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**[(Un)Stable Communities in
Pierce County from 1980-2010]**

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Introduction

This study will focus on theories related to socio economic status. Theories include Stable Communities and their relationship to socio-economic status. This study will be defining “stable” communities using median incomes, high school dropout rates, home ownership rates, and unemployment status as the variables. Stability in Pierce County has been a question to me for a long time, seeing how the different areas have changed over time and what really contributed to that movement is my initial question. It is believed that in order to understand stable communities, one must turn to previous studies. Drawing on the literature about stability, I demonstrate in this study how and why communities have become stable from 1980 to 2010. Based off of the literature review, this study I will propose ways to convey what stability has been known among other researchers.

Background of Project

Known among other researchers, this study will convey what stability is based off the literature review. From the article, “Relationship of Economic Stability to Social and Economic Rights” by Thomas Chamberlain, he is arguing that if we want to improve our socio-economic rights, we must first focus on the stability of socio-economics in our communities. What this means is that we need to analyze the global economic system to verify that it is unstable, and from the article the answer is yes by evidence and analysis. Chamberlain gives two conditions that must be satisfied in order to achieve/maintain stability, stating, “(1) an overarching communal or unifying influence or dominance; and (2) a substantive understanding and knowledge of economic-behavior to properly define and preserve our new/refined institutions and policies” (Chamberlain, p. 3)” not by just identifying the theory behind finding out what it is. The author goes down to the foundation of neoclassical understanding of economic behavior in order to know how our institutions and policies affect our society. We must understand how the institutions affect society, and how as we a society helps each other instead of being individualistic (Chamberlain, p. 5).

Drawing from “Neighborhoods and Urban Development,” Anthony Downs focuses on neighborhoods and how urban growth changes in neighborhoods overtime. Because of sprawl in the 1970’s it intensified the United States in the revitalization of neighborhoods. The aim of this

book is to give advice to future decision planners on how to relate to different neighborhoods through urban policies in order to be effective.

Throughout the book “Community Planning: How to Solve Urban and Environmental Problems,” Stefanie Kelly discusses different methods on how to combat suburban sprawl and creating a managed community through preservation. Because of the different natures of planning, the NIMBY (Not in my Backyard) syndrome takes place in communities. “The NIMBY (not in my backyard) syndrome affects more and more residents, and they are fighting development such as multifamily housing, landfills, and jails near the property (Kelly, p.57).” The author argues that in order to plan a better community, one must identify the real world situations by reaching a consensus on how the community is developed. What is to be taken away from Kelly from the analysis is the statistics that they have listed overtime such as “...current and projected demographic, employment, and housing and commercial-property statistics to develop problem-oriented plans (Kelly, p. 58).” Residents aren’t able to migrate to different areas because of the trouble with development makes it hard to allocate necessary resources for communities; the planning department is structured in the way that is favorable to those who are more affluent, and displaces those who are disadvantaged. When developing a community, noting which areas are stable, or how they can become stable is crucial for participatory planning.

In “An Integrated Framework of Population Change: Influential Factors, Spatial Dynamics, and Temporal Variation” Guangqing Chi and Stephen J. Ventura, centralize their thesis around the five factors which influences population change, spatial dynamics, and temporal variation. They analyze population change and see what factors, chosen by the authors based on specific perspectives, are repeated. The five factors (demographic characteristics, socio-economic conditions, transportation accessibility, natural environment, and land development) surround population change; it’s easy to notice what those factors are, when working with the population. This research “...is spatially and temporally affected by socio-economic conditions (including employment opportunities, income, crime, school quality, public infrastructure, housing, health facilities, shopping and entertainment centers, local efforts to expand services, and others) (Chi and Ventura, p. 556).” These conditions were the basis of my research, which not only dictates migration to the area, but also to the neighborhoods. When creating the index, I had my variables strategically thought out, based on this literature. These factors surrounding population creates stability/instability along with spatial and temporal change.

Throughout the article “Community Development: Current Issues and Emerging Challenges”, Avis C. Vidal and W. Dennis Keating articulate the new policies developed from the War on Poverty, which proceeds from the 1980’s on. By taking that model, and implementing and increasing services in areas of poverty it will revitalize poor neighborhoods. Bank red-lining made it extremely hard to have contractors build new homes in poor neighborhoods. This article will supplement further research by identifying the reasons why there was poverty in certain neighborhoods, job loss, and income inequality, and they also identify, over time, revitalized neighborhoods.

Another perspective on the stability of neighborhoods, from a community aspect, is in “Cities, Changes, and Conflict” by Nancy Kleniewski. One study was done within African American communities asking about how they feel about mixed racial communities. “The author explains that people reject all-black neighborhoods because they perceive that they have a lower quality of life: housing, schools, police protection, and recreational facilities. But they also reject all-white neighborhoods because they fear social isolation or outright hostility of whites toward

new African American neighbors. Racially balance neighborhoods, on the other hand, offer the possibility of a decent quality of life, coupled with a receptiveness to interracial social interaction.” It is interesting to see that African Americans see themselves as coming towards a social goal, not just based on race. With this, “If income polarization continues, we will likely see even greater use of spatial, financial, and symbolic barriers between the affluent and the rest of the population (Kleniewski, p. 232).” It is not so much based on race that determines which areas are rich and which areas are poor, but it is now socio-economic factors that are keeping the racial segregation between affluent and the disadvantaged. “The current pattern of race and social class in cities, then, seems to be a sorting out of African Americans more according to income, education, and occupation, and less simply according to race (Kleniewski, p. 209).”

These Literature Reviews narrowed down factors indicating stable communities.

Although many factors have risen, I have chosen what I have defined are stable communities. By basing research on these reviews, it allowed for the ability to shape my ideas and planning process in the way that was justifiable and easily mapped.

Planning Process

When deciding what to accomplish in the GIS Certificate program, I initially wanted to do research based on transportation. I found that there were so many avenues to go about transportation via GIS, as seen through the labs throughout winter quarter. As the quarter went on, I transferred my thoughts towards diversity and the change in diversity, primarily how I would incorporate that in GIS.

I looked to other projects from past years and noticed a lot of participatory projects and decided that might be the best route. Using the labs to go ahead and use census data and try to find patterns of socio-economic distress. I came to the conclusion that I wanted to show change over time within the communities of Pierce County and using Block Groups to show more change than tract groups in the census.

Once I had all that planned out, I retrieved the census data, joined them to the polygons, indexed the data, which I have explained further under the methods section, and interpolated the data to see the different areas of stability based on the indexes for each decade. With the indexes, I had to plan out how each indicator fell according to what I wanted to index: high median income, high home ownership, low high school dropout, and low unemployment, which was based off literature review. When establishing the factors, I didn’t incorporate age, race, or family types because I didn’t want to have any exclusions or limitations; this study is to focus on the general population as a whole under temporal change. Mike Davis (1990, 153) describes “‘Community’ in Los Angeles means homogeneity of race, class, and, especially, home values (Kleniewski, p. 228).” This underlies the meaning by which I use the word community.

Methods

How I proceeded with the project was to come up with an outline and figure out that I needed data from 1980, 1990, 2000, and 2010. The majority of my time in the beginning of the quarter was trying to find data from 1980 within block groups. I went up to UW Seattle to find a CD that said had all 1980 data, but when I tried to open it, it wasn’t able to open in ArcGIS,

which set me back further. I then searched the internet for more data, until I found the Missouri college site that had the data. I also found what I thought was block group polygons for 1980, but it turned out to be tracts so I decided to use 1990 block group polygon because that would be the closest to what 1980 would be. I found the data; I needed to concatenate a geoid in order to join to the block groups, which took a while for me to do, and to get rid of the duplicates. I acknowledge that the data for 1980 isn't going to be fully complete because the geoids in the census and the geoids for the polygons didn't match up.

A similar process as described above was done for 1990, 2000, and 2010 data. I had all the block group polygons for each year, and I was able to gather all the data I needed for the indicators, but the process that took a long time was concatenating geoids for each indicator for each year and also getting rid of the duplicates. I did all this through Access, which I was then able to turn into a database file to import into ArcGIS. For some reason, I was not able to import an excel table and add a field in ArcGIS.

I gathered census data from each decade starting from 1980 up until 2010. Once I found the data I had to concatenate the state, county, tract, and block group fields in order to create the GEOIDS to join to the polygon layers. When I had all the data spatially joined to each polygon in each year, I then had to create ratios of each indicator for each year e.g. median income, home ownership, unemployment rate, and high school dropout rate, to create z-scores. By using the z-scores of each variable, I was able to index the block groups according to the z-scores, where stable includes high median income, high home ownership, low high school dropout rate, and low unemployment rate. Once I had all the data spatially joined to each polygon in each year, I then had to create ratios of each indicator for each year. Once that was done, I classified the data according to what I would depict as stable: high median income, high home ownership, low high school dropout, and low unemployment. I then created the index by deciding within the variables what was very low, somewhat low, average, somewhat high, and very high. By taking those five measurements I added them together to create one socio-economic index, turned the feature classes into points and interpolated the data to identify the stable areas in each raster. I added the raster's for the change between **figure 1**, **figure 2**, and **figure 3**, to show the absolute change in one map, as you can see in **figure 4**.

Results of the Analysis

The results of the analysis shows the change from each decade, **figure 1**, **figure 2**, and **figure 3** in one map by adding the raster's of change between each decade, compiled into one map. This shows the variables with two standard deviations away from the mean where blue represents the more stable communities and red represents the more unstable communities. Since 1980, communities have fluctuated through communities. According to my index, my outcomes have been directed to stability being focused on high median income and high home ownership, low high school dropout rate, and low unemployment status, implying that those who are rich are staying rich, and those who are poor are staying poor, in the stable areas, and in the unstable areas show a lot of movement according to the variables of my index. "In a study of Chicago's South Side, Duneier (1992) argues that the majority of African Americans in ghetto neighborhoods are poor but respectable people working at stable but low-paying jobs (Kleniewski, p. 209)." Patterns shown in figures 1-3 verify that there has been a lot of fluctuation since 1980, but has been stable from 2000-2010 with slight fluctuations due to movement in

population, “Income inequality increased both during periods of rapid economic growth (the 1980s and 1990s) and during periods of slow growth (since 2000) (Kleniewski, p. 230).”

When reviewing the results, it made a lot of sense that there would be a great amount of fluctuation in movement from 1980-2010. I think that my results are consistent with the findings in the literature. Chi and Ventura have strengthened my results when stating, “From a temporal perspective, improved socio-economic conditions in a place will keep attracting migrants until equilibrium is reached (Chi and Ventura, p. 556).” As you can see in **figure 3**, the “equilibrium” has been reached.

After analyzing the results, the data from 1980 is not fully developed, because of the absence of data throughout the block groups and census data, that it makes comparisons of 1980 to the other maps hard, but it does give an interesting picture, that there was less population in 1980, but as the years went by, the population grew and census data was more accessible in collection, that it is more accurate.

Conclusion

As a whole, the project would have been a lot more accurate if the 1980 data was more accessible to the public. If I focused my extent in a more centralized area, i.e. Tacoma, the data would be a lot more concrete because data would be solely from Tacoma as well as the Census website. When looking back, I believe that Kleniewski has a lot to say about how to analyze low-income households, or any neighborhood with low socio-economic status. The variables could have been more centralized in one specific direction such as housing or transportation, but the variables I chose were to depict one general picture of Pierce County. I also could have gotten the 1980 census data from Tacoma much earlier by calling and that would have saved me an immense amount of time.

All in all this project and program was a great experience and has taught me so much about how to use GIS and census data to create a map that tells a story over time about change in communities. I believe that this project will not stop here, but will help me along the rest of my college career.

Works Cited

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Appendix

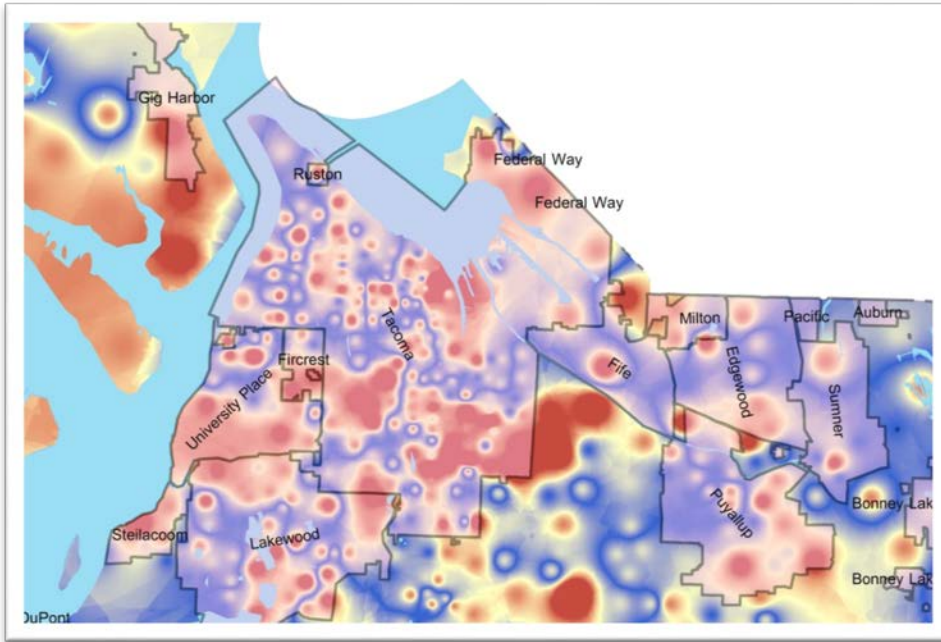


Figure 1, change between 1980-1990, Tacoma and surrounding cities of Pierce County. Blue is stable, Red is unstable.

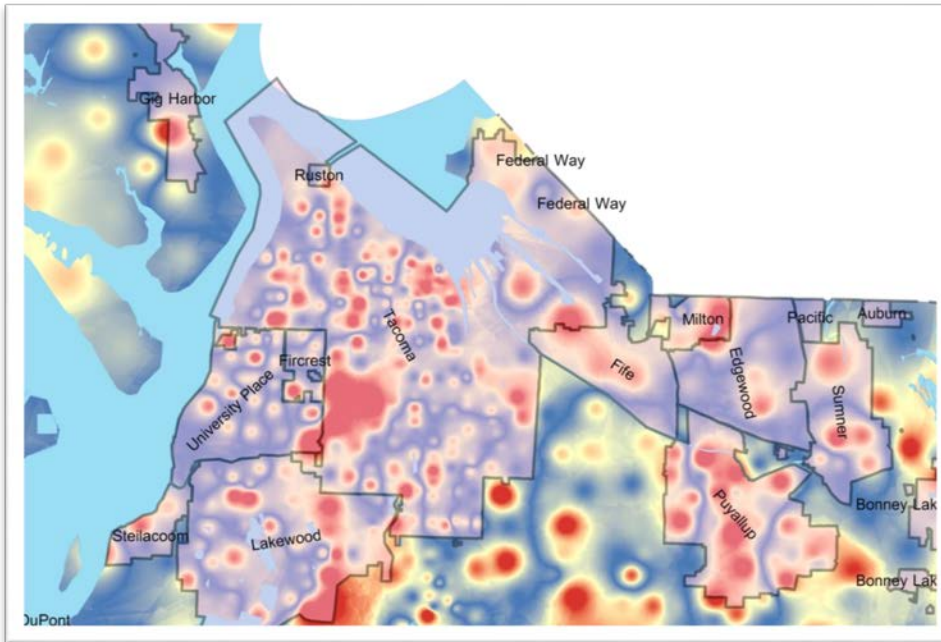


Figure 2, change between 1990-2000, Tacoma and surrounding cities of Pierce County. Blue is stable, Red is unstable.

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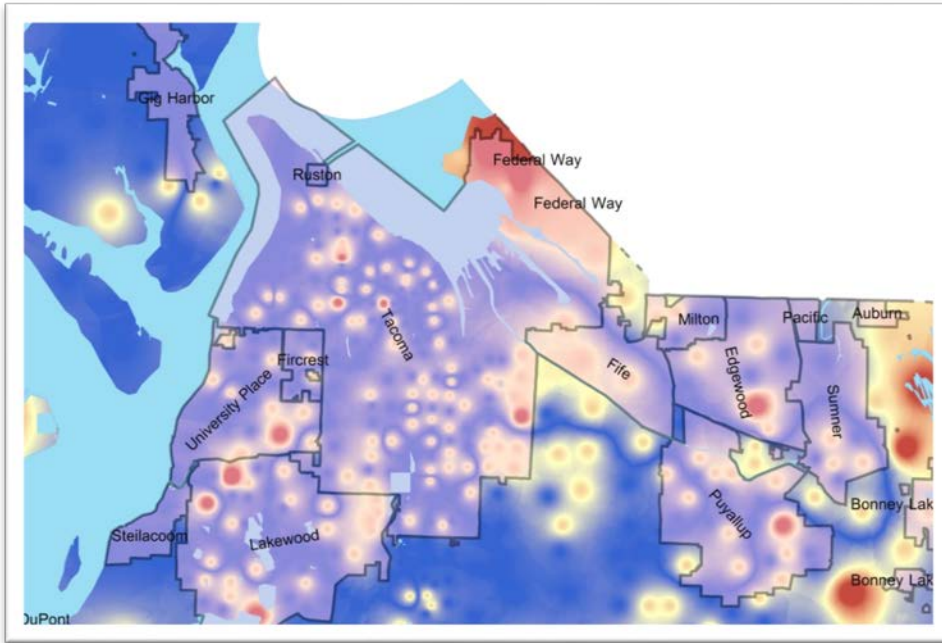


Figure 3, change between 2000-2010, Tacoma and surrounding cities of Pierce County. Blue is stable, Red is unstable.

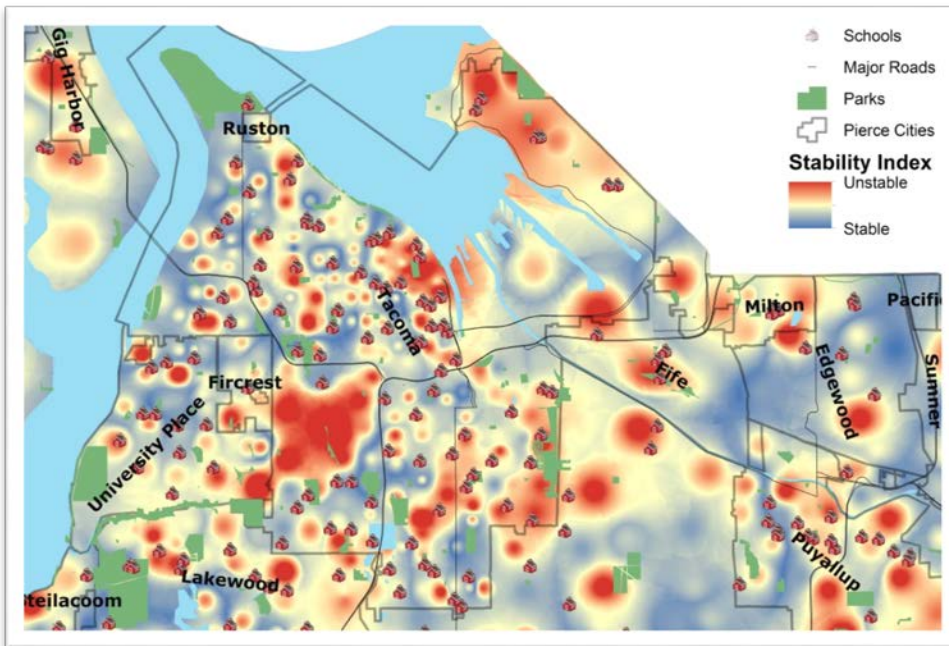


Figure 4, Final Results, 1980-2010 change, showing schools and parks in Tacoma and surrounding cities in Pierce County. Blue is stable, Red is unstable.