



Briefing Paper

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Fuzzy Math in Philadelphia: Edison Overstates Savings Possible Through Outsourcing School District Maintenance and Operations Work

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Summary

Under contract to the Commonwealth of Pennsylvania, Edison Schools Inc. (Edison) last fall prepared an 80-page assessment of the Philadelphia schools and outlined strategies for improving school performance financially and academically. One section of the Edison report estimated that cost savings of 10 to 30 percent could be achieved by outsourcing school maintenance and operations. This category includes custodial work, groundskeeping, and maintaining and operating heating, ventilating, and air conditioning systems.

This paper examines the methodology behind Edison's estimate of the savings possible through outsourcing maintenance and operations functions. It finds that:

- In concluding that the Philadelphia School District (PSD) has high maintenance and operations costs, Edison compares PSD with a sample of school districts which is 52 percent rural and has no school with more than 37 percent the number of students in Philadelphia.
- When compared to other large, urban school districts, the PSD has average or slightly below average maintenance and operations costs.
- Salaries for the District's maintenance and operations staff are in line with average salaries in the Philadelphia metropolitan area.
 - The mid-point of the hourly wage range for PSD building engineers is \$17.19 compared to a metropolitan area average wage of \$19.52.
 - The mid-point of the hourly wage range for PSD cleaners is \$11.03, compared to a metropolitan area average wage of \$9.89.
- PSD had moderate or low operations and maintenance costs despite having older facilities and a longer heating season than many other large, urban districts.

At present, maintenance and operations account for 10.7 percent of PSD costs, about half of which is labor costs. The available evidence indicates that it would be difficult to save more than a few tenths of a percent of the PSD budget, if that, through outsourcing these operations. Any savings that are attainable would likely turn family-sustaining jobs into poverty-wage jobs. When a major challenge faced by PSD is a high

concentration of children from families living below the poverty line, penny pinching by creating more poverty in Philadelphia is not a sensible reform strategy.

Background

On October 30, 2001, Edison Schools Inc. (Edison) released an assessment of the academic and financial position of the Philadelphia School District (PSD), *Strengthening the Performance of the Philadelphia School District* (hereafter, Edison Report).¹ Under contract to the Commonwealth of Pennsylvania, Edison prepared the report to assess the PSD and to offer a strategy for strengthening the District financially and academically. The 80-page report covers educational programs, management, information technology, finances, and governance in the District. In Section 4 (“District Finances”), Edison details strategies for reducing non-instructional costs in the PSD. The report states that “by pursuing strategic, targeted cost reductions in areas of large expenditure, such as personnel, transportation, procurement, and the price of benefits, the District will begin to close the gap between the revenue and expenditure growth rates” (55). (Numbers in parentheses at the end of sentences refer to the page in the Edison Report where the cited quote or claim can be found.)

The Edison Report maintains that:

- The PSD has nearly 5,500 non-instructional employees; in this group, there are nearly 3,000 maintenance and custodial employees and 850 secretarial employees (58).
- Approximately \$135 million is budgeted for custodial and maintenance work (in a total budget of \$1,987,436,766) (59).²
- The PSD “spends more to clean its schools than other districts in the Mid-Atlantic region as well as the average district nationwide” – 50 percent more on a per-student basis and 40 percent more on a square-footage basis (59).
- Other districts that have outsourced maintenance and operations have realized savings between 10 and 30 percent in the first years of the outsourcing (59). Edison’s “source” for this claim (in footnote 119) is “interviews with an external service provider.”

The next section considers the plausibility of Edison’s claim that large savings are possible through outsourcing maintenance and operations work.

Benchmarking – Compared to What?

The Edison Report employs a standard technique in assessing costs or performance – benchmarking. Benchmarking allows organizations – often businesses, but also schools and state and local government – to compare their performance against other “similar” organizations.³ The Edison Report notes that, “benchmarking against other school districts and against American School and University (ASU) standards suggests the District has a significant savings opportunity in this area” (59). Exhibit 17 in the Edison Report shows that the PSD spends \$688 per student on maintenance and custodial costs, compared to \$453 for the Mid-Atlantic region. On a square footage basis, the District’s costs are much higher than the Mid-Atlantic region or the national median - \$4.69 compared to \$3.34 (Mid-Atlantic) and \$2.75 (National median). The issue is whether these are appropriate “benchmarks” for PSD.

That Edison recognizes the need for care in selecting benchmarks is suggested by its analysis of spending per student – figures that might influence the size of any Edison contract to manage Philadelphia schools. In this

case, Edison compares PSD to Houston, Clark County (Las Vegas), and Broward County (which includes Fort Lauderdale) – urban school districts of similar size. Nonetheless, in the case of maintenance and operations costs, Edison chose as benchmarks broad geographic regions, rather than school districts of similar size and cost environment (large, urban). As we shall see, the choice of comparison group makes a big difference.

The ASU Mid-Atlantic region, with which Edison compares PSD, contains a sample of school districts of all sizes in the District of Columbia, Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. Twelve out of 23 Mid-Atlantic region respondents in the ASU study were rural school districts with enrollment under 1,000.⁴ As its Mid-Atlantic regional cost (p. 8S), the ASU used cost in the “median cost” school district (i.e., cost in the district with costs above half of all responding districts and below half of all responding districts). This median cost district enrolled 2,458 students, maintained buildings with a total gross area of 320,000 square feet, had a maintenance and operations budget of \$1.7 million, and employed 25 maintenance and custodial workers.⁵ The PSD, by contrast, had 210,428 students in the 2000-01 school year. Even the largest participating school district in the ASU study had a total student enrollment of 76,436.⁶

The Edison Report makes no attempt to compare the PSD to other large, urban school districts, to benchmark the PSD’s maintenance and operations costs as a percent of total district expenditures, or to compare the District’s wage costs with those of similar occupations in the metropolitan Philadelphia area. The next section provides all three comparisons.

Maintenance and Operations Costs in the PSD

Although Edison did not attempt to do so, it is possible to compare the Philadelphia School District’s expenditures with other major city school districts in the region and in the U.S. Comparing the PSD with other large urban school districts controls somewhat (much more than Edison did) for geographical and urban cost differences.

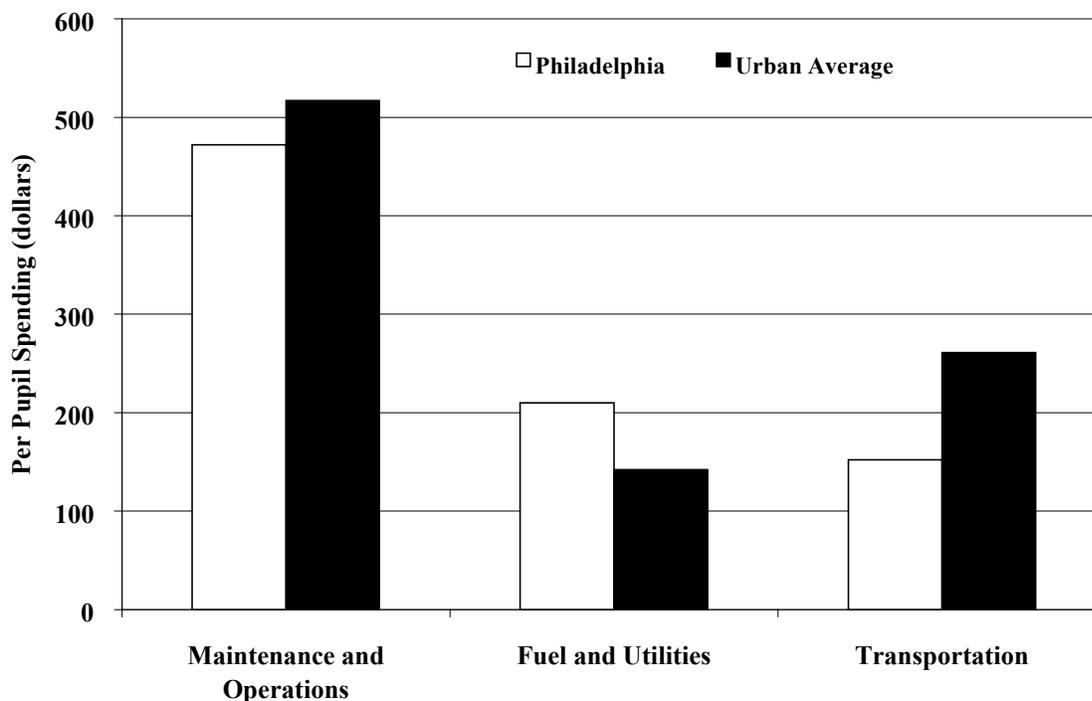
A 1998 analysis by the Council of Great City Schools found that on a per pupil basis (Table 1 and Figure 1):⁷

- “maintenance and operations” spending in the PSD was below the average for 34 urban districts and equal to the national average;
- “environmental conditioning” spending (i.e., spending on heating, cooling, and utilities, except telephone) in the PSD was well above the urban and national average;
- “transportation” spending in the PSD was well below the urban and national average.

Table 1. PSD Per Pupil Spending (1995-96) (dollars)		
Budget Category	Philadelphia	Urban Average
Maintenance and Operations	\$472	\$517
Fuel and Utilities (“environmental conditioning,” see footnote 8)	\$210	\$142
Transportation	\$152	\$261

Source: See Footnote 7.

Figure 1. PSD Maintenance and Operation Costs Below Average for 34 Large Urban Districts



Source: Footnote 7.

Further, the data in Table 1 show that the PSD spends a lot less per pupil on transportation services than other urban school districts and the nation as a whole. Data from Table 1 do show that the PSD spends more per pupil on environmental conditioning than the urban average. The authors of the Council of Great City Schools' report attribute this cost difference largely to the older age of the city's school buildings. They conclude that "there is little in these statistics to suggest that Philadelphia uses its resources very differently from the typical school system nationally."⁸

Data in Table 1 suggest that Philadelphia does not seem to have high maintenance and operation costs. As further evidence, Keystone Research Center gathered data on maintenance and operations expenditure for seven large urban school districts (Table 2 and Figure 2).⁹ Operations and maintenance spending in the PSD, at 10.7 percent of total expenditure, is in the middle of spending in six other comparable large urban school districts.¹⁰

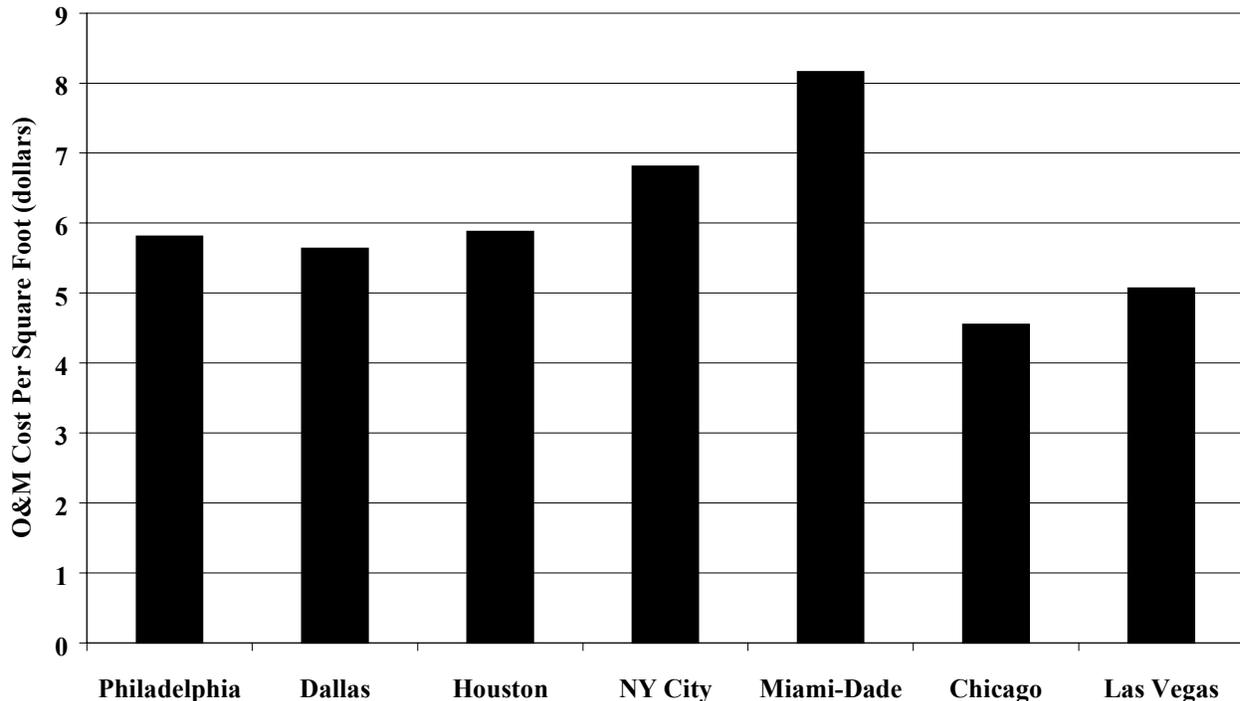
On a cost per square foot basis, the PSD is slightly above Dallas and Clark County but below Houston, Miami-Dade, and New York City. Given that the average age of buildings in the PSD is 68 years old, it is perhaps surprising that the maintenance and operations costs are not higher.¹¹



School District	Operations and Maintenance as a Share of Total Expenditure (percent)	Operations and Maintenance Costs per Square Foot (dollars)
Philadelphia	10.7%	\$5.81
Dallas	11.9	5.64
Houston	11.4	5.88
New York City	8.0	6.81
Miami-Dade	13.4	8.16
Chicago	8.6	4.55
Clark County (Las Vegas)	10.0	5.07

Sources: Philadelphia (PSD Office of Financial Planning & Analysis and National Conference of Firemen and Oilers Local 1201); Dallas (<http://www.window.state.tx.us/tspr/dallas/ch05c.htm>); Houston (<http://www.houstonisd.org> and personal communication with Facilities Management and Operations staff); New York City (http://www.nycenet.edu/offices/d_chanc_oper/budget/exp01/y2000_2001/FY2001T7.asp); Miami-Dade (School Board of Miami-Dade County Financial Report and personal communication with Personnel Department); Chicago (Chicago Public Schools, Comprehensive Annual Financial Report); Clark County (<http://www.ccsd.net>).

Figure 2. PSD Operation and Maintenance Costs In Middle of Seven Large Urban Districts



Sources: see note to Table 2.

Table 3. Occupational Wages in the PSD and Metropolitan Philadelphia

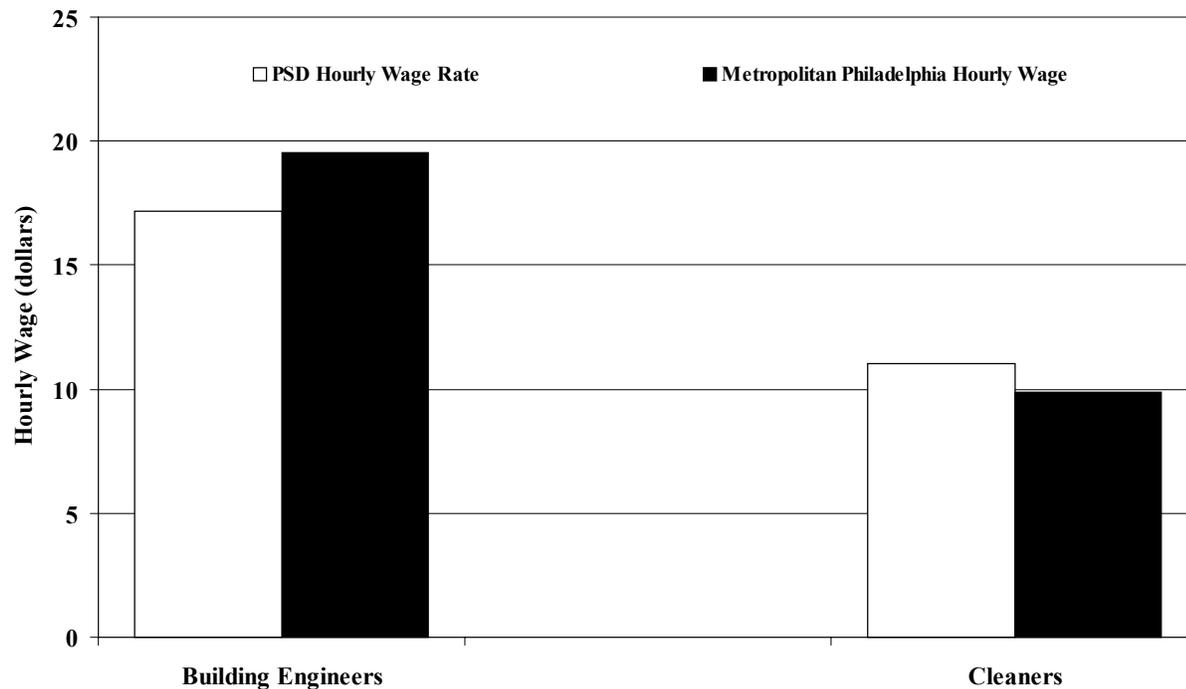
Position	Mean Hourly Wage Rate	OES Mean Hourly Wage
Building Engineers	\$17.19	\$19.52
Cleaners	\$11.03	\$9.89

Source: National Conference of Firemen and Oilers Local 1201 and U.S. Bureau of Labor Statistics' Occupational Employment Statistics (OES), online at <http://www.bls.gov/oes>.

Wages in the PSD and Metropolitan Philadelphia

Implicit in the suggestion that the District could realize cost savings of between 10 and 30 percent (as the Edison Report states) is the assumption that wages and benefits can be cut sharply through outsourcing, without sacrificing quality and efficiency. Leaving aside whether compensation cuts would actually translate into cost cuts (or only into productivity deterioration), is it plausible that large wage and benefit cuts could be achieved? To evaluate this implicit claim, it is necessary to compare wage rates of the major maintenance and operations occupations in the PSD with similar occupations in the Metropolitan Philadelphia area.¹² Table 3 and Figure 3 show that the mean hourly wage rates for building engineers and cleaners, who account for 73

Figure 3. PSD Maintenance Wages Are Average for Philadelphia Area



Source: Table 3.



percent of the PSD non-transportation maintenance and operations personnel, are similar to the mean hourly wage for workers in the same occupations in the metropolitan Philadelphia area.¹³ This casts doubt on Edison’s implicit assumption that wages in these occupations could be slashed through outsourcing.

Conclusion

This paper has assessed the Edison Report’s analysis of maintenance and operations costs in the Philadelphia School District. It shows that the PSD’s maintenance and operations costs are not out of line with the cost in other urban school districts. This is particularly so given the age of facilities in the PSD. In sum, the Edison Report provides no credible evidence that sizable cost-savings opportunities exist in the maintenance and operations division of the PSD.

Total salaries for maintenance and operations staff equal 5.1 percent of total 2000-01 PSD; custodial salaries, the largest labor subcategory in maintenance and operations, equal 3.9 percent of PSD total expenditures. Our analysis indicates that at most a few tenths of one percent cost savings might be achieved by outsourcing the school district’s maintenance and operations functions. Even this savings may not be attainable. Outsourcing could cost PSD money if it leads to the loss of key building personnel with critical knowledge of old school heating, ventilating, and air conditioning units.

Any attempt to save even a few tenths of one percent in costs through outsourcing would likely be based on lowering salaries especially for the lowest wage PSD cleaning and other operations staff. This would create more poverty-wage jobs in the city of Philadelphia. On an overall cost basis, this could backfire for Philadelphia’s schools because it costs substantially more to educate children in poverty.¹⁴ In a city in which concentrated poverty is a primary challenge that makes high-quality schools difficult to achieve, a strategy that creates more poverty seems, at best, misguided.

ENDNOTES

¹ In this paper, PSD and/or the District refer to the Philadelphia School District.

² The total budget figure is reported in Appendix A of the Edison Report and refers to the total PSD expenditure for Fiscal Year 2001-02.

³ In a prior report, for example, the Keystone Research Center benchmarked Pennsylvania's investment in community colleges against that of other states. See Stephen A. Herzenberg, *Does Pennsylvania Invest Adequately in Its Community Colleges? A State Benchmarking Analysis* (Harrisburg: Keystone Research Center, 2000).

⁴ American School & University (ASU), *M & O Cost Study* (Atlanta: ASU, 2001), p. 6S.

⁵ ASU, *M & O Cost Study*, p. TS-1 – TS-60.

⁶ Personal communication with American School and University research staff, February 13, 2002.

⁷ Council of Great City Schools (CGCS), *Adequate State Financing of Urban Schools: An Analysis of Funding to the Philadelphia Public Schools* (Washington D.C.: CGCS, 1998), Table 5. The “urban” comparison group consists of 34 large urban school districts. The average enrollment for the average school district in the Great City School’s group is 125,000. In this study, “Maintenance and Operations” expenditures include staff, equipment, and supplies for the care, upkeep, and operation of buildings, grounds, security, and other services; but exclude expenditures for major equipment purchased from a special capital purchases fund, utilities, heating/cooling fuel. “Environmental Conditioning” expenditures include fuel for heating and cooling plus all utilities except telephone. “Transportation” expenditures include staff, maintenance and operation of equipment, fuel, and contracts for transporting public school students even if a separate transportation fund is maintained.

⁸ Council of Great City Schools, *Adequate State Financing*, p. 24.

⁹ These seven districts are all of the 12 largest U.S. school districts (measured by number of students) for which we were able to obtain comparable data. For information on number of students by school district, see National Center for Education Statistics, <http://nces.ed.gov>.

¹⁰ Comparing operations and maintenance costs across school districts is difficult because district budgets vary in their line items. In compiling the data on the seven districts in Table 2, we used a relatively aggregated budget category (in most cases, “operations and maintenance”) to improve data comparability across districts.

¹¹ Personal communication with the president of Local 1201, National Conference of Firemen and Oilers.

¹² Metropolitan Philadelphia includes Philadelphia, Bucks, Chester, Delaware, and Montgomery Counties in Pennsylvania and Burlington, Camden, Gloucester, and Salem Counties in New Jersey.

¹³ The wage data for metropolitan Philadelphia are from the U.S. Bureau of Labor Statistics’ Occupational Employment Statistics (OES), online at <http://www.bls.gov/oes>. Wages in the OES data are straight-time, gross pay, exclusive of premium pay. For each occupation in the OES, the mean wage is the estimated total wages for an occupation divided by its weighted survey employment. The PSD data were provided by Local 1201 of the National Conference of Firemen and Oilers (NCFO), an affiliate of the Service Employees International Union (SEIU). NCFO data were reported as annual salaries. To convert the salaries to hourly data, the annual salary was divided by the appropriate number of annual hours. For building engineers, annual hours equal 2080 (full-year, full-time). Approximately 73 percent of the cleaners are part-time (5 hours per day). Thus the mean hourly wage was derived from the weighted sum of part-time and full-time cleaners (after dividing the annual salaries by 1300 (full-year, part-time) and 2080, respectively). Salary data for Local 1201 were also reported in ranges – “low” and “high” – for each occupational classification. Absent an exact distribution of employees along the salary range, the mid-point



of the two extremes was used to compute hourly wages. Since the distribution of wages could be different than assumed for the PSD figures, it is worth noting the “high” estimates for these two occupational categories in the PSD. Even the high point of the PSD wage range for building engineers is only \$20.03. The high point for cleaners is \$12.34 per hour. To compare occupations, two OES classifications, based on the Standard Occupational Classification (SOC) system, were used. For cleaners, SOC 37-2011 “janitors and cleaners, except maids and housekeeping cleaners” was used. For engineers, SOC 47-0000 “construction occupations” was used, in recognition of the wide variety of tasks required of building engineers and maintenance mechanics.

¹⁴ Research estimates place the cost of educating poor students at between 1.2 and 2 times that of educating other students. See U.S. General Accounting Office, *State and Federal Efforts to Target Poor Students* (Washington, D.C.: GAO/HEHS-98-36, January 1998), p.35.