center on reinventing public education

policy BRIEF

March 2005

Lessons on Assessing the Costs of Small High Schools: *Evidence from Seattle and Denver*

Some research shows that the financial costs of operating small schools exceed that of large schools, since small schools lack the economies of scale that yield lower per pupil costs.[1] Certain analyses also have suggested that small schools are more effective and thus amount to lower costs per graduate and/or reduced short term and long term social costs.[2] While this alternative perspective incorporates benefits that are relevant, the reality is that per pupil financial costs currently carry more weight in school board decisions about optimal school size.

As small schools gain visibility in their promise for increased student performance, school leaders in cities with shrinking revenues are now asking just how much more they spend on small schools. While school cost comparisons generally have relied on school budget figures, a complete picture of school cost requires examination of: 1) school budgets, 2) teacher and administrator salaries, 3) central budgets that provide educational services, and 4) central budgets that provide facilities, transportation, food, and other non-educational services (see box on page three). Researchers at the Center on Reinventing Public Education examined small high school costs in Denver and Seattle, analyzing each layer of district expenditures in order to get a better look at the price tag for small schools in comparison to others.[3]

Small School Costs in Two Cities

Higher expenditures for some small schools, but not all

In both districts there are examples of expensive small high schools, even after taking into account the differing needs of students at each school.[6] Seattle has a small school that costs 23% more than the district weighted average. Denver spends 18% more per pupil in its small high schools than it does across all high schools.

What is a "small" school?

Many districts throughout the country have designed small schools in order to boost academic achievement. While there is no common agreement on ideal school size, for many districts there are small schools by design and de facto small schools. High schools, which tend to have higher enrollments, are generally the reform focus and recommended enrollments often range between 300-500 students. [4]

Seattle Public Schools (SPS) characterizes seven of its seventeen high schools as small schools, six of which serve as viable options for all students and are analyzed here. Denver Public Schools (DPS) has three small high schools, which recently were created out of a large traditional high school. [5]

But, as the graph shows (see page 2), these findings on the relationship between spending and school size are not linear and do not apply evenly across all high schools. Seattle's least expensive high school is small (costing 13% *less* than the district average), and the total per pupil costs across all small schools match those for Seattle's large high schools. And in Denver, not all large schools produce cost savings. The district's third largest school spent some 11% *more* than the district average.

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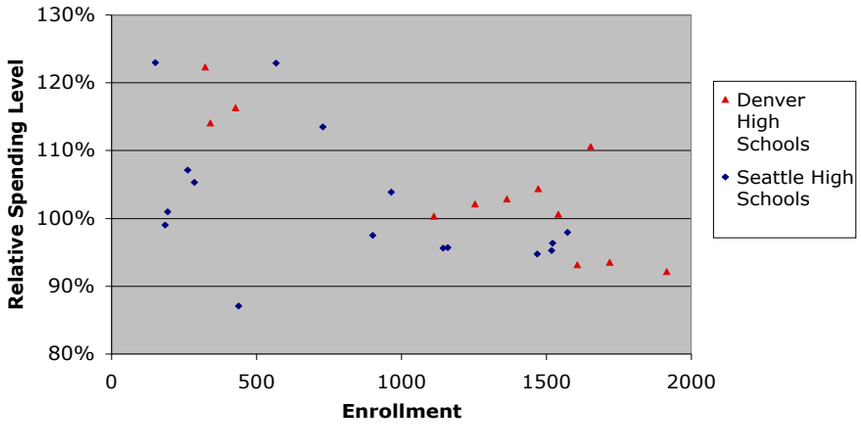

Uneven central spending affects relative cost of small schools

In Seattle and Denver, central budgets distribute an additional 34% and 20% respectively in educational services above and beyond what appears in each school's budget — expenditures that generally are not included in school cost comparisons.

Central spending varies greatly among all schools and, as a result, affects the comparison of small and larger school costs. Overall, Seattle's small schools receive a smaller share of these budgets (by some 22%). In fact, several of Seattle's centrally run programs are directed only to larger high schools, including a $1.8 million college preparatory program. Other central budgets disproportionately favor larger schools, including $373,000 in professional development services. Denver, on the other hand, allocates its small schools an average of 23% more central resources than the district average given their mix of students.

Lessons on Comparing Costs

These findings have implications for district policymakers struggling with the price tag of small schools:

1. Get the full cost picture

Most districts rely only on school budget totals to examine relative school costs and thus see only part of the picture. In comparing different school models, it is important to include all costs associated with educational services (or, at a minimum, the first three components described in the box on the next page).

Looking separately at each cost component in both Denver and Seattle we find that smaller schools do have higher per pupil *school budgets*, but that these patterns don't extend to all costs associated with each school. The costs from *central budgets for educational services* decrease the relative cost of Seattle's small schools by an average of nine percentage points, making the total educational costs for small schools even with those for large schools. In Denver, central budgets work in the opposite direction, increasing the relative cost of small schools, on average, by two percentage points.

2. Consider the costs of alternative options

For districts grappling with the costs of small schools, it is imperative to make apples to apples comparisons between small schools that serve typical students and their larger counterparts, as not every larger school is cheaper. As the graph illustrates, in both districts, there are larger schools that spend more per pupil than the district average. Seattle's lowest cost high school is a small school and, in fact, is a much less expensive option than any of the district's larger schools.

3. Isolate spending data on non-educational services

In Seattle, small school costs associated with non-educational services (transportation, food services, facilities, etc.) varied from 11% of the per pupil average to near 200%. In some cases we've found that while budget officials bemoan the rental agreements that often occompany newly created small schools, these rental costs are much less per pupil than the total facilities costs associated with large traditional high schools.

As districts make decisions based on the relative costs of small and large schools, they will want to consider separately the education and non-education related costs for each school. There may be cases where a small school model is viable in terms of educational costs, but existing non-education related

services make it too expensive. In this case, the district may choose to optimize its non-education related costs, perhaps by moving the school to a less costly setting or by rethinking transportation or food service costs.

4. Recognize that relative costs are driven by budgeting practices

By identifying budgeting practices that create spending differences between small and large schools, districts can evaluate whether such differences are strategic and/or based on student need. For example, Denver's use of "special program" allocations drives substantial spending differences between small and large schools. These allotments are made above and beyond school budgets and are driven by a variety of rationale.

Similarly, Seattle makes "foundation funding" allocations, or base operational grants, that greatly affect the relative spending level of small schools. Amounting to 12% of school budget expenditures, foundation funding is highly variable and drives much of the higher costs in the district's most expensive schools. Even district formulas that allocate resources in the form of fixed staff positions for each school (principal, librarian, etc.) force higher per pupil costs for small schools.

Also relevant are choices about minimum enrollment. These findings suggest there may be an optimum size for small high schools (perhaps above 400 students), although the research literature thus far has not been conclusive. Districts, like Seattle, may eventually want to rethink enrollment at their smallest high schools.

Some Districts are Changing Budgeting Practices

Districts interested in creating small schools as a reform strategy might consider the budget reform underway in Cincinnati. There, the district uses a per pupil calculation (known as a weighted student formula) to build school budgets. The district uses the formula to remove the fixed costs associated with each school and thus eliminate the economies of scale associated with the school budgets of larger schools. Furthermore, the district has done away with many special program allocations and is instead granting schools greater flexibility to cover core needs and create special programs from their categorical and non-categorical allocations (e.g., library and leadership expenses can be met in creative ways that do not require the allocation of fixed staff increments).

Although Seattle uses a weighted student formula, the district continues to make foundation allocations outside the formula, creating uneven spending among schools. In Cincinnati, the district has raised the minimum school size to a level such that foundation allocations are not necessary.

As more districts continue to experiment with models for small schools, districts will need to continue rethinking their budgeting practices and develop new methods for delivering services that do not depend on the one-size-fits-all approach used historically for comprehensive schools.

School Cost Components

School budgets typically include the dollar amounts for staff and materials assigned directly to a school. The costs for fixed positions such as the principal are divided among the students yielding lower per pupil costs as enrollment increases.

Salaries vary among schools. Real cost comparisons require an adjustment for the difference between real salaries and the district averages used in school budgets.

Central budgets for educational services provide supplemental funds and/or educational services above and beyond those reported in school budgets and can reflect 20-40 percent of the district's total operating expenditures. Accounting for how these costs benefit specific schools allows for more accurate cost comparisons of school models.

Costs of non-educational services provide funds for transportation, food, facilities, security, etc. These costs, while critical in total school cost comparisons, should be analyzed separately when comparing costs of different school models.

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[1] See, for example, Stiefel, L., Berne, R., Iatarola, P. & Fruchter, N. (2000). High school size: Effects on budgets and performance in New York City. *Educational Evaluation and Policy Analysis*, 22, 27-39.

[2] See, for example, Lawrence, B.K., Bingler, S., Diamond, B.M., Hill, B., Hoffman, J.L., Howley, C.,B., Mitchell, S., Rudolph, D., & Washor, E. (2002). *Dollars & Sense: The Cost Effectiveness of Small Schools.* Cincinnati, OH: KnowledgeWorks Foundation.

[3] In this brief, we highlight findings for costs associated with educational services for high schools (using the first three budget layers), and consider costs for non-educational services separately on page two.

[4] In the last two years, New York City has opened 99 small highs schools designed to have no more than 500 students each. Later this month, the administration is expected to announce the opening of as many as 50 more small schools in September. *The New York Times*, January 14, 2005. "Learning Curve: In Push for Small Schools, Other Schools Suffer."

[5] Four of SPS's small high schools have primary grades in addition to secondary. Although SPS similarly converted a traditional high school into four small high schools, the district continues to consolidate expenditure and enrollment data. Because of data availability, these schools were treated as traditional high schools. DPS's two smallest high schools are alternative schools that were excluded from this analysis.

[6] For this analysis, a weighted index was used in order to compare spending differences among schools with differing student needs. See Annenberg (2003), *Assessing Inequities in School Funding: A Tool to Prepare for Student Based Budgeting.*

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The University of Washington's Center on Reinventing Public Education studies major issues in education reform and governance to improve policy and decision making in K-12 education.

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