

GEOG 171 Advanced GIS

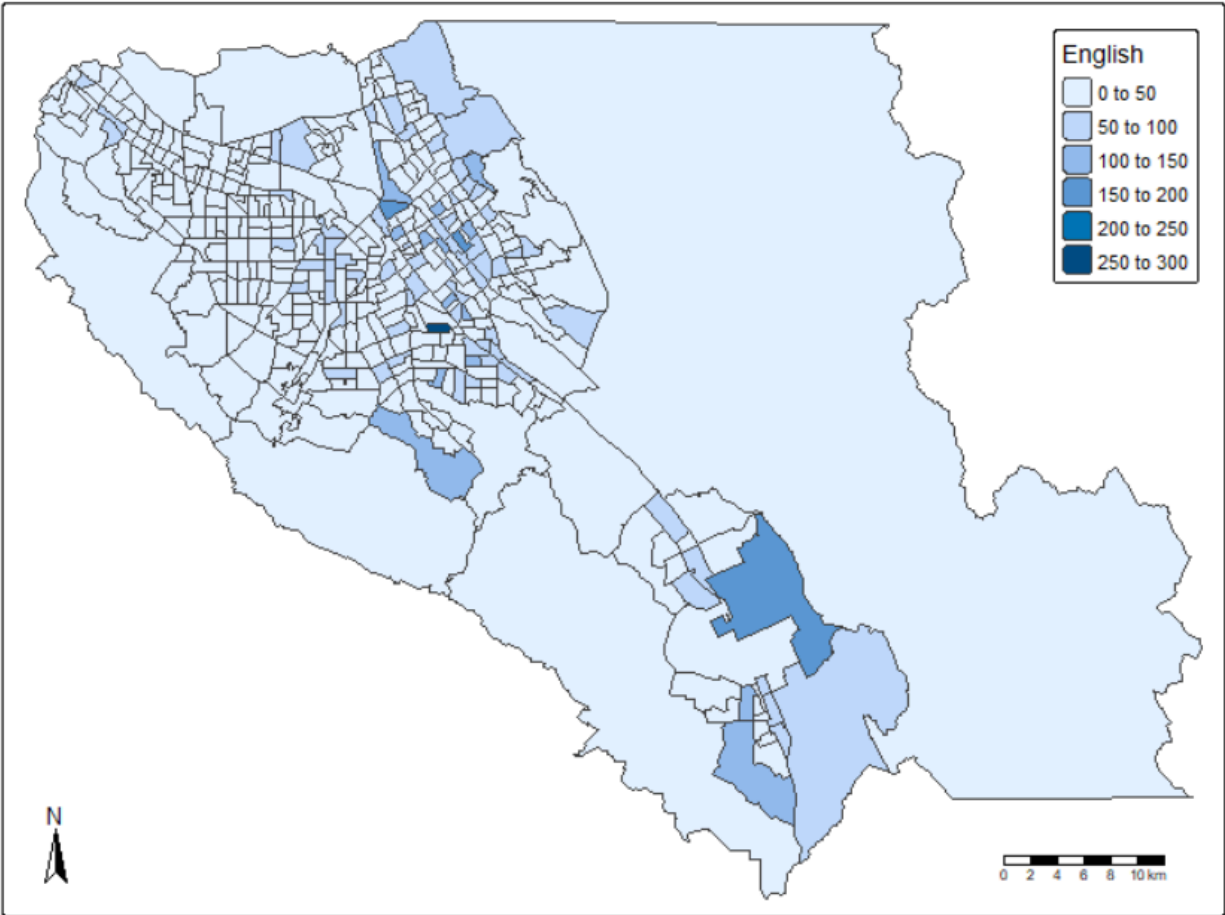
May 20 2025

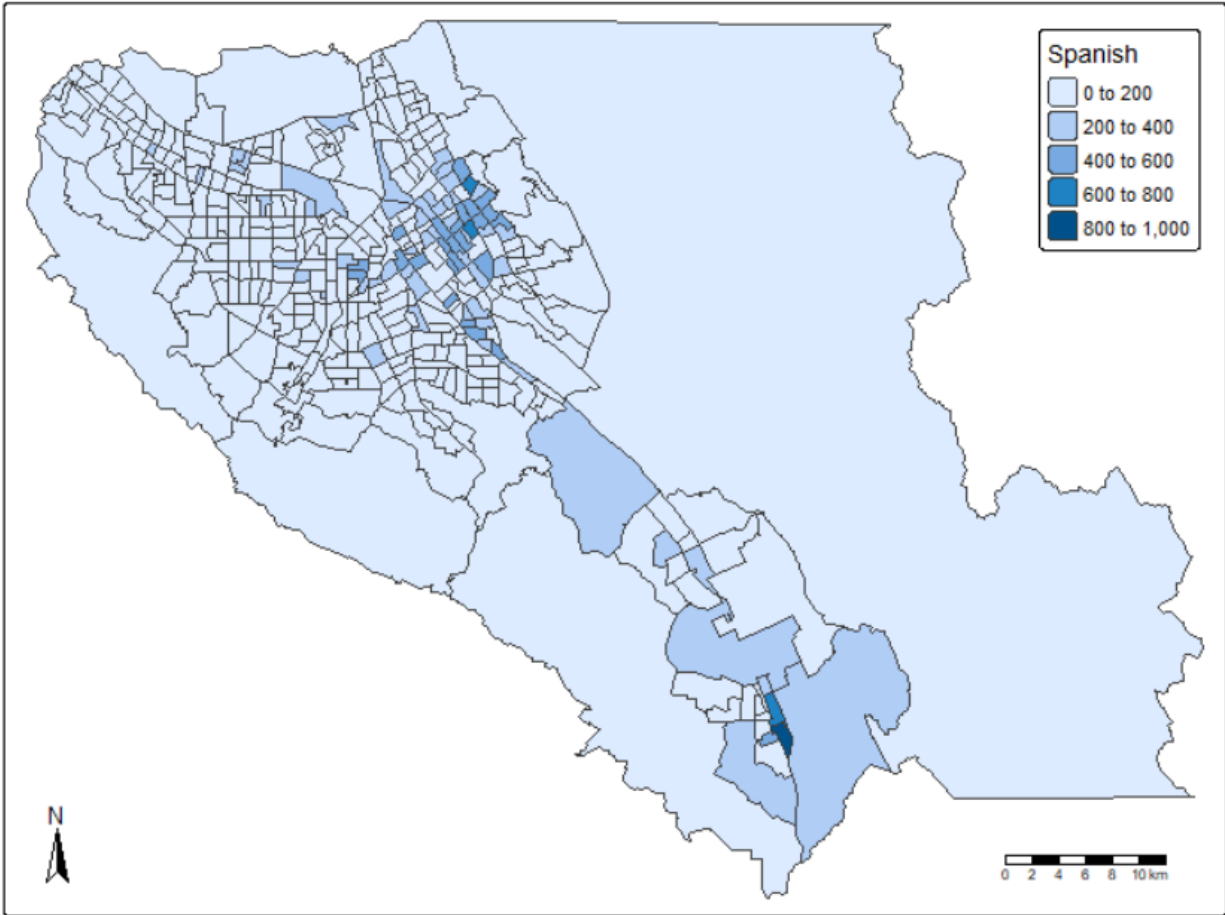
Raymond Ernenwein

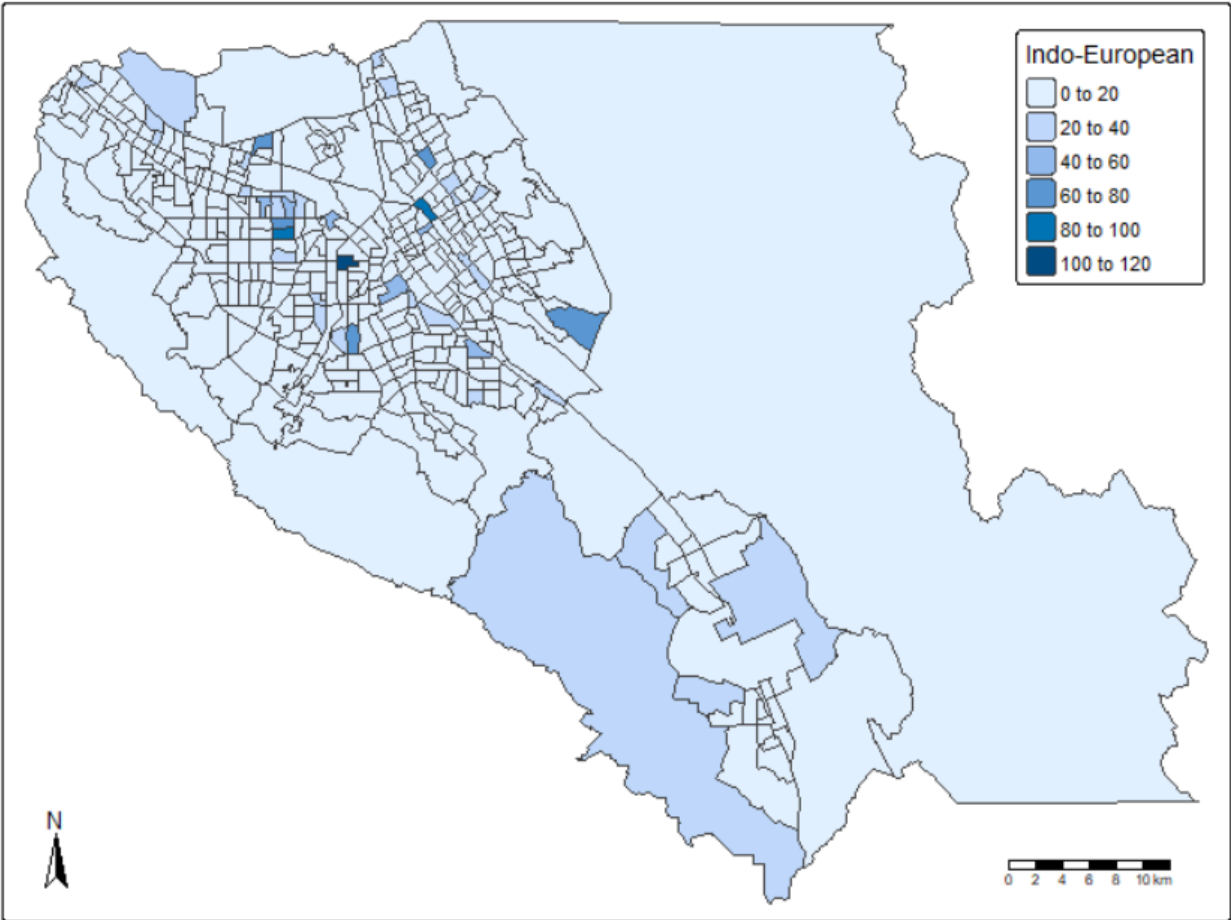
Educational Attainment by Language Spoken at Home in Santa Clara County

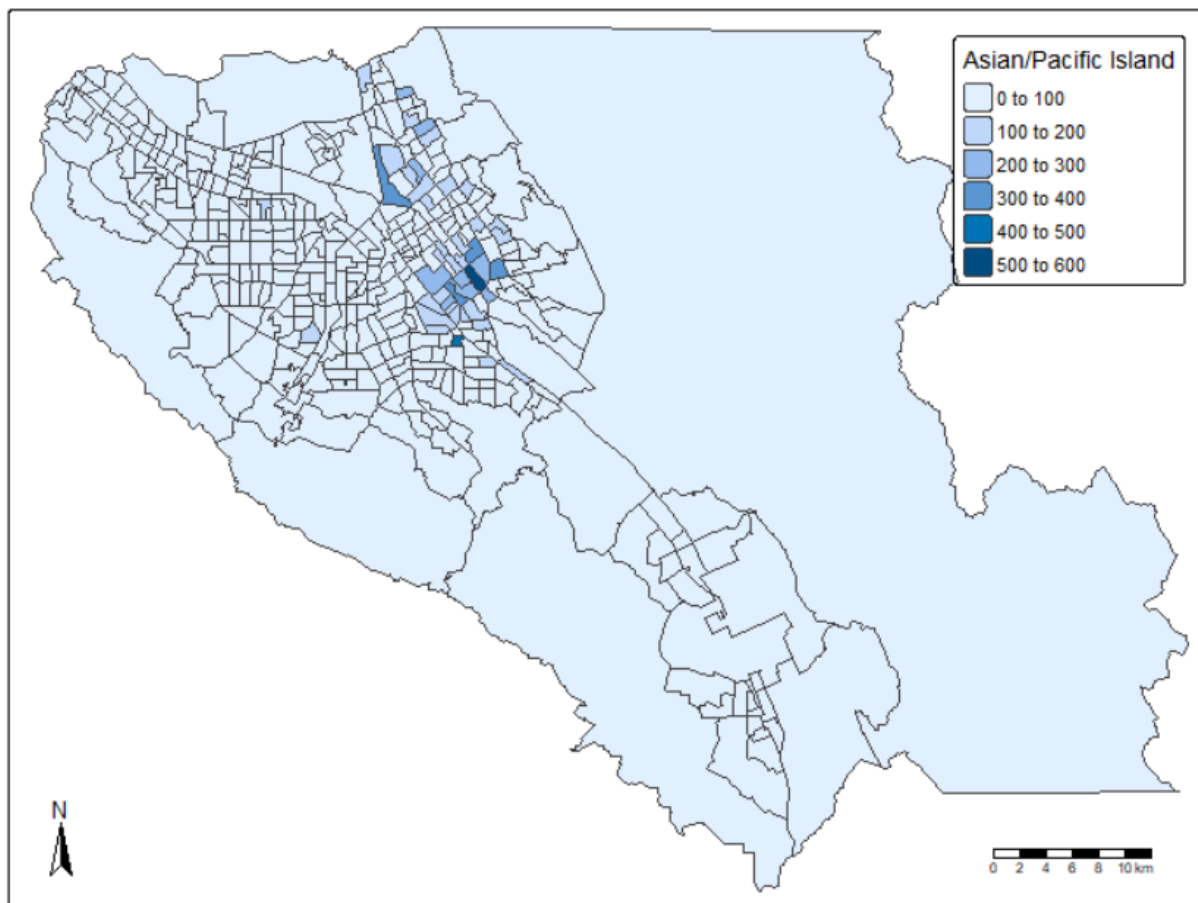
Raymond Ernenwein
GEOG 171

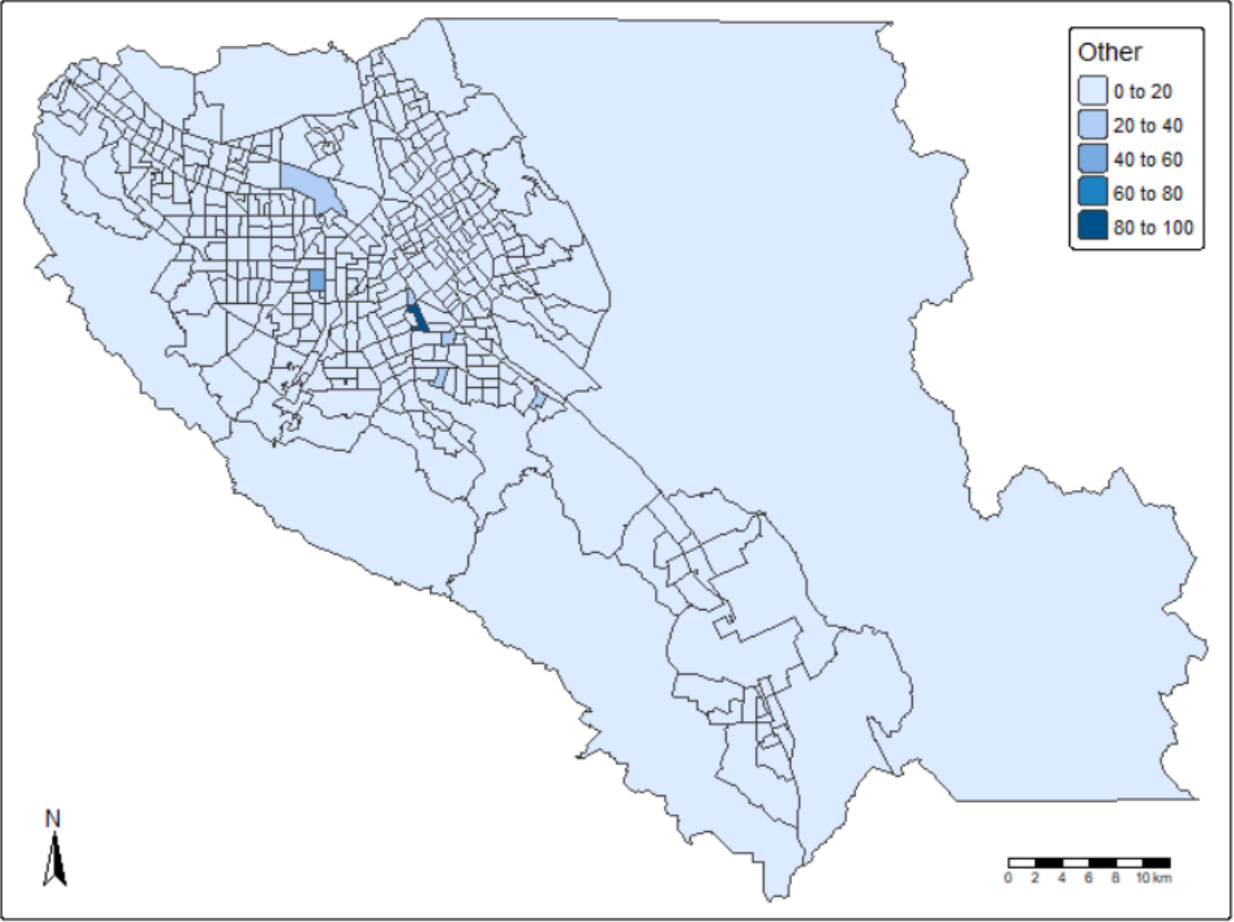
Less Than A High School Diploma



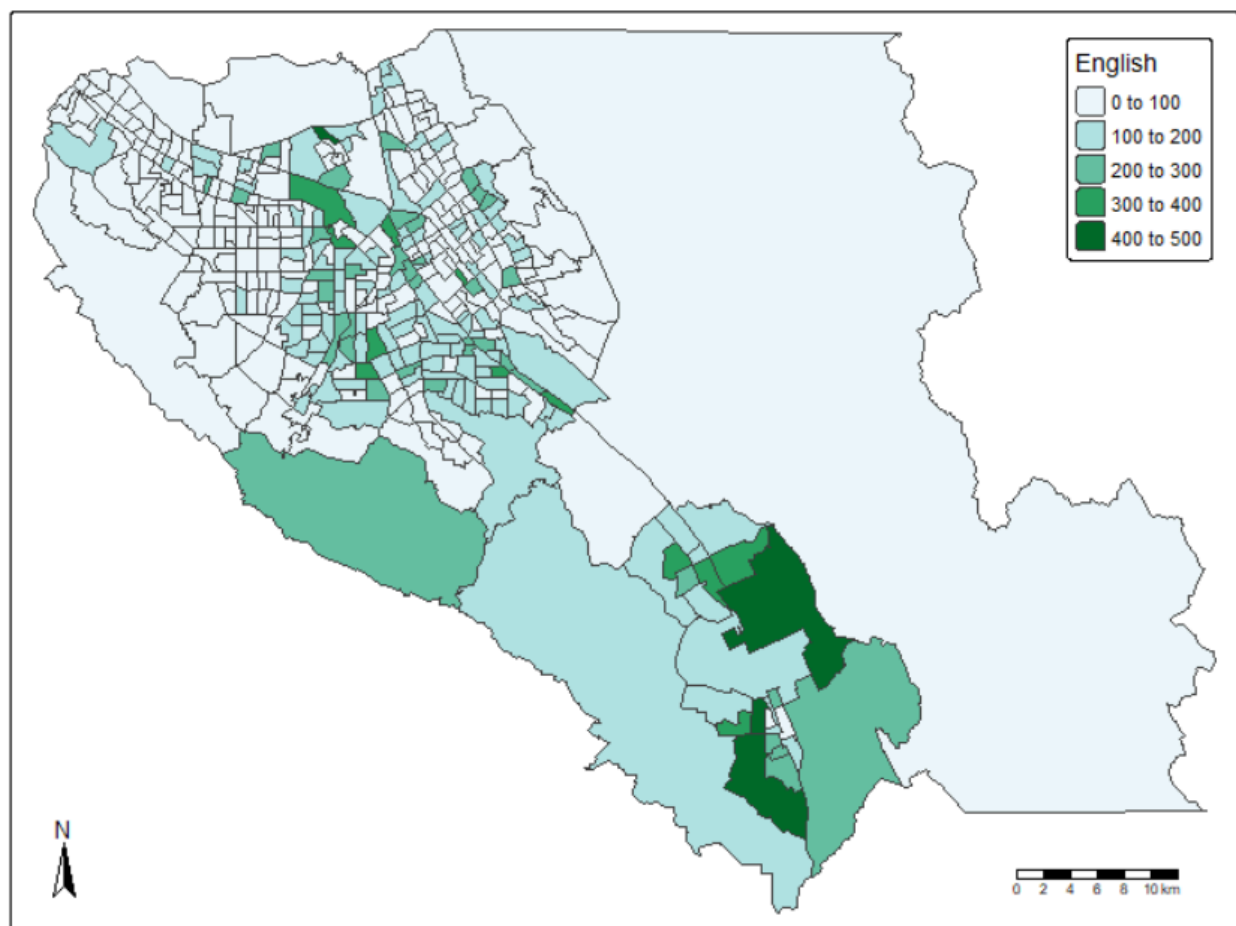


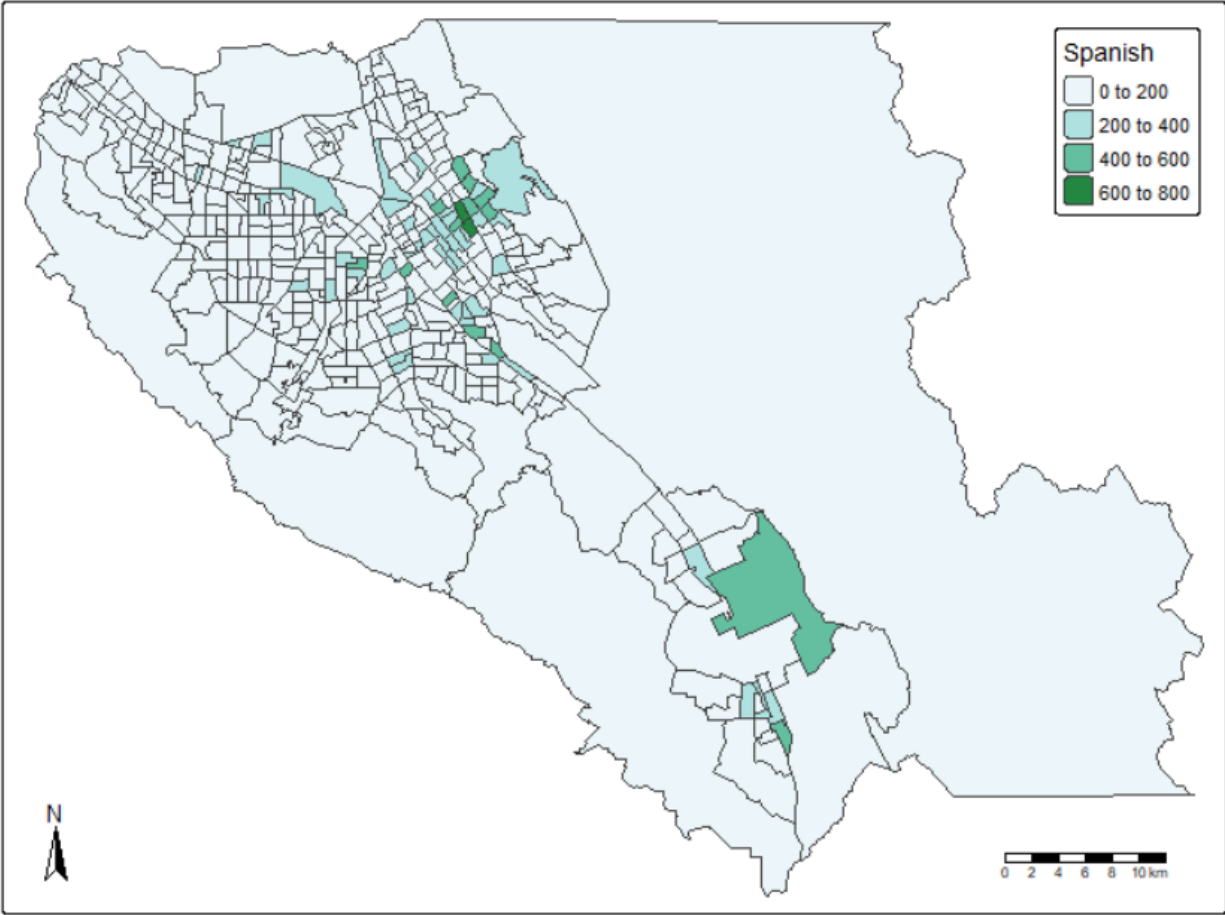


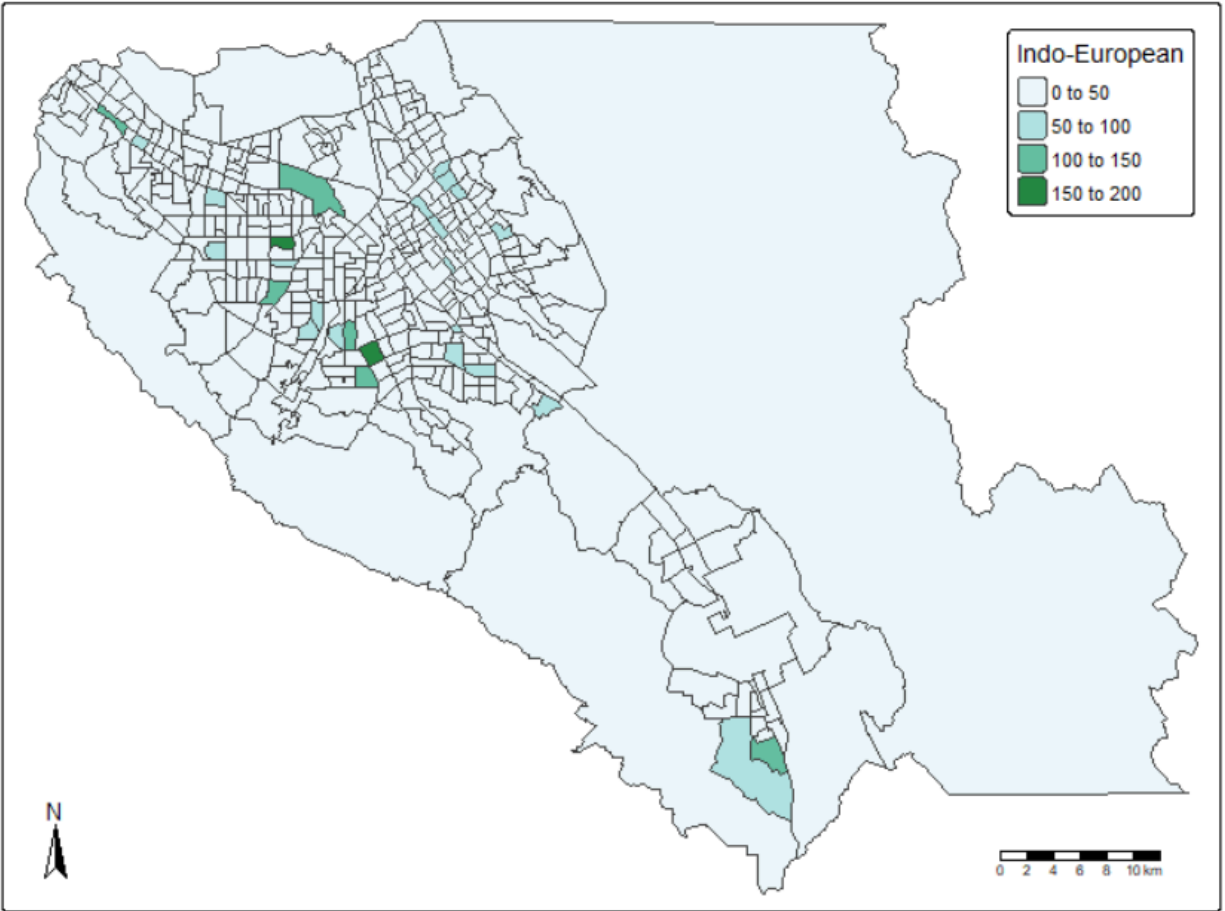


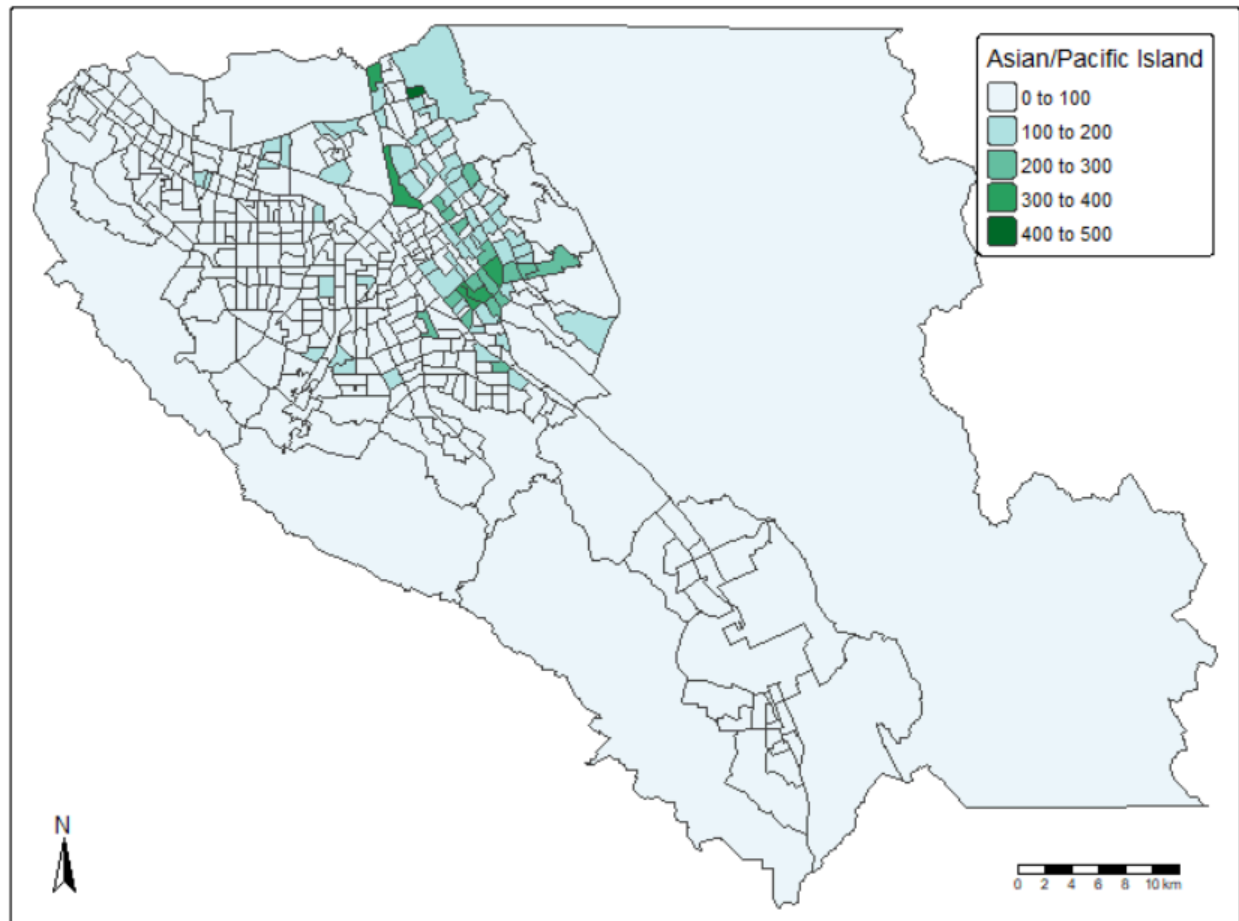


Having A High School Diploma

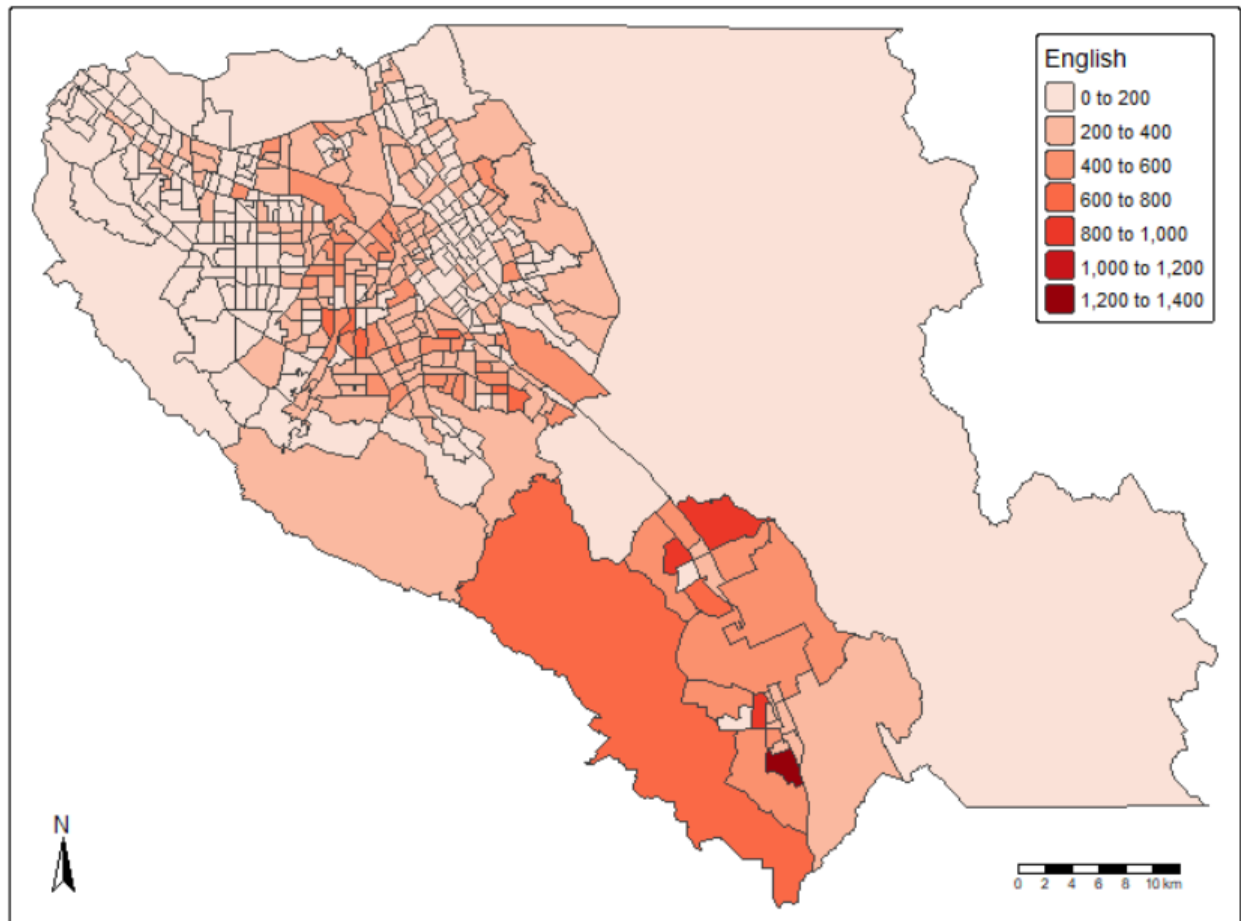


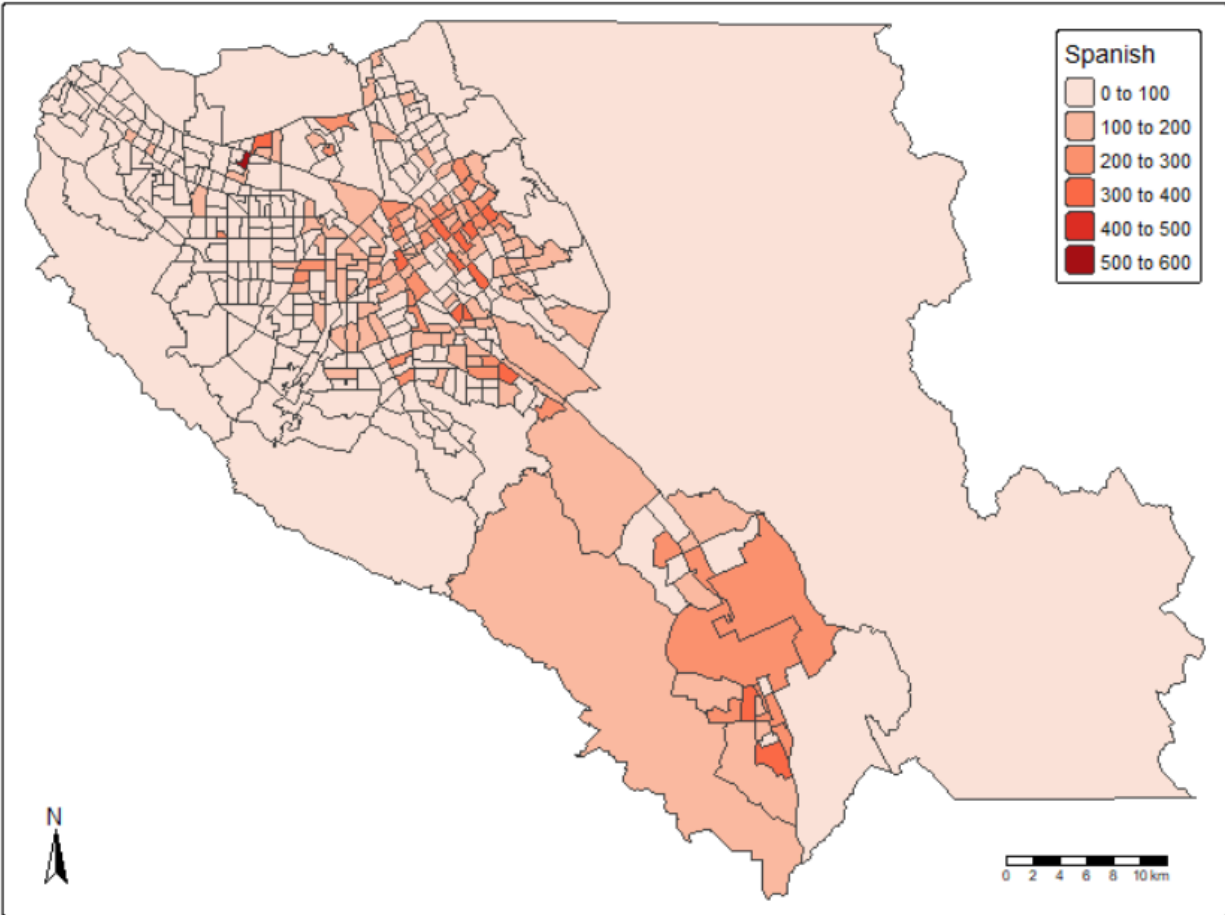


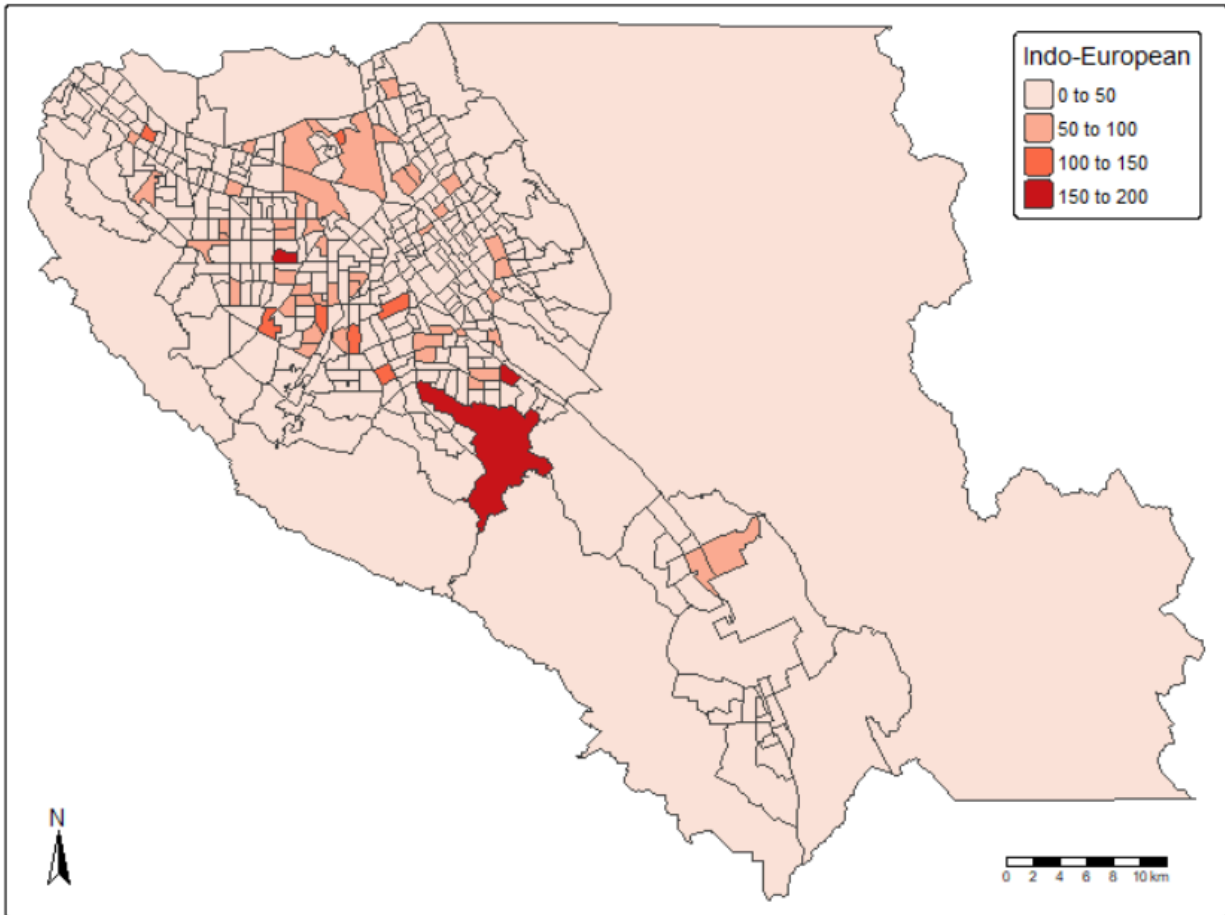


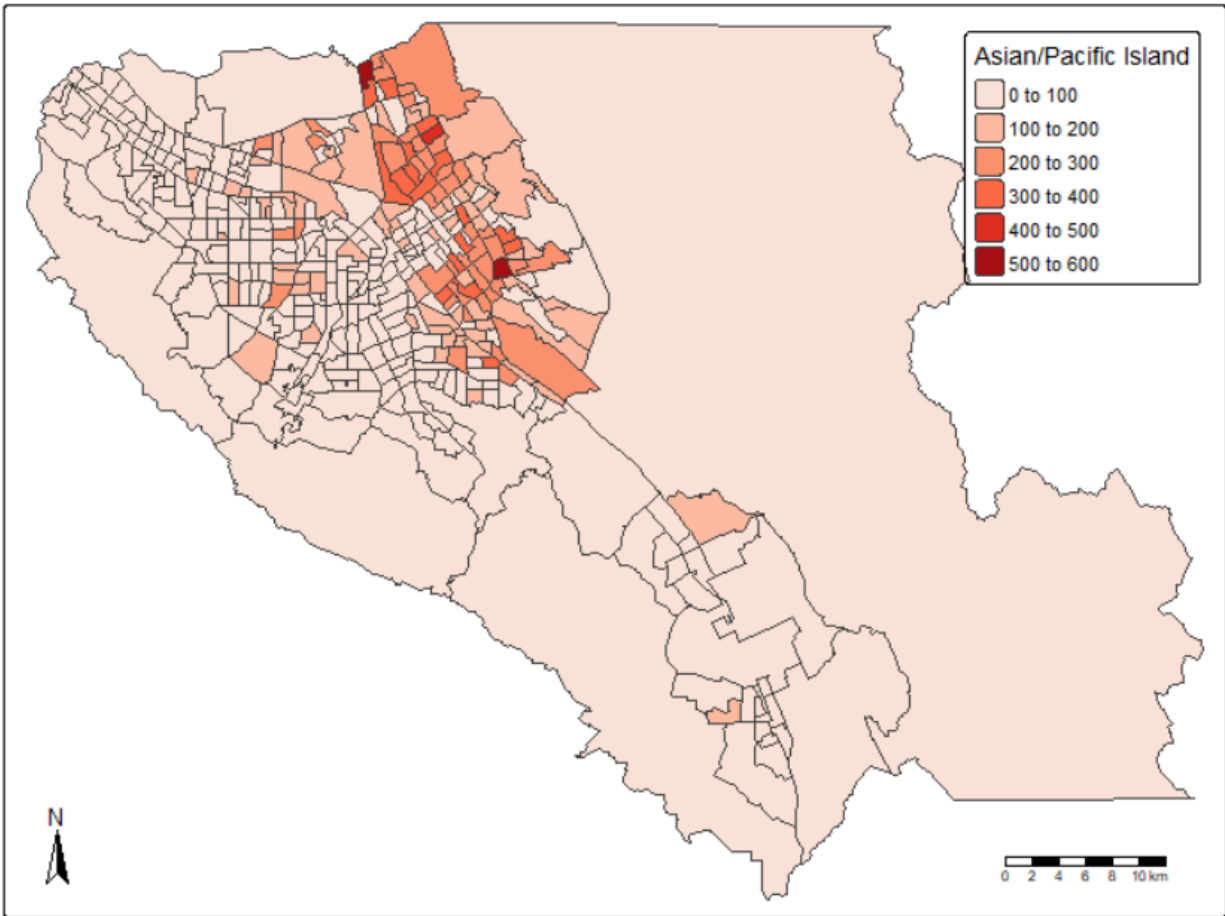


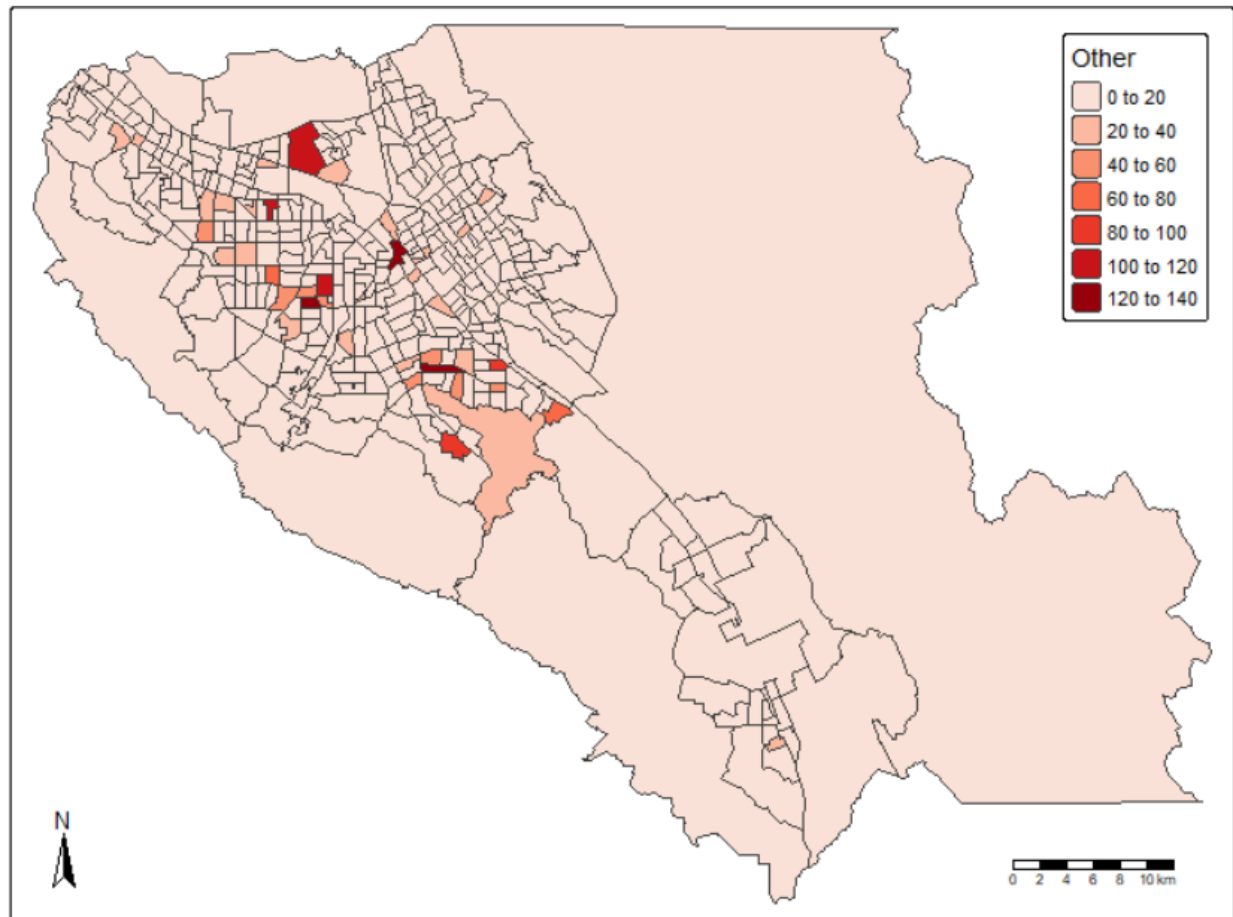
Having an Associates Degree



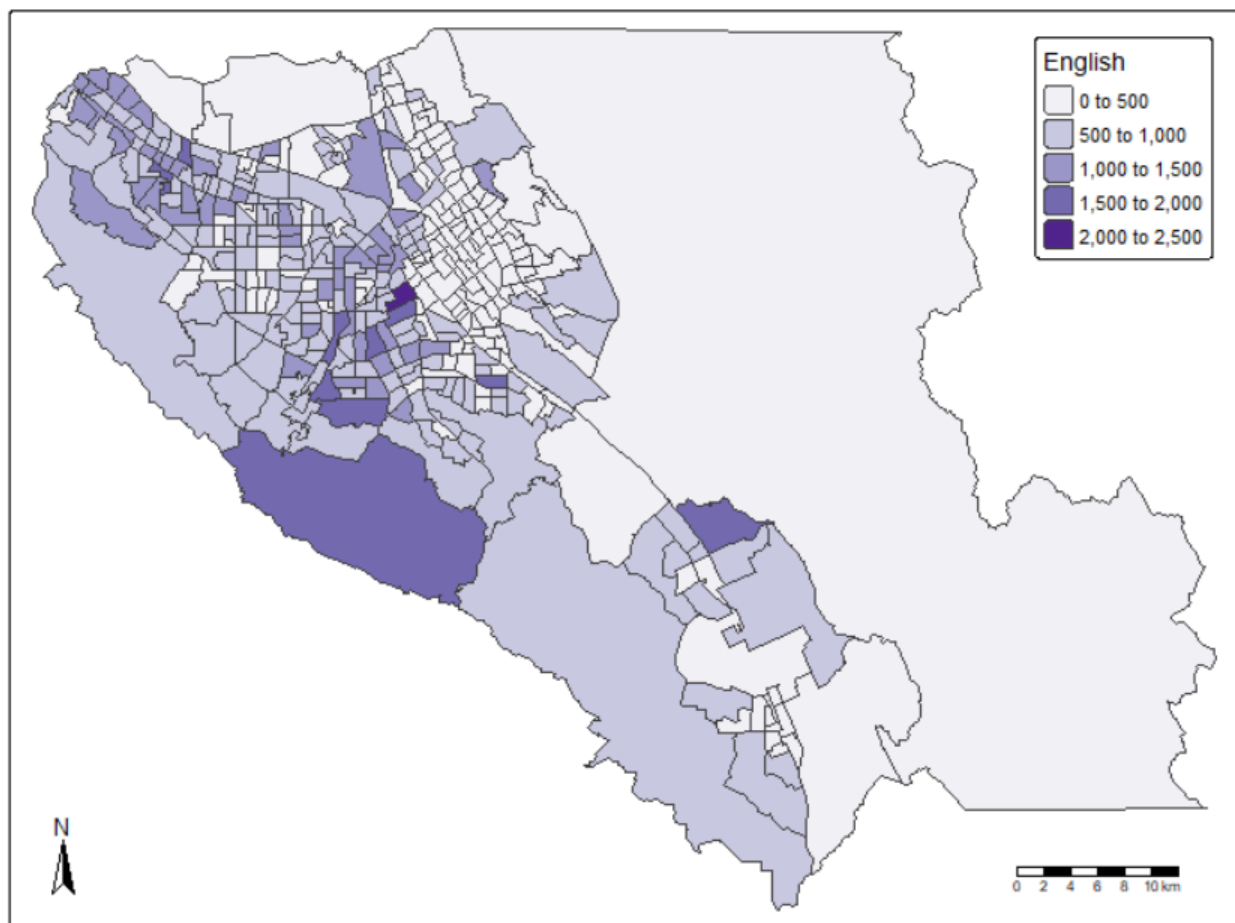


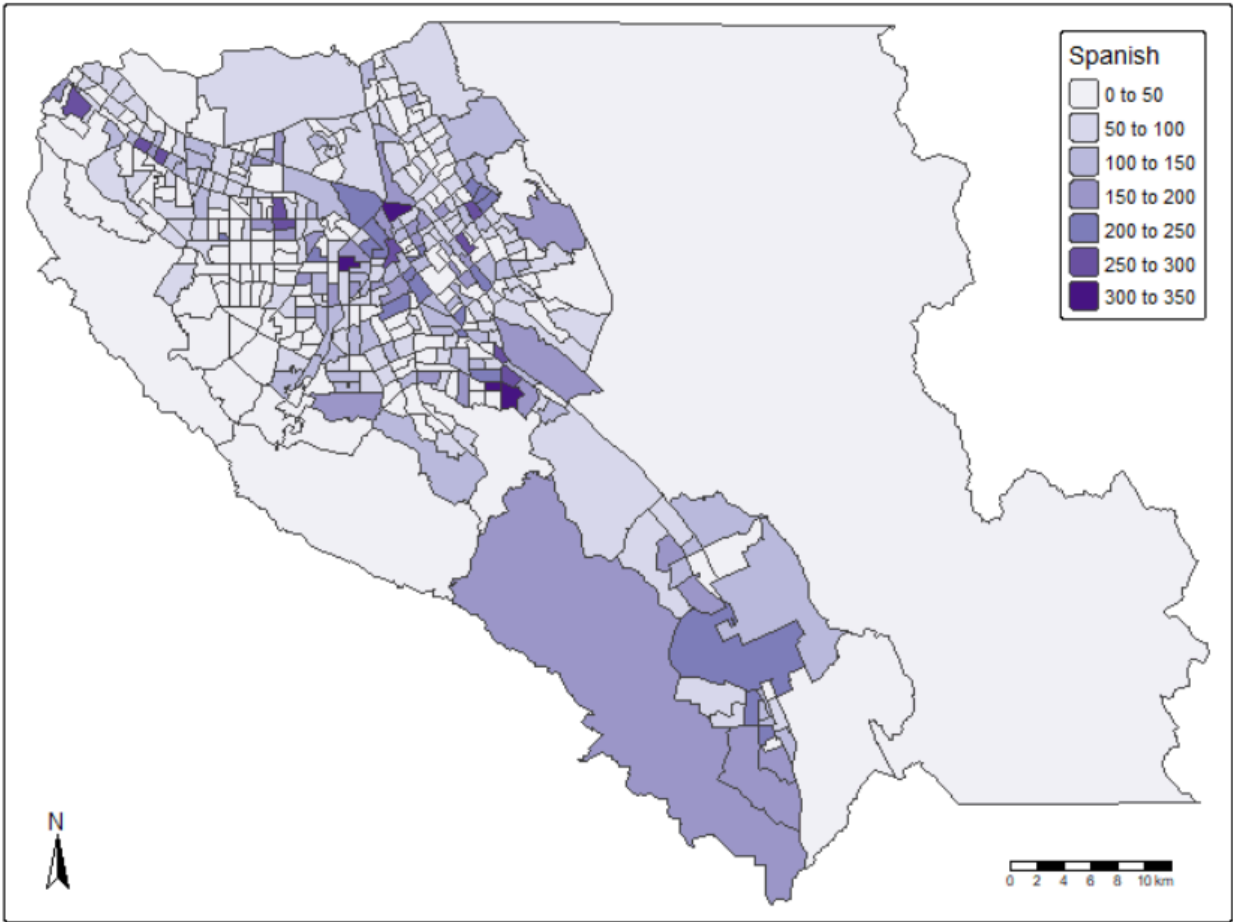


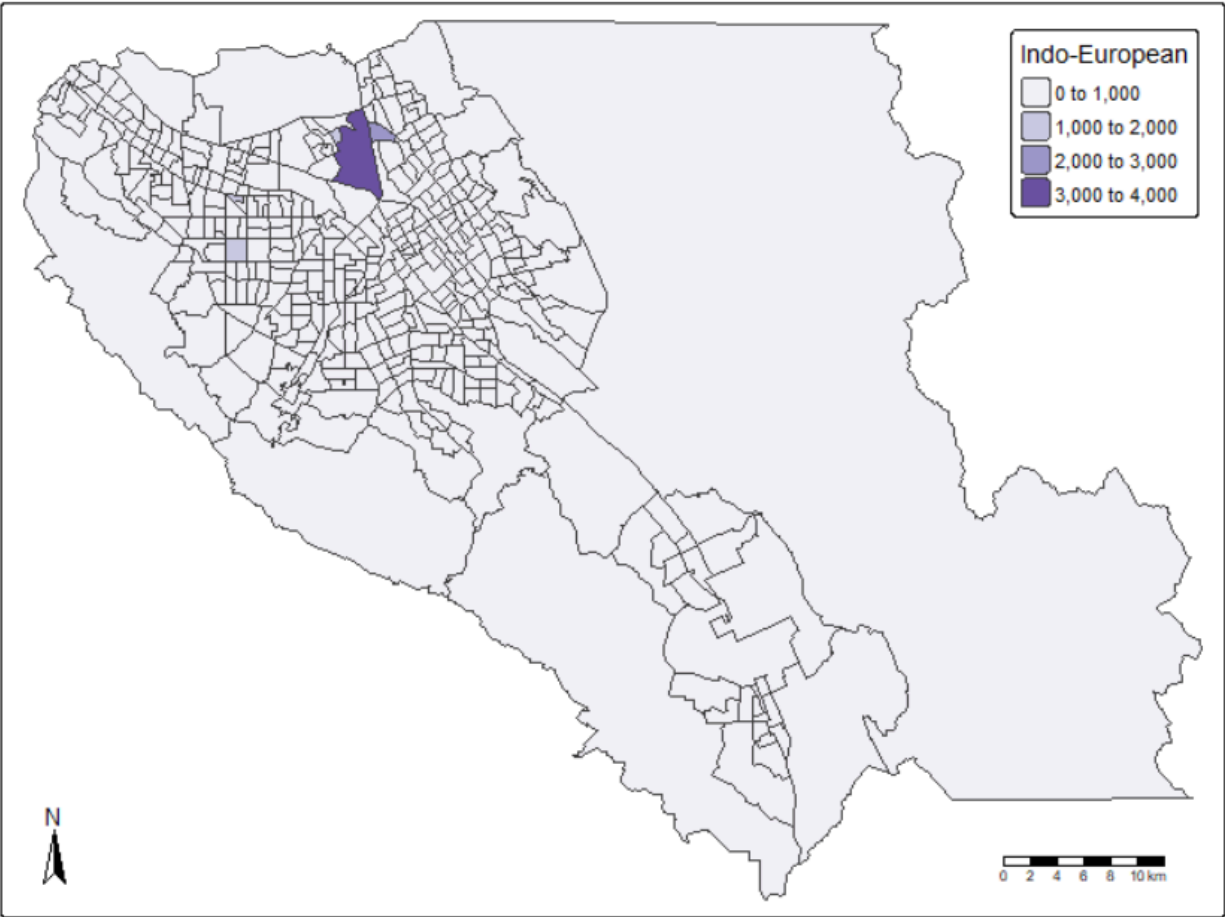


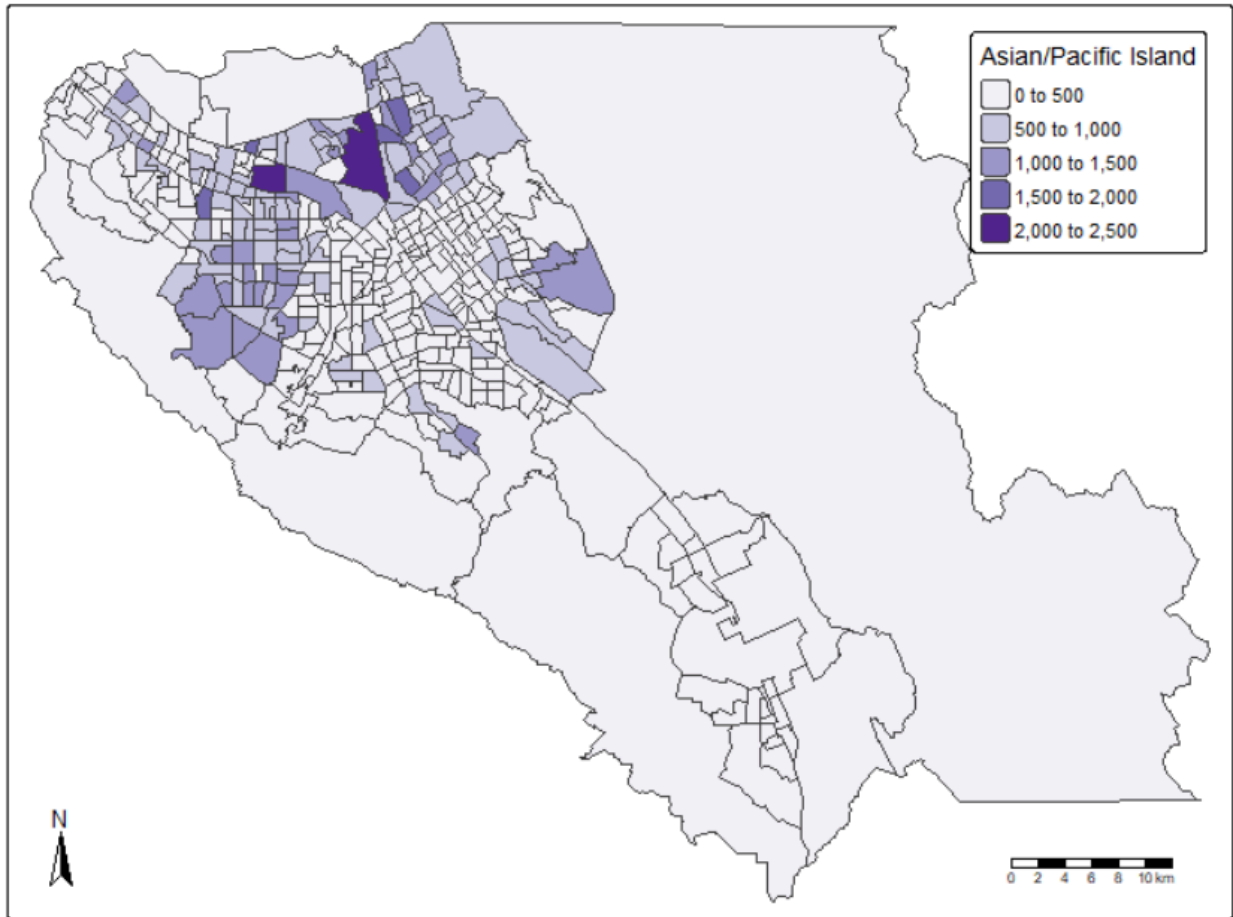


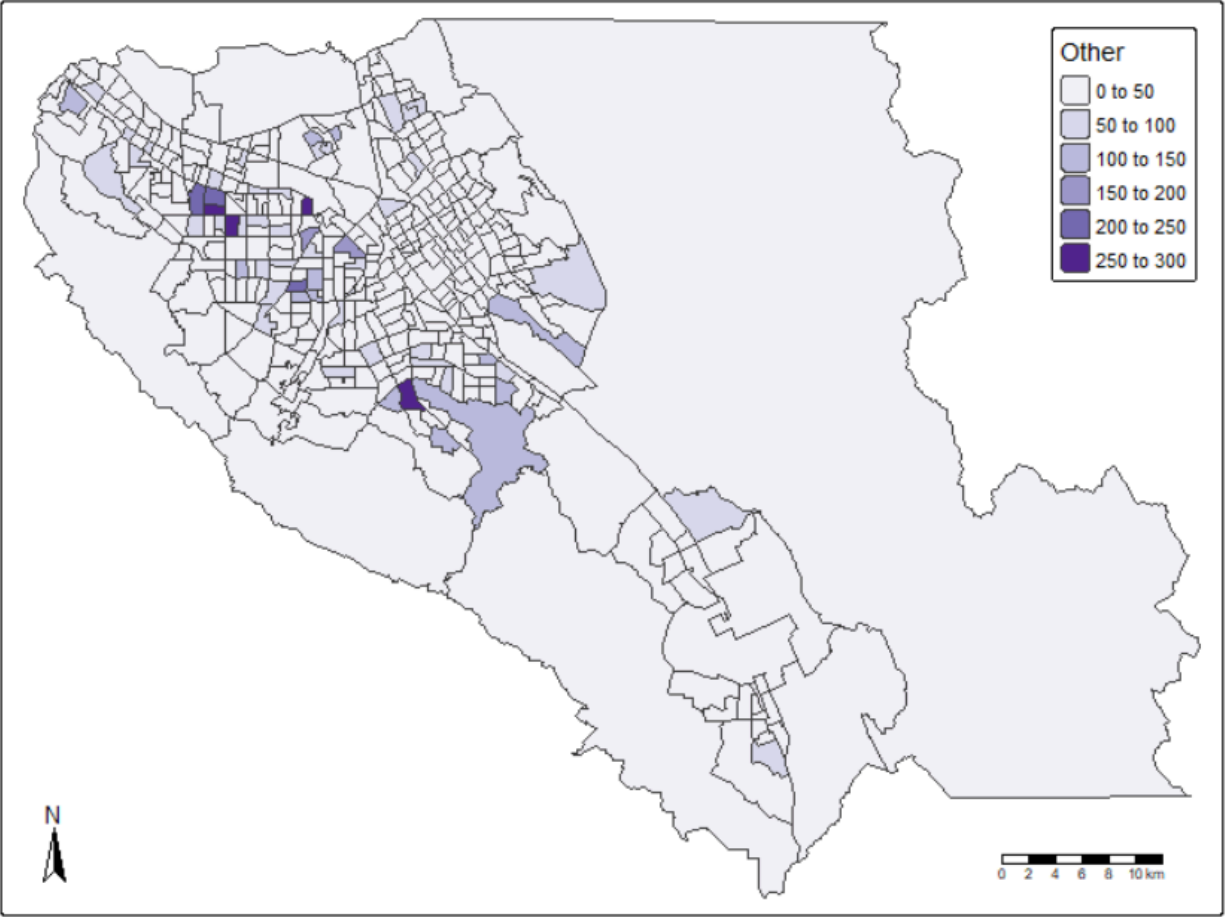
Having a Bachelor's Degree











Reflections, Conclusions

- ???
- Help me out here
- R Studio is cool!

Data Sources

- U.S. Census Bureau, U.S. Department of Commerce. (2023). Educational Attainment and Employment Status by Language Spoken at Home for the Population 25 Years and Over. American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B16010. Retrieved April 29, 2025, from [https://data.census.gov/table/ACSDT5Y2023.B16010?t=Educational+Attainment:Language+Spoken+at+Home&g=050XX00US06085\\$1400000&y=2023&d=ACS+5-Year+Estimates+Detailed+Tables](https://data.census.gov/table/ACSDT5Y2023.B16010?t=Educational+Attainment:Language+Spoken+at+Home&g=050XX00US06085$1400000&y=2023&d=ACS+5-Year+Estimates+Detailed+Tables).

My end of semester project was unison of my two fields of study that I am pursuing in college, being a major in Communications and a minor in GIS. In the previous GIS class that I took, I looked at language spoken at home across Santa Clara County and what areas expressed a

higher population of each. Building off of that, I took it a step further by comparing it against the population of people that speak a certain language at home and their different levels of education. As I have gone through my career of learning about GIS and general cultural and physical geography, my favorite parts have been the moments where enough data gets shown to paint just enough of a picture, but still allows one to think critically about what the data could mean in other contexts. I tried to do that with this project and I think it came out very well. To start, There are not that many people shown in the county that have less than a high school diploma, except for one group of languages. This area is known as being one of the most expensive in the country and it is exceedingly rare to be able to live here without a baseline level of education. Furthermore, the census did not include those that are under the age of 25 (I agree with this choice as it would definitely skew the data towards people with a high school diploma and lower). The only language group that had a large number of people without a high school diploma was Spanish, reaching a range of 800-1000 in certain tracts. The next group was people with a high school diploma, and Spanish speakers continue to have the largest range of people represented in the legend of the map. Other languages may have a larger total population, but Spanish has certain tracts with the most people in them. As for people with Associate's degrees, this is where people speaking English at home get the largest range of people, with the most populated tracts being in the south of the county near Gilroy. Asian/Pacific Island languages and Indo-European languages are also making their presence known in this data set as well, with certain tracts in the northeast near Milpitas and Almaden being the most populated respectively. The population data gets completely flipped for the number of people with Bachelor's Degrees, however, with English being the third highest range, behind Asian/Pacific Island languages at second and Indo-European languages at first. This information passes the smell test, where there

are a large number of tech companies that employ a lot of people from regions of the world that speak those languages primarily, and they are all located in tech company hotspots in North San Jose and Sunnyvale. From this data, I learned that there are well educated people all across the county that are working to give themselves and their families a good life, but it also left me wondering what the city/county/state/country was doing for them. I take the light rail to and from campus, and a lot of the signage, electric notification boards, and speakers do not communicate information in the languages that so much of the city speaks, and when the signs do have the information in multiple languages, they are never congruent with each other. For example, I saw a sign outside the light rail that had some information in English, Spanish, and Mandarin. But, inside the light rail, the stop information was in English, Spanish, one of the languages from the Indian subcontinent, and Korean. This was really confusing to me and makes me wonder why certain languages are represented in some places and left out in others. I think the city could do a better job at properly presenting relevant information in at least the same languages from one area to another, and then maybe expand it to include the notable minority languages across the city.