HW5

The distribution of subway stations in New York City is notably uneven. Brooklyn and the Bronx follow, but with significantly fewer stations. Staten Island and areas like southern Brooklyn and eastern Queens have much lower coverage, reflecting a reduced reliance on subway transport in these regions. These outer areas tend to be more car-dependent, and this disparity in public transport infrastructure results in longer travel times and less convenient access for residents, particularly those in more remote areas.

The spatial relationship between subway access and neighborhood demographics shows clear socioeconomic patterns. Areas within a 0.5 to 1-mile radius of subway stations typically have higher population densities and median household incomes, particularly in Manhattan and parts of Brooklyn. These areas tend to have smaller households, often composed of one or two people, and are generally wealthier. In contrast, areas farther from subway stations—such as the Bronx, eastern Queens, and southern Brooklyn—are characterized by larger, more family-oriented households. These areas, lacking adequate subway coverage, are primarily home to poorer and more racially diverse populations, where larger family households dominate. These communities experience longer commutes, fewer public transportation options, and greater reliance on buses, which tend to have less frequent service. The spatial pattern suggests a clear divide: areas with better subway access are wealthier, less diverse, and have smaller households, while transit deserts tend to be poorer, more diverse, and have larger families.

Housing is another variable that highlights the disparities between neighborhoods with and without subway access. In outer boroughs like the Bronx and Queens, where subway stations are scarce, households are often larger, indicating that more people share living spaces. These

areas tend to have lower housing affordability and availability, further compounding the issues related to public transit access.

This analysis points to significant issues of transit equity in NYC. The lack of subway coverage in transit deserts disproportionately affects minority communities and low-income households, limiting their access to employment, education, and other opportunities. These inequities suggest a need for targeted infrastructure investments in outer boroughs to improve public transportation and address the mobility challenges faced by disadvantaged populations.

However, this analysis has limitations. It focuses on subway access and does not fully account for other forms of public transport, such as buses, ferries, or cycling infrastructure, which might mitigate some of the transit issues in these areas. Moreover, the data used is static and may not reflect the evolving demographics or changes in transportation infrastructure over time. Despite these limitations, the study offers valuable insights into the relationship between public transit access and socioeconomic outcomes, highlighting the need for more equitable transportation policies in New York City.