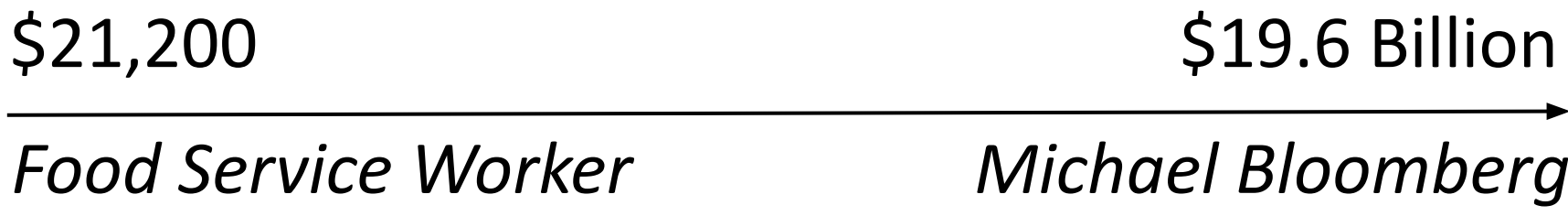


Abstract/Background

Abstract:
New York's average income is **\$34,386**, but significant disparities exist within boroughs and industries. This research explores income distribution factors, addressing the need to understand regional concentrations perpetuating poverty. The study also examines salary variations across the five boroughs, aiming to uncover job opportunities, market trends, and wealth disparities in New York.

Income Extremes in New York:



Average Private High School Tuition: \$21,240
Average Charter High School Tuition: \$13,316

Objective

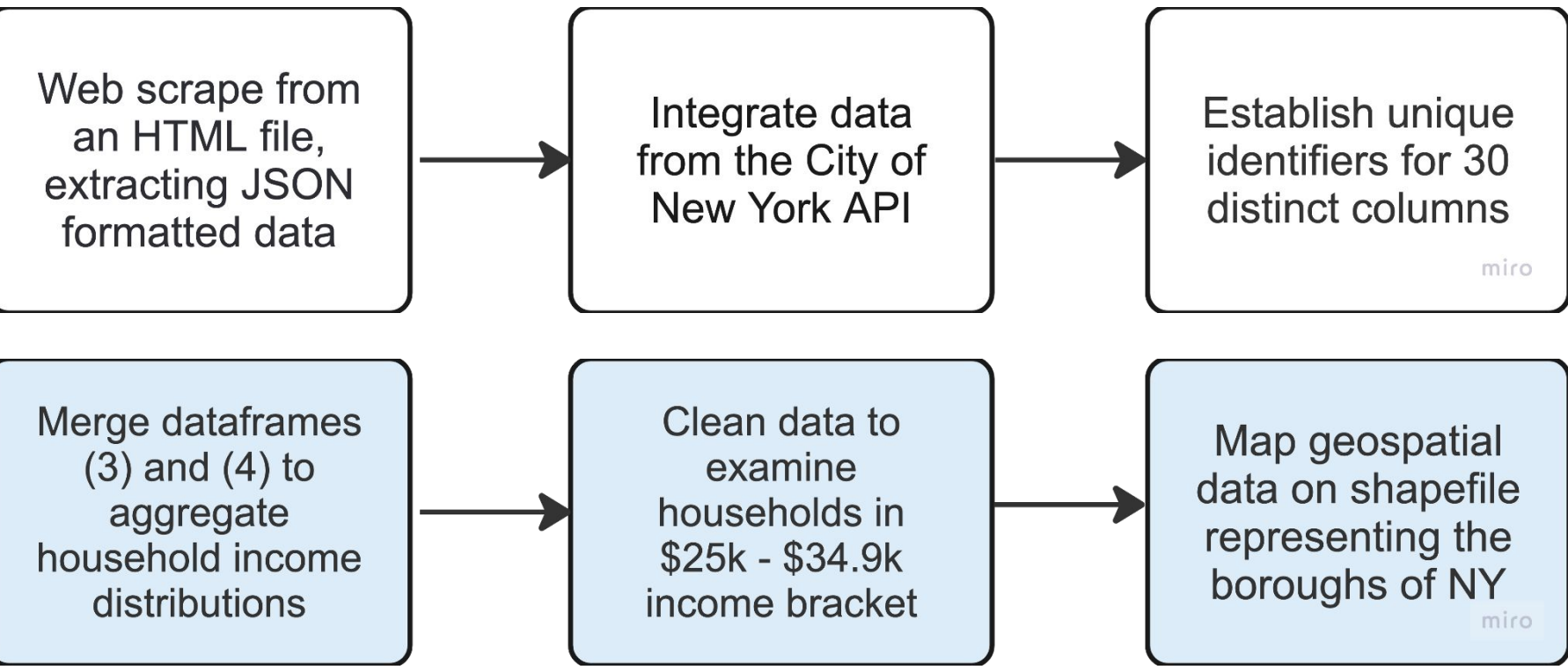
Research Questions:

- 1) What key factors exacerbate income disparity across the boroughs and regions of New York?
- 2) How can K-12 students benefit from educational opportunities in boroughs outside their geographic and socioeconomic reach?
- 3) How can data visualization tools be leveraged to identify the bottleneck in this perpetual cycle of poverty?

Data Collection

Data Sets:

- 1) New York Postings (2024)
- 2) New York Census Block (Geospatial Data)
- 3) U.S. Census Bureau Income, Poverty (2021)
- 4) New York Borough Boundaries (Shapefile)



Geospatial analysis identifies shortage areas, time-series analysis shows employment trends, and before-and-after comparisons demonstrate the impact of governmental initiatives like tax credits.

Data Exploration

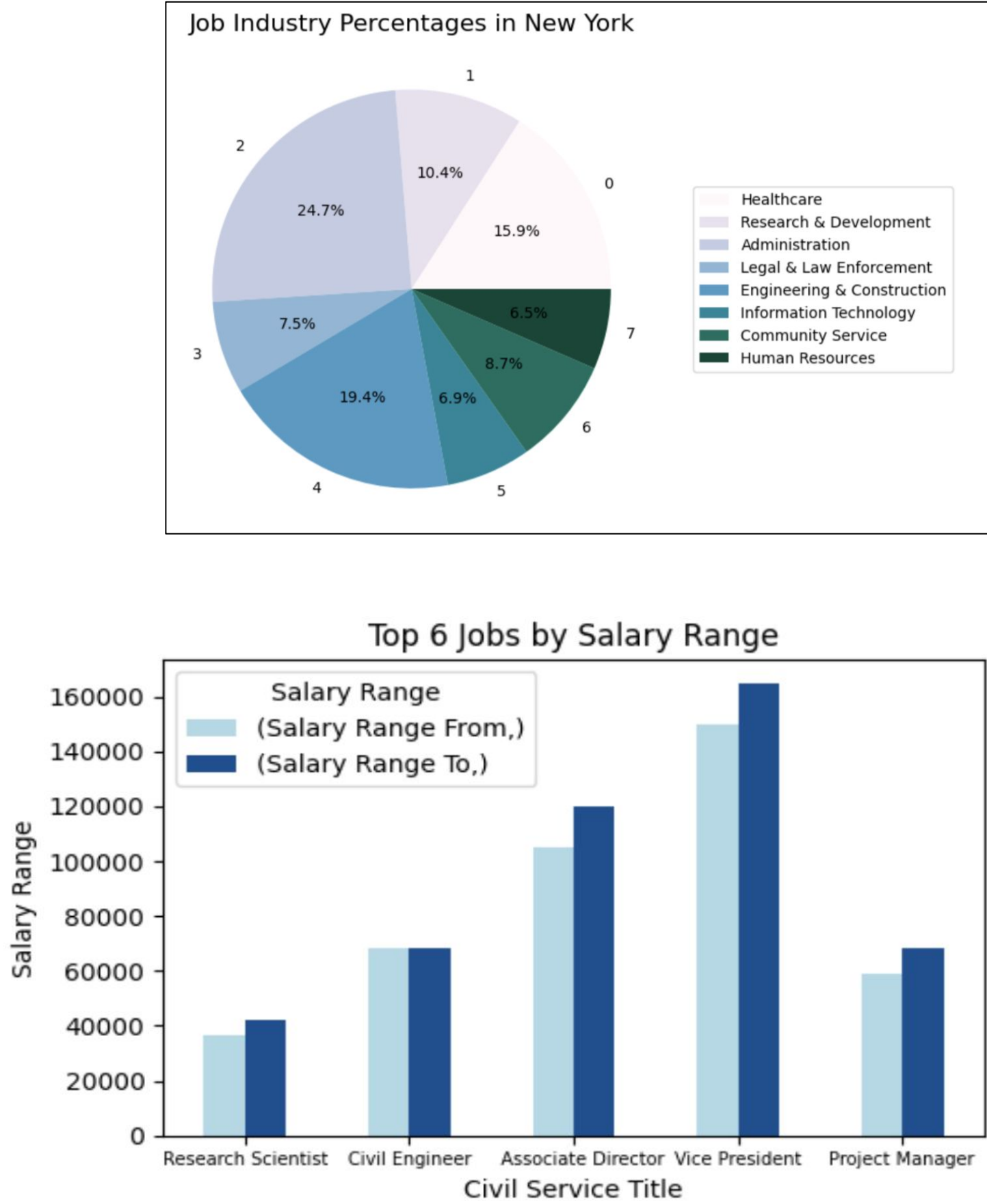


Fig 1. The top eight industries are displayed in the pie chart, with administration being the most common and human resources being the least common.

Fig 2. The highest paying jobs in New York are executive, engineering, and management positions, estimating to ~\$170,000 annually.

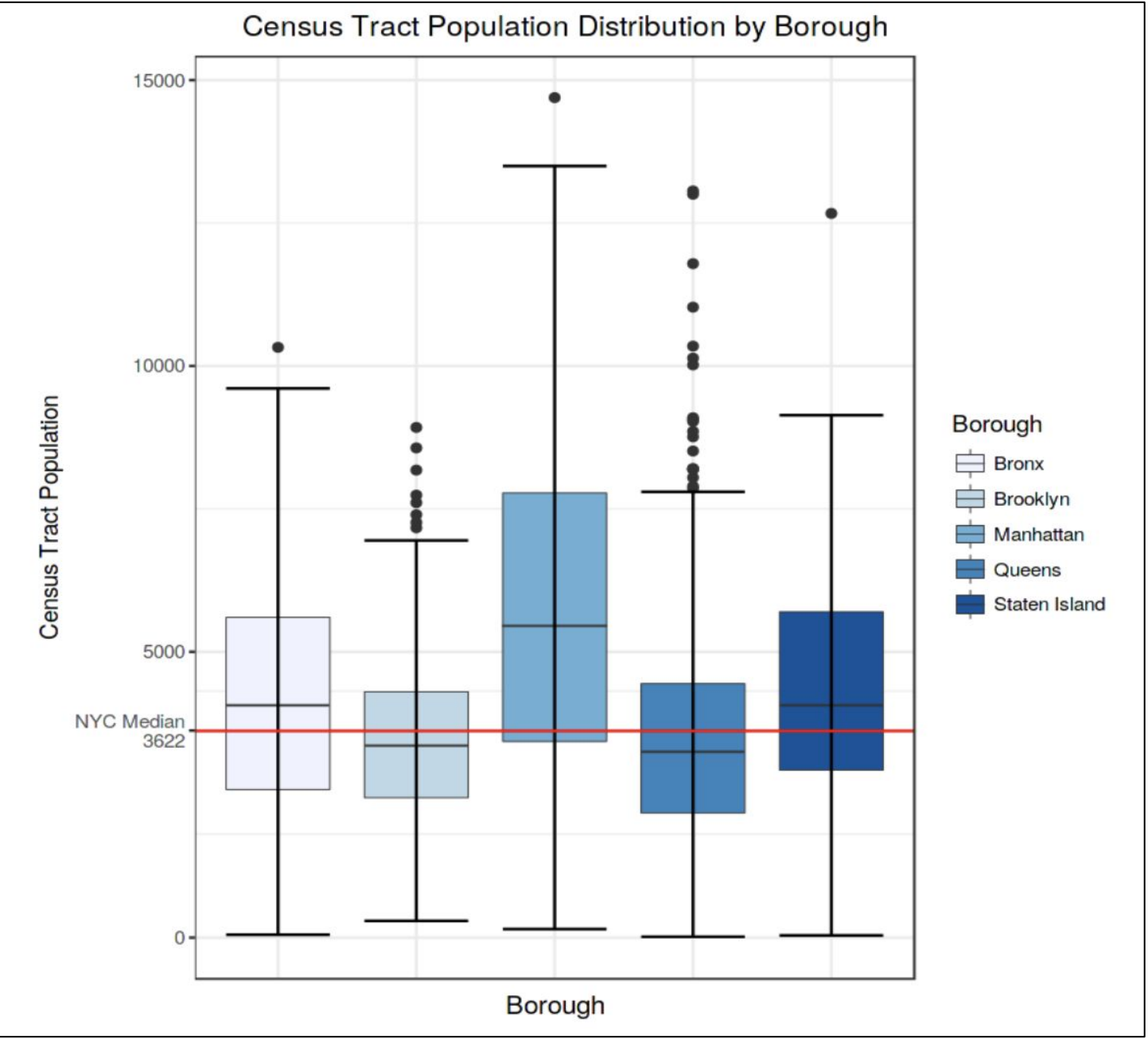


Fig 3. Manhattan has the highest median census tract population. Its deviation correlates to the population density, make statistical underrepresentation a possibility in the data.

Data Visualization and Analysis

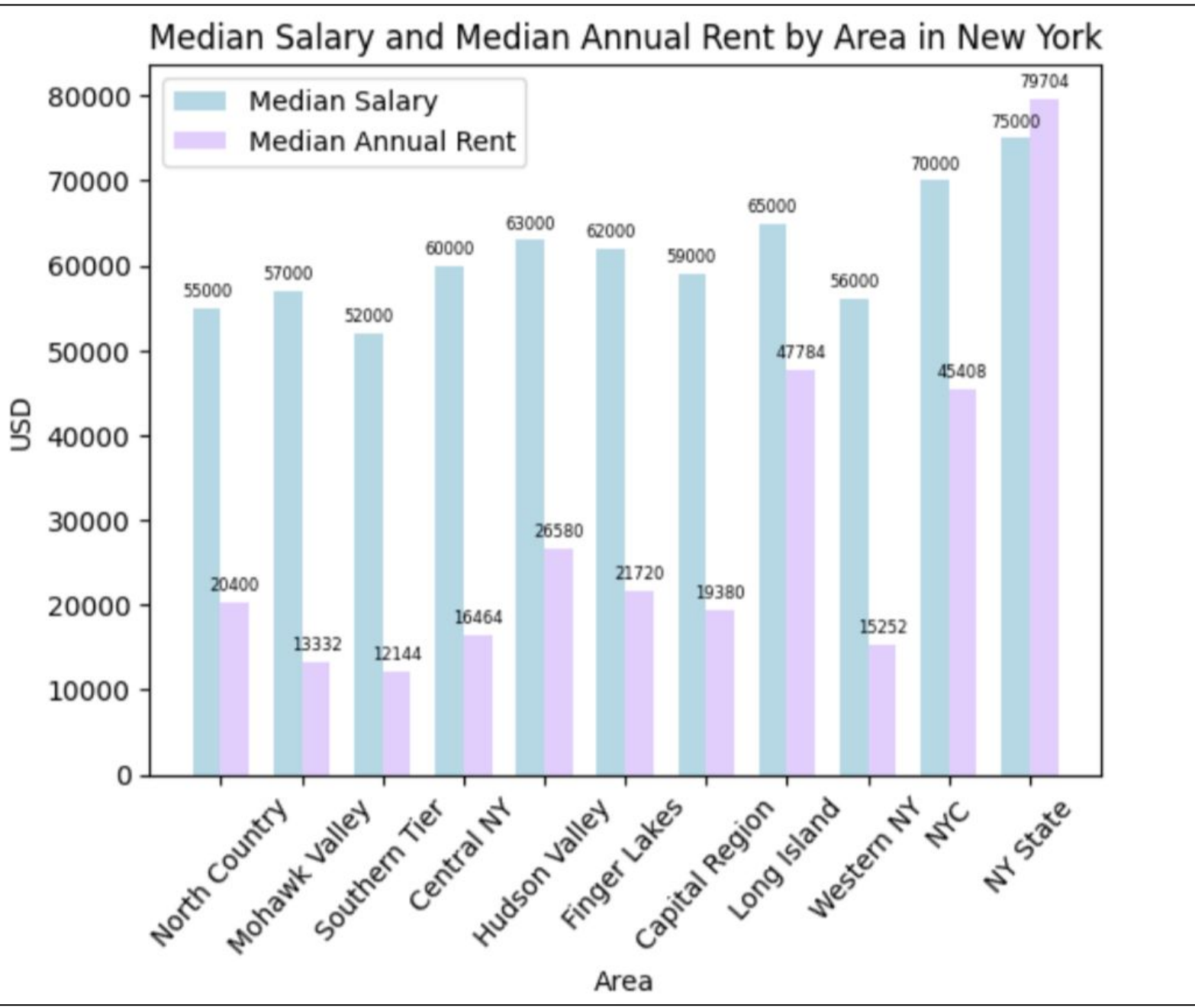


Fig 4. The median salary and annual rent range tremendously with some residential areas demanding a higher rent than anticipated earning.

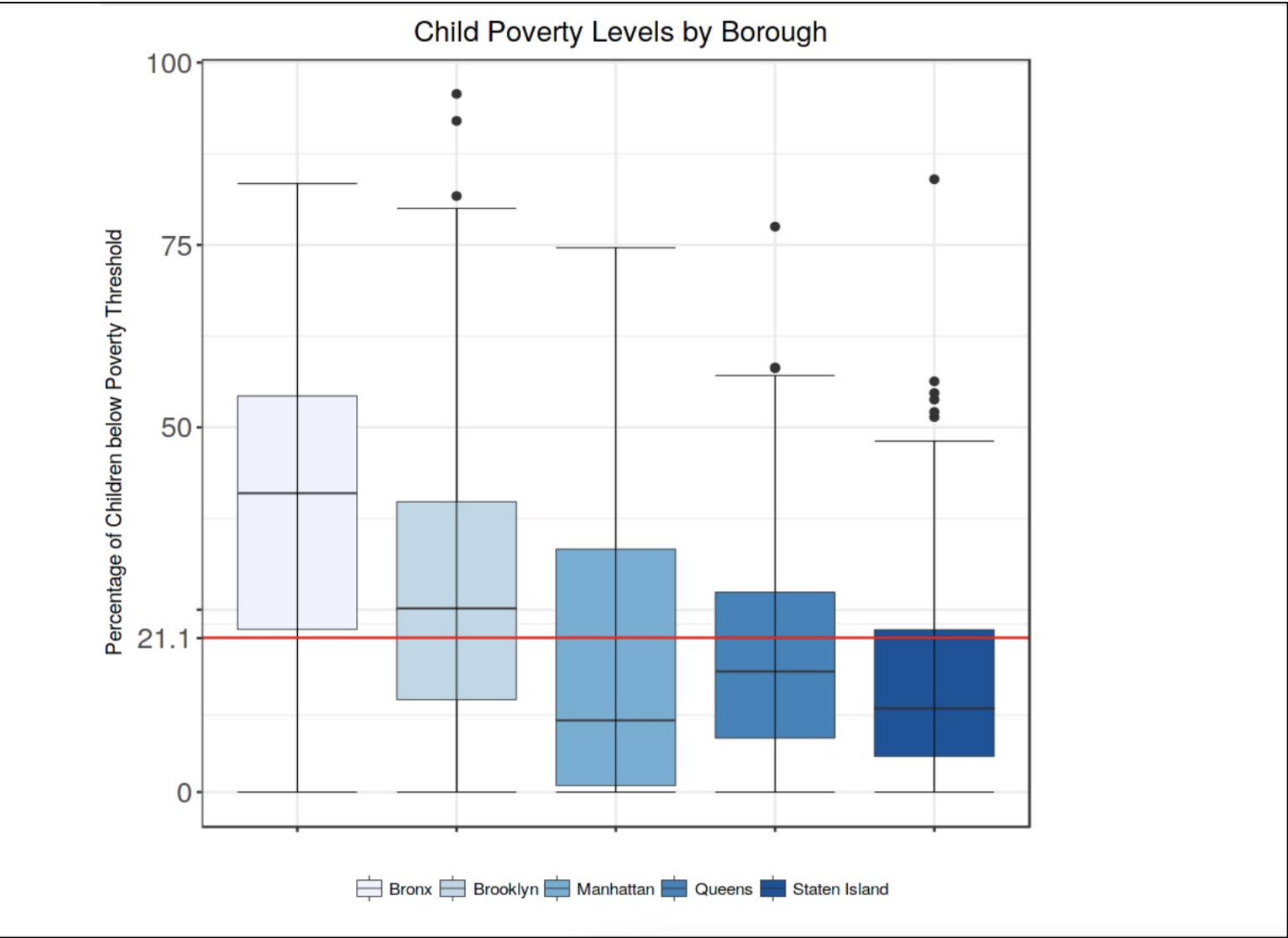


Fig 5. The boroughs are ordered in decreasing poverty with 21.1 as the median. Generally, the Bronx has the highest poverty levels while Staten Island has the lowest.

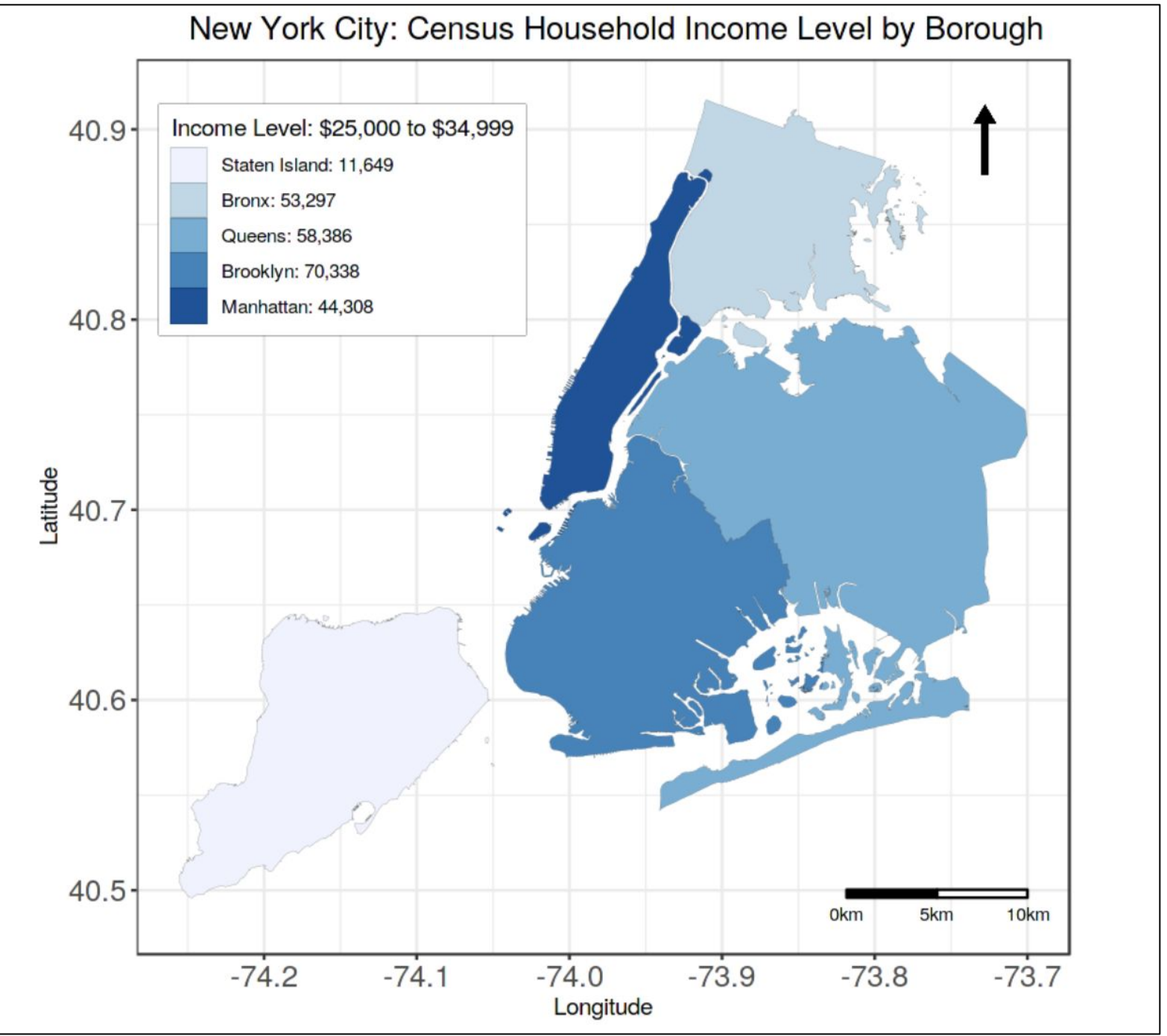


Fig 6. At the \$25,000 to \$34,999 income level, households in Brooklyn have the highest concentration of this income and Staten Island the lowest.

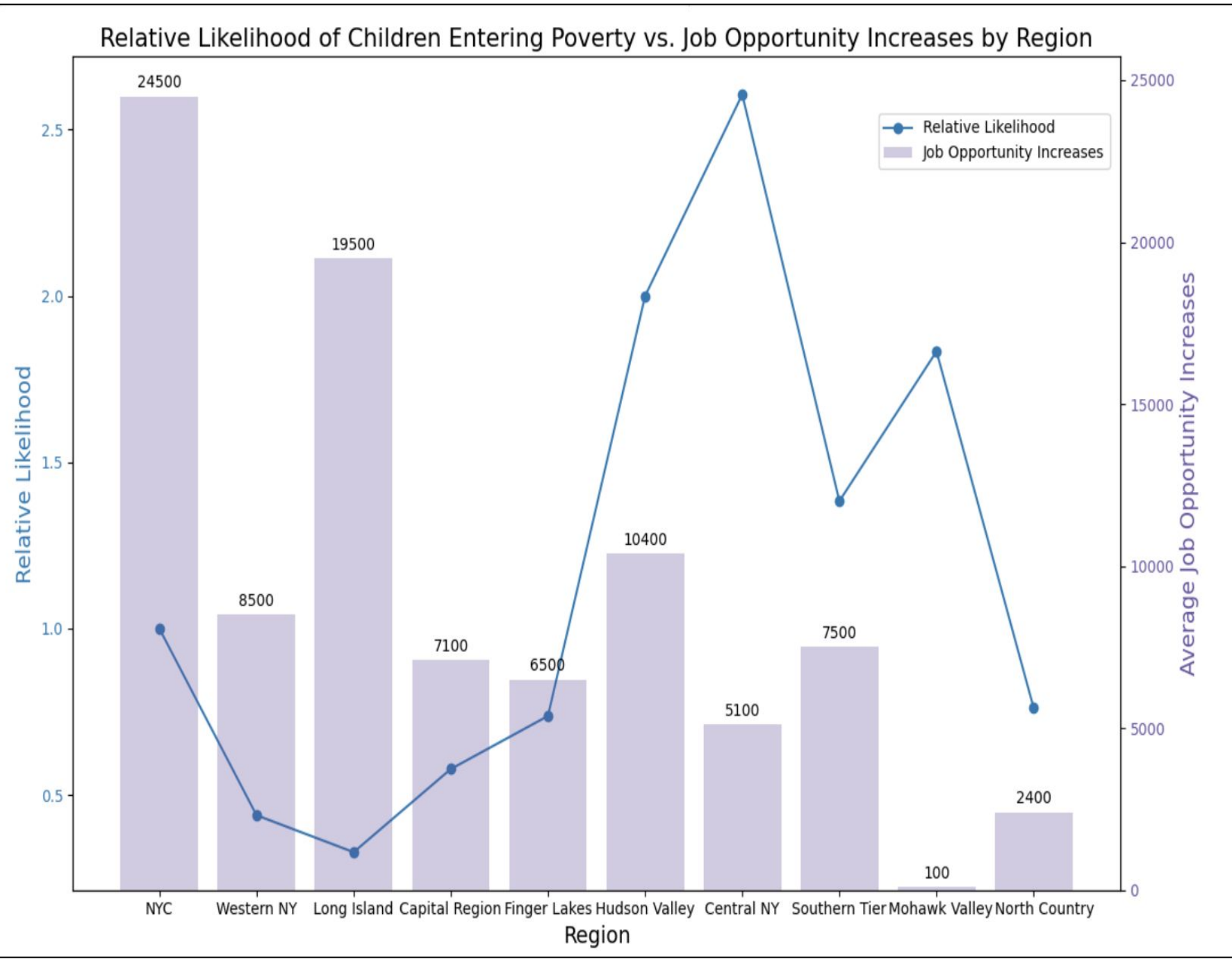


Fig 7. The likelihood of children earning at the federal poverty level given the job opportunity prospects of the region they reside in.

Future Applications

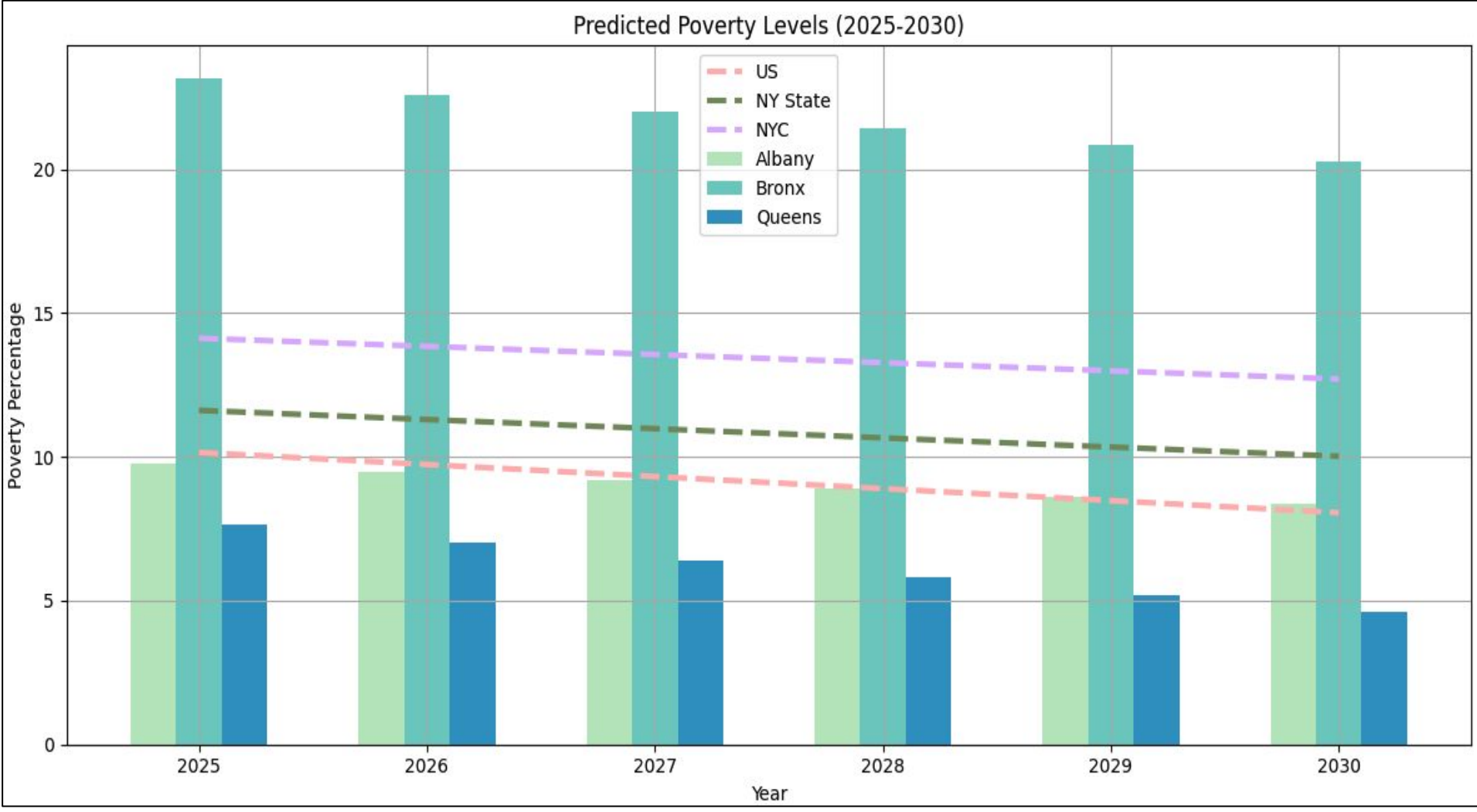


Fig 8. Predicted poverty levels for 2025-2030 across NYC, NY, and USA. Additional predictions are made for 3 cities within New York: Albany, Bronx, and Queens.

Areas for Improvement:

- Compare data from New York American Community Survey (ACS) in 1-year and 5-year estimates
- Explore poverty levels by ethnic demographic

Recommendations

- EARNED INCOME CHILD TAX CREDIT (EITC)**
 - **2023:** reduced severity of poverty for **16.5 million people**, including **6 million children**.
 - Annually lifts approximately 25% of children out of poverty.
- INCREASE NEED-BASED SCHOLARSHIPS for Private High Schools**
 - 60% of New York Public School students are low-income in comparison to 3% of private school students.
- TRANSPORTATION (Public & Government-Subsidized):**
 - Government: subsidize transportation costs for K-12 students
 - Community: offer carpools, rideshare programs, and/or volunteer-driven transportation services.
- EDUCATION TAX CREDIT:**
 - **2** in every **5** parents in New York have a college degree, but children are 67% more likely to be low-income if their parents only have a high school degree.

Conclusion

- 1) Factors perpetuating poverty include: unequal distribution of lucrative jobs and incomes within the same industry and access to educational resources across New York regions and NYC boroughs.
- 2) Transportation accessibility and scholarships will allow K-12 students to receive quality education outside their government assigned, zip code-based school.
- 3) Data visualization tools depict economic inequality effectively through revealing trends, popular regions, and outliers.

Final Statement:

Income inequality is shaped by regional and industry-sectoral differences. While children in low-income communities may lack the tools to enrich their educational opportunities, policymakers bear responsibility to equip parents with resources to maintain financial stability and foster a brighter future.