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GEOG 461: Section AB

The Geography of Education Equity in King County

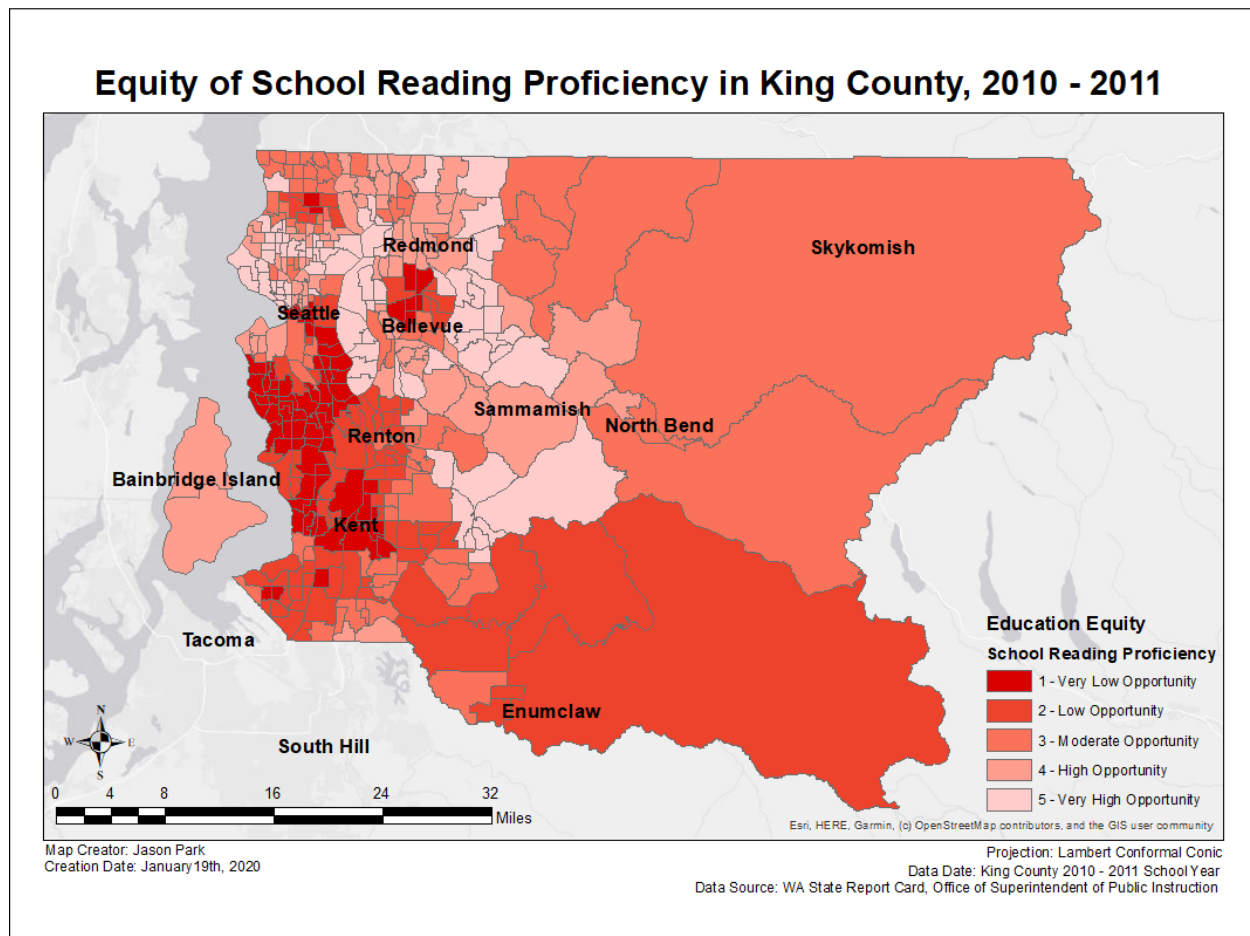
Introduction:

Opportunity mapping is a research tool used to understand the landscape of opportunity primarily within urban communities and areas. Opportunities are defined as situations that place individuals in positions more likely for success in his or her life (Martin 5), and are determined based on numerous opportunity indicators. The indicators highlighted in the Kerwin Institute's Communities of Opportunity framework include: Housing, education, jobs, transportation, and health (Martin 5). Opportunity maps have the potential to be a strong tool in revealing regional, racial, and social inequities that are the cause of spatial inequalities (Reese et al. 3). By bringing awareness to communities that are in most-need of resources for better opportunities, opportunity mapping can be used as an effective tool to be utilized in policy, advocacy, litigation, research, etc. to move closer towards social equity (Reese et al. 3). This report will be focusing on the education equity in King County to examine the quality of local schools and access to educational resources for its students. A final point to understand is the difference between equity and equality: Equity refers to the idea of fairness where all individuals have access to the same opportunities, while equality refers to the idea of sameness where all individuals are given the same amount of resources.

Statistical Determination of the Opportunity Index:

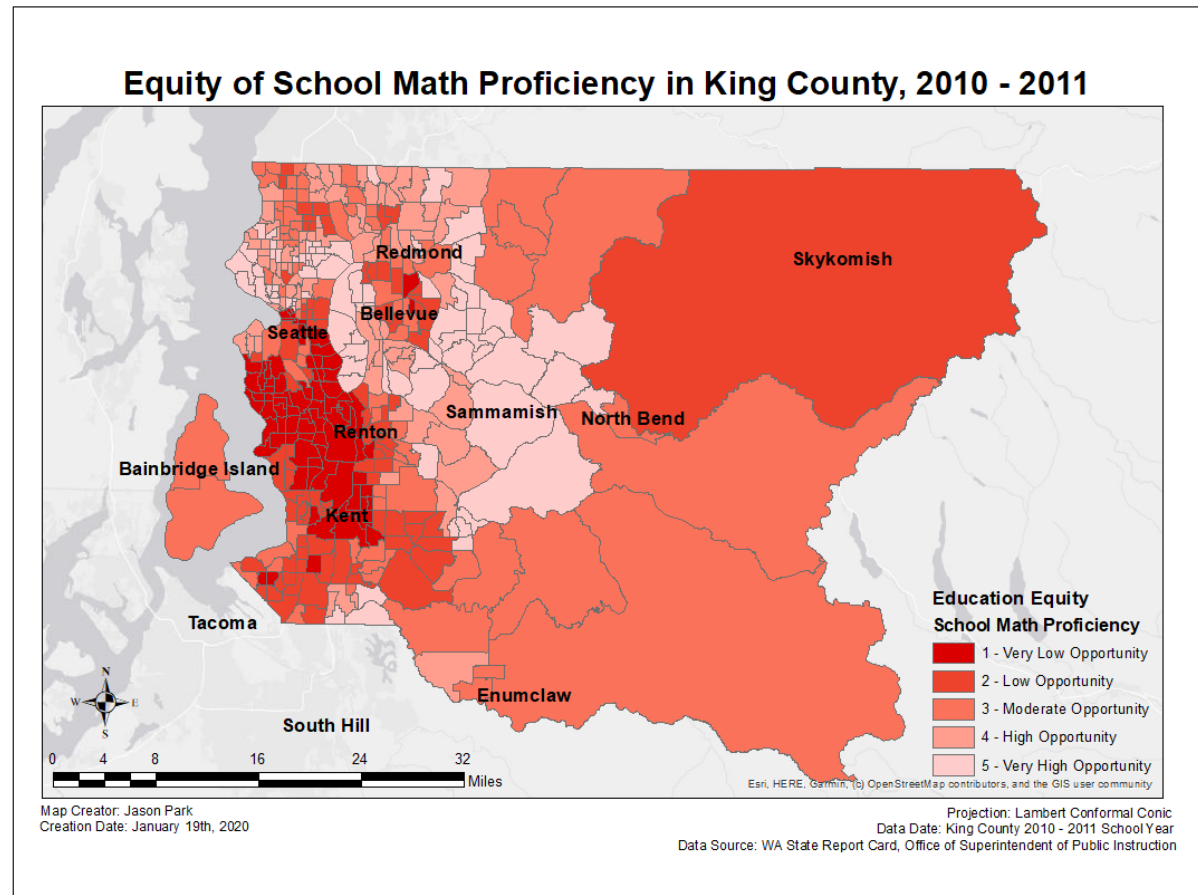
This report focuses on the education equity in King County, and was formulated using statistical methods performed on 5 variables: School reading proficiency, school math proficiency, student poverty rates, teacher qualifications, and graduation rates. Each education indicator listed was analyzed by standardization using Z-scores, a statistical value measuring the distance in standard deviations of each indicator from the mean of the data set. The final composite opportunity index was calculated based on the average Z-score for all indicators by category. The data set was then categorized into quintiles where each quintile represented 20% of the dataset's respondents, and corresponded to a level of opportunity found in each community to create an opportunity index. The range of opportunity index is as follows: the lowest quintile, representing very-low opportunity was given an index of 1 while the highest quintile, representing very high opportunity, was given an index of 5.

Equity of School Reading Proficiency:



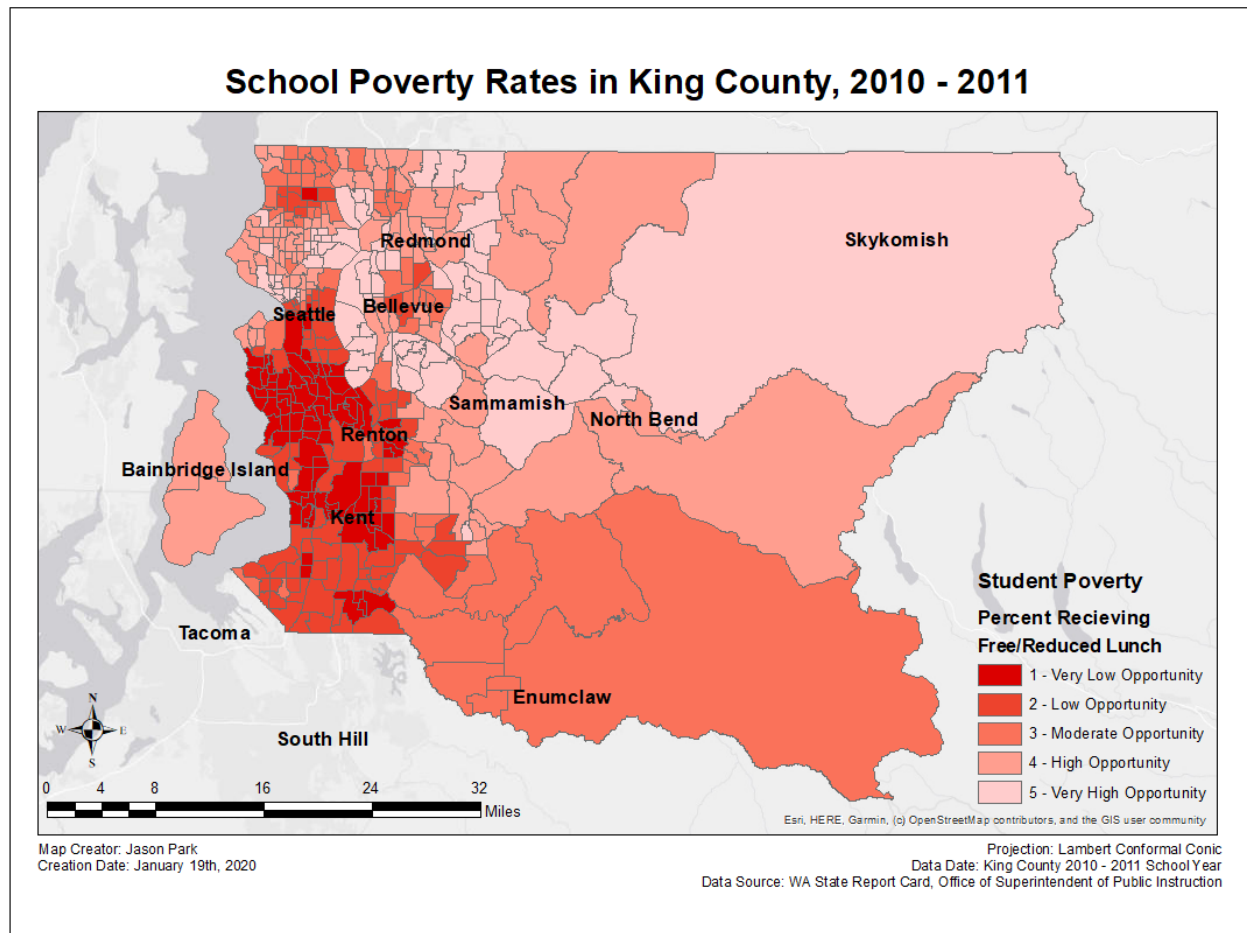
This map examines the education equity of school reading proficiency rate based on the 4th grade reading WASL exam in King County during the 2010 – 2011 school year. The map shows that most communities where there are low opportunities for access to resources in improving school reading proficiency are clustered between south Seattle and Kent. Opportunity-rich communities tend to be found either east of Seattle, towards Redmond/Bellevue, and in communities north of Seattle. It is worth noting that very low opportunity communities are often found to be in close proximity to high opportunity communities, and are sometimes neighboring one another, as is the case between Seattle and Bellevue.

Equity of School Math Proficiency:



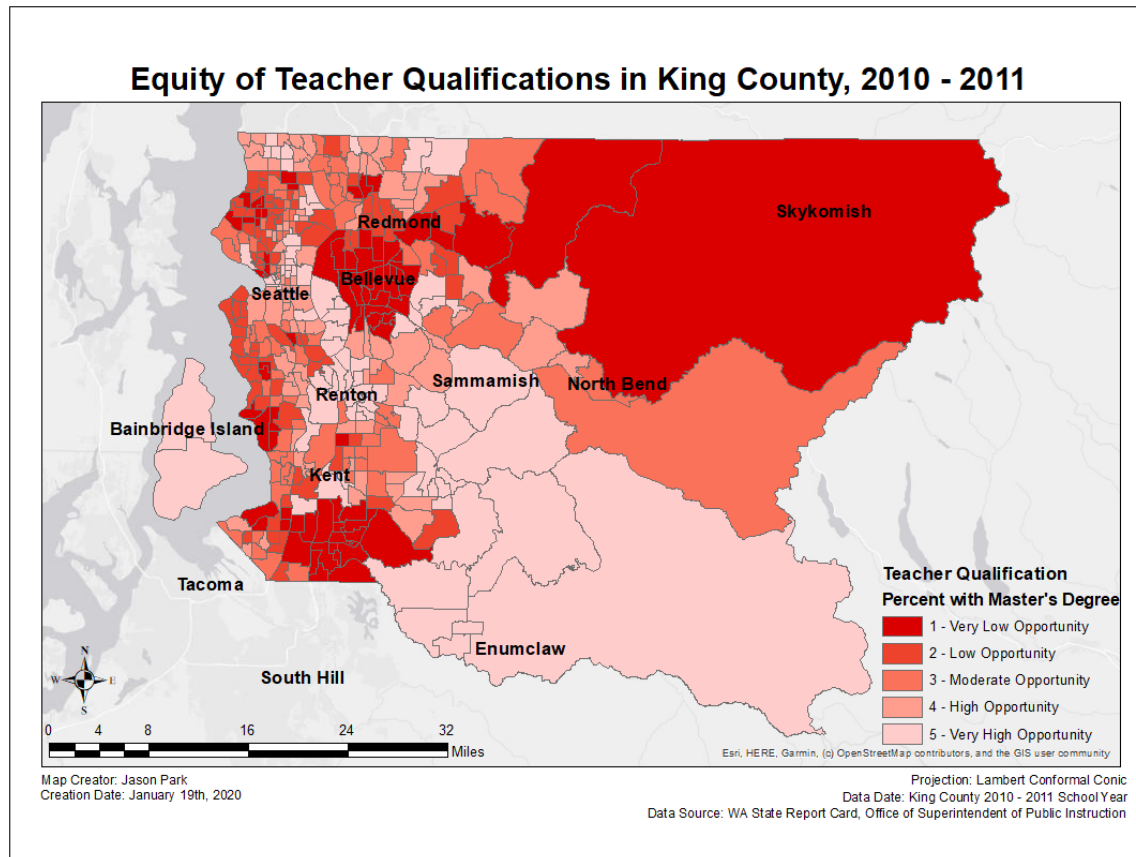
This map examines the education equity of school math proficiency rate based on the 4th grade math WASL exam in King County during the 2010 – 2011 school year. Similar to the map displaying the equity of school reading proficiency, most communities that have very low opportunity to access for resources in improving math proficiency are found between south Seattle and Kent. Based on this observation, it is possible that schools that have very low opportunities in accessing reading resources are more likely to have very low opportunities in accessing math resources as well. Likewise, schools with very high opportunities in accessing reading resources are more likely to also have very high opportunities in accessing math resources, too.

Equity of Student Poverty Rates:



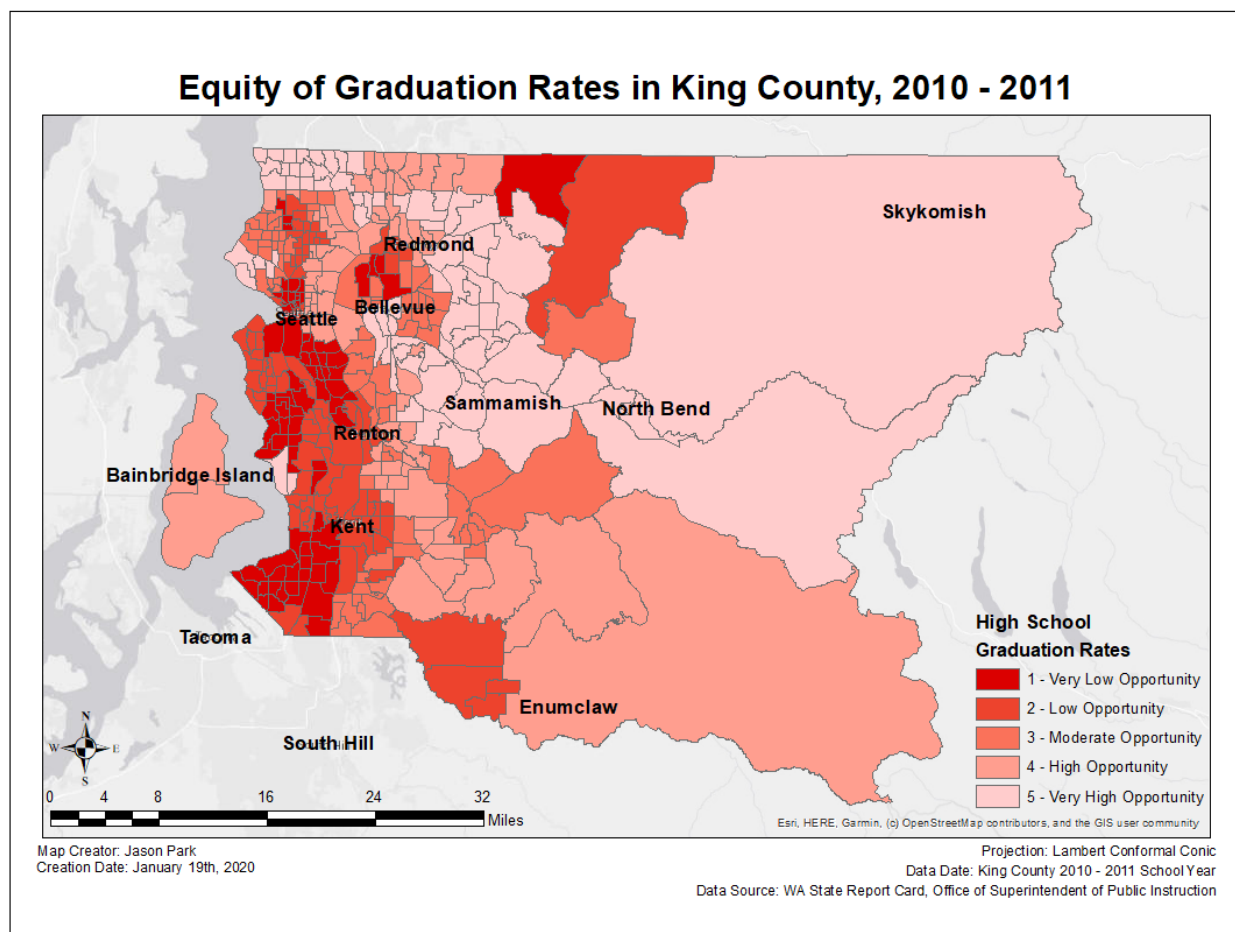
This map examines the access to opportunities in assisting student poverty in King County during the 2010 – 2011 school year. Based on the observations from this map, students and communities who have the lowest opportunities for accessing poverty assistance in the form of free/reduced lunch are between south Seattle and Kent. In relation to the previous two maps that also displayed similar information, there may be a possible correlation between poor access to educational resources and poor access to financial assistance in King County. What is particularly interesting about this map is that all the very low opportunity communities are only found clustered together, and not within any moderate – very high opportunity communities.

Equity of Teacher Qualification:



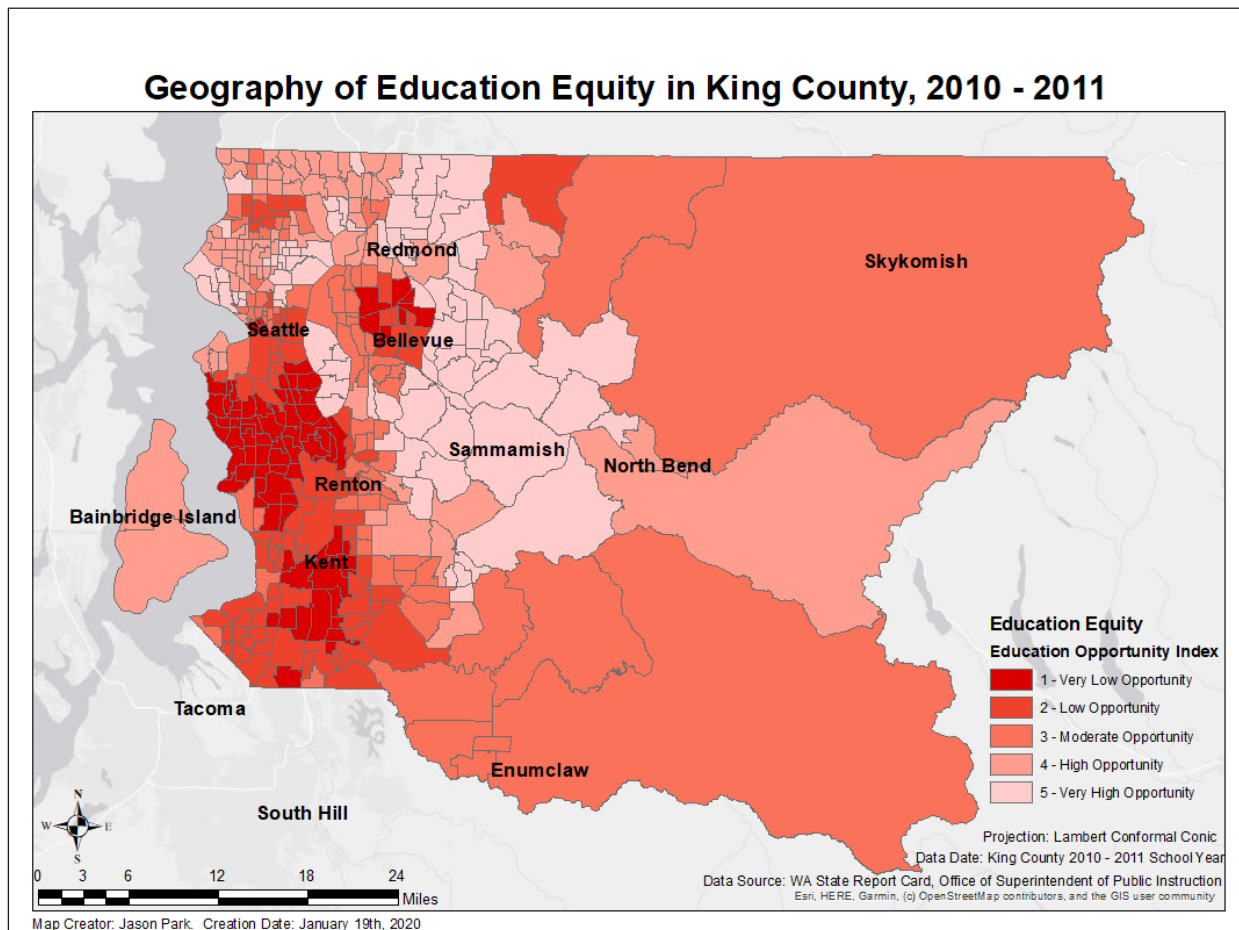
This map illustrates the equity of teacher qualifications who have obtained a master's degree or more in King County during the 2010 -2011 school year. Contrasting to the previous examples, the communities found between south Seattle and Kent are where access to high-quality teachers are most accessible, while the areas east of Seattle, where there are very high opportunities for access to educational resources, are where very low opportunities are found for accessing high-quality teachers. Despite the accessibility to high-quality teachers south of Seattle, access to quality educational math/reading resources remain very low. Therefore, it is possible that other external opportunity indicators are the cause of low math/reading opportunity indexes.

Equity of Graduation Rates:



This map examines the equity of graduation rates in King County for the 2010 – 2011 school year. Areas in which there already exists very low opportunities for access to reading and math materials, as well as very low access opportunities for financial assistance and resources are also communities that feature very low opportunities of access to resources that determine graduation rates in King County. This opportunity map highlights the idea that although there remains high opportunities in accessing quality educators south of Seattle, it is not enough to offset the other negative indicators mentioned before, resulting in very-low opportunity communities that determine graduation rates.

Composite Education Equity Map:



This is a composite opportunity index map that displays the geography of education equity in King County during 2010 – 2011. This composite index map accounts for the previous 5 education indicators shown above: school reading proficiency, school math proficiency, student poverty rates, teacher qualifications, and graduation rates. The 20% of the survey’s population classified to be living in very-low opportunity areas were found to be clustering in the communities between south Seattle and Kent. On the other hand, the 20% of the survey’s population classified to be living in very-high opportunity areas were mostly found east and north of Seattle, such as in Sammamish. The quintile classification ranges from the minimum

value -1.567660 to the maximum value 1.232415. The significant deviations from the mean value of educational equity, 0, means that while there remain communities that are very high in educational opportunities, there are also many communities that do not have access to an equal measure of quality educational resources. The observations made based on this composite index map lead me to believe that there are significant variations in the everyday lives of students found in opportunity-poor communities and students found in opportunity-rich communities. For example, students in south Seattle, who have very low opportunity in accessing financial resources that assist in reducing poverty, may have less incentive to seek out high-quality teachers, and instead focus their attention on more immediate necessities, such as those found in health and economic indicators. Based on my observations from the composite opportunity index map, an educational inequity exists between communities found south of Seattle, and communities found east and north of Seattle.

Conclusion:

Opportunity mapping was introduced as a tool that can help spread awareness about the dynamics of the landscape in urban communities, specifically highlighting where areas of very rich, and very poor opportunities lie. This report examined the education equity in King County during the 2010 – 2011 academic year, and found that there were many disparities between communities found south of Seattle, and those found north and east of Seattle. To gain a more comprehensive understanding of the geographic opportunity landscape of King County, further examinations would have to take place, focusing on other opportunity indexes such as housing, transportation, and economic and personal health. It is likely that all 5 indicators are correlated to one another (Martin 5) and all 5 indicators are factors in determining the overall equity of King County. However, I believe that the maps that I have created can help highlight that educational inequalities do exist, and are highly prevalent in King County. The goal of these opportunity maps is to be used to support new policy, research, litigation, etc. with the goal of moving closer to social equity. If we are to achieve social equality, then the first step we must take is to move closer to social equity, where everyone has proficient access to the same resources and opportunities.

References:

- Martin, Matthew and Tim Parham. *Equity, Opportunity, and Sustainability in the Central Puget Sound Region*. Seattle: The Kirwan Institute. Print.
- Reese, Jason et al. *Opportunity Mapping Brief*. Ohio: The Kirwan institute, 2013. Print.