Education Resource Strategies

School Budget Report for School District of Philadelphia

School Year 2008-2009

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Executive Summary 3
Introduction 6
Key questions 7
Methodology 7
Objective 1: Transparency 9
Key question: Is the SDP budget process clear, well documented and easily understood? 9
Objective 2: Budget Impact 13
Key question: How does the budget process impact the ability of school leaders to use resources in keeping with research-based practice? 13
Objective 3: Spending Comparison 17
Key question: How do spending patterns in SDP compare to other urban districts? 17
Objective 4: Distribution Across Schools 25
Key question: Does each school receive the appropriate share of SDP resources given their student population, challenges, and goals? 25
Objective 5: Spending Difference Drivers 30
Key question: What factors account for differences in spending across SDP schools? 30
Recommendations 37
Do 2014 initiatives resolve these issues? 37
What can SDP do? 38
Conclusion 43
Appendices 44
Appendix 1: ERS Use/Function Coding Methodology 44
Appendix 2: Coding Exclusions 45
Appendix 3: Regression Analysis Results – Detailed Breakdown 46
Appendix 4: Breakout of costs of Imagine 2014 initiatives 50
Appendix 5: Effect on per-pupil funding of adding Imagine 2014 initiatives 51

Executive Summary

Background: In the fall of 2007, Education Resource Strategies (ERS) was invited by Philadelphia's School Reform Commission to conduct a Resource Use Analysis for the School District of Philadelphia (SDP) that would in part inform a possible transition to weighted student funding. In April 2008, ERS began the first set of interviews and data gathering designed to inform the mapping and measuring of resource use in Philadelphia. Soon after, the new CEO of the School District of Philadelphia was announced, altering the typical process as the district moved into transition. Due to Superintendent and other leadership transitions, ERS suspended work on this project pending the guidance and direction of the new leadership.

In January 2009, ERS resumed the work with SDP under the direction of Michael Masch, the new Chief Business Officer. Since the initial project began, there have been a number of changes in SDP. First, the new Superintendent, Arlene Ackerman, and Chief Business Officer Michael Masch have begun transforming the budget process to be more strategic, transparent and equitable. Additionally, the district has launched several strategic initiatives to improve student performance and that include key reallocations. The district is also about to benefit from federal stimulus funding expected by some estimates to exceed $3-400M, and has launched a strategic plan: "Imagine 2014."

Key Questions:

This phase of the partnership between ERS and SDP has focused on five overarching questions:

1. **Transparency**: Is the SDP budget process clear, well documented and easily understood?
2. **Budget Impact**: How does the budget process impact the ability of school leaders to use resources in keeping with research-based practice?
3. **Spending Comparison**: How do spending patterns in SDP compare to other urban districts?
4. **Distribution Across Schools**: Does each school receive the appropriate share of SDP resources given their student population, challenges, and goals?
5. **Spending Difference Drivers**: What factors account for differences in spending across SDP schools?

Key Findings:

1. **Transparency**: SDP has clarified how the existing school budget process works and improved reporting[1]
2. **Budget Impact**: Key budget processes limit the ability of school leaders to staff schools around a coherent instructional vision
3. **Spending Comparison**: Compared to other urban districts, SDP overhead is low but Operations & Maintenance (O&M) costs are high because SDP runs too many schools.

[1] Details can be found in SDP Budget Process Presentation

4. **Distribution Across Schools**: Despite recent district efforts, many of the neediest schools receive fewer resources per pupil than other SDP schools
5. **Spending Difference Drivers**: Spending differences across SDP schools are driven primarily by size and inaccurate enrollment projections

Recommendations

Recommendations fell into two categories: (1) Distribution of resources to SDP schools and (2) Improve the use of school-level resources.

#1: Distribution of resources to SDP schools

- Revise the system for awarding resources to schools
  - Increase the investment in academically needy students by awarding more resources to schools based on the academic need of their entering (transition year) students
  - Move toward awarding resources as dollars instead of staff to minimize differences between small and large schools and to make key resources more flexible within SDP's accountability framework
  - Increase the percent of resources reported to and controlled by schools, especially for schools or principals that have "earned" more autonomy based on proven performance
  - During transition, limit the size of single-year school budget changes
- Improve enrollment projection and staffing adjustment process
  - Increase the accuracy of enrollment projections to reduce the number of "overstaffed" schools
  - Consider adjusting the remaining overstaffing on a case-by-case basis
- Actively manage the portfolio of school sizes over time (multiple years)
  - Close schools to reduce seats by 40K, focusing on smallest schools
  - Set school size minimums of 400 and reduce size of comprehensive high schools
- Address teaching quality imbalance across schools
  - Revise union contract provisions that create unequal distribution of teacher experience (e.g., teachers' rights to select school of assignment)
  - Add support resources to schools with higher concentrations of new teachers

#2: Improve the use of school-level resources

- Increase the ability of school leaders to staff according to a coherent, research-based vision
  - Build principal capacity to use resources strategically by providing training, tools, and design templates that identify options and trade-offs for focusing resources on instruction
  - Remove contract barriers and district practices that unnecessarily limit school flexibility around hiring and staffing assignment, including late notification of teaching vacancies
  - Move strategic school planning from August up to April (during school budget and staffing process) to enable schools to develop their budget and staffing plans around strategic priorities
- Create accountability for improved use of school-level resources
  - Measure and report key indicators of SDP school resource use

- Give schools with proven outcomes more autonomy in how they use their resources, while providing additional guidance and support to other schools
    - Create strategic school design templates that work in SDP, emphasizing models that support lower performing schools
    - Establish standards for research-based practices, such as teacher collaboration around formative assessments, that apply to all (or some) schools
- Develop measures of teaching effectiveness and coach principals on effective evaluation and support

- Focus turnaround strategy on instructional improvement
    - Increase the amount of resources given to Empowerment Schools with additional guidance on using resources to improve instruction
    - Conduct pilot to change working conditions in hard-to-staff schools (to reduce teacher experience differential)

Introduction

In the fall of 2007, Education Resource Strategies (ERS) was invited by Philadelphia's School Reform Commission to conduct a Resource Use Analysis for the School District of Philadelphia (SDP) that would in part inform a possible transition to a new system for awarding dollars to schools that gives dollars instead of staff and that "weights" students differentially based on academic needs (weighted student funding). Subsequently, ERS was also hired to conduct a Professional Development Review, the preliminary findings of which were presented to the School District of Philadelphia in early 2009.

Education Resource Strategies is a non-profit organization that is nationally recognized for its extensive work in partnering with urban school districts to make the most of their resources. ERS firmly believes that strategic use of limited resources is a critical and fundamental variable to increasing student success over the short and long term. Over the past decade, ERS has conducted Resource Use Analyses for numerous urban school districts across the country. The ERS Resource Use Analysis is designed to map and measure current district spending in a structured way that allows standardized spending comparisons to best practices and comparison districts across the country. Districts have partnered with ERS to use this analysis to help them better understand how their current resource use reflects district strategy, the tradeoffs they are making, and ways to reallocate resources to increase student achievement in the short and long term.

In April 2008, ERS began the first set of interviews and data gathering designed to inform the mapping and measuring of resource use in Philadelphia. Soon thereafter, the new CEO of the School District of Philadelphia was announced, altering the typical process as the district moved into transition. Due to Superintendent and other leadership transitions, ERS suspended work on this project pending the guidance and direction of the new leadership.

In January 2009, ERS resumed the work with SDP under the direction of Michael Masch, the new Chief Business Officer. This work had as its objectives to improve resource use in five areas:

- Transparency
- Budget Impact
- Spending Comparison
- Distribution Across Schools
- Spending Difference Drivers

Since the initial project began, there have been a number of changes in SDP. First, the new Superintendent, Arlene Ackerman, and Chief Business Officer Michael Masch have begun transforming the budget process to be more strategic, transparent and equitable. Additionally, the district has launched several strategic initiatives to improve student performance, which include key reallocations, such as:

- Reorganizing Regional offices to place support closer to schools and to reduce regional caseload

- Reducing school-based instructional support personnel
- Reducing class size, especially in primary grades
- Support for low-performing schools (Empowerment Schools)
- HS Re-rostering
- Efforts to analyze, document and redefine the school budget process

The district has also launched a strategic plan, "Imagine 2014", and this plan's World-Class Operations commitment includes: "Balance and align the annual budget with District goals" and "Develop a weighted student funding formula to ensure equity". Lastly, the district is about to benefit from American Recovery Act (ARRA) funding expected to exceed $300M by some estimates.

All analyses and numbers contained within this report are designed not to be an accounting audit or to follow audit procedures but instead have been calculated using best available data to provide valuable insight into some of the funding challenges SDP faces, as well as illustrating opportunities to reprioritize spending in equitable ways that ensure all students are receiving the educational resources they need to succeed. We have vetted the numbers with the Chief Business Office.

Key questions

In the report below, we seek to answer five main questions – aligned with the objectives – that we think SDP leadership should be cognizant of during any exploration of budget processes or funding reallocations.

1. **Transparency:** Is the SDP budget process clear, well documented and easily understood?
2. **Budget Impact:** How does the budget process impact the ability of school leaders to use resources in keeping with research-based practice?
3. **Spending Comparison:** How do spending patterns in SDP compare to other urban districts?
4. **Distribution Across Schools:** Does each school receive the appropriate share of SDP resources given their student population, challenges, and goals?
5. **Spending Difference Drivers:** What factors account for differences in spending across SDP schools?

Methodology

To address these issues, ERS conducted an analysis of the SDP FY2008-2009 budget, position, enrollment and related data. (Earlier work with SDP analyzed 2007-2008 data). The process included the following key steps:

- SDP provided ERS with a full budget file that included the lowest available level of position detail. This position data was merged into the PB/BOSS system from the HR/Payroll advantage system as of December 23, 2008. This file, complete with full-time and non-full-time salaries and non-personnel items, represents the FY09 Estimated Budget. ERS also received detailed student enrollment by school and grade as of December 1st.
- With SDP's support, ERS adjusted the FTEs across all school sites to account for vacant positions and itinerant positions. These adjustments resulted in a file that as closely as possible represented each school's budgeted resources.

- Excluded non K-12 operating investments. To compare districts on an apples-to-apples basis, ERS examines only K-12 Operating detail across all districts. To do this, we excluded non-operating costs and Pre-K costs.
- Coded data for proper comparison to other urban benchmark districts. Because districts usually code budgets in very different ways, ERS applies a consistent coding structure across all the districts with whom we work.[1]
- Conducted interviews with SDP staff to further diagnose existing investments and purposes of spending.
- Analyzed patterns using total dollars, dollars per-pupil, and % of budget. For any cross district comparisons, we adjusted dollars for inflation and regional differences in cost of living.
- Identified areas where SDP had invested a higher percentage of resources than comparable districts and identified key cost drivers.
- For resources that are coded to central office locations, but play out at school sites, ERS conducted interviews to determine which resources go to which schools or types of schools. ERS then allocated these resources across the identified schools, to arrive at a true dollar per pupil across all SDP schools.
- Calculated a "weighted per pupil" metric to account for the composition of the student population. We did this by identifying all the expenditures in the budget by students served, such as special education or English language learners. We then compared that amount to the amount spent on general education students to get a "weight" for each student group.
- Used this "weighted per pupil" amount for each school to analyze spending trends across schools and school types in SDP.

Additionally, ERS compiled a description of the budget process, which included the following steps:

- Used line-item budget data for FY2008-2009 to determine largest expenditures within the budget.
- Conducted interviews with SDP Budget Office to understand high-level timeline and process for creating school budgets and staffing schools.
- Conducted interviews with SDP personnel who manage budgets for major functions (e.g., transportation, school nurses) and grants to learn about the process for allocating dollars/resources to schools.
- Compiled all information on budget process in a single document to be used as a reference for SDP.

[1] See Appendix 1 for Operational Definitions and ERS Coding Guide

Objective 1: Transparency

Key question: Is the SDP budget process clear, well documented and easily understood?

Overall finding: SDP has clarified how the existing school budget process works and improved reporting. When ERS originally reviewed the school budget process, several elements were problematic:

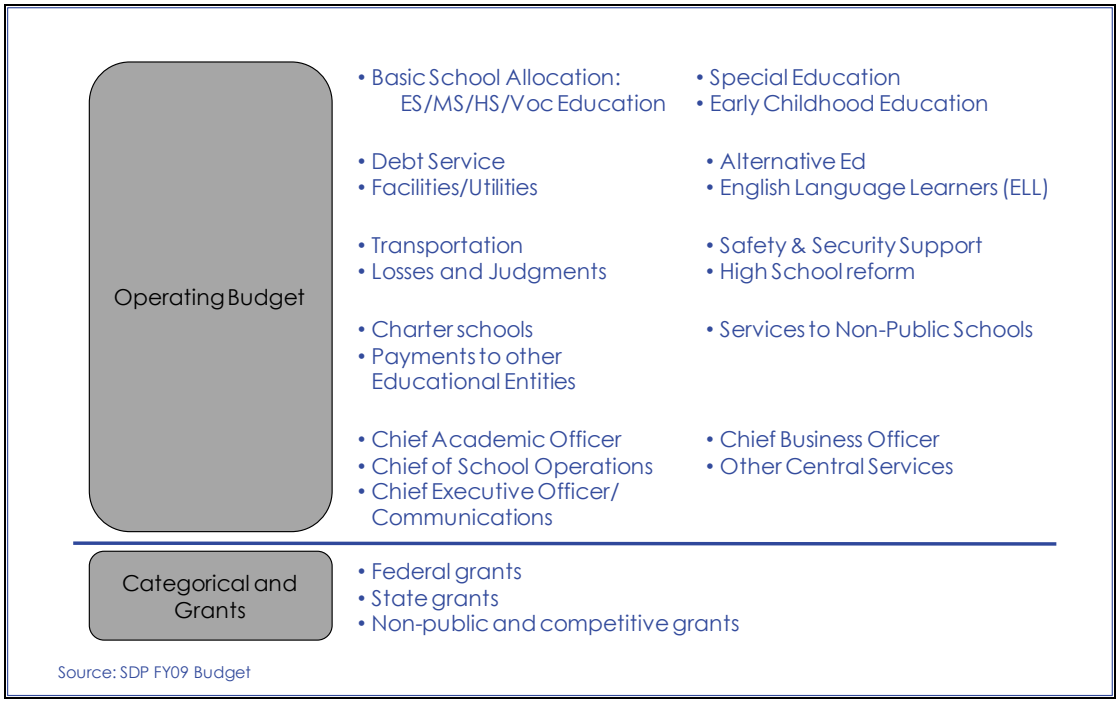
- *Grants and other operating funds were reported separately*
- *Use of resources by function (instruction, pupil services, etc) was not easily tracked*
- *Existing allocation processes were not well documented*
- *The money that went to schools directly was not clearly identified or reported*

However, in recent months, SDP has taken several actions that address this situation.

Finding: Grants and other operating funds were reported separately

Upon reviewing and assessing the budget process, ERS observed that grants were budgeted and reported separately from other operating funds. This format made it difficult for SDP to easily ascertain the exact amount budgeted for activities that had grant funding, because those grant dollars were categorized separately from operating dollars. (See Figure 1)

Figure 1: Former budget categories



As a result of this finding, SDP has created an integrated budget format that includes grants; for each activity, it is now a straightforward process to determine the dollar amount budgeted, because SDP is reporting dollars by activity, and showing the split in funding (operating versus grants) for each activity.

SDP should move towards making strategic decisions about all funds (operating and grants) holistically, rather than making decisions around operating funds in isolation and thinking about grants as an add-on. The change in reporting should help to facilitate this change in mindset.

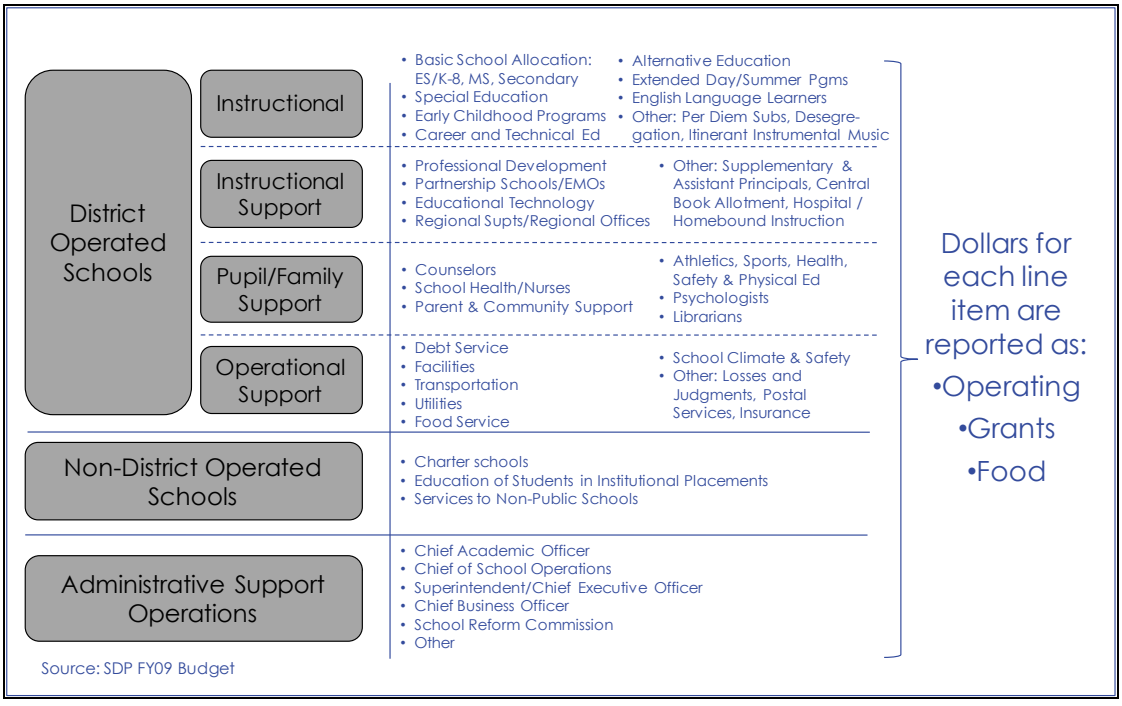
Finding: Use of resources by function (instruction, pupil services, etc) was not easily tracked

When ERS began its engagement with SDP, the budget was not categorized according to function. Instead, the bulk of the budget was in one large category – called "Operating Budget" – which included line items for a wide range of functions, from "Services to Non-Public Schools" to "High School Reform" to "Facilities/Utilities". As a result, SDP could not track dollars by function in a way that informed strategy, allowed for accountability and fostered transparency. (See Figure 1)

However, in the past several months, SDP has created reporting categories that describe functional use of expenditures. Now, the budget is divided between District Operated Schools, Non-District Operated Schools and Administrative Support Operations. Within each of these broader categories, the budget is divided by function, which increases transparency around how dollars are budgeted. (See Figure 2)

Moving forward, SDP should continue to enforce this new functional categorization of the budget to change mindsets in SDP as to how the budget process is done.

Figure 2: Revised budget categories



Finding: Existing allocation processes were not well documented

SDP has different allocation processes for each grant and each function. For example, dollars for gifted students are allocated to schools on a per-pupil basis (with differing allocations for elementary, middle and high school students), while custodial employees are allocated to schools based on square footage. Although the managers of these individual funding streams and functions understood the allocation process, these processes were not well documented for a wider audience. District leaders did not know how decisions were being made to allocate dollars to schools, so they could not make a determination as to whether these allocations aligned with SDP strategy.

In the past several months, ERS has supported SDP in documenting all of the existing allocation processes in a comprehensive "Budget Description Process" document that will be referenced by SDP going forward and will create transparency on how dollars are allocated to schools. The next step in this work is for SDP to review the allocation processes and determine whether they align with SDP's overall strategy, or whether some allocation processes need to be improved.

Finding: The money that went to schools directly was not clearly identified or reported

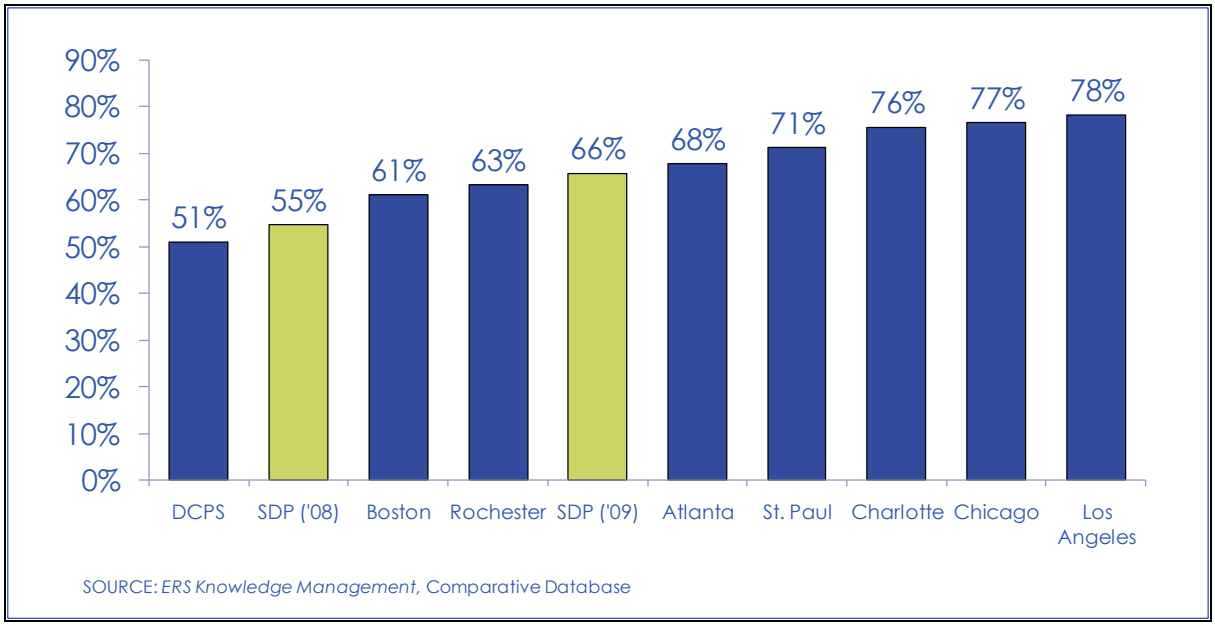
To fully understand how much was spent at each school, ERS needed to consider all school based activities. While some budget items were reported on school budgets, other items were budgeted centrally. Some of these are services that take place in schools, even though they are not on school budgets (we call these "shared services"). For example, almost all maintenance workers were budgeted centrally, so do not show up on school budgets. However, they respond to maintenance needs in particular schools and are assigned to service specific SDP regions. Excluding these "shared services" led to an understatement of the total amount being invested in each school.

To address this issue, ERS worked with SDP to identify the "shared services" and documented the process by which each is allocated to schools.[2] This information provided a more accurate picture of the amount spent at each SDP school.

In addition to better identifying shared services dollars, SDP has been able to track more dollars to school budgets. As a result, theSY0809 budget shows 66% of SDP resources on school budgets versus 55% in SY0708, making SDP more consistent with other urban districts. (See Figure 3)

[2] See details in "SDP Budget Process Presentation"

Figure 3: Percent of school-reported resources across multiple districts



Going forward, SDP needs to evaluate whether there are shared services dollars that can be moved to school budgets and whether and under what conditions principals can and should make decisions about how to best use those staff and dollars. A low amount of school-reported resources does not imply high central spending but it can indicate a lack of resource flexibility for school leaders even for items over which district leaders would prefer they exercised control.

Objective 2: Budget Impact

Key question: How does the budget process impact the ability of school leaders to use resources in keeping with research-based practice?

Overall finding: Budget processes limit the ability of school leaders to staff around a coherent instructional vision. Specifically:

- *Late notification of teacher vacancies seriously limits school leaders' ability to staff strategically*
- *176 "unselected" teachers are placed in schools whether schools want them or not*
- *School selection process creates a teacher experience differential across SDP schools*
- *Staffing and scheduling decisions occur approximately 4 months prior to school strategic planning (April vs. August), making strategic budgeting and hiring impossible*

Finding: Late notification of teacher vacancies seriously limits school leaders' ability to staff strategically

SDP's staffing process occurs on a timeline that can present problems for school leaders in staffing their schools. In March and April, teachers are supposed to submit notice of their intention to retire or resign, which enables principals to fill these positions during the hiring season in April and May. However, there are many instances of late/no notification occurring later in the summer, just prior to the start of the new school year. This creates two fundamental problems for school leaders who wish to have more control over the selection of staff:

1. The site-based selection process is completed by May 31; school leaders cannot rely on this process to fill vacancies creating by late notifications.[3]
2. Many of the best teacher candidates nationwide are already committed to jobs by early summer; school leaders cannot recruit best candidates to fill late vacancies.

SDP is addressing these problems in several ways. First, SDP is trying to speed up notification of vacancies, so school leaders have a better idea of their needs at an earlier date. This could include an accountability system for late notifications. Secondly, SDP has created a predictive model for teacher vacancies in order to better predict (during the early hiring cycle) the district's overall hiring needs, including those that may arise in late summer. This has the added benefit of allowing SDP to make offers to some of the best, early candidates, in anticipation of increased vacancies. [4] Finally, SDP plans to

[3] The site-based selection process gives school communities input on teacher hiring; at a site-based selection school, the school's Personnel Committee interviews and recommends qualified candidates to principal for specific instructional positions. Becoming a site-based selection school requires a 2/3 faculty vote, and schools can vote to opt in or out in subsequent years. If not a full site selection school, schools can participate in partial selection, where 50% of positions are filled via Site-Based Selection and 50% are filled via traditional central placement process. (All new schools are full-site selection schools.)

[4] Note here if we can find research that shows that early applicants are better applicants.

renegotiate the site-based selection process to better align with the timing of when schools understand their staffing needs.

Finding: 176 "unselected" teachers are placed in schools whether schools want them or not

SDP currently has 176 "over appointments":[5] staff members who are placed in schools despite a lack of need or interest by the school. There are two types of "over appointments" in SDP:

1. Teachers for whom there are no vacancies in their position. For example, an elementary certified teacher may not have a slot, even though there are math/science/sped, etc vacancies, because elementary certified folks can't be placed in any of those positions.
2. People hired before 1980 can't be laid off, regardless of need for their skill.

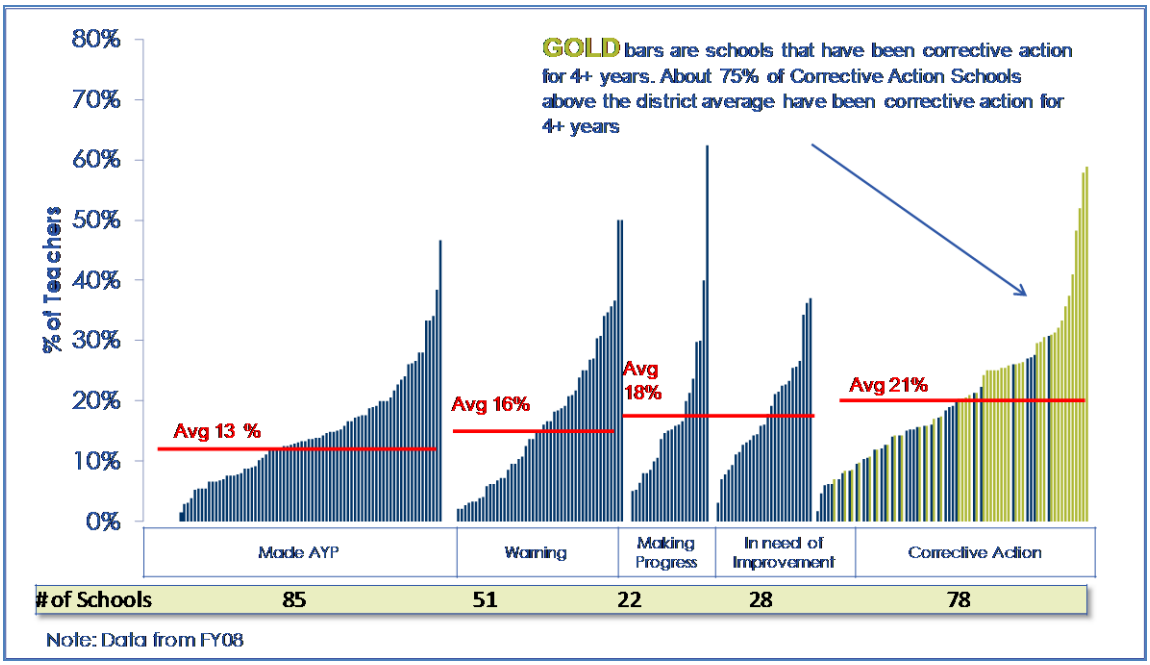
This is problematic for SDP not only because schools must maintain staff that they have not requested but because it reflects school leaders' inability to staff according to a vision and a system-wide inability to manage out employees that extends also to underperforming employees.

Finding: School selection process creates a teacher experience differential across SDP schools

One component of the placement process is that teachers can request voluntary transfers, and that more senior teachers have priority choice. These transfers are then considered as part of the site-based selection process or traditional central placement process. This teacher choice over school assignment creates an experience differential that disadvantages hard-to-staff schools; these schools tend to get more of the least experienced teachers. Figure 4 shows that inexperienced teachers[6] are more heavily clustered in Corrective Action schools which are often difficult to staff. And the percentage of inexperienced teachers is even higher in schools that have been Corrective Action for 4+ years.

Figure 4: Percent of inexperienced teachers in SY0708, by school status

[5] SDP Budget Department
[6] Inexperienced Teachers defined as years 0-3 (STEP 1-3)



Note: Data from FY08

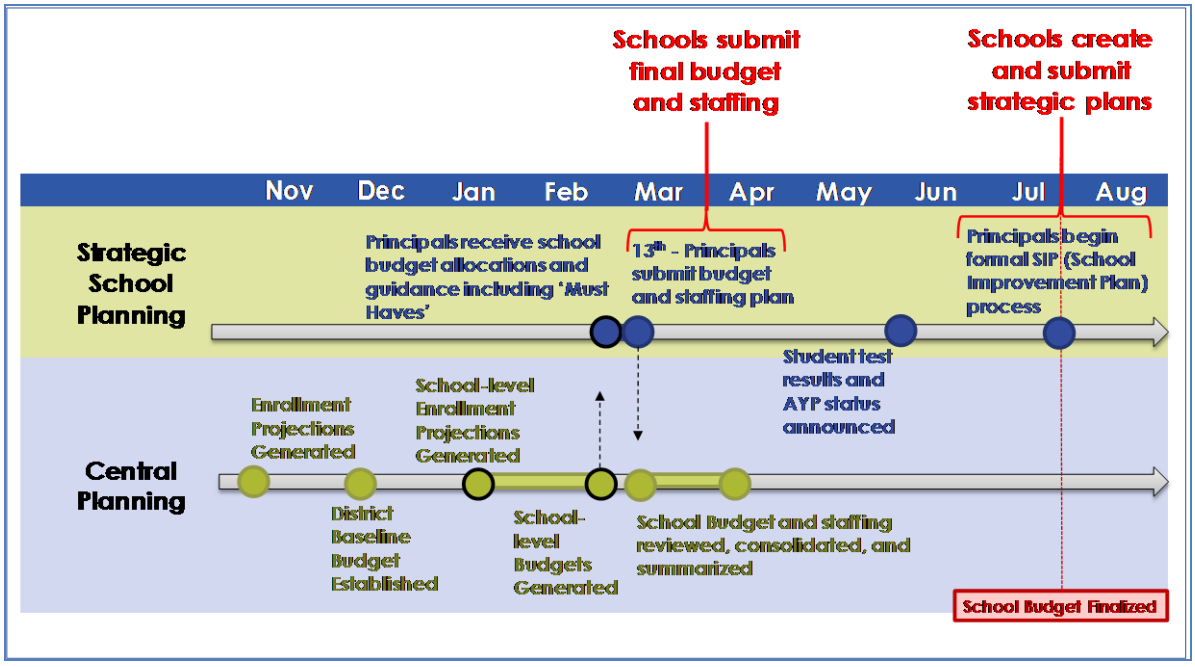
This unequal distribution of less experienced teachers has other implications. First, it may mean that overall teacher quality is lower at schools with many of the neediest students. Also, teacher turnover is higher at these schools.

While some reformers insist that budgeting at actual teacher salaries would solve or mitigate this issue, SDP needs to address working conditions at hard-to-staff schools before being able to consider budgeting at actual teacher salaries. The issue of hard-to-staff schools needs to be addressed first. When the district pays less in these schools for the actual salaries than they charge against the school budget, this creates a pool of money that is under-allotted to those hard-to-staff schools. ERS recommends that a similar amount of money be set aside and dedicated to solving the root cause of some or all of these hard-to-staff schools.

Finding: Staffing and scheduling decisions occur approximately 4 months prior to school strategic planning (April vs. August), making strategic budgeting and hiring impossible

In ERS' review of the timeline for staffing and scheduling decisions, it was apparent that School Improvement Planning and Budget process are not synchronized to enable schools to build budgets aligned with latest strategic and instructional objectives. As shown in Figure 5, schools must submit final budget and staffing in mid-March, after which it is reviewed and summarized at the central level. However, formal School Improvement Planning does not occur until several months later – in July and August – at which point, school budgets are already finalized. Therefore, budgeting is taking place before strategic planning, which does not allow for incorporation of strategy into budgets.

Figure 5: Timeline of School Improvement Planning and Budget processes



Objective 3: Spending Comparison

Key question: How do spending patterns in SDP compare to other urban districts?

Overall finding: Compared to other urban districts, SDP overhead is low but Operations & Maintenance (O&M) costs are high. Detailed findings are as follows:

- *SDP spends $12.3K per pupil (in line with other districts). Spending on various student groups also aligns with peers*
- *SDP central overhead of 6% ($160M) is lower than most peer districts*[7]
- *Operating too many schools leads to O&M costs of 23% (higher than peers) and makes it difficult to maintain facilities over time*
- *SDP diagnoses students with special in line with other urban districts – 13.4% versus 14.5% (average) – and serves them in less restrictive settings*

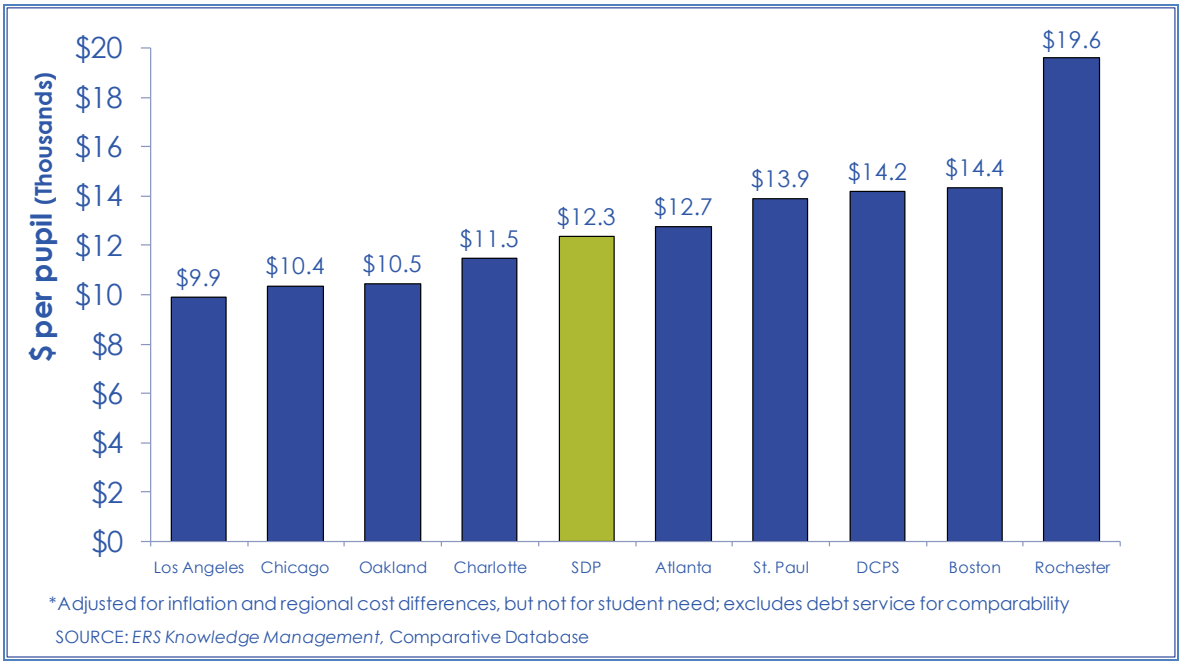
Finding: SDP spends $12.3K per pupil (in line with other districts). Spending on various student groups also aligns with peers.

Using ERS methodology, SDP's K-12 Operating per-pupil investment for SY0809 was $12.3K.[8] As shown in Figure 6, this was in the middle of districts ERS has studied, after adjusting for inflation and regional cost differences. Making SDP's budget comparable required ERS to identify items that may have been on the SDP budget but which we commonly exclude. Appendix 2 provides additional detail on the spending that ERS defined as being outside of SDP's K-12 Operating budget.

[7] When ERS shows cross district comparisons, exclusions from the denominator for comparability produce central overhead equaling 8.0% of total

[8] To ensure the validity of spending comparisons across districts, ERS uses a standard metric for total spending: K-12 Operating $/pupil. This metric excludes investments in non operating activities such as debt service and pass-throughs as well as those that don't serve the district's K-12 student population (charter school set-asides, adult education and preschool, etc.). By isolating only the funding that is directly serving the district's K-12 enrollment, we are able to provide a clearer picture of how both the total amount and specific sub-components compare to investment levels in other districts. In addition, to better account for inflationary differences associated with using other districts' data from prior years, ERS adjusts all comparative spending data based on the year of the district's data. In this case, all comparative data has been adjusted to SY0809 dollars. Finally, to account for regional cost differences, ERS adjusts all comparative data (unless specifically noted otherwise) using the NCES Comparable Wage Index specifically designed for making school district spending comparisons.

Figure 6: SDP's per-pupil spend versus benchmark districts



*Adjusted for inflation and regional cost differences, but not for student need; excludes debt service for comparability

SOURCE: *ERS Knowledge Management*, Comparative Database

Within the $12.3K per-pupil expenditure, SDP's spending on various student groups also aligns with peers. Figure 7, below, shows SDP's expenses per regular education student as $9.1K, which places SDP in the middle of comparison districts. Additionally, ratios of regular education students to other student types (poverty, ELL, SWD resource, SWD self-contained, and all students) show that SDP is well within the range of other comparison districts' same ratios.

Figure 7: Ratio of Regular Education Students to Other Student Types; Cross District Comparison

	Expenses Per Regular Ed Student (1.0)	Poverty	ELL	SWD Resource	SWD Self-Contained	All Students
Rochester	$14.8K	1.1	1.5	2.0	2.4	1.3
Atlanta	$10.2K	1.1	1.4	2.4	3.4	1.2
Providence	$10.6K	1.1	0.9	1.5	2.3	1.3
DC	$9.3K	1.1	1.3	2.3	3.9	1.3
Philadelphia	**$9.1K**	**1.3**	**1.3**	**1.6/2.5***	**2.5*/4.3**	**1.3**
Boston	$8.0K	1.2	1.9	2.0	3.1	1.5
St. Paul	$7.9K	1.4	1.1	2.4	4.4	1.6
LA	$6.9K	1.1	1.1	2.2	3.7	1.3
Chicago	$6.2K	1.3	1.1	2.6	4.3	1.3

**Special Ed Itinerant / Special Ed Supplemental/Special Ed Full time; Sources: ERS comparative database, SDP budget, SDP PIMS data, interviews with SDP staff. Dollars adjusted for geography using NCES CWI. All dollars 2008-09 (inflation adjusted).*

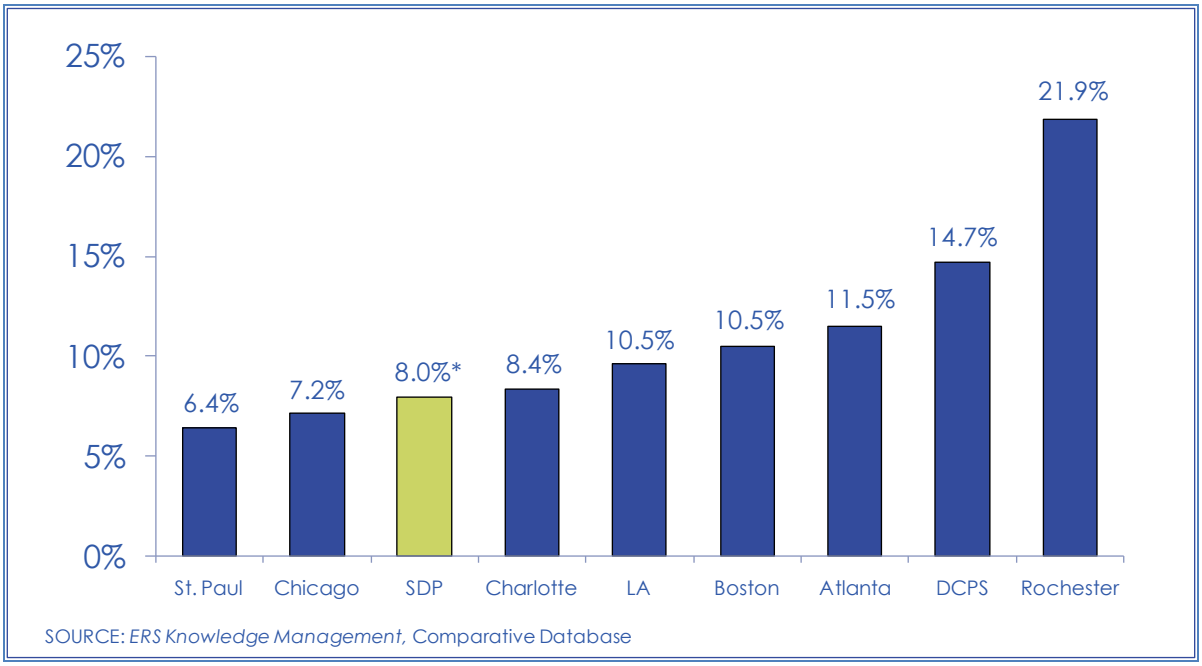
SOURCE: *ERS Knowledge Management*, Comparative Database

Finding: SDP central overhead of 6% ($160M) is lower than most peer districts.[9]

Central functions are those activities that do not take place in a school or provide direct services to students. They include business services functions (finance, HR, IT, etc.) that are generally managed centrally, as well as the management and administrative activities associated with functions that primarily take place in schools, such as the management of the facilities and maintenance programs or the central special education personnel who coordinate placement and monitor compliance.

As shown in Figure 8, SDP's level of investment in central functions was lower than most comparison districts, suggesting that at the highest level, SDP was not overspending on "central bureaucracy" relative to the other districts studied. SDP's calculation of central overhead was 6%, whiles ERS' calculation was 8%. The difference between 6% and 8% was not caused by disagreement over what is a central expense, but rather because the other districts did not include debt service or capital budget in their operating dollars. ERS excluded these dollars from the denominator for comparability.

Figure 8: Central overhead percentage across districts



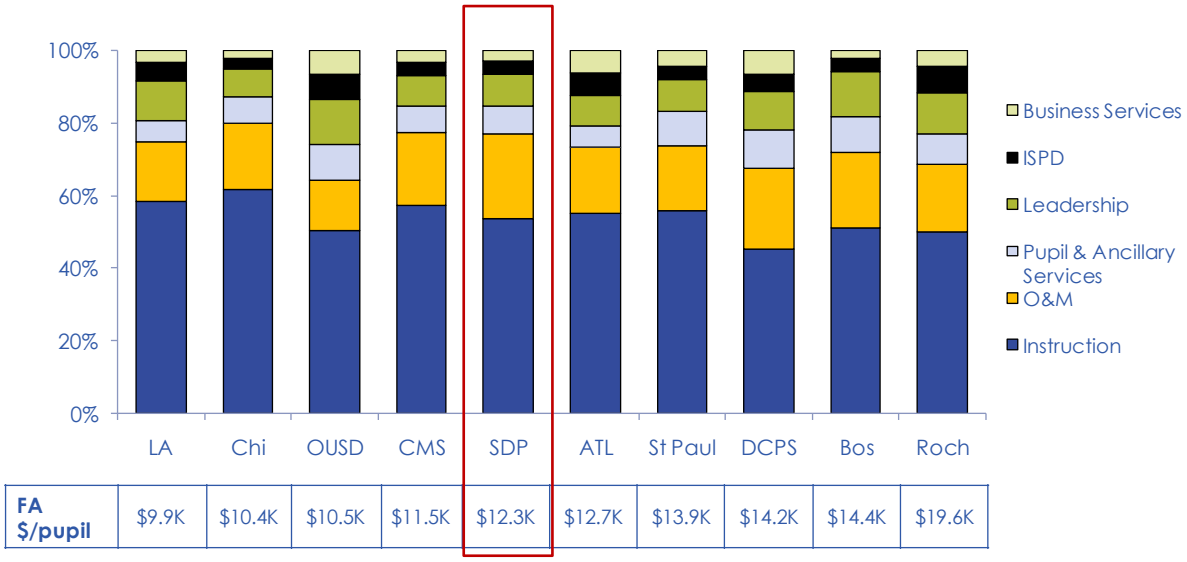
Finding: Operating too many schools leads to O&M costs of 23% (higher than peers) and makes it difficult to maintain facilities over time.

To ensure comparability across districts, ERS "recodes" each district's financial data using a standardized set of functions and related codes. See Appendix 1 for more detailed information on ERS coding and

[9] When ERS shows cross district comparisons, exclusions from the denominator for comparability produce central overhead equaling 8.0% of total

terminology. Looking at SDP functional spending at a high level as shown in Figure 9 indicated two primary areas of difference between SDP and benchmark districts: Instruction and Operations & Maintenance.

Figure 9: Use of K-12 operating dollars across districts



FA $/pupil	$9.9K	$10.4K	$10.5K	$11.5K	$12.3K	$12.7K	$13.9K	$14.2K	$14.4K	$19.6K

SOURCE: *ERS Knowledge Management*, Comparative Database

As shown in Figure 9, in aggregate, SDP spent significantly more than benchmark districts on O&M and slightly less on instruction. This same finding was noted in ERS's previous report to SDP, based on SY708 data.[10] In SY0809, SDP spent $2.8K per pupil on O&M, versus an average of $2.4K per pupil in eight benchmark districts. This may not necessarily mean that SDP invested too much in O&M, but certainly indicates that O&M spending should be examined to ensure efficiency of resource use. A related concern is that these higher O&M costs may have been squeezing out Instructional dollars; SDP spent $6.6K per pupil on Instruction in SY0809, versus an average of $6.9K per pupil in eight benchmark districts. Figure 9 shows use of K-12 operating dollars across districts, by percentage.

As shown in Figure 10, further investigation of SDP's O&M costs shows the major areas within O&M where SDP costs were higher than other comparison districts: Facilities & Maintenance, Utilities and Security & Safety. In the ERS analysis of SDP's SY0708 budget, Transportation replaced Facilities & Maintenance as one of the top drivers of SDP's relatively high investment in O&M. However, in SY0809, SDP Transportation costs fell below average versus other districts.

[10] See "Resource Use Analysis for School District of Philadelphia: School Year 2007-2008"

Figure 10: Operations & Maintenance spending per pupil versus benchmark districts

	LA	Chi.	OUSD	CMS	SDP	Atl.	St. Paul	DCPS	Bos.	Roch.	SDP vs. Avg
Facilities & Maintenance	$655	$673	$621	$579	**$954**	$880	$1,028	$1,182	$902	$885	$131
Transportation	$276	$247	$245	$767	**$575**	$390	$596	$732	$1,184	$1,550	($90)
Food Services	$334	$522	$156	$535	**$518**	$494	$509	$475	$478	$551	$68
Utilities	$127	$201	$201	$283	**$471**	$362	$279	$474	$340	$453	$169
Security & Safety	$174	$205	$227	$129	**$349**	$131	$91	$278	$91	$255	$173
Other O&M	$30	($2)	$0	$0	**$0**	$0	$0	$0	$0	$0	($3)

SOURCE: *ERS Knowledge Management,* Comparative Database

High spending on Utilities also warrants further investigation.[11] Beyond geographic and climate differences across the country, utilities expenses are often affected by the condition and age of school physical plants, as well as building utilization rates: districts with a large share of under-enrolled schools may experience higher per student utilities spending. The fact that SDP reported an overage of approximately 40K seats[12] likely contributes to this high spending.

Under-enrollment is also a factor with Facilities & Maintenance, where SDP spent 7.8% of its K-12 Operating resources (or $954 per student). This exceeded the average of other districts, but still below the amount spent by St Paul and DC. Custodial and engineering personnel are allocated to schools on square footage basis, and therefore, under-enrolled schools may have higher per student spending. As with Utilities, these Facilities & Maintenance expenses can be affected by the condition and age of school buildings; the majority of Facilities & Maintenance costs fund custodians, building engineers and maintenance & repair staff. It also seems likely that SDP facilities are currently deteriorating; SDP may simply be unable to keep up on maintenance for the large number of extra seats with its current facilities budget.[13] This creates a huge future problem for children in the city of Philadelphia; research shows that students do learn better when facilities are well maintained.[14]

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[11] ERS methodology uses a CPI-U to adjust for inflation differences across fiscal years. However, the rate of increase in utilities has generally exceeded the CPI-U for the last few years. As such, some of the difference between SDP utilities costs and those of other districts may be attributable to cost differences across fiscal years.

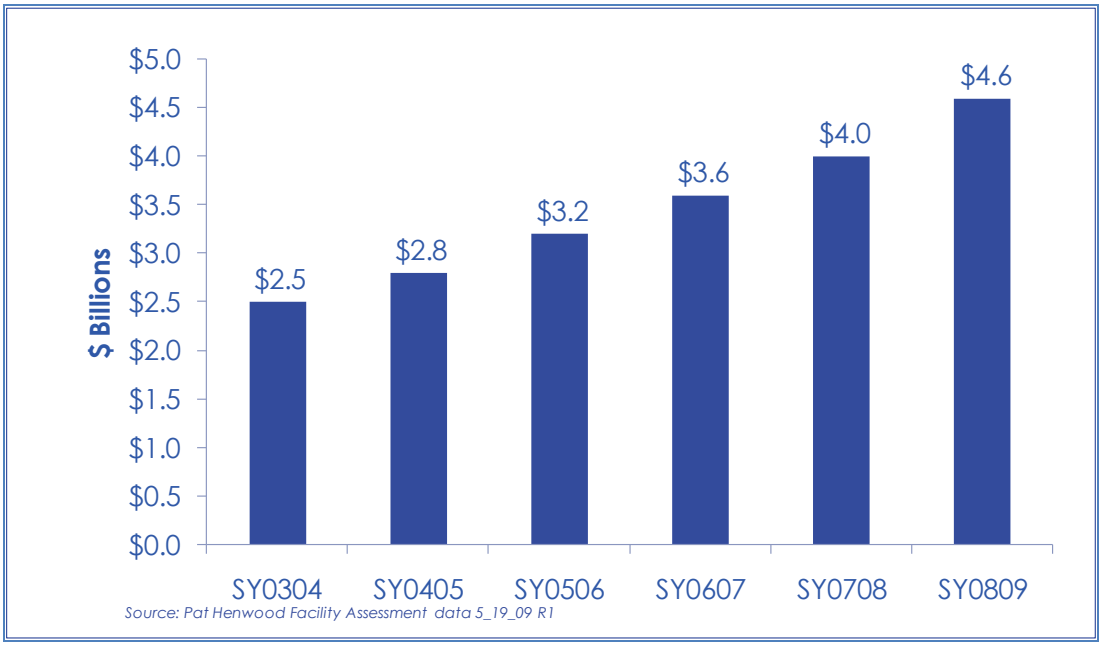
[12] "Strategic Facilities Planning: Supply and Demand Analysis" by The School District of Philadelphia, Jan 14 2009.

[13] According to the SDP "Facilities Condition Assessment" deferred maintenance (a measure of needed repairs) increased by 89% between FY04 and FY09 from $2.46B to $4.64B.

[14] See for instance, Lewis, Anne, and others. *Wolves at the Schoolhouse Door: An Investigation of the Condition of Public School Buildings.* Washington, D.C.: Education Writers Association, June 1989. 64 pages.

Also, despite a significant increase in capital expenditures over the past five years ($137M in 2004 versus an estimated $312M in 2009[15]), deferred maintenance was a significant ongoing issue for SDP, as shown in Figure 11. The largest category of this deferred maintenance was the heating system, which accounted for $0.88B in SY0809, or 19% of all deferred maintenance in that year.[16]

Figure 11: Total Deferred Maintenance



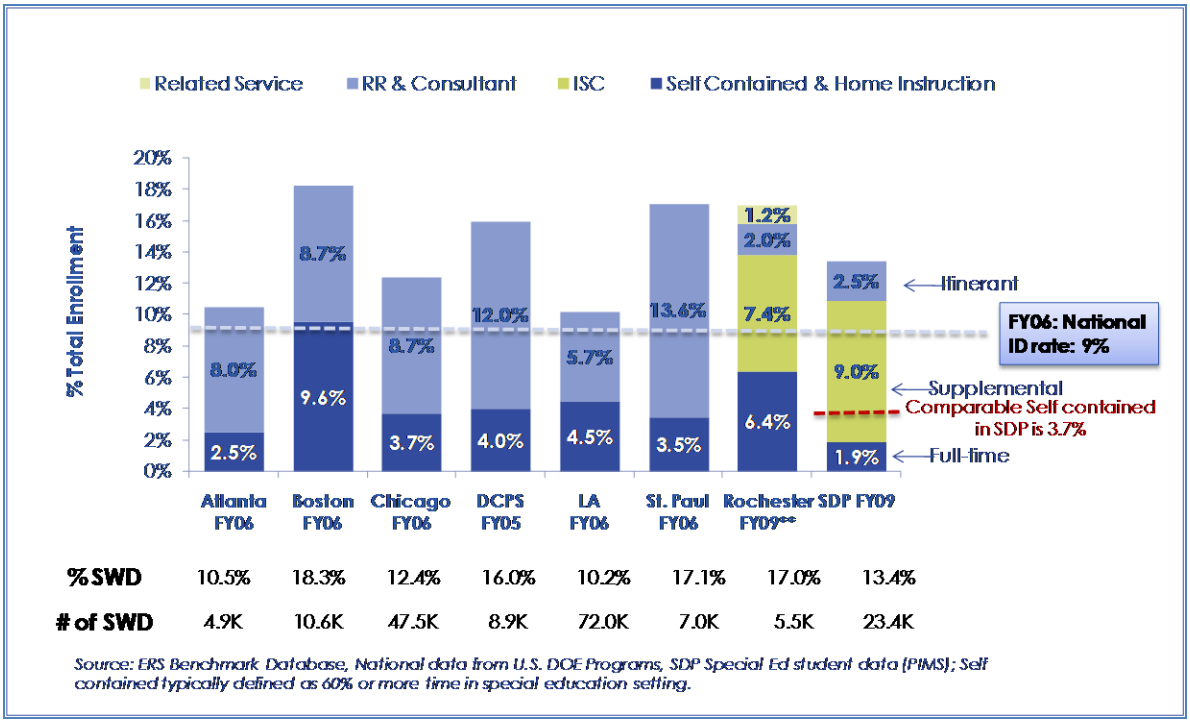
School Safety & Security consumed 2.8% of SDP's K-12 Operating resources, or $349 per student, which was significantly greater (more than double in several cases) than all other districts. SDP's challenges associated with ensuring safety and security have been well-documented and remain a priority for the immediate future.[17] This benchmarking comparison would suggest that as part of its focus on security and safety, SDP should look more closely at the nature of its investment in this area to ensure resources are being used as effectively as possible, given the size of its investment and the ongoing safety challenges.

Finding: SDP diagnoses students with special needs in line with other urban districts – 13.4% versus 14.5% (average) – and serves them in less restrictive settings.

In regards to percentage of students diagnosed with special needs, SDP fell in line with comparison districts, as shown in Figure 12. A few districts – Atlanta, Chicago, and LA – had a lower percentage of special needs students than does SDP, but other districts (Boston, DC, St. Paul and Rochester) exceeded SDP in percentage of students diagnosed.

[15] 20-year Capital expenditure file (4/27/09)
[16] Pat Henwood Facility Assessment data 5_19_09 R1
[17] Graham, Kristen., Phila sees surge in 'Persistently Dangerous' schools. *The Philadelphia Inquirer, Aug 28, 2008*

Figure 12: K-12 SWD Placements as % of Total Enrollment



Source: ERS Benchmark Database, National data from U.S. DOE Programs, SDP Special Ed student data (PIMS); Self contained typically defined as 60% or more time in special education setting.

Only 1.9% of students in SDP – which is about 14% of all students with special needs – were enrolled in full-time programs, which was the lowest percentage among comparison districts. However, this low data point is a result of differing definitions of full-time and self-contained pupils; SDP defines its full-time special education pupils as those spending ≥ 80% of their time in Special Education programs, whereas comparison districts define self-contained special education pupils as those spending ≥ 60% of their time in Special Education programs. Therefore, the comparable self-contained percentage for SDP is 3.7%, which was generally in line with other districts, although still on the lower end.

Compared to other districts, SDP had more categorizations for special education pupils; the additional "Supplemental" category enabled SDP to have comparatively fewer pupils in full-time programs and therefore better tailor needs for special education programming to pupils.

The ERS analysis of special education spending resulted in several additional insights, none of which were red flags for SDP, and some of which may merit further exploration. SDP spent significantly less on special education leadership and administration than other districts (3% as opposed to 5%) and spent more on special education instruction (69% as opposed to 62%). ERS explored what was driving this higher spend on instruction, and learned that it was not spending on the number of special education aides[18] or teachers.[19] A study of the compensation of teachers and aides revealed that much of the

[18] SDP has the fewest SPED aides compared to 6 other urban districts; there are 33 students per aide in SDP compared to a range of 9-20 students per aide in comparison districts.

[19] SDP has 12 SPED students per teacher, which is lower than two comparison districts (St Paul has 14 students per teacher and LA has 15 students per teacher), but higher than four comparison districts (which have a range of 8-11 students per teacher).

investment in special education instruction was driven by high compensation; SDP had the highest average compensation for teachers and aides compared to seven other districts.[20] However, even though SDP's compensation was higher than other urban districts, it may not have been higher than that for other districts in the Philadelphia region, and those districts are SDP's competitors for teachers and aides.

A study of SDP's fully allocated costs by disability and placement setting showed these costs to be in line with other districts and ranged from $14K for itinerant speech and language students to $61K per pupil for full-time, multiply-disabled students.

[20] Average compensation for a SPED teacher in SDP is $94K versus an average of $76K in seven comparison districts. Average compensation for a SPED aide in SDP is $53K versus an average of $36K in seven comparison districts.

Objective 4: Distribution Across Schools

Key question: Does each school receive the appropriate share of SDP resources given their student population, challenges, and goals?

Overall finding: Some SDP schools receive 50-100% more funds per pupil than other schools, even after "adjusting" for Special Education, ELL, and poverty dollars. Detailed findings are as follows:

- *Some SDP schools receive over twice as many $/pupil as other SDP schools*
- *Even after accounting for Special Education, Poverty, and ELL dollars, some schools still receive a 1.5-2x multiple*
- *A higher % of SDP schools are outliers (+/- 10% of the median) in per-pupil funding than all other ERS comparative districts*
- *The highest poverty schools appear to receive about the same or slightly less than other schools*

The Philadelphia community is deeply engaged in the debate over the equitable distribution of resources across schools.[21] Achieving equity requires an accurate understanding of nuanced student need and the ability to allocate resources fairly to meet those needs. As such, the first step is mapping what resources are available to schools and how they are currently allocated. If spending differences exist, understanding *why* they exist is critical for understanding what to do about it.

In this section of the report, we discuss our analysis of how resources are allocated at every level in SDP.

Finding: Some SDP schools receive over twice as many $/pupil as other SDP schools

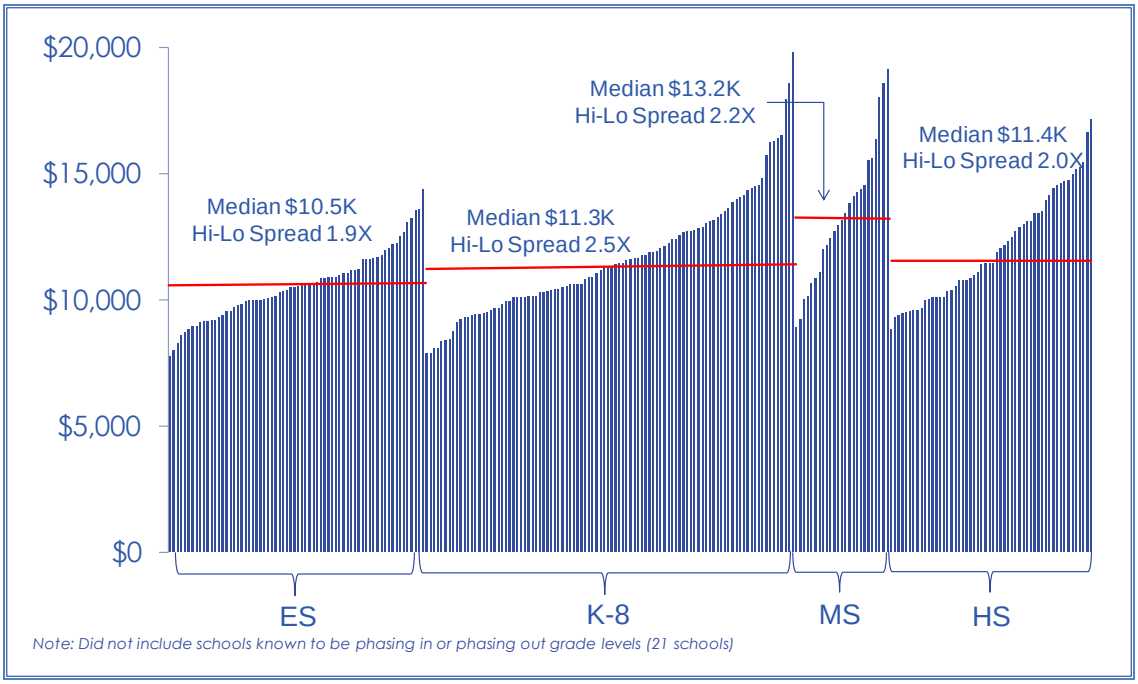
A high level examination of per-pupil spending for resources budgeted at the school level showed that spending varies by school type. Per-pupil spending, unadjusted for student need, averaged $10.6K in elementary schools, $11.7K in K-8 schools, $13.4K in middle schools, and $12.0K in high schools.[22]

Within each of these school levels, there were wide variations in per-pupil spending among schools. Figure 13 shows the range of per-pupil spending among each school level and the differential factor between the lowest and highest school of each level. For example, among the 98 schools at the K-8 level, there was a 2.5X spread between the lowest per-pupil spend and the highest per-pupil spend; at the low end is Samuel B. Huey School, which spent $7.8K per pupil, while at the high end is Overbrook Educational Center, which spent $19.8K per pupil.

[21] Mezzacappa, Dale, June 9 2008, Time has come to redirect school resources, *The Philadelphia Inquirer*

[22] These figures are means and do not include the 21 schools known to be phasing in or phasing out grade levels due to openings/closures.

Figure 13: $ per Pupil – unadjusted for student need



However, some of this variation in per-pupil spend is designed to account for student population differences; schools vary widely in their composition of pupils along various demographics. Schools with a higher percentage of students needing more resources – e.g., Special Education pupils, English Language Learners, and students in poverty – might appropriately receive more resources.

Therefore, a critical piece of the analysis is adjusting the per-pupil dollars according to the composition of each school's population.[23] A closer look at two schools with similar per-pupil spending but very different populations illustrates this point:

Population characteristic	Hon. Luis Munoz Marin School	Eliza B. Kirkbride School
% SPED	18.2%	8.3%
% ELL	29.3%	46.4%
% Poverty	88.7%	75.2%
Enrollment	818	375
Per-pupil spend:		
Unadjusted	$11,468	$11,571
Adjusted	$9,834	$11,294

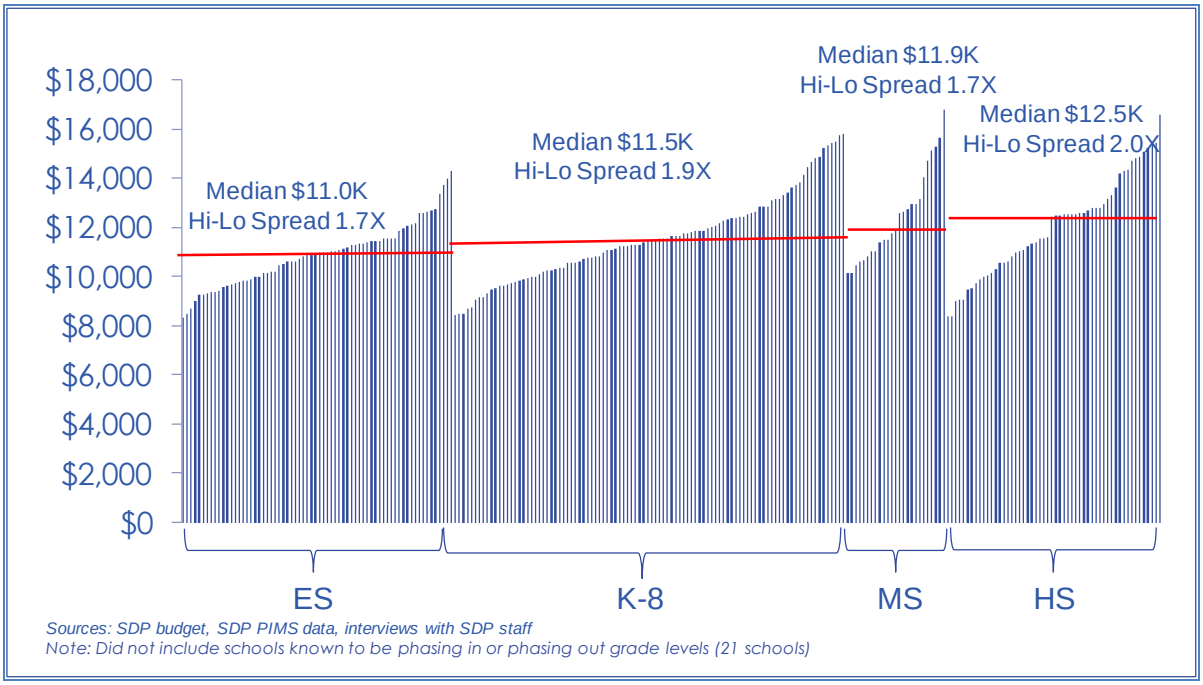
[23] This is done by calculating "weighting factors" for each population characteristic (e.g., % ELL). To adjust for varying student populations, we accounted for the relative investment made in various student groups. To begin, we identified all expenditures in the budget by the students served, such as special education or English language learners. This helped us understand how much was spent per student in various programs. We then compared the amount each of the three districts spent on various student groups to the level of spending on general education students. A weighting factor of 1.0 would equate to spending exactly the same amount as on general education students.

Although these two had similar unadjusted per-pupil spend, their adjusted per-pupil spend differs significantly, due to the student demographic differences at the two schools.

Finding: Even after accounting for Special Education, Poverty, and ELL dollars, some schools still receive a 1.5-2x multiple

After adjusting for student demographic differences, as explained above, there was still a large range in per-pupil spend for each school type. The high-low spreads for the adjusted per-pupil spends were all lower than those for the unadjusted per-pupil spends, but some schools still received up to 2.0X other schools. (See Figure 14.)

Figure 14: School attributed $/Pupil (adjusted)

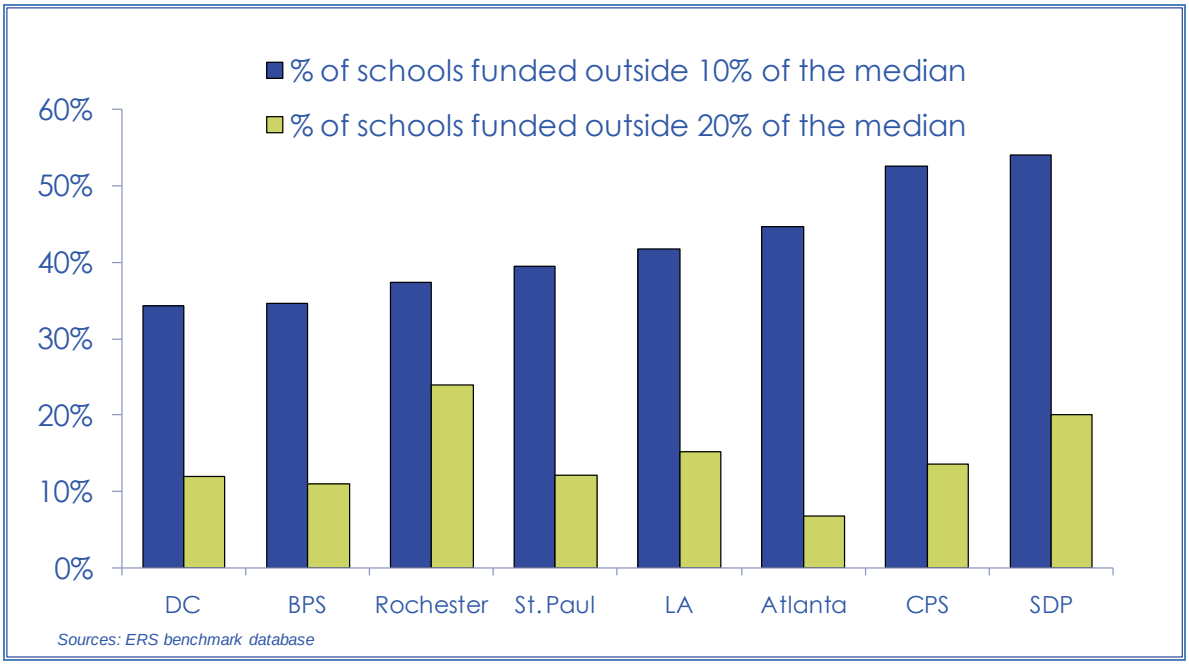


Sources: SDP budget, SDP PIMS data, interviews with SDP staff
Note: Did not include schools known to be phasing in or phasing out grade levels (21 schools)

Finding: A higher % of SDP schools are outliers (+/- 10% of the median) in per-pupil funding than all other ERS comparative districts

The next step in the analysis was to understand why there was still such great variability in per-pupil spend within SDP school levels, even after adjusting for student demographics. In order to explore whether this range of variability is typical in similar districts, ERS compared SDP to other urban districts. As shown in Figure 15, SDP's average variability (across all levels) was greater than all other comparative districts. 54% of SDP schools were outside +/- 10% of the median and 20% of SDP schools were outside +/- 20% of the median. By contrast, at the time of the ERS analysis, only 34% of DC Public Schools were outside +/- 10% of the median and 12% of schools were outside +/- 20% of the median, adjusting for student needs.

Figure 15: Variability of funding versus comparison districts

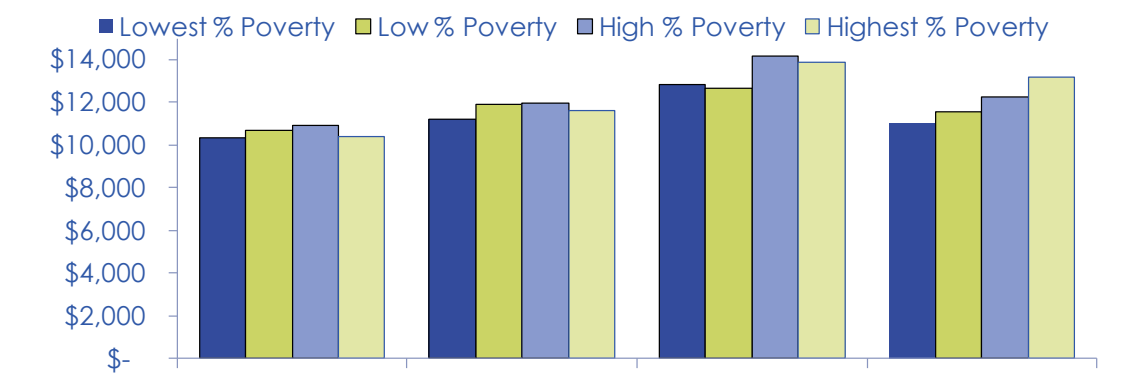


Finding: The highest poverty schools appear to receive about the same or slightly less than other schools

ERS divided schools by poverty level to assess the variation in resources going to schools of various poverty quartiles. Figure 16 below shows that the per-pupil spend at highest-poverty schools was about the same or slightly less than other schools of most levels (high schools being the exception) before weighting for student demographics.

Figure 17 shows the same data adjusted for student demographics, which evens the baseline so that all schools should receive about the same amount of "adjusted dollars" no matter their population. This data shows that even after weighting, the highest poverty schools received the same or slightly fewer resources per pupil.

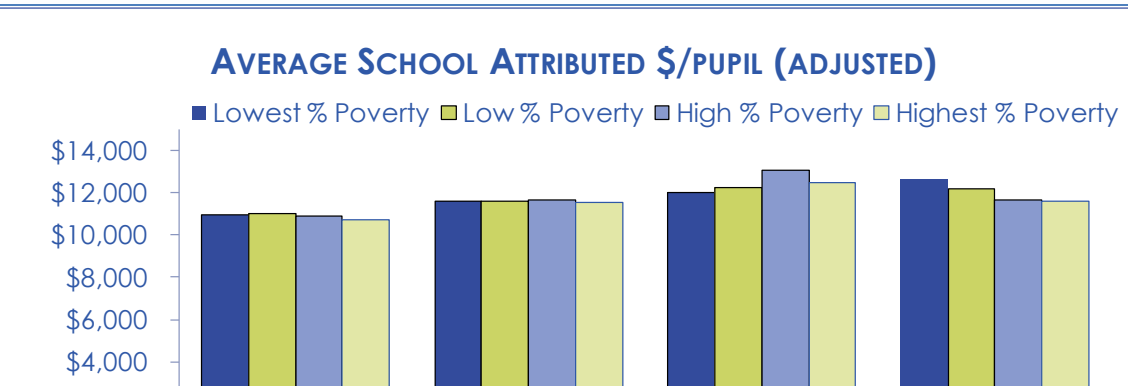
Figure 16: Dollars per pupil before weighting for schools by poverty quartiles



School count:	ES	K8	MS	HS
Lowest Poverty %	16	24	6	15
↑	22	26	7	11
↓	12	28	7	13
Highest Poverty %	18	19	5	15

Sources: SDP budget, SDP PIMS data, interviews with SDP staff; see Appendix for definitions of poverty categories;
Note: *Did not include schools known to be phasing in or phasing out grade levels (21 schools)*

Figure 17: Dollars per pupil <u>after</u> weighting for schools by poverty quartiles



School count:	ES	K-8	MS	HS
Lowest Poverty %	16	24	6	15
↑	22	26	7	11
↓	12	28	7	13
Highest Poverty %	18	19	5	15

Sources: SDP budget, SDP PIMS data, interviews with SDP staff; see Appendix for definitions of poverty categories
Note: Did not include schools known to be phasing in or phasing out grade levels (21 schools)

Objective 5: Spending Difference Drivers

Key question: What factors account for differences in spending across SDP schools?

Overall finding: Spending differences across SDP schools, after accounting for need, are driven primarily by size and inaccurate enrollment projections. Detailed findings are as follows:

- *School size is the most significant driver of variability across SDP schools. Schools 20% smaller than average receive $250-$520 more per pupil. When enrollment falls below 400 spending rises dramatically*
- *Accuracy of enrollment projection is especially important at the secondary level. This factor helps explain up to $4.2K more per pupil.*
- *Empowerment Schools are given $500-900 more on average than other schools but many Empowerment Schools still receive significantly less than other schools.*
- *Special Admit and Magnet HS receive ~$1,200+ more per pupil even after accounting for size and enrollment projection impact.*
- *Relative experience of teaching staff factors in because schools with average teacher salaries $1K above district average receive an additional $88 to $132 per pupil on average*

In order to determine which factors account for differences in spending across SDP schools, ERS used multivariate regression analysis and modeled multiple variables (see Figure 18 below). These regressions help explain 65-82% of the per-pupil variability depending on school level. (See Appendix 3 for a detailed breakdown of regression analysis results.)

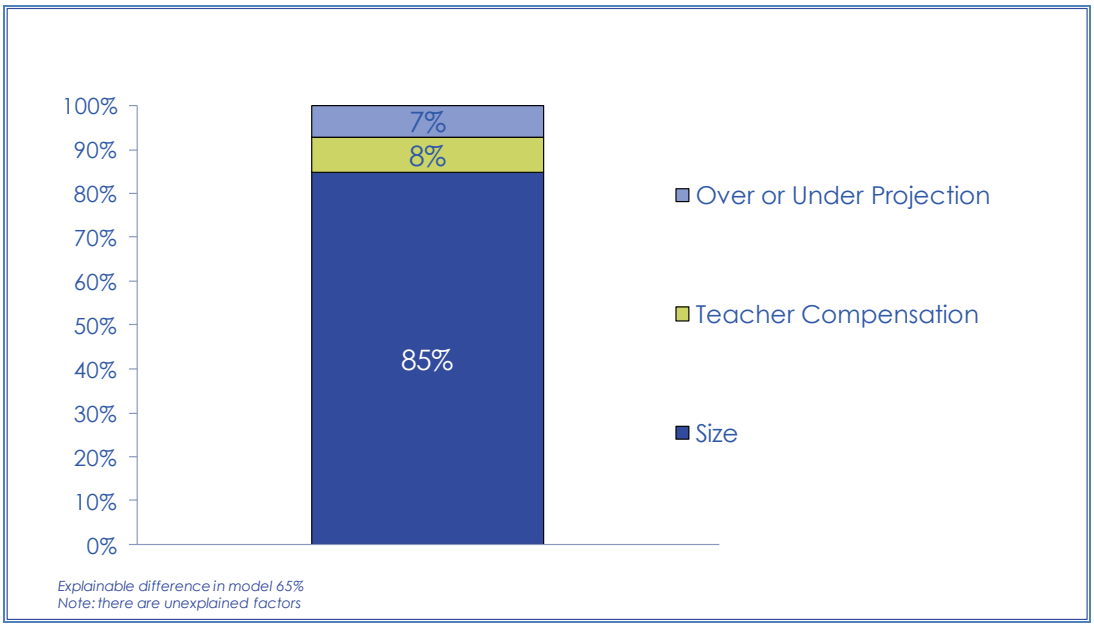
Figure 18: Variables modeled in analysis

Variable (i.e. Potential Driver of Difference)	ERS Definition
School Level	ES, MS, HS studied separately (different regressions)
Demographics	% poverty, % ELL, % SPED (accounted for by weighting)
School Performance	Empowerment School status
Teacher Comp	Difference between a school's average vs. actual compensation
Under projection	% below enrollment projection
Size (Enrollment)	How much more in terms of $ per pupil are the smallest schools getting?
Special Admit/Magnet	All special admit and magnet schools (in secondary school)
Phase in/Phase Out	Schools phasing in one or more grades of students

To illustrate the impact of these factors, ERS looked at the factors that cause the difference in funding and spending at two K-8 schools: Abigail Vare School and Benjamin Franklin School. Before weighting for the differing demographics (special education, ELL and poverty students), there was a difference of $6.4K in per-pupil funding between the two schools. After weighting for student need, this difference was reduced to $5.3K.The regression model estimated the remaining explainable differences between

Franklin and Vare as shown in Figure 19; size accounted for 85% of the difference, teacher compensation for 8% and over/under projection of enrollment for 7%.

Figure 19: Explainable difference – Franklin vs. Vare[24]



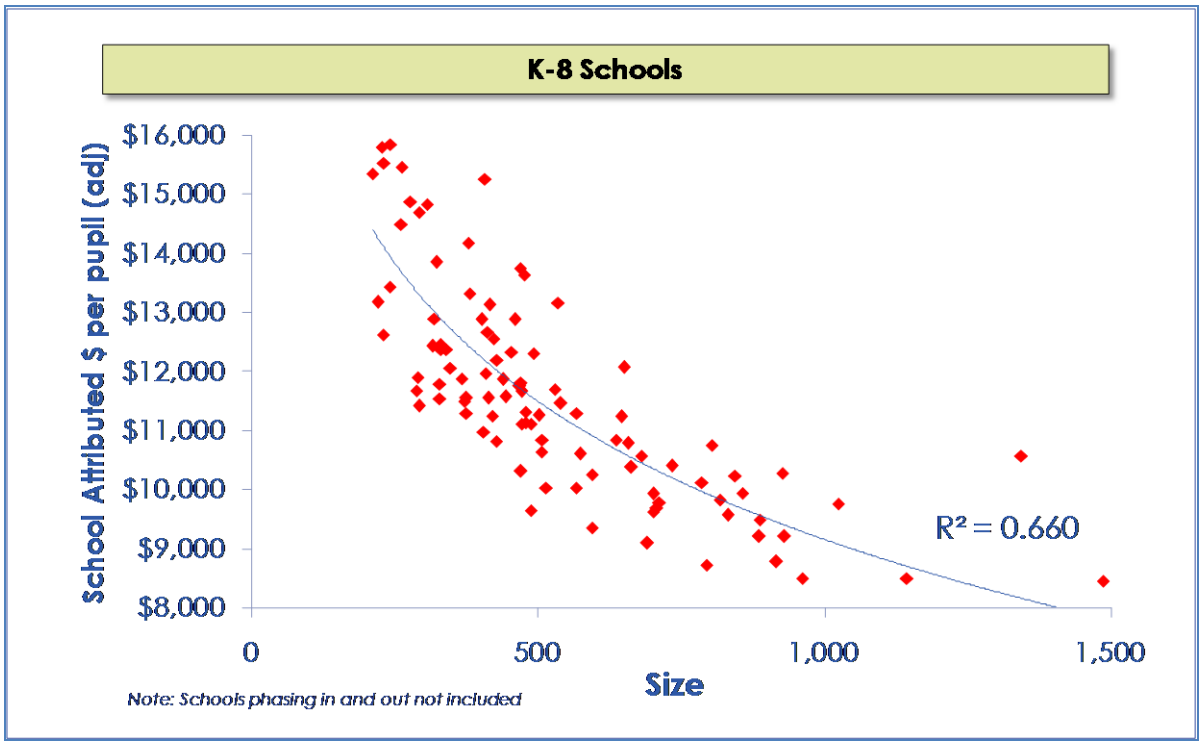
Findings below further detail analysis of these three variables, and also explore the variables of School Performance (i.e. Empowerment School status) and Special Admit/Magnet schools. School level was studied separately for each set of variables, and full details, by school level, can be found in Appendix 3.

Finding: School size is the most significant driver of variability across SDP schools. Schools 20% smaller than average receive $250-$520 more per pupil. When enrollment falls below 400, spending rises dramatically

Prior to doing the multivariate regression analysis, a simple comparison of per-pupil spend versus school size had shown that smaller schools tend to be more expensive than larger schools, especially as enrollment goes below 400 students. (See Figure 20.)

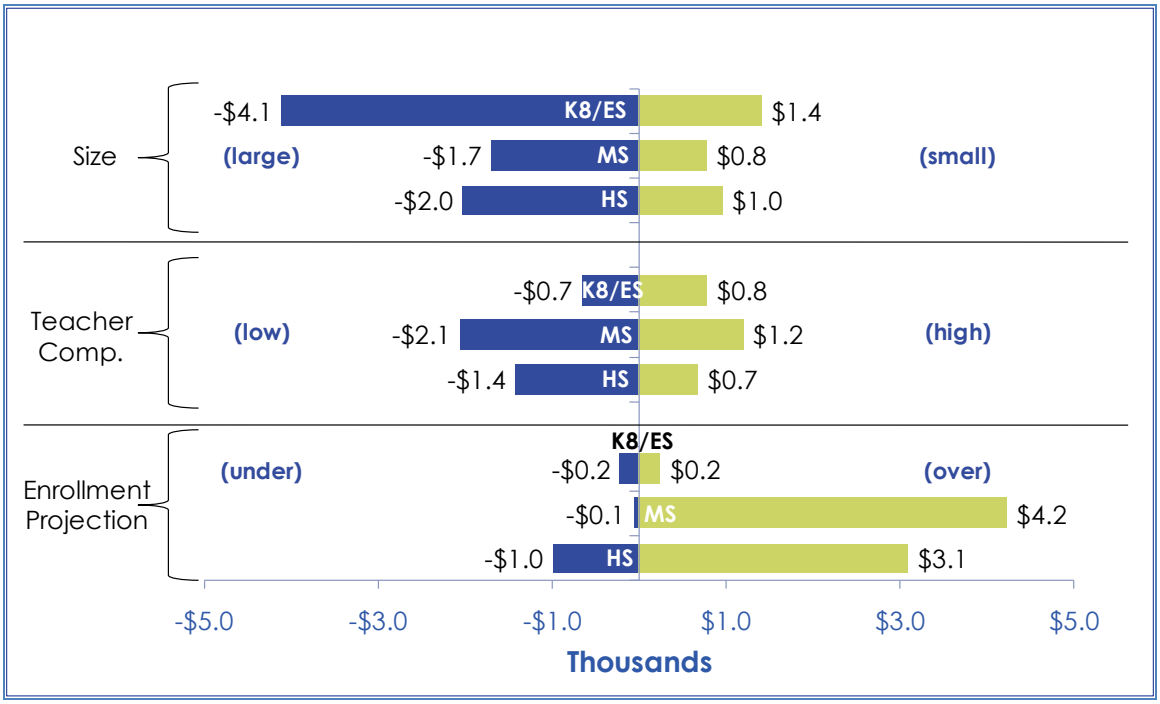
[24] Vare's receipt of desegregation funds and one over-appointed teacher explains ~5% of the difference between these two schools not shown here. The over appointed teacher explains ~4%, while the desegregation funds explain <1%

Figure 20: School Attributed $ Per Pupil (Adjusted) vs. School Size



The multivariate regression analysis confirmed that size is critical to the variability in per-pupil spending across SDP schools. Figure 21 shows that size had a greater impact on per-pupil funding than did teacher compensation or enrollment projection. This impact varied by school level; size had the most impact on per-pupil funding in K-8 and Elementary Schools. The analysis showed that a school loses dollars on a per student basis for every 1% that enrollment increases from the average; a high school loses an average of $13 per pupil, a middle school loses an average of $14 per pupil, and an elementary/K-8 school loses an average of $26 per pupil.

Figure 21: Impact on per-pupil funding of size, teacher compensation and enrollment projection (predictive model)[25]



Finding: Accuracy of enrollment projection is especially important at the secondary level. This factor helps explain up to $4.2K more per pupil

The multivariate regression analysis also revealed accuracy of enrollment projection to be a strong factor in the variability in per-pupil spending. Enrollment was under-projected or over-projected in many SDP schools:[26]

School level	% of Schools "Over Projected"	% of Schools "Under Projected"
ES+K8	44%	56%
MS	88%	12%
HS	65%	35%

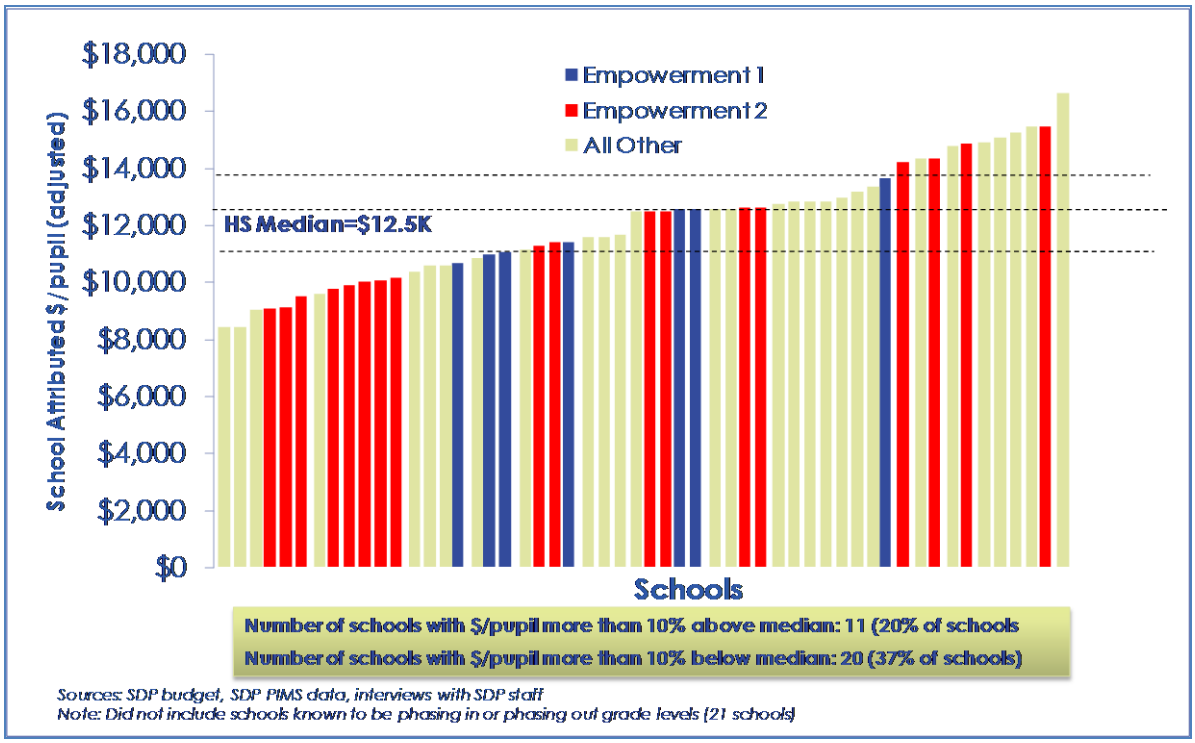
Figure 21 (above) shows the range (by school level) in the impact of enrollment projection on per-pupil funding. A school lost dollars for every 1% that actual enrollment was greater than what was projected; a high school lost an average of $100 per pupil, a middle school lost an average of $85 per pupil, and an elementary/K-8 school lost an average of $23 per pupil.

[25] Range encompasses 90% of schools
[26] Under- and over-projection is calculated by comparing SDP projections to enrollment as of December 1, 2008

Finding: Empowerment Schools are given $500-900 more than other schools but many Empowerment Schools still receive significantly less than average.

The analysis also looked at the effect of dollars flowing to Empowerment Schools to uncover whether SDP's new Empowerment initiative was reducing spending differences across schools. As shown in Figure 22, even after adding Empowerment dollars, many high school Empowerment Schools were funded below average.

Figure 22: Spending per pupil, including Empowerment Funds (High Schools)



Of the 25 high schools above the median of $12.5K in adjusted per-pupil funding, only three were Empowerment 1 Schools and six were Empowerment 2 Schools. Also, of the 20 schools that were more than 10% below median, eight were Empowerment 2 Schools. This distribution of this same set of high schools prior to the addition of Empowerment School dollars did not look much different; there were three Empowerment 1 schools and seven Empowerment 2 Schools above the median. Therefore, even though Empowerment Schools across all levels were given $500-900 more than other schools,[27] many Empowerment Schools still received significantly less than average.

[27] Elementary/K-8 schools with empowerment status gain $500 per pupil on average; middle schools with empowerment status gain $1,133 per pupil on average; high schools with empowerment status gain $634 per pupil on average.

Finding: Special Admit and Magnet HS receive approximately $1,200+ more per pupil even after accounting for size and enrollment projection effects.

In SY0809, most Special Admit and Magnet schools were high schools, and a multivariate regression analysis showed that Special Admit schools received, on average, $1.2K more per pupil (adjusted), while Magnet schools received, on average, $1.6K more per pupil. This additional amount of per-pupil funding is on top of any size and enrollment projection effects, which also gave these schools more dollars than district average funding levels.[28] Our investigation into whether or not these differences were caused by desegregation of gifted dollars or other factors showed that while some of these schools did receive more of these funds that average, overall these dollars accounted for a small proportion (less than 20%) of this difference. A small part of this difference ($100 per pupil) seemed to be accounted for by the way district or "shared" services played out in these schools.

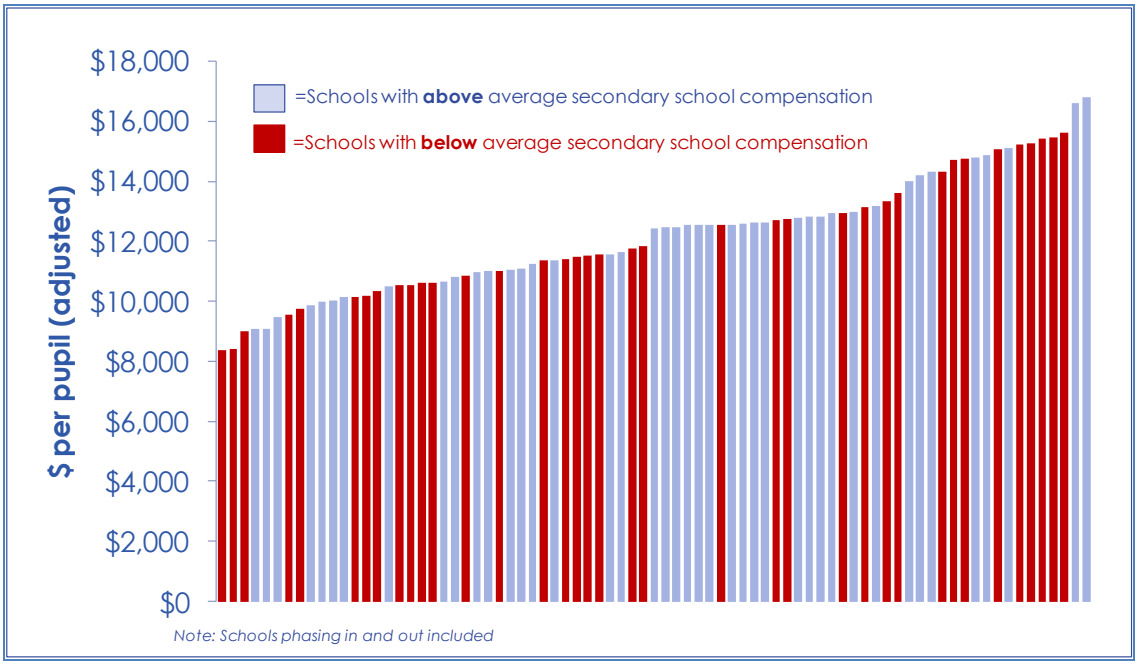
Additional research is necessary to determine why these schools received more money after accounting for size, enrollment projections and additional gifted and desegregation money. For instance, ad-hoc allocations for various small programs or initiatives sometimes end up in special schools or programs even when the stated purpose of the program or initiative does not name these schools specifically for an allocation. This may be because certain principals or parent groups are more astute at requesting additional resources for their schools for specific purposes or simply because of the higher visibility of these programs. Additional research would be needed to determine whether those factors had any effect in this case.

Finding: Relative experience of teaching staff factors in because schools with average teacher salaries $1K above average receive an additional $88 to $132 per pupil on average

Another factor in the variation in per-pupil funding across schools was teacher compensation. Figure 21, shown earlier, portrays the effect of teacher compensation at each school level. Higher average teacher salaries (which are generally correlated with years of experience) resulted in higher per-pupil funding. As shown in Figure 23, below, middle schools and high schools with above average compensation tended to be towards the higher end of the per-pupil funding spectrum.

[28] Enrollment tends to be highly over-projected at Special Admit and Magnet schools.

Figure 23: $ per Pupil using actual compensation for teachers, adjusted for student need (MS and HS)



Multivariate regression showed that for every 1% a school's average actual compensation was greater than the district average, that schools gained dollars per pupil; high schools gained $79 per pupil on average, middle schools gained $120 per pupil on average and elementary/K-8 schools gained $67 per pupil on average.

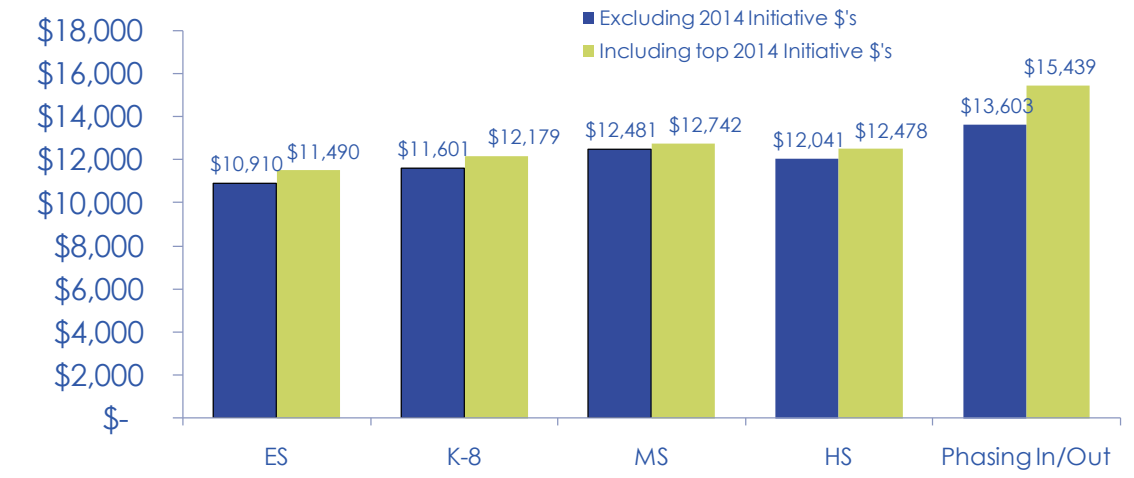
Recommendations

Do 2014 initiatives resolve these issues?

Before finalizing recommendations, ERS investigated whether already planned (i.e. Phase I) Imagine 2014 Initiatives altered the picture with regard to spending differences. (See Appendix 4 for detailed breakout of costs of Imagine 2014 initiatives.)

After including the top Imagine 2014 initiatives we found that per-pupil funding increased by $261-580 (not including schools phasing grades in/out), depending on school level; these represent increases of 2-5% in per-pupil funding. Figure 24 shows that middle schools were still the highest funded, but elementary schools and K-8 schools received more Imagine 2014 funding than middle schools or high schools.

Figure 24: School Attributed $/pupil (adjusted), including and excluding 2014 Initiative $'s



	ES	K-8	MS	HS	Phasing In/Out
Average Enrollment	560	532	580	893	403
# of Schools	68	98	25	54	21
$/pupil added from Imagine 2014	$580 (5%)	$578 (5%)	$261 (2%)	436 (4%)	$1,835 (13%)

ERS next explored whether the addition of Imagine 2014 initiatives had reduced variability of per-pupil funding across schools at each level. This analysis concluded that there was no noticeable improvement

in elementary school spending differences,[29] minimal improvement in K-8 school spending differences,[30] no noticeable improvement in middle school spending differences,[31] and no noticeable improvement in high school spending differences.[32] See Appendix 5 for detailed data.

Overall, Imagine 2014 initiatives had no significant impact on spending differences across schools because these initiatives do not specifically target the major drivers of variation (school size, teacher compensation or projected vs. actual enrollment variance).

What can SDP do?

ERS has identified two broad categories of recommendations for SDP:

1. Recommendations regarding the distribution of resources to SDP schools
2. Recommendations regarding improvement to the use of school-level resources.

Distribution of resources to SDP schools

Recommendation: Revise the system for awarding resources to schools

- Increase the investment in academically needy students by awarding more resources to schools based on the academic need of their entering (transition year) students.
- Move toward awarding resources as dollars instead of staff to minimize differences between small and large schools and to make key resources more flexible within SDP's accountability framework
- The example on the right shows how NYC and Baltimore award a per-pupil dollar amount to all students and adjust that from a base of 1.0 based on "funding" factors. In addition to weighting for poverty, Baltimore gives 45% higher funding for each student it defines as "low performing." This is calculated based on the need of entering student classes so as not to provide incentives for schools to perform poorly or to reduce funding for schools who improve student performance over time. [33]
- Increase the percent of resources reported to and controlled by schools, especially for schools or principals that have "earned" more autonomy based on proven performance
- During transition, limit the size of single-year school budget changes

[29] Before adding Imagine 2014 initiatives, per pupil funding for elementary schools was $10.9K and 40% of schools were outside +/- 10% of the average. After adding Imagine 2014 initiatives, per pupil funding for elementary schools was $11.5K and 43% of schools were outside +/- 10% of the average.

[30] Before adding Imagine 2014 initiatives, per pupil funding for K-8 schools was $11.6K and 51% of schools were outside +/- 10% of the average. After adding Imagine 2014 initiatives, per pupil funding for K-8 schools was $12.2K and 48% of schools were outside +/- 10% of the average.

[31] Before adding Imagine 2014 initiatives, per pupil funding for middle schools was $12.5K and 56% of schools were outside +/- 10% of the average. After adding Imagine 2014 initiatives, per pupil funding for middle schools was $12.7K and 56% of schools were outside +/- 10% of the average.

[32] Before adding Imagine 2014initiatives, per pupil funding for high schools was $12.0K and 56% of schools were outside +/- 10% of the average. After adding Imagine 2014 initiatives, per pupil funding for high schools was $12.5K and 56% of schools were outside +/- 10% of the average.

[33] Baltimore uses incoming student performance (e.g. 8th grade scores for HS) on state tests as measure of academic need in weighted funding allocation

The example on the right shows how NYC and Baltimore award a per-pupil dollar amount to all students and adjust that from a base of 1.0 based on "funding" factors. In addition to weighting for poverty, Baltimore gives 45% higher funding for each student it defines as "low performing." This is calculated based on the need of entering student classes so as not to provide incentives for schools to perform poorly or to reduce funding for schools who improve student performance over time.[34]

Component	Baltimore'08	NYC '08
Base allocation per pupil	$4,940	$3,946
% of GF budget distributed via formula	58%	
Foundation allocation	Principals	All schools get $225K
Weights		
Grade/School Level	All Grades 1.0	ES 1.00 MS 1.08 HS 1.03
Poverty	.18 (HS)	.24
Low performing*	.45	.25-.50
Gifted*	.45	
ELL	Locked	.4-.5
SWD	Locked .46 base for SC	.56-2.52
Magnet/special programs	Extra funds added on ad hoc basis	.05-.35 by program type
Average or actual salaries used?	Average	Average

When districts move from staffing allocations to dollar allocations, they can assert more control over the amount of funding difference that is caused by school size difference, a particular issue in SDP. When done with an eye toward accountability and support and when coupled with related reforming, giving dollars can also create additional flexibilities for school leaders for some positions and dollars that they might not otherwise be able to use creatively and strategically to meet their highest priority needs.

SDP has since FY08 increased its ability to track resources in schools from 55% to 66%. This is still about average of urban districts studied. Moreover, Reporting and tracking do not equal control. Some types of decisions about resource use are better reached in schools (closer to students) while other decisions may need to be made centrally, either because of a central reform vision or because of other factors. The previous system in SDP has prevented school leaders from staffing and hiring around a school instructional vision. Creating a more flexible context for enabling school leadership while still providing guidance and accountability is a challenge that will face SDP district leaders for the foreseeable future, but it is one that ERS feels must be addressed head on by carefully considering which resources school leaders have control over and finding ways to expand that resource pool, especially when principal capacity is high.

Switching to a new system for funding schools will inevitably cause some schools to receive more resources while other schools may receive fewer resources than at present. To prevent shocks to the system, SDP should consider limiting how much a specific school's budget will change in a particular year to allow for a smoother transition.

<u>Recommendation: Improve enrollment projection and staffing adjustment process</u>

- Increase the accuracy of enrollment projections to reduce the number of "overstaffed" schools

[34] Baltimore uses incoming student performance (e.g. 8th grade scores for HS) on state tests as measure of academic need in weighted funding allocation

- Consider adjusting the remaining overstaffing on a case-by-case basis

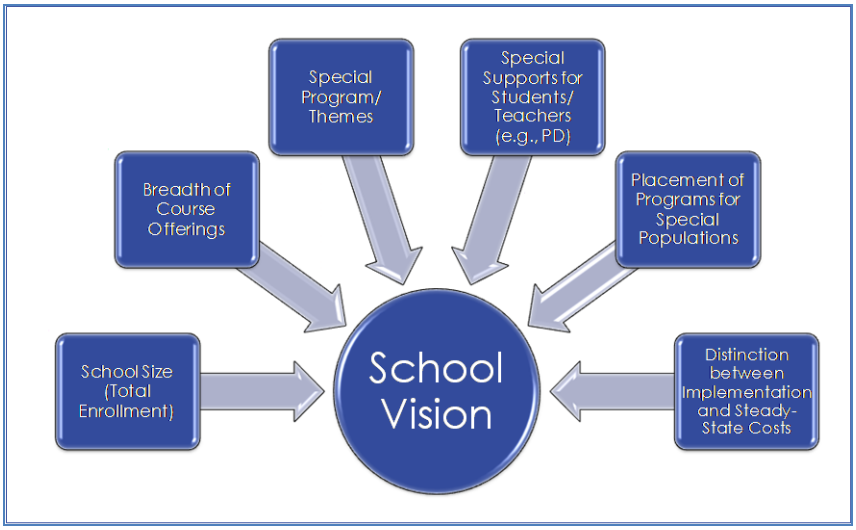
While ERS does not recommend that the district pull staff from all schools that miss enrollment projections (are overstaffed), it is important to review the situations of those schools that missed by the most and to determine whether the resulting allocation is significantly more expensive than in other schools (which is often true of small schools) and consider adjusting the overstaffing on a case-by-case basis.

<u>Recommendation: Actively manage the portfolio of school sizes over time (multiple years)</u>

- Close schools to reduce seats by 40K, choosing schools so as to reduce number of "sub-scale schools" with fewer than 400 students.
- Set school size minimums of 400. Also consider reducing size of comprehensive high schools.[35]

By reducing the number of schools with fewer than 400 students, SDP can greatly eliminate the number of schools that receive significantly higher funding than district average. Similarly, the comprehensive high schools in particular serve a needy population and receive significantly fewer resources per-pupil than the district average. By adjusting the sizes of some few of these largest and smallest schools, SDP can not only reduce its seat overage and save O&M money, it can greatly reduce the spending disparities that exist across SDP schools.

That being said, spending more on small schools can be a district policy choice. To the extent that small schools perform better than large schools, for instance, they might be worth additional investment. The following components of a school vision work together to drive cost:



In short, several ways in which SDP could decrease spending differentials driven by school size include:

School portfolio considerations	Funding allocation considerations	Small school placement considerations
• Close and/or consolidate	• Adopt a weighted per-pupil	• Create small schools in ways

[35] There are 12 HS with enrollment <400 students and 5 HS with enrollment >2,000 students

schools: decrease the number of schools with less than 400 enrollment and reduce the number of empty seats by 40K • Set a floor on school size of 400 or greater • Reduce size of comprehensive HS	formula that has a foundation allocation for small schools that is less than the current differential • Increase the amount of the "weight" that goes to schools based on academic need	that ensure they serve students with the highest academic need so that the extra investment becomes more strategic • Work to increase student choice while ensuring that students who do not make any choice do not receive "lesser" opportunities or undesirable placements

Recommendation: Address teaching quality imbalance across schools

- Revise union contract provisions that create unequal distribution of teacher experience (e.g., teachers' rights to select school of assignment)
- Add support resources to schools with higher concentrations of new teachers

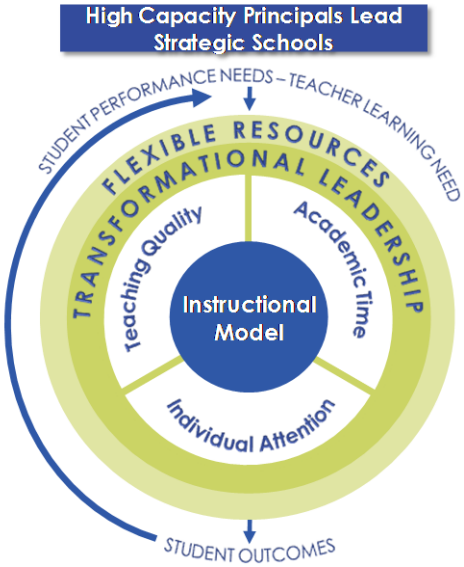
Analysis showed that inexperienced teachers (i.e. those with 0-3 years of experience) were more heavily clustered in Corrective Action Schools which are often hard to staff. (Refer back to Figure 4.) SDP could pilot an effort with a group of target schools to address the problem of hard-to-staff schools, (for example) targeting the ~25 schools with lowest actual compensation per teacher and which are below the median $ per pupil. SDP could calculate the dollar differential between actual compensation and district average compensation. (For the bottom 25 schools, as defined above, in SDP, this is $6.8M.) SDP could then allocate dollars to create higher-quality, more stable teacher communities in these schools. Options for the $6.8M include:

- Fund 67.8 coaches total, or 2.7 coaches per school
- Fund a stipend of $7,585 for each teacher
- Fund 2.2 extra periods per week (per teacher) for planning

Improve the use of school-level resources

Recommendation: Increase the ability of school leaders to staff according to a coherent, research-based vision (see figure at right)

- Build principal capacity to use resources strategically by providing training, tools, and design templates that identify options and trade-offs for focusing resources on instruction
- Remove contract barriers and district practices that unnecessarily limit school flexibility around hiring



and staffing assignment, including late notification of teaching vacancies

- Move strategic school planning from August up to April(during school budget and staffing process) to enable schools to develop their budget and staffing plans around strategic priorities

ERS research suggests that high performing schools hire and staff according to a coherent school instructional vision, leveraging all of their resources to accomplish their priority goals. In SDP, a variety of forces conspire to make this difficult. By addressing the root cause of flexibility and by revamping the timing of the school strategic planning process to integrate it with the budgeting and scheduling processes, SDP is taking the first steps in improving the use of school-level resources. It will also be important to work with principals and to provide them additional support and training to people, time, and money in accordance with research-based strategies.

<u>Recommendation: Create accountability for improved use of school-level resources</u>

- Measure and report key indicators of SDP school resource use
- Give schools with proven outcomes more autonomy in how they use their resources, while providing additional guidance and support to other schools
  - Create strategic school design templates that work in SDP, emphasizing models that support lower performing schools
  - Establish standards for research-based practices, such as teacher collaboration around formative assessments, that apply to all (or some) schools
- Develop measures of teaching effectiveness and coach principals on effective evaluation and support

SDP has undertaken efforts to create partnerships with alternative school providers and to differentiate support and autonomy within the district based upon the performance and capacity of schools and school leadership. These efforts will be most effective with a clear set of essential standards for each category of SDP schools (Vanguard, Renaissance, Empowerment) and when the standards are both measurable and measured and tied to compensation and other opportunities. This will require SDP not only to track student and teacher performance but also to measure and report how schools organize the people, time, and money in their schools to provide time and attention and to invest in teaching quality.

<u>Recommendation: Focus turnaround strategy on instructional improvement</u>

- Increase the amount of resources given to Empowerment Schools with additional guidance on using resources to improve instruction
- Conduct pilot to change working

conditions in hard-to-staff schools (to reduce teacher experience differential)

As part of district efforts to improve low performing schools, SDP has created Empowerment schools and awarded additional resources to these schools. These targeted resources can be very effective in improving student performance. ERS believes that one of the biggest needs for Empowerment Zone and other SDP schools is to create a well-defined, job-embedded professional development strategy in each school that centers around the use of formative assessments of student work. Teams of teachers should meet together to weekly to discuss student progress and have access to expert support (professional development) both in those sessions and in their classrooms. ERS believes that such a core instructional improvement initiative should take precedence over other turnaround efforts.

Similarly, many of these schools have issues with high teacher turnover and working conditions that make them hard to staff. Efforts to bring in expert principals, invest in additional planning or fewer preps or to change the working conditions or desirability of employment in these schools are a core component of improving student performance.

Conclusion

While ERS found significant challenges with the current budget process and the resulting distribution of resources across SDP, we also found that the current leadership has already labeled these issues as top priorities. SDP is already quite actively engaged in making the majority of improvements and changes called for in this report.

One area where these efforts have lagged behind other areas is in the question of closing schools. While this decision is always fraught with political controversy, in this case, the case for closing schools seems quite clear. SDP students will be better served if schools are closed soon so that more of the available district resources can be refocused on improving student performance. We hope that this report helps the leadership make that case and that this analysis can act as a catalyst for needed change.

Appendices

Appendix 1: ERS Use/Function Coding Methodology

Inflation Adjusted Dollars: In order to compare real dollars, data from the ERS Benchmark Database were adjusted using two methods:

- Inflation: Each district dataset is adjusted using the CPI-U to convert datasets from prior years into SY0809 equivalents.
- Regional Cost Differences: To adjust for cost differences in different parts of the country, each district dataset is converted to Philadelphia-equivalent dollars, using the Comparable Wage Index calculated and maintained by the National Center for Education Statistics (NCES).

K-12 Operating Expenses: Our analysis focuses on the K-12 operating expenses.

- "Operating expenses" are defined as the district's total expenses for ongoing operations, excluding debt and capital.
- "K-12 Operating Expenses" are defined as the operating expenses excluding non-K-12 expenses such as adult education and child development.

Appendix 2: Coding Exclusions

Exclusions from K-12 Operating: As mentioned above, ERS excludes from analysis any non K-12 Operating dollars, in order to compare spending across other urban districts ERS has worked with. The figure to the right summarizes the types of budgeted resources that ERS excluded from this analysis.

Non K-12 Operating	Total $ (in millions)
Debt Service	$350.5
Charter Schools	$339.8
Pre-K	$116.4
Non-Public	$55.4
Outplacement (multiple types)	$41.3
Alternative Discipline Schools	$32.5
SPED Outplacement	$31.1
Claims & Settlement	$8.0
Property Rental and Lease costs	$6.3
Board of Revision of Taxes	$4.6
Exclude- Detention School	$4.4
Adult Ed	$2.9
Fringe Benefits Clearing	$2.0
Print Shop	$1.9
Twilight Schools	$1.5
Other Non-Operating Costs	$0.9
Accounting Adjustments	($1.2)

Exclusions from Use/Function Coding: Due to the shortened nature of this project, a very small amount of coding was conducted with limited ability to dig deeper on detailed spending context with the district. In order to minimize impact on the analysis, some budgeted items that could not be identified by ERS were excluded from our analysis of use and function. These minimal exclusions were felt to not materially impact our analysis and are summarized below:

> **EMO payments:** [0.4% of K-12 Operating]. We included these dollars as K-12 Operating dollars and they appear in our analysis of per-pupil spending across schools. However, because we were not able to determine the specific functions these dollars were spent on we excluded them from any analysis focusing on use or function.
>
> **CEO Reserve:** [0.15% of K-12 Operating] We excluded this from use and function, because we could not determine what it would be spent on. Coding it to Governance (the primary function of the CEO and the office of the CEO) would artificially inflate governance costs.

ERS made other minor assumptions and interpretations of data as we constructed this data set, wherever needed, or where information was difficult to understand or not available. These and other issues were vetted as appropriate with Budget staff throughout the spring of 2009.

Appendix 3: Regression Analysis Results – Detailed Breakdown

In our multivariate regression we created a dependent variable "adjusted dollars per pupil" that included all "school attributed" dollars (defined elsewhere) from all programs. Students with disabilities were "weighted" according to their specific disability and level of service according to a matrix derived for and provided to the district that outlines the estimated costs of service delivery for each group of students. We ran the regressions with our without explanatory factors of ELL, sped, and poverty (the 3 controlled factors in our weighting) to confirm that we appeared to be accounting for the effects of these dollars. The statistical significance of the other included "explanatory" or independent variables is laid out in this appendix. In general, we used percent changes from a district average value to describe each independent variable. The following tables show various measures of statistical significance for the variables we left in the final regression equation we presented to SDP. In some cases we chose to retain factors with somewhat less statistical significance at one level (ES-K-8, MS, HS). This was done either because the factor seemed to have enormous policy or practical significance, or because we were responding to a direct district question about whether or not something had an impact.

(See next three pages for detailed data, by school level, that emerged from ERS's multivariate regression analysis.)

Elementary and K-8 Schools

Regression Statistics	
Multiple R	0.8085134
R Square	0.653694
Adjusted R Square	0.6435085
Standard Error	968.35242
Observations	176

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	5	3.01E+08	60181115	64.17906	2.3E-37
Residual	170	1.59E+08	937706.4		
Total	175	4.6E+08			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	10,202	248	41	0.0000%	9,714	10,691	9,714	10,691
Level	581	152	4	0.0178%	282	880	282	880
% difference in enrollment from district average	(26)	2	(15)	0.0000%	(30)	(23)	(30)	(23)
Empowerment (summary)	501	134	4	0.0260%	236	766	236	766
% Difference average actual teacher comp from average for level (*100)	67	12	6	0.0000%	44	90	44	90
(*100)	23	11	2	3.8442%	1	44	1	44

The following five factors explain **65%** of the variation in ES and K-8 schools' per pupil funding	
Level	K-8 Schools on average receive **$581 more than ES**
Enrollment	For every 1% enrollment is greater than the district average, a school **loses on average $26 dollars** per pupil
Empowerment	As schools gain empowerment status, they **gain on average $500 per pupil**
Teacher Comp	For every 1% a school's average actual compensation is greater than the district average, that schools **gains $67 per pupil**
Accuracy of enrollment projection	For every 1% that actual enrollment is greater than what was projected, a school **loses on average $23 per pupil**

Middle Schools

Regression Statistics	
Multiple R	0.906991
R Square	0.8226327
Adjusted R Square	0.7888485
Standard Error	891.93821
Observations	26

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	4	77485646	19371411	24.34959	1.251E-07
Residual	21	16706629	795553.8		
Total	25	94192275			

	Coefficients	*tandard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	10,801.7	331.3	32.6	0.00000	10,112.7	11,490.7	10,112.7	11,490.7
Empowerment (Summary)	1,133.6	391.4	2.9	0.00863	319.7	1,947.5	319.7	1,947.5
% Difference between projected and actual *100	84.5	12.6	6.7	0.00000	58.4	110.6	58.4	110.6
% Difference average actual teacher comp from average for level *100	119.7	32.0	3.7	0.00120	53.2	186.2	53.2	186.2
% difference in enrollment from district average (*100)	(13.9)	4.0	(3.5)	0.00238	(22.3)	(5.5)	(22.3)	(5.5)

The following five factors explain **82%** of the variation in MS' per pupil funding	
Enrollment	For every 1% enrollment increases from the average, a school **loses on average $14 dollars** per pupil
Empowerment	As schools gain empowerment status, they **gain on average $1,133 per pupil**
Teacher Comp	For every 1% a school's average actual compensation is greater than the district average, that schools **gains $120 per pupil**
Accuracy of enrollment projection	For every 1% that actual enrollment is greater than what was projected, a school **loses on average $85 per pupil**

High Schools

Regression Statistics	
Multiple R	0.81215235
R Square	0.65959144
Adjusted R Square	0.61463182
Standard Error	1731.29761
Observations	61

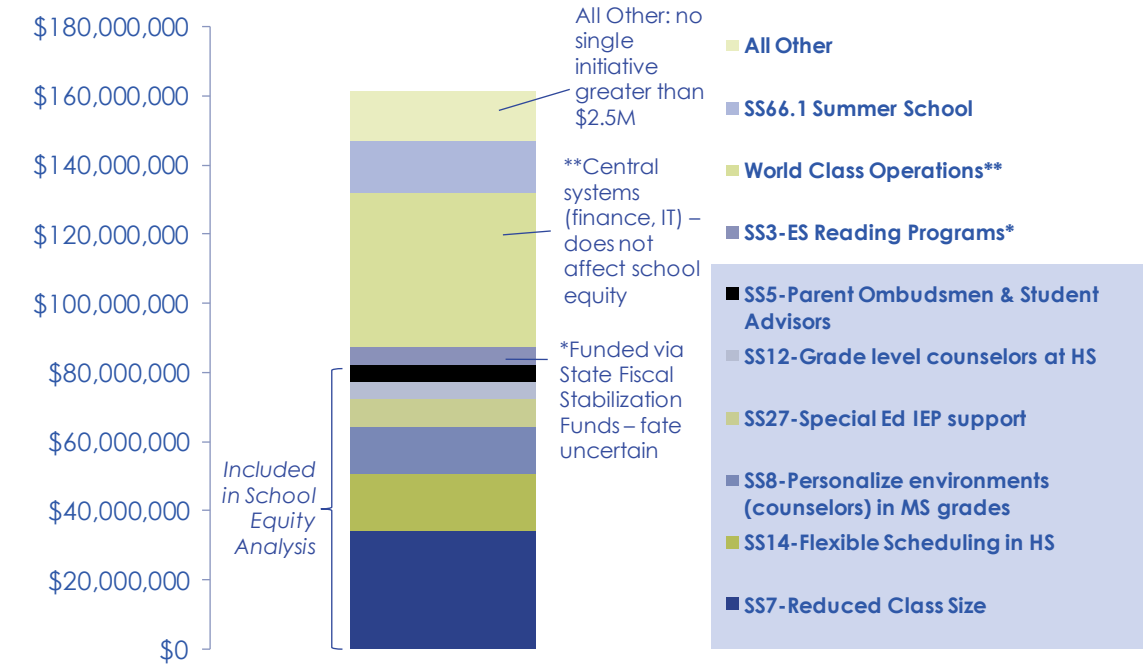
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	7	3.08E+08	43973986	14.67075	1.872E-10
Residual	53	1.59E+08	2997391		
Total	60	4.67E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	11,071.1	499.4	22.2	0.000%	10,069.4	12,072.8	10,069.4	12,072.8
Empowerment (Summary)	634.6	415.9	1.5	13.298%	(199.6)	1,468.7	(199.6)	1,468.7
% Difference average actual teacher comp from average for level *100	79.0	37.4	2.1	3.932%	4.0	153.9	4.0	153.9
% difference in enrollment from district average (*100)	(12.9)	4.1	(3.1)	0.268%	(21.1)	(4.7)	(21.1)	(4.7)
Phase IN/Phase OUT?	(2,063.1)	499.3	(4.1)	0.013%	(3,064.6)	(1,061.6)	(3,064.6)	(1,061.6)
% Difference between projected and actual *100	99.7	13.0	7.7	0.000%	73.6	125.8	73.6	125.8
Special Admit	1,196.6	613.0	2.0	5.622%	(32.9)	2,426.1	(32.9)	2,426.1
Magnet	1,632.9	761.6	2.1	3.664%	105.3	3,160.4	105.3	3,160.4

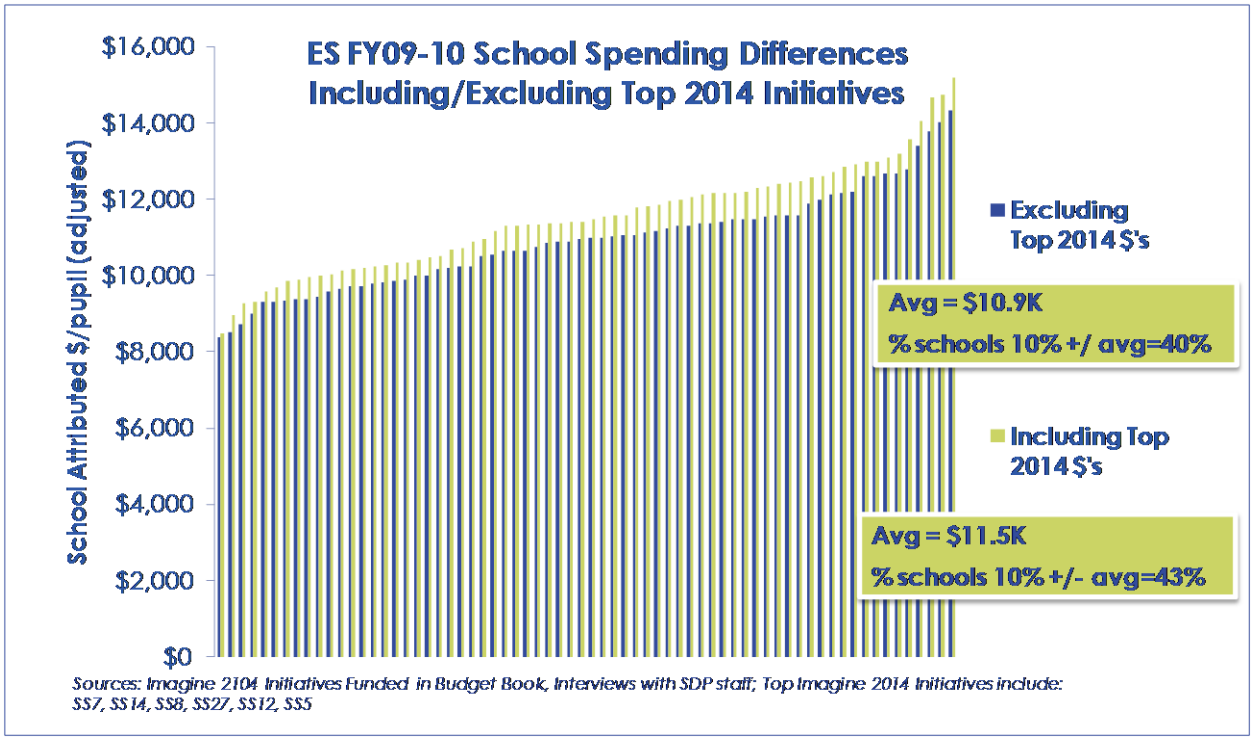
The following five factors explain **66%** of the variation in HS' per pupil funding	
Enrollment	For every 1% enrollment increases, a school **loses on average $13 dollars** per pupil
Teacher Comp	For every 1% a school's average actual compensation is greater than the district average, that schools **gains $79 per pupil**
Accuracy of enrollment projection	For every 1% that actual enrollment is greater than what was projected, a school **loses on average $100 per pupil**
Empowerment	As schools gain empowerment status, they **gain on average $634 per pupil**
Magnet	Magnet schools receive, **on average, $1.6K more per pupil**
Special Admit	Special Admit schools receive, **on average, $1.2K more per pupil**

Appendix 4: Breakout of costs of Imagine 2014 initiatives

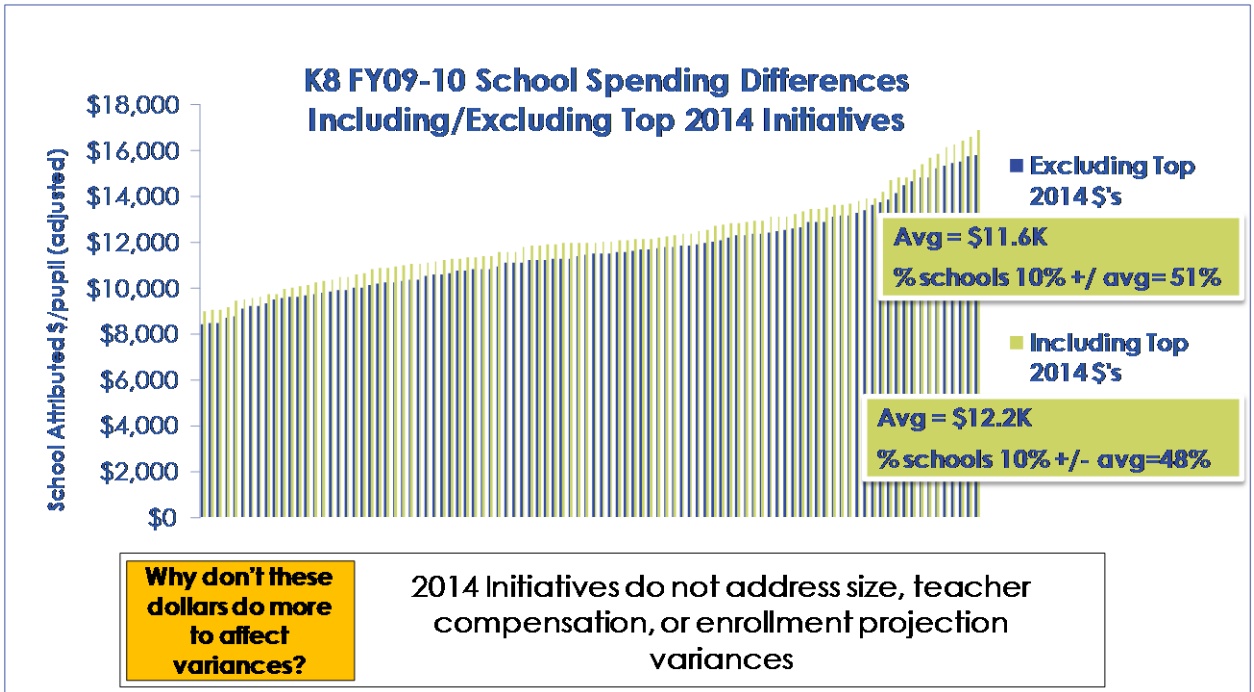


Sources: Imagine 2014 Initiatives Funded in Budget Book, Interviews with SDP staff

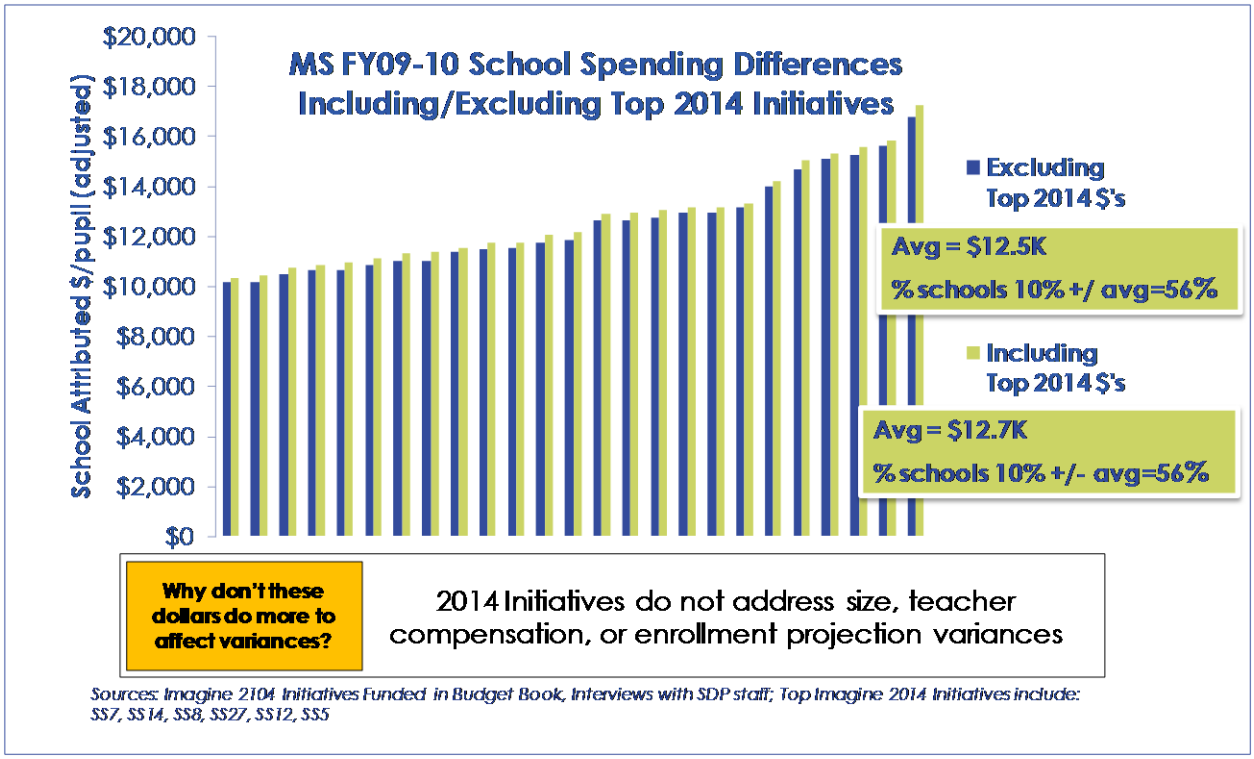
Appendix 5: Effect on per-pupil funding of adding Imagine 2014 initiatives



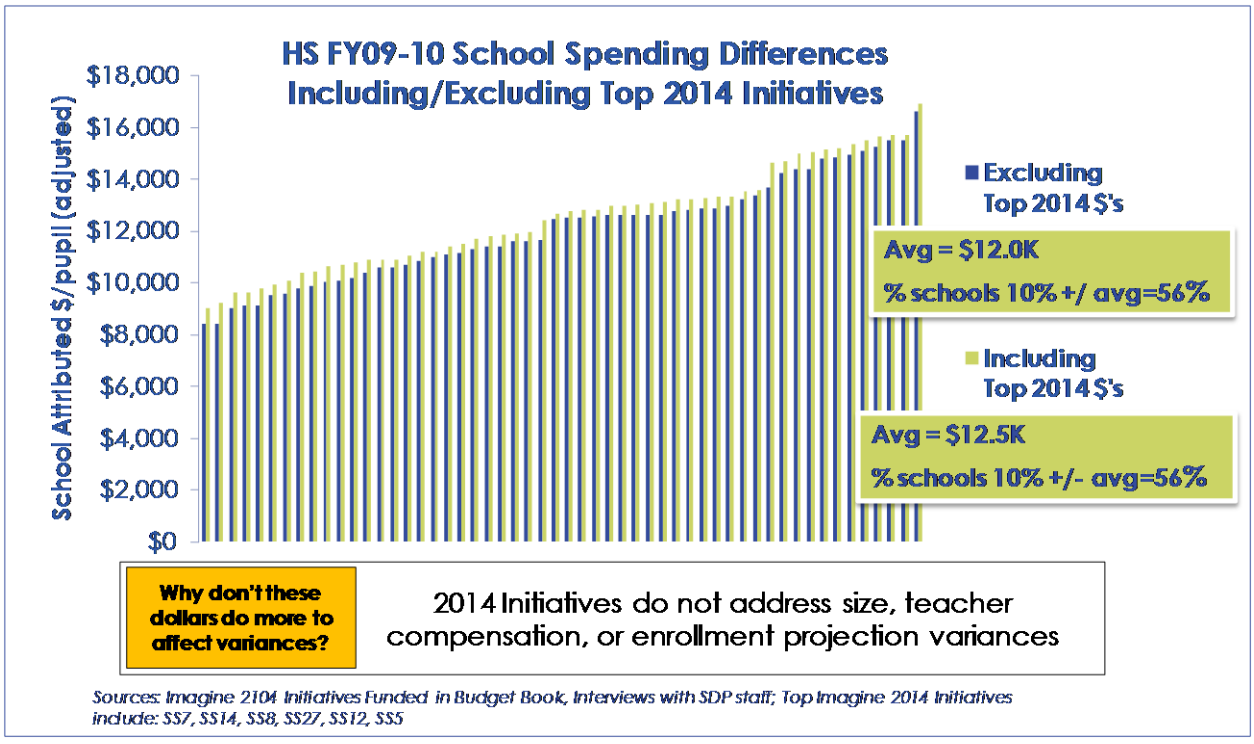
Sources: Imagine 2104 Initiatives Funded in Budget Book, Interviews with SDP staff; Top Imagine 2014 Initiatives include: SS7, SS14, SS8, SS27, SS12, SS5



Sources: Imagine 2104 Initiatives Funded in Budget Book, Interviews with SDP staff; Top Imagine 2014 Initiatives include: SS7, SS14, SS8, SS27, SS12, SS5



Sources: Imagine 2104 Initiatives Funded in Budget Book, Interviews with SDP staff; Top Imagine 2014 Initiatives include: SS7, SS14, SS8, SS27, SS12, SS5



Sources: Imagine 2104 Initiatives Funded in Budget Book, Interviews with SDP staff; Top Imagine 2014 Initiatives include: SS7, SS14, SS8, SS27, SS12, SS5

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