![Citizens' Committee for Children OF NEW YORK]

Converting U.S. Census Bureau Public Use Microdata Area Estimates for New York City Community District Boundaries

This document outlines a method and rationale for using estimates from the U.S. Census Bureau, including the American Community Survey and New York City Housing and Vacancy Survey, to keep track of social and economic trends across New York City's 59 Community Districts.

There are multiple geographies in New York City:

New York City has five **boroughs**—the Bronx, Brooklyn, Manhattan, Queens, and Staten Island—which were established in 1898 when New York City's boundaries were delineated as we know them today. The five boroughs perfectly align with their respective New York State County – Bronx, Kings, New York, Queens, and Richmond.

What is a Community District?

Community Districts (CDs) are New York City's administrative boundaries. According to the NYC Department of City Planning, CDs were created by local law in 1975 as appointed advisory groups for questions related to land use and zoning, the city budget process, and service delivery in their district. New York City's 59 CDs represent multiple NYC neighborhoods with a population range between 50,000 to over 200,000 residents. Of the 59 CDs, 12 are in Manhattan, 12 are in the Bronx, 18 are in Brooklyn, 14 are in Queens, and 3 are in Staten Island.

What is a PUMA?

Public Use Microdata Areas (PUMAs) are statistical geographic areas the Census Bureau defined for disseminating American Community Survey estimates. PUMAs contain at least 100,000 people. There are 55 PUMAs in New York City (called sub-borough areas in the NYC HVS) which are delineated to approximate CD boundaries. PUMAs are coterminous with community districts, but they are not the same. The population in some CDs is too small to meet the population threshold of 100,000. In these cases, two CDs are paired into one PUMA. There are four PUMAs with paired CDs:

- PUMA 3710 - Hunts Point, Longwood, & Melrose is **one PUMA** that encapsulates **two CDs (Mott Haven & Hunts Point)**
- PUMA 3705 - Belmont, Crotona Park East, & East Tremont is **one PUMA** that encapsulates **two CDs (Morrisania & East Tremont)**
- PUMA 3810 - Battery Park City, Greenwich Village, & Soho is **one PUMA** that encapsulates **two CDs (Battery Park & Greenwich Village)**
- PUMA 3807 - Chelsea, Clinton, & Midtown Business District is **one PUMA** that encapsulates **two CDs (Chelsea/Clinton & Midtown)**

See the NYC Department of City Planning's New York City PUMAs and Community District Map for more information.
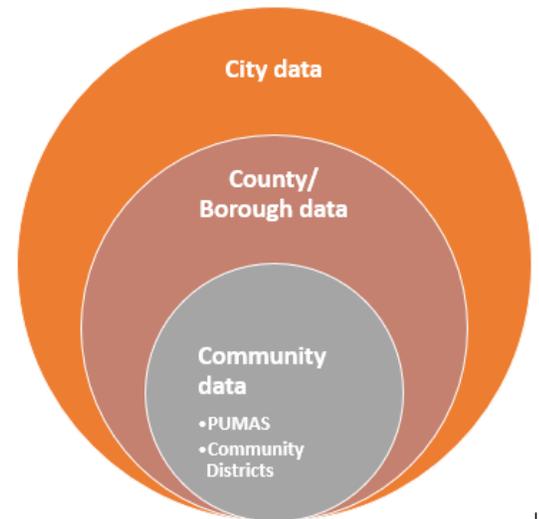
Why does CCC publish data by CD instead of PUMAs on *Keeping Track Online*?

Reliable data is foundational both to effective policy research and to advocacy that drives legislation and resources to support children and families. For this reason, CCC strives to present data at the Community District level to spur advocacy and organizing at the local level. This includes via Community Boards, which were formed to foster active participation in the political processes and provision of services. Moreover, Community District data is necessary to understand how risks and resources for child and family well-being differ across New York City's diverse landscape. Stark disparities in child and family well-being exist both between and within different neighborhoods of the city. While data does exist at a more granular scale than Community districts—such as Neighborhood Tabulation Areas and Census Tracts, Community Districts offer enough detail to identify geographic trends citywide without compromising data reliability and accuracy.

How does CCC use PUMA estimates to calculate data for CDs?

CCC uses total population data from the Department of City Planning's Demographic Profile for CDs to convert PUMA estimates to CD estimates. City Planning's Demographic Profiles for CDs are based on the Decennial Census, which is the best estimate for the number of people that live in each CD. CCC adds the population totals for the two CDs paired in one PUMA to determine the percent of the PUMA total population for each CD. The figure below illustrates this process using the example of Child Population for PUMA 3710 in the Bronx:
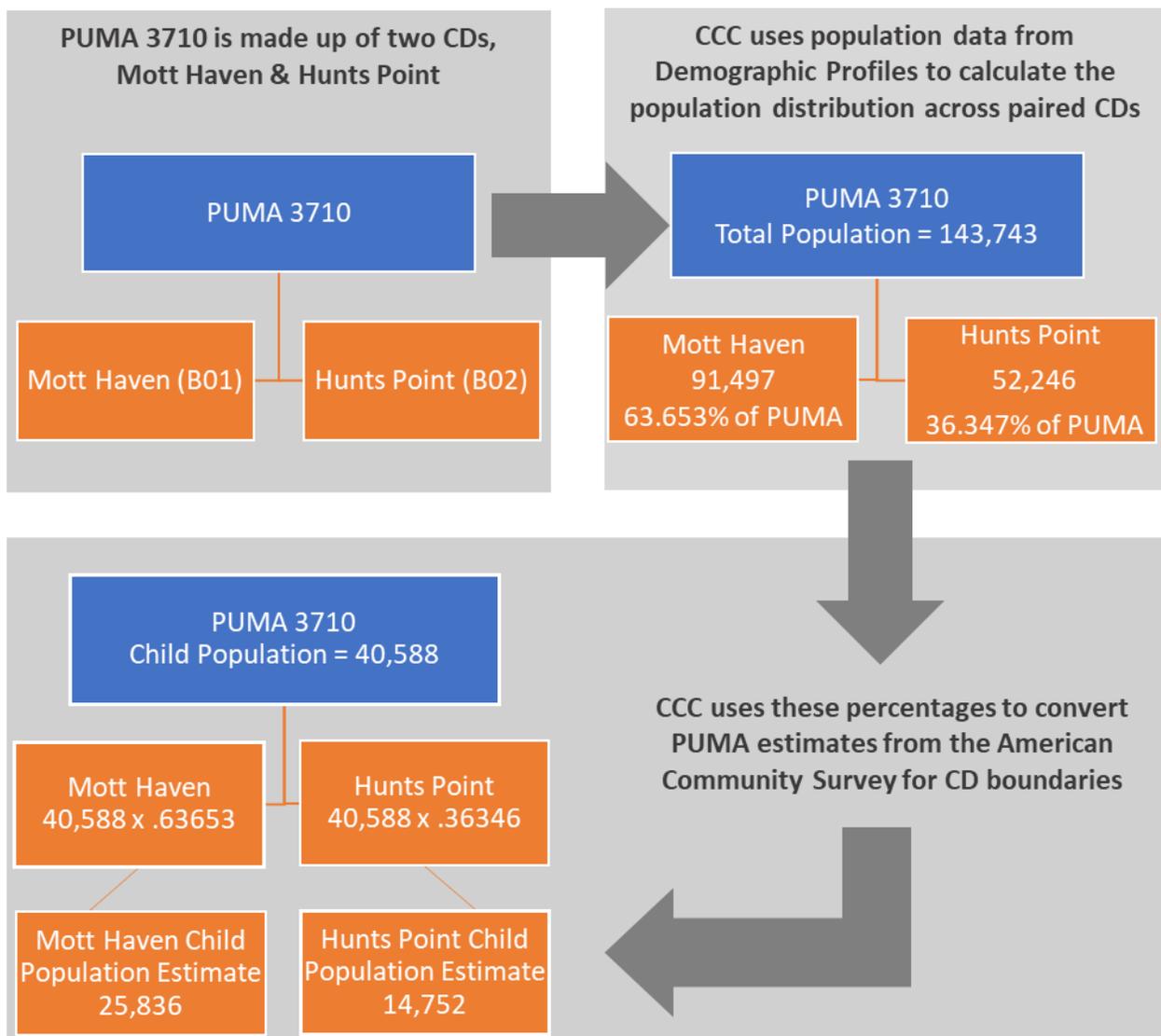
What indicators does this calculation apply to?

The PUMA to CD conversion applies to all American Community Survey estimates which are a count of individuals or households. Percentages, medians, and dollar amounts are not converted and are the same for the paired CDs.

- Total Population
- Child Population
- Households and Families
- Foreign Born Population
- Citizenship
- Limited English Proficiency
- Household Internet Access

- Poverty
- Child Poverty
- Concentrated Poverty
- Household Income
- Family Income
- Educational Attainment
- Monthly Rent

- Uninsured
- Children Covered by Medicaid
- Children with a Disability
- Occupied Public Housing and Rent Regulated Units

The following PUMA-level indicators include estimates which remain the same among the paired CDs:

- Median Incomes
- Unemployment Rate
- Labor Force Participation Rate
- Employment Population Ratio

- Parental Employment Instability
- Median Monthly Rent
- Severe Rent Burden
- Median Rent Burden
- Home Ownership

- Fair to Poor Housing
- Maintenance Deficiencies
- Overcrowded Rental Housing

Limitations

This method to convert estimate from PUMAs to CDs comes with limitations because:

- **Population characteristics may not be distributed in ways proportionate to the population.** Ideally, estimates should be compared within geographic units—that is, PUMA to PUMA and CD to CD. As a result, these numbers should be interpreted with caution even though they may be the best estimate available. Another method to calculate CD level data using Census estimates is to aggregate Census Tract estimates to similarly CD-level boundaries. This method also comes with limitations, including wider margins of error because estimates are based on smaller sample sizes, and thus may be less reliable.
- *American Community Survey* **data are estimates.** This means that the Census Bureau collects data from a sample of the population (around 3.5 million addresses) and not the entire population. This survey is conducted every year to provide up-to-date information about the social and economic needs. This is different from the Decennial Census, which seeks to count the entire United States population once every ten years.
- **Decennial data should not be compared to annual data.** Since the ACS is conducted every year, there may be changes to the universe, question wording, residence rules, reference periods, and the ways in which data are tabulated, which severely limits the comparability between ACS and Census data. For more information on interpreting ACS data, see the Census Bureau's Comparing ACS Data and their report on What Researchers Need to Know

Other supporting documents

- Timeline of Community Boards: http://www.nyc.gov/html/qnscb1/html/explained/explained_history.shtml
- NYC Department of City Planning's Community District Profiles: https://communityprofiles.planning.nyc.gov/
- The Construction of Community District Geography in 2000 Census Files: https://www1.nyc.gov/assets/planning/download/pdf/data-maps/nyc-population/census2000/tableg7.pdf
- The Census Bureau's Geography Program: https://www.census.gov/programs-surveys/geography/guidance/geo-areas.html
- NYC Department of City Planning's Tools and Geographic Reference: https://www1.nyc.gov/site/planning/data-maps/nyc-population/geographic-reference.page