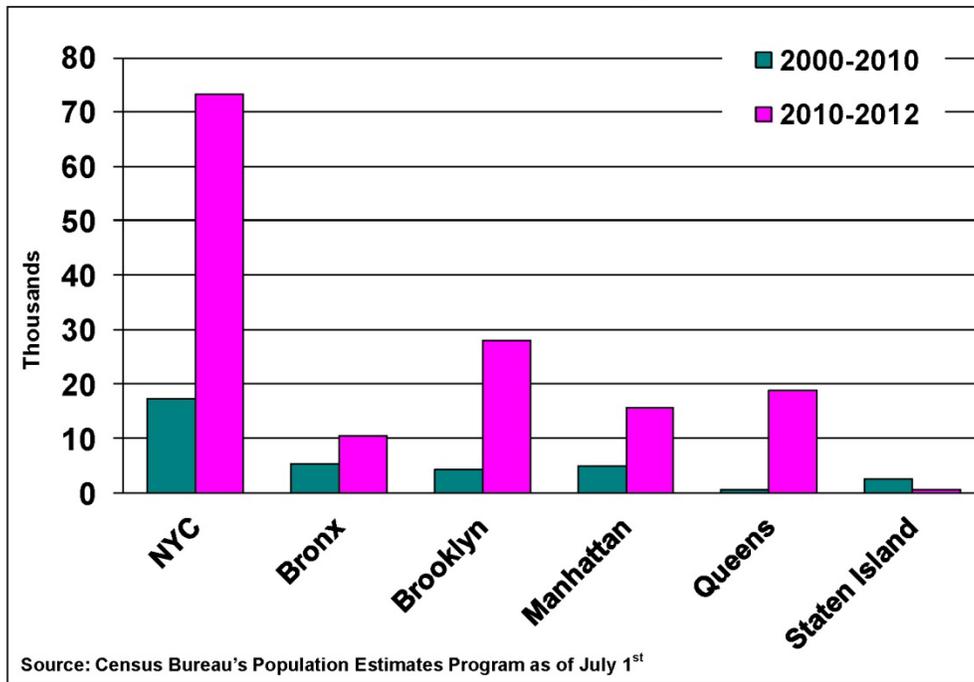
While there is little doubt that New York City has experienced a substantial population increase post-2010, it is probably overstated. Brooklyn and Queens likely experienced an undercount in the 2010 Census, the result of misclassifying housing units as vacant. A conservative estimate is that this problem understated the population of the two boroughs by 65,000 persons. This means that the population of the city in 2010 was easily in excess of 8,240,000 – and not the 8,175,100 base from the 2010 enumeration that is used in the calculations of change.

*Post-2010 Change in the Context of Changes in the 2000s*

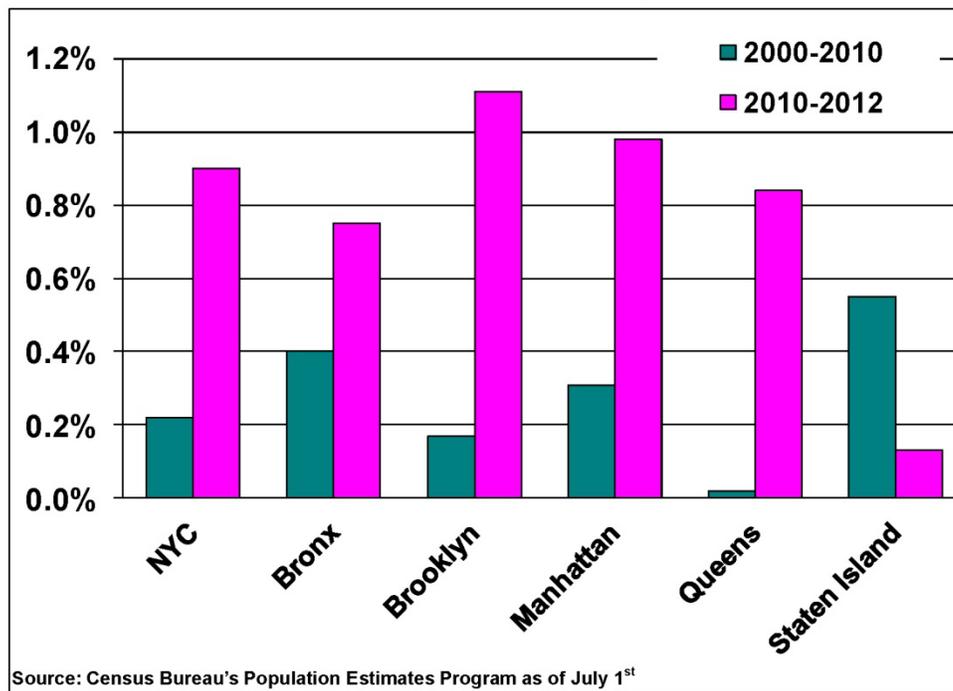
A comparison of annual average population change from **July 2000 to July 2010** versus the period from **July 2010 to July 2012** (using official Census Bureau data) is shown in the charts below. The increase since the 2010 Census in New York City is substantial when set against the backdrop of the last decade. The annual average for the two years (July 2010 – July 2012), for the city was about 74,000, compared to an annual average of just 17,000 in the 2000s. Of course, the two recent years do not portend a decade-long pattern; indeed, it is unlikely that such a high level of change could be maintained going forward, given the housing constraints on levels of growth.

But for Staten Island, every borough saw higher annual average growth in the 2010-2012 period, compared to 2000-2010. In Brooklyn, the annual average increase of 28,000 over the most recent period is dramatically higher than 4,300 annual average increase in the 2000s. In Manhattan, the reported annual average increase for 2010-2012 was 15,500 persons, compared with just 4,700 in the 2000s. In Queens, the reported increase in the most recent period was 18,700 annually, compared to an annual average of just a few hundred in the 2000s, while growth in the Bronx was nearly double in 2010-2012 (10,400), compared to the earlier period. Staten Island, which registered the largest relative gains of the five boroughs over the last decade, was the only borough to display a lower level of growth in 2010-2012.

### Annual Average Population Change NYC and Boroughs



## Annual Average Percent Change in Population NYC and Boroughs



### Components of Population Change

Demographers divide population change into components. *Natural increase* represents the difference between births and deaths. *Net migration* represents the balance between persons entering and leaving an area. Together, these components describe how populations change over time. The Census Bureau constructs population estimates for all counties in the United States by separately estimating the components of change. Births and deaths are compiled using data from the national vital statistics system. Net migration is calculated by estimating the rate of net migration for persons coming in from and leaving for other counties in the 50 states (*net domestic migration*) and the balance of people who immigrate from and emigrate to other nations and Puerto Rico (*net international migration*). The net domestic migration rate is derived using income tax returns from the Internal Revenue Service and Medicare enrollment data from the Social Security Administration (see methods discussion below).

It is important to keep in mind that New York City has a very dynamic population, with several hundred thousand people coming and going each year. This “churn” has long characterized the city, and represents a fluidity that is difficult to characterize using the *net migration* measures presented herein. Nonetheless, net migration does provide us with some idea of what the end result is of all this movement. This dynamism is testimony to the city as a magnet for those seeking opportunities, then moving on, only to be replaced by the next set of individuals aspiring for a better life. This very vibrant picture is what makes New York City’s population extraordinary and different from most other places in the nation and, perhaps, the world.

The most recent estimates from the Census Bureau indicate the following:

- a) Positive natural increase – more births than deaths added 149,300 persons to New York City’s population between April of 2010 and July of 2012.
- b) Net migration was positive for the city overall, with a net migration gain of some 12,200 persons for the period. While small by the standards of the city’s overall population, this represents an

important change in the longstanding pattern of population losses through migration. The recent gain through migration was the result of a net inflow of 151,400 persons through international migration, which offset a net domestic migration loss of 139,200 persons. Despite declines in undocumented immigration, overall immigration continues to contribute positively to the city's population. Moreover, the level of domestic migration losses has declined in recent years, a result of migration to the city of many young migrants from the 50 states, settling in largely non-family households in Manhattan, Brooklyn and Queens.

Although estimates of net migration for the last decade are difficult to calculate because of issues surrounding the accuracy of the 2010 Census count, data from IRS tax returns (which are used as part of the Census Bureau's estimation method – see below) and data from the American Community Survey (ACS) point to lower levels of net domestic loss since 2008. Further, ACS data point to fewer domestic out-migrants and a continuation of the steady in-migrant stream in the latter part of the last decade. Lower net migration losses and, now, net migration gains, are likely indicative of a change in the pattern of migration to and from the city. The longstanding pattern of population losses through migration (offset by gains through natural increase) have changed, with migration now contributing directly to population growth.

- c) Three of the five boroughs displayed positive net migration between April 2010 and July of 2012. While Manhattan and Staten Island have had positive net migration in the past, this has generally not been the case with Brooklyn, where the continued influx of young domestic migrants is now likely reflected in the population estimates. Data from the ACS indicate that immigration has held steady over the last several years; it is the reduction in domestic outflows that is likely the reason for attenuation in net domestic migration losses. Even in the Bronx and Staten Island, which both had net migration losses over the period, the losses were modest.

<b>Cumulative Estimates of the Components of Population Change for New York State, New York City and Counties: April 1, 2010 to July 1, 2012</b>					
<b>Geographic Area</b>	<b>Total Population Change</b>	<b>Natural Increase</b>	<b>Net Migration</b>		
		<b>(Births-Deaths)</b>	<b>Total</b>	<b>Net International Migration</b>	<b>Net Domestic Migration</b>
<b>New York City</b>	<b>161,564</b>	<b>149,287</b>	<b>12,241</b>	<b>151,431</b>	<b>-139,190</b>
<b>Bronx</b>	23,365	29,259	-6,027	26,732	-32,759
<b>Brooklyn</b>	60,935	57,998	2,485	44,341	-41,856
<b>Manhattan</b>	33,217	21,668	11,895	28,341	-16,446
<b>Queens</b>	42,049	35,586	6,514	49,656	-43,142
<b>Staten Island</b>	1,998	4,776	-2,626	2,361	-4,987

Note: The estimated components of population change will not equal the numerical population change because of a small residual after controlling to the national totals.

Source: Population Division, U.S. Census Bureau

### **Census Bureau Population Estimates Methodology**

Each year, the U.S. Census Bureau produces estimates of the population for each state, counties, cities and other places, as well as for the nation as a whole. They utilize data from a number of sources to estimate the change in the population for each year since the most recent decennial census. These population estimates use the 2010 Census counts as a base.

The Census Bureau subtracts the number of resident deaths from the number of resident births

annually for each county in the U.S., to derive growth due to *natural increase*. Births are tabulated by residence of the mother, regardless of where the birth occurred. Similarly, deaths are tabulated by the most recent residence of the decedent, not where the death occurred. Birth and death certificates from the National Center for Health Statistics are used as the data source. The data on births and deaths are generally considered to be the most reliable part of the components of change analysis.

*Net domestic migration* represents the net exchange between a county and other counties in the 50 states. This component is estimated for two age groups (0 to 64 years and 65 years and older). For those 0 to 64, the Bureau uses data on filers and dependents from Federal income tax returns supplied by the Internal Revenue Service (IRS). In-migrants and out-migrants between counties and non-movers are identified by comparing the addresses of income tax filers from year to year to determine residence at two points in time. For example, to produce the July 1, 2010 estimates, the addresses of tax filers are compared for 2008 and 2009. In-migrants to a county were defined as those with an address in county in 2009, but outside the county in 2008; out-migrants are those who moved out of a county (address in county in 2008, but outside the county in 2009); and individuals who filed tax returns at the same address at both points in time are non-migrants. Since every U.S. resident may not file or be claimed as an exemption on a tax return, these data cannot be used to directly estimate the number of county-to- county migrants. Instead a net domestic migration **rate** needs to be calculated by taking the difference between the numbers of in- and out-migrants (net-migrants) and dividing it by the sum of the non-movers and out-migrants. Because many retired persons do not file tax returns, the Census uses addresses from Medicare enrollment data in much the same way as they use IRS data to determine domestic migration for the population 65 years and over.

*Net International Migration* is the result of net flows to and from foreign countries and Puerto Rico and is estimated in the following parts: immigration of the foreign born, emigration of the foreign as well as native-born, and net migration between the U.S. and Puerto Rico. Immigration of the foreign born is estimated using the ACS question on residence in the prior year. Foreign-born persons who indicated that they lived abroad in the prior year are considered immigrants.

Emigration of the foreign born is estimated using the residual method. For example, the foreign-born population is aged forward to obtain the expected population in the year 2010. The expected population is then compared to the population estimated in the 2010 ACS. Subtracting the estimated from the expected populations provides the residual, which then serves as the basis of emigration rates for the foreign born. Emigration rates of the native-born are based on research by Schachter (2008) using data from over 80 countries.<sup>1</sup> This work compares estimates of U.S. citizens living overseas measured for two consecutive time periods and uses the difference to develop estimates of net native migration.

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<sup>1</sup> Schachter, Jason. 2008. "Estimating Native emigration from the United States," Memorandum dated December 24, delivered to the US. Census Bureau.