



Washington State School Finances: Does Every Child Count?

A Washington State PTA Report
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Washington State PTA School Finance Study Executive Summary

Legislative and economic developments over the past 10 years have placed Washington state students in a tight squeeze between high academic expectations and limited resources. **Committed to ensuring that every child counts, the Washington State PTA became concerned with the equity and adequacy of funding for all students. Of particular concern was whether any worrisome funding gaps existed, especially among our most needy and vulnerable school districts.** Such districts are responsible for large numbers of high-needs students who are among those most at risk of failing in school—students federal and state legislation have been designed to rescue. These high-needs students include those with disabilities, English language learners, and students from poor families. This study was intended to provide a fresh look at Washington’s school finance system and to review—in light of recent legislative and economic changes—whether it is still sufficient or whether some changes might be warranted. The study’s major research questions and findings are summarized below.

1) How fairly is school funding distributed across districts in Washington state?

Based on national benchmarks for equity, the distribution of total funding across school districts in Washington state is generally fair and equitable. About two-thirds of the students are in districts that receive funds ranging from about \$6,300 to \$7,500 per pupil. These figures include revenues from federal, state and local sources for current operations and are adjusted for differences in student needs and local costs for educational resources. The average is \$6,906 per pupil.

However, **even with this favorable assessment, the state still has 17 districts with funding levels far below the average.** The funding levels of these 17 districts ranged from \$615 to \$1,055 less than the average funding per pupil. Altogether, these 17 lowest-funded districts accounted for about 171,000 students or about 18 percent of the total students in the study.

2) Why do the 17 lowest-funded districts receive much less funding than the other districts in the state?

We don’t have conclusive answers yet, but here are some important factors:

- **Most of the 17 districts receive relatively low funding shares from more than one revenue source (local, state and federal) meaning that no single reason can explain why these districts are relatively under-funded.**
- All 17 districts had higher than average local costs for educational personnel and resources. The state does not adjust for local differences in educational resource costs; a factor that may explain the districts’ relatively low revenue shares in this study—where such adjustments were made.
- Sixteen of the 17 districts have certificated teachers whose average education and experience levels are below the state’s average. This means these districts receive less than the average state allocation for teacher salaries.
- Finally, 12 of the 17 districts make an above-average local tax effort; yet nine of these 12 generate below-average local revenues. This finding suggests that an unwillingness to tax themselves is not an important reason for the districts’ low local revenues.

3) To what extent is districts' school funding dependent on district wealth?

School district funding in Washington state is not appreciably dependent on district wealth. This means that wealthy districts in the state generally do not have an unfair advantage over poor districts in raising local revenues for education. The state finance system seems to have largely compensated for differences in district tax bases. For every 1 percent increase in districts' tax base, a district on average receives an increase in total state and local funding of only 0.035 percent.

4) What is the estimated cost of funding schools to a level adequate to meet state education standards?

We found that no matter what approach is taken for defining what it takes to achieve the state's standards; the additional cost is likely to be quite high. Estimates of the additional cost range from \$179 million to \$2.1 billion per year. The lower estimate is based on using the median funding level as a proxy for a base spending level. Studies in other states have shown that districts meeting statewide standards of academic performance tended to be at the median funding level. The higher estimate is based on the base spending per pupil levels developed by the Rainier Institute in "What Will It Take?" Neither estimate, especially the lower one, takes into account all the resources needed to teach all types of students to the full range of state standards.

5) Which districts face the greatest risk for not ensuring their high-needs students attain the state's academic standards?

Of the 174 districts in the study, we identified 17 that we considered most at risk for not ensuring all of their high-needs students attain the state's academic standards. These 17 at-risk districts have below-average funding and above-average rates of students with extraordinary needs and above-average rates of students who did not meet 4th grade WASL test standards in school year 2001-02. In other words, these are districts with above-average needs, but below-average resources. The concern is heightened by the strong correlation between students with high needs and students who do not meet WASL standards.

Upon taking a closer look at these 17 at-risk districts, we found that most had average teacher experience and education levels that were below the state average and rates of poor and minority students that were above average. Altogether, these 17 at-risk districts, located mostly in King and Yakima counties, account for about 103,000 students or 11 percent of the nearly 936,000 FTE students in the study.

Conclusions

Judged against national benchmarks for equity, **Washington state has done well in fairly distributing its school funds across districts.** Also, the state's good fiscal neutrality scores indicate that the state's equalization policies have been effective in ensuring that wealthy districts do not have an unfair advantage in raising local revenues for their schools. However, gaps in school funding still remain even with otherwise good equity scores.

Compared to the need for more equity, **the lack of adequate funding is a much bigger problem.** Either estimate of the additional costs, \$179 million or \$2.1 billion, needed to bring students to the state's academic standards is expensive by today's budget realities. Although it may not be possible to attain adequate funding levels in the short term, the state should at least determine the cost of achieving adequacy. If the state chooses to strive for more funding, it needs to plan how this can be accomplished

over time and in increments.

Finally, **given the state and federal consequences that districts face if their students do not pass state assessments in a timely manner, below-average funding of any amount becomes critical if the district is also serving large portions of students with extraordinary needs and students not meeting WASL standards.** Certainly the 17 at-risk districts identified in the study have a legitimate right to at least expect average if not more than average funding given the difficulties they face.

Recommendations

In its recent Legislative Assembly, the Washington State PTA endorsed an initiative calling for an education funding study as one of its top priorities for the 2004 Legislative Session. In keeping with the model school finance system discussed in the full report and in line with the findings of this report, **PTA recommends that any study of how the state funds education should do the following:**

1. Develop a base spending per pupil level that would ensure the average child could achieve the state's education standards.

Washington state has not determined a base spending per pupil level considered adequate for the average child to reach the state's education standards. A base spending level is an essential element of any school finance system that seeks to link school finance to educational standards. PTA encourages the state to consider the various approaches for determining a base spending level. The state should conduct the appropriate research to ensure that the base spending level includes the costs of all the program components and educational staff and resources needed to ensure achievement of the state's education standards.

2. Determine the additional amounts of money needed for students whose extraordinary needs require more resources than the average student. These are students with physical or mental disabilities, those from low-income families, and those learning the English language.

The state has programs that target additional dollars to students with high-needs through its special education, compensatory education, and bilingual education programs. PTA urges any study of education funding undertaken by the state to examine the adequacy of the additional funding for these high-need students in light of recent research on the most effective strategies and programs for these student populations.

3. Consider the feasibility of using a price adjustment for all dollar figures to ensure comparable spending power across all areas of the state.

The state does not make adjustments for local differences in educational resource costs. Yet, in this PTA study the purchasing power of education dollars varied as much as 25 percent between the lowest and highest price districts within the state. Making these adjustments for local cost differences helps to ensure more equal education opportunities across the state. However, as school finance experts acknowledge, making such adjustments can be politically difficult. Nevertheless, PTA urges the state to consider the technical and political feasibility of making such adjustments in any study of education finance that it undertakes.

INTRODUCTION

Legislative and economic developments over the past 10 years have placed Washington state students in a tight squeeze between high academic expectations and limited resources. Although the state has done much to provide fair and equitable funding since passing the Basic Education of Act of 1977, new legislative priorities and changes in the economy raise the question as to whether every child has the resources needed to attain high education standards. “Every child counts” is a central tenet of the Washington State PTA. PTA undertook this finance study to determine whether indeed every student—especially those most at risk for failing to achieve academic standards—receives a fair share of funding.

In response to a pending state Supreme Court ruling, the legislature passed the Basic Education Act of 1977 (BEA), which defined “basic education” in terms of broad goals and specified a minimum amount of time and instructional programs that school districts were required to offer. By law, the state was to fully fund the cost of a basic education without relying on local funds. The state also passed the Levy Lid Act in 1977 to regulate the amount of funds that could be raised by local levies for education. PTA joined other educational groups in crafting these legislations and lobbying for their passage.

Studies conducted since implementation of the BEA found that the new finance system did in fact produce more equitable funding of districts across the state and reduced the reliance of education funding on local levies.¹ However, researchers also were critical of certain omissions in the BEA. For example, the BEA does not factor in differences in the local cost of living or the extra costs urban districts have in educating a diverse population. Although overall funding for education increased, researchers found that the finance system ultimately rewarded relatively affluent and less diverse districts at the expense of districts with more poor and minority populations.² In the current times of restricted funding and increasing costs, such omissions increase the difficulty of districts trying to meet the educational needs of their diverse populations.

The concept of what constitutes a basic education changed dramatically following passage of the Education Reform Act in 1993 (HB 1209). Washington state established new statewide learning goals with high performance expectations for all students. More than spending a certain amount of time in a subject area, graduating students are now expected to achieve a level of proficiency in key subject areas. In support of the new goals, the Commission on Student Learning developed challenging and detailed academic standards and a state assessment system for measuring student achievement of the standards. Although the consequences for districts that fail to meet state standards are still being debated by the legislature, for students the consequences are clear. Beginning with the class of 2008, students must pass the 10th grade Washington Assessment of Student Learning (WASL) by the end of high school in order to graduate.

In addition, federal mandates to districts receiving federal Title I funding have been strengthened with the reauthorization of the federal Elementary and Secondary Education Act in 2000 – No Child Left Behind. School districts must now ensure all students, especially students of color, poor students, English language learners, and disabled students, improve their yearly academic performance and meet statewide performance goals within specified time frames. All students are expected to at least reach the

¹ Plecki, Margaret L. “Washington’s School Finance Reform: Moderate Success and the Need for Improvement.” *Journal of Education Finance* 25 (Spring 2000): 565-582. Also, Garvey, Deborah L. “Does School Finance Centralization Reduce the Growth of Instructional Spending? The Case of Reform in Washington” Santa Clara University Research Paper (February 2002).

² Theobald, Neil D. and Faith Hanna. “Ample Provision for Whom? The Evolution of State Control Over School Finance in Washington.” 17 *Journal of Education Finance* 7 (1991): 10-11. Also see Garvey, Deborah L. cited above.

proficiency level on state tests by the year 2014. Ultimately, districts that fail to make adequate progress over time might lose some of their federal funding, which totals about 9 percent of a district's revenue on average.³

We are asking our students to climb a very high academic mountain fueled by a 27-year-old finance system that has never determined the true cost of a basic education. Although the legislature has modified funding formulas to accommodate more programs and reduce the student-teacher ratio, it has never aligned the funding with the high performance expectations of 1993.

Now new state and federal mandates have taken hold at a particularly difficult time. The state has been slow to recover from the 2001-02 recession and regain lost jobs. Although state general fund revenues have modestly increased since the recession, they are not expected to keep pace with growing state expenditures over the next several years.⁴ The state's budget difficulties are compounded by voter initiatives that have limited the level of state expenditures and curbed the growth in property tax revenues. Against this backdrop, funding for our state's schools has failed to keep pace with inflation and with the growing demands for improvements in student performance.⁵ It's reasonable to ask whether it's truly possible to attain 100 percent proficiency by the year 2014 given the modest gains in WASL scores that have occurred over the past 5 years.

Committed to ensuring that every child counts, the Washington State PTA became concerned with the adequacy of funding for all students and whether any worrisome funding gaps existed, especially among our most needy and vulnerable school districts. Such districts are responsible for large numbers of high-needs students who are among those most at risk of failing in school—students federal and state legislation have been designed to rescue. These high-needs students include those with disabilities, English language learners, and students from poor families. This study was intended to provide a fresh look at Washington's school finance system and to review—in light of recent legislative and economic changes—whether it is still sufficient or whether some changes might be warranted. The study's major research questions and findings are summarized below.

More specifically, our research questions were as follows:

- (1) How fairly is school funding distributed across districts in Washington state?
- (2) If some districts receive much less school funding than others, what might be the reasons for this?
- (3) To what extent is districts' school funding dependent on district wealth?
- (4) What is the estimated cost of funding schools to a level adequate to meet state education standards?
- (5) Which districts face the greatest risk for not ensuring their high-needs students attain the state's academic standards?

³ The 9 percent is based on the percentage of federal funds in the combined school district General Funds for the 174 districts in this study for school year 2001-02.

⁴ "Washington State 2003-05 Budget & Revenue Preview," Presentation by the Senate Ways and Means Committee Staff, January 2003.

⁵ Pascall, Glenn. "Realities of Education Funding in Washington State: Why Schools are Still Struggling Even After the Passage of Two Education Initiatives." League of Education Voters Foundation (December 2002).

RESULTS IN BRIEF

1) How fairly is school funding distributed across districts in Washington state?

The distribution of total funding across school districts in Washington state is generally fair and equitable. On widely recognized national measures of finance equity, school district revenues vary little across districts in the state. For example, two-thirds of the students in the state were enrolled in districts that received enough total (federal, state and local) funding to put them within about 8 percent of the state average per pupil funding level, \$6,906.⁶ This means the total funding per pupil for most students fell within \$577 of the state average.⁷ See pages 15 to 16 in the report for a full explanation.

Even though Washington state's system is fairly equitable, it's still possible to have a group of districts at the bottom end of the funding range that are far below the average funding level. In this study, we identified 17 such districts in the state that receive substantially below-average funding per pupil; even when federal funds are included in the total.⁸ These districts are located primarily in King and Snohomish counties and tend to have higher costs for educational personnel and supplies than the average district in the state. Much greater than the typical difference from the average funding per pupil, these lowest-funded districts in the state ranged from \$615 to \$1,055 less than the state average. Altogether, these 17 lowest-funded districts accounted for about 171,000 students or about 18 percent of the total students included in the analysis. See pages 15 to 23 in the report for a full explanation.

2) Why do these 17 lowest-funded districts receive much less funding than the other districts in the state?

Although we have not conducted a complete investigation as to why the 17 lowest-funded districts are so far below the average funding level, we did examine a number of factors that could potentially explain the disparity. First, we learned that no single reason explains the low funding among this group, primarily because most of the districts receive relatively low funding shares from more than one revenue source (local, state and federal). However, certain aspects regarding the state's allocation criteria and the district's ability to raise local revenues appear to help explain the low funding.

For example, the state does not adjust for local differences in educational resource costs; a factor that may explain the districts' relatively low revenue shares in this study—where such adjustments were made. Also, 16 of the 17 districts have certificated teachers whose average education and experience levels are below the state's average. As the state awards additional salary funds for higher levels of teachers' education and experience, this finding means these districts receive less than the average state allocation for teacher salaries. Finally, 12 of the 17 districts make an above-average tax effort; yet nine of these 12 generate below-average local revenues. This finding suggests that an unwillingness on the part of districts to tax themselves is not an important reason for the low local revenues. See pages 24 to 27 for a full explanation.

(3) To what extent is districts' school funding dependent on district wealth?

School district funding in Washington state is not appreciably dependent on district wealth. This means that wealthy districts in Washington state generally do not have an unfair advantage over poor districts

⁶ All of the funding figures have been weighted for student needs and adjusted for differences in local resource costs.

⁷ The standard deviation for total funding per pupil is \$577. The standard deviation is the typical difference between a district's funding-per-pupil and the average funding-per-pupil allowing for the fact that some districts are above the average while others are below.

⁸ These are districts that are more than one standard deviation below the average total funding per pupil.

in raising funds for education. Local levy revenue to support K-12 education is generated primarily by property taxes. Districts with low property values cannot raise an amount of local revenue equal to the revenue in high property wealth districts unless they tax themselves at very high rates. However, Washington's state finance system seems to have largely compensated for differences in district tax bases. Our analysis shows that for every 1 percent increase in districts' tax base, a district on average receives an increase in total state and local funding of only 0.035 percent. See pages 28 to 29 in the report for a full explanation.

(4) What is the estimated cost of funding schools to a level adequate to meet state education standards?

Using two disparate approaches to defining and measuring adequacy of funding, we found that the additional necessary funding required for every child to meet state academic standards ranges from \$179 million to \$2.1 billion per year. Some school finance experts recommend using the state median funding level per pupil as a proxy for the cost of "adequacy," because studies have shown that districts meeting statewide standards of academic performance tended to be at the median funding level. If Washington were to fund all districts at the state median funding level per pupil, the additional cost of K-12 education funding per year would be about \$179 million. By instead defining a specific basket of education resources required to achieve specific student outcomes, the additional funding necessary might be as much as \$2.1 billion annually. See pages 30 to 32 in the report for a full explanation.

(5) Which districts face the greatest risk for not ensuring their high-needs students attain the state's academic standards?

Of the 174 districts in the study, we identified 17 that we considered most at risk for not ensuring all of their high-needs students attain the state's academic standards.⁹ These 17 at-risk districts have below-average funding and above-average shares of students with extraordinary needs and above-average rates of students who did not meet Washington Assessment of Student Learning (WASL) test standards in school year 2001-02. In other words, these are districts with above-average needs, but below-average resources. The concern is heightened by the strong correlation between students with high needs and students who do not meet WASL standards.

The combination of having both large portions of high-needs students and students who are below WASL standards places a considerable burden on the teaching staff. However, in 13 of the 17 at-risk districts, the teachers' average level of education and work experience was below the state's average level. An at-risk district's staff mix factor that is below the state average raises questions for parents whose children reside in these districts as to whether their children, especially any who require additional educational support, have the most qualified teacher. Also, 13 of the 17 at-risk districts had above-average rates of poor and minority students. Altogether these 17 at-risk districts account for about 103,000 students or 11 percent of the nearly 936,000 FTE students in the study. See pages 33-35 for a full explanation.

⁹ These 17 at-risk districts include some but not all of the 17 districts with the lowest levels of total funding per pupil discussed earlier. It's a coincidence that both the at-risk districts and the lowest-funded districts, based on different criteria, have the same number of districts. The four districts in both groups are Kent, Renton, Highline and Grandview.

SCOPE AND METHODOLOGY

To determine how fair the distribution of state, local and federal funding is across school districts in Washington, we employed two different, nationally-recognized measures often used to evaluate finance equity in elementary and secondary education funding: The coefficient of variation and the McCloone Index. First, we used the coefficient of variation (COV), a widely employed statistical tool that standardizes the measurement of variance in per pupil funding among districts. Next, with the McCloone Index, we measured the difference between (a) the funding in districts falling below the median in state per pupil funding and (b) the funding if all such districts received the state median in per pupil funding. See appendix VI for more explanation on these statistical tools.

To determine the possible causes of underfunding in low-funded districts, we examined their separate shares of local, state and federal revenues and compared each of them to their relevant average for the 174 districts in the study. We also examined the districts' local levy rates, tax base per pupil, and average staff mix factors to help explain the relative funding received from each revenue source.

To determine the extent of dependency between school funding and district wealth, we estimated the state's fiscal neutrality, another nationally recognized measure of equity. Fiscal neutrality measures whether the tax base wealth of school districts impacts the total funding received by the districts, and if so, how much. See appendix VI for more explanation on this statistical tool.

To determine whether districts are adequately funded to achieve Washington's high education standards and consequently meet new federal requirements in the reauthorization of the Elementary and Secondary Education Act—No Child Left Behind, we employed two disparate approaches. The first mirrored an approach employed by researchers that have defined funding adequacy as the state median per pupil funding level. The second used a specific adequacy model designed by the Rainier Institute, a Washington-based public policy think-tank. The model identifies and prices program components judged to be essential to providing a quality education for all students and consistent with the state's education standards. See appendix VII for details.

To determine the risk to vulnerable student populations in low-funded districts, we calculated indexes of 1) a district's rates of students not meeting standards on 4th grade WASL math and reading tests and 2) a district's relative share of students with extraordinary needs. To determine the relationship between districts' share of high-need students and districts' rates of not meeting WASL standards, we correlated the indexes. We then identified those districts that had below average funding per pupil and were above average on the indexes for not meeting WASL standards and high-need students. We acknowledge that single year performance indexes do not reflect any improvement or decline in district's rates of passing WASL tests over time. To help offset this limitation, we also provide information on districts' rates for not passing the WASL in the previous school year. See appendix VIII for details.

Our analysis relies on 2001-2002 state, local and federal funding, enrollment and WASL data for public school districts in Washington State, the most recent data available. We obtained our data from the Washington State Office of the Superintendent of Public Instruction. We focused our analysis only on funding for district maintenance and operations from the general fund, excluding funding for capital expenditures, debt service and other purposes.¹⁰ See appendix I for a breakdown of the revenues by source used in this study.

¹⁰ In some instances, particularly in parts of the state with a heavy federal presence or large federal timber resources, supplemental federal funding to districts in these areas reduced somewhat the state allocation to them. This is an important consideration to note when analyzing the equity of state and local funds without the federal funds.

We excluded from our analysis very small and remote districts whose extremely high per pupil costs result in extraordinary state funding allocations. Including these districts would have skewed our analysis so that it would not have accurately reflected the distribution of funding across the majority of districts in the state. We also excluded institutionalized students whose extraordinary costs would also have skewed the analysis. Ultimately, our study included 96 percent, or 935,814, of the full time equivalent students enrolled in the state in school year 2001-02. See appendix II for more details on how we adjusted for district size.

In addition, we adjusted for differences in the costs associated with educating students with extra needs and for local differences in the cost of education. We weighted our analysis to recognize the additional cost of educating special education students, economically disadvantaged students, and students who are English language learners. Specifically, we counted special education students as 1.9, English language learners and economically disadvantaged students both as 1.2, and all other students as 1. The weights are based on conservative cost estimates of the additional educational services afforded to these students. We also adjusted for differences in local costs by using a district-level Geographic Cost of Education Index developed by researchers for the U.S. Department of Education.¹¹ See appendix III for how we made adjustments for differences in student need and appendix IV for how we made adjustments for differences in resource costs.

The application of cost and need indexes can dramatically change the relative ranking of districts by funding per pupil. The geographic cost of education index varied as much as 25 percent between the lowest and highest price districts in the state and the high-needs student index varied as much as 27 percent between districts with the lowest and highest rates of weighted pupils. See appendix V for summary statistics on the 174 districts that contrast funding figures before and after making adjustments for student needs and local costs differences.

PTA performed this work between September 2003 and January 2004.

BACKGROUND

Until the 1800s, America's schools were funded and operated almost exclusively by local communities. However, in the mid-1800s, many states rewrote their constitutions to include a state responsibility to provide for the education of the states' children from kindergarten through high school and, subsequently, began to provide funding to support it. In most states, the responsibility for funding education was largely shared with local communities, which raised money for schools through local property or sales taxes. However, because the tax base could vary greatly among communities, disparities in funding levels were common among school districts within a state.

Considering the importance of education to the lives of children, it's not surprising that these funding disparities have been the subject of many lawsuits. The challengers have based their lawsuits on the equal protection clauses and/or the education clauses contained in state constitutions. State education clauses vary in their constitutional wording and in the manner courts have interpreted them. Some education clauses have been interpreted to mean that states must merely provide one statewide education system, while others have been interpreted to mean the state must provide equal opportunities to

¹¹ Jay G. Chambers, Ph.D., is the primary author of the Geographic Cost of Education Index. Dr. Chambers is a senior research fellow and co-director of both the Education and Public Sector Finance Group and the National Center for Special Education Finance at the American Institutes for Research.

education across all districts. In still other cases, courts have inferred from education clauses that the state is to provide an adequate education for all students.

The results of these lawsuits have been mixed. Researchers report that, as of 1999, state courts in 43 states have heard cases on the constitutionality of school finance systems.¹² The courts have declared school funding systems unconstitutional and ordered various kinds of reforms in 19 states and rejected school finance claims in another 24 states. However, nine of the unsuccessful plaintiffs continued to seek redress on other legal grounds. School finance litigation is still active today. The Education Commission of the States reports that 19 states were involved in school finance litigation in 2002 and early 2003.

Over the last 30 years the focus of litigation has gradually shifted from equity in the distribution of school funds to adequacy, with plaintiffs asserting that the state also is responsible for providing a basic level of funding that is sufficient for a proper education. For example, in 2002, plaintiffs filed a suit in Montana after declining state school funds forced cutbacks in key programs and staff. The plaintiffs want the court to compel the legislature to study and define an adequate education and to fund it based on actual costs. The case is still pending.

One of the first court decisions made on adequacy grounds occurred here in Washington state. In 1978, the state's Supreme Court ruled that Washington must bear full responsibility for funding a "basic" education, a ruling that required the state legislature to define a basic education and revise the school finance system. Although the lawsuit was not brought on equity grounds, the state's new finance system had the effect of making school funding in the state more equitable.

What is Equity?

Equity seems on its face a simple concept—equal resources for each student. However, spurred on by court cases, the analysis of equity in education finance has grown more complex over the last 30 years. One important development is the recognition that fair funding does not necessarily mean the same funding per pupil. For example, some children need additional resources to achieve the same educational goals as everyone else, and thus need additional funds to do so. A second development is the acknowledgement that differences in local property wealth can lead to an unfair distribution of school funds among a state's districts.

The simplest notion of equity is known as "horizontal equity." This notion is one many parents might easily grasp in that it implies a \$10 gift for one child warrants an equal \$10 gift for the other. The nominal spending is equal for each child and is therefore viewed as both fair and equitable. In terms of financing public education, horizontal equity would mean that the amount of funding a district receives per student would be the same for every district across a state. Courts and education stakeholders, however, typically do not find such a funding scheme as fair or acceptable.

Underpinning the notion of "vertical equity" is the acknowledgement that students vary greatly in their educational needs and districts vary greatly in size and location. Such factors have a great impact on the cost of providing an education. Students who are physically or mentally disabled, who are English language learners, or who are economically disadvantaged require additional educational services—which involve additional costs. Likewise, school districts with extremely low enrollments and those located in remote areas often have high per pupil costs in operating small school buildings and

¹² Minorini, Paul A. and Stephen D. Sugarman, "School Finance Litigation in the Name of Educational Equity: Its Evolution, Impact, and Future," Equity and Adequacy in Education Finance: Issues and Perspectives (1999) The National Academy of the Sciences

transporting students across long distances. Urban districts, too, often have higher than average costs for labor driven by the price of housing, transportation, or food among other things. Making adjustments to account for differing needs for education services and for geographic cost differences in educational resources is a concept known as “vertical equity.” Once these adjustments are made, usually by inflating enrollment to account for the higher cost to educate some students or by employing a cost index to adjust for the varying purchasing power of education revenues, or both, the resulting funding per pupil across districts is expected to be equal.

Finally, the concept of “fiscal neutrality” asserts that no relationship should exist between education funding and local district wealth. District wealth is a measure of a district’s ability to raise revenues for education, often expressed as taxable property wealth per pupil. The quality of education, therefore, should be a function of the wealth of the entire state, not of an individual community. Unlike vertical equity, which calls for nearly equal funding per student (after need and cost adjustments have been made), fiscal neutrality allows for differences in funding as long as they are tied to the different choices districts make about how much local money they want to raise for schools, rather than to the innate value of their tax base.

What is Adequacy?

Whereas finance “equity” concerns itself with the fair distribution of funding across school districts, the notion of adequate funding concerns itself with educational outcomes. In terms of “adequacy,” it is not only important that the distribution of funds be fair, but that the fair distribution of funding be adequate to achieve some predetermined educational outcome.

Today, a growing number of state court decisions suggest that states are now being expected to provide for an adequate education for all students and to do so in an equitable manner. But even more so than the concept of finance equity, “adequate” educational outcomes have proven complex and difficult to define. The challenge is to calculate a base spending per pupil amount considered adequate for the average child to reach high academic standards. According to school finance experts, this is one of the most pressing, as well as complex, tasks for linking a state’s school finance system to the goals and strategies of standards-based education reform.

In states that set a minimum foundation of funding to support basic education requirements, the per pupil funding levels are almost entirely the result of how much a state can afford to budget for education, compared to health care, corrections and other state services. In the vast majority of states, the amount of funding provided per pupil is not the result of any practical attempt to link performance levels desired to the resources required to achieve them. In Washington, the level of state funding is primarily determined by the teacher-to-student ratios in the basic education formulas. However, the state has never linked these formulas to the resources needed to achieve the state’s academic standards established by the Education Reform Act of 1993.

A number of states have begun efforts to both define and cost “adequacy.” Among these are Wyoming, Illinois, New Jersey, Wisconsin, Maryland and Ohio. School finance experts have developed various methods for measuring adequacy. Their work focuses on the following four approaches:¹³ (1) inferring costs from outcomes by statistical analysis of statewide databases, usually including test scores, spending levels, demographic characteristics, and other variables; (2) inferring costs from outcomes by empirical observation of districts that seem to generate adequate outcomes, (3) inferring costs from the

¹³Guthrie, James W. and Richard Rothstein. “A New Millennium and Likely New Era of Education Finance.” Education Finance in the New Millennium, AEFA 2001 Yearbook Stephen Chaikind, William J. Fowler, Eds.; Larchmont, NY: Eye On Education, Inc., 2001.

actual price of whole school reform designs (such as Success for All); and (4) inferring costs from professional judgment about the resource requirements of specific outcomes.¹⁴

In this report, we used base spending per pupil levels from two of these four approaches: first, inferring costs from districts with seemingly adequate outcomes and second, inferring costs from professional judgment about resource requirements. We discuss these approaches in greater detail on pages 30 to 32.

What is the State's Role for Linking States' School Finance Systems to Performance Standards?

If states are to ensure that all schools have the resources needed to teach students to high academic standards, then states need to link their school finance systems to the goals and strategies of their education standards. According to two highly regarded school finance experts, Allan Odden and Lawrence Picus, such a school finance system would consist of the following elements:¹⁵

1. A base spending level that would be considered adequate for the average child, which in the short term could be approximated by the median expenditure level.
2. Additional amounts of money for students who need extra help and thus more resources than the average students. These are students with physical or mental disabilities, those from low-income families, and those struggling with the English language.
3. A price adjustment for all dollar figures to ensure comparable spending power across all areas of the state.
4. Adjustments for the education level of students, that is whether students are in elementary or secondary school, and for scale economies, that is, whether districts have small enrollments or located in remote areas.

The state's school finance system addresses two of the four elements. The state does target additional funds to students who need special help through formulas and categorical programs (element 2). The state's school finance system does take into account the two factors—education level and scale economies—identified in the fourth element. In kindergarten through 4th grade, the state provides funds for up to 55.4 certificated teachers for each 1,000 FTE pupils enrolled, and for grades 5 through 12, it provides funds for 46 certificated teachers for each 1,000 FTE pupils enrolled. The state also awards additional funds to districts with small enrollments or those located in remote areas.

However, the state has not conducted a cost study to determine the base spending per pupil for achieving the academic standards developed in 1993 (element 1). Nor does the state adjust for differences in the purchasing power of educational dollars across districts (element 3).

In this analysis, we examined school finance issues related to the first three of the four elements listed above.

¹⁴ Guthrie, James W. and Richard Rothstein. "Enabling "Adequacy" to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements." In Helen Ladd, Rosemary Chalk, and Jane Hansen (Eds.), *Equity and Adequacy in Education Finance*. Washington, D.C.: Committee on Education Finance of the National Research Council, National Academy Press, 1999.

¹⁵ Allan R. Odden and Lawrence O. Picus. *School Finance: A Policy Perspective* Second Edition, The McGraw-Hill Companies, Inc. 2000. Allan R. Odden is a professor of Educational Administration at the University of Wisconsin-Madison and Co-Director of the Consortium for Policy Research in Education (CPRE), and the director of CPRE's Education Finance Research Program. Lawrence O. Picus is a Professor in the Rossier School of Education at the University of Southern California and the director of the Center for Research in Education Finance (CREF), a research center in the School of Education at the University of Southern California.

FINDINGS

Research Question 1: How fairly is school funding distributed across districts in Washington State?

Based on National Benchmarks, School Funding is Fairly Distributed Across Districts

The distribution of total funding across school districts in Washington state is generally fair and equitable. Based on national benchmarks, Washington’s equity scores for disparity indicate that the state has a relatively modest amount of variation in school district funding. In a perfectly equitable situation, we would expect no variation in school funding. Every child would receive the same or average funding after adjusting for differences in student needs and local costs. We used two equity measures to analyze the variation in per pupil funding across districts. Each measure focuses on a different aspect of the dispersion.

The judgment of two national school finance experts, Allen R. Odden and Lawrence O. Picus provide the benchmarks for judging equity scores. Their opinions are elaborated in their textbook on school finance.¹⁶

To better appreciate the equity measures that deal with how much variation exists in funding across the 174 districts in the study, we first present the districts’ summary statistics in Table 1. The average funding-per-pupil for state and local revenues is \$6,317 and the range is \$3,055. At \$4,955 per pupil, Wapato in Yakima County is at the bottom, while at \$8,010 per pupil, Conway in Skagit County is at the top. The addition of federal funds increases the average to \$6,906 and the range to \$3,836 per pupil. At \$5,851 per pupil, Federal Way in King County is at the bottom, while Hood Canal in Mason County with \$9,687 is at the top. Federal funds had the overall effect of increasing the variation in funding as indicated by the increase in both the range and standard deviation shown in Table 1. As discussed in a later section, some of the districts with the lowest levels of state and local funding per pupil received such large shares of federal funds that they moved to the top levels for total funding per pupil.

Table 1. Summary Statistics of the 174 Districts in Study, School Year 2001-02

	Average	Standard Deviation	Median	Range	Minimum	Maximum
State and local funding per pupil*	\$6,317	\$462	\$6,319	\$3,055	\$4,955	\$8,010
Federal, state and local funding per pupil*	\$6,906	\$577	\$6,827	\$3,836	\$5,851	\$9,687

*All figures have been adjusted for differences in local costs and weighted for student needs.

¹⁶ Allan R. Odden and Lawrence O. Picus. *School Finance: A Policy Perspective* Second Edition, The McGraw-Hill Companies, Inc. 2000. Allan R. Odden is a professor of Educational Administration at the University of Wisconsin-Madison and Co-Director of the Consortium for Policy Research in Education (CPRE), and the director of CPRE’s Education Finance Research Program. Lawrence O. Picus is a Professor in the Rossier School of Education at the University of Southern California and the director of the Center for Research in Education Finance (CREF), a research center in the School of Education at the University of Southern California.

Given these summary statistics, the text below along with the equity measures in Table 2 explain the equity results for the districts in school year 2001-02. See Appendix VI for more details on equity measures.

Table 2. Equity Measures for the 174 Districts in Study, School Year 2001-02

	Coefficient of Variation	McCloone Index
State and local funding per pupil*	7.3%	94%
Federal, state and local funding per pupil*	8.4%	94%

*All figures have been adjusted for differences in local costs and weighted for student needs.

1. Coefficient of Variation

Definition: The coefficient of variation is the standard deviation for funding-per-pupil expressed as a percent of the average for such funding.

Results: Based on the coefficient of variation, most students in the study received near the average funding for pupil, adjusting for differences in student need and local costs. This is true for the average that includes just state and local revenues as well as for the average that includes federal revenues.

The average funding-per-pupil from state and local sources is \$6,317 after adjusting for differences in student needs and local costs. The coefficient of variation for this average is 7.3 percent. This means about two-thirds of the student population are within 7.3 percent of the average. That is, about two-thirds of the students receive funds ranging from \$5,856 to \$6,778 per pupil. These figures were all adjusted for local cost differences and weighted for student needs.

The addition of federal funds increases the average funding-per-pupil to \$6,906. The coefficient of variation for this average is 8.4 percent, slightly larger than the COV without federal funds. A coefficient of variation of 8.4 percent means that two-thirds of the students are within 8.4 percent of the average, ranging from \$6,326 to \$7,486 per pupil. These figures were all adjusted for local cost differences and weighted for student needs.

Comparison to National Benchmarks: Comparing the coefficient of variations against national benchmarks earns the state good ratings. Odden and Picus would consider both COVs to be within the desirable range of 10 percent or less.

2. McCloone Index

Definition: What if all the districts with per-pupil-funding below the median level were to receive the funds needed to bring everyone up to the median? How does the current amount of money compare to the amount needed? The McCloone index answers this question by comparing the actual funding of the districts below the median to the funding that would be needed to ensure all students in this lower half received the median amount.

Results: We found that districts received 94 percent of the total state and local funds needed to ensure

all students in the lower half receive the median amount per pupil (\$6,319). The McCloone index was also 94 percent when federal funds were included. These figures were adjusted to reflect local cost differences and weighted for student needs.

Comparison to National Benchmarks: Odden and Picus found that McCloone indices for “most school finance data sets are between 0.7 and 0.95, [with] 0.9 desirable.”¹⁷

The Typical Difference is Sizeable Between Average and Below-Average Districts

Although the state’s COV of 7.3 percent for combined state and local funding falls within the acceptable range suggested by experts, it is still a value judgment by the state as to whether this represents an acceptable amount of variation in school funding.¹⁸ About two-thirds of the students are in districts that receive between \$5,855 and \$6,779 per pupil from state and local sources—this is the range that comes from adding and subtracting the standard deviation of \$462 to and from \$6,317, the average state and local funding per pupil. With the addition of federal funds, the COV becomes 8.4 percent and the standard deviation is now \$577. Two thirds of the students are now in districts that range from \$6,329 to \$7,483 per pupil. Figures in this section were all adjusted for local cost differences and weighted for student needs.

It is interesting to note that in comparison to the standard deviations of other states, Washington’s is relatively small. In a national equity study of state and local revenues in school year 2000-01, researchers from Education Week, a national education publication, found that the average state and local funding per pupil in Washington state was \$6,501 with a standard deviation of \$774. The Education Week study included 240 of Washington’s 296 districts, which in contrast to this PTA study, includes more of the smaller districts with high levels of funding per pupil. Based on the Education Week study, Washington state’s standard deviation is in the bottom third of the overall distribution of states’ standard deviations.¹⁹ Standard deviations range from as much as \$2,524 in Alaska with an average funding per pupil of \$7,275 to as low as \$367 in Florida with an average funding per pupil of \$6,447.

On the other hand, when districts at the low end of the funding range in this study consider the purchasing power of \$462 or \$577, the disparities may seem sizeable. After all, public education advocates worked hard in the year 2000 to pass I-728—a legislation that called for a \$196 increase in funding-per-pupil the first year it was enacted.

Some Districts are Well Below Average Even After Federal Funds are Included

Beyond considering overall measures of equity, we also examined the districts that were at the low end of the funding range. We defined the low end to be those districts whose funding-per-pupil was one or more standard deviations below the average. Funding gaps at the low end may be substantial even though the overall equity scores are acceptable.

When considering just state and local funds, we found 23 districts were well below the average of \$6,317 per pupil. These districts ranged from \$461 to \$1,362 per pupil (1 to 2.95 standard deviations)

¹⁷ Allan R. Odden and Lawrence O. Picus. School Finance: A Policy Perspective Second Edition, The McGraw-Hill Companies, Inc. 2000. p. 77.

¹⁸By definition the coefficient of variation is the standard deviation, \$462, divided by, \$6,317, the average per pupil for funds received from state and local sources.

¹⁹ Quality Counts 2004, Education Week Volume XXIII, No. 17, January 8, 2004.

below average. The funding per pupil ranged from \$4,955 per pupil in Wapato, Yakima County to \$5,856 per pupil in Brewster, Okanogan County. Altogether, the 23 districts represented about 19 percent (180,961) of the total number of FTE students in the study. Of the 23 districts, 8 are in Yakima County, 6 in King County, 3 in Snohomish County, 2 in Pierce County, and 1 each in Island, Kitsap, Okanogan, and Skamania Counties. Four of the 5 lowest funded districts are located in Yakima County. Funding figures were all adjusted for local cost differences and weighted for student needs.

However, the number and extent of districts that are below average somewhat improves when federal funds are included. This is in part explained by the fact that 143 districts of the 174 districts in the study had their state basic education apportionments reduced to some degree by the amount of federal funds they expected to receive from certain federal programs.²⁰ With federal funds included, we found just 17 districts were well below the average of \$6,906 per pupil. These districts ranged from \$615 to \$1,055 (1.07 to 1.83 standard deviations) below average. The funding-per-pupil for the 17 districts in this low-end group ranged from \$5,851 in Federal Way, King County to \$6,291 in Grandview, Yakima County. These 17 districts represented about 18 percent (171,106) of the total student FTEs in the study. See Table 3 for the 17 districts and their funding. Funding figures were all adjusted for local cost differences and weighted for student needs.

²⁰ Federal revenue from the sale of federal forests (Account 5500 Federal Forests) and certain revenues from the Federal Housing Administration, Bureau of Land Management, Military Forest Yield and Reclamation Projects (Account 5400 Federal in Lieu of Taxes) all reduce the state's Basic Education payment to districts receiving these federal revenues. See Accounting Manual for Public School Districts in the State of Washington.

**Table 3. Districts with the Lowest Levels of Total Funding Per Pupil, School Year 2001-02
Adjusted for Differences in Student Needs and Local Costs**

			Geographic		Federal,	Amount Below
		Number	Cost of	High-needs	State & local	Average
		of	Education	Student	Funding	Funding
County	District	Pupils ¹	Index ²	Index ³	per pupil ⁴	per pupil ⁵
1 King Co.	Federal Way	21,550	1.13	1.00	\$5,851	\$1,055
2 Snohomish Co.	Granite Falls	2,217	1.07	0.99	5,982	924
3 King Co.	Kent	25,604	1.13	1.00	6,059	847
4 King Co.	Auburn	12,900	1.13	0.98	6,063	842
5 King Co.	Renton	12,270	1.14	1.00	6,099	807
6 King Co.	Snoqualmie Valley	4,353	1.12	0.95	6,155	751
7 Snohomish Co.	Mukilteo	13,812	1.09	0.98	6,163	743
8 Snohomish Co.	Sultan	2,177	1.07	1.02	6,167	739
9 Snohomish Co.	Stanwood-Camano	5,299	1.08	0.97	6,183	722
10 Snohomish Co.	Lake Stevens	6,725	1.08	0.96	6,205	701
11 Snohomish Co.	Arlington	4,936	1.08	0.97	6,240	666
12 King Co.	Highline	17,605	1.14	1.02	6,254	652
13 King Co.	Issaquah	13,765	1.13	0.94	6,257	648
14 Kitsap Co.	South Kitsap	10,717	1.04	0.99	6,269	636
15 King Co.	Tahoma	5,826	1.12	0.96	6,273	633
16 Snohomish Co.	Snohomish	8,469	1.08	0.96	6,290	615
17 Yakima Co.	Grandview	2,884	1.01	1.08	6,291	615
	Total Students	171,106	Average Funding for all 174 districts: \$6,906 per pupil.			

¹Number of pupils is the total number of unweighted students in the district less the number of institutionalized students.

²The study's average is 1.00. An index measures a district's cost of educational resources relative to the study's average. For example, Federal Way's educational resources on average cost 13 percent more than the average for the 174 districts in the study. See Appendix IV for more details on the Geographic Cost of Education Index.

³High-needs students include students with disabilities, English language learners, and students from poor families. In the analysis, such students are weighted according to their need for additional resources. Students with disabilities count as 1.9, English language learners and students from poor families count as 1.2, and all others as 1. The index measures a district's relative percentage of weighted students relative to the study's overall percentage, which is 19 percent. For example, Grandview's percentage of weighted students is 108 percent of the study's average. See Appendix III for more details on adjusting for differences in student needs.

⁴This is total funding per pupil weighted for differences in student needs and adjusted for differences in the local costs of educational resources. The funding does not include revenues for institutionalized students.

⁵This is calculated by subtracting a district's total funding per pupil from the study's average of \$6,906.

Mix of Lowest-Funded Districts Change with Inclusion of Federal Funds

The mix of districts in the lowest-funded group with federal funds is different compared to the lowest-funded group without federal funds. Most affected districts are now in King County rather than Yakima County. Specifically, 8 of the 17 low-funded districts are in King County, 7 are in Snohomish County, and 1 each in Kitsap and Yakima Counties. Overall, King County districts represent 5 of the 6 lowest funded districts in this group. See Figures 1 and 2 to see the contrast in the geographical dispersion of low-funded districts before and after federal funds are added.

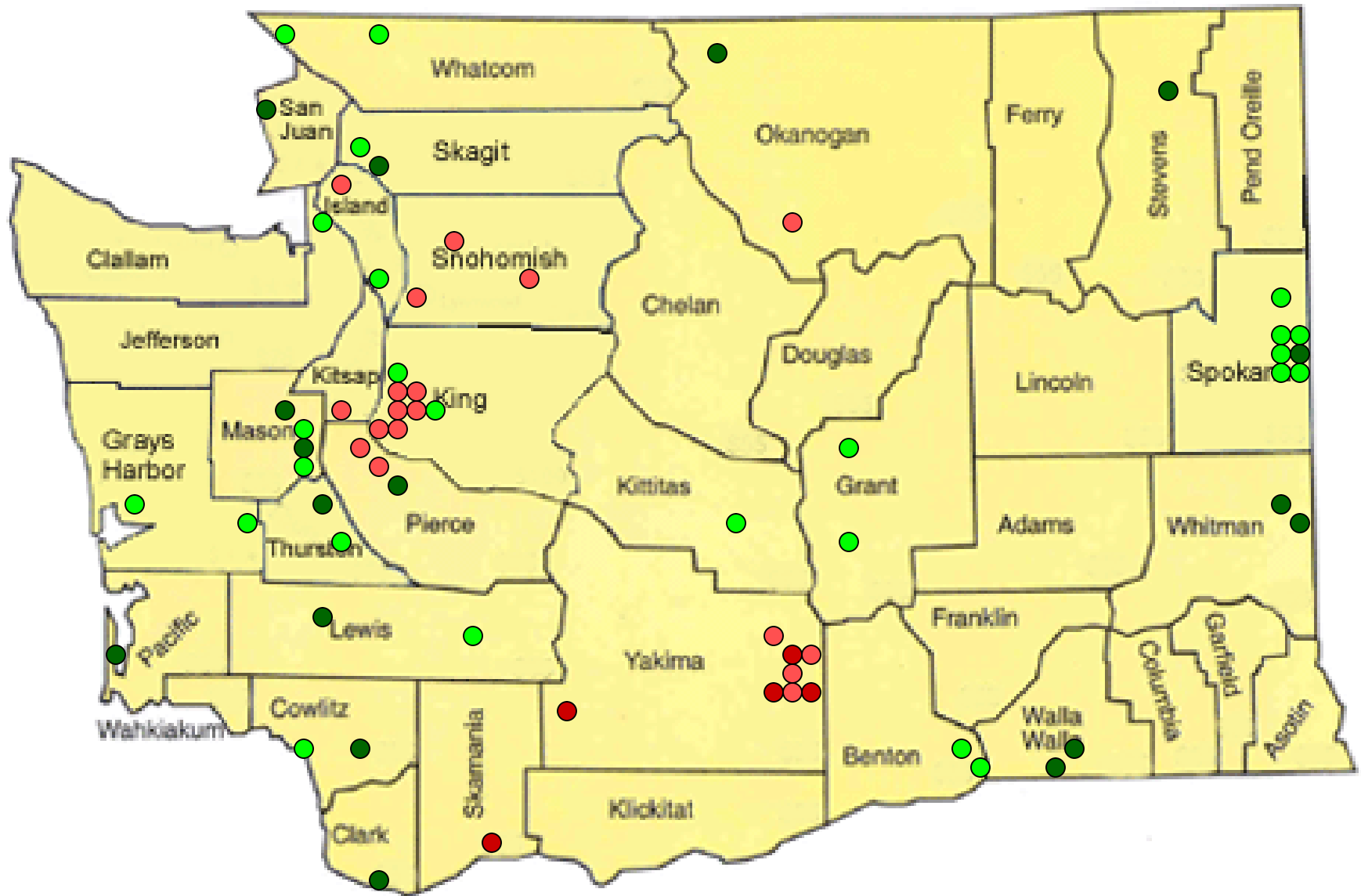


Figure 1. Districts with an average (state & local) funding per pupil, adjusted for student needs and local resource costs, that are (average state & local funding per pupil = \$6,317)			
?	\$924 or more below the state average (2 or more times the standard dev. below)	?	\$924 or more above the state average (2 or more times the standard dev. above)
?	From \$462 to \$924 below the state average (1 to 2 times the standard deviation below)	?	From \$462 to \$924 above the state average (1 to 2 times the standard deviation above)

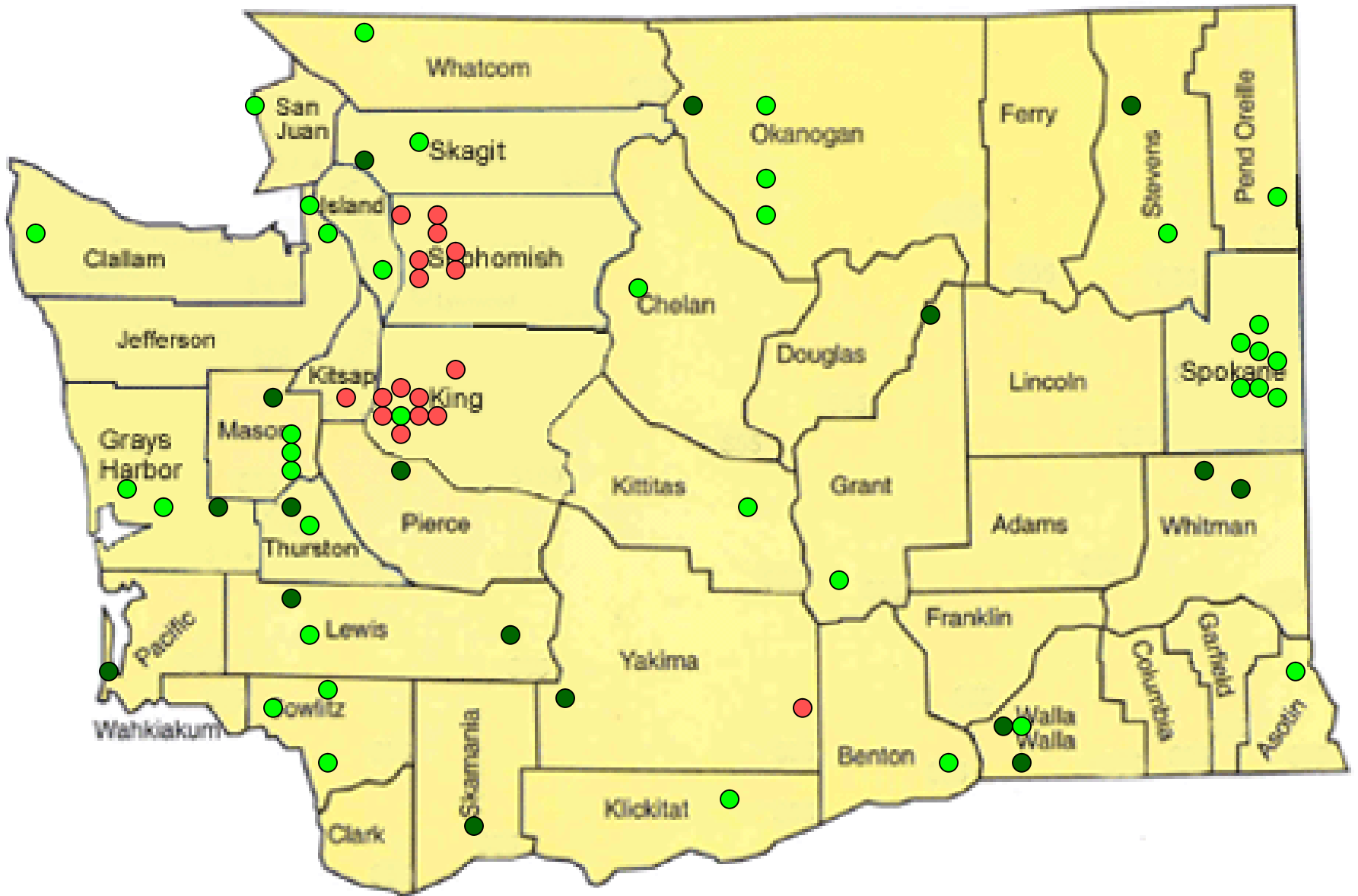


Figure 2. Districts with an average total funding per pupil, adjusted for student needs and local resource costs, that are:
 (Average federal, state & local funding per pupil = \$6,906)

●	?	Between \$577 and \$1,154 below the state average (1 to 2 times the standard deviation below)
●	?	Between \$577 and \$1,154 above the state average (1 to 2 times the standard deviation above)
●	?	\$1,154 or more above the state average (2 times the standard deviation or more above)

Federal Funds Boosted Funding in Districts with Lowest Levels of State and Local Funds

It’s clear that the five districts with the lowest levels of state and local funding per pupil all benefited from the addition of federal funds. As Table 4 shows, only 1 district (Grandview, Yakima County) of the 5 districts is still among the lowest-funded districts once federal funds are included. Grandview is still \$615 per pupil below the average, more than one standard deviation below average. Two of the five, Mount Adams, Yakima County and Stevenson-Carson, Skamania County, experienced a huge increase. Mount Adams received \$3,986 per pupil in federal funds, most of which was from the federal Impact Aid program (Account 5300). Stevenson-Carson received \$4,200 per pupil in federal funds, most of which was from Federal Forest Fees (Account 5500). The other two districts, Wapato and Toppenish in Yakima county, are still below the average funding-per-pupil, but they are both less than one standard deviation (\$577) away from the average. Funding figures were all adjusted for local cost differences and weighted for student needs.

Although these districts greatly benefited from federal funds, the question remains as to whether the state is meeting or should be meeting the basic education needs of these districts without relying on federal funds. A second question is whether the federal funds are as flexible in their use as any state funds they may have supplanted. This study did not attempt to answer these questions.

**Table 4. Addition of Federal Funds Benefited the Five Districts
With the Lowest State & Local Funding Levels, School Year 2001-02**

County	District	Number of Pupils ¹	State & local Funding per pupil ²	Difference From Average State & Local Funding per pupil ³	Federal, State & local Funding per pupil ⁴	Difference From Average Federal, State & Local Funding per pupil ⁵
1	Yakima Wapato	3,184	\$4,955	-\$1,362	\$6,652	-\$254
2	Yakima Mount Adams	1,039	5,039	-1,278	9,025	2,120
3	Skamania Stevenson-Carson	1,053	5,069	-1,248	9,268	2,363
4	Yakima Toppenish	3,224	5,171	-1,146	6,844	-61
5	Yakima Grandview	2,884	5,242	-1,075	6,291	-615

¹Number of pupils is the total number of unweighted students in the district less the number of institutionalized students.

²This is a district’s combined state and local funding per pupil weighted for differences in student needs and adjusted for differences in the local costs of educational resources.

³This is calculated by subtracting a district’s total funding per pupil from the study’s average of \$6,317.

⁴This is total (federal, state, and local) funding per pupil weighted for differences in student needs and adjusted for differences in the local costs of educational resources.

⁵This is calculated by subtracting a district’s total funding per pupil from the study’s average of \$6,906.

Research Question 2: If some districts receive much less school funding than others, what might be the reasons for this?

Various Factors May Explain Low Funding in 17 Districts

Although we have not conducted a complete investigation of why the 17 lowest funded districts are so far below the average funding, we did examine a number of factors that could potentially explain their funding status. No single factor explains the low funding among this group, primarily because most of the districts receive relatively low funding shares from more than one revenue source (federal, state and local). However, certain aspects regarding the state’s allocation criteria and the districts’ ability to raise local revenues appear to help explain the low funding. These findings are discussed below. Refer to Table 5 for a list of the districts’ key traits referred to in the discussion.

1. Most districts received relatively low funding shares from more than one revenue source.

A combination of local, state, and federal funds makes up the total funding per pupil of the 17 lowest-funded districts. A relatively low amount of funds from any one or combination of these revenue sources could explain the overall low funding of the districts. In fact, we found that 16 of the 17 districts received below-average funding per pupil from more than one source. In table 5, columns E, F and G summarize the relative standing of each district in terms of their funding per pupil received from each funding source.

-- 10 of the 17 receive below-average funding per pupil from all three sources (federal, state, and local). Federal Way, Granite Falls, Auburn, Renton, Mukilteo, Sultan, Stanwood-Camano, Lake Stevens, Arlington and Snohomish

-- 5 of the 17 receive below-average funding per pupil from state and federal sources. Kent, Snoqualmie Valley, Highline, Issaquah and Tahoma

-- 1 receives below-average funding per pupil from local and federal sources. South Kitsap

-- 1 receives below-average funding per pupil from just one source—local. Grandview

2. All districts are located in areas with high education costs; the state does not adjust for such costs.

As a group, all 17 districts have higher than average costs for education personnel and supplies. See column B of table 5. The state does not adjust districts’ revenues for their relative differences in purchasing power. Not adjusting for geographic differences in resource costs when distributing revenues may help explain why these districts have low funding per pupil levels in this study—where the adjustments were made.

3. Certificated staff with relatively low experience and education levels garner relatively low state salary allocations.

In allocating funds for teacher salaries, the state provides more funds to districts that have certificated instructors with more education and work experience, as measured by a district’s “average staff mix factor.” All but one of the 17 lowest-funded districts have below-average staff mix factors. See column H of table 5. This factor may help to explain why these districts have relatively low state funding per pupil. See appendix IX for the table and explanation of staff mix factors used by the state in 2002.

4. Although most tax efforts are above-average, most local revenues are low.

We found that 12 of the 17 districts make an above-average tax effort²¹; yet nine of these 12 generate below-average local revenues. These nine are Federal Way, Granite Falls, Auburn, Mukilteo, Sultan, Lake Stevens, Arlington, South Kitsap and Snohomish. This finding suggests that an unwillingness to tax themselves to raise local education revenues is not an important factor in explaining why these 12 districts are among the lowest-funded in the state. See columns D and E of table 5.

Further, as column C of table 5 shows, 12 of the 17 districts have a relatively low tax base per pupil making it difficult to raise funds for education, regardless of the levy tax effort. These are Federal Way, Granite Falls, Kent, Auburn, Sultan, Lake Stevens, Arlington, Highline, South Kitsap, Tahoma, Snohomish, and Grandview.

5. Relatively low federal shares typical of most low-funded districts

All but one of the districts had below-average shares of federal funding. At least 60 percent of all federal funds in the state target students from poor families and students with disabilities.²² It's reasonable to expect that districts with high-need students indexes, which account for such students, would also receive sizeable federal funds.

Only six of the 17 districts in the study had above-average high-needs student indexes—and five were only slightly above average.²³ See column A of Table 5. Of these six, Grandview had the highest high-needs student index (1.084) and was the one district with an above-average federal share. The other five districts (Federal Way, Kent, Renton, Sultan, and Highline) had high-needs student indexes that ranged from 0.2 percent to 2.3 percent above the study's average. However, their federal shares were all less than average, ranging from 8 percent to 40 percent less than the average federal share for the districts in the study.

²¹ Local tax effort is the district's certified levy amount (made up of local property tax dollars) divided by the district's levy valuation with timber, a measure of the district's tax base subject to property tax. The certified levy amount is either the actual amount approved by the district's voters or the district's levy lid, whichever is less. In calculating levy lids, the state deducts the amount of state aid—termed local effort assistance—the district is expected to receive to offset a district's relative low ability to raise local revenue because of low property values. Without the state's assistance, a district would have a higher levy lid and would have to tax itself at a higher rate to capture all the revenue it's permitted to raise. So, local effort assistance helps to keep the local tax effort lower than it would otherwise need to be to raise the same amount of revenue. Yet even with the local effort assistance, these nine districts still had above-average local tax efforts: Federal Way, Granite Falls, Kent, Sultan, Lake Stevens, Arlington, South Kitsap, Tahoma and Snohomish.

²² The main federal programs that account for about 60 percent of the state's federal funds and target students with disabilities and low-income students are authorized by the Elementary and Secondary Education Act in Title I and Title X, the Individuals with Disabilities Education Act, and the U.S. Department of Agriculture's free or reduced price meal programs. Also, other federal programs use the criteria defined in these programs to target federal funds to schools.

²³ The high-needs student indexes in this study ranged from 0.91 to 1.14 with an average of 1.0.

Table 5. Lowest Funded Districts¹: Key Student and Funding Traits,
Sorted by Adjusted Total Funding Per Pupil, School Year 2001-02

County	District	High-Needs Student Index ²	Geographic cost of education index ³	Levy Tax Base Per Pupil Index ⁴	Levy Rate Index ⁵	Adjusted Local Revenue Per Pupil Index ⁶	Adjusted State Revenue Per Pupil Index ⁷	Adjusted Federal Revenue Per Pupil Index ⁸	Average Staff Mix Factor ⁹	Adjusted Total Funding Per Pupil ¹⁰
		A	B	C	D	E	F	G	H	I
1 King	Federal Way	1.002	1.13	0.701	1.23	0.85	0.88	0.62	1.51946	\$5,851
2 Snohomish	Granite Falls	0.987	1.07	0.664	1.05	0.70	0.95	0.68	1.45102	5,982
3 King	Kent	1.004	1.13	0.848	1.23	1.02	0.88	0.60	1.54861	6,059
4 King	Auburn	0.980	1.13	0.830	1.22	0.97	0.88	0.67	1.57105	6,063
5 King	Renton	1.001	1.14	1.534	0.70	0.99	0.88	0.76	1.57304	6,099
6 King	Snoqualmie Valley	0.952	1.12	1.551	0.71	1.07	0.92	0.32	1.58536	6,155
7 Snohomish	Mukilteo	0.982	1.09	1.003	1.03	0.98	0.92	0.57	1.51996	6,163
8 Snohomish	Sultan	1.018	1.07	0.628	1.27	0.87	0.93	0.77	1.47924	6,167
9 Snohomish	Stanwood-Camano	0.966	1.08	1.084	0.84	0.92	0.95	0.49	1.58707	6,183
10 Snohomish	Lake Stevens	0.963	1.08	0.629	1.31	0.83	0.96	0.46	1.50229	6,205
11 Snohomish	Arlington	0.969	1.08	0.819	1.12	0.83	0.99	0.47	1.57352	6,240
12 King	Highline	1.023	1.14	0.945	1.13	1.04	0.87	0.91	1.54785	6,254
13 King	Issaquah	0.938	1.13	1.551	0.67	1.16	0.91	0.34	1.55703	6,257
14 Kitsap	South Kitsap	0.986	1.04	0.656	1.39	0.59	1.03	0.72	1.6309	6,269
15 King	Tahoma	0.957	1.12	0.875	1.23	1.09	0.93	0.35	1.56107	6,273
16 Snohomish	Snohomish	0.957	1.08	0.840	1.09	0.91	0.96	0.45	1.58194	6,290
17 Yakima	Grandview	1.084	1.01	0.310	0.67	0.22	1.00	1.78	1.55246	6,291
Average value for 174 districts		19%	1.00	\$470,391	2.32	\$1,334	\$4,917	\$589	1.60641 ¹¹	\$6,906

¹The lowest-funded districts are those whose total funding per pupil, adjusted for student need and local resource cost differences, is more than one standard deviation (\$577) below the average for the 174 districts in the study, \$6,906.

² The high-needs student index measures the district's percentage of weighted students relative to the state's overall percentage of weighted students. For example, an index of 1.2 means the district has 120 percent of the state's average percent of 19 percent. Weighted students is the number of full time equivalent students adjusted to give extra weight to special education students, English language learners, and students from poor families.

³ The geographic cost of education is a district's cost of educational resources relative to the state's average cost.

⁴ The levy tax base per pupil index is the ratio of a district's levy tax base per pupil to the average value of this variable. Levy tax base per pupil is the district's total property and timber valuation divided by the district's student FTEs, net institutionalized students, weighted for student needs and adjusted for regional differences in resource costs.

Table 5 notes continued

⁵ Levy rate index is a district's levy rate relative to the state's average levy rate. Levy rate is the certified levy amount raised by a district divided by the total property and timber valuation of the district expressed in dollars raised per \$1,000 of valuation.

⁶ Adjusted local revenue per pupil is all the local revenues within revenue accounts 1000 (local taxes) and 2000 (local nontax) divided by the FTE students and adjusted for differences in regional costs and weighted for student need. Revenues do not include any funds from accounts 7000, 8000, or 9000. Pupil counts do not include institutionalized students. The index is the ratio of the district's adjusted local revenue per pupil to the average adjusted local revenue per pupil.

⁷ Adjusted state revenue per pupil is all the state revenues within revenue accounts 3000 (General Purpose) and 4000 (special purpose) divided by the FTE students adjusted for differences in regional costs and weighted for student need. Revenues do not include those from account 4156 (state institutions). The index is the ratio of the district's adjusted state revenue per pupil to the average adjusted state revenue per pupil.

⁸ Adjusted federal revenue per pupil is all the federal revenues within revenue accounts 5000 (General Purpose) and 6000 (special purpose) divided by the FTE students adjusted for differences in regional costs and weighted for student need. The index is the ratio of the district's adjusted federal revenue per pupil to the average adjusted federal revenue per pupil.

⁹ District's average staff mix factor is the district's average measure of certificated staff experience and training. Each certificated staff in a district is assigned a mix factor based on degree type, number of eligible credits, and years of certificated teaching experience. Source: School District Personnel, Summary Reports 2001-02 Table 34.

¹⁰ Adjusted federal, state and local revenue per pupil are federal, state and local revenues divided by the number of student FTEs, net institutionalized students, weighted for differences in student needs and adjusted for regional differences in resource costs.

¹¹This is the average value for all the districts in the state in school year 2001-02.

Research Question 3: How Much Does School Funding Depend on District Wealth?

Washington State Meets Standard for Fiscal neutrality

The concept of “fiscal neutrality” asserts that no relationship should exist between education funding per pupil and district wealth per pupil. The quality of education, therefore, should be a function of the wealth of the entire state, not of an individual community. Ideally, fiscal neutrality is achieved when district education funding is not dependent on district wealth. Under such conditions, we would expect a fiscal neutrality score of zero. In our analyses, we found that district education funding has a very small and positive relationship with district wealth. This means, an increase in district wealth results in a very small increase in district funding. Judged against national benchmarks, the state’s fiscal neutrality scores, with and without federal funding, are quite good. See Table 6 for fiscal neutrality scores. See Appendix VI for a more details on measuring fiscal neutrality.

Definition: We measured district funding as funding-per-pupil and district wealth as tax base-per-pupil, both adjusted for differences in local resource costs and student needs. In Washington state, district tax base includes assessed property values and timber assessed value.²⁴ We measured the extent of the dependency between district funding and district wealth by calculating the tax base elasticity of district funding-per-pupil.²⁵ Elasticity measures the percent change in funding per pupil relative to a 1-percent change in tax base per pupil. An elasticity that equals 1.0 or higher indicates that funding increases in percentage terms at the same or higher rate as an increase in district tax base. Elasticities between 0 and 1.0 indicate that funding does not increase at the same rate as an increase in district tax base.

Results: We found that a 1-percent increase in tax base per pupil is associated with a 0.035 percent increase in funding (state and local) per pupil. This low score suggests that the state’s policies for equalizing differences in districts’ abilities to raise local tax revenues have been effective. State policy tools for equalizing education revenues across districts include 1) providing all or most of the total funding so there are no discrepancies across districts, and 2) targeting funds to low tax base districts. Washington state’s owes most of its equalization effort to its relatively high state share rather than to its targeting effort.²⁶

The addition of federal funds lessens the elasticity, moving the state closer to fiscal neutrality. A 1-percent increase in tax base per pupil is associated with just a 0.019 percent increase in funding (federal, state and local) per pupil. In both cases, district funding increases at a much lower rate relative to a 1-percent increase in district tax base. The relatively lower elasticity score for funding that includes revenues from federal sources means that federal funds are more highly targeted to low wealth districts than are combined state and local funds. Table 6 summarizes these results.

²⁴ Tax base is the sum of a district’s assessed property valuation and the district’s share of assessed timber value. This is the tax base as calculated by the state.

²⁵ Both tax base per pupil and funding per pupil are measured relative to their respective state average. These variables represent percent changes from their respective state averages. In a simple regression where tax base per pupil is the independent variable and funding per pupil is the dependent variable, the coefficient of the independent variable represents the percent difference in funding per pupil associated with a 1-percent difference in district tax base compared with the state average. That is, the coefficient is the tax base elasticity of district funding evaluated at the state average.

²⁶ See the discussion of Washington’s equalization effort in the State of the States section of Quality Counts 2004, Education Week, Vol. XXIII, No. 17, January 8, 2004.

Comparison to National Benchmarks: Odden and Picus suggest that an elasticity less than 0.1 could signify that the state met the fiscal neutrality standard.²⁷

Table 6. Fiscal neutrality Results for 174 Public School Districts in School Year 2001-02

Fiscal neutrality Scores With and Without Federal Funding¹	
Elasticity of tax base per pupil to funding (state and local) per pupil^{2,3}	0.035
Elasticity of tax base per pupil to funding (federal, state and local) per pupil^{2,3}	0.019

¹Fiscal neutrality scores are the tax base elasticities and both scores are significantly different from zero.

²Both funding-per-pupil and tax base-per-pupil have been adjusted for differences in local costs and student needs. Tax base is the sum of a district’s assessed property valuation and the district’s share of assessed timber value. This is the tax base as calculated by the state.

³Both tax base per pupil and funding per pupil are measured relative to their respective state average. These variables represent percent changes from their respective state averages. In a simple regression where tax base per pupil is the independent variable and funding per pupil is the dependent variable, the coefficient of the independent variable represents the percent difference in funding per pupil associated with a 1-percent difference in district tax base compared with the state average. That is, the coefficient is the tax base elasticity of district funding evaluated at the state average.

²⁷ Odden and Picus actually suggest judging fiscal neutrality on both a state’s elasticity and the correlation between tax base-per-pupil and funding-per-pupil. Odden and Picus suggest that a correlation less than 0.5 and an elasticity less than 0.1 could be used to determine whether the state met the fiscal neutrality standard. In our analyses, the correlation between funding (state and local) per-pupil and tax base-per-pupil was 0.32 and the correlation between funding (federal, state and local) per-pupil and tax base-per-pupil was 0.15. All variables were adjusted for differences in local costs and weighted for student need. All variables were measured relative to their respective state average.

Research Question 4: What is the cost of funding schools to a level adequate to meet the state's academic standards?

Estimates of the Additional Cost to Fund Schools to Adequate Levels Are Expensive and Vary Widely

This research question assumes that we first have an estimate of the base spending per pupil needed to achieve the state's academic standards. In our study, we relied on two different such estimates arising from two different approaches for estimating and costing the amount of resources needed to achieve the standards. Certainly other cost estimates are possible using other approaches. We then subtracted the state and local funding for school year 2001-02 from the total cost estimate for each approach to determine the additional funds that would be needed under each scenario.²⁸ See appendix VII.

The two scenarios and the cost estimates of the additional funds needed to bring all students to standard are as follows:

1. Washington State would need to spend an additional \$178,670,188, assuming that the median funds per pupil level is a proxy for the funding needed to ensure every student achieves the states academic standards.
2. Washington State would need to spend an additional \$2,076,899,980, assuming the spending per pupil levels recommended by the Rainier Institute in its 2003 study of the funding needed to ensure that every student achieves the state's standards.

The first cost estimate is based on an approach that identifies the cost of existing school wide programs in a state's districts that have already achieved desired outcomes. Such a study has not been done in Washington State. However, studies using this approach in Illinois and Ohio have calculated base spending per pupil levels that were close to the median spending per pupil in the state.^{29,30}

Two criticisms of this approach suggest that the base spending per pupil calculated in this way may be underestimated. First, although the analyses were conducted in districts that exhibited high rates for passing proficiency standards on state tests,³¹ such proficiency measures do not include the entire range

²⁸ The total amount of state and local funds spent in school year 2001-02 on current operations for the districts in our study was \$6,174,101,704.

²⁹ For general overview of this point see Allan R. Odden and Lawrence O. Picus, School Finance: A Policy Perspective, Second Edition, The McGraw-Hill Companies, Inc. 2000, p. 73. For the specific studies see Hinrichs, William L., and Richard D. Laine. (1996) "Adequacy: Building Quality and Efficiency into the Cost of Education." Springfield, IL: Illinois Board of Education. Alexander, Kern, John Augenblick, William Driscoll, James Guthrie, and R. Levin. (1995). "Proposals for the Elimination of Wealth-Based Disparities in Public Education." Columbus, OH: Department of Public Instruction. Augenblick, John (1997) "Recommendations for a Base Figure and Pupil-Weighted Adjustments to the Base Figure for Use in a New School Finance System in Ohio." Columbus, OH: Ohio Department of Education.

³⁰ Both Ohio and Illinois have greater interdistrict variation than does Washington, suggesting that these states' median spending per pupil levels vary farther from the average than does Washington's.

³¹ In Illinois, at least 83 percent of the district's students met state proficiency standards; in Ohio, the passing rate ranged from 60 percent to 85 percent depending on the grade and test. From "A Survey of Finance Adequacy Studies", Education Commission of the States, Mike Griffith, Sept. 2001.

of educational outcomes some would expect of an adequate education.³² Second, the approach does not control for different portions of economically disadvantaged or racial minority youth in districts. For example, “the approach assumes that schools or districts with very high percentages of at-risk students can, using the same level of basic resources, perform at the same level as schools with low proportions of at-risk students.”³³

Further, the median funding per pupil does not account for increases in teacher salaries as is recommended by the second approach used in this study.

Despite these shortcomings, Odden and Picus recommend using the median funding per pupil as an approximation of the base spending per pupil in the short run. Hence, our first cost estimate for achieving Washington State’s educational standards is simply based on the median funding-per-pupil, adjusted for student need and local cost differences.

The median funding (state and local) per pupil was \$6,319, adjusted for student need and local cost differences. Of the 174 districts in the study, 63 are below the median and account for about 440,000 student FTEs.

The second cost estimate is based on the Washington Quality Education Model (WQEM), a model developed by the Rainier Institute that allocates state and local funds in school year 2000-01 to a set of programs thought to be necessary and effective in achieving the state’s academic standards.³⁴ In developing the WQEM, the Rainier Institute used a two-step approach. First, the Institute identified and priced a set of effective strategies and programs that research has shown have led to educational success. Then the Institute used a panel of knowledgeable experts to review and modify the programs and strategies as necessary to assure a better fit with Washington State’s education system. The Institute then assigned costs to the program elements to develop three recommended spending per pupil levels, one each for a typical school at the elementary, middle, and high school level in Washington State. The spending levels assume an increase in teacher salaries from their 2000-01 levels.

Based on the allocation of the WQEM costs to the various program elements, we calculated the base spending per pupil at each level (elementary, middle school and high school) and the student weights at each level associated with special education students, English language learners, and students from poor families.³⁵ After adjusting for inflation and differences in local costs, we used these figures to develop a cost estimate for achieving state standards in each district. See Table VII.2 in Appendix VII for spending per pupil levels and student weights derived from the WQEM model and used in our calculation.

We found that none of the districts were currently funded at levels recommended by the WQEM. The additional funds needed ranged from about \$408 per weighted pupil in Griffin, Thurston county to about

³² Guthrie, James W. and Rothstein, R. “Enabling “Adequacy” to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements” Equity and Adequacy in Education Finance: Issues and Perspective. National Research Council, National Academy Press, 1999.

³³ “Adequacy and Education Finance” National Conference of State Legislatures, National Center on Education Finance Concept Paper, www.ncsl.org/programs/educ/PubsAdequacy.htm

³⁴ What Will It Take? Defining a Quality Education in Washington and A New Vision of Adequacy for School Funding. Rainier Institute, March 2003.

³⁵ See appendix VII for more details on how we calculated the additional funds needed for each district assuming WQEM spending levels.

\$3,835 per weighted pupil in Wapato, Yakima county. The average additional cost per weighted pupil is \$2,125. The total \$2.1 billion estimate of the additional costs is about a third more than the combined state and local funding level in school year 2001-02. See Table 7 for a summary of the additional costs needed under this second scenario.

Table 7. Additional Costs to Achieve State Standards are Expensive Under WQEM Model¹, School Year 2001-02

Total Cost to Achieve State Standards Under WQEM	State and Local Funds in School Year 2001-02	Additional Cost to Achieve State Standards
\$8,251,001,684	\$6,174,101,704	\$2,076,899,980

¹See Appendix VII for more details on the Washington Quality Education Model (WQEM) developed by the Rainier Institute.

Research Question 5: Which districts face the greatest risk for not ensuring their high-needs students attain the state’s academic standards?

Seventeen Low-Funded Districts at Risk of Not Ensuring High-Needs Students Attain State Academic Standards

Of the 174 districts in the study, we identified 17 that we considered most at risk for not ensuring that their high-needs students attain the state’s academic standards.³⁶ These 17 at-risk districts have below-average funding and above-average shares of students with extraordinary needs and above-average rates of students who did not meet Washington Assessment of Student Learning (WASL) test standards in school year 2001-02. In other words, these are districts with above-average needs, but below-average resources. The concern is heightened by the strong correlation between students with high needs and students who do not meet WASL standards. The capacity of districts to teach such challenging students is dependent on the quality of the teaching staff. Yet, in 13 of the 17 at-risk districts, the average education and experience level of their certified instructors is below the state’s average level. Further, most districts (13) have above-average shares of minority and poor students. Altogether the 17 districts account for about 103,000 students or 11 percent of the nearly 936,000 FTE students in the study. Appendix VIII has more details on the method we used and the data for all 174 districts.

In the sections below, we discuss how we narrowed the 174 districts down to the 17 districts that are at greatest risk for not ensuring their high-needs students meet the state’s academic standards. Figure 3 below tracks the process.

Initially we narrowed the field of 174 districts by considering only the 65 districts that received less than \$6,906, the average per pupil funding from federal, state and local sources, adjusted for differences in student type and resource costs. Next, we considered the incidence of high-needs students in these 65 low-funded districts. About a third of these low-funded districts have relatively large shares of children whose extraordinary needs require additional education resources if they are to achieve the state’s high academic standards. Children with extraordinary needs are those who possess physical or mental disabilities, struggle with the English language, or come from poor families. Specifically, of the 65 districts, 22 had higher than average high-needs student indexes.³⁷

With less than average funding, these 22 districts may be especially hard pressed to ensure such children enjoy comparable education experiences as their peers and achieve a level of proficiency on state assessments. Yet, both state and federal mandates are clear that all children are to succeed or face certain consequences.

Concerned, therefore, with how well these districts performed on state assessments, we also considered the 22 districts’ performance on WASL tests. Of the 22 districts that had below- average funding and above-average shares of high-needs students, 17 had higher than average rates of students who did not meet the standards on 4th grade WASL math or reading tests.³⁸ It’s likely that the 17 districts that need

³⁶ These 17 at-risk districts include some but not all of the 17 districts with the lowest levels of total funding per pupil discussed earlier. It’s a coincidence that both the at-risk districts and the lowest-funded districts, based on different criteria, have the same number of districts. The four districts in both groups are Kent, Renton, Highline and Grandview.

³⁷ The high-needs student index is a ratio of a district’s percent of weighted students to the average such percentage for all 174 districts in the study. The average percent of weighted students for all 174 districts is 19 percent. The weighted student count gives extra weight to students with disabilities, struggling with the English language, and coming from poor families.

³⁸ Nine of these 17 districts also had rates of students not meeting 4th grade WASL standards that increased or worsened from school year 2000-01 to school year 2001-02. The other 8 districts had rates that either did not change or improved. It’s

additional resources to serve their populations of high-needs students are further stressed by the need to provide additional instructional support to students striving to meet WASL standards.

Underscoring the two pressures that students with high needs and students not passing WASL tests bring to bear on districts' budgets is our finding that the measures of these two populations are highly correlated with each other. Specifically, we found that the correlation between districts' high-need indexes and districts' indexes for not meeting standards on 4th grade WASL reading tests was 0.97, and between districts' high-need indexes and districts' indexes for not meeting standards on 4th grade WASL math tests, 0.98.³⁹ This finding further supports that these 17 districts out of the 174 in our study are likely most at risk for not ensuring their vulnerable or high-needs students meet state academic standards.

Certainly the combination of having both large portions of high-needs students and students who are below WASL standards places a considerable burden on the teaching staff. Ideally, some of the best and most qualified teachers should be available to help teach these most challenging students. However, as table 8 indicates, 13 of the 17 at-risk districts have average staff mix factors below the states average.⁴⁰ This means that the teachers' average education and experience levels in these 13 at-risk districts are below the state's average level.

Without the proper teaching expertise, the task of helping high-needs students make the most of their education and attain state standards becomes more difficult. In fact, a growing body of research suggests that teacher quality is the most important school factor affecting student achievement.⁴¹ Although the staff mix factor is not a definitive indicator of teacher quality, it is the best available. An average doesn't indicate the portion of the district's teachers who are at the high end of the education/work experience scale versus the low end. However, an at-risk district's staff mix factor that is below the state average should raise questions for parents whose children reside in these districts as to whether their children, especially any who require additional educational support, have the most qualified teacher.

Finally, it's interesting to note that these 17 at-risk districts tend to have relatively large shares of minority students and poor students. In fact, 13 of the 17 districts had above-average rates for both poor and minority students.

-- Specifically, 15 of the 17 districts had shares of minority students that exceeded 26 percent, the average for all 174 districts in the study.⁴² Among the 17 districts, the highest shares of Hispanic American students occurred in Brewster district of Okanogan county and the Toppenish and Grandview

possible to develop other measures of academic performance besides using the rate of 4th graders who did not meet WASL math or reading standards in school year 2001-02. Single-year performance indexes are limited because they only show a snap shot in time.

³⁹ The Not-Passing index for the 4th grade WASL reading test is the percentage of students who did not pass the WASL in a district relative to the average percentage for all the districts in the study. Students who did not pass include those at level 1 (well below the standard) and level 2 (below the standard). Students at Level 0 who did not take the test are not included in the calculation. The Not-Passing index for the 4th grade WASL math test was calculated in a similar manner.

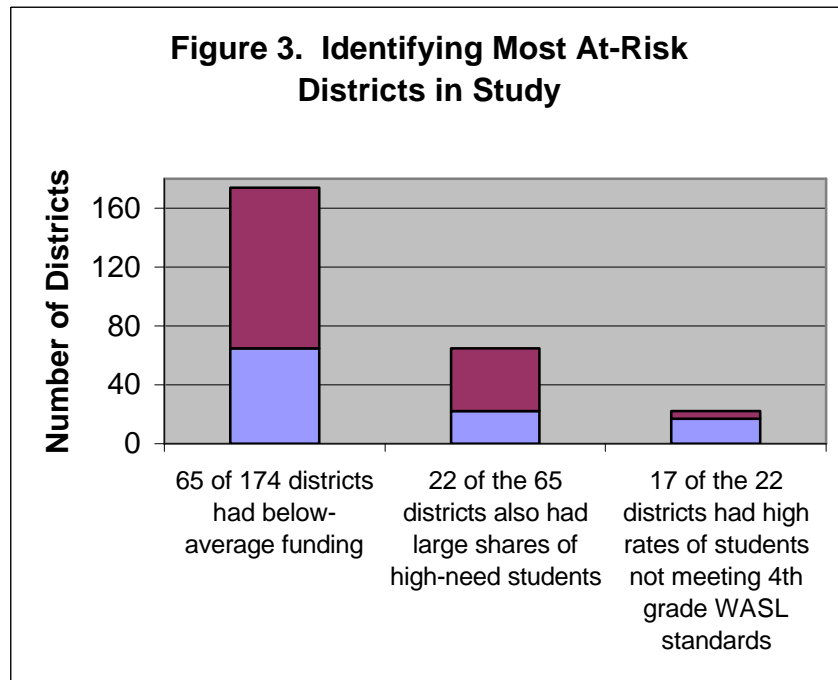
⁴⁰ As the staff mix table in Appendix IX indicates, the state's average staff mix factor of 1.60641 corresponds to teachers with years of service and education experience ranging from about 12 years of service with a bachelor degree plus 90 additional credits to about 8 years of service with a doctorate degree. A first year teacher with no additional credits beyond a bachelor degree would have a staff mix factor of 1.0.

⁴¹ See readings for example, in Plecki, Margaret L. and David H. Monk, editors. School Finance and Teacher Quality : Exploring the Connections. American Education Finance Association 2003 Yearbook, Eye on Education, NY 2003.

⁴² Minority students include Native Americans, Asian Americans, African Americans, and Hispanic Americans.

districts of Yakima county; while the highest shares of Africa American students occurred in the Tukwila and Renton districts of King county and Franklin-Pierce district in Pierce county.

--With regard to poor students, 15 of the 17 districts also had shares of poor students that exceeded 32 percent, the average percentage of poor students for the 174 districts in the study. In fact, seven districts had shares of poor students that are more than double the state average. Most (five) of the seven districts are in Yakima county, and the other two are in Grant and Okanogan counties.



In table 8, we listed the 17 school districts that are most at risk for not ensuring all their students achieve Washington State’s academic standards. The lowest-funded districts are ranked first. As table 8 shows, the districts that have the lowest funding levels aren’t necessarily the ones that have the highest rates of students not meeting WASL standards. For example, the King County districts of Kent and Renton are more than \$800 below the average funding per pupil, but they also have among the lowest rates of students not passing WASL tests in the group.

Table 8. At-Risk Districts: Key Student and Funding Traits, School Year 2001-2002

County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	Amount Below Average Funding Per Pupil ³	High-Needs Student Index ⁴	Average Staff Mix Factor ⁵	Minority Student Index ⁶	Poor Student Index ⁷	Math Not Pass WASL Index ^{8,10}	Reading Not Pass WASL Index ^{9,10}
1 King	Kent	25,604	\$6,059	\$847	1.004	1.54861	1.17	0.94	1.116	1.060
2 King	Renton	12,270	6,099	807	1.001	1.57304	1.76	1.00	1.097	1.075
3 King	Highline	17,605	6,254	652	1.023	1.54785	1.93	1.44	1.277	1.310
4 Yakima	Grandview	2,884	6,291	615	1.084	1.55246	3.00	2.36	1.539	1.735
5 King	Tukwila	2,446	6,357	549	1.067	1.43444	2.28	1.76	1.279	1.463
6 Pierce	Franklin Pierce	7,560	6,399	507	1.006	1.57280	1.28	1.32	1.348	1.399
7 Lewis	Toledo	974	6,562	343	1.014	1.63913	0.28	1.33	1.412	1.185
8 Yakima	East Valley	2,319	6,650	256	1.010	1.61950	1.06	1.23	1.341	1.604
9 Yakima	Wapato	3,184	6,652	254	1.123	1.53124	3.41	2.56	1.124	1.527
10 Yakima	Yakima	13,580	6,827	78	1.110	1.61675	2.21	2.17	1.405	1.610
11 Skagit	Mount Vernon	5,549	6,834	71	1.081	1.62934	1.59	1.60	1.307	1.301
12 Yakima	Toppenish	3,224	6,844	61	1.181	1.53965	3.50	2.71	1.425	1.866
13 Yakima	Highland	1,119	6,847	59	1.082	1.59721	2.00	2.17	1.648	1.784
14 Yakima	Union Gap	569	6,863	43	1.100	1.50515	2.11	2.35	1.004	0.788
15 Grant	Royal	1,269	6,865	41	1.111	1.49650	2.49	2.23	1.584	1.711
16 Benton	Kiona-Benton	1,608	6,866	39	1.031	1.60156	0.87	1.40	1.446	1.341
17 Okanogan	Brewster	944	6,874	31	1.137	1.57701	2.75	2.18	1.695	2.062
Total for 17 at-risk districts		102,707								
Average value for 174 districts			\$6,906		19%	1.60641¹¹	26%	32%	47%	33%

¹Student FTEs is an unweighted count of the district and does not include institutionalized students.

²This is total (federal, state and local) funding per pupil adjusted for differences in student need and local resource costs.

³This is the difference between the study's average total funding per pupil (\$6,906) and the district's funding per pupil, both adjusted for differences in student need and regional costs.

⁴The high-needs student index measures the district's percentage of weighted students relative to the state's overall percentage of weighted students. For example, an index of 1.2 means the district has 20 percent more weighted students than the overall average percentage for the state. Weighted students is the number of full time equivalent students adjusted to give extra weight to special education students, English language learners, and students from poor families.

Table 8. Notes Continued

⁵ District's average staff mix factor is the district's average measure of certificated staff experience and training. Each certificated staff in a district is assigned a mix factor based on degree type, number of eligible credits, and years of certificated teaching experience. Source: School District Personnel, Summary Reports 2001-02 Table 34. See appendix IX for more information.

⁶ Minority student index is the ratio of a district's percentage of minority students to the average such percentage for the 174 districts in the study. Minority students include Native Americans, Asian Americans, African Americans and Hispanic Americans.

⁷ Poor student index is the ratio of a district's percentage of students on the Free or Reduced Price Lunch program to the average such percentage for the 174 districts in the study.

⁸ The 4th Grade WASL math not-passing index measures the district's percentage of students who did not meet the 4th grade math proficiency standards relative to the state's percentage of students not meeting these standards. An index of 1.2 means that the district's 4th grade WASL not-passing rate is 20 percent higher than the overall percentage for the state. 'Not-passing' is based on the number of students who scored at level 1 (well below standard) or level 2 (below standard) on the test. Students at level 0, did not take the test, are not included in the calculation.

⁹ The 4th Grade WASL reading not-passing index measures the district's percentage of students who did not meet the 4th grade reading proficiency standards relative to the state's percentage of students not meeting these standards. An index of 1.2 means that the district's 4th grade WASL reading not-passing rate is 20 percent higher than the overall percentage for the state. 'Not-passing' is based on the number of students who scored at level 1 (well below standard) or level 2 (below standard) on the test. Students at level 0, did not take the test, are not included in the calculation.

¹⁰ **Italicized** index numbers indicate that the district's not-passing rate for the indicated WASL test in school year 2001-02 is worse than the district's not-passing rate of school year 2000-01.

¹¹ This is the average value for all districts in the state in school year 2001-02.

Conclusions

Judged against national benchmarks for equity, Washington state has done well in fairly distributing its school funds across districts. Also, the state's good fiscal neutrality scores indicate that the state's equalization policies have been effective in ensuring that wealthy districts do not have an unfair advantage in raising funds for their schools.

However, gaps in school funding still remain even with otherwise good equity scores. About 18 percent or about 171,000 students of the study's total number are in 17 districts that receive substantially below \$6,906 per pupil—the average total funding per pupil. Most of these students are in districts in King and Snohomish Counties that receive anywhere from \$1,055 to \$615 less per pupil than the average.

The reasons for the underfunding in this group of districts vary, in part because they receive relatively low funding shares from more than one revenue source. Although further research is needed, the low funding seems to be related to the state's allocation criteria and the district's ability to raise local revenues.

Compared to the need for more equity, the lack of adequate funding is a much bigger problem. Either estimate of the additional costs, \$179 million or \$2.1 billion, needed to bring students to the state's academic standards is expensive by today's budget realities. The size of the estimates suggests two considerations.

First, although it may not be possible to achieve adequacy in the short run, the state should at least determine the cost of adequacy. If the state chooses to strive for more funding, it needs to plan how this can be accomplished over time and, most likely, in increments.

Second, these widely ranging estimates illustrate the sensitivity that such estimates have to the approach that's used to estimate the cost of adequate resources. Also, each approach has its pros and cons. For example, using the median funding level as a measure of adequate funding is the less expensive alternative. However, it means that the state merely ensures all students have the same level of funding-per-pupil that currently exists in the typical academically successful district. Further, as discussed in the report, the median may underestimate the full cost of providing for an adequate education. In contrast to Rainier Institute's Washington Quality Education Model, the median funding level would not pay for increased salaries for teachers and administrators, reduced class sizes, or expansion of kindergarten to full day.

Finally, given the state and federal consequences that districts face if their students do not pass state assessments in a timely manner, below-average funding of any amount becomes critical if the district is also serving large portions of students with extraordinary needs and students not meeting WASL standards. Our study found 17 such at-risk districts accounting for about 103,000 students or 11 percent of the nearly 936,000 FTE students in the study. Most of these at-risk districts are located in King and Yakima counties and have a higher than average rates of poor and minority students. These are districts that have fewer resources than the average district in the state and, at the same time, more need than the average. Certainly these districts have a legitimate right to at least expect average if not more than average funding given the difficulties they face.

Our finding that the state is struggling to meet the academic needs of many students with extraordinary needs reflects the judgment of the State Superintendent of Public Instruction, who in her 2003 State of Education Address said, “The bottom line is, our education system still doesn’t work for many children who are poor or non-white. About 200,000 students in our state are really struggling to master the essential learning requirements. My plea to you is to face these brutal facts, and commit together to change this reality now.”

Finally, in this analysis, we were most concerned with the impact of low funding on vulnerable students. However, low-funded districts without relatively large numbers of high-needs students certainly have cause to worry as well. Such districts may be facing cutbacks in important programs or struggling to pay teachers a competitive wage. This topic—the impact of low funding on districts—could be the subject of further research.

RECOMMENDATIONS

In its recent Legislative Assembly, the Washington State PTA endorsed an initiative calling for an education funding study as one of its top priorities for the 2004 Legislative Session. Specifically, the initiative said, “The Washington State PTA shall support or initiate legislation or policies that fund a study regarding how our state funds education, which would include an analysis of fairness and adequacy.”

In keeping with the model school finance system discussed in the report’s background and in line with the findings of this report, PTA recommends that any study of how the state funds education should do the following:

1. Develop a base spending per pupil level that would ensure the average child could achieve the state’s education standards

Washington state has not determined a base spending per pupil level considered adequate for the average child to reach the state’s education standards. A base spending level is an essential element of any school finance system that seeks to link school finance to educational standards. This PTA study used two different estimates of a base spending level to estimate the additional costs for ensuring all children reach the state’s education standards. Other approaches are possible for determining the cost of providing an adequate education. PTA encourages the state to consider the various approaches for determining a base spending level. The state should conduct the appropriate research to ensure that the base spending level includes the costs of all the program components and educational staff and resources needed to ensure achievement of the state’s education standards.

2. Determine the additional amounts of money needed for students whose extraordinary needs require more resources than the average student. These are students with physical or mental disabilities, those from low-income families, and those struggling with the English language.

The state has programs that target additional dollars to students with high-needs through its special education, compensatory education, and bilingual education programs. PTA urges any study of education funding undertaken by the state to examine the adequacy of the additional funding for these high-need students in light of recent research on the most effective strategies and programs for these student populations.

At the same time, PTA wishes to applaud and encourage the efforts that the state has already undertaken to research effective learning strategies, especially those targeting high-needs students, and to disseminate this information among the 296 districts.

In this study, we identified 17 at-risk districts with below-average funding serving large shares of high-need students and dealing with large shares of students not passing WASL tests. Some of these districts also had a complement of certified teachers whose average level of education and experience was less than the average for the state. We did not determine whether these at-risk districts needed additional staff resources or better instructional methods or a combination of these factors to help their students attain educational standards. We urge the state to take stock of the situation in these at-risk districts and consider what types of improvements, if any, are needed to close the achievement gap for these at-risk students.

3. Consider the feasibility of using a price adjustment for all dollar figures to ensure comparable spending power across all areas of the state.

The state does not make adjustments for local differences in educational resource costs. Yet, in this PTA study the purchasing power of education dollars varied as much as 25 percent between the lowest and highest price districts within the state. Making these adjustments for local cost differences helps to ensure more equal education opportunities across the state. However, as school finance experts acknowledge, making such adjustments can be politically difficult. Nevertheless, PTA urges the state to consider the technical and political feasibility of making such adjustments in any study of education finance that it undertakes.

Finally, in keeping with the principle of fiscal neutrality, the PTA encourages legislators to carefully consider whether any proposed school finance legislation would have the effect of giving wealthy districts an increased ability to raise local revenues without compensating for the relative inability of less wealthy districts to raise revenues. If such proposed legislation has the effect of lessening the degree of the state's fiscal neutrality, we urge the legislators to modify the proposal to offset the imbalance. Legislation that could affect the state's fiscal neutrality includes any proposal that affects the calculation of levy bases, levy authority percentages or local effort assistance.

References

- Augenblick, John (1997) "Recommendations for a Base Figure and Pupil-Weighted Adjustments to the Base Figure for Use in a New School Finance System in Ohio." Columbus, OH: Ohio Department of Education.
- Cipollone, Diane W. "Defining a 'Basic Education:' Equity and Adequacy Litigation in the State of Washington. Studies in Judicial Remedies and Public Engagement. Campaign for Fiscal Equity, Inc. Volume 1, Number 5, December 1998.
- Evans, William N., Sheila E. Murray, and Robert M. Schwab. "The Impact of Court-Mandated School Finance Reform." Equity and Adequacy in Education Finance: Issues and Perspectives (1999) The National Academy of Sciences.
- Fastrup, Jerry C. "Taxpayer and Pupil Equity: Linking Policy Tools with Policy Goals." Journal of Education Finance 23 (Summer 1997), 69-100.
- Garvey, Deborah L. "Does School Finance Centralization Reduce the Growth of Instructional Spending? The Case of Reform in Washington." Santa Clara University Research Paper (February 2002).
- Griffith, Mike. "A Survey of Finance Adequacy Studies." Education Commission of the States, Sept. 2001.
- Guthrie, James W. and Richard Rothstein. "A New Millennium and Likely New Era of Education Finance." Education Finance in the New Millennium, AEFA 2001 Yearbook Stephen Chaikind, William J. Fowler, Editors, Larchmont, NY: Eye On Education, Inc., 2001.
- Guthrie, James W. and Richard Rothstein. "Enabling 'Adequacy' to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements." Equity and Adequacy in Education Finance: Issues and Perspectives (1999) Helen Ladd, Rosemary Chalk, and Jane Hansen, Editors, Washington, D.C.: Committee on Education Finance of the National Research Council, National Academy Press.
- Hinrichs, William L. and Richard D. Laine. (1996) "Adequacy: Building Quality and Efficiency into the Cost of Education." Springfield, IL: Illinois Board of Education.
- Kern, Alexander, John Augenblick, William Driscoll, James Guthrie, and R. Levin. (1995). "Proposals for the Elimination of Wealth-Based Disparities in Public Education." Columbus, OH: Department of Public Instruction.
- Minorini, Paul A. and Stephen D. Sugarman. "School Finance Litigation in the Name of Educational Equity: Its Evolution, Impact, and Future," Equity and Adequacy in Education Finance: Issues and Perspectives (1999) The National Academy of the Sciences.
National Conference of State Legislatures. National Center on Education Finance. "Adequacy and Education Finance" Concept paper.
- National Conference of State Legislatures. National Center on Education Finance.
"Education Finance Litigation: History, Issues, and Current Status."

National Conference of State Legislatures. National Center on Education Finance. "Education Finance Litigation: Overview of 2002 Cases."

Odden, Allan R. "Creating School Finance Policies that Facilitate New Goals." Policy Brief. Consortium for Policy Research in Education, University of Pennsylvania, RB-26-September 1998.

Odden, Allan R. and Lawrence O. Picus. School Finance: A Policy Perspective Second Edition, The McGraw-Hill Companies, Inc. 2000.

Office of Superintendent of Public Instruction. Accounting Manual for Public School Districts in The State of Washington. 2002

Office of Superintendent of Public Instruction. Organization and Financing of Washington Public Schools. January 2002.

Office of Superintendent of Public Instruction. Financial Reporting Summary, State of Washington, School District and Educational Service District, District Fiscal Year September 1, 2001 – August 31, 2002.

Pascall, Glenn. "Realities of Education Funding in Washington State: Why schools are still struggling even after the passage of two education initiatives." League of Education Voters Foundation (December 2002).

Plecki, Margaret L. and David H. Monk, editors. School Finance and Teacher Quality: Exploring the Connections. American Education Finance Association 2003 Yearbook, Eye on Education, NY 2003.

Plecki, Margaret L. "Washington's School Finance Reform: Moderate Success and the Need for Improvement." Journal of Education Finance 25 (Spring 2000): 565-582.

Quality Counts 2004, Education Week Volume XXIII, No. 17, January 8, 2004.

Rainier Institute. What Will It Take? Defining a quality education in Washington and a new vision of adequacy for school funding. Rainier Institute, March 2003.

Theobald, Neil D. and Faith Hanna. "Ample Provision for Whom? The Evolution of State Control Over School Finance in Washington." 17 Journal of Education Finance 7 (1991): 10-11.

U.S. Department of Education. Office of Special Education Programs. Special Education Expenditure Project. Jay Chambers, Tom Parrish, and Jennifer Harr. "What Are We Spending on Special Education Services in the United States, 1999-2000?" Report 02-01, March 2002.

U.S. Department of Education. National Center for Education Statistics. "Inequalities in Public School District Revenues" NCEES 98-210, by Thomas B. Parrish and Christine S. Hikido. Project Officer, William J. Fowler. Washington, DC: 1998.

U.S. Department of Education. National Center for Education Statistics. "Geographic Variations in Public Schools' Costs", Working Paper No. 98-04, by Jay G. Chambers. Project Officer, William J. Fowler, Jr. Washington, D.C.: 1998.

U.S. Department of Education. National Center for Education Statistics. Developments in School

Finance, 1999-2000, NCES 2002-316, William J. Fowler, Jr., Washington, DC: 2002. “Using National Data to Assess Local School District Spending on Professional Development” Kieran M. Killeen, David H. Monk, and Margaret L. Plecki.

U.S. General Accounting Office. School Finance: State Efforts to Equalize Funding Between Wealthy and Poor Districts. Washington , D.C.: (GAO/HEHS-98-92).

U.S. General Accounting Office. School Finance: State Efforts to Reduce Funding Gaps Between Poor and Wealthy Districts. Washington , D.C.: (GAO/HEHS-97-31).

“Washington State 2003-05 Budget & Revenue Preview,” Presentation by the Washington State Senate Ways and Means Committee Staff, January 2003.

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Appendix I

Revenue Sources and Pupil Counts

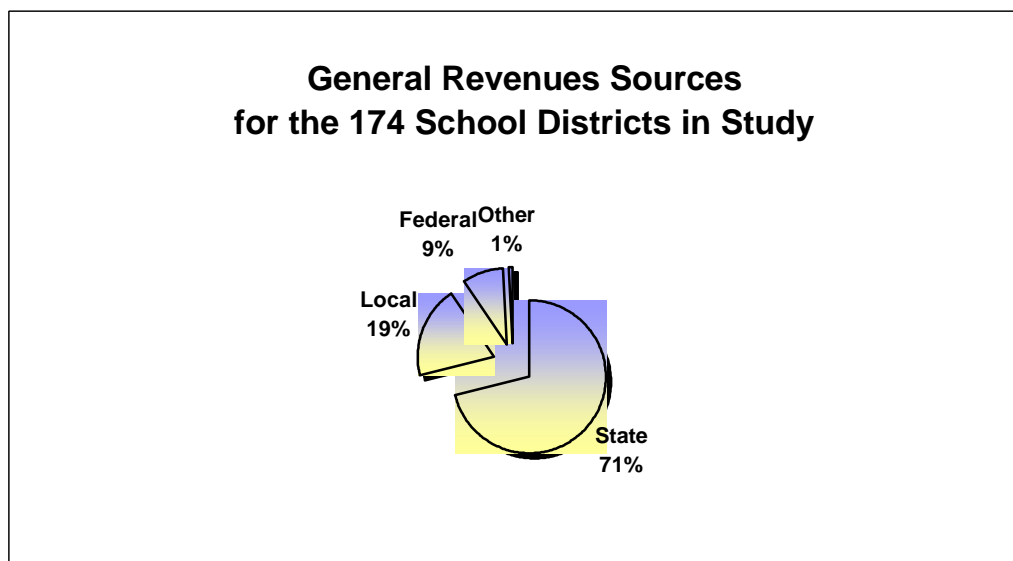
Revenues are those that financed the combined school district General Funds in school year 2001-02. The General Fund is used for “current ordinary normal and recurring operations of the school district such as programs of instruction for the students, food services, maintenance, data processing, printing, and pupil transportation.”¹ We did not include revenues that financed other funds such as the Debt Service, Transportation Vehicle, and Capital Projects Funds. The General Fund is composed of funds from local, state and federal sources. For the state and local funding variable, we used revenues classified in the following accounts: 1000, 2000, 3000, 4000, 7000, 8000 and 9000 accounts. For the state, local, and federal funding, we used the state and local revenue accounts and those classified in the 5000 and 6000 accounts. Table I.1 summarizes the revenue sources.

Table I.1 Revenue Amounts by Sources for the 174 Districts, School Year 2001-02

Local Revenue	State Revenue	Federal Revenue	Other Revenue ¹	Total Revenue
\$1,304,203,014	\$4,805,685,497	\$575,459,434	\$64,213,193	\$6,749,561,138

¹Other revenue includes funds collected by the school district from Educational Service Districts, other school districts or government entities, or from the sale of bonds, real property or other financial sources.

Figure I.1



¹ Accounting Manual for Public School Districts in The State of Washington, Office of Superintendent of Public Instruction, 2002, Chapter 1, page 4.

The study's pupil count of 935,814 full-time equivalent pupils (FTEs) is drawn from the state's count of 969,838 full-time equivalent pupils (FTEs) for all 296 public school districts in school year 2001-02.² The state uses total FTEs in its per pupil calculations. Total FTEs includes those for regular K-12, vocational, special education, skills center, detention center and state institutions.³ With the exception of institutionalized pupils, we included in our pupil count the remaining pupil FTEs listed in the total FTEs.

We excluded institutionalized students and their associated revenues because we did not have any uniform way to account for their sometimes-extraordinary costs. Specifically, we excluded 2,023.59 institutionalized FTEs and the state revenue from account 4156 State Institutions, Centers, and Homes -Delinquent.⁴ These excluded FTEs represent 0.21 percent of the state's total FTEs.

See the appendix II for an explanation of further exclusions from the pupil count.

² An FTE student is one enrolled four hours per day for Grades 1-3 and five hours per day for Grades 4-12. See Organization and Financing of Washington Public Schools, Office of Superintendent of Public Instruction, January 2002, page 43.

³ Financial Reporting Summary, State of Washington, School District and Educational Service District, District Fiscal Year September 1, 2001 – August 31, 2002, Office of Superintendent of Public Instruction, School Apportionment and Financial Services, Section Three, page 49.

⁴ Account 4156 State Institutions, Centers, and Homes – Delinquent: State revenue for the education of juveniles in residential facilities operated by the Department of Social and Health Services, detention centers operated by counties, and adult correctional facilities operated by the Department of Corrections. See the Accounting Manual for Public School Districts in The State of Washington.

Appendix II

Accounting for Differences in School Size Across Districts

In school year 2001-02, Washington State had 296 districts ranging in FTE enrollment from 7.5 to 45,332.51 students. The total FTE enrollment for the state was 969,838.1. Many districts had small enrollments; about 100 had less than 500 FTEs. The overhead for running very small schools greatly increases the cost per pupil. Further, many small districts were in remote locations where pupil transportation costs are high. In the state's Basic Education Apportionment Formula, the low FTEs of these small and remote schools do not generate a sufficient number of staff units to ensure a full complement of teachers, administrators, and support staff. Therefore, the state has developed a series of formulas that, depending on the size, grade level, and remoteness of the district's schools, awards additional staff units.⁵

Because it's well known that per pupil costs vary with size and remoteness of schools, we sought to analyze only those districts which were more alike in these attributes than not. Therefore, we eliminated from the analysis the 122 districts whose size or remoteness generated extra certified instructional staff units that represented 5 percent or more of the district's total certified instructional staff units.

These 122 districts represented about 3 percent (32,001) of the state's total FTE enrollment.⁶ Among the 122 districts, the additional certified instructors as a percent of the total certified instructors ranged from 5.3 percent in Nespelem (Okanogan County) to 79 percent in Benge (Adams County). The unadjusted per pupil funding (state and local) available for maintenance and operations ranged from \$5,506 in Mount Pleasant (Skamania County) to \$35,994 in Benge (Adams County), averaging \$8,283. The unadjusted FTE students ranged from 7.5 in Benge (Adams County) to 1,265 in Lake Chelan (Chelan County), averaging 262.

The remaining 174 districts were included in the analysis. These districts enrolled 935,814 FTE students (excluding institutionalized students) or about 96 percent of the state's total FTE students. The unadjusted per pupil funding (state and local) available for maintenance and operations ranged from \$5,044 in Stevenson Carson (Skamania County) to \$8,181 in Seattle (King County), averaging \$6,598. The FTE students ranged from 160 in Loon Lake (Stevens County) to 45,198 in Seattle (King County), averaging 5,378.

As table II.1 shows, the excluded districts generally had much higher levels of funding per pupil and would have skewed the equity results to make the state appear worse than it otherwise would be.

Table II.1 Excluded Districts Have High Levels of Funding-Per-Pupil

	Funding (State and Local) Per Pupil Not Adjusted for Differences in Student Needs or Local Costs		
	Average	Minimum	Maximum
174 Included Districts	\$6,598	\$5,044	\$8,181
122 Excluded Districts	\$8,283	\$5,506	\$35,994

⁵ Organization and Financing of Washington Public Schools, January 2002, page 45.

⁶ This number of FTEs does not include the 228.64 FTEs for institutionalized students from the 122 districts that were already excluded.

Appendix III Adjustments for Differences in Student Need

To account for differences in student need, we adjusted the pupil count to give extra weight to the following three student populations, traditionally recognized as needing additional educational resources:

- special education students were given a weight of 1.9
- students from poor families were given a weight of 1.2
- English language learners were given a weight of 1.2

The additional weights are drawn from research and correspond to the need for additional services. For example, based on a 1999-2000 national study of spending on special education services, special education students were given a weight of 1.9 because the total expenditure of educating such children is generally 1.9 times that expended to educate children who do not need special education services.⁷ The weights for English language learners and students from poor families are the same as those used in a National Center for Education Statistics study.⁸

Various cost estimates of the additional services exist for each student population. For example, the cost of providing compensatory programs to students coming from poor families has ranged from less than 5 percent to an extra 100 percent.⁹ In reviewing the various estimates, we chose conservative estimates of the cost of additional services. Certainly, a different set of weights could be used to conduct this type of analysis.

Calculating a high-needs student index for each district

We developed a high-needs student index for each district based on the following formula:

weighted FTE count in district_a =

$$[\text{total FTE}_a + (0.9 * \text{IEP students}_a) + (0.2 * \text{FRPL students}_a) + (0.2 * \text{ELL students}_a)]$$

$$\text{Needs Index for district}_a = \frac{\text{Weighted FTE count district}_a}{\text{FTE count district}_a \div \text{FTE count in 174 districts}}$$

Where

total FTE_a = The total full-time equivalent enrollment in a district net the number of institutionalized students.

⁷U.S. Department of Education. Office of Special Education Programs. Special Education Expenditure Project. Jay Chambers, Tom Parrish, and Jennifer Harr, What Are We Spending on Special Education Services in the United States, 1999-2000?, Report 02-01, March 2002.

⁸ U.S. Department of Education. National Center for Education Statistics. Inequalities in Public School District Revenues, NCES 98-210, by Thomas B. Parrish and Christine S. Hikido. Project Officer, William J. Fowler. Washington, DC: 1998

⁹ Odden, Allan R. and Lawrence O. Picus. School Finance: A Policy Perspective, Second Edition, The McGraw-Hill Companies, Inc. 2000.

IEP students_a = Students with Individual Education Plans (IEPs) represent the number of special education students in a district. Special education students are those who because of a physical or mental disability require supplemental assistance.

FRPL students_a = Students who qualified for the Free and Reduced Price Lunch program (FRPL) represent the number of students in a district who qualified for this federal program because their family's income is low. These at-risk students also qualify for compensatory education (state Learning Assistance Program and federal Title I).

ELL students_a = English language learners (ELL) are students in a district who receive instructional services to help them learn English.

To adjust the total FTE students for district_a we used the following formula:

Needs adjusted total FTE district_a = Total FTE district_a * high-needs student index_a

To interpret a district's high-needs student index:

A district's high-needs student index is a district's relative percentage of weighted students expressed as a percent of the study's overall average. For example, Othello has 2,890 FTE students; its weighted count of student FTEs is 3,833. The ratio of 3,833 to 2,890 is 1.33. The overall ratio of the weighted count of all students in the study to unweighted students is 1.19. Othello's high-needs student index is therefore 1.33 divided by 1.19 or 1.12.

In another example, a district with a high-needs student index of 1.20 has a relative percentage of weighted to unweighted students that is 120 percent of the study's average. This means that the district's ratio of weighted to unweighted students is 1.20 * 119 percent, or 143 percent. A district with a need index of 0.9 has a ratio of weighted to unweighted students that is 90 percent of the study's average. This means that the district's ratio of weighted to unweighted students is 0.9* 1.19, or 107 percent.

Finally, again consider that the ratio of the weighted count of all students in the study to unweighted students is 1.19. Then the weighted count of just students who carry the additional weight comprise 19 percent of the total count of nonweighted students in a district.

Appendix IV

Adjustments for Local Differences in Resource Costs

We used a district-level geographic cost of education index, the most recent available, developed by researchers for the U.S. Department of Education to adjust for differences in local education costs among the 174 districts in our study.¹⁰ The index is a weighted average of the prices for schoolteachers, administrators, noncertificated school personnel, and nonpersonnel school inputs purchased by school districts in 1993-94. It measures how much more or less it costs to provide the same quantities and qualities of school resources and services in different districts. The index “reflects that portion of the variation in educational spending that is due to factors beyond the control of local school decision makers—that is, variations in the cost of living and the attractiveness of the school districts and regions within which school personnel work and live.”¹¹ At the same time, the index also controls for those factors that are within the control of district decision makers, such as preferences for the personal qualifications of its employees.

We obtained the Geographic Cost of Education Index (GCEI) for Washington state districts from the National Center for Education Statistics on-line files.¹² We then normalized the indexes for the 174 districts in the study and applied the normalized index to 100 percent of the revenues for each district.

average GCEI for the 174 districts = sum of GCEI for 174 districts ÷ 174

normalized GCEI for district_a = GCEI for district_a ÷ average GCEI for state

We used the following formula to make the resource cost adjustment.

Combined (state and local) revenues for district_a adjusted for geographic cost differences

$$= \frac{\text{Combined (state \& local) revenues for district}_a}{\text{Normalized GCEI for district}_a}$$

¹⁰ U.S. Department of Education. National Center for Education Statistics. *Geographic Variations in Public Schools' Costs*, Working Paper No. 98-04, by Jay G. Chambers. Project Officer, William J. Fowler, Jr. Washington, D.C.: 1998.

¹¹ Ibid. p. vii.

¹² NCES website for data: <http://nces.ed.gov/edfin/prodsurv/data.asp>

Regarding the suitability of using the Geographic Cost of Education Index.

Although the impact of using a dated index to adjust revenue figures is not known, there is evidence to suggest that the usefulness of the index extends over several years. Analysts reviewing the Geographic Cost of Education Index (GCEI) noted that Chambers had calculated “extremely high correlations among GCEI indices over a period of 6 years, indicating that GCEI estimates for 1 year are a suitable estimate for another year.”¹³ The analysts also observed that local economies tend to shift in cyclical fashion rather than abruptly, suggesting that sudden changes year to year are unlikely. Further, Education Week, a well-regarded national education publication, used the GCEI to adjust 2002 school expenditures in its Quality Counts 2003 issue, an annual review of education issues, policies and funding in the 50 states and District of Columbia.¹⁴ Specifically, to calculate an adequacy index for the State of the States section, Education Week researchers used the GCEI to adjust education spending per student. Ronald Skinner, a research associate for Education Week, said that the GCEI was the best available and better than not making such adjustments.

¹³ U.S. Department of Education, National Center for Education Statistics, *Developments in School Finance, 1999-2000*, NCES 2002-316, William J. Fowler, Jr., Washington, DC: 2002. “Using National Data to Assess Local School District Spending on Professional Development” Kieran M. Killeen, David H. Monk, and Margaret L. Plecki.

¹⁴ Education Week, *Quality Counts 2003*, Volume XXII, Number 17, January 9, 2003.

Appendix V Funding-Per-Pupil Variables, Adjusted for Differences in Student Need and Local Costs

To calculate the two main funding variables in the study we used the following formulas:

1. Combined state and local funding per pupil adjusted for student needs and geographic cost differences.

$$\frac{\text{Combined (state and local) revenues for district}_a \text{ adjusted for geographic cost differences}}{\text{Needs adjusted total FTE district}_a}$$

2. Total funding (state, local, and federal) per pupil adjusted for student needs and geographic cost differences.

$$\frac{\text{Total (federal, state and local) revenues for district}_a \text{ adjusted for geographic cost differences}}{\text{Needs adjusted total FTE district}_a}$$

Table V.1 is an alphabetical listing of the counties and districts showing the districts' funding per pupil variables, before and after the adjustments for student need and resource costs, and the district's high-needs student index and geographic cost of education index.

Making these adjustments can have a sizeable impact on the amount of funds available per weighted pupil. Table V.2 shows how the relative ranking of the districts in terms of funding per pupil change once the adjustments have been made.

Table V. 1 District Funding Per Pupil, Before and After Adjustments, School Year 2001-02

	County	District	Unadjusted State & local funding per pupil	Unadjusted Federal, State & local funding per pupil	Geographic Cost of Education Index ¹	High-needs Student Index ²	Adjusted State & Local funding per pupil ³	Adjusted, Federal, State, and Local per pupil ⁴
	Averages for 174 Districts		\$6,598	\$7,213	1.00	19 %	\$6,317	\$6,906
1	Adams	Othello	\$6,541	\$7,350	0.94	1.12	\$6,234	\$7,004
2	Asotin	Clarkston	6,120	6,999	0.91	1.00	6,732	7,699
3	Benton	Finley	6,833	7,515	0.94	1.04	7,007	7,706
4	Benton	Kennewick	6,701	7,227	0.96	1.01	6,933	7,476
5	Benton	Kiona-Benton	6,161	6,802	0.96	1.03	6,220	6,866
6	Benton	Prosser	6,550	7,208	0.97	1.05	6,407	7,050
7	Benton	Richland	6,291	6,752	0.96	0.98	6,714	7,207
8	Chelan	Cascade	6,523	7,612	0.95	1.05	6,555	7,650
9	Chelan	Cashmere	6,191	6,922	0.95	0.99	6,554	7,327
10	Chelan	Wenatchee	6,297	7,038	0.97	1.03	6,321	7,065
11	Clallam	Port Angeles	6,508	7,157	0.97	1.00	6,736	7,409
12	Clallam	Quillayute Valley	6,748	7,972	0.96	1.05	6,718	7,936
13	Clallam	Sequim	5,488	6,065	0.96	0.96	5,934	6,558
14	Clark	Battle Ground	6,051	6,391	1.01	0.98	6,131	6,475
15	Clark	Camas	6,435	6,742	1.00	0.96	6,681	7,000
16	Clark	Evergreen	6,473	6,834	1.02	0.99	6,413	6,771
17	Clark	Hockinson	6,917	6,988	0.99	0.95	7,386	7,461
18	Clark	La Center	5,924	6,287	0.99	0.96	6,201	6,581
19	Clark	Ridgefield	6,097	6,298	0.99	0.97	6,368	6,578
20	Clark	Vancouver	6,656	7,290	1.02	1.02	6,397	7,006
21	Clark	Washougal	6,697	7,169	1.00	0.99	6,748	7,223
22	Cowlitz	Castle Rock	5,954	6,913	0.94	0.97	6,494	7,540
23	Cowlitz	Kalama	5,949	6,103	0.92	1.00	6,483	6,650
24	Cowlitz	Kelso	6,358	7,116	0.96	1.01	6,523	7,300
25	Cowlitz	Longview	6,732	7,629	0.96	1.01	6,915	7,836
26	Cowlitz	Woodland	6,882	7,263	0.94	0.98	7,496	7,911
27	Douglas	Eastmont	6,329	6,869	0.94	1.01	6,650	7,217
28	Franklin	North Franklin	6,799	7,731	0.96	1.10	6,451	7,334
29	Franklin	Pasco	6,557	7,566	0.97	1.08	6,258	7,221
30	Grant	Ephrata	6,518	7,040	0.94	1.01	6,869	7,419
31	Grant	Grand Coulee Dam	6,925	9,031	0.96	1.02	7,077	9,228
32	Grant	Moses Lake	6,276	6,928	0.96	1.03	6,348	7,007
33	Grant	Quincy	6,420	7,594	0.95	1.10	6,164	7,291
34	Grant	Royal	6,129	7,097	0.93	1.11	5,928	6,865
35	Grant	Wahluke	6,732	8,217	0.93	1.16	6,237	7,613
36	Grant	Warden	6,339	7,231	0.93	1.12	6,058	6,911
37	Grays Harbor	Aberdeen	6,922	7,795	0.97	1.05	6,762	7,615
38	Grays Harbor	Elma	6,246	6,965	0.96	1.00	6,470	7,215
39	Grays Harbor	Hoquiam	6,876	7,558	0.96	1.04	6,858	7,539

	County	District	Unadjusted State & local funding per pupil	Unadjusted Federal, State & local funding per pupil	Geographic Cost of Education Index ¹	High-needs Student Index ²	Adjusted State & Local funding per pupil ³	Adjusted, Federal, State, and Local per pupil ⁴
	<u>Averages for 174 Districts</u>		<u>\$6,598</u>	<u>\$7,213</u>	<u>1.00</u>	<u>19 %</u>	<u>\$6,317</u>	<u>\$6,906</u>
40	Grays Harbor	McCleary	\$6,451	\$7,825	0.91	1.02	6,935	8,411
41	Grays Harbor	Montesano	6,066	6,453	0.95	1.00	6,396	6,804
42	Island	Coupeville	6,484	6,806	0.99	0.98	6,696	7,029
43	Island	Oak Harbor	5,425	6,523	1.02	0.96	5,556	6,681
44	Island	South Whidbey	6,919	7,252	1.00	0.96	7,175	7,521
45	Jefferson	Chimacum	6,427	7,372	0.93	0.99	6,947	7,970
46	Jefferson	Port Townsend	6,278	7,197	0.93	1.02	6,616	7,584
47	King	Auburn	6,285	6,720	1.13	0.98	5,671	6,063
48	King	Bellevue	7,028	7,380	1.13	0.96	6,490	6,815
49	King	Enumclaw	6,757	7,046	1.12	0.96	6,307	6,577
50	King	Federal Way	6,218	6,634	1.13	1.00	5,485	5,851
51	King	Highline	6,671	7,300	1.14	1.02	5,715	6,254
52	King	Issaquah	6,420	6,635	1.13	0.94	6,055	6,257
53	King	Kent	6,475	6,878	1.13	1.00	5,704	6,059
54	King	Lake Washington	6,567	6,834	1.12	0.94	6,238	6,492
55	King	Mercer Island	6,996	7,161	1.12	0.91	6,851	7,013
56	King	Northshore	6,746	7,030	1.12	0.95	6,319	6,585
57	King	Renton	6,457	6,965	1.14	1.00	5,654	6,099
58	King	Riverview	6,644	7,016	1.12	0.95	6,213	6,561
59	King	Seattle	8,181	9,147	1.14	1.03	6,959	7,781
60	King	Shoreline	7,043	7,413	1.14	0.97	6,357	6,692
61	King	Snoqualmie Valley	6,364	6,566	1.12	0.95	5,966	6,155
62	King	Tahoma	6,504	6,727	1.12	0.96	6,065	6,273
63	King	Tukwila	7,025	7,668	1.13	1.07	5,824	6,357
64	King	Vashon Island	6,844	7,102	1.11	0.95	6,488	6,732
65	Kitsap	Bainbridge	6,482	6,696	1.03	0.94	6,710	6,931
66	Kitsap	Bremerton	6,497	7,386	1.04	1.02	6,135	6,974
67	Kitsap	Central Kitsap	6,290	7,216	1.04	0.99	6,106	7,004
68	Kitsap	North Kitsap	6,623	7,179	1.04	0.97	6,585	7,138
69	Kitsap	South Kitsap	5,998	6,431	1.04	0.99	5,847	6,269
70	Kittitas	Cle Elum-Roslyn	6,290	6,798	0.92	0.97	7,029	7,596
71	Kittitas	Ellensburg	6,213	6,844	0.93	1.01	6,637	7,311
72	Klickitat	Goldendale	6,390	7,221	0.93	1.02	6,714	7,588
73	Klickitat	White Salmon	6,728	7,401	0.93	1.08	6,696	7,365
74	Lewis	Centralia	6,763	7,597	0.98	1.05	6,577	7,388
75	Lewis	Chehalis	7,243	8,050	0.97	1.00	7,469	8,302
76	Lewis	Onalaska	6,352	7,778	0.95	1.03	6,497	7,956
77	Lewis	Toledo	5,797	6,327	0.95	1.01	6,012	6,562
78	Lewis	White Pass	7,153	8,096	0.95	1.05	7,154	8,097

	County	District	Unadjusted State & local funding per pupil	Unadjusted Federal, State & local funding per pupil	Geographic Cost of Education Index ¹	High-needs Student Index ²	Adjusted State & Local funding per pupil ³	Adjusted, Federal, State, and Local per pupil ⁴
	Averages for 174 Districts		\$6,598	\$7,213	1.00	19 %	\$6,317	\$6,906
79	Lewis	Winlock	\$6,243	\$6,852	0.95	1.03	6,371	6,992
80	Mason	Hood Canal	7,390	9,619	0.92	1.08	7,441	9,687
81	Mason	North Mason	6,347	6,949	0.95	1.01	6,622	7,249
82	Mason	Pioneer	7,014	7,613	0.93	1.06	7,137	7,746
83	Mason	Shelton	6,551	7,248	0.95	1.00	6,868	7,599
84	Mason	Southside	6,537	7,024	0.89	0.99	7,402	7,953
85	Okanogan	Brewster	6,464	7,588	0.97	1.14	5,856	6,874
86	Okanogan	Methow Valley	7,122	7,861	0.94	0.98	7,739	8,543
87	Okanogan	Okanogan	6,685	7,704	0.96	1.06	6,563	7,564
88	Okanogan	Omak	6,459	7,880	0.98	1.04	6,338	7,732
89	Okanogan	Tonasket	6,561	7,761	0.97	1.06	6,351	7,513
90	Pacific	Ocean Beach	7,241	8,259	0.93	1.06	7,311	8,339
91	Pend Oreille	Newport	6,297	7,673	0.92	1.06	6,457	7,868
92	Pierce	Bethel	6,348	6,828	1.06	0.99	6,026	6,481
93	Pierce	Clover Park	6,645	8,400	1.08	1.05	5,852	7,397
94	Pierce	Dieringer	7,265	7,485	1.02	0.91	7,842	8,080
95	Pierce	Eatonville	6,412	6,848	1.04	0.97	6,327	6,757
96	Pierce	Fife	6,400	6,876	1.05	0.96	6,340	6,811
97	Pierce	Franklin Pierce	6,285	6,896	1.07	1.01	5,832	6,399
98	Pierce	Orting	6,365	6,653	1.04	0.98	6,221	6,503
99	Pierce	Peninsula	6,616	6,950	1.06	0.96	6,476	6,804
100	Pierce	Puyallup	6,362	6,621	1.05	0.96	6,306	6,563
101	Pierce	Steilacoom	6,521	6,977	1.04	0.97	6,477	6,930
102	Pierce	Sumner	6,440	6,819	1.05	0.98	6,267	6,635
103	Pierce	Tacoma	7,135	8,123	1.07	1.03	6,448	7,341
104	Pierce	University Place	6,608	6,943	1.07	0.96	6,408	6,733
105	Pierce	White River	6,478	6,903	1.05	0.96	6,389	6,809
106	San Juan	San Juan Island	6,816	7,052	0.96	0.96	7,409	7,665
107	Skagit	Anacortes	6,630	7,193	0.98	0.98	6,878	7,462
108	Skagit	Burlington-Edison	6,636	7,218	0.98	1.01	6,711	7,300
109	Skagit	Concrete	6,473	7,623	0.96	1.02	6,609	7,783
110	Skagit	Conway	7,163	7,586	0.94	0.95	8,010	8,484
111	Skagit	Mount Vernon	6,670	7,320	0.99	1.08	6,228	6,834
112	Skagit	Sedro-Woolley	6,461	7,016	0.98	1.02	6,487	7,043
113	Skamania	Stevenson-Carson	5,044	9,223	0.97	1.02	5,069	9,268
114	Snohomish	Arlington	6,245	6,535	1.08	0.97	5,964	6,240
115	Snohomish	Edmonds	6,544	6,940	1.08	0.98	6,169	6,543
116	Snohomish	Everett	6,665	7,099	1.08	0.98	6,270	6,678
117	Snohomish	Granite Falls	5,899	6,322	1.07	0.99	5,582	5,982
118	Snohomish	Lake Stevens	6,177	6,462	1.08	0.96	5,931	6,205
119	Snohomish	Lakewood	6,440	7,030	1.06	0.97	6,259	6,832

	County	District	Unadjusted State & local funding per pupil	Unadjusted Federal, State & local funding per pupil	Geographic Cost of Education Index ¹	High-needs Student Index ²	Adjusted State & Local funding per pupil ³	Adjusted, Federal, State, and Local per pupil ⁴
	<u>Averages for 174 Districts</u>		<u>\$6,598</u>	<u>\$7,213</u>	<u>1.00</u>	<u>19 %</u>	<u>\$6,317</u>	<u>\$6,906</u>
120	Snohomish	Marysville	\$6,559	\$6,998	1.08	0.99	6,149	6,561
121	Snohomish	Monroe	6,356	6,655	1.08	0.96	6,126	6,414
122	Snohomish	Mukilteo	6,241	6,600	1.09	0.98	5,828	6,163
123	Snohomish	Snohomish	6,231	6,505	1.08	0.96	6,025	6,290
124	Snohomish	Stanwood-Camano	6,155	6,456	1.08	0.97	5,895	6,183
125	Snohomish	Sultan	6,233	6,725	1.07	1.02	5,716	6,167
126	Spokane	Central Valley	6,603	7,033	0.99	0.98	6,770	7,210
127	Spokane	Cheney	6,765	7,468	0.98	1.01	6,824	7,533
128	Spokane	Deer Park	6,294	7,080	0.97	1.04	6,225	7,001
129	Spokane	East Valley	6,649	7,219	0.98	1.00	6,785	7,367
130	Spokane	Freeman	6,698	6,974	0.95	0.94	7,472	7,780
131	Spokane	Mead	6,388	6,808	0.99	0.96	6,717	7,159
132	Spokane	Medical Lake	5,969	7,628	0.98	1.01	6,031	7,707
133	Spokane	Nine Mile Falls	6,537	6,964	0.96	0.97	7,035	7,495
134	Spokane	Riverside	6,799	7,506	0.97	1.01	6,915	7,634
135	Spokane	Spokane	6,943	7,782	0.98	1.02	6,973	7,815
136	Spokane	West Valley	6,681	7,434	0.98	0.99	6,851	7,623
137	Stevens	Chewelah	6,283	6,881	0.94	1.01	6,613	7,243
138	Stevens	Colville	6,379	6,989	0.95	1.02	6,602	7,234
139	Stevens	Kettle Falls	6,999	7,708	0.94	1.02	7,327	8,069
140	Stevens	Loon Lake	6,688	7,932	0.89	1.11	6,765	8,023
141	Thurston	Griffin	7,200	7,447	0.98	0.92	7,974	8,248
142	Thurston	North Thurston	6,662	7,119	1.02	0.99	6,608	7,061
143	Thurston	Olympia	6,498	6,909	1.02	0.97	6,563	6,979
144	Thurston	Rainier	6,719	7,135	0.99	0.98	6,921	7,349
145	Thurston	Rochester	6,842	8,071	1.01	1.06	6,403	7,554
146	Thurston	Tenino	6,608	7,095	1.00	1.01	6,563	7,046
147	Thurston	Tumwater	6,540	6,826	1.02	0.97	6,580	6,868
148	Thurston	Yelm	6,517	6,993	1.02	1.01	6,333	6,796
149	Walla Walla	College Place	7,270	8,282	0.90	1.09	7,398	8,429
150	Walla Walla	Columbia	6,909	7,425	0.90	1.00	7,651	8,222
151	Walla Walla	Walla Walla	6,466	7,574	0.93	1.04	6,711	7,861
152	Whatcom	Bellingham	6,603	7,117	1.00	0.99	6,661	7,180
153	Whatcom	Blaine	6,743	7,248	0.98	1.00	6,868	7,383
154	Whatcom	Ferndale	6,452	7,192	0.99	1.02	6,415	7,150
155	Whatcom	Lynden	6,263	6,758	0.98	0.98	6,494	7,007
156	Whatcom	Meridian	6,611	7,179	0.97	1.02	6,683	7,258
157	Whatcom	Mount Baker	6,625	7,405	0.98	1.03	6,527	7,296
158	Whatcom	Nooksack Valley	6,785	7,556	0.98	1.02	6,783	7,553
159	Whitman	Colfax	6,875	7,251	0.90	0.96	7,911	8,345
160	Whitman	Pullman	7,100	7,488	0.92	0.97	7,952	8,386

	County	District	Unadjusted State & local funding per pupil	Unadjusted Federal, State & local funding per pupil	Geographic Cost of Education Index ¹	High-needs Student Index ²	Adjusted State & Local funding per pupil ³	Adjusted, Federal, State, and Local per pupil ⁴
	<u>Averages for 174 Districts</u>		<u>\$6,598</u>	<u>\$7,213</u>	<u>1.00</u>	<u>19 %</u>	<u>\$6,317</u>	<u>\$6,906</u>
161	Yakima	East Valley	\$6,162	\$6,723	1.00	1.01	6,095	6,650
162	Yakima	Grandview	5,744	6,893	1.01	1.08	5,242	6,291
163	Yakima	Granger	6,329	8,029	1.00	1.13	5,619	7,128
164	Yakima	Highland	6,435	7,342	0.99	1.08	6,002	6,847
165	Yakima	Mount Adams	5,436	9,736	0.99	1.09	5,039	9,025
166	Yakima	Naches Valley	6,161	6,545	0.99	0.98	6,332	6,727
167	Yakima	Selah	6,403	6,914	1.00	1.01	6,309	6,812
168	Yakima	Sunnyside	6,192	7,839	1.01	1.10	5,552	7,028
169	Yakima	Toppenish	6,174	8,172	1.01	1.18	5,171	6,844
170	Yakima	Union Gap	6,416	7,331	0.97	1.10	6,007	6,863
171	Yakima	Wapato	5,624	7,550	1.01	1.12	4,955	6,652
172	Yakima	West Valley	6,031	6,450	1.01	0.98	6,078	6,499
173	Yakima	Yakima	6,457	7,737	1.02	1.11	5,698	6,827
174	Yakima	Zillah	5,779	6,552	0.98	1.01	5,841	6,623

¹The study's average geographic cost of education index is 1.00. The index measures a district's cost of educational resources as a percentage of the study's average.

²The study's average high-needs student index is 1.00. High-needs students count more than other students because of their extra need for educational resources. Students with disabilities count as 1.9, and English language learners and students from poor families each count as 1.2. The high-needs student index measures a district's relative percentage of weighted students relative to the study's overall percentage.

³This is combined state and local funding per pupil weighted for differences in student needs and adjusted for the differences in the local costs of educational resources.

⁴This is total funding per pupil weighted for differences in student needs and adjusted for the differences in the local costs of educational resources.

Table V.2 Impact of Adjustments on District Funding Per Pupil

	County	District	Unadjusted Federal, State & local Funding per pupil	Unadjusted Rank ¹	Adjusted Federal, State & Local Funding per pupil ²	Adjusted Rank ³
1	Yakima	Mount Adams	\$9,736	1	\$9,025	4
2	Mason	Hood Canal	9,619	2	9,687	1
3	Skamania	Stevenson-Carson	9,223	3	9,268	2
4	King	Seattle	9,147	4	7,781	29
5	Grant	Grand Coulee Dam	9,031	5	9,228	3
6	Pierce	Clover Park	8,400	6	7,397	60
7	Walla Walla	College Place	8,282	7	8,429	7
8	Pacific	Ocean Beach	8,259	8	8,339	11
9	Grant	Wahluke	8,217	9	7,613	41
10	Yakima	Toppenish	8,172	10	6,844	116
11	Pierce	Tacoma	8,123	11	7,341	66
12	Lewis	White Pass	8,096	12	8,097	15
13	Thurston	Rochester	8,071	13	7,554	47
14	Lewis	Chehalis	8,050	14	8,302	12
15	Yakima	Granger	8,029	15	7,128	88
16	Clallam	Quillayute Valley	7,972	16	7,936	22
17	Stevens	Loon Lake	7,932	17	8,023	18
18	Okanogan	Omak	7,880	18	7,732	32
19	Okanogan	Methow Valley	7,861	19	8,543	5
20	Yakima	Sunnyside	7,839	20	7,028	95
21	Grays Harbor	McCleary	7,825	21	8,411	8
22	Grays Harbor	Aberdeen	7,795	22	7,615	40
23	Spokane	Spokane	7,782	23	7,815	27
24	Lewis	Onalaska	7,778	24	7,956	20
25	Okanogan	Tonasket	7,761	25	7,513	53
26	Yakima	Yakima	7,737	26	6,827	119
27	Franklin	North Franklin	7,731	27	7,334	67
28	Stevens	Kettle Falls	7,708	28	8,069	17
29	Okanogan	Okanogan	7,704	29	7,564	46
30	Pend Oreille	Newport	7,673	30	7,868	24
31	King	Tukwila	7,668	31	6,357	157
32	Cowlitz	Longview	7,629	32	7,836	26
33	Spokane	Medical Lake	7,628	33	7,707	33
34	Skagit	Concrete	7,623	34	7,783	28
35	Mason	Pioneer	7,613	35	7,746	31
36	Chelan	Cascade	7,612	36	7,650	37
37	Lewis	Centralia	7,597	37	7,388	61
38	Grant	Quincy	7,594	38	7,291	73
39	Okanogan	Brewster	7,588	39	6,874	110

	County	District	Unadjusted Federal, State & local Funding per pupil	Unadjusted Rank ¹	Adjusted Federal, State & Local Funding per pupil ²	Adjusted Rank ³
40	Skagit	Conway	\$7,586	40	\$8,484	6
41	Walla Walla	Walla Walla	7,574	41	7,861	25
42	Franklin	Pasco	7,566	42	7,221	79
43	Grays Harbor	Hoquiam	7,558	43	7,539	50
44	Whatcom	Nooksack Valley	7,556	44	7,553	48
45	Yakima	Wapato	7,550	45	6,652	135
46	Benton	Finley	7,515	46	7,706	34
47	Spokane	Riverside	7,506	47	7,634	38
48	Whitman	Pullman	7,488	48	8,386	9
49	Pierce	Dieringer	7,485	49	8,080	16
50	Spokane	Cheney	7,468	50	7,533	51
51	Thurston	Griffin	7,447	51	8,248	13
52	Spokane	West Valley	7,434	52	7,623	39
53	Walla Walla	Columbia	7,425	53	8,222	14
54	King	Shoreline	7,413	54	6,692	132
55	Whatcom	Mount Baker	7,405	55	7,296	72
56	Klickitat	White Salmon	7,401	56	7,365	64
57	Kitsap	Bremerton	7,386	57	6,974	106
58	King	Bellevue	7,380	58	6,815	120
59	Jefferson	Chimacum	7,372	59	7,970	19
60	Adams	Othello	7,350	60	7,004	100
61	Yakima	Highland	7,342	61	6,847	115
62	Yakima	Union Gap	7,331	62	6,863	114
63	Skagit	Mount Vernon	7,320	63	6,834	117
64	King	Highline	7,300	64	6,254	163
65	Clark	Vancouver	7,290	65	7,006	99
66	Cowlitz	Woodland	7,263	66	7,911	23
67	Island	South Whidbey	7,252	67	7,521	52
68	Whitman	Colfax	7,251	68	8,345	10
69	Mason	Shelton	7,248	69	7,599	42
70	Whatcom	Blaine	7,248	70	7,383	62
71	Grant	Warden	7,231	71	6,911	109
72	Benton	Kennewick	7,227	72	7,476	55
73	Klickitat	Goldendale	7,221	73	7,588	44
74	Spokane	East Valley	7,219	74	7,367	63
75	Skagit	Burlington-Edison	7,218	75	7,300	71
76	Kitsap	Central Kitsap	7,216	76	7,004	101
77	Benton	Prosser	7,208	77	7,050	91
78	Jefferson	Port Townsend	7,197	78	7,584	45
79	Skagit	Anacortes	7,193	79	7,462	56

	County	District	Unadjusted Federal, State & local Funding per pupil	Unadjusted Rank ¹	Adjusted Federal, State & Local Funding per pupil ²	Adjusted Rank ³
80	Whatcom	Ferndale	\$7,192	80	\$7,150	86
81	Whatcom	Meridian	7,179	81	7,258	74
82	Kitsap	North Kitsap	7,179	82	7,138	87
83	Clark	Washougal	7,169	83	7,223	78
84	King	Mercer Island	7,161	84	7,013	96
85	Clallam	Port Angeles	7,157	85	7,409	59
86	Thurston	Rainier	7,135	86	7,349	65
87	Thurston	North Thurston	7,119	87	7,061	90
88	Whatcom	Bellingham	7,117	88	7,180	84
89	Cowlitz	Kelso	7,116	89	7,300	70
90	King	Vashon Island	7,102	90	6,732	130
91	Snohomish	Everett	7,099	91	6,678	134
92	Grant	Royal	7,097	92	6,865	113
93	Thurston	Tenino	7,095	93	7,046	92
94	Spokane	Deer Park	7,080	94	7,001	102
95	San Juan	San Juan Island	7,052	95	7,665	36
96	King	Enumclaw	7,046	96	6,577	143
97	Grant	Ephrata	7,040	97	7,419	58
98	Chelan	Wenatchee	7,038	98	7,065	89
99	Spokane	Central Valley	7,033	99	7,210	82
100	Snohomish	Lakewood	7,030	100	6,832	118
101	King	Northshore	7,030	101	6,585	140
102	Mason	Southside	7,024	102	7,953	21
103	Skagit	Sedro-Woolley	7,016	103	7,043	93
104	King	Riverview	7,016	104	6,561	146
105	Asotin	Clarkston	6,999	105	7,699	35
106	Snohomish	Marysville	6,998	106	6,561	147
107	Thurston	Yelm	6,993	107	6,796	126
108	Stevens	Colville	6,989	108	7,234	77
109	Clark	Hockinson	6,988	109	7,461	57
110	Pierce	Steilacoom	6,977	110	6,930	108
111	Spokane	Freeman	6,974	111	7,780	30
112	Grays Harbor	Elma	6,965	112	7,215	81
113	King	Renton	6,965	113	6,099	170
114	Spokane	Nine Mile Falls	6,964	114	7,495	54
115	Pierce	Peninsula	6,950	115	6,804	124
116	Mason	North Mason	6,949	116	7,249	75
117	Pierce	University Place	6,943	117	6,733	129

	County	District	Unadjusted Federal, State & local Funding per pupil	Unadjusted Rank ¹	Adjusted Federal, State & Local Funding per pupil ²	Adjusted Rank ³
118	Snohomish	Edmonds	\$6,940	118	\$6,543	149
119	Grant	Moses Lake	6,928	119	7,007	97
120	Chelan	Cashmere	6,922	120	7,327	68
121	Yakima	Selah	6,914	121	6,812	121
122	Cowlitz	Castle Rock	6,913	122	7,540	49
123	Thurston	Olympia	6,909	123	6,979	105
124	Pierce	White River	6,903	124	6,809	123
125	Pierce	Franklin Pierce	6,896	125	6,399	156
126	Yakima	Grandview	6,893	126	6,291	158
127	Stevens	Chewelah	6,881	127	7,243	76
128	King	Kent	6,878	128	6,059	172
129	Pierce	Fife	6,876	129	6,811	122
130	Douglas	Eastmont	6,869	130	7,217	80
131	Lewis	Winlock	6,852	131	6,992	104
132	Pierce	Eatonville	6,848	132	6,757	128
133	Kittitas	Ellensburg	6,844	133	7,311	69
134	King	Lake Washington	6,834	134	6,492	152
135	Clark	Evergreen	6,834	135	6,771	127
136	Pierce	Bethel	6,828	136	6,481	153
137	Thurston	Tumwater	6,826	137	6,868	111
138	Pierce	Sumner	6,819	138	6,635	138
139	Spokane	Mead	6,808	139	7,159	85
140	Island	Coupeville	6,806	140	7,029	94
141	Benton	Kiona-Benton	6,802	141	6,866	112
142	Kittitas	Cle Elum-Roslyn	6,798	142	7,596	43
143	Whatcom	Lynden	6,758	143	7,007	98
144	Benton	Richland	6,752	144	7,207	83
145	Clark	Camas	6,742	145	7,000	103
146	King	Tahoma	6,727	146	6,273	160
147	Snohomish	Sultan	6,725	147	6,167	167
148	Yakima	East Valley	6,723	148	6,650	137
149	King	Auburn	6,720	149	6,063	171
150	Kitsap	Bainbridge	6,696	150	6,931	107
151	Snohomish	Monroe	6,655	151	6,414	155
152	Pierce	Orting	6,653	152	6,503	150
153	King	Issaquah	6,635	153	6,257	162
154	King	Federal Way	6,634	154	5,851	174
155	Pierce	Puyallup	6,621	155	6,563	144

	County	District	Unadjusted Federal, State & local Funding per pupil	Unadjusted Rank ¹	Adjusted Federal, State & Local Funding per pupil ²	Adjusted Rank ³
156	Snohomish	Mukilteo	\$6,600	156	\$6,163	168
157	King	Snoqualmie Valley	6,566	157	6,155	169
158	Yakima	Zillah	6,552	158	6,623	139
159	Yakima	Naches Valley	6,545	159	6,727	131
160	Snohomish	Arlington	6,535	160	6,240	164
161	Island	Oak Harbor	6,523	161	6,681	133
162	Snohomish	Snohomish	6,505	162	6,290	159
163	Snohomish	Lake Stevens	6,462	163	6,205	165
164	Snohomish	Stanwood-Camano	6,456	164	6,183	166
165	Grays Harbor	Montesano	6,453	165	6,804	125
166	Yakima	West Valley	6,450	166	6,499	151
167	Kitsap	South Kitsap	6,431	167	6,269	161
168	Clark	Battle Ground	6,391	168	6,475	154
169	Lewis	Toledo	6,327	169	6,562	145
170	Snohomish	Granite Falls	6,322	170	5,982	173
171	Clark	Ridgefield	6,298	171	6,578	142
172	Clark	La Center	6,287	172	6,581	141
173	Cowlitz	Kalama	6,103	173	6,650	136
174	Clallam	Sequim	6,065	174	6,558	148

¹This is the rank of the district based on unadjusted total funding per pupil. Districts are ranked from highest (1) to lowest (174).

²This is total funding per pupil weighted for differences in student needs and adjusted for the differences in the local costs of educational resources.

³This is the rank of the district based on adjusted total funding per pupil. Districts are ranked from highest (1) to lowest (174).

Appendix VI Calculating Equity Measures

COV (Coefficient of Variation)

The coefficient of variation (COV) is the standard deviation expressed as a percent of the average. We calculated the COV for both the combined (state and local) funding per pupil and total (state, local and federal) funding per pupil. The methodology is only shown for the state and local funding variable.

Coefficient of variation =

[The **standard deviation** of the combined state & local funding per pupil adjusted for student needs and resource costs for the 174 districts] ÷ [The **average** combined state & local funding per pupil adjusted for student needs and resource costs for the 174 districts]

To calculate the two variables in the above COV equation, we took the following steps.

1. The **average** combined state & local funding per pupil adjusted for student needs and resource costs for the 174 districts (represented as **adj nofed per pupil**)

$$= \frac{\text{the sum of } \{ \text{adj nofed per pupil}_a * \text{total FTE count}_a * \text{needs index}_a * \text{GCEI}_a \} \text{ for all 174 districts}}{\text{the sum of } \{ \text{total FTE count}_a * \text{needs index}_a * \text{GCEI}_a \} \text{ for all 174 districts}}$$

where the indicated variables are all relative to district_a.

2. The **standard deviation (s)** of the combined state & local funding per pupil adjusted for student needs and resource costs for the 174 districts was calculated as follows:

First calculate the **variance, s²**

$$s^2 = \frac{\text{the sum of } \{ (\text{adj nofed per pupil}_a - \text{adj nofed per pupil})^2 * (\text{total FTE count}_a * \text{needs index}_a * \text{GCEI}_a) \} \text{ for all 174 districts}}{\text{the sum of } (\text{total FTE count}_a * \text{needs index}_a * \text{GCEI}_a) \text{ for all 174 districts} - 1}$$

where the indicated variables are all relative to district_a.

$$s \text{ (standard deviation)} = \text{square root of } s^2$$

McCloone Index

The McCloone index is the ratio of the total amount of revenue for all students below the median to what the total revenue would be if all these students received the median revenue per student.

$$\frac{\text{sum of each district's product up to the median (adj nofed funding per pupil}_a * \text{adjusted FTE}_a)}{\text{median value of the adjusted nofed funding per pupil} * \text{cumulative number of adjusted FTE to median}}$$

Fiscal neutrality

Fiscal neutrality is achieved in a state when district funding per pupil does not depend on district wealth. We measured the extent of this dependency using the elasticity of funding per pupil to the tax base per pupil, where both variables have been adjusted for differences in student needs and local costs.

To calculate the fiscal neutrality score, we determined the coefficient of the independent variable, tax base per pupil expressed as an index, in a linear regression where the funding per pupil variable is the dependent variable and also expressed as an index. The variables were weighted for district enrollment size (total unadjusted student FTEs) to better reflect the distribution of funding to students rather than to districts. Thus, school districts with larger enrollments had a greater effect in determining the estimated coefficients of the model.

The tax base is the district's assessed valuation as defined by the state. It is the sum of a district's assessed property valuation (reduced by the amount of senior citizen exemptions) and the district's share of timber assessed value.¹⁵ The tax base data comes from the state's "Analysis of Excess General Fund Levies Collectible in 2002," Report 1061 from the Office of Superintendent for Public Instruction. To calculate the tax base per pupil, a district's tax base is divided by the district's FTE students adjusted for needs and cost. Dividing this variable by the study's average tax base per pupil adjusted for needs and cost yields the district's tax base index.

Based on the regression results summarized in Table VI.1 below, we found that a 1 percent increase in district's tax base is associated with a 0.035 percent increase in districts' combined state and local funding and a 0.019 percent increase in districts' total (federal, state, and local) funding. These tax base elasticities of funding are the state's fiscal neutrality scores. The state's fiscal neutrality scores are better than the fiscal neutrality standard of no more than 0.1 percent suggested by Odden and Picus.¹⁶ Further, Odden and Picus also suggest that the correlation between the funding and tax base variables should be less than 0.5. In our analysis, the correlation between funding (state and local) per-pupil and tax base-per-pupil was 0.32 and the correlation between funding (federal, state and local) per-pupil and tax base-per-pupil was 0.15. Table VI.1 summarizes the regression results.

¹⁵ School District Property Tax Levies, 2002 Collections, Office of the Superintendent of Public Instruction

¹⁶ Allan R. Odden and Lawrence O. Picus, *School Finance: A Policy Perspective*, Second Edition, The McGraw-Hill Companies, Inc. 2000.

Table VI.1 Linear Regression Results for Calculating Tax Base Elasticities of Funding

Dependent Variable¹	Independent Variable¹	Parameter Estimate (Elasticity)²	Standard Error of the Estimate³	t Value of the Estimate	Adjusted R-square for model
Funding (state and local) per pupil index	Tax base per pupil index	0.03514	0.00803	4.38	0.0949
Funding (federal, state and local) per pupil index	Tax base per pupil index	0.01925	0.00957	2.01	0.0026

¹Both funding-per-pupil and tax base-per-pupil have been adjusted for differences in local costs and student needs and measured relative to their respective state averages. These variables represent percent changes from their respective state averages.

²In a simple regression where tax base per pupil is the independent variable and funding per pupil is the dependent variable, and both are indexed to their respective state averages, the coefficient of the independent variable represents the percent difference in funding per pupil associated with a 1-percent difference in district tax base compared with the state average. That is, the coefficient is the tax base elasticity of district funding evaluated at the state average.

³ Tax base elasticity of combined state and local funding per pupil is significantly different from zero at the 99 percent confidence level. The tax base elasticity of total funding per pupil is significantly different from zero at the 95 percent confidence level.

Appendix VII Estimating the Additional Cost of Achieving Washington State’s Academic Standards

We used two approaches to calculate the additional cost of achieving Washington State’s academic standards. This appendix explains the approach that is based on the Rainier Institute’s Washington Quality Education Model (WQEM).¹⁷ The WQEM identified and priced the important program components of three prototypical schools, one each at the elementary, middle, and high school levels. The prototypical schools were designed to reflect best practices in education; the school’s components were carefully selected to provide a quality education to all students, consistent with the expectations of Washington state’s academic standards.

The three model schools included core programs for all students, as well as specialized programs for students with disabilities, struggling with the English language, and not achieving at standard. After specifying the enrollment levels, staffing and class sizes for each program in a model school, the WQEM priced each element of the program. Summing up the entire program costs for each school and dividing by the total enrollment for the school yields a spending level per pupil for each model school. Two spending levels were developed for each model school, one assuming an increase in salaries and one with no increase. WQEM financing assumes state and local funds from school year 2000-01 and no federal or capital projects funds. Table VII.1 presents the spending levels developed by the WQEM

Table VII.1 Comparison of per pupil costs for WQEM’s Three Prototypical Schools School Year 2000-01¹

	WQEM per pupil expenditure (with salary increases)	WQEM per pupil expenditure (without salary increases)	Current Service Level per pupil expenditures ²
Elementary	\$8,393	\$7,950	\$6,113
Middle	\$7,830	\$7,451	\$5,615
High School	\$7,753	\$7,379	\$5,915

¹All expenditures include state and local funds, excluding those for capital projects.

²This is the Rainier Institute’s estimate of the state’s expenditures for comparable program components at each level.

Our goal was to calculate the cost of implementing the WQEM model schools in each district in school year 2001-02. We took the following steps:

First, we reviewed each model school to determine which costs, if any, for each program component could be allocated to one of three student populations with high needs: students with disabilities, English language learners, and students not achieving at standard.¹⁸ We divided the total costs associated with each group by the number of students in the group to calculate the additional spending per pupil for each high-need student group.

¹⁷ “What Will It Take? Defining a Quality Education in Washington and A New Vision of Adequacy for School Funding.” Rainier Institute, March 2003.

¹⁸ The WQEM model did not have a category for students from poor families. However, such students are often expected to need extra instructional services to bring them academic standards.

Next, we totaled the costs associated with all three student groups and subtracted this amount from the total cost of the model school. This remaining amount divided by the total enrollment is the base spending per pupil amount that the model school would spend on every student.

Finally, we divided the additional spending per pupil associated with each high-need group by the base spending per pupil to determine WQEM’s implicit weight assigned to each high-need group of students. As Table VII.2 shows, the implicit weight assigned to students with disabilities under WQEM’s elementary school is 0.76. This means that such students would count as 1.76 in our computation.

Table VII.2 Base Spending Per Pupil and Implicit Weights Derived from the Washington Quality Education Model, School Year 2000-01

	Base Spending per pupil	Implicit Student Weights in the WQEM Model		
		Students with Disabilities	English Language Learners	Students Not Achieving at Standard
Elementary	\$7,068	0.76	0.20	0.34
Middle	\$6,545	1.02	0.22	0.29
High School	\$6,760	0.74	0.21	0.27

To calculate the cost of implementing the WQEM model in each district, we then applied each school level’s base spending per pupil and the implicit WQEM student weights to the district’s enrollment at that level. We adjusted the base spending figures for differences in local costs and for inflation. The cost of implementing the WQEM model in each district is the sum of the costs for each level. We found that all districts would have to experience an increase in state and local funding levels to be funded at the proposed WQEM level. The additional cost ranged from \$182,175 in Conway, Skagit County to \$82,757,250 in Seattle, King County. The combined state and local funds for all 174 districts in school year 2001-02 totaled \$6,174,101,704. The additional amount needed to bring all districts to WQEM levels represents 34 percent of this amount, at \$2,076,899,980.

Appendix VIII Analysis of At-Risk Districts

In Table 8 of the report, we listed the 17 school districts that are most at risk for not ensuring all their high-needs students achieve Washington State’s academic standards. These are districts that received less than average funding and yet have a higher than average percentage of high need students and a higher than average percentage of not-passing rates on 4th grade WASL reading or math tests. Together these districts account for about 103,000 FTE students of the nearly 936,000 in the study. The lowest funded districts are ranked first.

As a measure of how well students perform on state assessment tests, we calculated two WASL not-pass indexes, one each for the 4th grade WASL reading test and the 4th grade WASL math test using student scores from school year 2001-02. We calculated each index by dividing a district’s percentage of 4th graders who did not pass the WASL test in 2002 by the percentage of 4th graders who did not pass the WASL test for all 174 districts in the study. Students who did not pass the 4th grade WASL test scored at level 2 (below standard) or level 1 (well below standard). The calculations exclude those students at level 0, ‘did not take the test.’ The average not pass rate for the 4th graders in the 174 districts on the WASL reading test was 33 percent and on the WASL math test, 47 percent. We used school year 2001-02 WASL data reported by the Office of Superintendent of Public Instruction on its website www.k12.wa.us under its Research and Reports category.

To determine the strength of the relationship between a district’s share of high needs students and WASL not-pass rates, we correlated districts’ need indexes and districts’ WASL not-pass indexes. The correlations were very high, indicating that district’s with relatively large shares of high-need students tend to also have higher than average not passing rates on the 4th grade WASL test. See Table VIII.1 for the correlation results. High-need students are special education students, English language learners, and students from poor families. We weighted these students according to the typical cost of additional resources spent on them. Accordingly, special education students were weighted as 1.9, English language learners and students from poor families were weighted as 1.2, and all other students were given a weight of 1. The need index is a districts’ weighted students as a percentage of its unweighted students divided by the average such percentage for all students in the study.¹⁹ The correlations were weighted for district enrollment.

Table VIII.1 Correlation Between Districts’ High-Need Student Indexes and 4th Grade WASL Not-Passing Indexes, School Year 2001-02

	High-Needs Student Index
4 th Grade WASL Reading Not Passing Index	0.969
4 th Grade WASL Math Not Passing Index	0.976

Table VIII.2 contains the total funding per pupil of each district combined with the district’s 4th grade WASL test not-passing indexes, and high-need students indexes.

¹⁹ See Appendix III for further details on districts’ need indexes.

Table VIII.2 174 Districts: Standing on Factors Used in Risk Analysis, School Year 2001-02

	County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	High-Needs Student Index ³	4th Grade WASL Math	4th Grade WASL Reading
						Not-Pass Index ⁴	Not-Pass Index ⁵
Average for 174 districts			5,378	\$6,906	19%	47%	33%
1	Adams	Othello	2,890	\$7,004	1.115	1.727	2.074
2	Asotin	Clarkston	2,741	7,699	0.998	0.998	0.858
3	Benton	Finley	1,078	7,706	1.036	1.637	1.796
4	Benton	Kennewick	13,698	7,476	1.006	0.813	0.834
5	Benton	Kiona-Benton	1,608	6,866	1.031	1.446	1.341
6	Benton	Prosser	2,723	7,050	1.053	0.901	1.063
7	Benton	Richland	9,279	7,207	0.975	1.002	1.014
8	Chelan	Cascade	1,411	7,650	1.046	1.000	1.127
9	Chelan	Cashmere	1,421	7,327	0.994	1.260	0.858
10	Chelan	Wenatchee	6,950	7,065	1.026	1.131	1.231
11	Clallam	Port Angeles	4,715	7,409	0.995	1.006	0.748
12	Clallam	Quillayute Valley	1,273	7,936	1.046	1.305	1.543
13	Clallam	Sequim	2,802	6,558	0.963	1.172	1.170
14	Clark	Battle Ground	11,238	6,475	0.976	1.124	1.029
15	Clark	Camas	3,978	7,000	0.962	0.573	0.663
16	Clark	Evergreen	22,089	6,771	0.989	1.060	0.980
17	Clark	Hockinson	1,397	7,461	0.945	0.749	0.922
18	Clark	La Center	1,342	6,581	0.964	0.927	0.736
19	Clark	Ridgefield	1,767	6,578	0.966	0.766	0.706
20	Clark	Vancouver	21,009	7,006	1.019	0.884	0.996
21	Clark	Washougal	2,508	7,223	0.992	1.092	1.090
22	Cowlitz	Castle Rock	1,329	7,540	0.975	1.575	1.170
23	Cowlitz	Kalama	952	6,650	0.997	0.777	1.139
24	Cowlitz	Kelso	5,043	7,300	1.014	1.097	1.155
25	Cowlitz	Longview	7,301	7,836	1.013	1.309	1.231
26	Cowlitz	Woodland	1,838	7,911	0.976	1.307	1.457
27	Douglas	Eastmont	5,059	7,217	1.012	1.184	1.243
28	Franklin	North Franklin	1,842	7,334	1.097	1.294	1.494
29	Franklin	Pasco	8,750	7,221	1.079	1.360	1.637
30	Grant	Ephrata	2,213	7,419	1.009	1.054	0.895
31	Grant	Grand Coulee Dam	824	9,228	1.018	1.294	1.262
32	Grant	Moses Lake	6,429	7,007	1.029	1.060	1.274
33	Grant	Quincy	2,164	7,291	1.095	1.459	1.579
34	Grant	Royal	1,269	6,865	1.111	1.584	1.711
35	Grant	Wahluke	1,509	7,613	1.160	1.762	2.285
36	Grant	Warden	934	6,911	1.124	1.616	1.717
37	Grays Harbor	Aberdeen	3,883	7,615	1.054	1.193	1.249
38	Grays Harbor	Elma	1,983	7,215	1.005	1.410	1.341
39	Grays Harbor	Hoquiam	2,070	7,539	1.043	1.412	1.289
40	Grays Harbor	McCleary	276	8,411	1.021	1.429	1.222

Table VIII.2 174 Districts: Standing on Factors Used in Risk Analysis, School Year 2001-02

	County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	High-Needs Student Index ³	4th Grade WASL Math Not-Pass Index ⁴	4th Grade WASL Reading Not-Pass Index ⁵
		Average for 174 districts	5,378	\$6,906	19%	47%	33%
41	Grays Harbor	Montesano	1,327	\$6,804	0.997	0.757	0.446
42	Island	Coupeville	1,075	7,029	0.977	1.390	0.828
43	Island	Oak Harbor	6,000	6,681	0.956	1.034	0.990
44	Island	South Whidbey	2,230	7,521	0.963	0.940	0.846
45	Jefferson	Chimacum	1,323	7,970	0.994	1.019	1.090
46	Jefferson	Port Townsend	1,698	7,584	1.019	1.333	1.258
47	King	Auburn	12,900	6,063	0.980	1.024	0.922
48	King	Bellevue	15,106	6,815	0.957	0.575	0.553
49	King	Enumclaw	4,946	6,577	0.956	1.197	1.026
50	King	Federal Way	21,550	5,851	1.002	0.936	0.855
51	King	Highline	17,605	6,254	1.023	1.277	1.310
52	King	Issaquah	13,765	6,257	0.938	0.474	0.480
53	King	Kent	25,604	6,059	1.004	1.116	1.060
54	King	Lake Washington	22,940	6,492	0.939	0.757	0.629
55	King	Mercer Island	4,079	7,013	0.911	0.378	0.260
56	King	Northshore	19,436	6,585	0.952	0.682	0.638
57	King	Renton	12,270	6,099	1.001	1.097	1.075
58	King	Riverview	2,813	6,561	0.954	0.978	0.852
59	King	Seattle	45,198	7,781	1.030	0.976	1.005
60	King	Shoreline	9,897	6,692	0.971	0.710	0.669
61	King	Snoqualmie Valley	4,353	6,155	0.952	0.661	0.733
62	King	Tahoma	5,826	6,273	0.957	0.850	0.794
63	King	Tukwila	2,446	6,357	1.067	1.279	1.463
64	King	Vashon Island	1,553	6,732	0.950	0.545	0.388
65	Kitsap	Bainbridge	3,970	6,931	0.937	0.421	0.220
66	Kitsap	Bremerton	5,953	6,974	1.017	1.041	1.072
67	Kitsap	Central Kitsap	12,853	7,004	0.990	0.968	0.929
68	Kitsap	North Kitsap	6,753	7,138	0.966	0.723	0.724
69	Kitsap	South Kitsap	10,717	6,269	0.986	0.994	1.057
70	Kittitas	Cle Elum-Roslyn	969	7,596	0.972	1.508	1.197
71	Kittitas	Ellensburg	2,755	7,311	1.006	1.000	1.090
72	Klickitat	Goldendale	1,252	7,588	1.022	1.124	1.301
73	Klickitat	White Salmon	1,253	7,365	1.080	1.187	1.258
74	Lewis	Centralia	3,176	7,388	1.048	1.328	1.280
75	Lewis	Chehalis	2,689	8,302	0.999	0.446	0.666
76	Lewis	Onalaska	869	7,956	1.028	1.230	1.103
77	Lewis	Toledo	974	6,562	1.014	1.412	1.185
78	Lewis	White Pass	752	8,097	1.052	1.416	1.420
79	Lewis	Winlock	814	6,992	1.031	0.494	0.690
80	Mason	Hood Canal	344	9,687	1.078	1.622	1.491

Table VIII.2 174 Districts: Standing on Factors Used in Risk Analysis, School Year 2001-02

	County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	High-Needs Student Index ³	4th Grade WASL Math Not-Pass Index ⁴	4th Grade WASL Reading Not-Pass Index ⁵
	Average for 174 districts		5,378	\$6,906	19%	47%	33%
81	Mason	North Mason	2,309	\$7,249	1.008	1.187	1.292
82	Mason	Pioneer	752	7,746	1.056	0.893	1.176
83	Mason	Shelton	3,933	7,599	1.003	1.223	1.075
84	Mason	Southside	247	7,953	0.991	1.049	1.017
85	Okanogan	Brewster	944	6,874	1.137	1.695	2.062
86	Okanogan	Methow Valley	654	8,543	0.978	0.785	0.446
87	Okanogan	Okanogan	971	7,564	1.060	1.129	1.060
88	Okanogan	Omak	1,976	7,732	1.039	1.596	1.426
89	Okanogan	Tonasket	1,088	7,513	1.064	1.371	1.652
90	Pacific	Ocean Beach	1,193	8,339	1.064	1.298	1.356
91	Pend Oreille	Newport	1,202	7,868	1.059	0.697	0.727
92	Pierce	Bethel	15,679	6,481	0.993	1.097	1.164
93	Pierce	Clover Park	12,569	7,397	1.051	1.363	1.320
94	Pierce	Dieringer	1,086	8,080	0.907	0.888	0.745
95	Pierce	Eatonville	2,041	6,757	0.974	1.045	1.078
96	Pierce	Fife	2,953	6,811	0.961	0.719	0.806
97	Pierce	Franklin Pierce	7,560	6,399	1.006	1.348	1.399
98	Pierce	Orting	1,753	6,503	0.983	1.238	1.258
99	Pierce	Peninsula	9,128	6,804	0.963	0.727	0.626
100	Pierce	Puyallup	19,436	6,563	0.960	1.039	1.087
101	Pierce	Steilacoom	2,024	6,930	0.967	0.850	0.791
102	Pierce	Sumner	7,588	6,635	0.978	0.811	0.800
103	Pierce	Tacoma	31,393	7,341	1.033	1.202	1.176
104	Pierce	University Place	5,155	6,733	0.963	0.777	0.779
105	Pierce	White River	4,169	6,809	0.965	0.871	0.785
106	San Juan	San Juan Island	932	7,665	0.958	0.762	0.617
107	Skagit	Anacortes	3,040	7,462	0.983	0.659	0.583
108	Skagit	Burlington-Edison	3,428	7,300	1.008	1.150	1.145
109	Skagit	Concrete	832	7,783	1.019	1.227	1.368
110	Skagit	Conway	435	8,484	0.950	0.998	0.874
111	Skagit	Mount Vernon	5,549	6,834	1.081	1.307	1.301
112	Skagit	Sedro-Woolley	4,293	7,043	1.016	1.298	1.228
113	Skamania	Stevenson-Carson	1,053	9,268	1.025	1.371	1.231
114	Snohomish	Arlington	4,936	6,240	0.969	0.927	0.944
115	Snohomish	Edmonds	21,118	6,543	0.981	0.927	0.880
116	Snohomish	Everett	17,792	6,678	0.983	0.850	0.813
117	Snohomish	Granite Falls	2,217	5,982	0.987	1.315	1.106
118	Snohomish	Lake Stevens	6,725	6,205	0.963	1.015	0.974
119	Snohomish	Lakewood	2,304	6,832	0.970	1.146	1.103
120	Snohomish	Marysville	11,458	6,561	0.987	1.015	0.968

Table VIII.2 174 Districts: Standing on Factors Used in Risk Analysis, School Year 2001-02

	County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	High-Needs Student Index ³	4th Grade WASL Math Not-Pass Index ⁴	4th Grade WASL Reading Not-Pass Index ⁵
	Average for 174 districts		5,378	\$6,906	19%	47%	33%
121	Snohomish	Monroe	5,869	\$6,414	0.960	0.946	1.035
122	Snohomish	Mukilteo	13,812	6,163	0.982	0.916	0.877
123	Snohomish	Snohomish	8,469	6,290	0.957	0.976	0.834
124	Snohomish	Stanwood-Camano	5,299	6,183	0.966	0.970	0.785
125	Snohomish	Sultan	2,177	6,167	1.018	0.998	0.941
126	Spokane	Central Valley	10,735	7,210	0.984	0.863	0.788
127	Spokane	Cheney	3,369	7,533	1.011	0.955	1.002
128	Spokane	Deer Park	1,942	7,001	1.042	1.223	1.313
129	Spokane	East Valley	4,534	7,367	0.999	1.015	1.084
130	Spokane	Freeman	897	7,780	0.943	0.629	0.651
131	Spokane	Mead	8,112	7,159	0.960	0.642	0.675
132	Spokane	Medical Lake	2,213	7,707	1.009	0.534	0.635
133	Spokane	Nine Mile Falls	1,582	7,495	0.967	0.798	0.901
134	Spokane	Riverside	1,926	7,634	1.013	0.910	1.057
135	Spokane	Spokane	30,391	7,815	1.015	0.888	1.029
136	Spokane	West Valley	3,548	7,623	0.994	0.715	0.709
137	Stevens	Chewelah	1,256	7,243	1.010	1.116	1.112
138	Stevens	Colville	2,194	7,234	1.016	0.912	0.806
139	Stevens	Kettle Falls	819	8,069	1.015	0.704	1.002
140	Stevens	Loon Lake	160	8,023	1.110	1.032	1.130
141	Thurston	Griffin	610	8,248	0.921	0.665	0.687
142	Thurston	North Thurston	12,431	7,061	0.988	0.957	0.913
143	Thurston	Olympia	8,915	6,979	0.970	0.644	0.654
144	Thurston	Rainier	906	7,349	0.980	0.800	0.828
145	Thurston	Rochester	1,879	7,554	1.057	1.395	1.509
146	Thurston	Tenino	1,396	7,046	1.006	0.479	0.464
147	Thurston	Tumwater	6,293	6,868	0.974	0.826	0.709
148	Thurston	Yelm	4,375	6,796	1.008	0.970	0.816
149	Walla Walla	College Place	791	8,429	1.091	1.672	1.927
150	Walla Walla	Columbia	888	8,222	1.003	0.886	1.362
151	Walla Walla	Walla Walla	5,739	7,861	1.035	1.264	1.191
152	Whatcom	Bellingham	9,902	7,180	0.990	0.927	0.748
153	Whatcom	Blaine	1,974	7,383	1.001	1.178	0.962
154	Whatcom	Ferndale	5,060	7,150	1.015	1.114	1.075
155	Whatcom	Lynden	2,443	7,007	0.983	0.998	0.666
156	Whatcom	Meridian	1,497	7,258	1.019	1.103	1.139
157	Whatcom	Mount Baker	2,336	7,296	1.035	1.485	1.481
158	Whatcom	Nooksack Valley	1,788	7,553	1.020	0.783	0.913
159	Whitman	Colfax	744	8,345	0.965	0.764	0.816
160	Whitman	Pullman	2,156	8,386	0.970	0.721	0.999

Table VIII.2 174 Districts: Standing on Factors Used in Risk Analysis, School Year 2001-02

County	District	Student FTEs ¹	Adjusted Total Funding Per Pupil ²	High-Needs Student Index ³	4th Grade WASL Math Not-Pass Index ⁴	4th Grade WASL Reading Not-Pass Index ⁵
Average for 174 districts		5,378	\$6,906	19%	47%	33%
161	Yakima East Valley	2,319	\$6,650	1.010	1.341	1.604
162	Yakima Grandview	2,884	6,291	1.084	1.539	1.735
163	Yakima Granger	1,254	7,128	1.125	1.757	2.053
164	Yakima Highland	1,119	6,847	1.082	1.648	1.784
165	Yakima Mount Adams	1,039	9,025	1.089	1.581	1.882
166	Yakima Naches Valley	1,528	6,727	0.982	0.916	0.913
167	Yakima Selah	3,366	6,812	1.014	0.895	0.953
168	Yakima Sunnyside	5,171	7,028	1.103	1.350	1.573
169	Yakima Toppenish	3,224	6,844	1.181	1.425	1.866
170	Yakima Union Gap	569	6,863	1.100	1.004	0.788
171	Yakima Wapato	3,184	6,652	1.123	1.124	1.527
172	Yakima West Valley	4,417	6,499	0.982	0.863	0.843
173	Yakima Yakima	13,580	6,827	1.110	1.405	1.610
174	Yakima Zillah	1,200	6,623	1.009	0.438	0.360

¹Student FTEs is an unweighted count of the district and does not include institutionalized students.

²This is total funding per pupil weighted for differences in student needs and adjusted for the differences in the local costs of educational resources.

³ The high-needs student index measures the district's percentage of weighted students relative to the state's overall percentage of weighted students. For example, an index of 1.2 means the district has 20 percent more weighted students than the overall average percentage for the state. Weighted students is the number of full time equivalent students adjusted to give extra weight to special education students, English language learners, and students from poor families.

⁴ The 4th Grade WASL math not passing index measures the district's percentage of students who did not meet the 4th grade math proficiency standards relative to the state's percentage of students not meeting these standards. An index of 1.2 means that the district's 4th grade WASL not passing rate is 20 percent higher than the overall percentage for the state. 'Not passing' is based on the number of students who scored at level 1 (well below standard) or level 2 (below standard) on the test. Students at level 0, did not take the test, are not included in the calculation.

⁵ The 4th Grade WASL reading not passing index measures the district's percentage of students who did not meet the 4th grade reading proficiency standards relative to the state's percentage of students not meeting these standards. An index of 1.2 means that the district's 4th grade WASL reading not passing rate is 20 percent higher than the overall percentage for the state. 'Not passing' is based on the number of students who scored at level 1 (well below standard) or level 2 (below standard) on the test. Students at level 0, did not take the test, are not included in the calculation.

Appendix IX Table of Staff Mix Factors for Certificated Instructional Staff, School Year 2001-02

Table of Staff Mix Factors for Certificated Instructional Staff									
Years of Service	Education Experience							MA + 90	
	BA + 0	BA + 15	BA + 30	BA + 45	BA + 90	BA + 135	MA + 0	MA + 45	or PHD
0	1.00000	1.02700	1.05497	1.08299	1.17299	1.23097	1.19892	1.28892	1.34691
1	1.01344	1.04080	1.06915	1.09846	1.18936	1.24702	1.21224	1.30313	1.36079
2	1.03628	1.06422	1.09313	1.12497	1.21652	1.27536	1.23765	1.32919	1.38800
3	1.07041	1.09920	1.12897	1.16252	1.25569	1.31710	1.27524	1.36837	1.42982
4	1.09451	1.12485	1.15511	1.19013	1.28481	1.34731	1.30175	1.39642	1.45893
5	1.11952	1.15030	1.18117	1.21847	1.31376	1.37814	1.32899	1.42428	1.48866
6	1.13397	1.16407	1.19599	1.23521	1.33001	1.39471	1.34357	1.43837	1.50307
7	1.17099	1.20182	1.23452	1.27626	1.37342	1.44061	1.38462	1.48178	1.54897
8	1.20854	1.24107	1.27454	1.31971	1.41821	1.48784	1.42807	1.52657	1.59620
9		1.28171	1.31681	1.36364	1.46443	1.53643	1.47196	1.57279	1.64479
10			1.35961	1.40982	1.51195	1.58635	1.51818	1.62031	1.69471
11				1.45734	1.56171	1.63758	1.56570	1.67007	1.74594
12				1.50336	1.61278	1.69096	1.61510	1.72114	1.79932
13					1.66511	1.74561	1.66621	1.77347	1.85397
14					1.71772	1.80234	1.71886	1.82950	1.91070
15					1.76239	1.84921	1.76353	1.87706	1.96038
16 or more					1.79765	1.88618	1.79879	1.91461	1.99959
Source: Legislative Evaluation and Accountability Committee									

Certificated Instructional Salaries

Certificated instructional staff unit salary allocations are calculated using the school district’s “derived base salary” together with the district’s “staff mix factor.” The purpose of using the district staff mix factor is to provide more funding to districts that have staff with more education and educational work experience. This is done because professional educational staff are paid on the basis of education and experience.

The Legislative Evaluation and Accountability Program (LEAP) Committee, a research arm of the Legislature, developed the staff-weighting table shown above.

The numerical factors shown at each step of the table indicate how much greater the salary recognized at that step is than the starting base salary due to an employee’s experience and education.

The staff mix factor of a district for a given year is determined by placing each of the district’s certificated instructional employees on the table according to their actual experience and education and computing an average mix factor for the district. The average mix factor reflects the district’s average certificated staff experience and education. Such average mix factors are computed for basic education and state institutional education program funding.

Source: Organization and Financing of Washington Public Schools, OSPI, January 2002