Population estimates and Census counts

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NY SDC MEETING 2021

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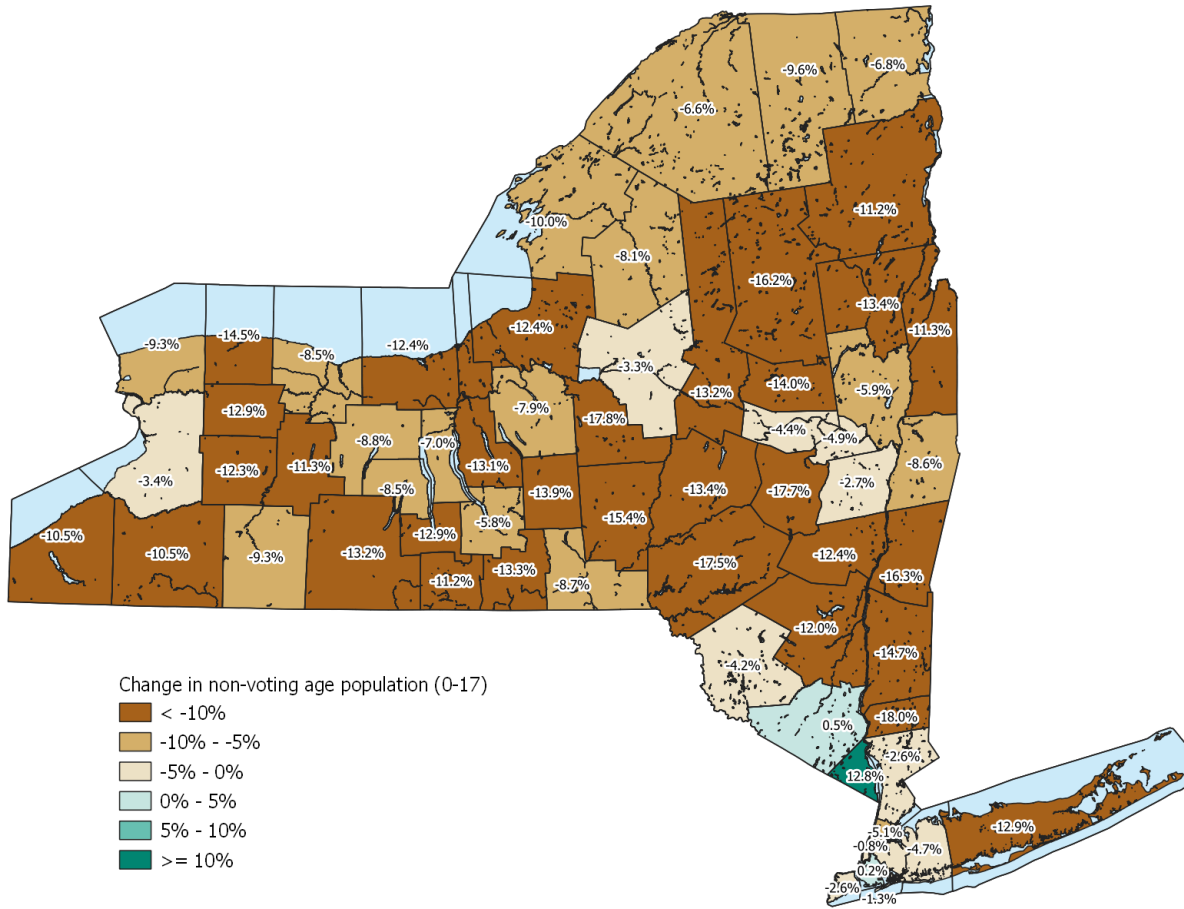
Cornell University

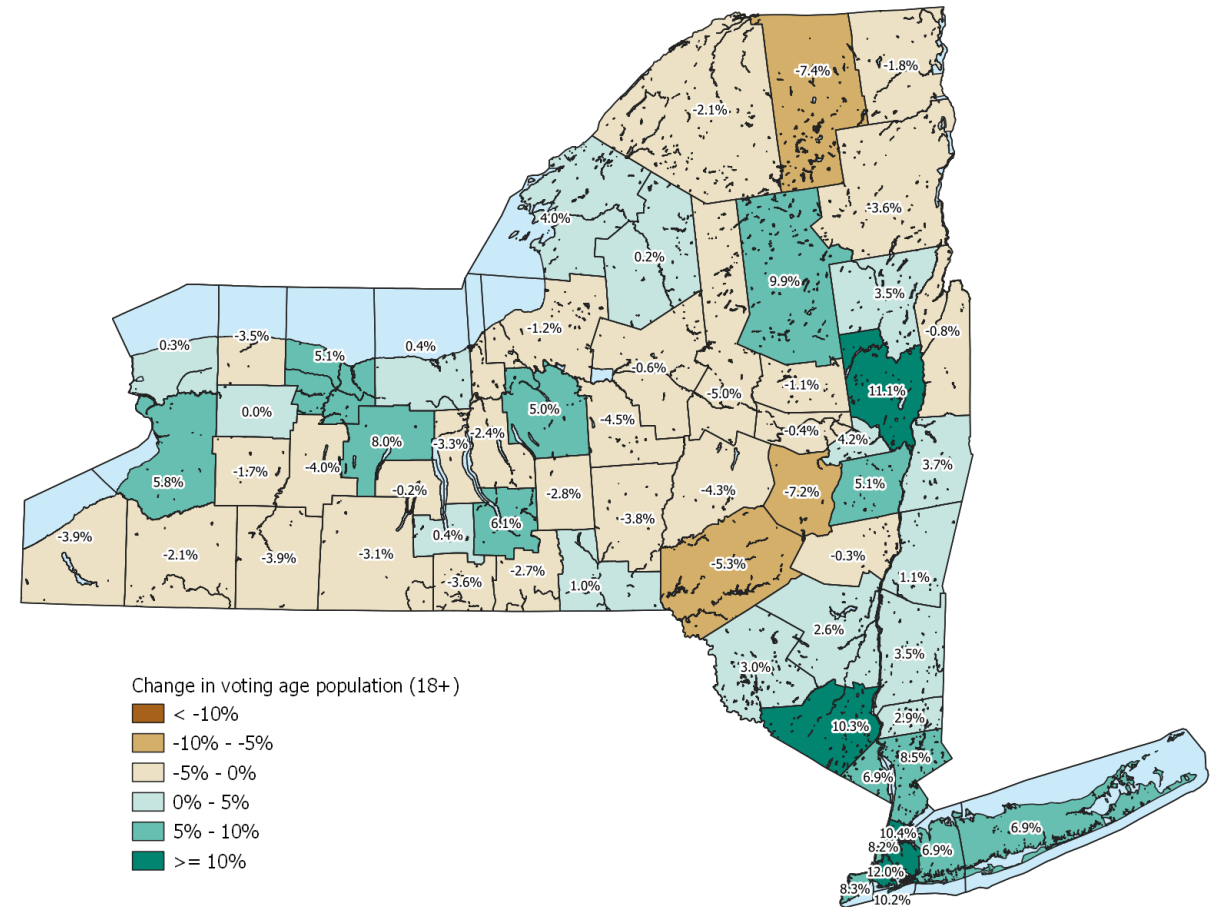Program on Applied Demographics
CORNELL POPULATION CENTER

Highlights from redistricting data

% population change between 2010 and 2020

- -10% - -6%
- -6% - -2%
- -2% - 2%
- 2% - 6%
- 6% - 10%

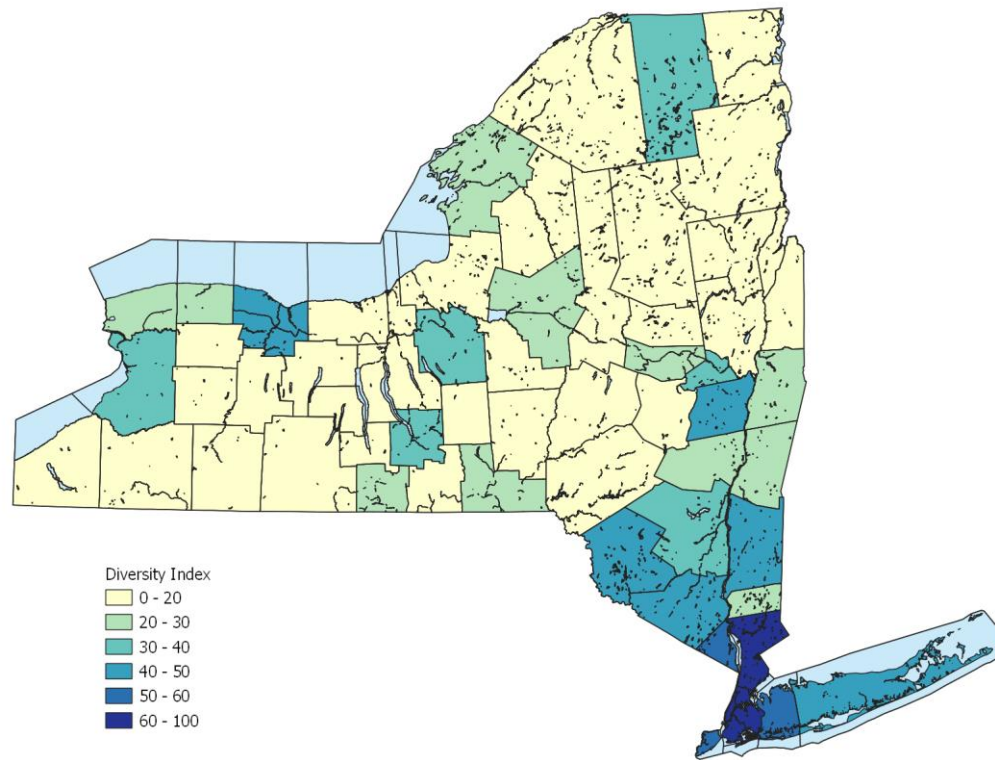# Population change by voting age

Non voting age (0-17)
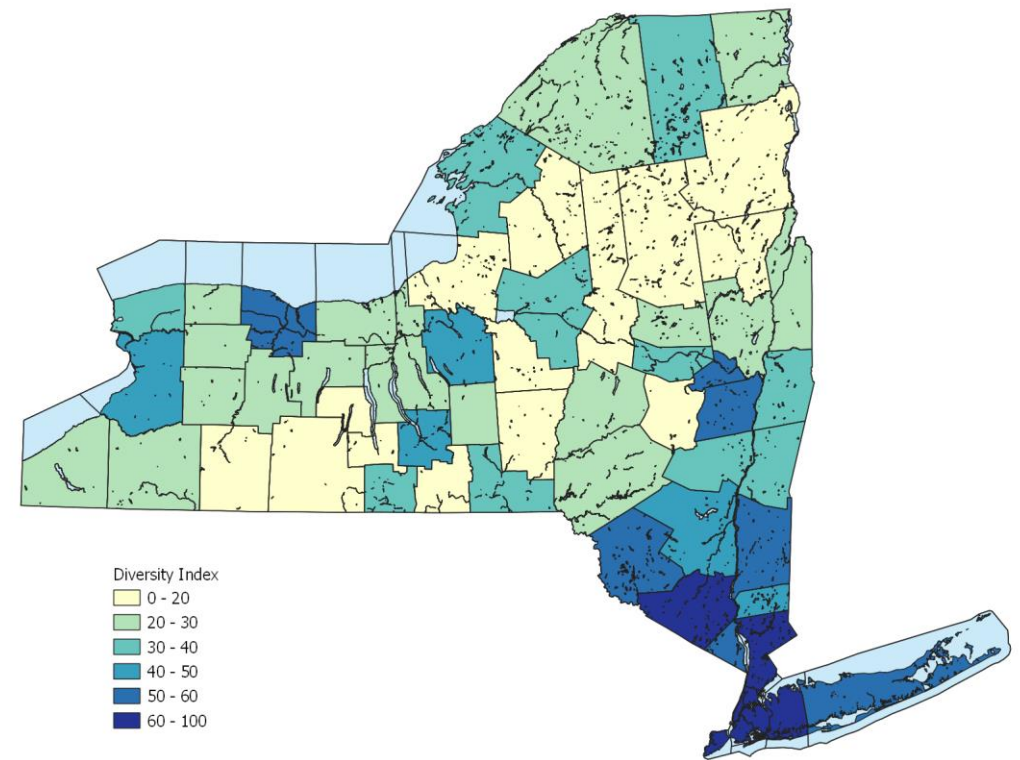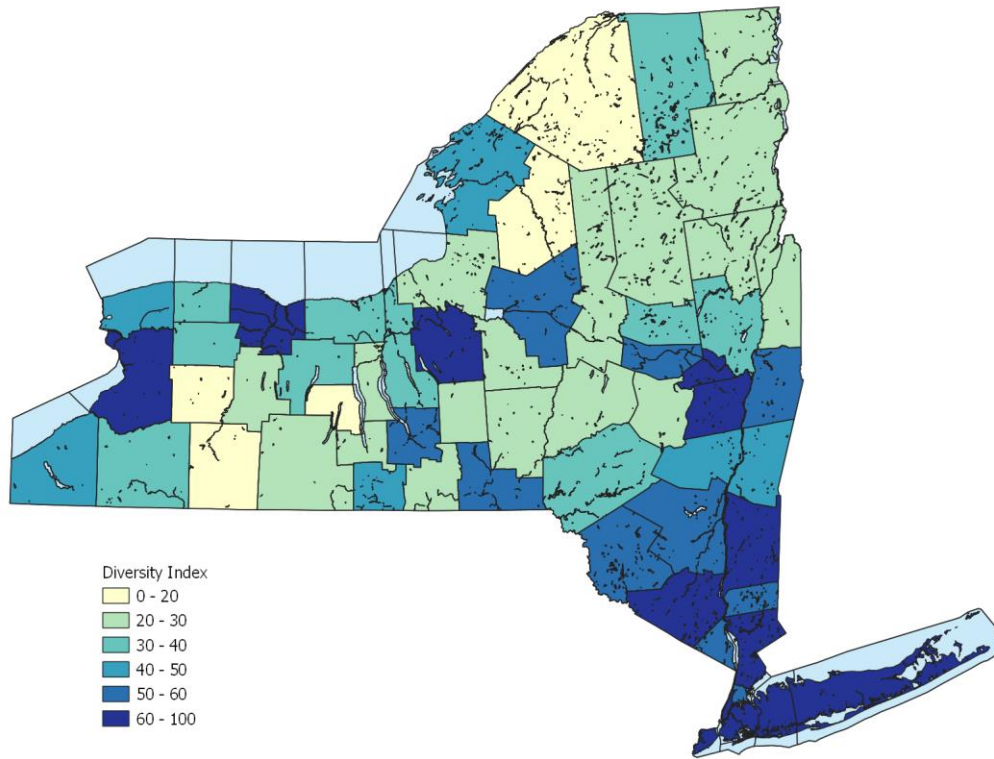
Voting age (18+)

Changing diversity

2010

2020

Diversity index is probability that two random residents are of different race/ethnicity

Changing diversity

Non voting age (0-17)

Voting age (18+)

Diversity Index
- 0 - 20
- 20 - 30
- 30 - 40
- 40 - 50
- 50 - 60
- 60 - 100

Diversity Index
- 0 - 20
- 20 - 30
- 30 - 40
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- 50 - 60
- 60 - 100
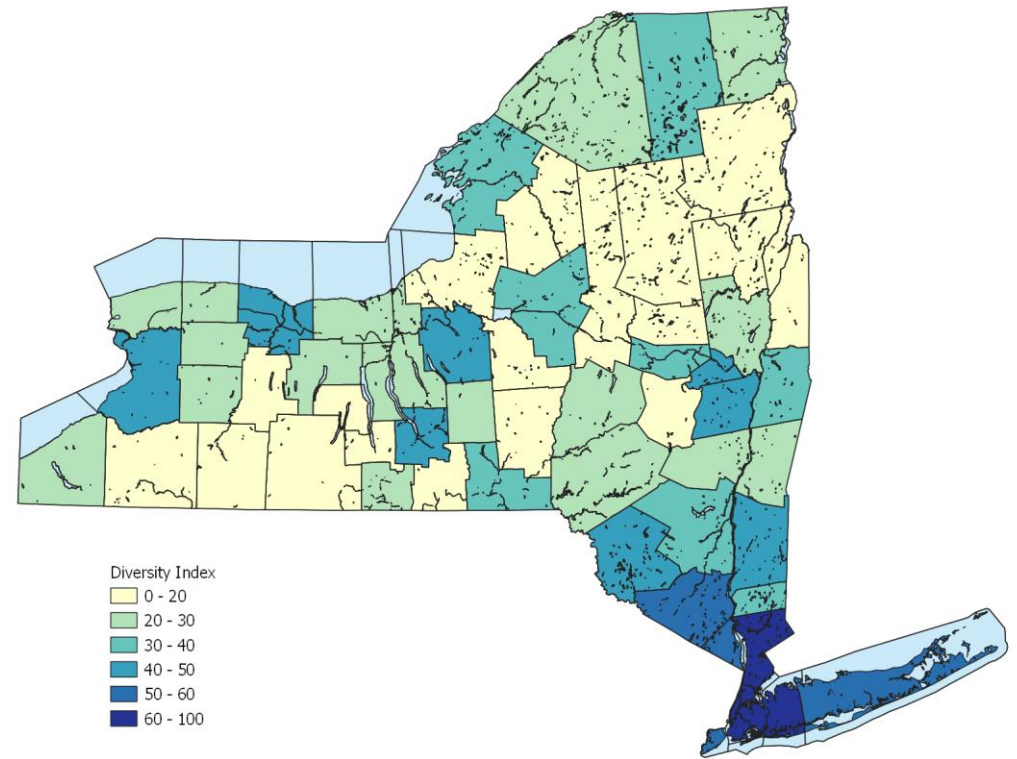
Changing diversity

Comparison over time complicated because:

- ▶ Coverage differences
- ▶ Format of the question changed
- ▶ Processing of the open-ended answers changed
- ▶ Personal attitudes and race identity changed

Sub county change - population
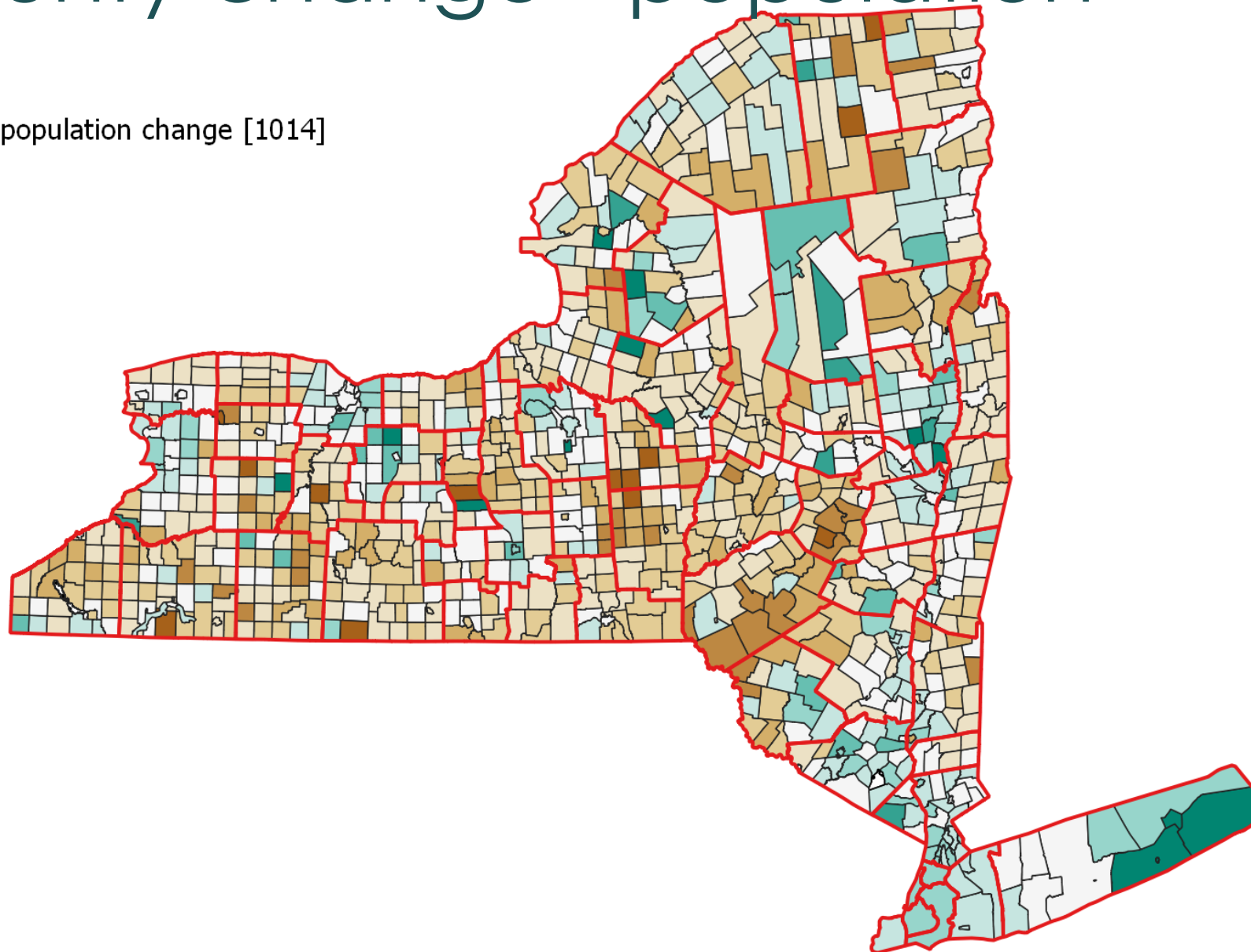
Sub county change – housing units

MCD percent HU change [1014]
- -50 - -25 [6]
- -25 - -20 [8]
- -20 - -15 [11]
- -15 - -10 [35]
- -10 - -5 [133]
- -5 - 0 [307]
- 0 - 5 [358]
- 5 - 10 [100]
- 10 - 15 [28]
- 15 - 20 [9]
- 20 - 25 [3]
- 25 - 97.2 [11]
- No Data [4]

PAD website

Redistricting data

▶ https://pad.human.cornell.edu/census2020/index.cfm#pl

▶ Repackaged into single files

▶ Combined with comparable data from 2000 and 2010

County and region charts

▶ https://pad.human.cornell.edu/census2020/region_profiles.cfm

Group Quarters

Collection of Group Quarters was very difficult

Use of administrative (incomplete) data

Differential Privacy impacts totals and composition of GQ's

Geocoding errors

Count Question resolution

▶ Change to correct processing errors in the count and/or location of living quarters and boundaries

▶ Open to local governments

▶ Will NOT change Census counts, but DOES benefit estimates and Census geography databases

▶ Federal Register notice with final rules published this fall

  ▶ Also outreach materials though Census Bureau website

▶ Program opens January 2022

Population estimates

Population estimates

Produced annually

- ▶ Start with Census counts and adds/subtracts estimates of components of change
  - ▶ Births and Deaths: based on vital records collected by NYS Department of Health and NCHS
  - ▶ Domestic Migration: based on linking consecutive IRS and Medicare records
  - ▶ International Migration: national estimate based on variety of sources, distribution of national totals based on ACS Residence One Year Ago (ROYA)

Topics

Population estimates

- ▶ Vintage 2020 (Estimates from 4/1/2010 – 7/1/2020)

    - ▶ Estimates evaluation

- ▶ Vintage 2021 (Estimates from 4/1/2020 – 7/1/2021)

    - ▶ Covid adjustments

    - ▶ Blended base

- ▶ Intercensals (Revised estimates 4/1/2010 – 4/1/2020)
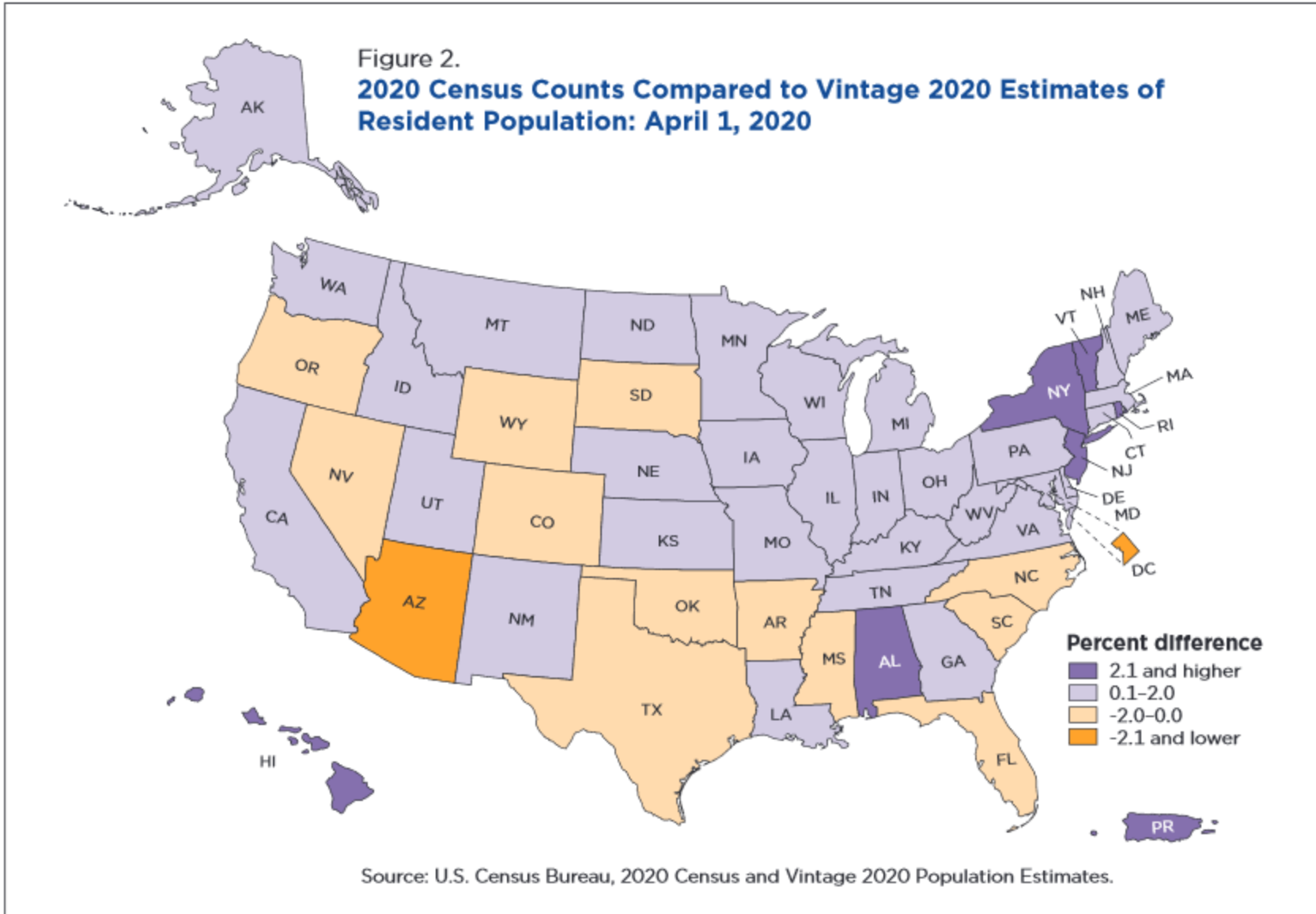
Estimates evaluation

Comparing estimates for April 1, 2020 with Census counts

Goal: to improve estimates model and to evaluate Census results

National:

Nation wide comparison	
April 1, 2020 estimate	329,398,742
Census count	331,449,281
Difference	2,050,539
% Difference	0.6%

Figure 2.
2020 Census Counts Compared to Vintage 2020 Estimates of Resident Population: April 1, 2020

Percent difference
- 2.1 and higher
- 0.1–2.0
- -2.0–0.0
- -2.1 and lower

Source: U.S. Census Bureau, 2020 Census and Vintage 2020 Population Estimates.

New York State

New York State	
April 1, 2020 estimate	19,382,373
Census count	20,201,249
Difference	818,876
% Difference	4.2%

Counties

Estimate on average

- ▶ 652 persons lower than count

- ▶ 0.6% higher than count

Figure 1.
2020 Census Counts Compared to Vintage 2020 Estimates of Resident Population: April 1, 2020

Percent Difference
- 5.1 and more
- 2.1 to 5.0
- -2.0 to 2.0
- -2.1 to -5.0
- -5.1 and less

Note: Percent difference calculated as (census - estimate)/estimate * 100.
Information on confidentiality protection, nonsampling error, and definitions is available at <https://www2.census.gov /programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/summary-file/>.
Source: U.S. Census Bureau, 2020 Census Redistricting Data (Public Law 94-171) Summary File; Vintage 2020, April 1 Population Estimates.

New York counties

50 counties where Census count was higher than estimates

- Numerically, boroughs in New York City have largest differences
  - in total New York City count was 521,040 higher than estimates
- The largest percentage difference was in Hamilton County
  - Estimate was 4,370 (from 4,842 in 2020), Census count was 5,107. Gap is 14.4% of the count
  - Queens (-7.1%), Jefferson (-6.9%) and Brooklyn (-6.9%) also had more than 5% difference

12 counties where Census count was lower than estimates

- Numeric largest difference in Madison county (Est: 70,589, Census: 68,016)
- Largest percentage difference in Franklin County, overestimated by 5.2%

39 counties had absolute estimate error of less than 2.5%

New York counties: Difference in change

Census change vs Estimated change
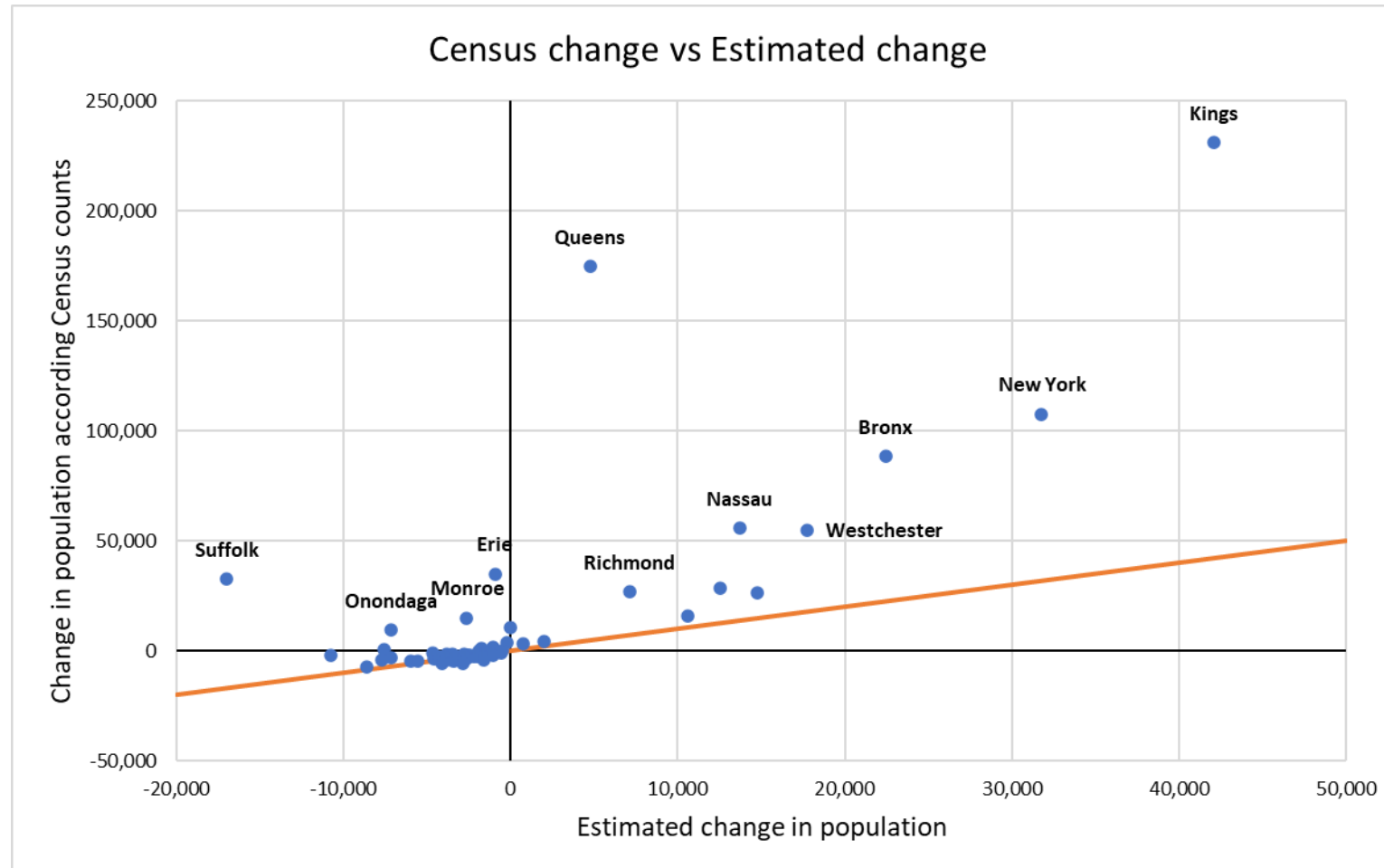
New York counties: Difference in percentage change
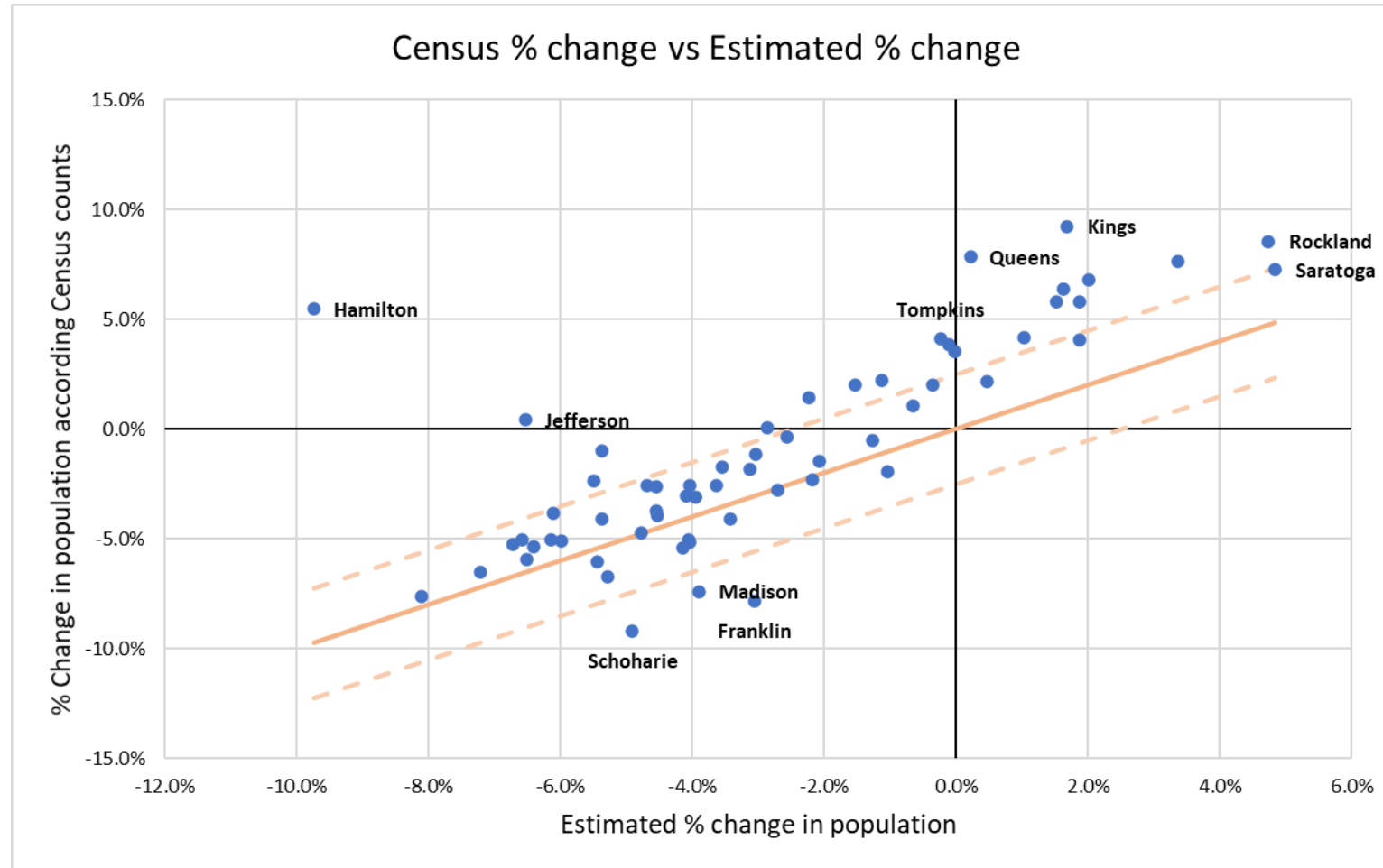
Vintage 2021

Starts with April 2020 population

Not all Census counts available yet

Use of blended base

- ▶ Use combination of vintage 2010 estimates and 2020 counts
- ▶ Totals will be equal to 2020 Census counts
- ▶ Vintage 2020 estimates used to fill in characteristics

Covid-19 impact on methodology

- ▶ Adjusted births and deaths
- ▶ Standard domestic migration methods capture migration
- ▶ International migration
- ▶ Group Quarters

Intercensals

Adjusted estimates that confirm with Census 2010 and Census 2020

Let you create longer historic counts without jumps

Used for ACS controls

Cannot be released before DHC is published

Questions?

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