Insufficient Rental Housing for Extremely Low Income Families in New York City

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In New York City, there are many individuals who would, based on the Area Median Income for New York City, be classified as Extremely Low Income. The rent in this city has always been an issue – "The Rent is Too Damn High!" – and the housing doesn't match the population's needs.

I plan to explore this using several static visualizations to display this precise issue.

Data

- Affordable Housing – Area Median Income
  - **URL:** https://www1.nyc.gov/site/hpd/renters/area-median-income.page
  - **Summary:** Gives three tables indicating AMI in NYC based on family size, the AMI categories, and the rent to be expected in housing units labeled for specific AMI categories.
- 2000 Census – NYC Household Size
  - **URL:** https://factfinder.census.gov/bkmk/table/1.0/en/DEC/00_SF4/HCT005/1600000US3651000
  - **Summary:** Gives the aggregate household size for each household in New York City during the 2000 Census.
- NYC Census Summary 2000
  - **URL:** https://www1.nyc.gov/site/planning/data-maps/nyc-population/census-summary-2000.page
  - **Summary:** Gives the total population by borough, which can be used to determine the percentage of the total population of New York City living in each borough.
- Personal Income by AGI Range
  - **URL:** https://data.cityofnewyork.us/City-Government/Personal-Income-By-AGI-Range/ipc3-2nbm
  - **Summary:** Presumably 2014 data. Gives the total number of tax filers in New York City for each decile, along with the minimum and average income for that decile.
- Housing New York Units by Building
  - **URL:** https://data.cityofnewyork.us/Housing-Development/Housing-New-York-Units-by-Building/hg8x-zxpr
  - **Summary:** Buildings in 2019 with units for rent. Indicates the number of units for each AMI category in each building, along with borough.

Plan

1. Utilize the *2000 Census – NYC Household Size* to get percentages of households of various sizes compared to the total population of New York City.
2. Utilize the *NYC Census Summary 2000* to get the percentages of population living in the various boroughs compared to the total population of New York City.
3. Approximate the households of various sizes in 2014 by multiplying the percentage from **Step 1** by the Number of Filers in each decile from *Personal Income by AGI Range*.
4. Cross reference the tables from *Affordable Housing – Area Median Income* and from **Step 3** to label the number of tax filers of each household size in each AMI category.
5. Approximate the households of various sizes by AMI category by borough by multiplying each of the AMI categories in **Step 4** by the percentages calculated in **Step 2**.
6. Graph the AMI categories (X-axis) to show how many households there are of each size (Y-axis) for each borough (stacked bar graph).
7. Utilize the *Housing New York Units by Building* to create a table showing the total number of extremely low income housing units by borough.
8. Graph the data from Step 7 along side the data from Step 5 to show the deficit in each borough, and in the city over all (side-by-side bar graphs).

Assumptions

- All populations of income groups are equal by borough.
  - In reality, there is a skew for each borough.
- Boroughs had the same proportional number of residents between 2000 and 2014.
  - No borough experienced a large sum of people entering or leaving.
- There were an equal number of housing units available in 2014 to what there are now in 2019.
- There is indeed a deficit in the number of extremely low income housing compared to the number of households that are extremely low income.
  - Perhaps more accurate to call this a hypothesis.