

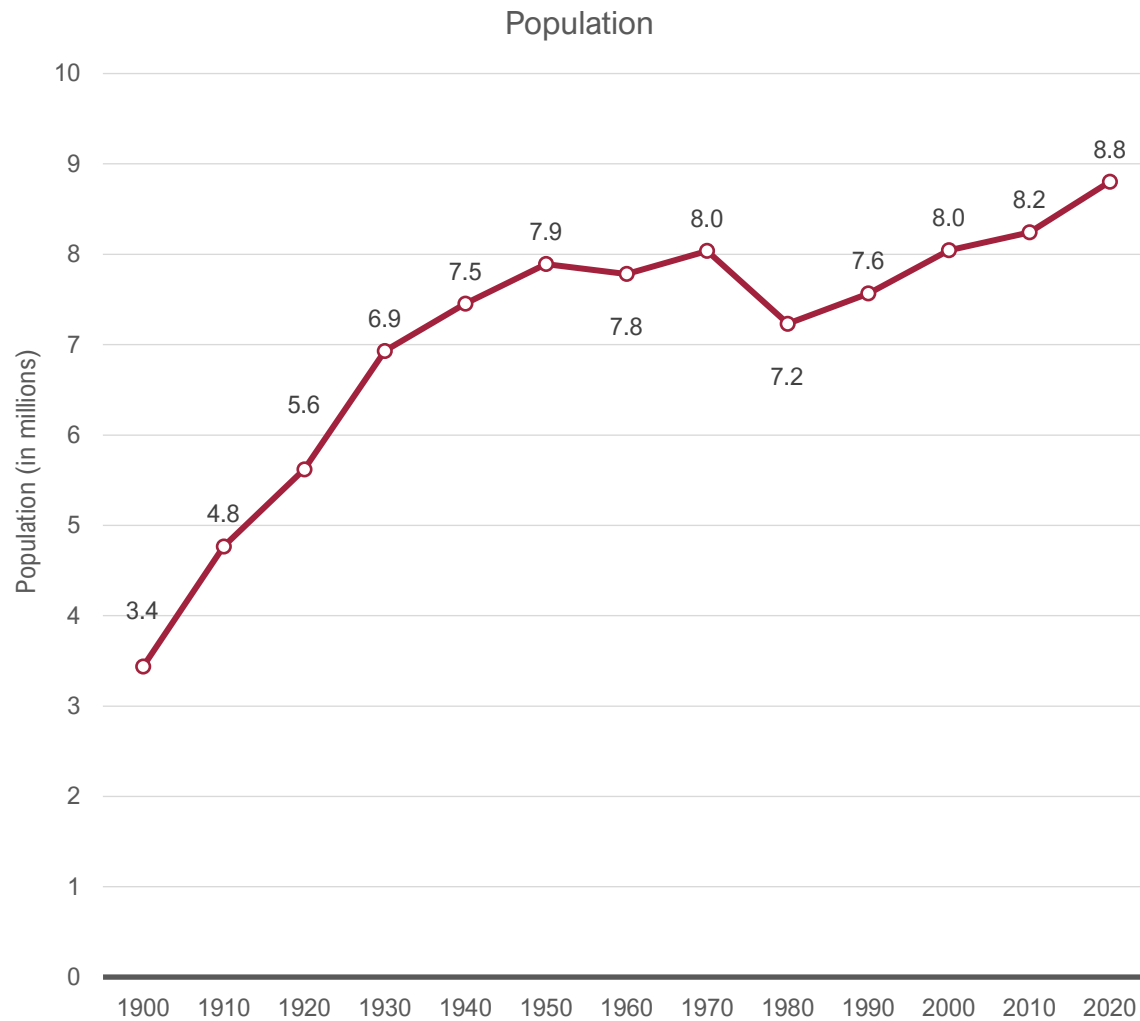
STABILITY & CHANGE IN NYC NEIGHBORHOODS, 2010 TO 2020:

How Patterns of Migration, Births, and Deaths
Shape Racial/Hispanic Composition

APDU Data Storytelling Webinar
October 31, 2023



New York City's Long-term Trajectory of Population Growth



- New York City's long-term trajectory of growth stretches back to the consolidation of the city.
- Continuing the trend, New York City's population increased by 562,000 from 8,243,000 in 2010 to 8,804,000 in 2020, or 6.8 percent.
- This was the fastest pace of growth since the 1930s.

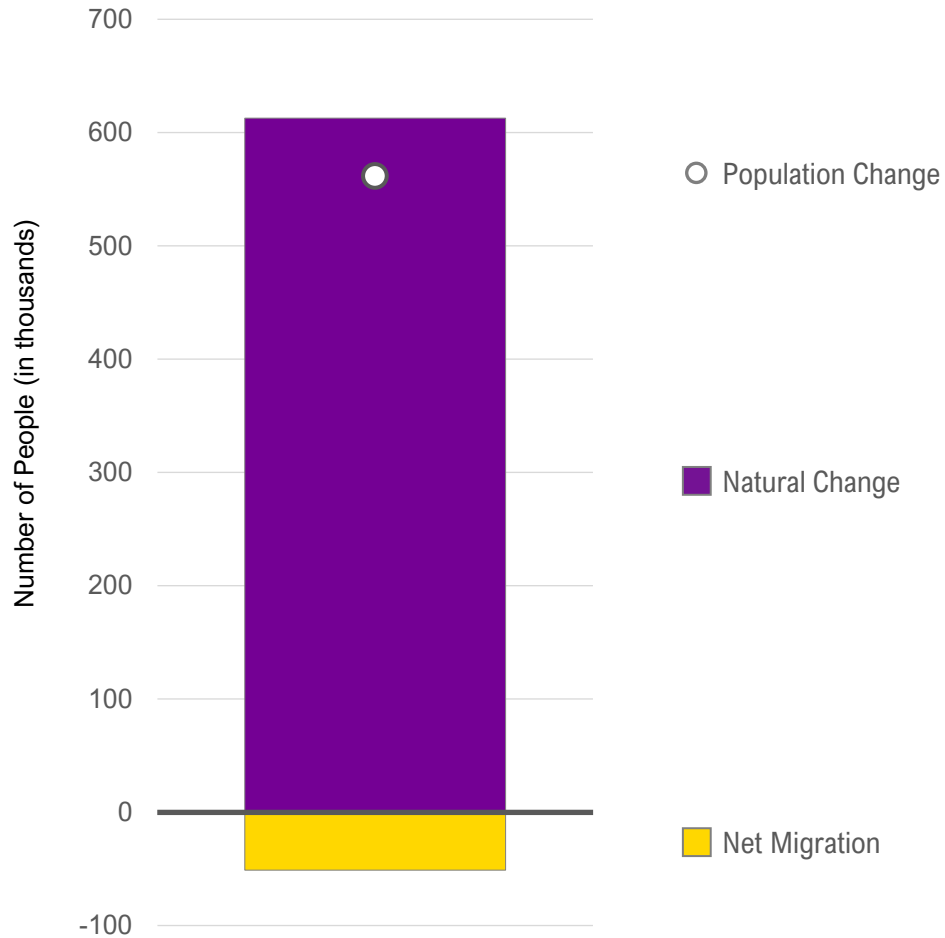
Components of Population Change

- **Natural Change = Births – Deaths**
when positive, **Natural Increase**
when negative, **Natural Decrease**

- **Net Migration = In-migration – Out-migration**
when positive, **Net Inflows**
when negative, **Net Outflows**

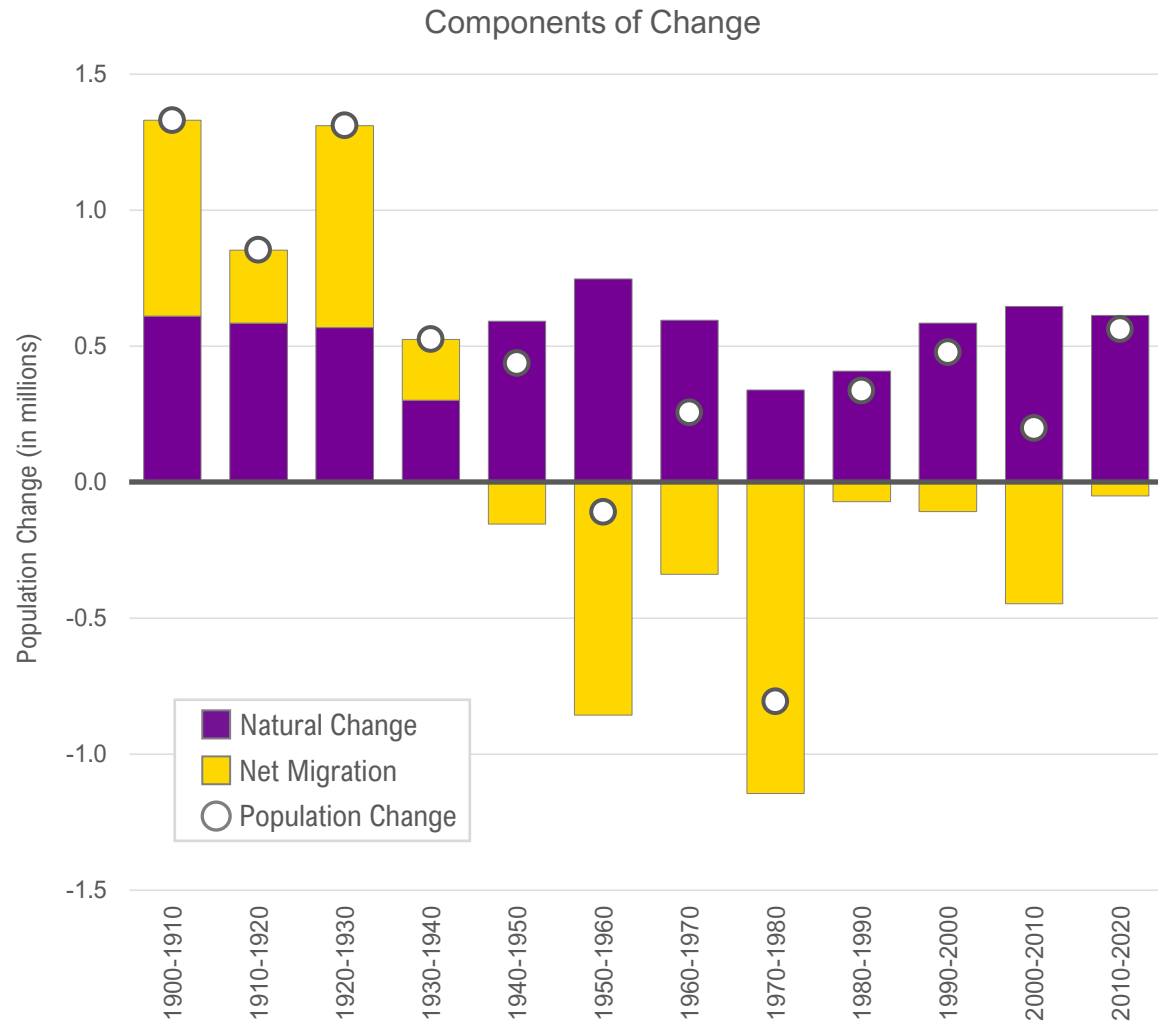
NYC is a Net Exporter of People; Growth is Driven by the Excess of Births over Deaths

Components of Population Change
New York City, 2010 to 2020



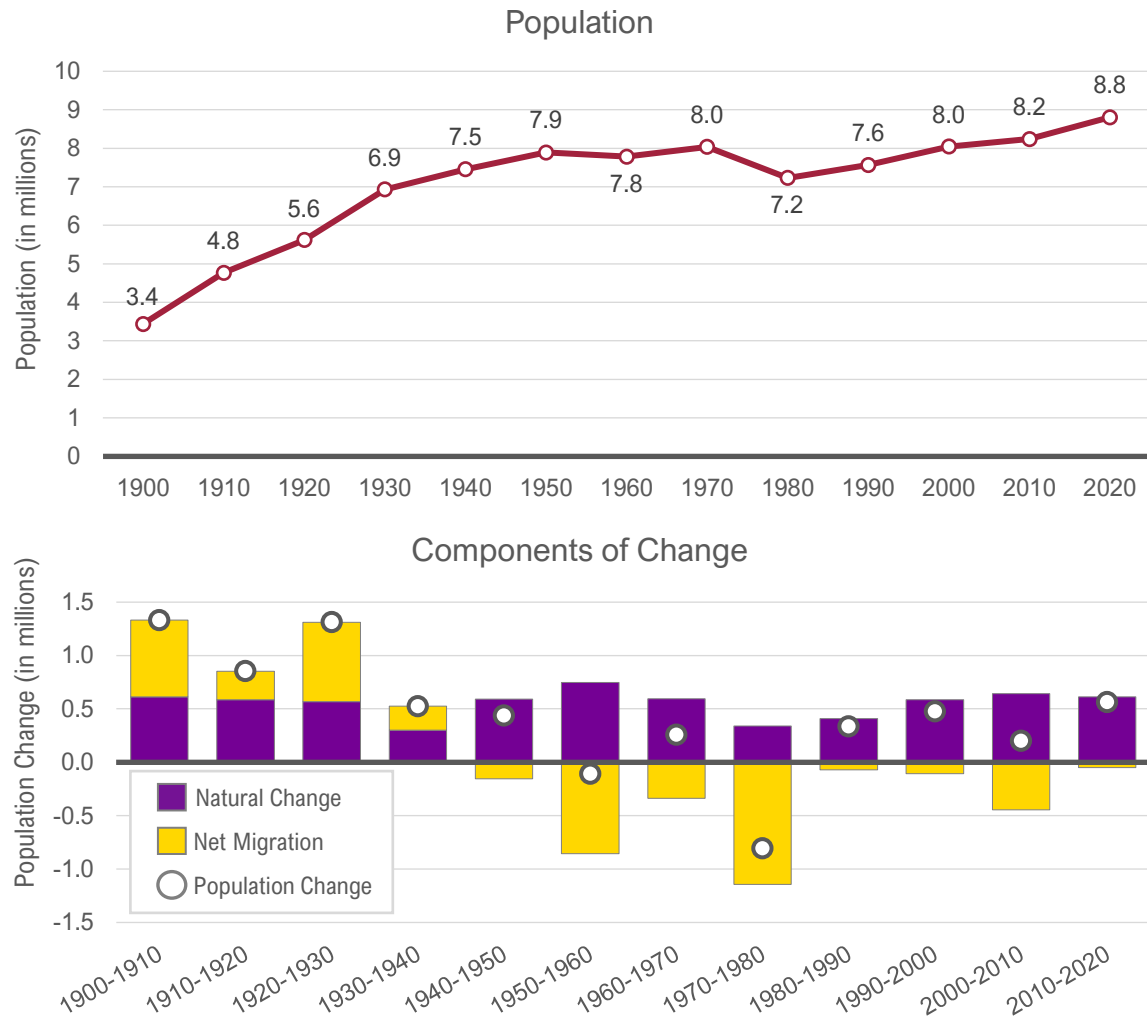
- The **net outflow** of 51,000 was more than offset by **natural increase** of 613,000, resulting in a population gain of 562,000.
- Outflows act as a brake on population growth. If no New Yorker moved out of the city over the 2010s, the population would have surged by nearly 3.2 million, placing strains on the city's infrastructure and resources.

More People Have Moved Out than Moved in For the Past Eight Decades



- Migration was positive in the first four decades of the last century, Since the 1940s, the city has experienced net outflows each decade.
- But natural increase has always been positive over the past century.
 - Natural increase peaked at 747,000 in the 1950s during the height of the baby boom.
 - Declined by nearly one-half, to 339,000, during the baby bust era of the 1970s, and then rising again.
 - Reached 646,000 in the 2000s.
 - Down to 613,000 in the 2010s.

Population of New York City and Components of Change 1900 to 2020

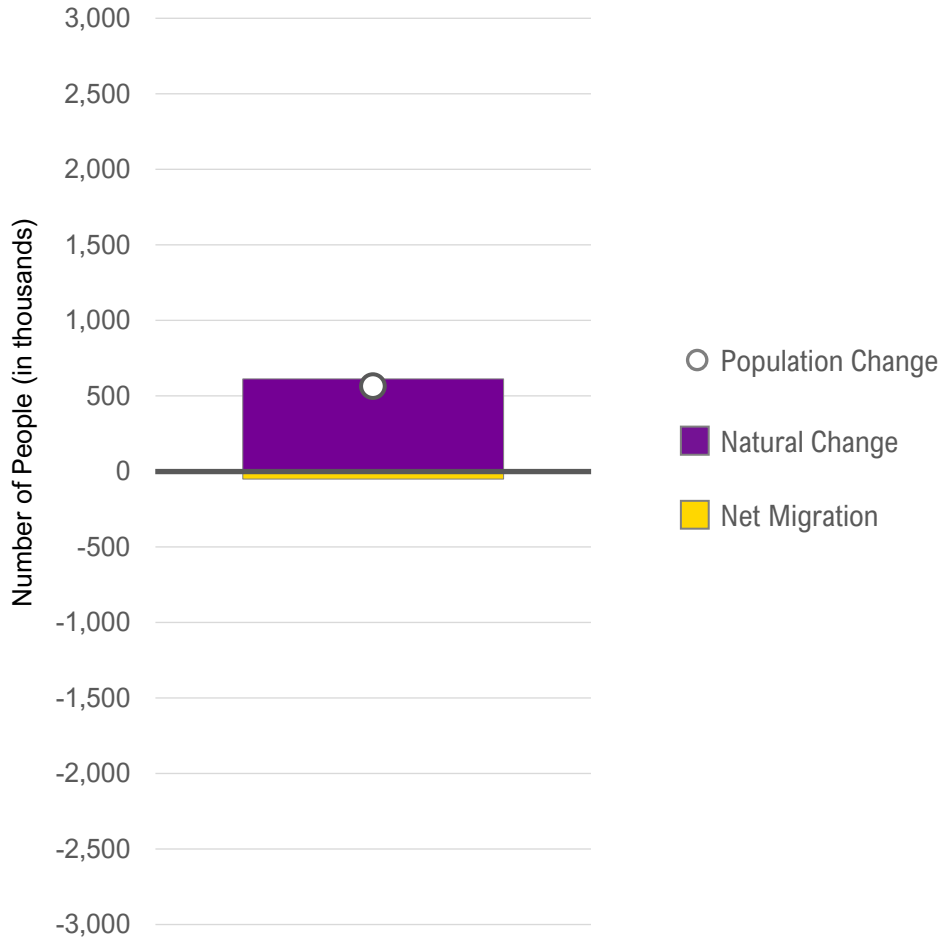


- With positive net migration in the first four decades of the 20th century, population growth was explosive.
- Since the 1940s, the city has experienced net outflows each decade:

With the exception of the 1950s and 1970s, natural increase has offset migration losses, resulting in more modest population growth.

NYC is a Net Exporter of People; Growth is Driven by the Excess of Births over Deaths

Components of Population Change
New York City, 2010 to 2020

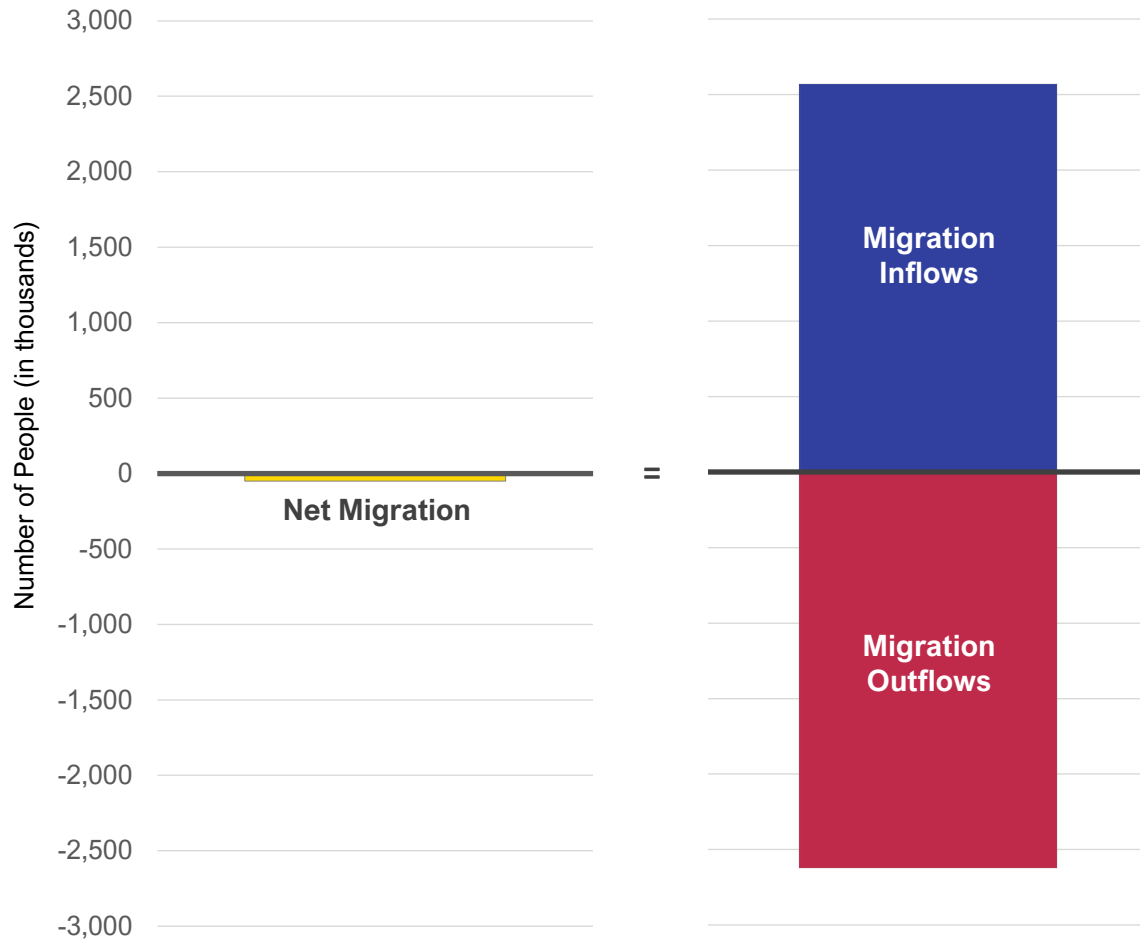


- We are back to components for 2010-2020:

Wouldn't it be interesting to see the streams that comprise net migration? That is, those migrating into NYC and those migrating out?

NYC is Defined by Its Population “Churn”

Net Migration, Inflows, and Outflows
New York City, 2010 to 2020

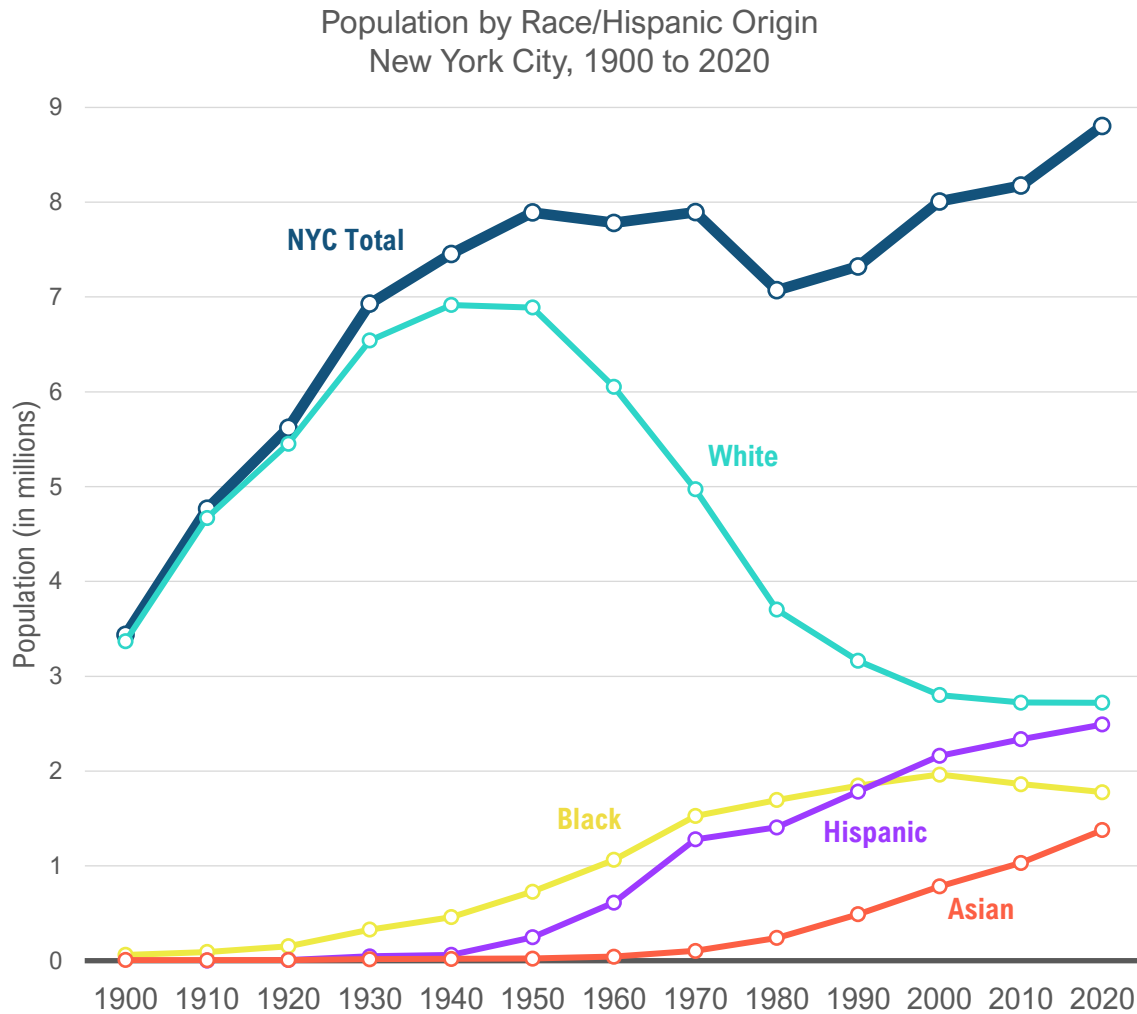


- The long-standing pattern of migration flows continued in the 2010-2020 decade, with **net losses to migration** totaling 51,000.
- Even though *net* losses were small, turnover was high with 2.57 million **people moving in** and 2.62 million **people moving out** over the 2010-2020 period.
- This translates to more than a quarter million people moving to and from New York City each year, on average.

Population Change by Race/Hispanic Origin

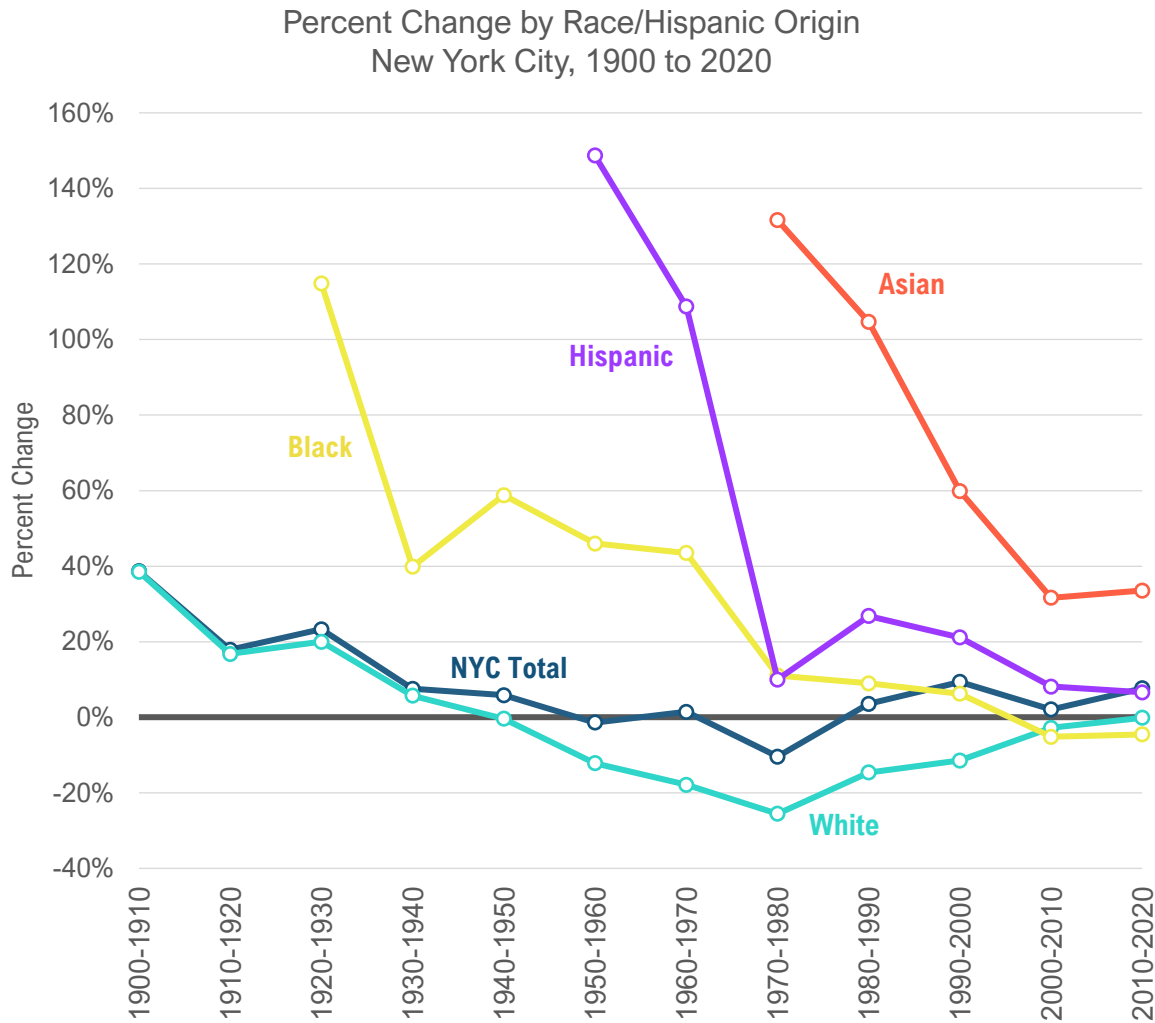
- Each race/Hispanic group has had a “demographic moment,” experiencing a period of surging population through both net inflows and natural increase
- After each demographic moment, groups typically transition from net inflows to net outflows
- Each of these demographic moments has led to the remarkable diversity we see today

In Recent Decades, Growth in NYC is a Story of Hispanic and Asian Population Increases



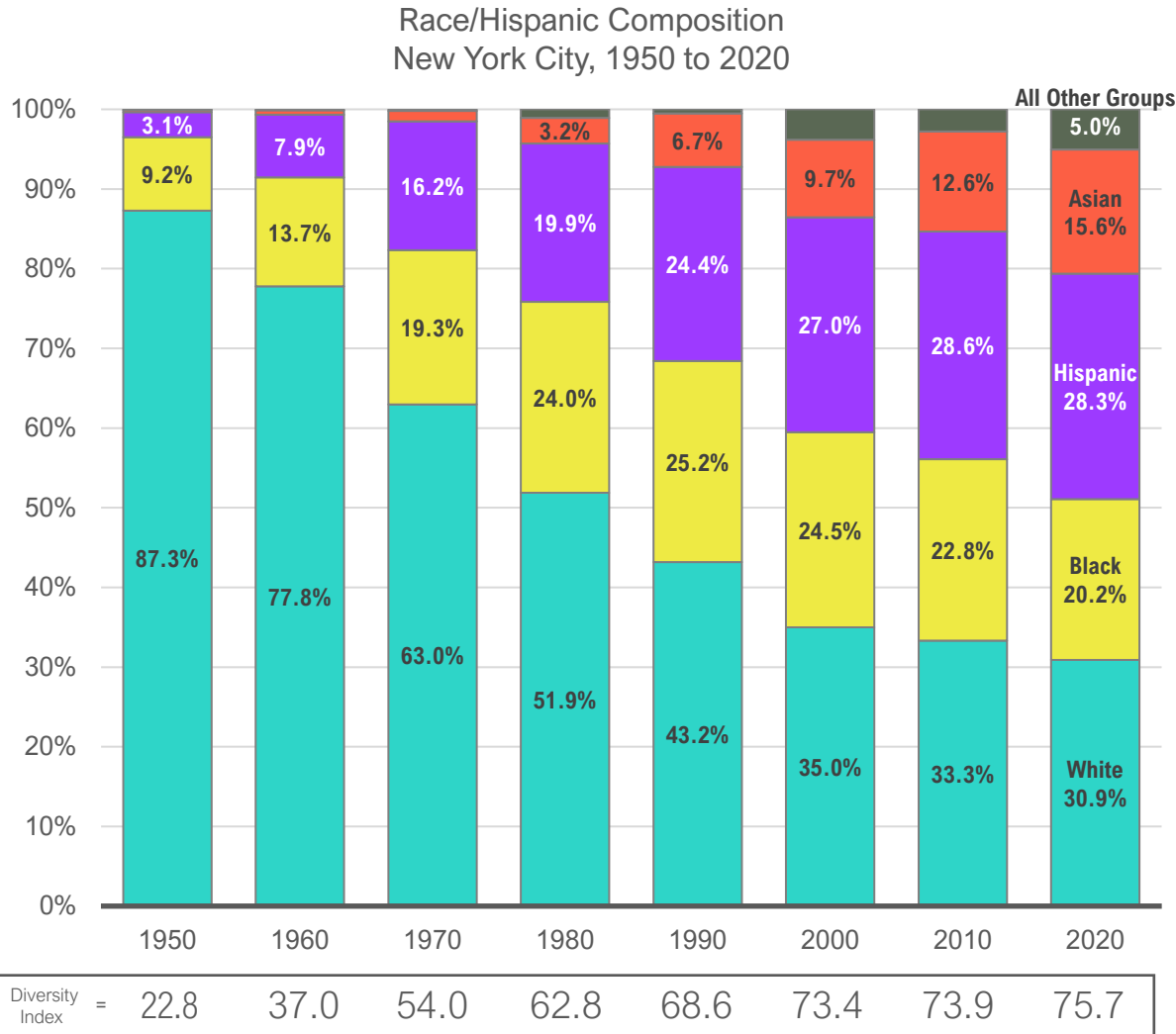
- At the start of the 20th century, the city’s population growth was comprised mostly of an increase in the White population.
- As the century continued, the White population leveled off, then began to decrease, alongside increases in other groups.
- Since 2000:
 - Both the White and Black populations have decreased.
 - Hispanic population growth has moderated, growing 15.3 percent.
 - The Asian population has seen the most dramatic growth in the past two decades, increasing by 76.0 percent.

At Different Points Over the Past Century, Population Growth has Peaked for Each Group



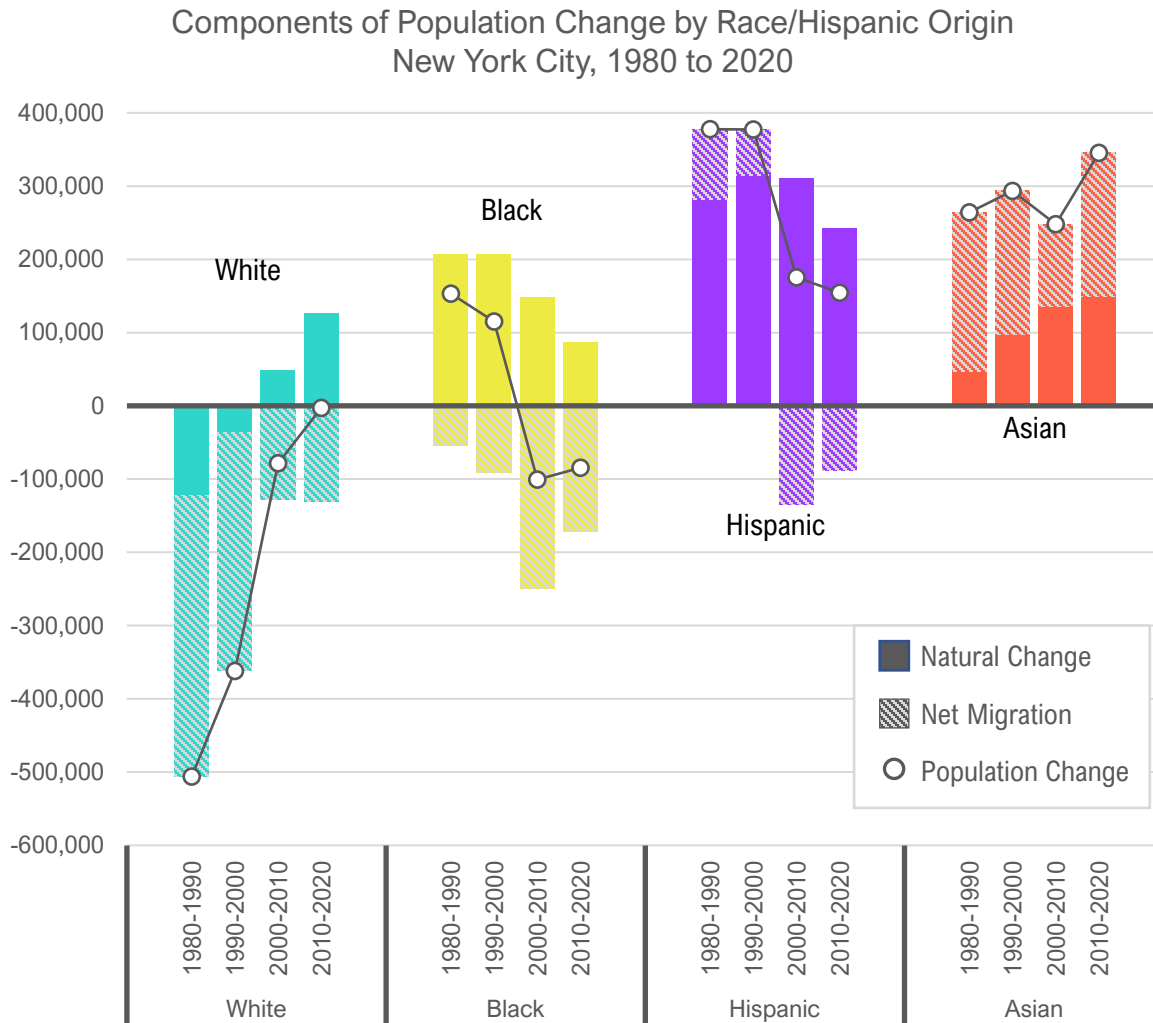
- Each race group has experienced its “demographic moment,” a period of rapid population growth.
- The White and Black populations both experienced a demographic moment, followed by moderate growth and population decrease.
- The Hispanic population more than doubled in the 1950s and again in the 1960s, followed by more moderate growth in the ensuing decades.
- The Asian population more than doubled in the 1970s and 1980s, followed by sustained substantial growth thereafter.

The City's Race/Hispanic Origin Diversity has Increased Across Decades



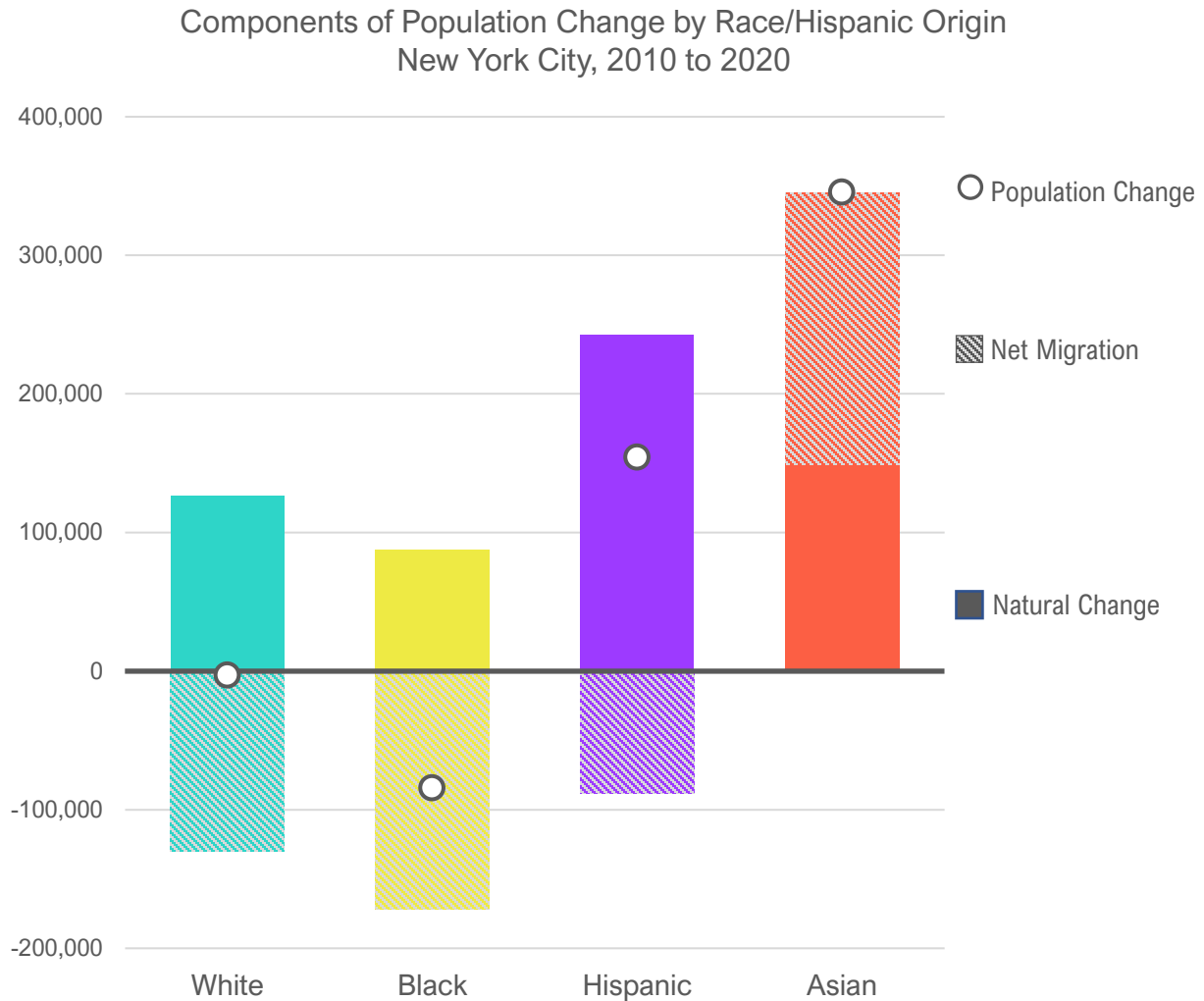
- Over the past several decades, the decrease in the White population has been accompanied by growth in other groups.
- This has resulted in an increase in the city's race/Hispanic origin diversity, with recent increases largely a function of Asian and Hispanic population growth.
- No group currently surpasses one-third of New York City's population.
- The Diversity Index has increased dramatically over time.
 - The Diversity Index measures the likelihood that two people, chosen at random, would be from different groups.

Some Patterns of Migration and Natural Change Have Shifted in Recent Decades



- The Asian population is still experiencing a “demographic moment,” with rapid population growth through both net inflows and natural increase.
- In recent decades, the Hispanic population transitioned from net inflows to net outflows, moderating population growth.
- The Black population experienced net outflows for the past four decades and has transitioned to a period in which natural increase does not fully offset net migration.
- The White population, which declined through both net outflows and natural decrease in the 1980s and 1990s, has stabilized with natural increase offsetting net outflows.

Race/Hispanic Groups Have Unique Patterns of Migration and Natural Change



- The White, Black, and Hispanic populations each experienced net outflows from the city in the 2010s.
- Natural increase for the White and Black populations was insufficient to offset migration losses, resulting in population decreases.
- Hispanic net outflows were offset by high natural increase.
- The Asian population was the only group with net inflows and grew dramatically over the decade as a result of both natural increase and net inflows.

StoryMap

- Patterns of net migration and natural increase by neighborhood for each race/Hispanic origin group
- Typologies of neighborhood dynamics
- Link to StoryMap: <https://storymaps.arcgis.com/stories/c7bf9175168f4a2aa25980cf31992342>

Thank you!

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2010 Census Population Adjustment

For this report, DCP uses an adjusted 2010 population to account for housing units that were likely erroneously recorded as vacant. The adjustment of 67,491 people brings the citywide population to 8,242,624 from 8,175,133. No adjustment is applied for the population of boroughs, NTAs, or racial/Hispanic groups. As a result, figures reported for boroughs, neighborhoods, and race/Hispanic groups may not add up to city totals.

Estimating In- and Outflows

No single data source can provide data on domestic in-migration and out-migration as well as international immigration and emigration, and most data that are available are estimates. Figures from different data sources do not always align closely. To produce estimates of inflows and outflows for the 2010 to 2020 period, DCP used 2010 and 2020 Census data for total population, estimates from the 2010 through 2019 1-year American Community Survey for domestic in-migration and international immigration, estimates from the Census Bureau's Population Estimates Program (Vintage 2020) on net international migration, and data from the New York City Department of Health and Mental Hygiene for natural increase. Note that DCP's 2010 Census population adjustment was used (see note on the 2010 Census Population Adjustment).

The Population Balancing Equation was used to calculate total net migration (see note on methodology), with net migration the residual of population change and natural increase. Net domestic migration was calculated as the residual of net migration and net international flows. Domestic out-migration was calculated as the residual of net domestic migration and domestic in-migration, and international emigration was calculated as the residual of net international migration and international immigration.

Methodology

Population change is captured by one of the components of change – natural change or migration. Thus, population change can be expressed using the Population Balancing Equation:

$$\text{Population at time 2} = \text{Population at time 1} + \text{Natural Change} + \text{Net Migration}$$

For the decade from 2010 to 2020, the Population Balancing Equation can be written as

$$\text{Population}_{2020} = \text{Population}_{2010} + \text{Natural Change}_{2010-2020} + \text{Net Migration}_{2010-2020}$$

A rearrangement of the Population Balancing Equation can also provide a calculation for population change over the decade:

$$\begin{aligned} \text{Population Change between 2010 and 2020} &= \text{Population}_{2020} - \text{Population}_{2010} \\ &= \text{Natural Change}_{2010-2020} + \text{Net Migration}_{2010-2020} \end{aligned}$$

The Population Balancing Equation can also be used to calculate net migration as a residual of population change (population at time two minus population at time 1) and natural change:

$$\text{Net Migration}_{2010-2020} = (\text{Population}_{2020} - \text{Population}_{2010}) - \text{Natural Change}_{2010-2020}$$

Calculating net migration as a residual provides an alternative to migration data sources that each have their own limitations. Data on the size of the population and natural change are reliable and available; the decennial census enumerates the population, and records of births and deaths are quite robust. Data on net migration, however, are often incomplete or estimated. Applying this method, New York City's population grew to 8,804,190 in 2020 from 8,242,624 in 2010, with natural increase of 612,638, thus,

$$\begin{aligned} \text{Net Migration}_{2010-2020} &= (8,804,190 - 8,242,624) - 612,638 \\ &= -51,072 \end{aligned}$$

For this report, the residual method is used to calculate net migration for each race/Hispanic origin group and each neighborhood.

Notes (con't)

Race/Hispanic Origin

The U.S. Office of Management and Budget (OMB) requires two minimum categories for data on ethnicity (Hispanic or Latino and Not Hispanic or Latino) and five minimum categories on race (American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, and White). The Census Bureau is also required by Congress to use the category “Some Other Race.” People may report multiple races. The OMB standards require two separate race and ethnicity questions for self-response.

Data from the questions on race and Hispanic origin can be organized in multiple ways. For this report, mutually exclusive race/Hispanic origin categories are used. Those who select one race are considered one race “alone.” Those who select more than one race are considered “two or more races.” Those who report Hispanic origin are included in the “Hispanic” population, regardless of race(s) reported. (DCP acknowledges that there are other terms – e.g., Latinx – people of Latin American origin or descent may use to self-identify. DCP uses “Hispanic” in order to maintain consistency with data provided and terminology used by the U.S. Census Bureau.)

Using the above classification scheme for race and Hispanic origin, this report includes the categories “White non-Hispanic, alone,” “Black or African American non-Hispanic, alone,” “Asian non-Hispanic, alone,” “some other race non-Hispanic, alone,” and “two or more races non-Hispanic.” For the sake of succinctness, these groups are referred to as “White,” “Black,” “Asian,” “some other race,” and “two or more races.”

The Census Bureau notes that race and ethnicity categories generally reflect social definitions in the U.S. and are not an attempt to define race and ethnicity biologically, anthropologically, or genetically; it recognizes that these categories include racial, ethnic, and national origins and sociocultural groups. Data on race and Hispanic origin are used to inform enforcement of civil rights and equal employment opportunity laws, in addition to other anti-discrimination mandates. It is important to note that there is significant diversity within each of the broad race and Hispanic origin categories reported by the

Census Bureau. For more information on how race and ethnicity questions are asked on the census and reported by the Census Bureau, please see the Census Bureau’s [2020 Census Frequently Asked Questions About Race and Ethnicity](#).

The Census Bureau improved the question format and processing of responses for the measurement of race for the 2020 Census. Identification with two or more races is likely to be more accurately captured in the 2020 Census, and so some of the increase between the 2010 and 2020 Censuses in the enumerated population identifying as two or more races is likely due to methodological improvements, in addition to changes in the underlying population and self-identification. These methodological changes also affect measurement of the population identifying as one race alone. Comparisons of race/Hispanic groups over time should be interpreted in the context of such methodological changes, and caution is advised when using race/Hispanic origin data from multiple time points. For more information on methodological changes to the 2020 Census, please see the Census Bureau’s [Improvements to the 2020 Census Race and Hispanic Origin Question Designs, Data Processing, and Coding Procedures](#).

Note that Pacific Islanders are included with the Asian population for the 1980 and 1990 Censuses, as well as 1980 to 1990 and 1990 to 2000 time periods due to data limitations. Where noted in the report, the Pacific Islander population is included with the Asian population across all time points for consistency.

For data on births, the race/Hispanic origin of the child was defined by the race of the mother, since demographic data is often missing for the second parent. Using this method, a child may be assigned more than one race at birth, however this occurs only when the mother identifies as two or more races. As a result, the number of children defined as two or more races is likely underrepresented. This limitation may affect calculations of natural change and net migration by race/Hispanic origin. It is not possible to measure natural increase nor to estimate net migration of the population identifying as two or more races due to limitations in measurement of births of children of two or more races.