

# Educational Opportunity in King County Census Tracts

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## **Introduction**

This report brings attention to the varied educational opportunity throughout King County. The analysis accounts for five variables (Reading Proficiency, Math Proficiency, Student Poverty, Teacher Qualifications, and Graduation Rates), to make up an educational opportunity index. This index quantifies these indicators to value each census tract in the county on the scale from low to high opportunity.

The purpose of opportunity mapping brings awareness to obstacles that would deter certain regions from having the chance to achieve compared to more privileged areas. These barriers could be built off of historical mechanisms and/or by contemporary issues. This is all to encourage equity in providing resources to marginalized groups, for the opportunity towards upward mobility. In the case of education, providing equitable opportunities across the board in school systems will allow every student the chance to succeed regardless where they reside. To be able to achieve this, funding could be allocated equitably for better study materials, teacher training, extracurricular resources, etc.

## **The Variables**

The five indicators to calculate the educational opportunity index that were used was **reading proficiency** and **math proficiency** from standardized exams, **student poverty rates** from percentages of students receiving free or reduced lunch, **teacher qualifications** of the percentage of teachers who obtained at least a Master's degree, and **student graduation rates**

from high school on time. The following data was obtained from the 2010-2011 Washington State Report Card provided by the Office of Superintendent of Public Instruction (OSPI).

#### Reading Proficiency (*see second map*)

For reading proficiency based on state standardized exam scores, the higher performers seem to be more scattered than the census tracts who performed poorer. The lighter color tracts that indicated very low and low reading test scores, is shown to be clustered in the southwest region of the county. This region is made up of south Seattle, Des Moines, and Kent. In contrast, the higher scorers in reading seem to be in the northern and northeastern areas of Seattle and most tracts east of Lake Washington. These areas contain Redmond, Bellevue, and Issaquah.

#### Math Proficiency (*see third map*)

Similarly with math scores, the higher performing census tracts tend to be the same areas who scored well in reading. But higher scores seem to be more dense in these areas, especially around the Shoreline area. Again we see that the lighter areas are in the similar areas, such as the south end of Seattle and West Seattle. Nonetheless, higher math proficiency based on test scores appears to be prevalent throughout King County compared to the reading proficiency scores.

#### Student Poverty (*see fourth map*)

In terms of the student poverty rate, determined by percentage of students under reduced or free lunch prices, it is clearly discrepant. The common pattern is that the more populated and small census tracts in the southwestern region of the county show higher student poverty rates. Even the inner city tracts of Seattle show high rates of poverty upon their student body. The color

gets a lot lighter and less clustered heading east, towards the less populated but large census tracts. But, heading more south in the east region of the county has a moderate rate of student poverty. These areas are made up of Maple Valley, Enumclaw, and Covington.

#### Teacher Qualifications (*see fifth map*)

The percentage of the teacher body who obtained at least a Master's degree to quantify high qualifications, seems to be the most scattered variable. Most of the census tracts appear partially east, but primarily south of Lake Washington. These tracts contain cities such as Mercer Island and Renton. But, the larger census tracts in the southeastern region of the county appear to have higher teacher's qualifications compared to the rest of the county. This could possibly due to less teachers hired in these least populated areas. More surprisingly, the census tracts around Bellevue states very low teacher qualifications, despite posting high test scores.

#### Graduation Rates (*see sixth map*)

This indicator seems to result in more optimal numbers than other variables. Despite showing low proficiency scores in most areas south of Seattle, most census tracts show nearly moderate graduation rates. The census tracts in the upper area of King County and east of Lake Washington boasts consistently high and very high graduation rates. These areas range from Bothell to Sammamish to North Bend. The larger land tracts show high graduation rates, probably due to a smaller student body. In contrast, the more smaller but populated tracts tend to have lower and sometimes very low graduation rates.

### **The Composite Map (see first map)**

Using the averages from all five indicators has allowed to create a definitive index of educational opportunity throughout the county. The areas showing the upper tier opportunity index spawns from east of Lake Washington and the region north of Seattle and Bellevue. Also, high opportune areas are shown in the tracts containing the islands (Vashon, Mercer, etc.) and even the Alki area that meets with the Puget Sound. On the other hand, lower educational opportunities appear in the tracts south of Seattle and remain low in cities like Renton and Kent. The clusters of areas with the lowest opportunity index are shown in the small census tracts in the southwest region of Seattle, of the area of White Center and Burien.

This index was adjusted to a weighted scale after determining not all five variables are equally determinant to educational opportunity. Within a percentage of 100%, reading proficiency was weighted at 10% and math being at 15%. I believed that the performance of a state standardized test is not always a perfect representation of student understanding. The systematic conditions of an exam like this, like the time allotted and the classroom environment could deter students from performing their best. Reading was valued less because it tests understanding of english, which might not be the first language of many students in diverse areas. Student poverty rate was weighed higher at 25% since the socioeconomic factors that a student can't control, could affect their performance in school. Factors outside the classroom can distract a student from their schooling and maybe another barrier they have to face. Teacher qualification is valued at 20% since teachers would be more experienced in their craft with higher qualifications. These teachers are more valued and would go to schools that would compensate them better for their skills. Also with higher qualifications, these teachers will be

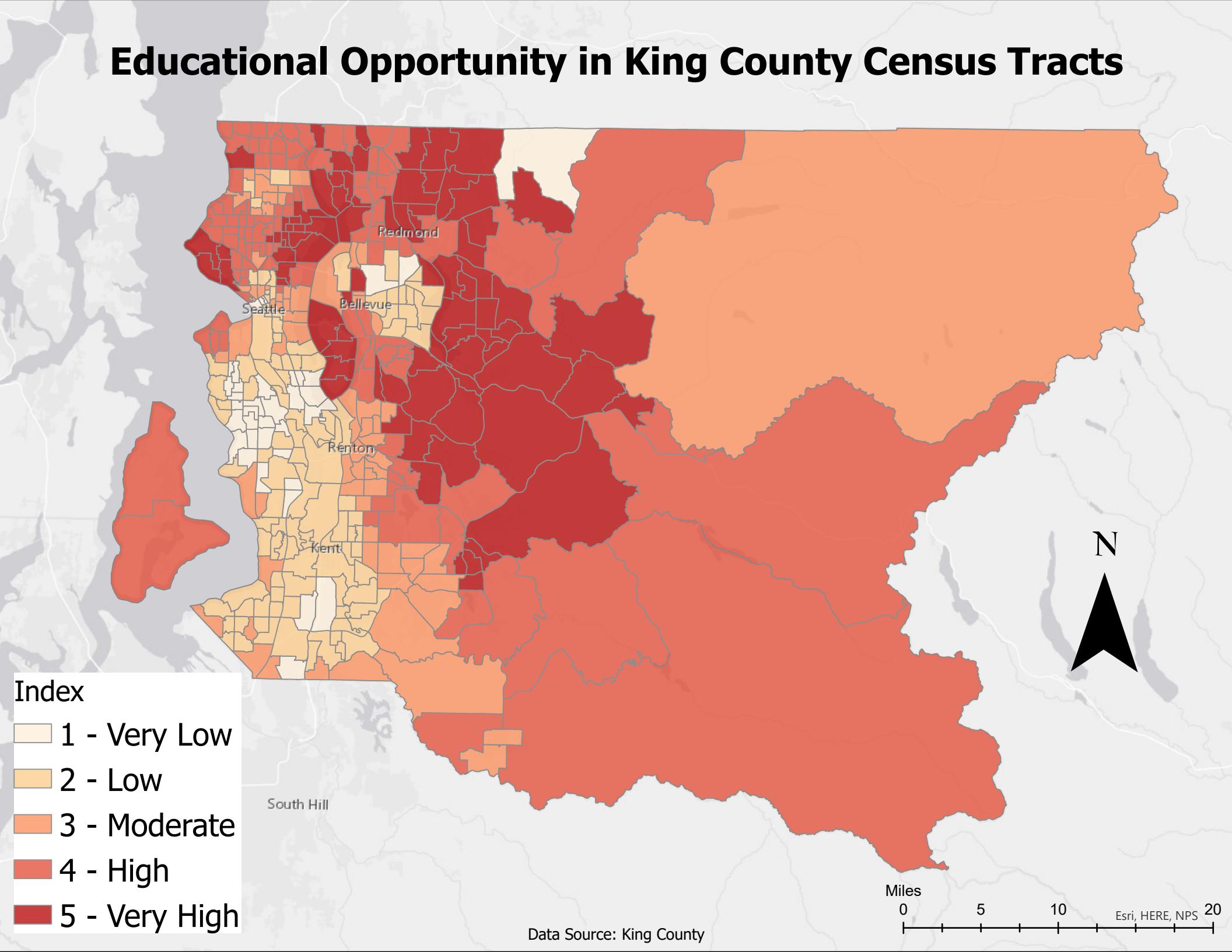
more likely to be retained for longer making for better relationships between teacher and student. Student graduation rates were weighed the highest at 30%, given it's graduating from high school on time. Since the ultimate goal of primary public schooling is to obtain a high school diploma, this variable is the most representative to student success. Also, obtaining such a diploma allows for the student for future success in higher education and career.

## **Conclusion**

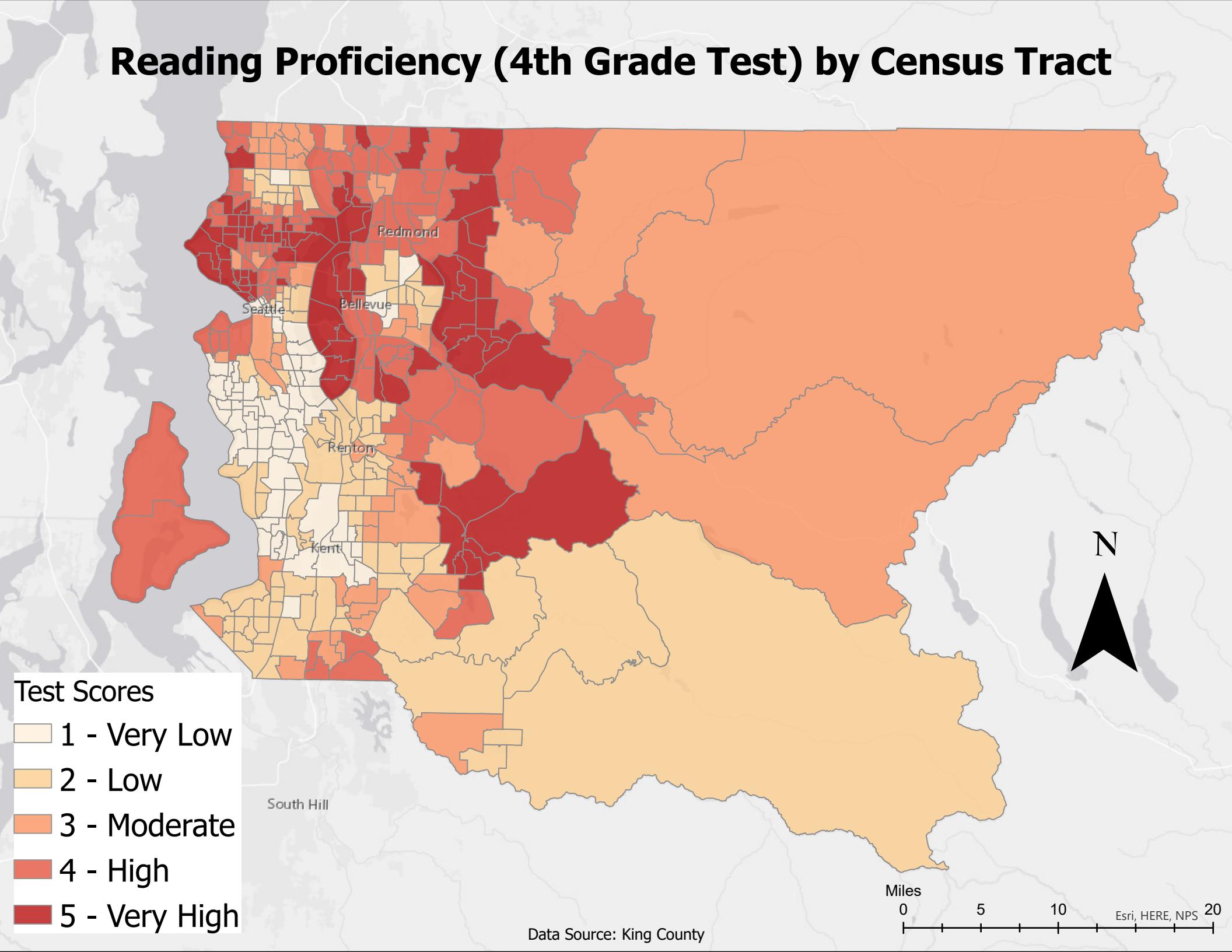
That was the analysis of the educational opportunity index for census tracts in King County. The mission of this report is to bring greater awareness to the opportunity discrepancies in our region's public schooling. Being able to provide equitable support and resources would allow every student to succeed, regardless where they attend school. This is very crucial due to the school a student attends being tied to where they reside. Having equitable opportunity throughout the spatial landscape provides for an uplifting society, which is a necessity in a thriving and just democracy.

## **Appendix**

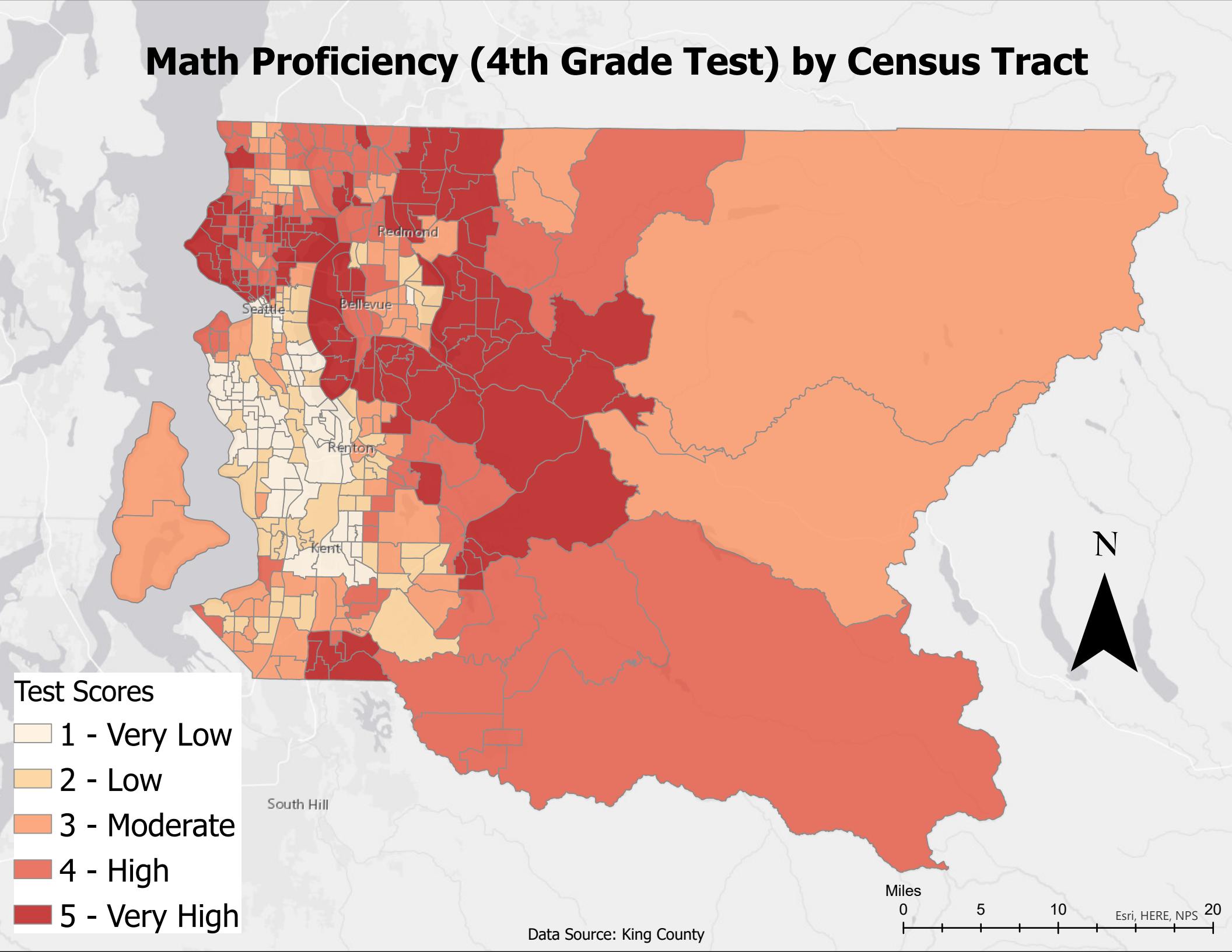
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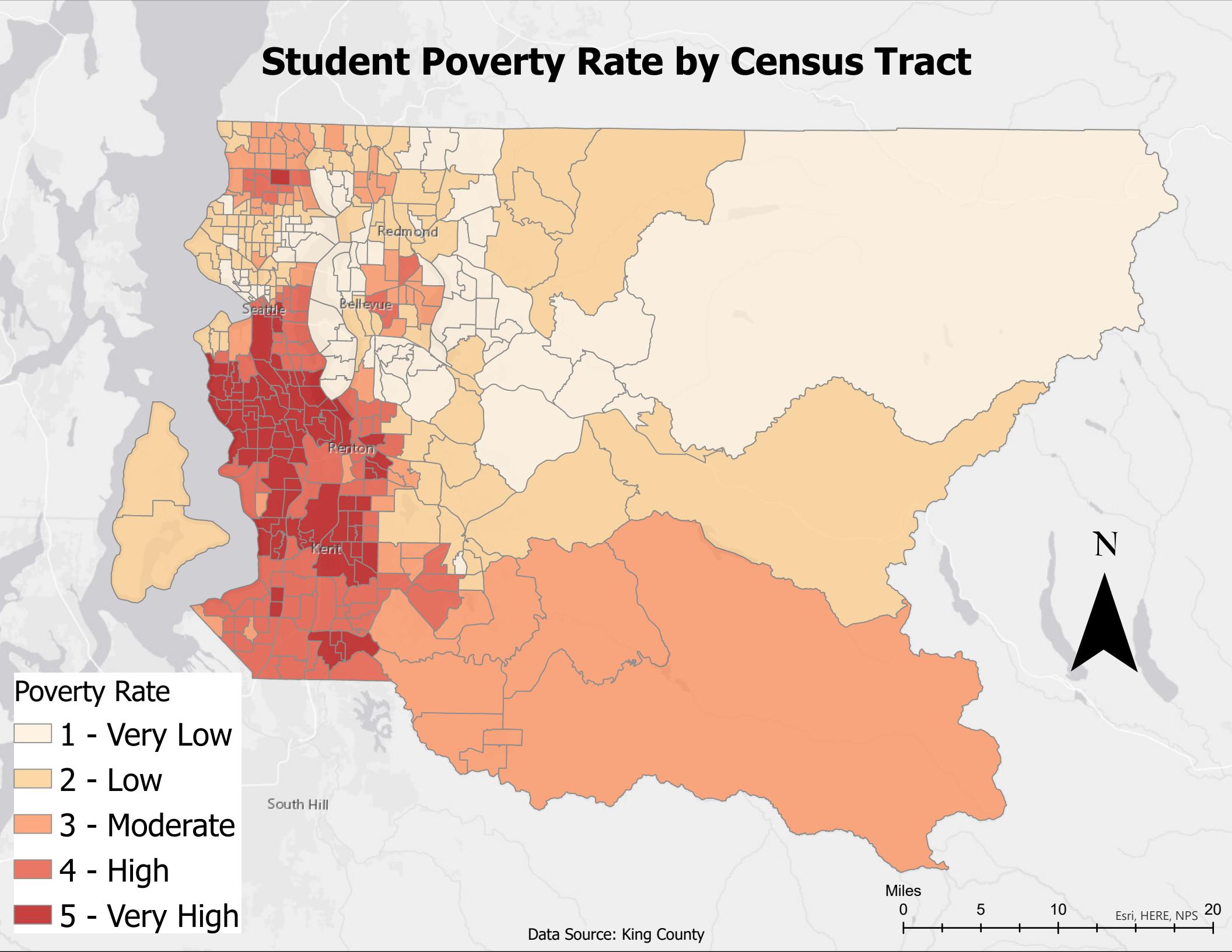
# Reading Proficiency (4th Grade Test) by Census Tract



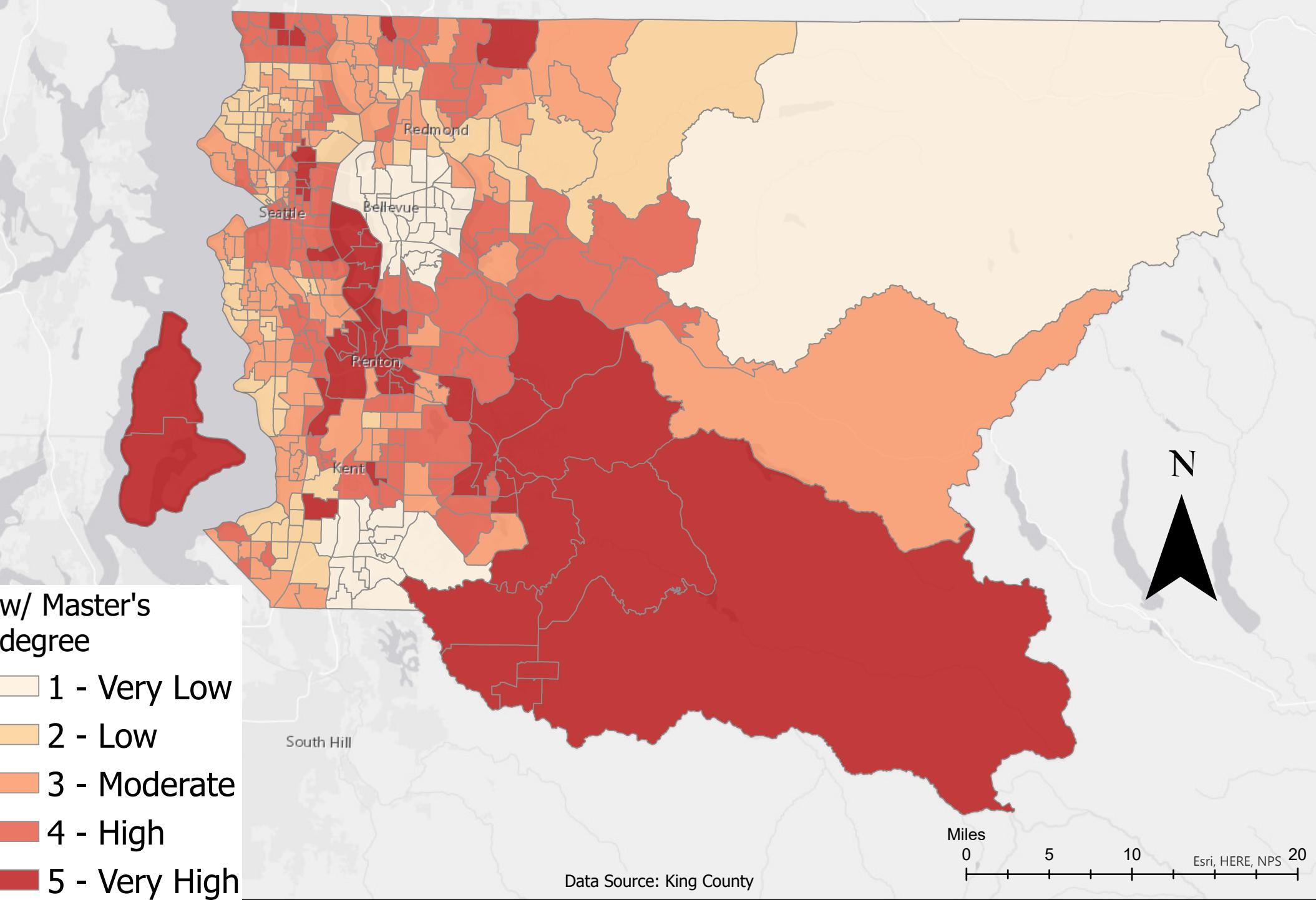
# Math Proficiency (4th Grade Test) by Census Tract



# Student Poverty Rate by Census Tract



# Teacher Qualifications by Census Tract



# High School Graduation Rates by Census Tract

