

# UNDERSTANDING NEW YORK CITY'S POPULATION TRENDS

New York City Department of City Planning, Population Division  
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New York City's population grew rapidly between 2010 and 2020, with growth concentrated in the first half of the decade

- The Census Bureau's Population Estimates Program's (PEP) 2020 Vintage estimated the city's population at just under 8.3 million in 2020, a modest increase from 2010
- These estimates have been called into question, given that the 2020 Census enumerated the population at just over 8.8 million, well above the PEP estimate
- Intercensal estimates from Cornell's Program on Applied Demographics (PAD) smooth PEP's estimated population trajectory to be in line with both the 2010 and 2020 Census enumerations. PAD's estimates indicate rapid growth early in the decade followed by roughly flat population change in the second half of the decade. These intercensal estimates are consistently higher than those produced by PEP's 2020 Vintage.
- For decades, New York City has experienced net domestic outflows, including during the decade 2010-2020. Despite these outflows, New York City's population has grown through natural increase and international immigration

The Covid-19 pandemic led to anomalous, short-term changes to population trends in New York City

- Increases in domestic outflows, slowed immigration, increases in deaths, and declines in births contributed to a large population decline in the year after the onset of the pandemic

Indicators point toward a return to pre-pandemic population trends by mid-2021

- Data on changes-of-address, national immigration, coronavirus deaths, and national births suggest that pandemic-era trends were short-lived, and New York City is likely back to more typical, pre-pandemic patterns of population change



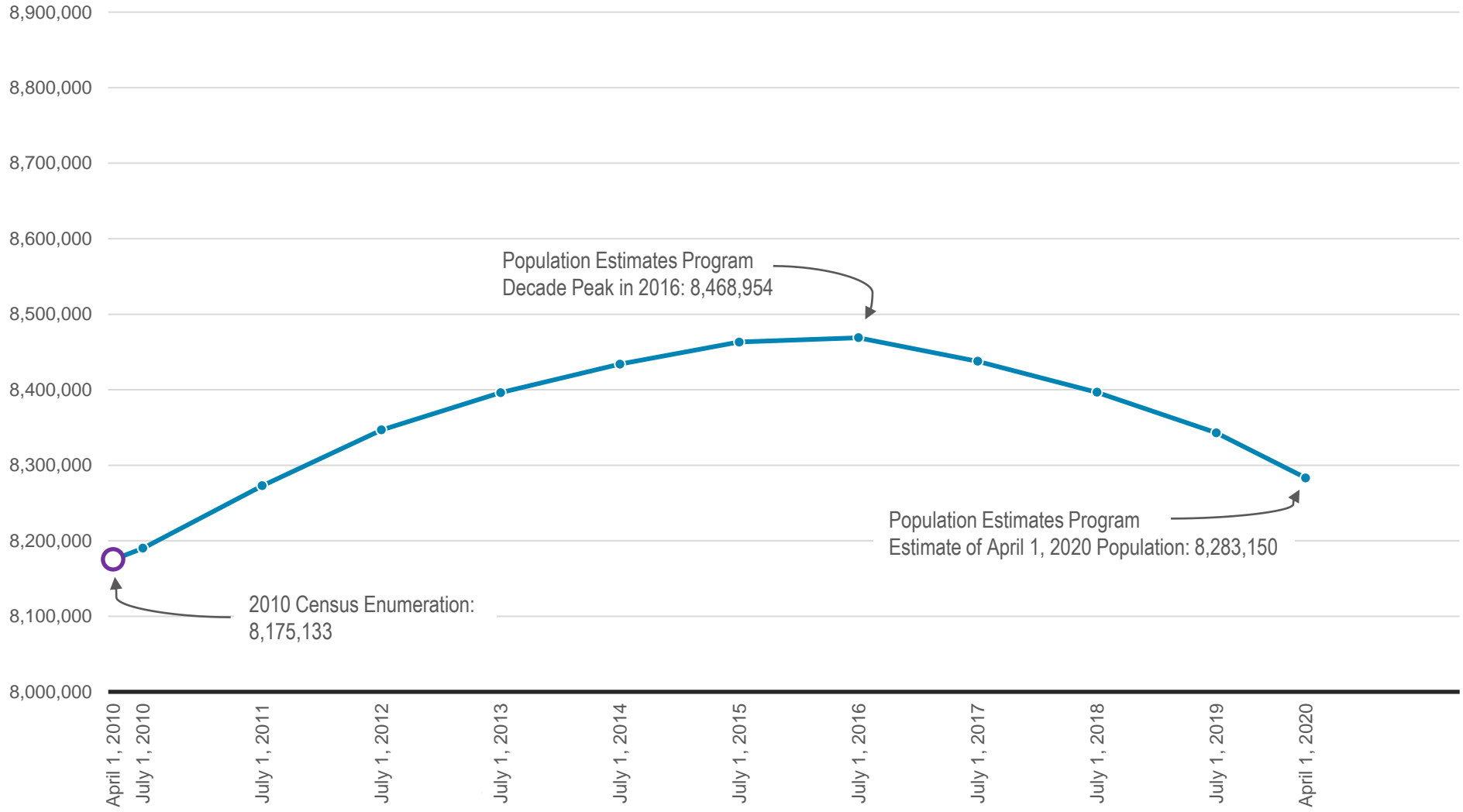
An aerial night view of the New York City skyline, showing numerous skyscrapers illuminated with lights. The city lights are visible in the background, extending to the horizon. The text "NEW YORK CITY'S POPULATION TRAJECTORY, 2010 TO 2020" is overlaid in white, bold, sans-serif font across the center of the image.

# NEW YORK CITY'S POPULATION TRAJECTORY, 2010 TO 2020



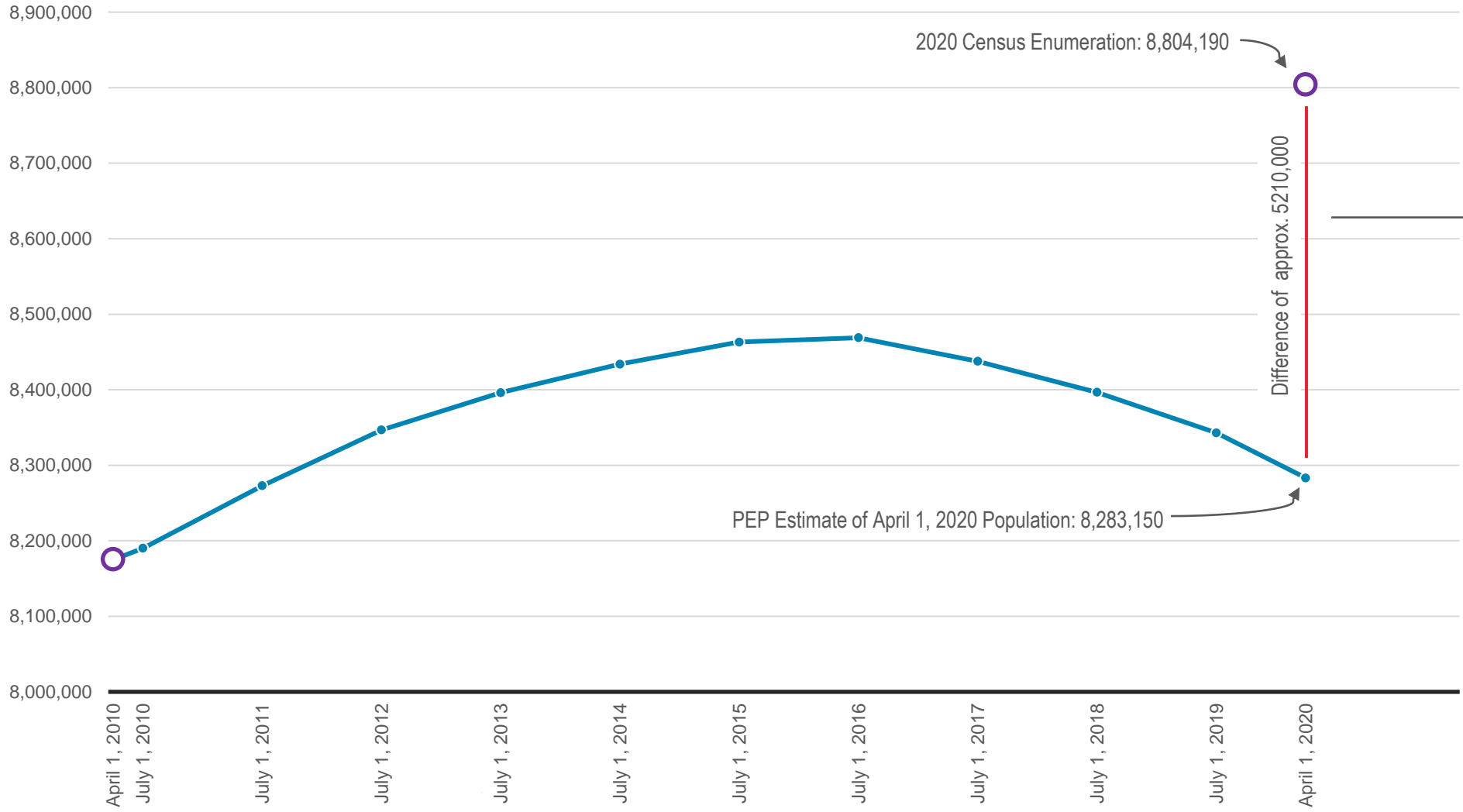
# Population Estimates Program Post-2010 Census Estimates

## New York City, 2010 to 2020 (Vintage 2020)



- The Census Bureau’s Population Estimates Program (PEP) provides annual estimates of the population back to the previous census
- Vintage 2020 data included annual population estimates from 2010 to 2020, but did not incorporate 2020 Census results
- The Vintage 2020 release estimated modest growth in the city over the decade, the product of rapid population growth early in the decade, followed by population decline after 2016

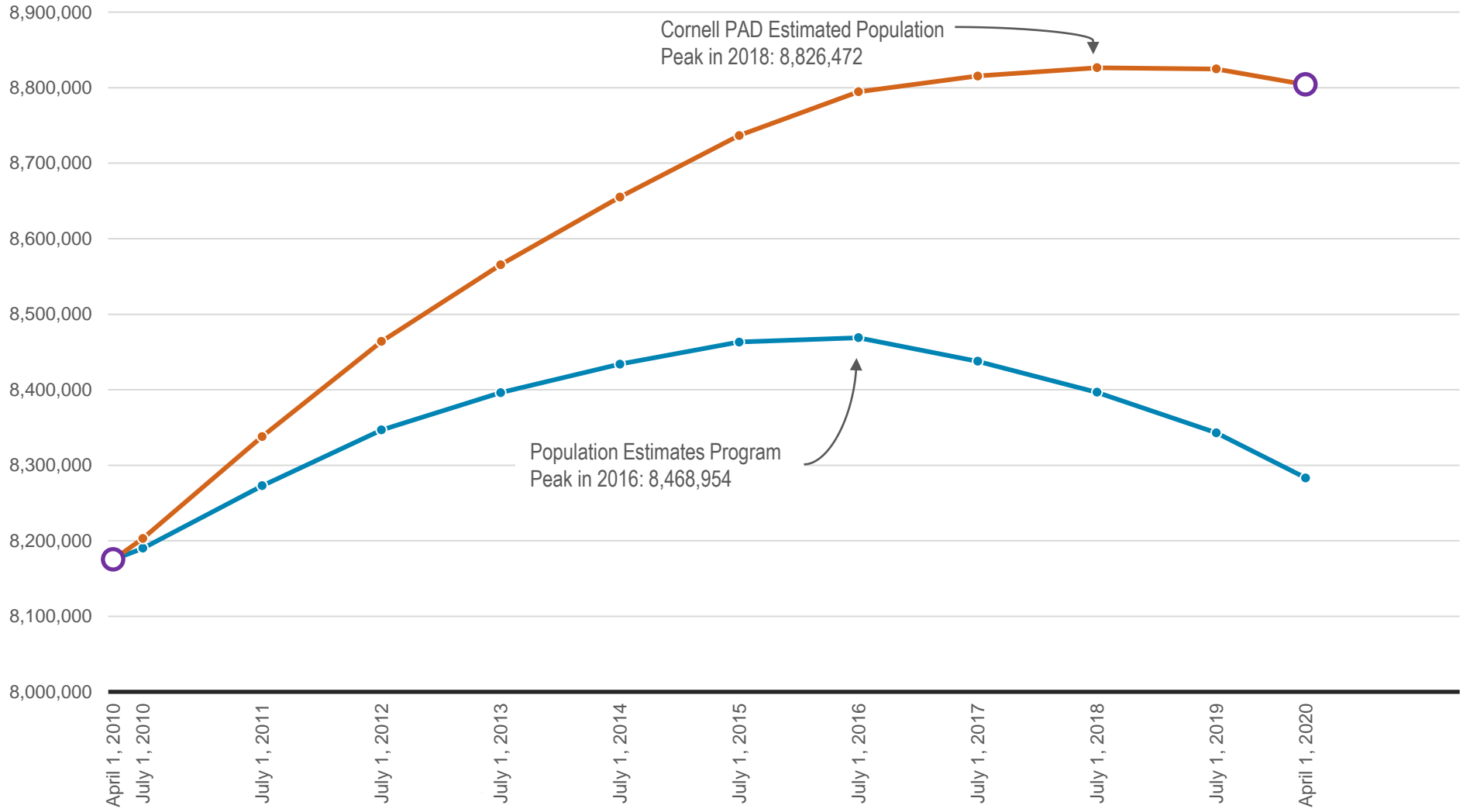
# PEP Underestimated the 2020 NYC Population by Nearly Six Percent



The Vintage 2020 estimates underestimated NYC's 2020 population by about 521,000 (5.9%)

# Cornell Program on Applied Demographics Intercensal Estimates

## New York City, 2010 to 2020



- The Cornell Program on Applied Demographics (PAD) adjusted the estimates to be in line with both 2010 and 2020 Census enumerations
- According to Cornell PAD intercensal estimates, NYC's population growth from 2010 to 2020 was a product of rapid growth earlier in the decade and flat population change later in the decade

# 2020 Census Quality Metrics from the Post-Enumeration Survey

The Post-Enumeration Survey provides 2020 Census coverage data for U.S. states, as well as national-level coverage data by race and Hispanic origin and by housing tenure

- State-level data show an overcount of the New York State population of approximately 3.4%
- National-level data show an undercount of:
  - About 3.3% for the population identifying as Black alone or in combination with another race
  - Approximately 5.0% for the Hispanic population
  - About 1.5% for renters

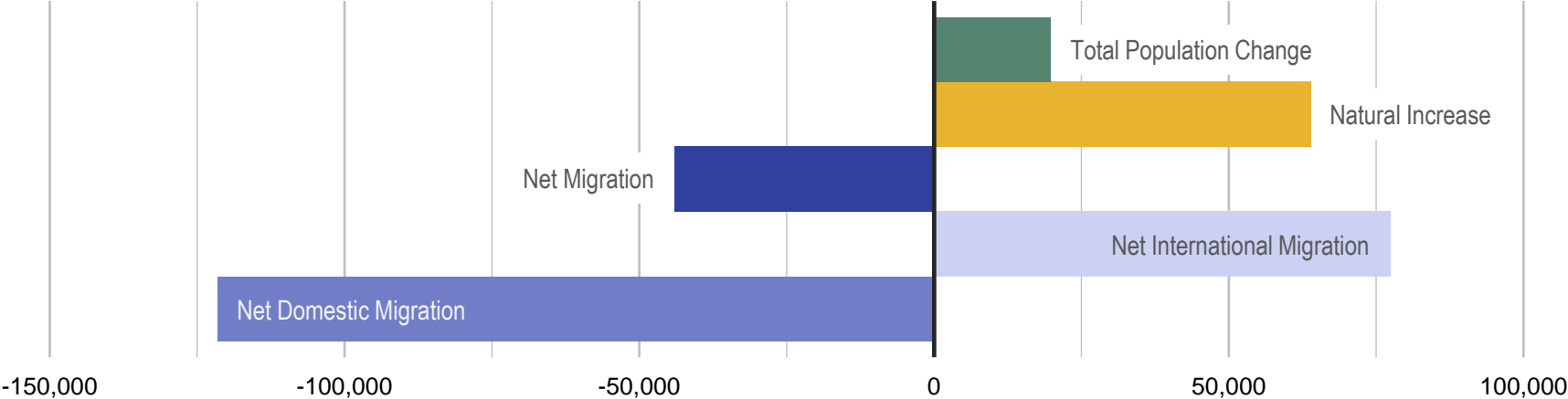
While information has not been released for sub-state geographies, compared to New York State, New York City is disproportionately composed of populations associated with undercounts for the US population as a whole

- While New York City accounted for 43.6% of the state population in 2020, the city has a
  - 64% share of the state-wide population identifying as Black alone or in combination with another race
  - 63% share of the state-wide Hispanic population
  - 65% share of the state-wide population of renter households

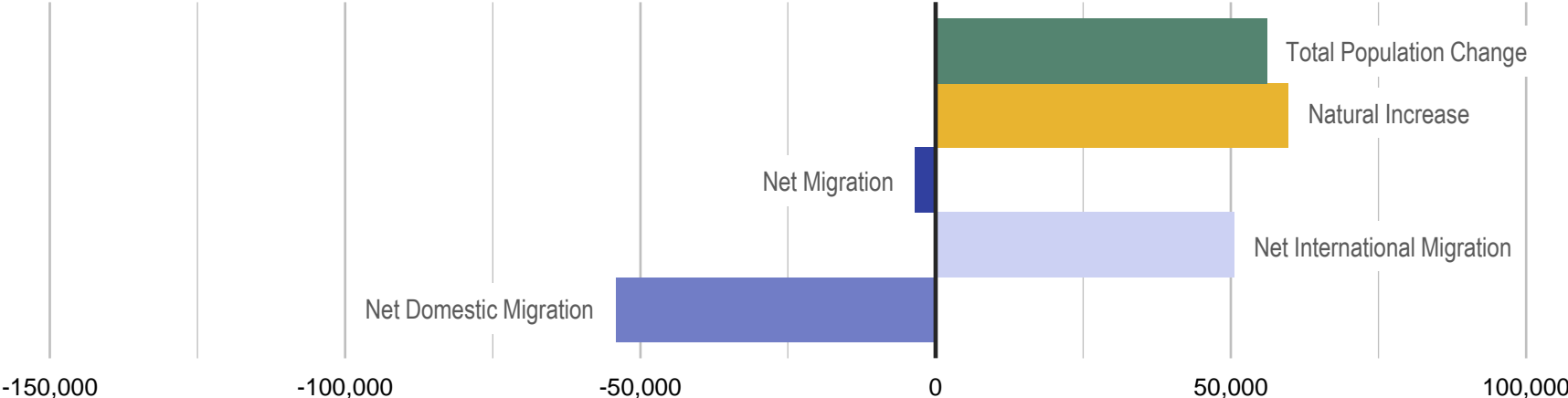
Given the conflicting patterns noted above, we do not have enough information to assume New York City had either an under- or overcount in 2020

# New York City's Recent Historical Components of Population Growth, Annualized

2000 – 2010



2010 – 2020 (Preliminary)



- Net migration in NYC is typically negative, the product of net international inflows and net domestic outflows
- These net migration losses are offset by positive natural increase, resulting in population growth
- With positive natural increase and negative net migration, NYC’s population has grown each decade since 1980
- Domestic migration serves as a “release valve” for NYC’s population, which would otherwise grow at unsustainable rates



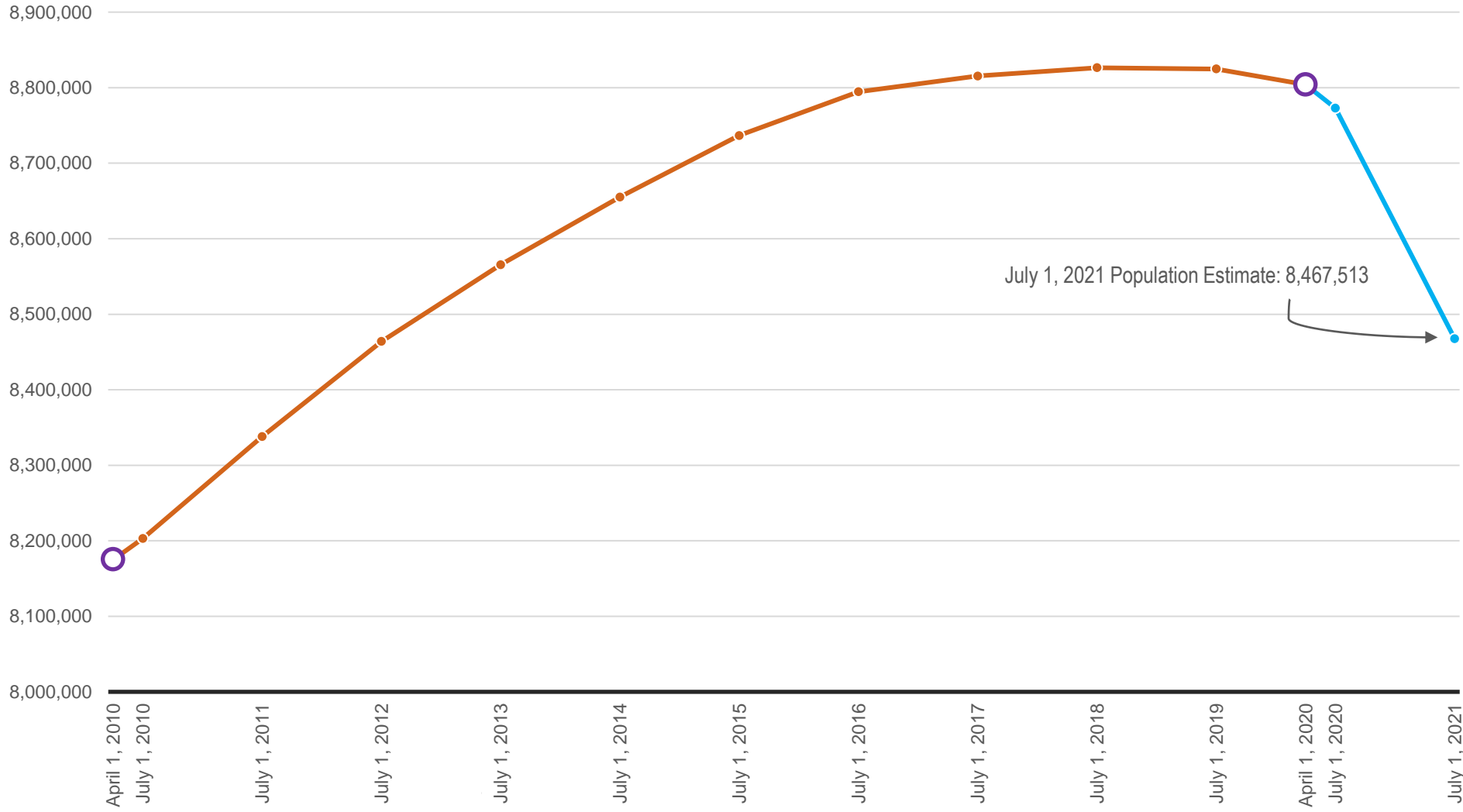
An aerial photograph of a city skyline, likely New York City, featuring a mix of modern glass skyscrapers and older brick buildings. In the foreground, a large brick building with a flat roof is visible, along with several FedEx delivery vans parked nearby. The background shows a dense cluster of high-rise buildings, some under construction with cranes. The sky is overcast with grey clouds. The text 'POPULATION CHANGE, APRIL 2020 TO JULY 2021' is overlaid in the center in a large, white, sans-serif font.

# POPULATION CHANGE, APRIL 2020 TO JULY 2021



# Population Estimates Program Post-2020 Census Estimates

## New York City, 2020 to 2021 (Vintage 2021)



- PEP Vintage 2021 estimates include population estimates back to the 2020 Census
- PEP indicates population decline of about 337,000 between the 2020 Census and July 1, 2021
- This decline was largely driven by domestic out-migration
- Population decline was also due to lower than usual international immigration, lower than usual births, and higher than usual deaths



# INDICATORS OF POPULATION TRENDS SINCE MID-2021





# USPS Change-of-Address Filings as an Indicator of Domestic Flows



- The United States Postal Service releases monthly data on number of change-of-address (CoA) filings by ZIP code
- CoA filings are classified as “permanent” or “temporary,” as well as “individual,” “family,” or “business”
- The balance of CoAs into and out of an area can serve as an indicator of, but not a direct measure of, population flows

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## USPS Change-of-Address Terminology

### Permanent vs. Temporary

Permanent = Forwarding for 6 months or more or do not intend to return to same address

Temporary = Forwarding for less than 6 months and intend to return to same address

### Individual vs. Family vs. Business

Individual = One person

Family = Two or more people with same the last name living at the same address

Business = Business



# Estimated Monthly Net Residential Relocations\* Captured by USPS Changes-of-Address

## New York City, 2018-2022

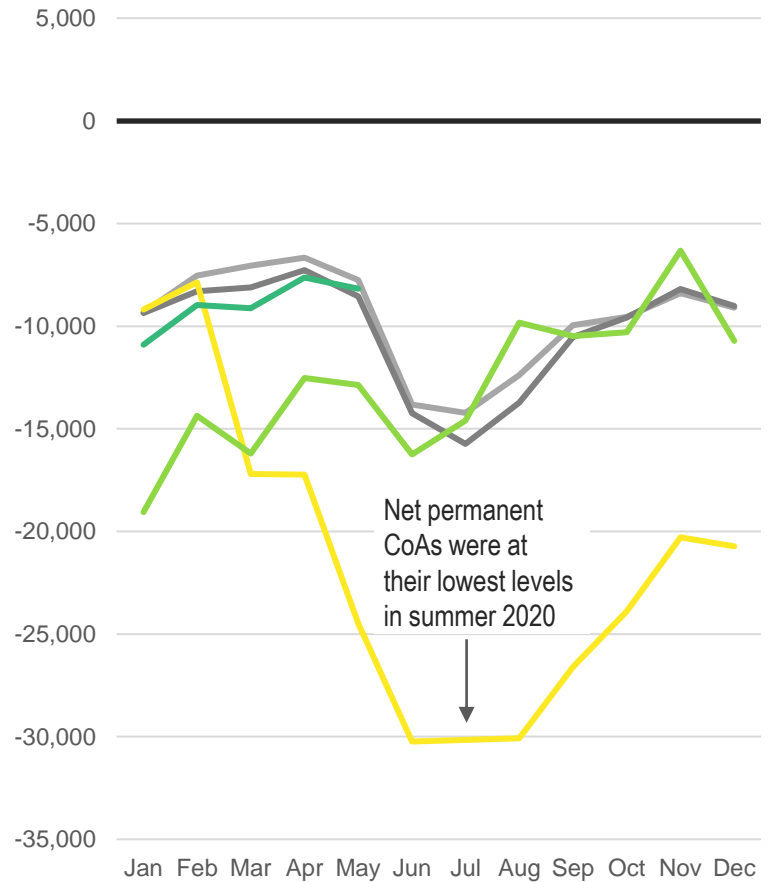
While net changes-of-address (CoA) were far below 2018/2019 levels after the onset of the pandemic, both net permanent and temporary CoAs were roughly in line with 2018/2019 net CoAs by the second half of 2021

**Notes**

\* "Residential" includes individual and family changes-of-address. Figures include an adjustment to estimate number of people captured by family CoAs. CoAs do not capture all relocations, and some relocations are counted multiple times. Figures are an estimate of those captured by CoAs.

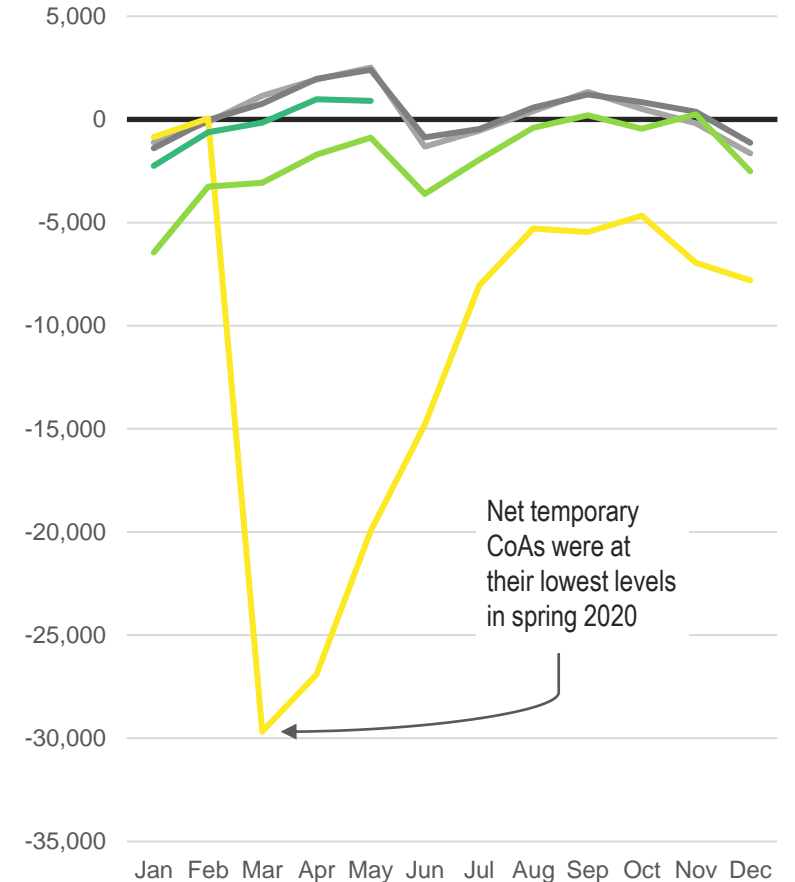
\*\* USPS does not provide data on number of permanent and temporary changes-of-address by individual/family/business filing. The proportion of total permanent/temporary filings by ZIP code and month are applied to estimate permanent and temporary residential CoAs.

**Net Permanent\*\***



Net permanent CoAs were at their lowest levels in summer 2020

**Net Temporary\*\***



Net temporary CoAs were at their lowest levels in spring 2020

— 2018 — 2019 — 2020 — 2021 — 2022



# Caveats in Using USPS Change-of-Address Data

USPS change-of-address (CoA) data are a useful indicator of trends in domestic population movement, but should not be conflated with migration, and cannot provide a total number of movers or migration events

- Changes-of-address do not have a 1:1 match with migration events, and do not align closely with official estimates of domestic migration
  - Not all movers file a CoA, and some movers file more than one CoA
  - The timing of CoA filings may not coincide with the timing of a corresponding move (e.g., forwarding mail before or after a move, renewing a change-of-address, rerouting a previous change-of-address)
  - Temporary changes-of-address are, by definition, not migration

USPS reports the number of CoAs filed, not number of people captured by filings

- Family CoAs forward mail for at least two people, but USPS does not report how many
- Those who file more than once are counted multiple times (e.g., consolidating multiple addresses, CoA renewals)

The number of filings in/out by ZIP code is reported, but without origin-destination pairs, which limits the ability to analyze borough-, neighborhood-, and ZIP code-level net CoAs, as well as inflows and outflows separately

- Within-NYC changes-of-address net out at the city-level
- Within-NYC net CoAs cannot be separated out from movement to/from the rest of the country at the borough, neighborhood, and ZIP code levels
- It is not possible to isolate inflows and outflows to/from NYC from non-NYC ZIP codes

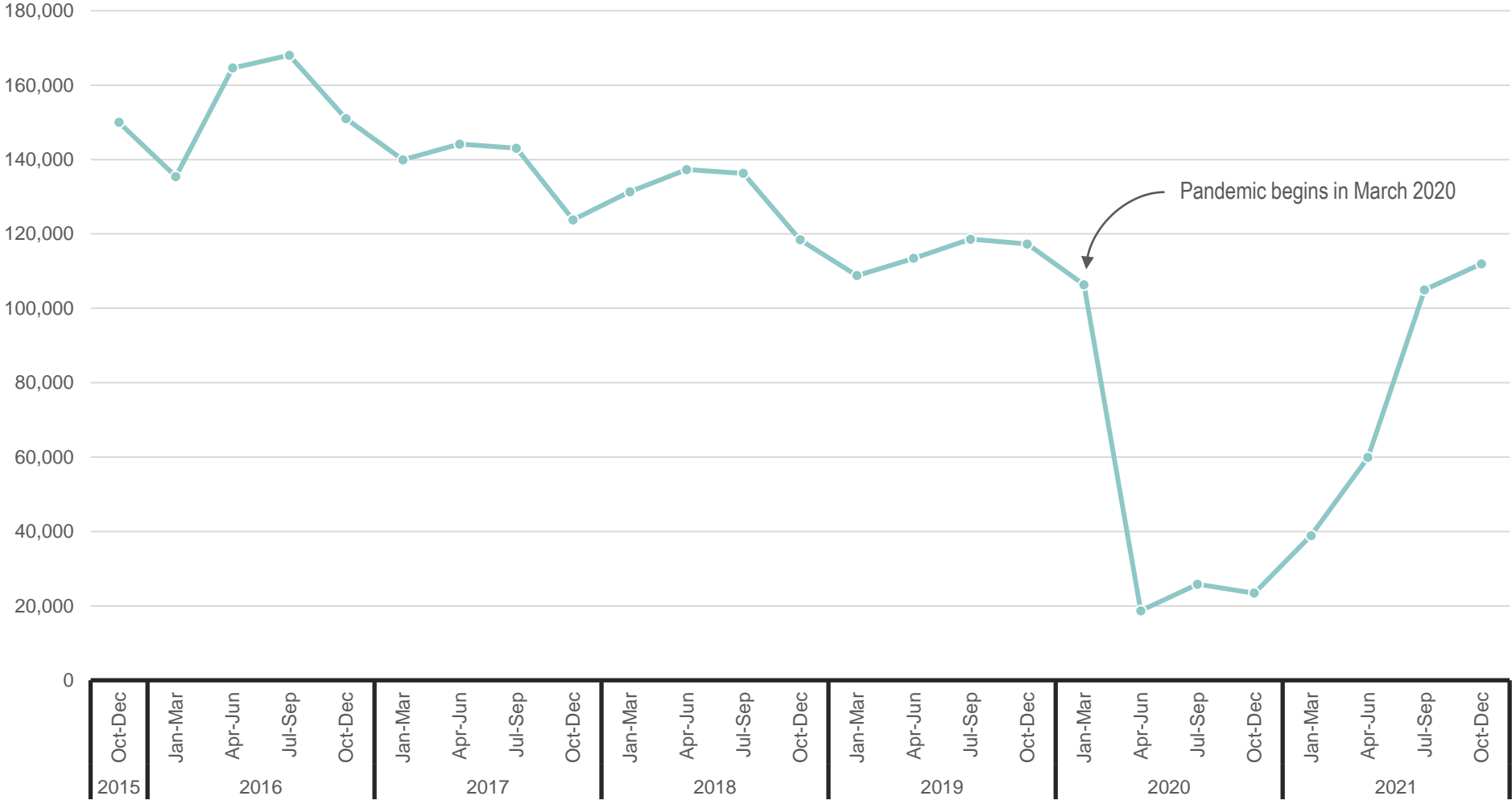
CoAs only capture domestic relocations

USPS uses data suppression for ZIP codes/filing types with few changes-of-address



# Trends in International Migration

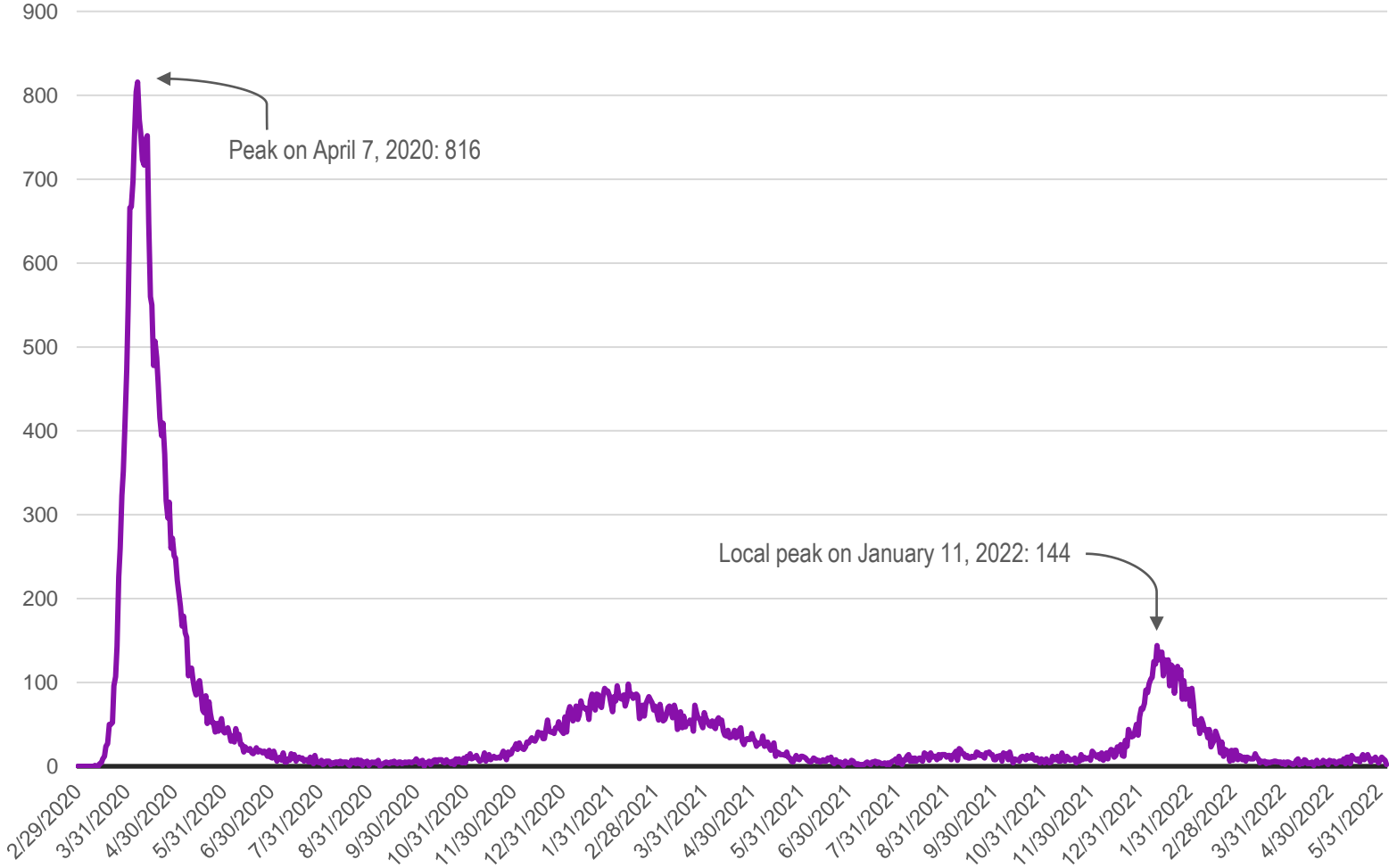
Persons Obtaining New Arrival Lawful Permanent Resident Status  
United States, 2015 Q4 to 2021 Q4



- New immigrant arrivals to the United States dropped precipitously at the start of the pandemic
- By the second half of 2021, new arrivals were roughly in line with pre-pandemic levels
- Patterns of immigration to NYC are likely to mirror national trends

# Trends in Deaths and Births

Daily Coronavirus Deaths  
New York City, February 2020 to June 2021



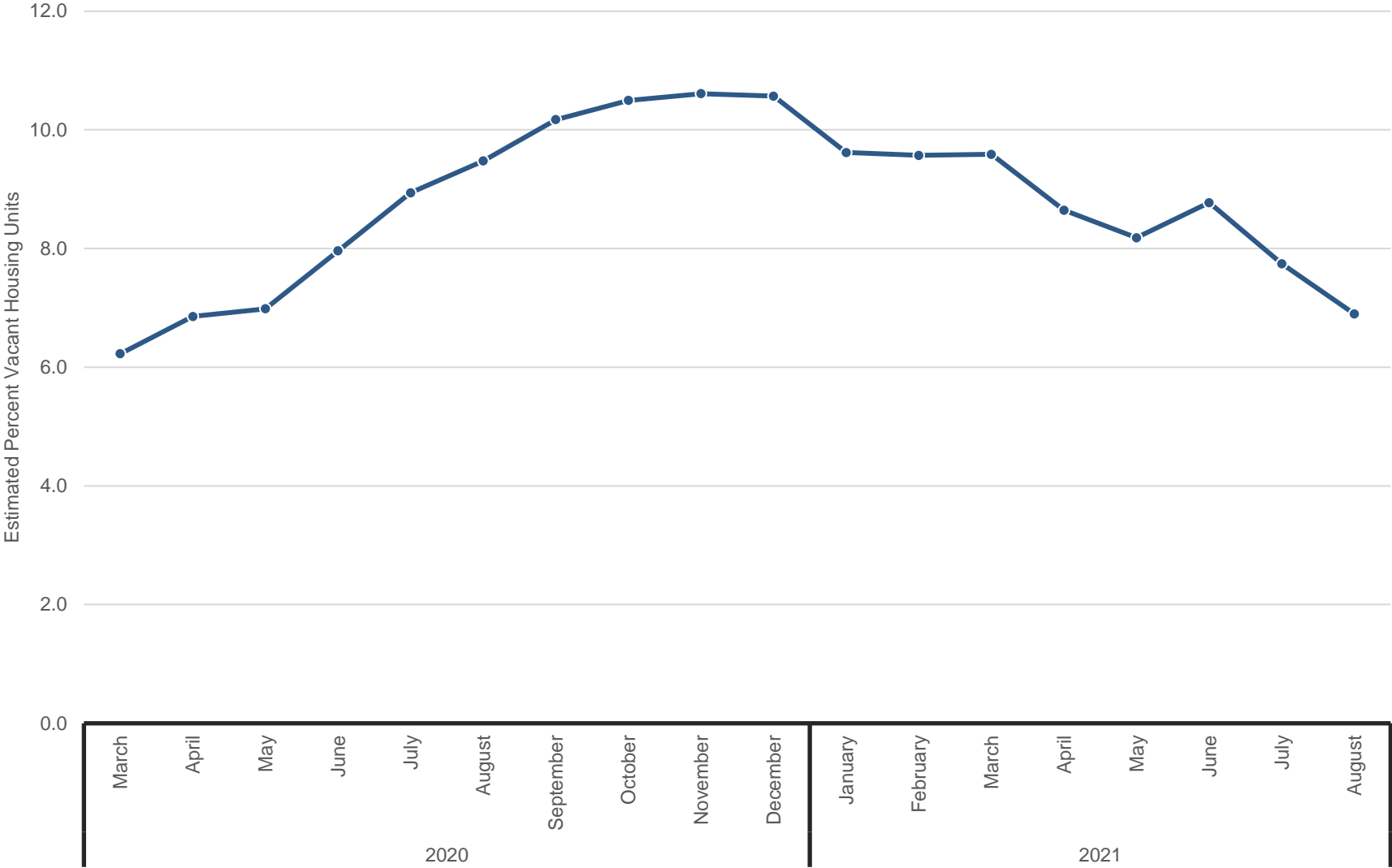
- Coronavirus deaths in NYC spiked early in the pandemic, peaking in April 2020, and have remained much lower since
  - From April 1, 2020 through June 30, 2021, there were 30,740 coronavirus deaths in NYC
  - Between July 1, 2021 and June 5, 2022, there were 7,053 coronavirus deaths in NYC
  - Coronavirus deaths had the largest impact on natural increase in the months immediately after the 2020 Census
- Births have been on a long-term trajectory of decline, which was exacerbated during the Covid-19 pandemic, but rebounded somewhat in 2021
  - US births declined 4% between 2019 and 2020
  - Births in the United States increased by 1% in 2021, compared to 2020
  - The increase from 2020 to 2021 is small, but suggests that births may have increased in 2021 in NYC as well



# Estimated Percent Vacant Housing Units using StreetEasy Real Estate Listing Trends

New York City, March 2020 to August 2021

DCP's estimated monthly vacancy using StreetEasy real estate listings suggests a short-term outflow of population in 2020, followed by population returning in 2021. Estimated percent vacant was roughly in line with the pre-pandemic level by August 2021.



Note

Estimates use 2020 Census data on total number of housing units and vacant units as a base. Adjustments to vacancy are estimated according to the relationship between actual and expected number of StreetEasy real estate listing in a given month by neighborhood. Not all neighborhoods have sufficient real estate listings coverage on StreetEasy's service to estimate changes in vacancy. In neighborhoods without sufficient coverage, the 2020 Census percent vacant is held constant.

# Caveats in Using StreetEasy Data and Interpreting Estimates of Percent Vacant

Vacancy estimates produced using adjustments from StreetEasy listings should be used as an indicator of vacancy trends, not as firm estimates

Real estate listings do not correspond directly to vacancies

- Units can be listed while occupied, or not listed while vacant

StreetEasy listings are not a complete list of all available housing units in New York City, and likely not representative of all listings

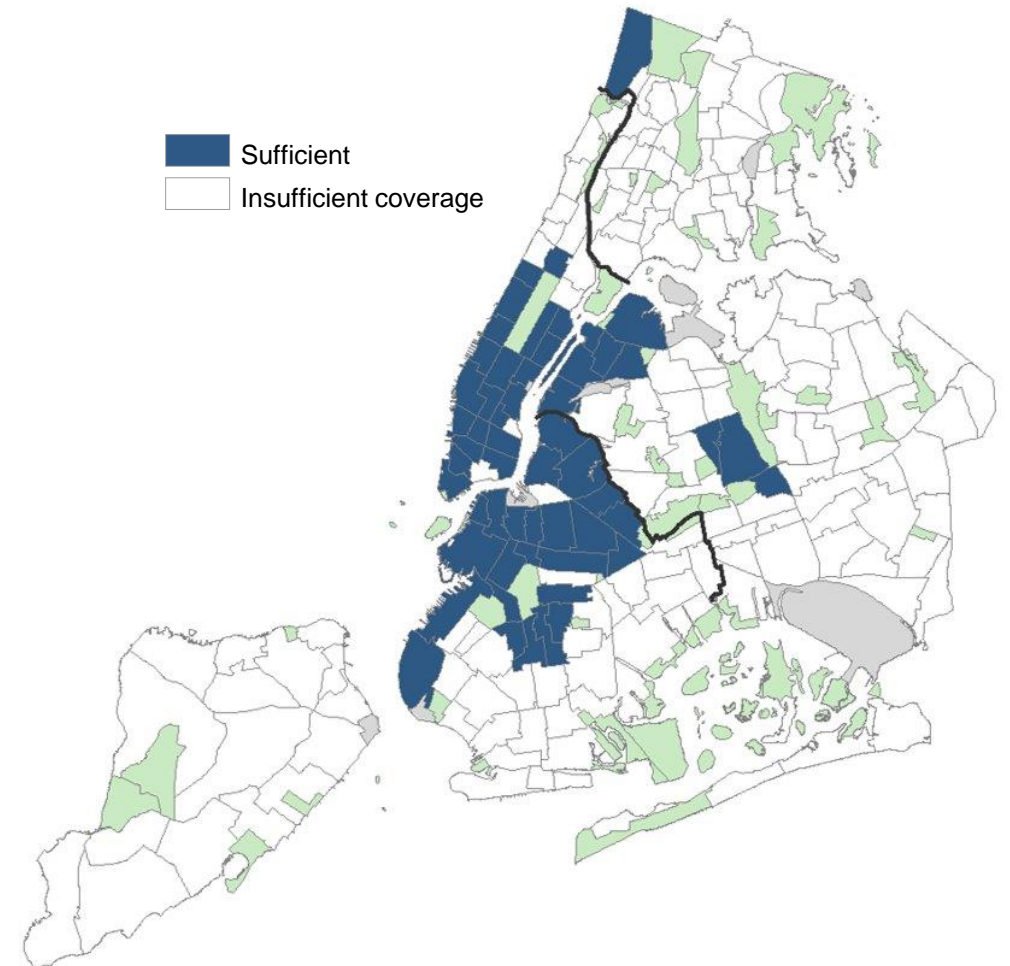
- Not all landlords or sellers choose to use StreetEasy's service
- Some neighborhoods and boroughs are better represented than others
- The best coverage from StreetEasy is in neighborhoods that likely experienced the bulk of population change during the pandemic

The number of listings and the timing of listing units on the market are sensitive to qualitative aspects of the real estate market

- The real estate market largely “froze” early in the pandemic, depressing listings
- The subsequent increase in listings is likely due to both pent-up demand as well as increased population movement in some neighborhoods
- Trends in rental and sales prices and demand for apartments may influence when individuals move and when owners list an apartment for rent or sale

No monthly adjustments are made to the total number of housing units in NYC

Neighborhoods with Sufficient StreetEasy Coverage to Estimate Percent Vacant





# After Pandemic Induced Population Declines, Data Suggest NYC Returned to Pre-pandemic Population Trends

## Population Trends in 2020 and Early 2021

Population decline during the start of the pandemic was an anomalous period in a longer-term trend of population growth

Domestic and international migration, births and deaths were all affected by the pandemic

- Births declined more than usual
- Deaths increased due to Covid-19
- International inflows decreased to very low volumes
- Domestic outflows increased to higher than usual volumes

Together, these pandemic-era changes resulted in population losses for New York City, reflected in the Census Bureau's population estimate for July 2021

## Population Trends Since Mid-2021

Components of population change are returning to pre-pandemic patterns

- Births have ticked up nationally, if only slightly, and New York City is likely to have followed the same pattern
- Coronavirus deaths in NYC have declined substantially since the start of the pandemic
- Immigration to the US has increased to levels comparable to those before the pandemic, and New York City's immigration patterns are likely to mirror national trends
- USPS data suggest that NYC's domestic migration patterns are returning to typical levels of net outflows
  - Net domestic losses have historically been offset by natural increase and immigration
  - Consequently, current net negative changes-of-address simply reflect a return to typical volumes of net domestic outflows and do not imply population losses
- Real estate listings suggest that housing occupancy is returning to pre-pandemic levels

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