

Education Opportunity

King County, Washington

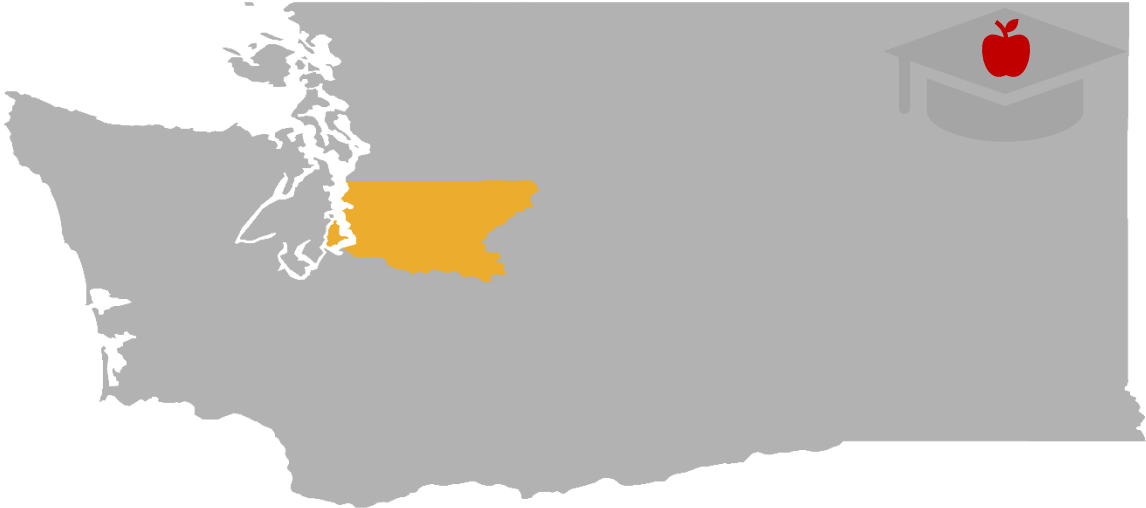


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Introduction

“Opportunity is defined as the full set of pathways available to a person, where an individual can access resources to move him or her along these set of pathways. However, these sets of pathways are not always readily accessible or attainable due to the different types of social, cultural, and economic barriers in our society. Additionally, opportunity is inherently spatial in nature. Where we live determines our upward social mobility.”

-Hass Institute, UC Berkeley

Children cannot dictate where they live or go to school. Low-income families have a harder time changing those two factors too. But where do these families live and how can we measure multiple factors against each other. The answer lies in opportunity mapping. Through opportunity mapping we can see where the non-equitable areas within King county are, work to build those areas up., and create a more sustainable community for the betterment of all.

What is Opportunity Mapping?

“Opportunity mapping is a research tool used to understand the dynamics of ‘opportunity’ within metropolitan areas. The purpose of opportunity mapping is to illustrate where opportunity rich communities exist (and assess who has access to these communities) and to understand what needs to be remedied in opportunity poor communities. Opportunity mapping builds upon the rich history of using neighborhood based information and mapping to understand the challenges impacting our neighborhoods. Multiple indicators of opportunity are assessed in a comprehensive manner at the same geographic scale, thus enabling the production of a comprehensive ‘opportunity map’ for the region.”

– Kirwan Institute, OSU

The goal of opportunity mapping is to explore how low-income groups and racial populations are situated within King County’s geography of opportunity. Crucial opportunities needed to succeed and thrive within our society include high-quality education, a healthy and safe environment, sustainable employment, political empowerment and outlets for wealth building. Isolation from opportunity is even more pronounced in low-income communities, especially those of color. Low-income communities are deprived of the essential elements needed to succeed in our society. By assuring access to these opportunities the likelihood that people can meet their full potential benefiting the individual and society increases dramatically.

Education Variables

There were five (5) educational variables that were looked at when creating the opportunity index map: Reading Proficiency, Math Proficiency, Student Poverty Rates, Teacher Qualifications, and Graduation Rates. These indicators represent the quality of local schools and educational resources.

Reading and Math proficiency looked at the school proficiency rate on the 4th-grade WASL exam. Student poverty rates, the only negative variable, were determined by the percentage of elementary school students receiving free or reduced-price lunches. Teacher qualifications looked at the percentage of teachers who have obtained a master's degree or more. Finally, graduation rates were obtained from the percentage of students who graduated from high school on time. All the data was sourced from the Washington State Report Card, Office of Superintendent of Public Instruction (2010-2011).

The methodology applied to each variable was the same, with the expectation of graduation rates using high schools instead of elementary schools. Each census tract was assigned the average variable rate of the three schools (elementary or high school) nearest the tract centroid. This process also considered school district boundaries, so as to assign data to tracts only according to the district in which the tract resides.

After mapping the five variables, a clear pattern emerges with regards to reading/math proficiency (A1 & A2), poverty (A3), and overall opportunity (A6).

Those three variables generally correlate within the same spatial area, south of Seattle's SoDo region, east towards SeaTac, and south down into the Kent valley. This whole general area has low test scores, high rates of poverty, and an overall very low opportunity index. The qualifications of teacher (A4) and graduation rates (A5) do not match up, spatially, with the other three variables. They are more spatially diverse with less clustering than the other three variables.

Composite Index

The composite opportunity index map (A6) shows areas of low and high opportunity. As stated in the Education section, the very low opportunity areas correspond with the areas high in poverty rates. This would indicate that poverty plays an important role in limiting upward mobility.

The first five maps (A1-A5), do not use weighted values to adjust their scores. Only a standard score¹ was applied to bring all the data's value in line with each other.

The opportunity index map, however, did use weighted values. To find the weighted value, each education variable was given a score out of 1, with all five scores adding to 1.

- Reading Proficiency: 0.15
- Math Proficiency: 0.15
- Student Poverty Rates: 0.3
- Teacher Qualifications: 0.2
- Graduation Rates: 0.2

WASL scores were given the lowest scores due to them not being an accurate measure of what is taught in the classroom day-to-day. Some students do not perform well on test, some school “teach the test”, and the fact that the tests and scores are linked to funding lead these scores to be potentially misleading.

Student poverty was given the highest score due to the stresses that poverty places on the student and their families. Students cannot focus on school when they are food insecure, do not have steady housing, and/or live in a tense environment where concern about money is the most important aspect of family life. Poverty is also linked to hindering upward mobility later life and if a student is already in poverty, they have a much steeper climb starting out than others. Also, in Washington State, school funding is linked to property wealth. Grants and levies come from property taxes. In low-income communities, there is a low percentage of resident owners, most in the community rent. With the property owners living elsewhere, voter measures to increase property taxes do not pass for 1) the renters do not want to pay more in rent as the owners would pass the increase on to them and 2) since the owners do not live the area, they have no voice on property tax measures on the ballot. With less revenue, the district within an impoverished area would fall further than surrounding districts.

Teacher qualifications and graduation rates were given the middle score because they show a school district’s commitment to bettering education. The lower opportunity areas have more teachers with master’s degrees or higher, which shows the districts commitment to hire and retain educators that furthered

¹Standard score: $z = \frac{X-\mu}{\sigma}$

themselves. 5-year graduation rates also highlight a district's commitment to not leaving students behind.

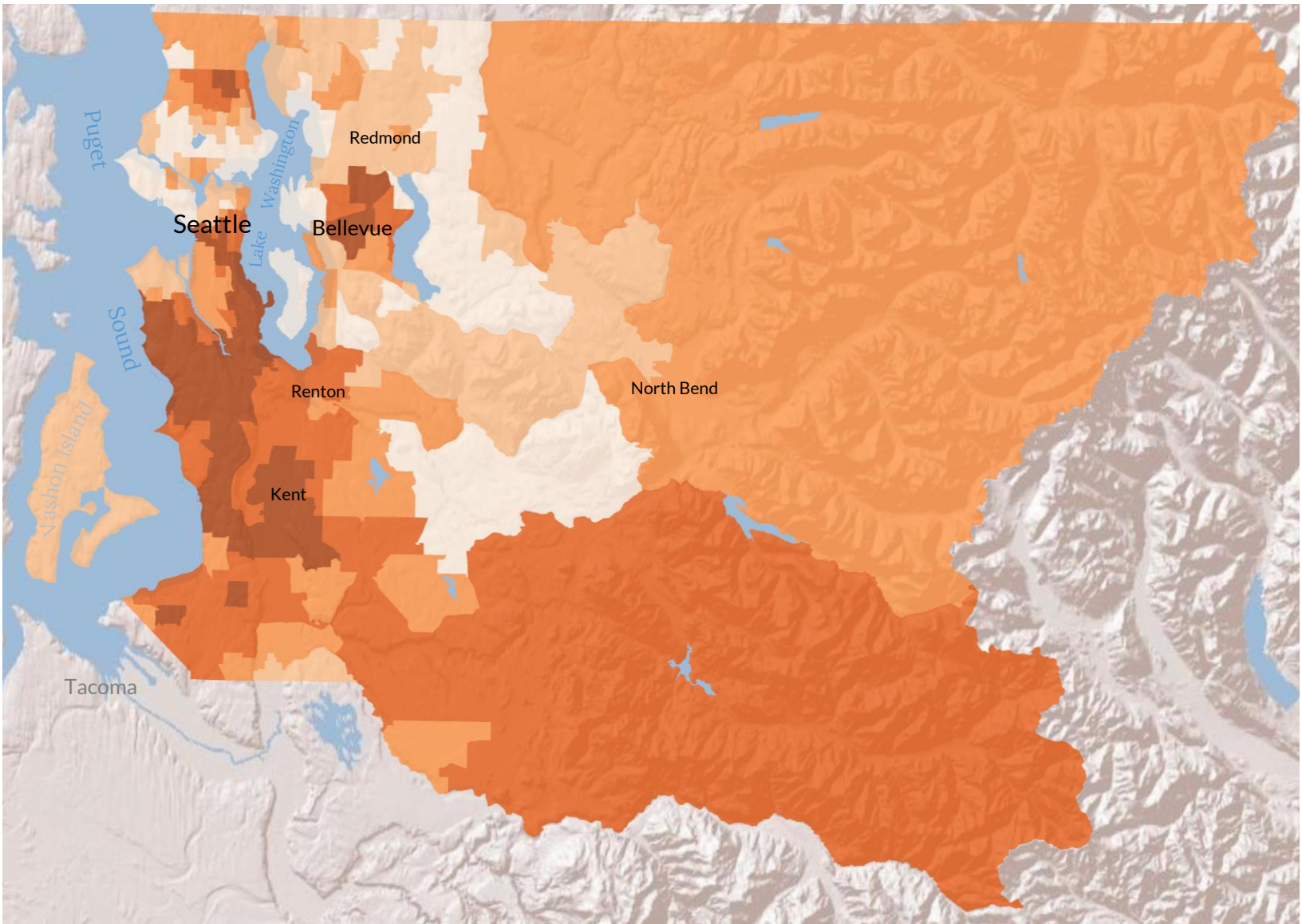
Conclusion

Opportunity maps are useful to a variety of groups and are a resource to understanding the geography of opportunity within King County. They can further the conversation about education inequality and community sustainability in the county, especially with regards to poverty and the lack of opportunity it creates. By looking at the education indicators as a whole can we and the opportunity they do or do not provide can we then start have an impact on equity in the future.

APPENDIX

APPENDIX 1:

Reading Proficiency King County



Reading Scores

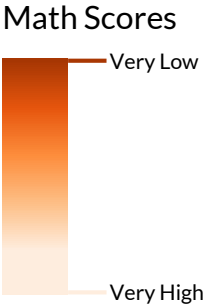
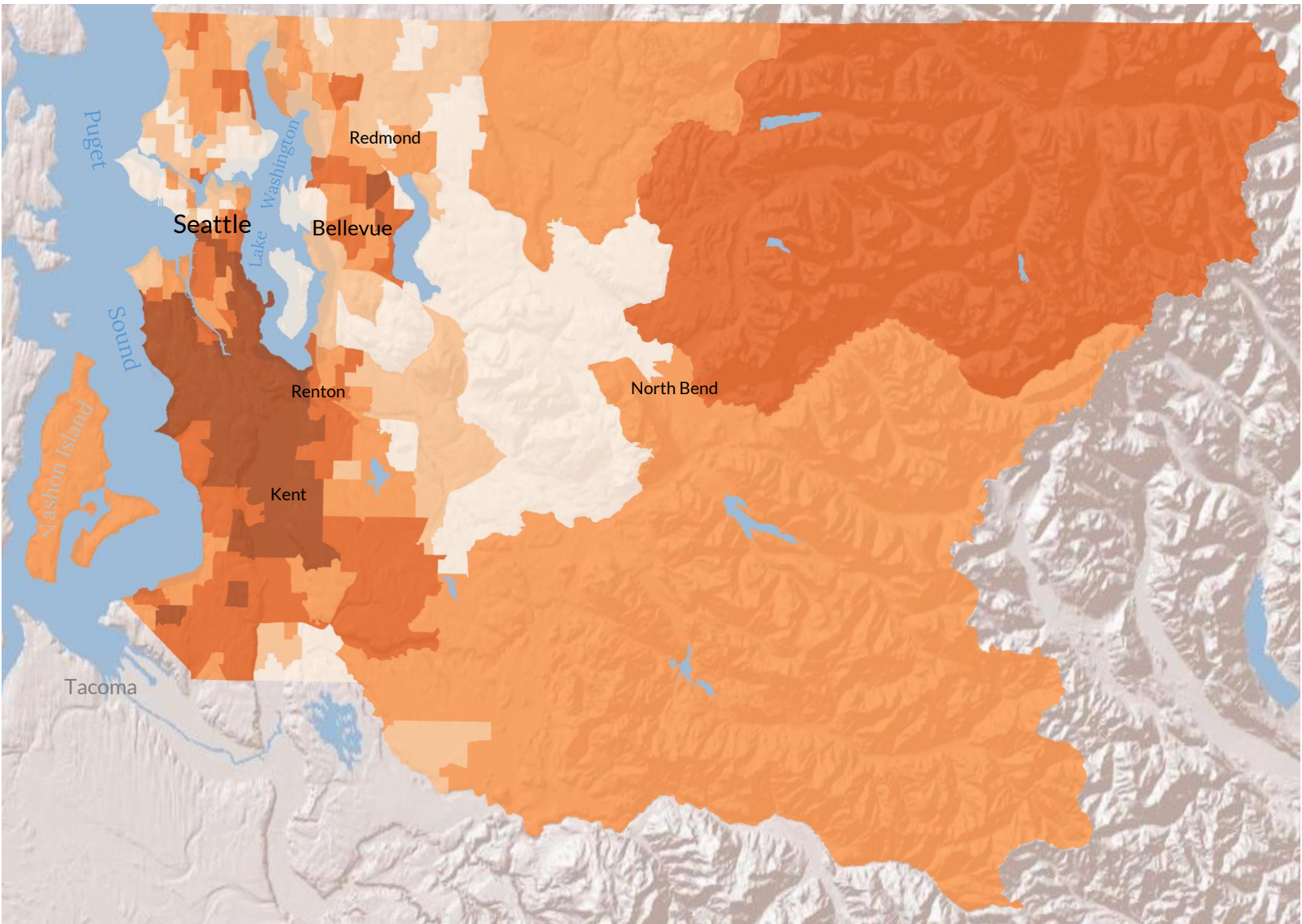


School proficiency rate on the
4th-grade WASL reading exam
Office of Superintendent
of Public Instruction
(2010-2011)



APPENDIX 2:

Math Proficiency King County

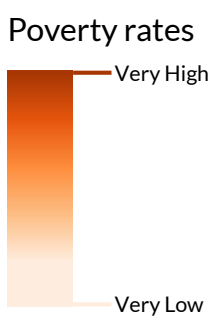
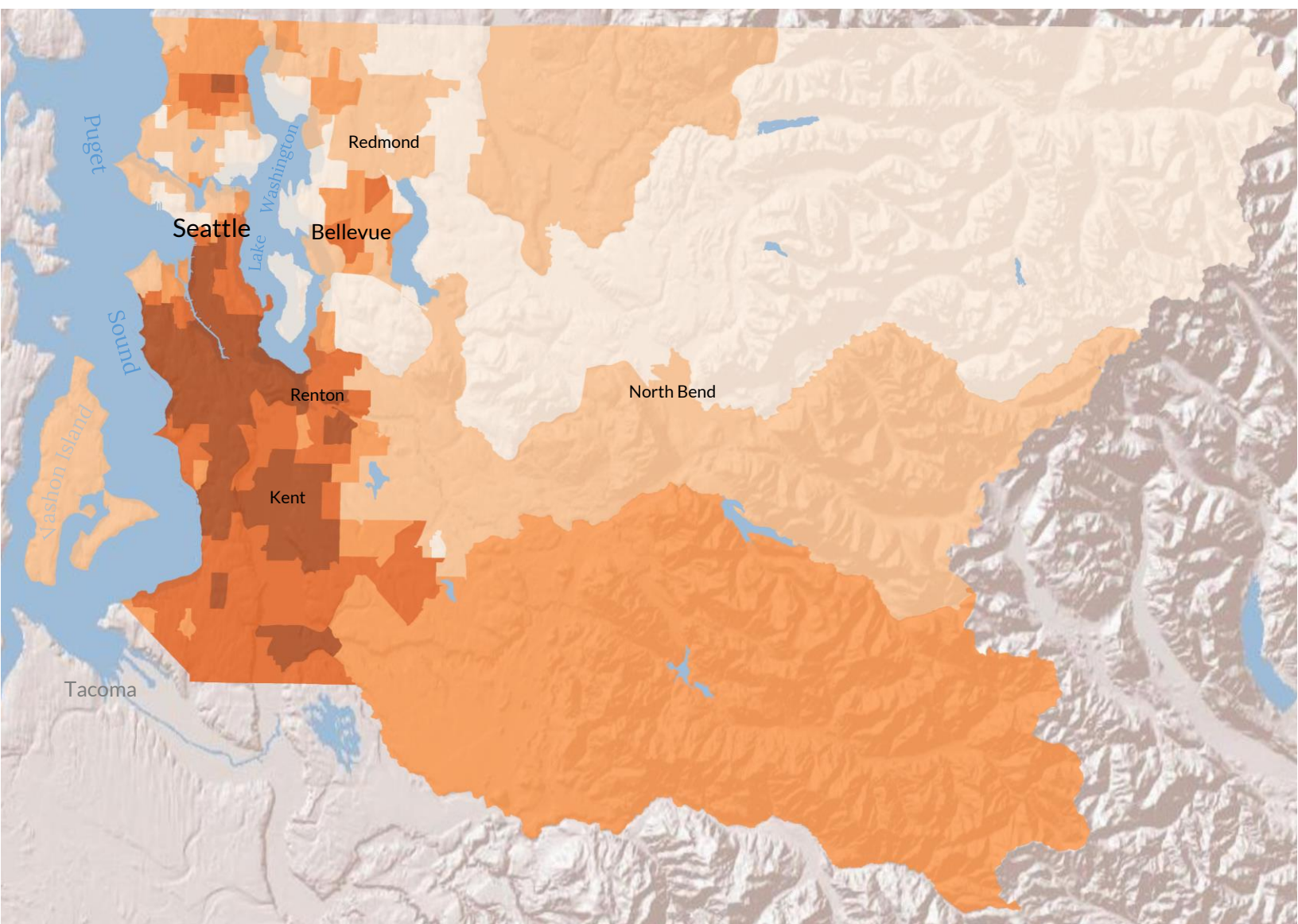


School proficiency rate on the
4th-grade WASL math exam
Office of Superintendent
of Public Instruction
(2010-2011)



APPENDIX 3:

Student Poverty Rates King County

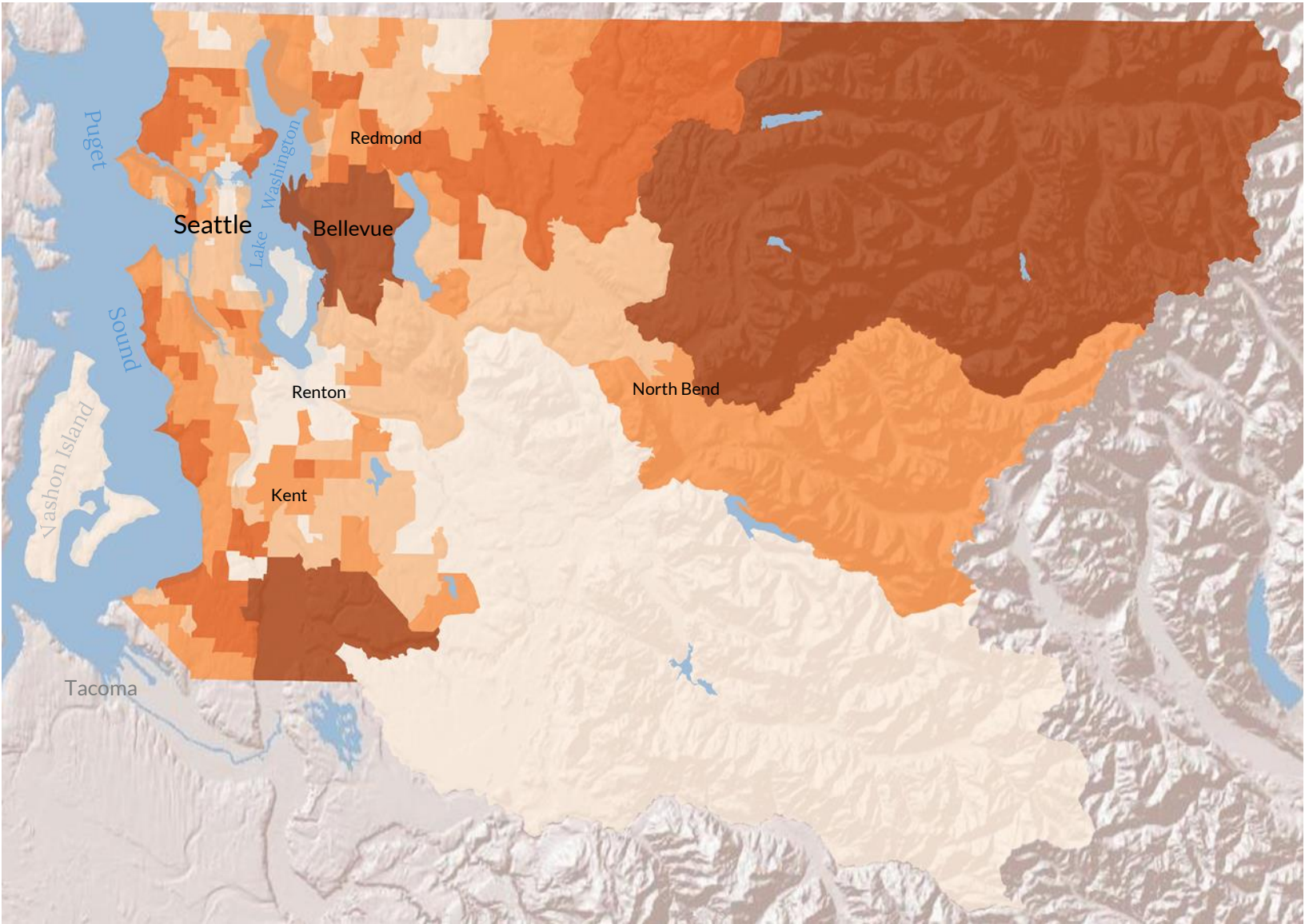


Percent of primary school students receiving free or reduced price lunches
Office of Superintendent of Public Instruction
(2010-2011)

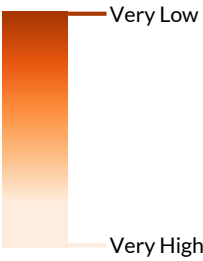


APPENDIX 4:

Teacher Qualifications King County



Master's Degree +

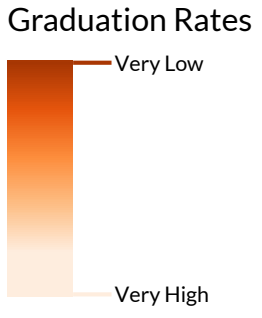
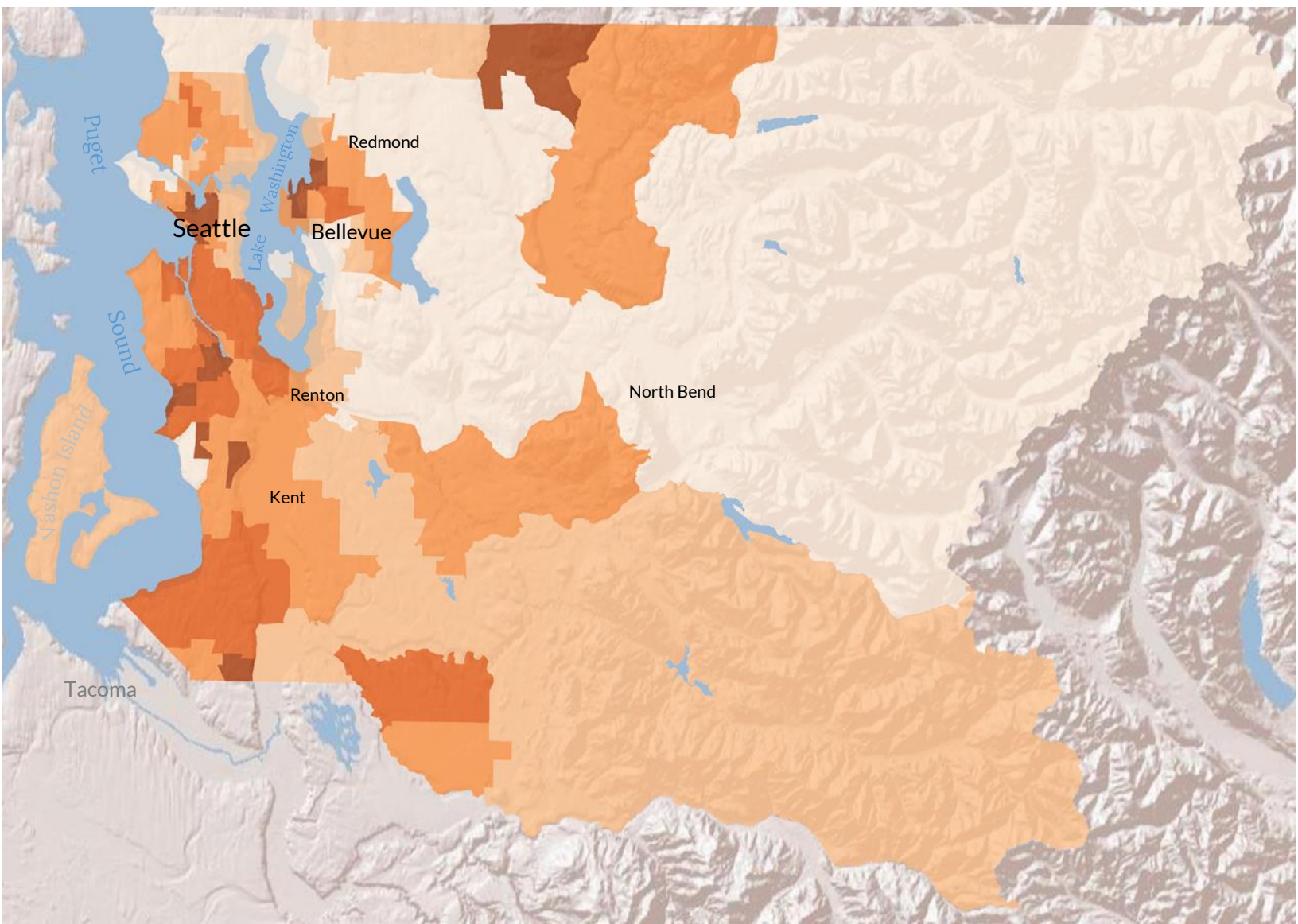


Percentage of teachers who have obtained a master's degree or more
Office of Superintendent of Public Instruction
(2010-2011)



APPENDIX 5:

Graduation Rates King County

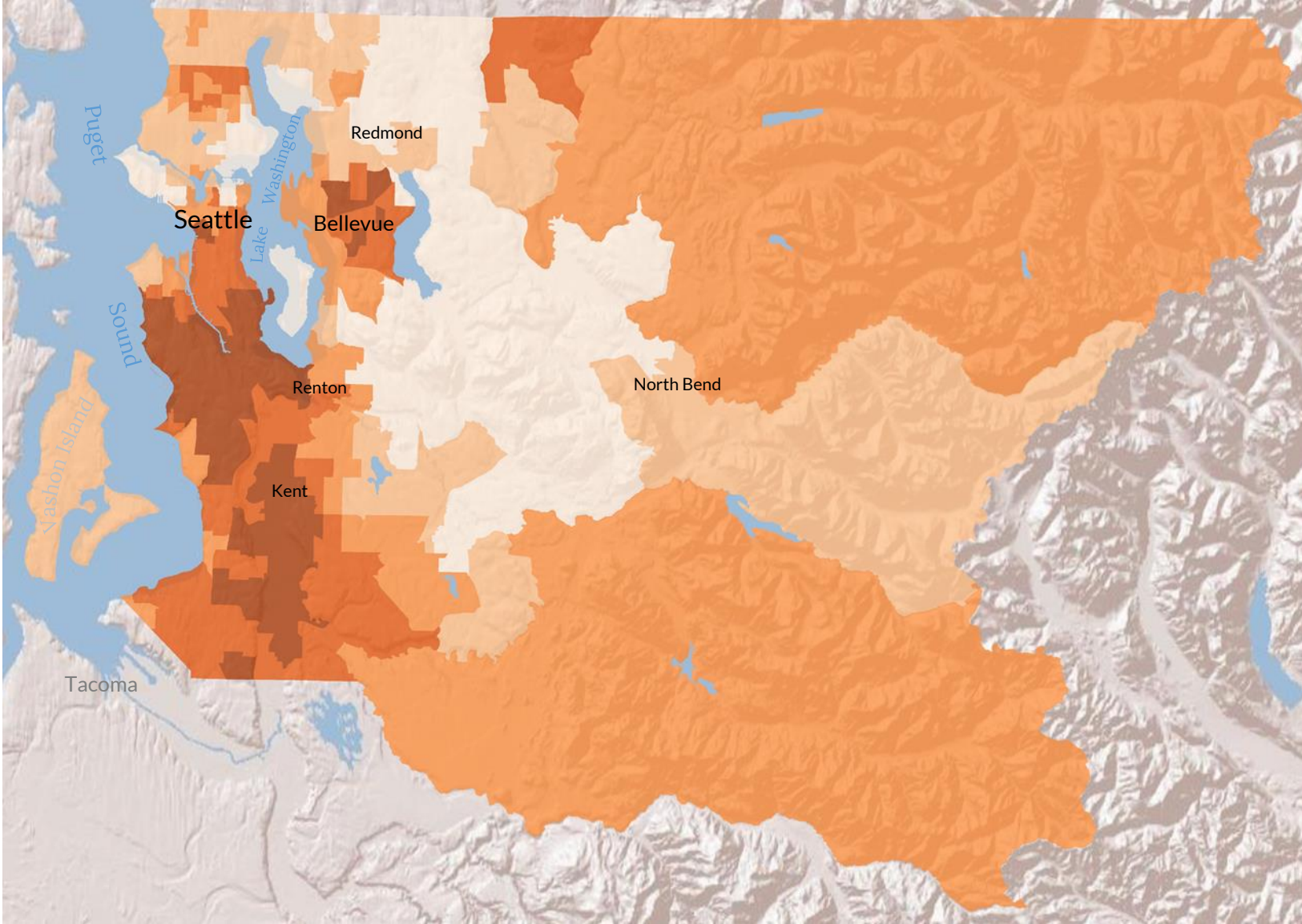


Percentage of students who graduated from high school on time
Office of Superintendent of Public Instruction
(2010-2011)



APPENDIX 6:

Education Opportunity Index King County



Opportunity Index



Opportunity map based on education variables indicative of high and low opportunity

- reading test scores
- math test scores
- student poverty
- teacher qualification
- graduation rates

