

Administrative Spending in Tennessee K-12 Education

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Key Points

- In 2012-13, Tennessee districts spent \$868 million on administrative costs. This represents between 6 and 17 percent of individual district current expenditures including school board, office of the superintendent, central office business administration, and other central office and support services at the district level, and office of the principal at the school administration level. The statewide rate for administrative spending was 10.5 percent. The median, or midpoint, of districts' administrative spending was 9.4 percent. (See [Exhibit 20](#) and [Exhibit 21](#).)
- Over the past 15 years, statewide administrative spending increased from 8.6 to 10.5 percent of total current spending on K-12 education. Total spending on K-12 education increased by 83 percent (or 31 percent when adjusted for inflation) during the same time period. (See [Exhibit 6](#).)
- Administrative spending per pupil varies with district size, but also varies among districts of similar size. District-level administrative spending per pupil is more likely to be high for very small and very large districts, although district size explains only 25 to 39 percent of the variation among districts. Education finance research suggests total district spending per pupil declines as school district enrollment increases, but only up to a certain point, past which spending per pupil begins to increase, and this pattern may hold true for administrative spending as well. Researchers disagree on the optimal size for a school district, and whether and how much *school size* impacts findings on *district size*. District size did not show a relationship to school-level administrative spending per pupil among smaller districts, but is a factor for districts over 6,000 students, explaining about half the variation among districts' school administrative spending per pupil. (See [Exhibits 15 through 19](#).)
- About one-fourth of Tennessee districts (33) spent more than the statewide rate of 10.5 percent of current expenditures on administration in 2012-13. (See [Exhibit 21](#).) The type of district (city, special, or county), size of district, and the ratio of district-level administrators to students are factors that are associated with higher administrative spending. (See [Exhibits 22 through 25](#).)
 - Seventy percent of the higher administrative spending districts are city or special school districts. City and special districts tend to be smaller and most have additional sources of local tax revenue compared to county districts.
 - Almost two-thirds (64 percent) of higher administrative spending districts are within the bottom or the top fifth of enrollment size.

- o Seventy percent of the higher administrative spending districts had district level (central office) administrator-to-student ratios above the statewide median of 4.4 administrators per 1,000 students enrolled.
- This report does not consider the cost-effectiveness of districts' spending, in which district or school outcomes (student academic achievement and growth, graduation rates, etc.) are analyzed relative to administrative costs. Without further analysis of such outcomes, identification of above-average administrative spending by itself cannot be evaluated as appropriate or inappropriate.

How is administrative spending defined for school districts?

Definitions of administrative spending can vary, and different costs may be included or excluded depending on the focus of the analysis. In common practice, **administrative expenditures** are usually defined to include those related to

- the board of education for the district,
- the office of director of schools for the district (also known as the superintendent's office), including activities of deputy, associate, or assistant superintendents and clerical staff and contracted services, and
- the office of the principal at each school, including activities of assistant principals and clerical staff and contracted services.

Often, administrative expenditures will also be defined to include **central office business administration functions**, beyond the executive functions of the superintendent, including fiscal services and personnel.

Selected analyses, and those that are more inclusive may also include expenditures for **other central office support functions**, including technology, warehousing, planning, and public information.

Tennessee Department of Education (TDOE) financial reporting requirements for local districts use expenditure categories similar to those used by the National Center for Education Statistics (NCES), the primary federal entity responsible for collecting and analyzing education data. (See [Exhibit 1.](#)) Different agencies and reports combine these expenditure categories in various ways when analyzing administrative spending.

For example, the U.S. Census Bureau in making state-to-state comparisons of district administrative spending uses the following expenditure categories:

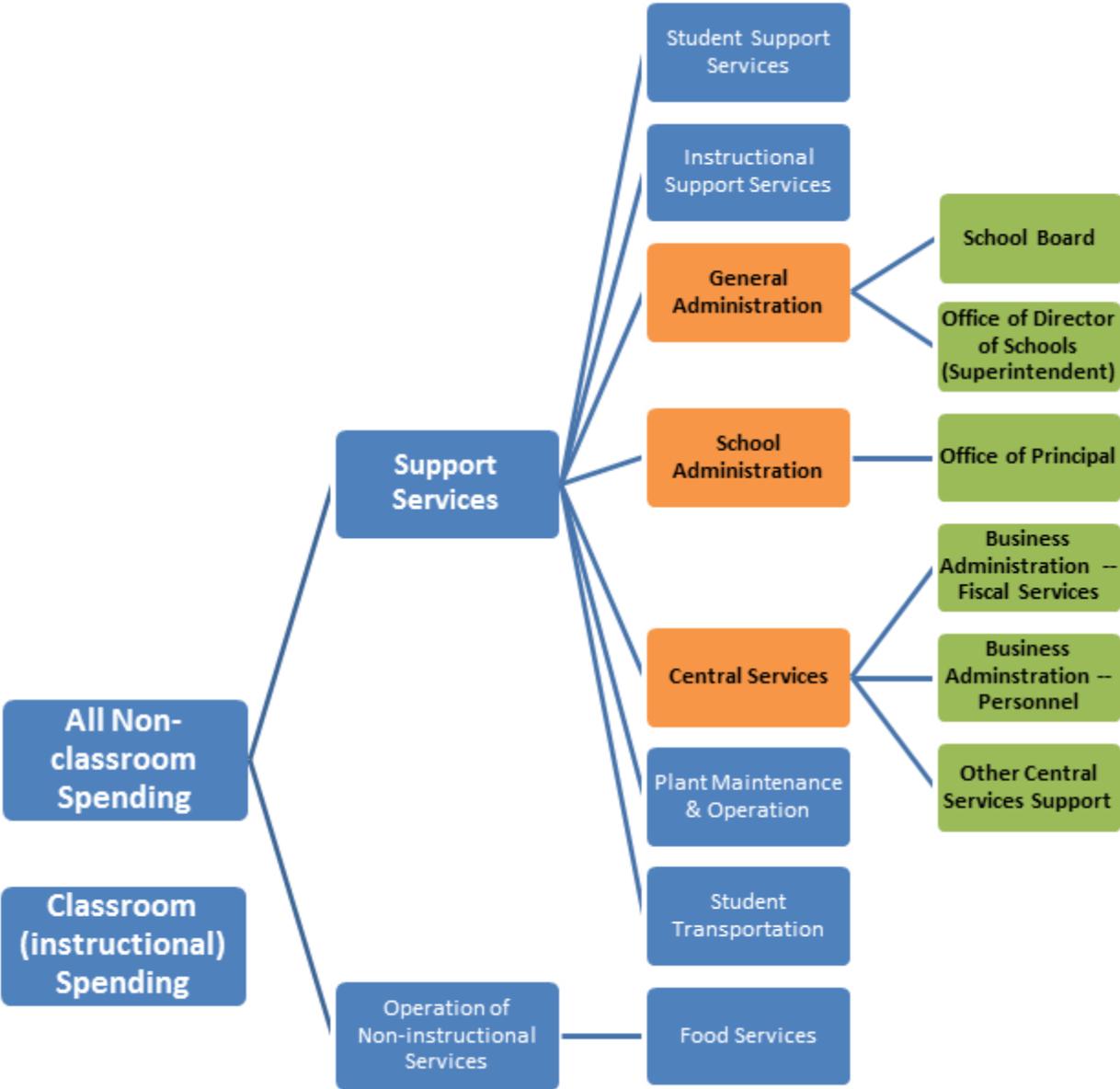
- **“general administration”** expenditures, which are only those related to the school board and the office of superintendent and
- **“school administration”** expenditures, which are those related to principal office functions.

TDOE, in its breakdown of current expenditures in the Annual Statistical Report (Table 49), shows **“support services – administration,”** which comprises general administrative spending on the school board and superintendent's office, school administrative spending on the principal's office, and central office business administration spending on fiscal services and personnel (human resources).

In addition to the categories described, this report will analyze “**district-level**” **administrative expenditures**, which comprise the general administration spending of the school board and superintendent’s office plus central office spending. This allows a comparison of district administrative expenditures without the school-level spending for the principal’s office.

This report’s analysis of Tennessee’s district-level administration spending includes, as part of central office spending, “**other central office and support services**,” a TDOE classification which includes spending on additional central office services beyond the fiscal service and personnel expenditures already accounted for separately in the business administration category.¹ These additional services,

Exhibit 1: Categories of Current Expenditures, Adapted from the National Center for Education Statistics and the Tennessee Department of Education



Note: Current Expenditures do not include spending for facilities acquisition and construction (capital outlay), debt service, or spending for pre-kindergarten, community services, and enterprise operations that fall within the “operation of non-instructional services” category.

Sources: Source notes for all exhibits are listed at the end of the report.

including administrative technology, purchasing, warehousing, planning, research, public information, and other support spending not classified elsewhere, give a fuller view of the central office functions that are generally associated with administration. In the district-by-district analysis of total administrative spending, the inclusion of these “other central office and support services” results in slightly higher administrative expenditures than those reported for districts in TDOE’s Annual Statistical Report.

Expenditures on student transportation, plant maintenance and operations, and cafeteria food service, which are all centrally-run functions of school districts, are generally not included in federal or state accounting classifications of administrative expenditures and are not addressed in this report. All expenditures expressed as a percent of total spending are based on the TDOE total “current expenditures” category, which excludes capital spending and debt service, and expenditures for community service programs, such as pre-kindergarten programs or family resource centers, and for enterprise operations, which are activities funded through user fees, such as some after-school care programs.² Expenditure data reflect spending from all district funding sources including local, state, and federal dollars.

For most comparisons of Tennessee to other states or to national averages, this report will use the Tennessee data as reported in the federal sources to ensure equivalent comparisons. For comparisons of Tennessee districts to each other and over time, this report will use TDOE data, as reported in its Annual Statistical Reports. **Note that all data is based on the assumption that local schools and districts categorize expenditures according to the state accounting guidelines and report expenditures accurately.**

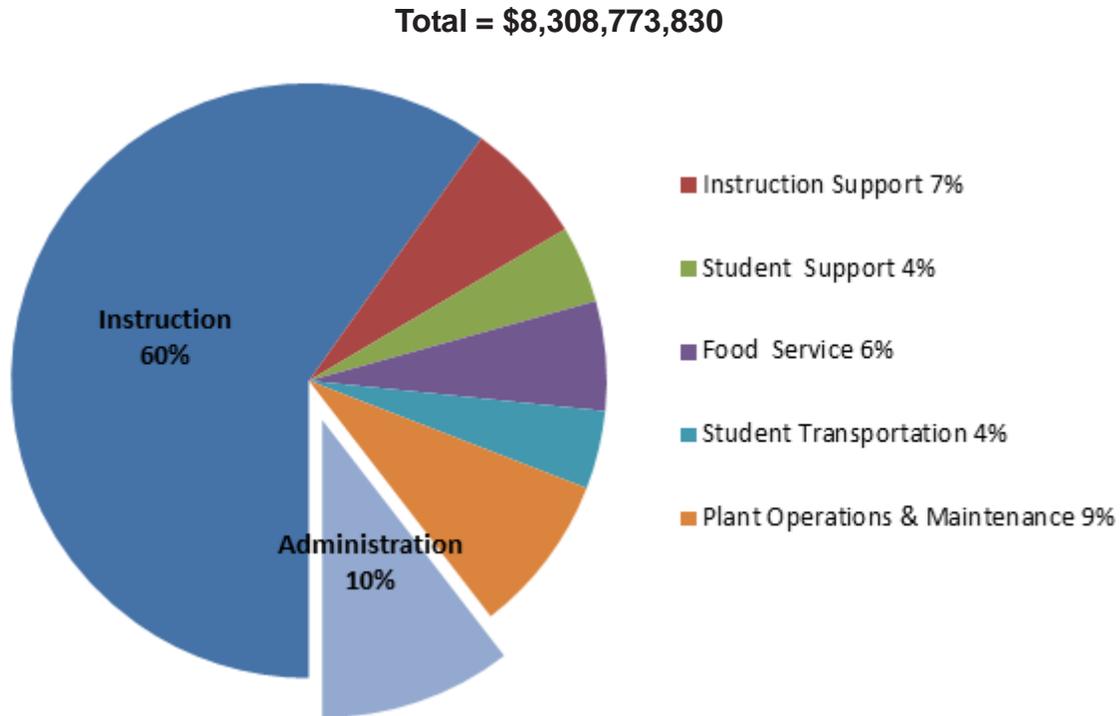
Categories of K-12 public education spending

NCES uses five broad areas to classify public school district expenditures: instruction, support services, non-instructional services, facilities, and debt. Administrative spending is in the support services category. For simplicity, this report will use two categories to classify current expenditures (spending for day-to-day school operation): classroom spending, which covers the same expenditures as NCES’s instruction classification, and non-classroom spending, which covers NCES’s support services (including administrative spending) and some non-instructional services. Facilities acquisition and construction and debt are not covered in current expenditures and not addressed in this report.

- Classroom (or instructional) expenditures include those related to interaction between teachers and students, including salaries and benefits for teachers and teacher aides, textbooks, supplies, and contracted services. In addition to regular classroom instruction, these expenditures are for instruction in alternative programs, special education, vocational education, and adult education, as well as “student body” educational program costs for school-sponsored activities such as band, choir, speech, athletics, and student-financed activities related to class year or clubs. Instructional spending constitutes the majority of current expenditures in Tennessee school districts. (See [Exhibit 2.](#))
- Non-classroom expenditures include school- and district-level administrative spending, as well as support services for students and teachers, plant maintenance and operations of school and district facilities, student transportation, and food service (cafeterias). Some types of spending included in the NCES’s non-instructional services category are not

counted as current expenditures by NCES or TDOE and are not addressed in this report. Examples of these spending types are enterprise operations (such as after-school care or bookstores which are funded through user fees) and community services (including preschool programs).

Exhibit 2: Tennessee Districts' Current Expenditures by Category, 2012-13



How do other states compare school districts based on spending levels?

Some states have grouped their school districts into “peer groups,” based on district size, student demographics, urban or rural location, and other factors. These groupings allow spending comparisons among more similar districts as well as encouraging districts handling similar issues to share effective strategies for cost efficiencies. Arizona and Washington are two states that analyze school spending by peer groups.

Arizona grouped 208 districts into 12 “efficiency peer groups,” based on size, type, and location.³ It found that larger districts had lower per-pupil administrative costs, but the wide range of costs among similarly-sized districts suggested room for more efficient administrative operations in some districts.

Types of inefficient practices identified included:

- higher staffing levels than peers,
- costlier benefit packages and retirement programs,
- more generous stipends, such as vehicle allowances or tax-sheltered annuities,
- higher expenditures on meals and conference travel for employees and governing board members, and
- employees individually purchasing office supplies instead of purchasing items in bulk quantities.

Washington sorted its 295 districts into 37 peer groups.⁴ Its analysis found enrollment to be the most significant predictor of non-classroom costs per student. Other factors affecting these costs included the percent of students eligible for free or reduced-price lunch, the presence or absence of high schools in the district, transitional bilingual students, and urban, suburban, or rural location. State analysts also found significant difference in per-pupil costs, even among similar districts. Practices they identified that prevented more efficient administrative operations included having more staff per 100 students and paying more in salaries and benefits per student, possibly due to more experienced or a different mix of staff.

How are Tennessee districts spending money now?

The pie charts in Exhibits 2, 3, and 4 show districts’ overall spending and details of administrative spending for 2012-13. The percentage breakdown by categories remained the same as 2011-12 spending, despite an 8 percent increase in administrative expenditures. Total current expenditures increased 2 percent from 2011-12 to 2012-13. All other categories shown in Exhibit 2 increased by a range of less than 1 to 3 percent.

Exhibit 3 below pulls out the 10 percent administrative expenditures of Tennessee’s districts to show more detail.

Exhibit 3: Tennessee Districts’ Administrative Expenditures, All Levels, 2012-13
(with each administrative spending category as a percentage of total current expenditures)

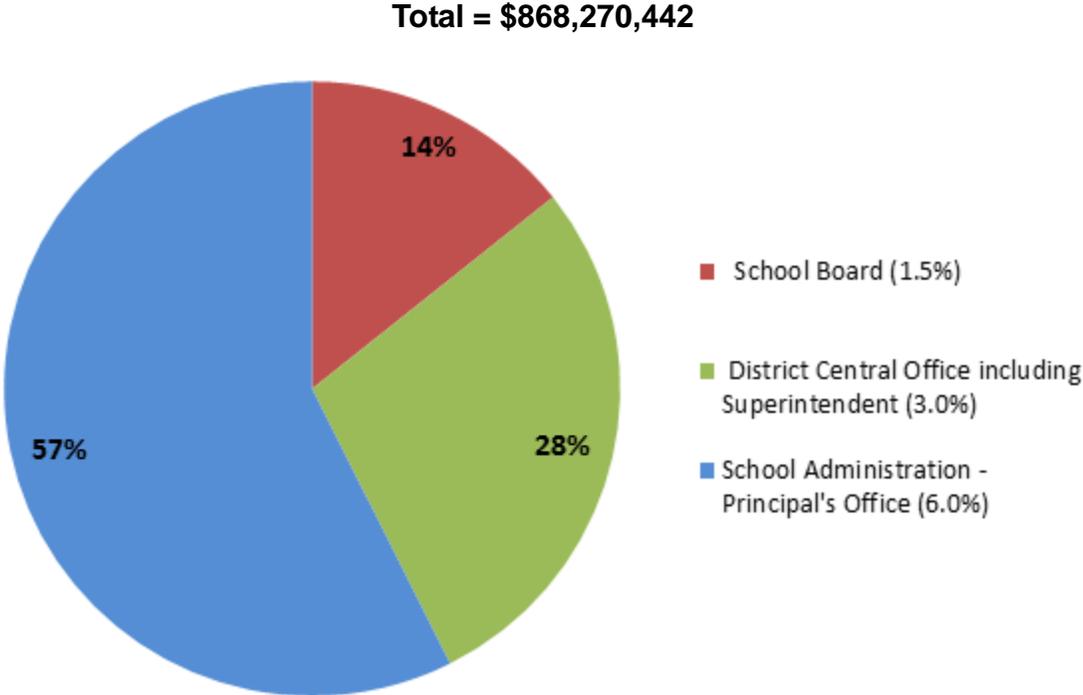
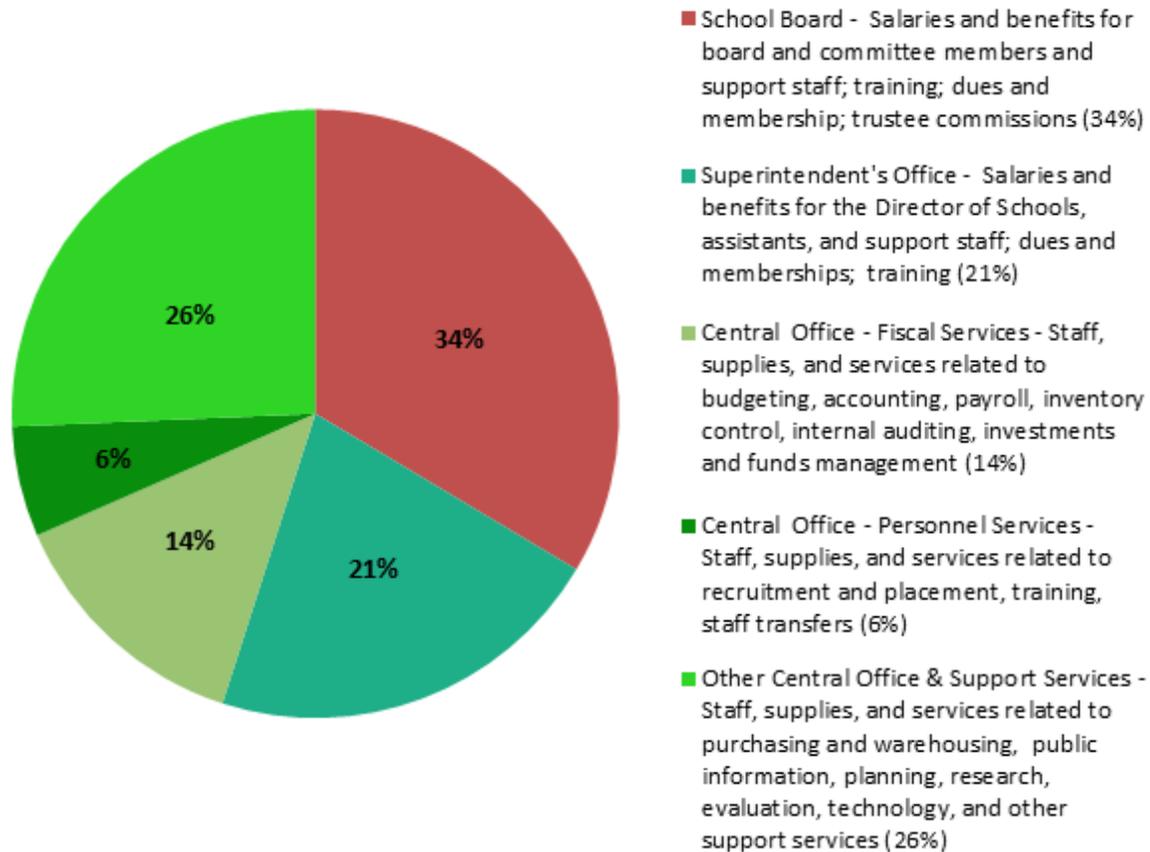


Exhibit 4 excludes school level administrative expenditures and focuses on only the district-level expenditures of the school board and central office.

Exhibit 4: Tennessee Districts' Administrative Expenditures at the District Level, 2012-13

Total = \$369,937,427



School Board: Fifty percent of the school board spending category is for salaries and benefits of board members and any board staff. The number of members on a school board varies by district, generally between 3 and 12, with the most common number set at 7. Twenty-two districts (16 percent) do not pay any board salary. Of those who do pay, the salary range for board members is wide, from a low of \$50 to a high of about \$24,000.⁵ The median salary among districts reporting paid salaries in 2013 was \$1,800 for board members and \$2,100 for board chairs.⁶

Trustee commissions make up another 36 percent of expenditures in this category. County trustees are paid commissions on the various tax revenues they are authorized to collect or receive, such as county property taxes designated for schools. Unless otherwise specified, trustees earn between 2 and 6 percent on all funds received.⁷ They also receive a 1 percent commission on state-provided school fund monies and are allowed a ¼ percent commission on federal school lunch funds. Trustees also apportion tax revenues among multiple school districts within counties that have them.

Office of Superintendent: Most expenditures in this category are for salaries of the directors of schools (20 percent), other salaries and benefits (36 percent), and contracted services (31 percent), which may include telephone, postal, travel, dues and memberships, maintenance and repair, or other services related to administrative functions.

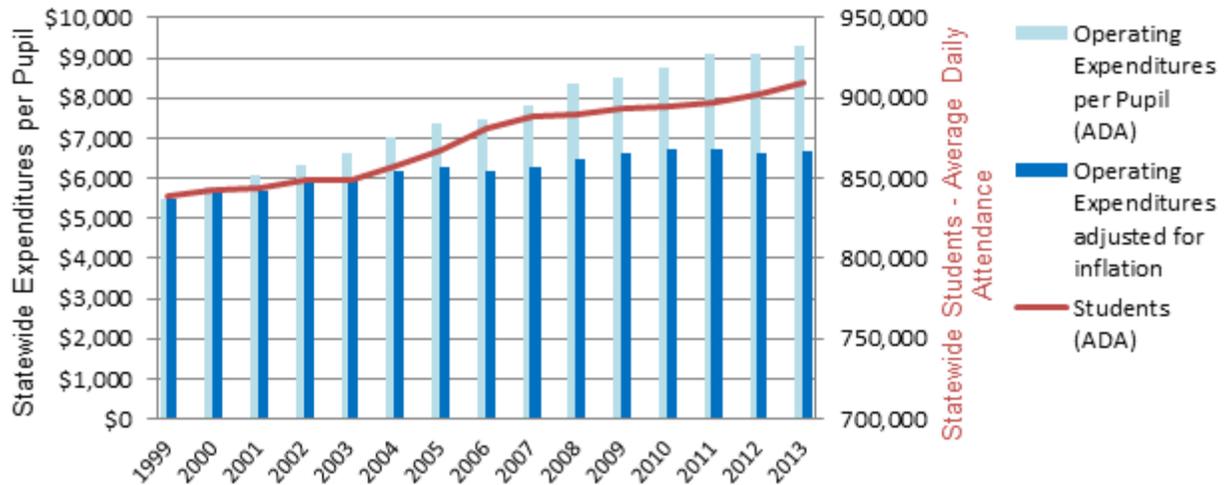
Central Office: The bulk of expenditures in the central office categories of fiscal services, personnel, and other supports are for salaries and contracted services. Most school districts reported expenditures in the fiscal services category; 27 percent reported expenditures in the human services/ personnel category; 58 percent of districts reported expenditures in the central office and other supports category.

Office of Principal: Salaries and benefits for principals, assistant principals, and other office staff made up 94 percent of expenditures in this category, with the remaining expenditures for contracted services, materials, supplies, equipment, and dues and memberships.

How have Tennessee’s districts changed their spending over time?

Current education expenditures have increased over time, partly due to the increase in the number of students and also because of increased spending per student, both in real dollars and adjusted for inflation. From fiscal years 1999 to 2013, the average daily attendance of students increased by about 8 percent, and the operating expenditures per pupil, when adjusted for inflation, increased 21 percent. In current dollars, operating expenditures per pupil increased from \$5,485 per pupil to \$9,307. Factors besides inflation that may contribute to increased per pupil spending include rising teacher salaries and benefit costs, additional services for students, and state and federal policies with requirements for school districts, such as No Child Left Behind.

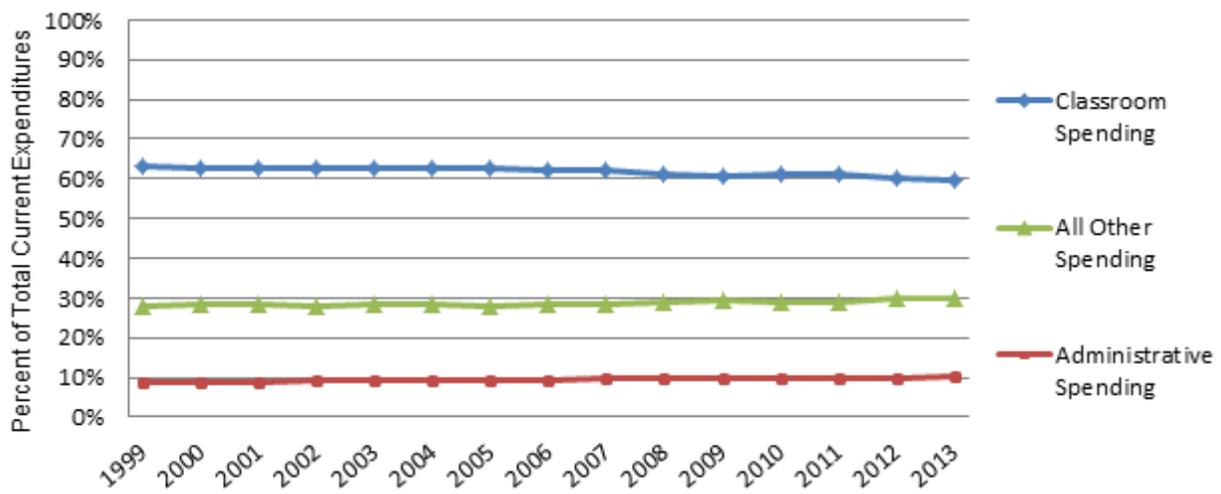
Exhibit 5: Operating Expenditures per Pupil



Fiscal Year	Students	Spending per Pupil (current dollars)	Spending per Pupil (constant 1999 dollars)
1999	838,425	\$5,485	\$5,485
2001	844,497	\$6,055	\$5,696
2003	849,354	\$6,645	\$6,017
2005	867,134	\$7,366	\$6,284
2007	888,318	\$7,794	\$6,263
2009	893,976	\$8,518	\$6,615
2011	897,807	\$9,084	\$6,728
2013	909,032	\$9,307	\$6,656

Although districts' total current expenditures increased 83 percent from 1999 (\$4.6 billion) to 2013 (\$8.3 billion), spending did not shift significantly among the categories, as seen in Exhibit 6. Classroom spending (expenditures for activities related to interactions between teachers and students) declined as a portion of total spending by 3.4 percentage points, from about 63 percent to about 60 percent. Administrative expenditures (one component of non-classroom spending) increased 1.9 percentage points of total spending during the same 15-year period. All other non-classroom expenditures (student and instructional support services, plant maintenance and operation, student transportation, and food services) also increased as a portion of total spending by 1.6 percentage points. In any given year, the relationships among these three spending categories did not change more than one percentage point, although even small percent changes represent large dollar amounts when dealing with totals in the billions of dollars.

Exhibit 6: Spending by Category



Fiscal Year	Administrative Spending	All Other Non-Classroom Spending	Classroom Spending	Total Current Expenditures
1999	8.6%	28.1%	63.2%	\$ 4,550,640,914
2000	8.9%	28.2%	62.9%	\$ 4,826,011,426
2001	9.0%	28.5%	62.5%	\$ 5,041,342,288
2002	9.1%	28.2%	62.7%	\$ 5,310,507,246
2003	9.2%	28.4%	62.5%	\$ 5,551,741,823
2004	9.1%	28.2%	62.6%	\$ 5,892,573,438
2005	9.4%	27.8%	62.8%	\$ 6,251,278,667
2006	9.4%	28.4%	62.2%	\$ 6,471,664,394
2007	9.7%	28.3%	62.0%	\$ 6,818,092,146
2008	9.9%	29.1%	61.0%	\$ 7,314,094,065
2009	10.0%	29.3%	60.7%	\$ 7,501,788,190
2010	9.8%	29.1%	61.2%	\$ 7,713,398,146
2011	9.8%	29.1%	61.2%	\$ 8,035,933,938
2012	9.9%	29.8%	60.3%	\$ 8,128,215,943
2013	10.5%	29.7%	59.8%	\$ 8,308,773,830
15-year average	9.6%	28.8%	61.7%	---

How does spending by Tennessee’s districts compare with other states’ districts?

The U.S. Census Bureau’s comparisons of administrative spending to other states use “general administration,” which includes only expenditures associated with school boards and offices of superintendents, and “school administration,” which is spending of offices of principals. Its category of “other support” includes other central office administrative costs not accounted for in the office of superintendent category. The most recent national comparison data at the time of this analysis shows Tennessee spent a smaller percentage of expenditures on administration overall (9.34 percent) than either the Southeast or the nation. (See [Exhibit 7](#) below.)

Tennessee spent more, as percentages of total spending, on instruction (classroom spending), instructional supports, general administration, and school administration than the percentages spent by districts nationally, and, except for school administration, more than the Southeastern states. Tennessee districts spent a smaller percentage than other states’ districts on student support, maintenance and operations, transportation, and other support services.

Exhibit 7: Spending Category as a Percent of Total Current Spending

Column with highest percentage for each category is highlighted.

FY 2011	Tennessee	United States	Southeast States ¹
Classroom Spending	62.08%	60.59%	59.63%
Support Services			
General Administration (school board & supt. office)	2.06%	1.84%	1.60%
School Administration (principal office)	5.56%	5.28%	5.71%
Other Support	1.72%	3.36%	2.51%
Sub-total for Administration-related Spending	9.34%	10.48%	9.82%
Student Support	4.39%	5.45%	4.91%
Instructional Support	6.20%	4.56%	5.62%
Plant Maintenance & Operations	8.59%	9.32%	9.08%
Student Transportation	3.56%	4.32%	4.49%
All Other (food service, adult education, community service, and non-elementary-secondary programs)	5.84%	5.19%	5.83%

¹ Southeast States include AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, and VA.

When ranked against all other states based on fiscal year 2011 per pupil spending, Tennessee ranked 46th in total current expenditures per pupil, 42nd in instructional or classroom spending, 44th in school administrative spending, and 35th in general administrative spending.

National data on administrative spending per pupil by district size is also available for comparison.

[Exhibit 8](#) for general administrative spending (school board and office of superintendent) per pupil shows that most Tennessee districts are in the smaller enrollment categories, less than 7,500 students, and spend less than the national rate of superintendent and school board expenditures per pupil. Those in the larger enrollment categories, 7,500 or more students, show higher rates of general administrative spending per pupil. The small number of districts in these categories, however, especially the 10 districts with 15,000 or more students, may distort the Tennessee-to-national comparisons.⁸

Exhibit 8: General Administrative Spending per Pupil, Tennessee and National Rates by District Size - FY 2011

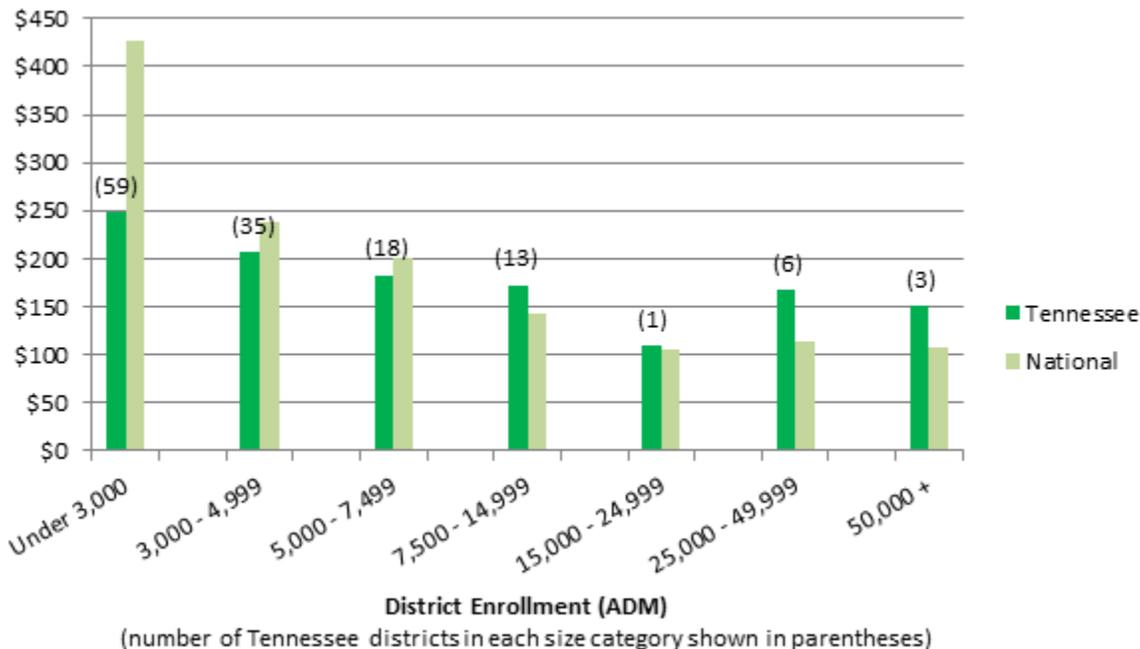
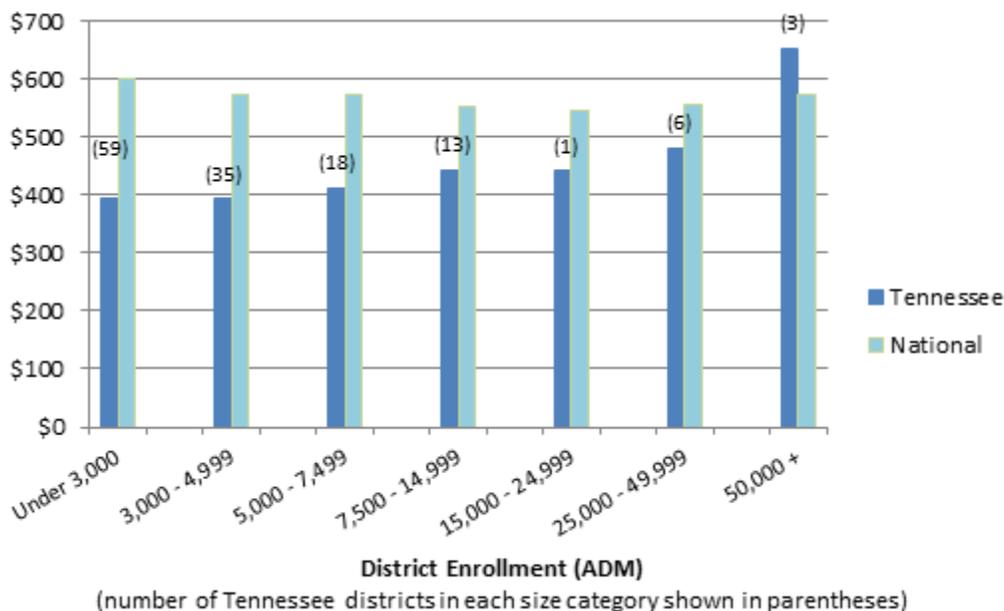


Exhibit 9 shows a similar pattern for school administrative spending per pupil, with most Tennessee districts having expenditures below the national rate and only districts in the largest enrollment category having higher than national rates of school administrative spending. See the section titled “How do Tennessee’s districts compare with each other in administrative spending?” for more about diseconomies of scale in very large districts.

Exhibit 9: School Administrative Spending per Pupil, Tennessee and National Rates by District Size - FY 2011



The most current U.S. Census Bureau data available at the time of this analysis on public education finances show that Tennessee’s spending per pupil increased between 2008 and 2011 while national spending per pupil decreased or held steady; however, Tennessee remained below the national rate in actual dollars spent per pupil in all categories. The two graphs at [Exhibit 10](#) and [Exhibit 11](#) compare Tennessee per pupil spending to national per pupil spending for selected categories.

Exhibit 10: Total and Classroom Spending per Pupil, Tennessee to U.S. Comparisons

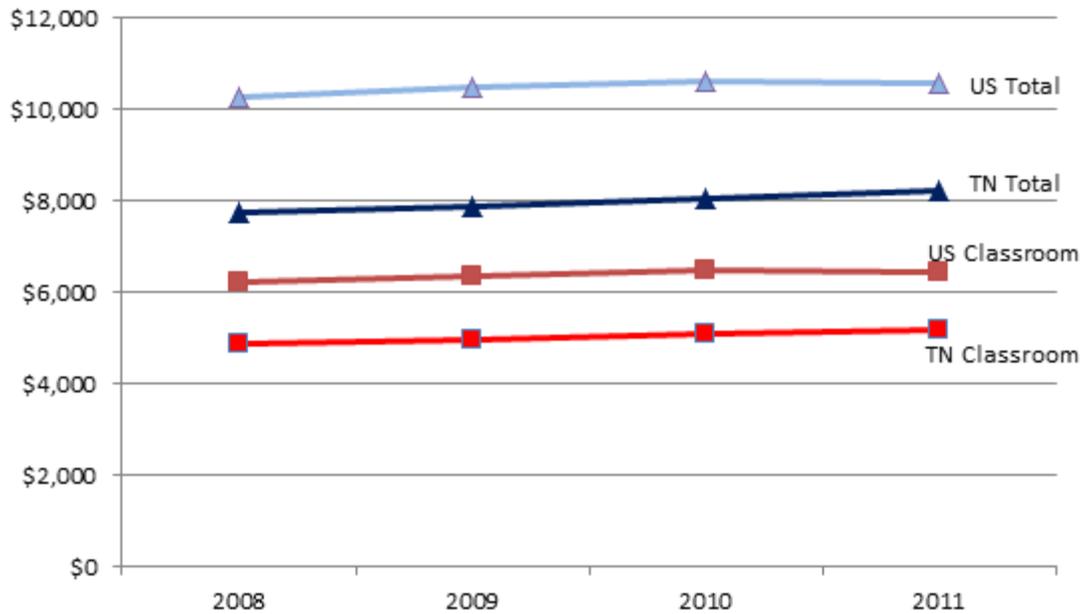
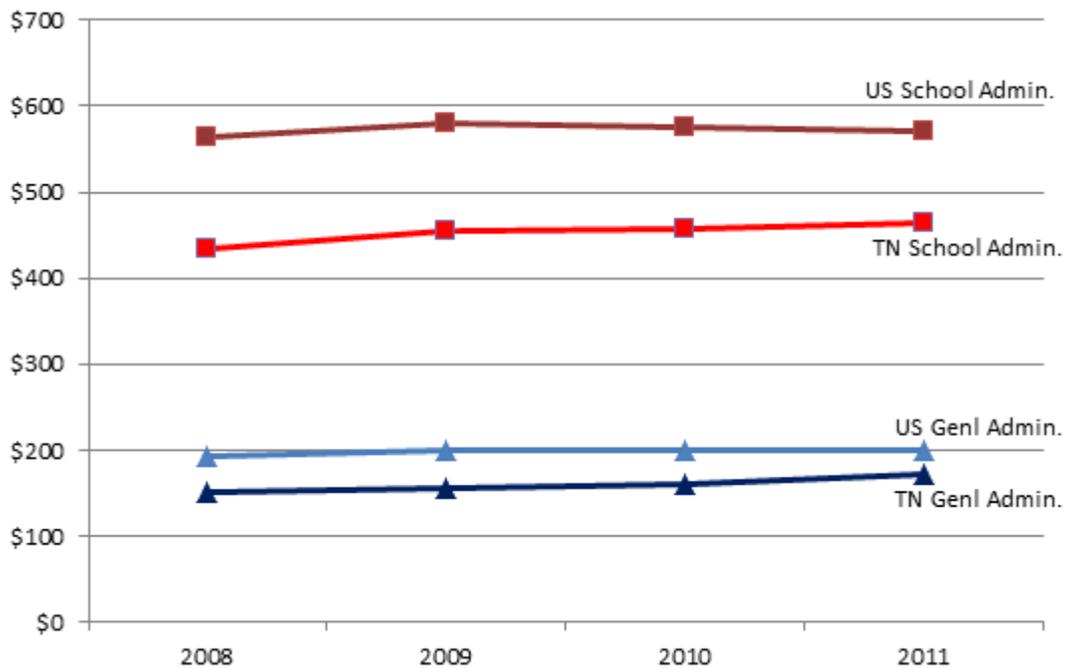


Exhibit 11: Administrative Spending per Pupil, Tennessee to U.S. Comparisons



How do Tennessee districts compare with each other in administrative spending?

Generally, total district expenditures, as well as expenditures within categories, will increase as student enrollment increases. More students require more schools, teachers, principals, central office staff, equipment, and supplies. Larger districts may have more complex payroll and benefits systems or offer more programs and services that in turn require additional levels of monitoring and supervision. At the same time, larger districts can take advantage of certain economies of scale. Economies of scale are the cost advantages that an organization obtains due to larger size, output, or scale of operation and may come from discounts for larger purchases, greater efficiency of operations from division and specialization of labor, or increased access to outside resources.

The graphs in Exhibits 12, 13, and 14 show that total school administrative spending and district level administrative spending tend to be higher for larger districts. District size is not as strong an influence on districts with less than 6,000 enrollment as it is for those with more. For each Tennessee district, these graphs plot selected administrative costs by district size, using average daily membership (ADM) data as reported in TDOE's 2012-13 annual statistical report.

Exhibit 12: School-level Administrative Spending by District, 2012-13

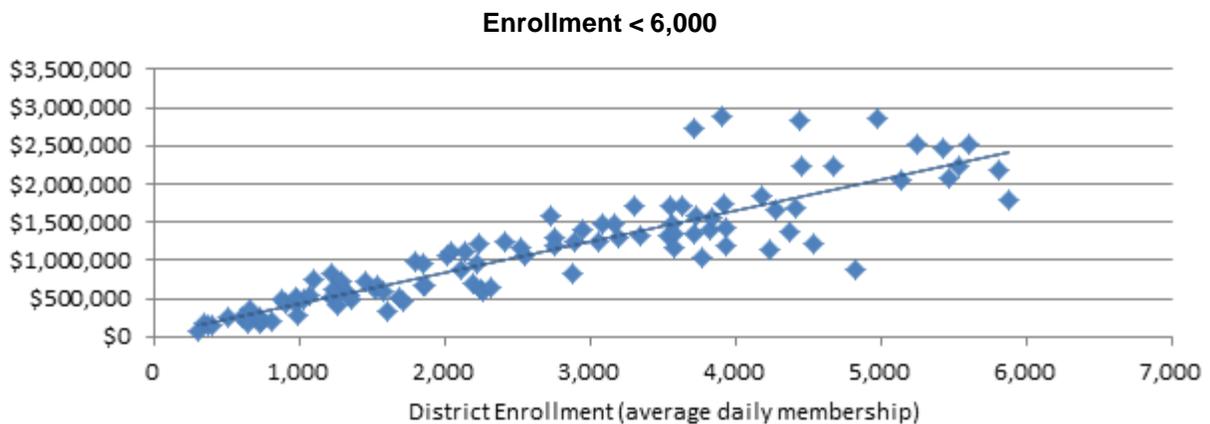


Exhibit 13: District-level Administrative Spending by District, 2012-13

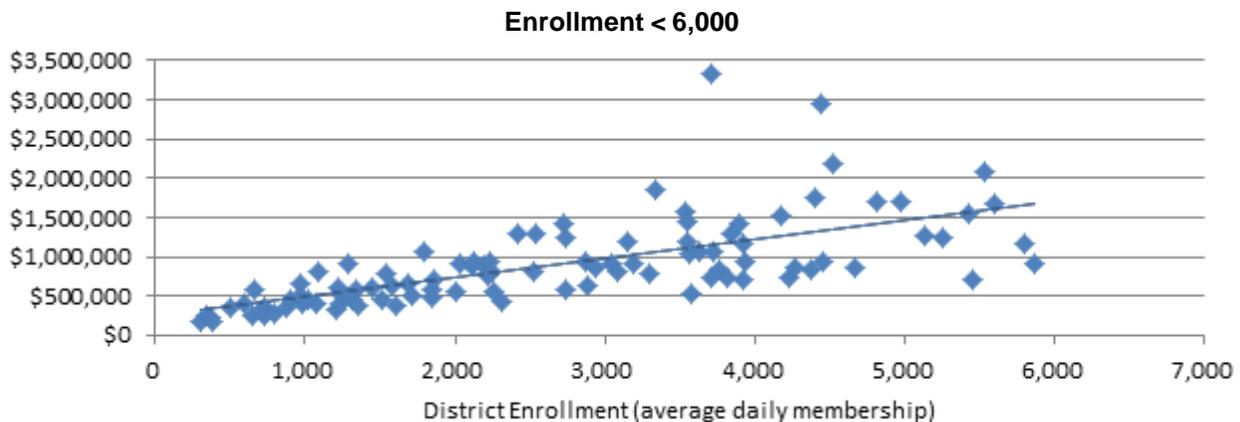
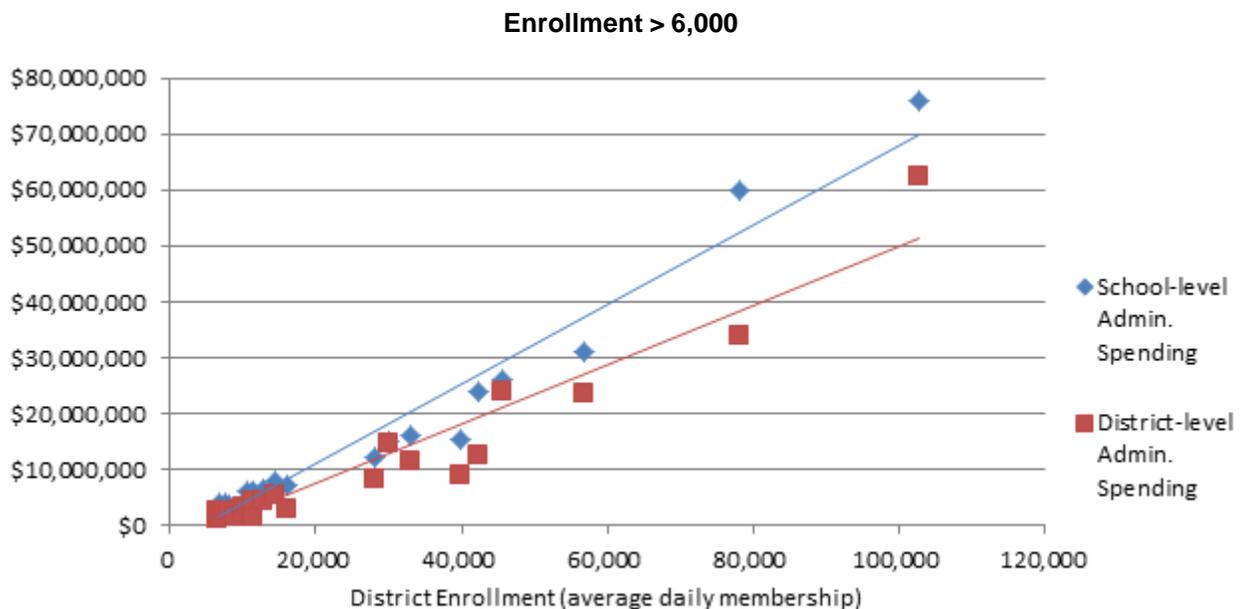


Exhibit 14: Administrative Spending by District, 2012-13



District-level Spending per Pupil

Administrative spending per pupil varies somewhat with district size, but also varies among districts of similar size. Analyzing district-level expenditures on a per-pupil basis shows that very small and very large districts may be more likely to have higher administrative spending per pupil, but district size explains only about one-fourth to one-third of the difference in district-level administrative spending per pupil.⁹ Small districts can have higher per pupil expenditures, in part because they have fewer students among which to divide their fixed costs. (See Exhibit 15.) Large districts may also tend to have higher per pupil expenditures, as seen in Exhibit 16. In these two exhibits, districts within a set of vertical graph lines are similar in student enrollment. Districts within a set of horizontal graph lines have similar administrative expenditures per pupil.

Exhibit 15: District-level Administrative Spending per Pupil, 2012-13

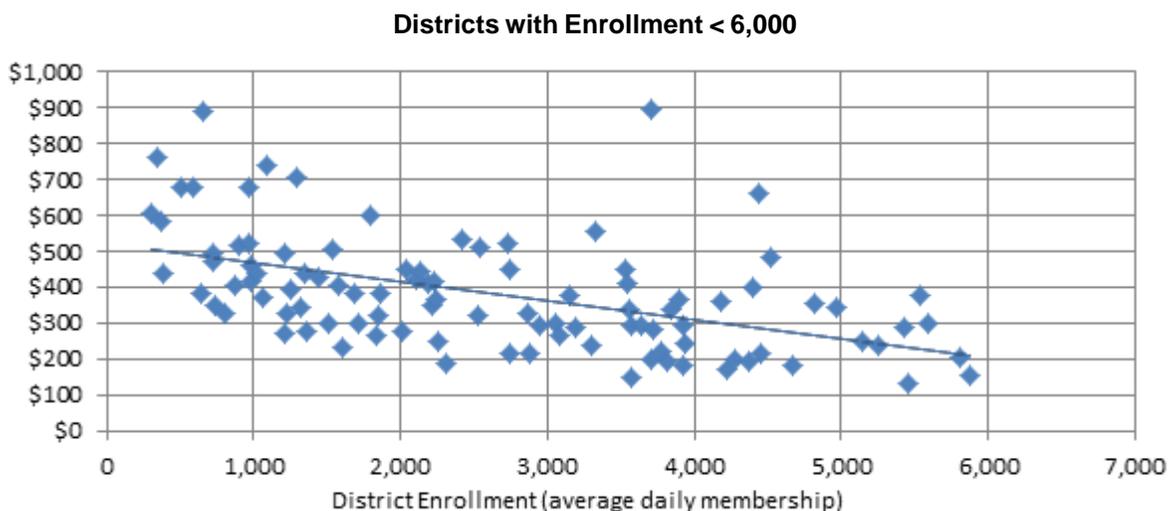
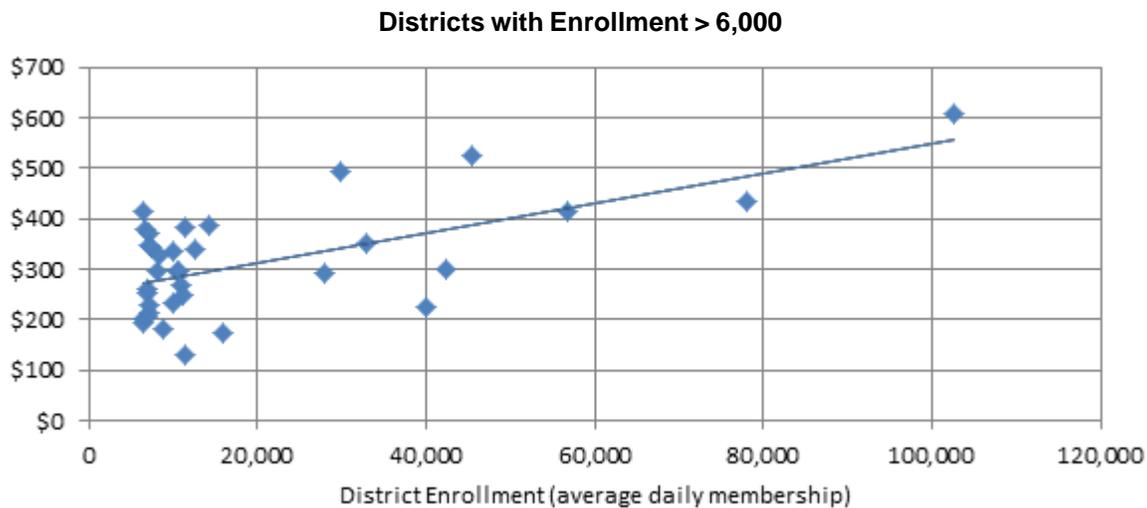


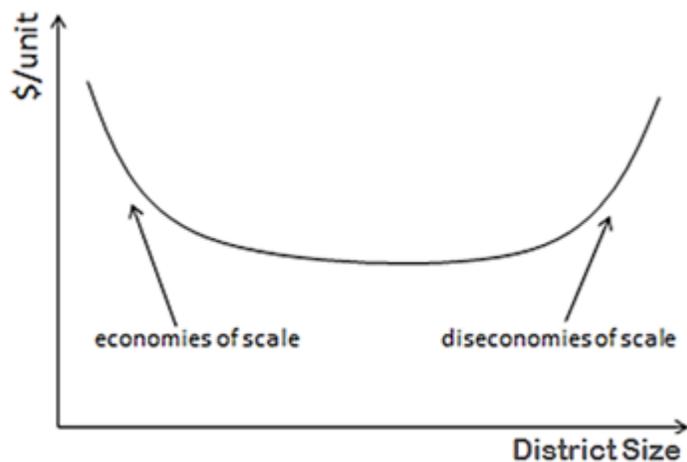
Exhibit 16: District-level Administrative Spending per Pupil, 2012-13



Economies of Scale

Research on total school district spending suggests that economies and diseconomies of scale influence spending per pupil measures in small and large districts. Diseconomies of scale occur when the limits of economies of scale are reached, so that costs for each additional unit begin to increase. [Exhibit 17](#) graphs the theory of how the size (or scale) of an operation (in this case, school districts) could impact costs per unit (or pupil).

Exhibit 17: Pattern of Long Range Average Costs



Several studies have identified the “U” curve pattern for total costs per pupil – a pattern of higher costs per pupil in small districts, declining cost per pupil as districts grow, and increasing costs after districts reach a certain size, although there is no consensus on what that size is. Different studies have suggested various optimal district size at 800, 1,500, 3,000, 6,500, 8,000, and 10,000 to 20,000 students.¹⁰ This pattern for total district spending may apply to administrative spending as well.

Other research suggests that economies and diseconomies of scale are not as meaningful measures in education because of their significant differences from manufacturing, where these concepts originated. Questions of how to measure “output” (e.g., adequately educated students), and what inputs to include and how to measure them (e.g., the size and type of programs offered by individual schools within districts, community involvement, the proximity of students to each other and the school and its effect on transportation costs) all impact the discussion of efficient “production” and can mask or exaggerate economies or diseconomies in education.

Much of the research on school district size has been done in the context of district consolidation, with the confounding factors of community politics and state policies that often required maintenance of all staff positions and the “leveling up” of salaries and benefits, canceling any expected savings from

efficiencies in purchasing and resource use. For example, Tennessee statutes require that any change in the government structure of a school system due to “annexation, unification consolidation, abolition, reorganization, transfer of the control and operation . . . or creation of a city school system shall not impair, interrupt or diminish the rights and privileges of a then existing teacher.”¹¹ Rights and privileges include salary, pension or retirement benefits, sick leave accumulation, tenure status, and contract rights. Thus these findings do not necessarily provide clarity on true cost-per-pupil differences by size of district.

Research studies have not always distinguished between *school* size and *school district* size, further muddying any strong conclusions. At least one study found that economies of scale were a function of average school size within districts, rather than a function of district size.¹² Although economies and diseconomies of scale may influence district-level administrative spending per pupil, this analysis found that district size (scale) only explained a portion of the variance among districts, indicating other factors may be significant, alone or in combination with district size.

School-level Spending per Pupil

Analysis of school-level administrative expenditures per pupil shows that in districts with less than 6,000 enrollment, district size does not explain the variation in administrative spending per pupil. (See Exhibit 18.)

Exhibit 18: School-level Administrative Spending per Pupil, 2012-13

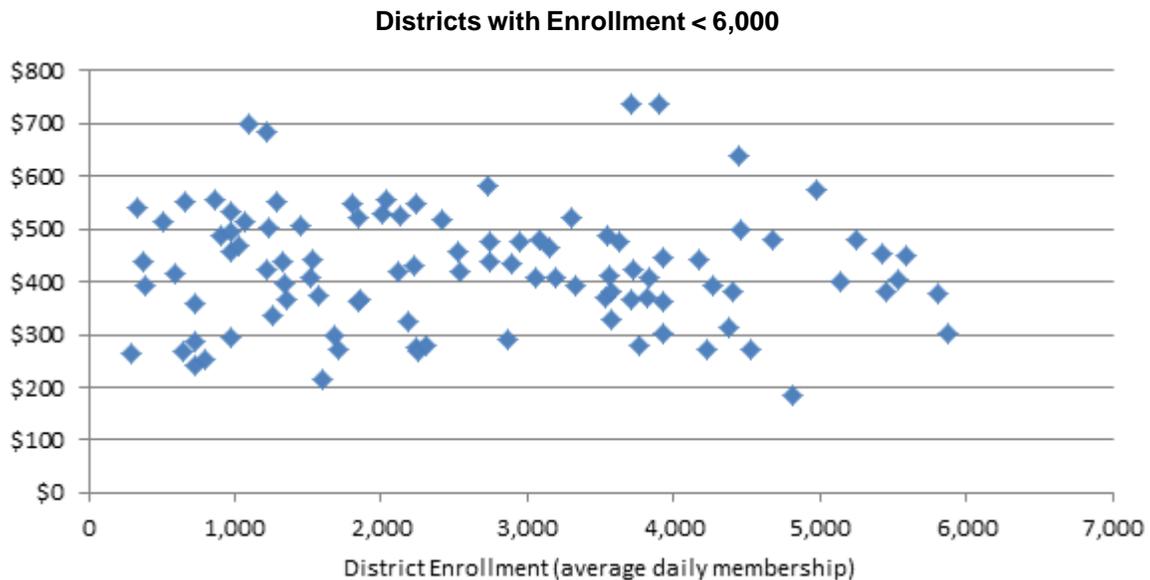
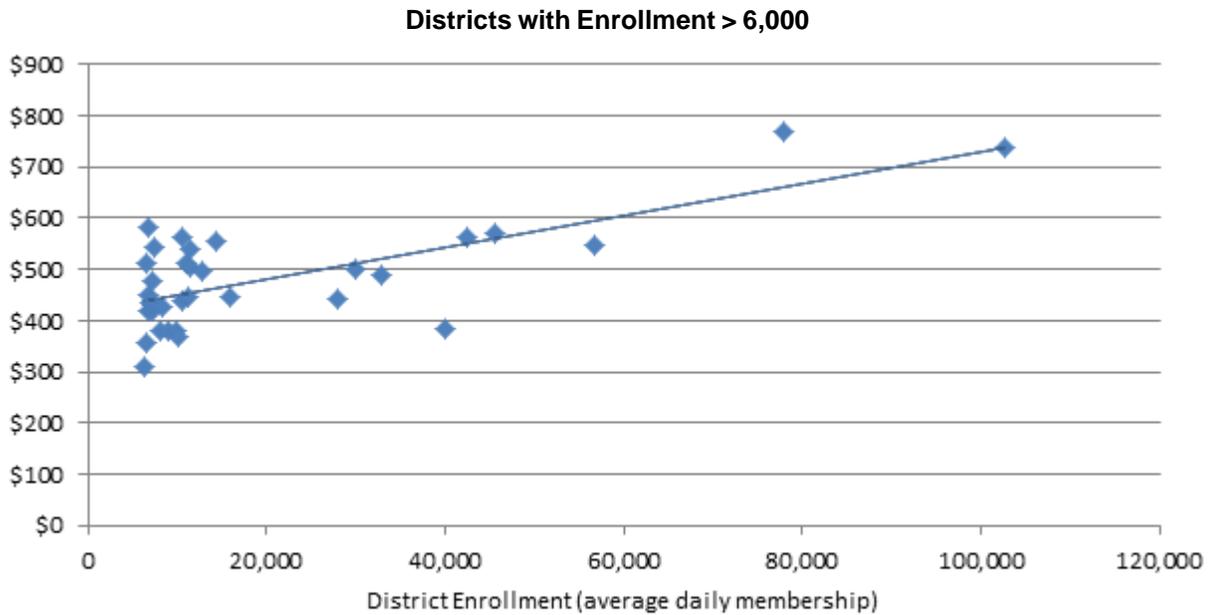


Exhibit 19 shows that for larger districts, district size does explain part of the variance in school-level administrative spending per pupil, with larger districts somewhat more likely to have higher school administrative spending. For districts with enrollments of 6,000 or more, almost half the variation in school administrative spending per pupil is explained by district size.¹³ Analysis of districts with more than 20,000 enrolled found that three-fourths of the variance is explained by district size.¹⁴ The relationship between school size, number of schools, and district size was not analyzed in this report.

Exhibit 19: School-level Administrative Spending per Pupil, 2012-13

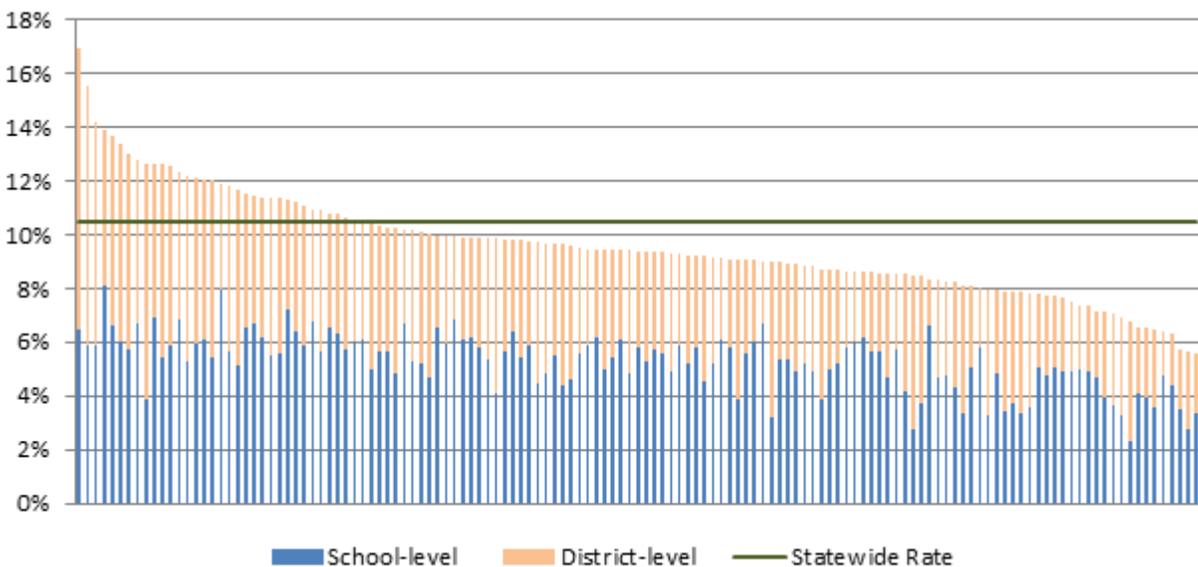


Administrative Spending as a Percentage of Total Spending

Districts' administrative expenditures as a percentage of total current expenditures varied from 5.6 to 16.9 percent in 2012-13, based on both the school-level spending of the principal's office and the district-level spending that encompasses the school board, superintendent's office, central office business administration, and other central office and support services.¹⁵ The statewide percentage of current expenditures spent on administration was 10.5 percent, and the median was 9.4 percent.¹⁶

Exhibit 20 shows total administrative spending with the portions of school-level and district-level spending shaded different colors. The school-level percentage statewide was 6 percent and the district level was 4.5 percent.

Exhibit 20: Administrative Spending as a Percentage of Current Expenditures, 2012-13, For each school district



Districts with higher administrative costs

Of the 135 districts analyzed, 33 (or about one-fourth) had administrative spending above the statewide rate of 10.5 percent of total current expenditures in 2012-13.¹⁷ Of those 33, 85 percent had district-level administrative spending above the statewide rate and 48 percent had school-level administrative spending above the statewide rate. Eleven districts (33 percent) had higher spending at both levels. (See Exhibit 21.)

Exhibit 21: Districts with Total Administrative Spending Above the Statewide Rate

All data from 2012-13		Administrative Spending as Percentage of Total Current Spending			Enrollment (ADM)
District	Type of District	All Administration	School Level	District Level	
ROGERSVILLE	City	16.9%	6.5%	10.4%	657
ALAMO	City	15.5%	5.9%	9.6%	595
ETOWAH	City	14.2%	5.9%	8.3%	339
FAYETTEVILLE	City	13.9%	8.1%	5.8%	1,216
HUMBOLDT	City	13.7%	6.6%	7.0%	1,092
FRANKLIN	Special	13.4%	6.0%	7.3%	3,710
LEXINGTON	City	13.0%	5.7%	7.3%	970
SHELBY	County	12.8%	6.7%	6.1%	45,573
RICHARD CITY	Special	12.6%	3.8%	8.8%	297
MEMPHIS	Special	12.6%	6.9%	5.7%	102,722
S. CARROLL	Special	12.6%	5.4%	7.2%	369
W. CARROLL	Special	12.6%	5.9%	6.7%	970
MILAN	Special	12.3%	6.8%	5.5%	2,033
BRADFORD	Special	12.2%	5.2%	6.9%	506
ELIZABETHTON	City	12.1%	6.0%	6.2%	2,413
MONTGOMERY	County	12.0%	6.1%	6.0%	29,871
UNICOI	County	12.0%	5.4%	6.6%	2,538
BRISTOL	City	11.9%	7.9%	3.9%	3,895
ALCOA	City	11.8%	5.6%	6.2%	1,797
MANCHESTER	City	11.7%	5.1%	6.5%	1,287
KNOX	County	11.5%	6.6%	4.9%	56,811
MAURY	County	11.4%	6.7%	4.7%	11,554
LEBANON	Special	11.4%	6.2%	5.2%	3,547
CLINTON	City	11.4%	5.5%	5.9%	900
OAK RIDGE	City	11.4%	5.6%	5.8%	4,439
METRO NASHVILLE	County	11.3%	7.2%	4.1%	77,964
LENOIR CITY	City	11.2%	6.4%	4.8%	2,234
GREENEVILLE	City	11.1%	5.9%	5.2%	2,726
CROCKETT	County	11.0%	6.8%	4.2%	1,849
MOORE	County	10.9%	5.7%	5.3%	978
TROUSDALE	County	10.8%	6.6%	4.2%	1,230
SEVIER	County	10.8%	6.3%	4.4%	14,303
UNION CITY	City	10.6%	5.7%	4.9%	1,447
STATEWIDE RATES		10.5%	6.0%	4.5%	7,037
STATEWIDE MEDIAN		9.4%	5.4%	4.1%	3,551

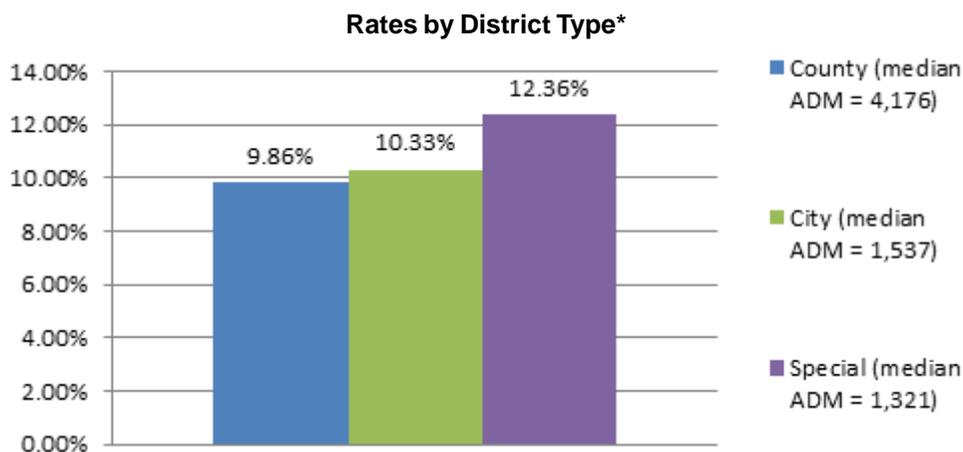
Bolded items are city or special school district status and enrollment size in the bottom or top fifth of school districts. Shaded items are administrative spending percentages of total current expenditures above the statewide rates. Statewide administrative spending rates are based on all Tennessee districts. Median spending rates are based on the 135 districts analyzed. State enrollment rate and median are based on all Tennessee districts except Carroll County school district.

This report does not attempt to determine whether administrative costs are positively or negatively correlated with desirable student outcomes; in other words, lower administrative spending does not imply better educational outcomes or vice versa. The following analysis considers factors that may be related to higher rates of administrative spending.

Type of District

Exhibit 21 shows that a disproportionate number of higher administrative spending districts are city or special districts. Of the 135 total districts reviewed, 31 percent are city or special districts. Among the 33 higher-spending districts profiled above, 70 percent are city or special districts. Exhibit 22 shows administrative spending rates for all districts by type.

Exhibit 22: Administrative Spending as a Percentage of Current Expenditures, 2012-13



*Note: The former Memphis City School District is categorized as a special district, but its large size tends to skew whatever group in which it is included. In 2013-14, former Memphis students and district spending would be included in the county district category likely increasing its administrative spending rate. In 2014-15 they would be divided between county and city categories; the likely effect is not known.

City and special school districts are different from county districts in at least two ways. They tend to be smaller districts (except for the former Memphis City School District) as can be seen in the median enrollment levels for each type of district. Fifteen of the 42 city and special districts do not operate high schools, which also contributes to their generally smaller size. City and special districts also usually have additional local sources of tax revenue that county districts do not.¹⁸ Residents of these districts may be more willing to pay higher taxes and fund their districts at higher levels in some or all areas, including administration. These factors, or others not identified, may work together to impact administrative spending patterns.

Size of Districts

Of the 33 higher administrative spending districts, 21 (64 percent) have student enrollments in either the top fifth or bottom fifth of all districts. Statistical analysis of districts with enrollments less than 6,000 finds that about 19 percent of the variation in the districts' administrative spending percentages can be explained by their size. Among larger districts, 39 percent of the variation in administrative spending percentages can be explained by their size. (See Exhibits 23 and 24.) This analysis shows districts may be somewhat more likely to spend a greater percentage of their expenditures on administration if they have small enrollments, or much larger enrollments, similar to the pattern shown in the earlier graphs of per pupil spending.

Exhibit 23: Administrative Spending as Percentage of Total Current Spending, 2012-13

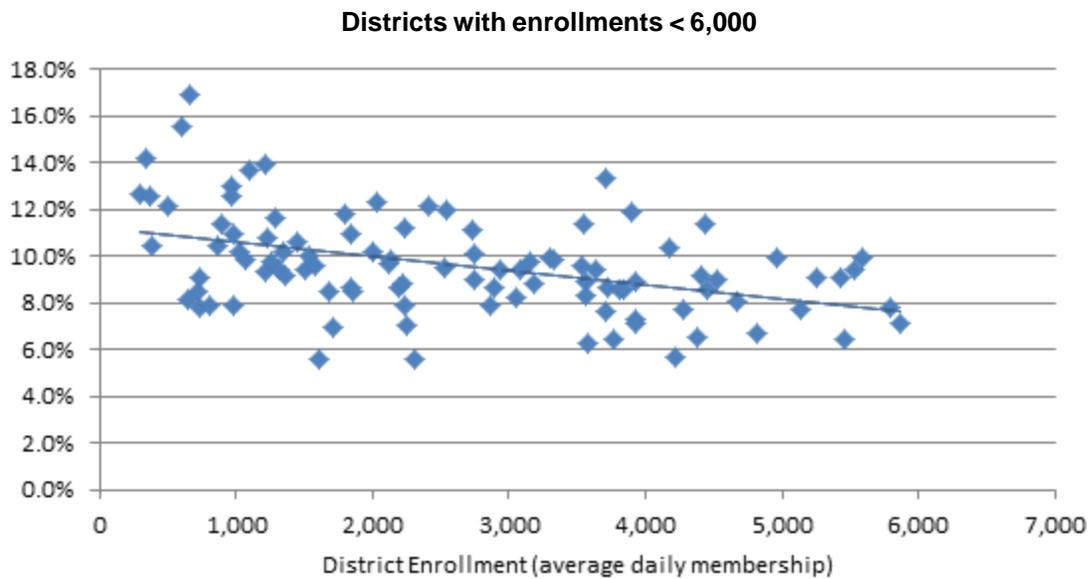
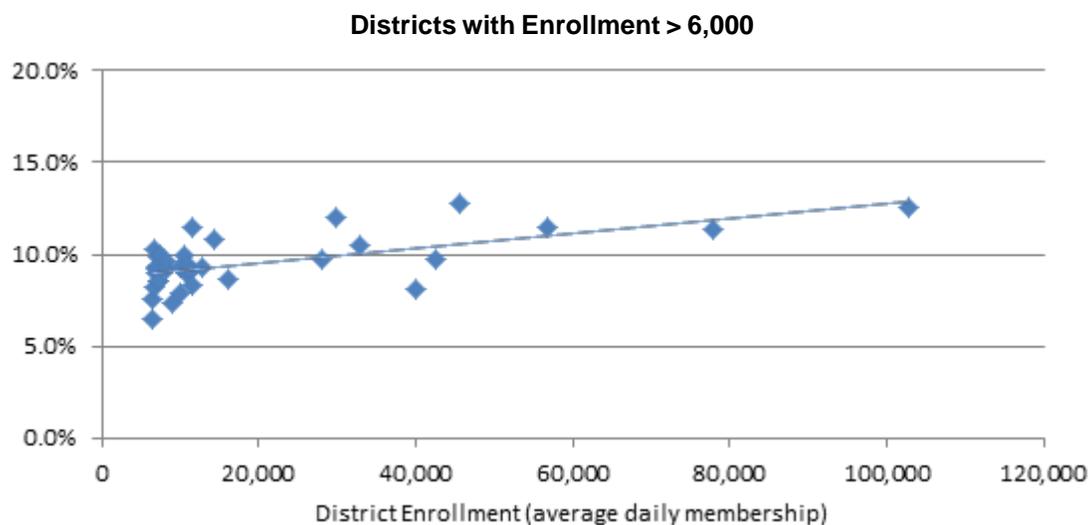


Exhibit 24: Administrative Spending as Percentage of Total Current Spending, 2012-13

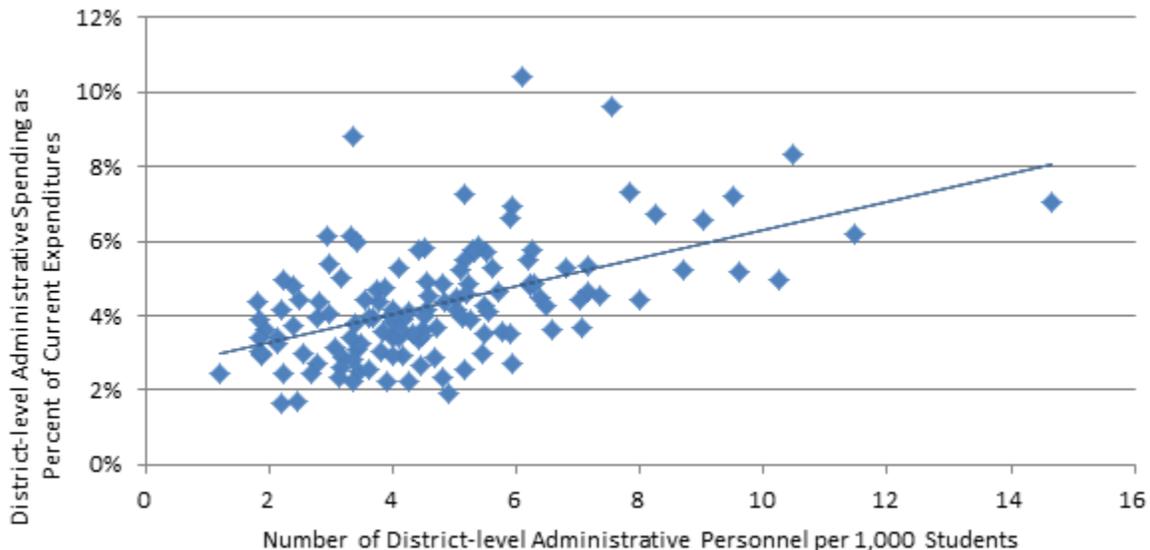


Other factors that might affect administrative spending include the ratio of administrators to students, superintendent and principal salary ranges, or a higher proportion of federal or grant funding, which might require additional administrative oversight, accounting, and reporting.

Among the 33 districts with above-average administrative spending, 23 (70 percent) had central office administrator-to-student ratios above the statewide median and 15 (45 percent) had ratios in the top fifth of districts. Districts in the lowest fifth of administrator-to-student ratios only included four (12 percent) of the higher administrative spending districts. Districts averaged 3.6 administrators per 1,000 students and the statewide median was 4.4 administrators per 1,000 students, based on a count including superintendents, assistant superintendents, non-instructional licensed educators, non-certificated administrative personnel, and system-level secretarial staff, as reported in TDOE's annual statistical report.¹⁹

From a statistical analysis of the ratio of administrative staff employed by districts to number of students enrolled, it appears that there is some relationship between the number of central office personnel and a higher percentage of their current expenditures spent on district-level administrative costs, although it is small.²⁰

Exhibit 25: District Administrative Spending and Central Office Personnel, 2012-13



Analysis shows that school-level administrative personnel per 1,000 students enrolled explains very little of the variance in school-level administrative spending.

A review of the combined average salaries for principals and superintendents shows they have little, if any, relationship to districts' administrative spending levels. More than half of the higher administrative spending districts (55 percent) paid salaries of top administrators that were below the statewide average.²¹ Average salaries of principals and superintendents seem to be more closely linked with district enrollment size than administrative spending levels.

Analysis of levels of federal funding received by districts does not show a relationship to districts' administrative spending levels. The percentage of local funding received by districts was also reviewed, but again, did not appear to have a relationship to administrative spending levels.²²

Other factors that contribute to higher administrative costs

Other factors may affect districts' administrative costs, e.g., declining enrollments. Many education costs are considered "step variable" rather than truly "variable," that is, they do not increase or decrease directly as student enrollment changes. Changes in student enrollment have to hit certain points to impact costs. For example, one or two students can be added or subtracted from a classroom without significant cost changes, but if enough students are added or subtracted, the cost of one more or less classroom teacher will have a noticeable fiscal impact. Central office staffing and functions built for a certain-sized district may be slow to adjust to declining enrollment, leaving higher administrative costs spread over fewer students.

The scope of this report does not include the cost-effectiveness of districts' spending. Enrollment size, salary levels, and sources of revenue are district inputs. Further analysis could consider school board travel and training budgets or the number and salaries of other administrative or clerical positions to consider the efficient use of inputs. Educational outcomes, or effectiveness of school districts, are measured in terms of student academic growth, achievement, graduation rates, and college acceptance rates and could be analyzed for correlation with certain kinds and levels of administrative spending. Lower administrative spending does not automatically suggest better student outcomes. For example, better-trained, more experienced principals who command higher salaries could prove cost-effective by creating better learning environments and helping teachers achieve more with their students.

Source Notes

Exhibit 1 Organization Chart	National Center for Education Statistics, <i>Financial Accounting for Local and State School Systems</i> , "Chapter 6: Account Classification Descriptions - Classifications of Expenditures - Function," June 2009, http://nces.ed.gov/ (accessed Nov. 15, 2013) and Tennessee Department of Education, <i>Annual Statistical Report</i> , 2013, Tables 20-49, http://www.tn.gov/education (accessed March 7, 2014).
Exhibit 2 Pie Chart	Tennessee Department of Education, <i>Annual Statistical Report</i> , 2013, Tables 41-43, 49, http://www.tn.gov/education/ (accessed March 7, 2014).
Exhibit 3 Pie Chart	Tennessee Department of Education, <i>Annual Statistical Report</i> , 2013, Tables 34-36, 38, 42, 49, http://www.tn.gov/education/ (accessed March 7, 2014).
Exhibit 4 Pie Chart	Tennessee Department of Education, <i>Annual Statistical Report</i> , 2013, Tables 34, 35, 37, 38, 42, http://www.tn.gov/education/ (accessed March 7, 2014).
Exhibit 5 Bar Graph and Table	Tennessee Department of Education, <i>Annual Statistical Reports</i> , 1999-2013, (Tables 8 and 50 in recent years), http://www.tn.gov/education/ (accessed March 7, 2014). Operating expenditures per pupil are defined as current expenditures minus student body education and adult education components plus USDA commodity value and state level program and administrative expenditures, divided by average daily attendance (ADA). Adjustment of current dollars to 1999 constant dollars was calculated using the U.S. Bureau of Labor Statistics' CPI Inflation calculator, http://www.bls.gov/ .
Exhibit 6 Line Graph and Table	Tennessee Department of Education, <i>Annual Statistical Reports</i> , 1999-2013, (Tables 42 and 49 in recent years), http://www.tn.gov/education/ (accessed March 7, 2014). Administrative expenditures were calculated using Table 49's figures for "Support Services - Administration," which includes general administration (school board and office of superintendent), school administration (office of principal), and central office business administration (fiscal services and personnel) plus Table 42's figures for "Total Expenditures for Other Support Services, Central & Other." Note that personnel expenditures were reported under "Other Support Services, Central and Other" until 2006, when they were moved to "Business Administration" and began being included in "Support Services – Administration" totals. They comprised 1.2 percent of the total administrative costs that year. Statewide administrative costs rose 0.2 percent from 2005 to 2006.

Exhibit 7 Table	<p>U.S. Census Bureau, <i>Public Education Finances: 2011</i>, May 2013, Tables 6 and 7, http://www2.census.gov/ (accessed Dec. 12, 2013).</p> <p>The Census Bureau notes that expenditures for adult education, community services, and non-elementary-secondary programs are included in “All Other” spending and in the total spending on which the percentages were calculated. Some states do not include fixed charges for employee benefits, group insurance, worker’s compensation, retirement, or unemployment compensation in the category of “instructional” expenditures [referred to in this report as “classroom spending”], but the Census Bureau has made some adjustments to address this discrepancy. The Census Bureau notes that different criteria used by school systems to classify current spending means some state-to-state disparities in spending and per-pupil spending categories exist.</p>
Exhibit 8 Bar Graph	<p>U.S. Census Bureau, <i>Public Education Finances: 2011</i>, May 2013, Table 14, http://www2.census.gov/ (accessed Feb. 24, 2014); Tennessee Department of Education, <i>Annual Statistical Report</i>, 2011, Tables 7 and 35, http://www.tn.gov/education/ (accessed March 6, 2014). Tennessee data is based on 135 school districts operating in 2010-11, including Memphis City but excluding Carroll County and the Achievement School District.</p>
Exhibit 9 Bar Graph	<p>U.S. Census Bureau, <i>Public Education Finances: 2011</i>, May 2013, Table 14, http://www2.census.gov/ (accessed Feb. 24, 2014); Tennessee Department of Education, <i>Annual Statistical Report</i>, 2011, Tables 7 and 36, http://www.tn.gov/education/ (accessed March 6, 2014). Tennessee data is based on 135 school districts operating in 2010-11, including Memphis City but excluding Carroll County and the Achievement School District.</p>
Exhibit 10 Line Graph	<p>U.S. Census Bureau, <i>Public Education Finances: 2008</i>, <i>Public Education Finances: 2009</i>, <i>Public Education Finances: 2010</i>, and <i>Public Education Finances: 2011</i>, various dates, Table 8, http://www2.census.gov/ (accessed Feb. 24, 2014).</p>
Exhibit 11 Line Graph	<p>U.S. Census Bureau, <i>Public Education Finances: 2008</i>, <i>Public Education Finances: 2009</i>, <i>Public Education Finances: 2010</i>, and <i>Public Education Finances: 2011</i>, various dates, Table 8, http://www2.census.gov/ (accessed Feb. 24, 2014).</p>
Exhibit 12 Scatterplot	<p>Calculations based on data from Tennessee Department of Education, <i>Annual Statistical Report</i>, 2013, Tables 7 and 36, http://www.tn.gov/education/ (accessed March 7, 2014). School-level administration expenditures are those of the Office of the Principal, reported in Table 36. Data for Carroll County School District and Achievement School District were not included.</p>
Exhibit 13 Scatterplot	<p>Calculations based on data from Tennessee Department of Education, <i>Annual Statistical Report</i>, 2013, Tables 7, 35, 38, and 42, http://www.tn.gov/ (accessed March 7, 2014). District-level administrative expenditures are those of the Board of Education (Table 34), Office of the Superintendent (Table 35), Business Administration – Fiscal Services (Table 37), Business Administration – Human Services/Personnel, (Table 38), and Other Central Office and Support Services (Table 42). Data for Carroll County School District and Achievement School District were not included.</p>
Exhibit 14 Scatterplot	<p>Calculations based on data from Tennessee Department of Education, <i>Annual Statistical Report</i>, 2013, Tables 7, 35, 36, 38, and 42, http://www.tn.gov/education/ (accessed March 7, 2014). School-level administration expenditures are those of the Office of the Principal, reported in Table 36. District-level administrative expenditures are those of the Board of Education (Table 34), Office of the Superintendent (Table 35), Business Administration – Fiscal Services (Table 37), Business Administration – Human Services/Personnel (Table 38), and Other Central Office and Support Services (Table 42).</p>

Exhibit 15 Scatterplot	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7, 35, 38, and 42, http://www.tn.gov/education/ (accessed March 7, 2014). District-level administrative spending includes general administration (school board and office of superintendent), central office business administration (fiscal services and personnel), and other central office and support services. Data for Carroll County School District and Achievement School District were not included.
Exhibit 16 Scatterplot	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7, 35, 38, and 42, http://www.tn.gov/education/ (accessed March 7, 2014). District-level administrative spending includes general administration (school board and office of superintendent), central office business administration (fiscal services and personnel), and other central office and support services.
Exhibit 17 Line Graph	Adapted from Jodi Beggs, “ Economies and Diseconomies of Scale ,” About.com Economics, http://0.tqn.com/d/economics/ (accessed April 2, 2014).
Exhibit 18 Scatterplot	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7 and 36, http://www.tn.gov/education/ (accessed March 7, 2014). Data for Carroll County School District and Achievement School District were not included. School-level administration expenditures are those of the office of the principal.
Exhibit 19 Scatterplot	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7 and 36, http://www.tn.gov/education/ (accessed March 7, 2014). School-level administration expenditures are those of the office of the principal.
Exhibit 20 Bar Graph	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 35, 36, 38, 42, and 49, http://www.tn.gov/education/ (accessed March 7, 2014). Data for Carroll County School District and Achievement School District were not included. School-level administrative expenditures are those of office of the principal. District-level administrative expenditures include those for general administration (school board and office of superintendent), central office business administration (fiscal services and personnel), and other central office and support services.
Exhibit 21 Table	Calculations based on data from the Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7, 35, 36, 38, 42, and 49, http://www.tn.gov/education/ (accessed March 7, 2014). Statewide enrollment data is based on data from all districts (including Achievement School District) except Carroll County School District, which had a reported average daily membership of five students in 2012-13. Statewide rates of administrative spending are calculated from data on all districts; state medians are calculated from data of the 135 districts included in the analyses, which did not include the Achievement School District and Carroll County.
Exhibit 22 Bar Graph	Calculations based on data from Tennessee Department of Education, Annual Statistical Report , 2013, Tables 7, 42, and 49, http://www.tn.gov/education/ (accessed March 7, 2014). Data from Carroll County School District and Achievement School District were not included. Memphis City School District (a special school district) ceased operations in August 2013, and Shelby County School District took over operations of Memphis City schools beginning in school year 2013-14. Authority for portions of the Shelby County School District will transfer to six new municipal school districts beginning in school year 2014-15.

Exhibit 23
Scatterplot

Calculations based on data from Tennessee Department of Education, [Annual Statistical Report](http://www.tn.gov/education/), 2013, Tables 7, 42, and 49, <http://www.tn.gov/education/> (accessed March 7, 2014).

Administrative spending includes that for general administration (school board and superintendent's office), school administration (office of the principal), central office business administration (fiscal services and personnel), and other central office and support services. Data for Carroll County School District and Achievement School District were not included.

Exhibit 24
Scatterplot

Calculations based on data from Tennessee Department of Education, [Annual Statistical Report](http://www.tn.gov/education/), 2013, Tables 7, 42, and 49, <http://www.tn.gov/education/> (accessed March 7, 2014). Administrative spending includes that for general

administration (school board and superintendent's office), school administration (office of the principal), central office business administration (fiscal services and personnel), and other central office and support services.

Exhibit 25
Scatterplot

Calculations based on data from the Tennessee Department of Education, [Annual Statistical Report](http://www.tn.gov/education/), 2013, Tables 3-2, 4-1, 7, 42, and 49, <http://www.tn.gov/education/> (accessed March 7, 2014). District-level administrative spending includes general administration (school board and office of superintendent), central office business administration (fiscal services and personnel), and other central office and support services. Data for Carroll County School District and Achievement School District were not included.

Endnotes

- 1 In TDOE's Annual Statistical Report, the title for expenditures reported in Table 42 is "support services – other support services, central and other," which is referred to in this report as "other central office and support services." TDOE does not include these expenditures in its summary of administrative expenditures in Table 49. About 40 percent of districts report no expenditures in the classification of other central office and support services. It was not determined whether the districts had no expenditures in this category or reported them in other categories. Statewide these expenditures total one percent of current expenditures. Eleven districts, both large and small, reported spending in this classification that was two percent or more of their total current expenditures in 2013.
- 2 The Tennessee Department of Education's reported current expenditures include adult education, while the National Center for Education Statistics' definition of current expenditures excludes adult education expenditures. The data presented here, based on TDOE data, thus includes adult education, defined in the TDOE Accounting Manual as GED programs run by the school system, as well as programs for adults that foster development of fundamental tools of learning, prepare students for a post-secondary educational program or new career, upgrade occupational competence, develop skills and appreciation for a special interest, or enrich the aesthetic qualities of life. Of the 135 districts analyzed, 47 percent reported no spending in this category in 2013. The remaining 53 percent spent a total of \$8.1 million, or 0.16 percent of the \$5 billion instructional expenditures (about \$112,000 per district).
- 3 Arizona Office of the Auditor General, Division of School Audits, *Arizona School District Spending (classroom dollars)*, Fiscal Year 2011, Feb. 2012, pp. 17-18, 33-35, <http://www.azauditor.gov/> (accessed Oct. 30, 2013).
- 4 Washington State Auditor's Office, *Performance Audit: K-12 Education Spending*, June 6, 2012, pp. 19, 36, <http://www.sao.wa.gov/> (accessed Jan. 9, 2014).
- 5 Tennessee School Board Association, *2013 board member survey*, as reported in *TSBA Journal*, Spring 2013, pp. 33-37, <http://digital.graphcompubs.com/> (accessed June 16, 2014).
- 6 The median salary is the midpoint from a list of all school board salaries.
- 7 *Tennessee Code Annotated* 8-11-104 (1) and 8-11-110(a), (e), and (f). Trustees earn 6 percent on the first \$10,000 received, 4 percent on the next \$10,000, and 2 percent on all sums above \$20,000.
- 8 When only a few districts are present in a size category, the data is more likely to reflect simply the individual spending patterns of those particular districts rather than a pattern representative of similarly-sized districts. Also the national spending per pupil data from the U.S. Census is based on student enrollment as of October 1. The Tennessee spending per pupil is computed using average daily membership, which weights more heavily the second semester enrollment counts that tend to be lower than first semester counts (like October 1). Thus, the Tennessee data may somewhat understate the number of pupils and, therefore, produce higher costs per pupil.
- 9 In a simple linear regression of district-level administrative spending per pupil and student enrollment (ADM), enrollment levels explained 25 percent (R-square) of the variation in district-level administrative spending per pupil among districts with less than 6,000 ADM, and 39 percent (R-square) for districts with more than 6,000 ADM.
- 10 Ed Young and Harry A. Green, *School System Consolidation*, Tennessee Advisory Commission on Intergovernmental Relations, Nov. 2005, pp. 5, 6, 9, <http://www.state.tn.us/tacir/> (accessed Mar. 1, 2014); John R. La Plante, "Are there Economies of Scale in School Districts?" *Kansas Education: Public Policy in Kansas and Beyond*, Mar. 9, 2010, kansaseducation.wordpress.com/ (accessed Feb. 28, 2014); Robert J. Tholkes and Charles H. Sederberg, "Economies of Scale and Rural Schools," *Research in Rural Education*, Fall 1990, vol. 7, No. 1, pp. 11-13, <http://www.jrre.psu.edu/> (accessed Feb. 28, 2014).
- 11 *Tennessee Code Annotated* 49-5-203.
- 12 Kalyan Chakrabort, Basudeb Biwas, and W. Cris Lewis, "Economies of Scale in Public Education: An Econometric Analysis," *Economic Research Institute Study Papers*, Paper 110, 1996 (revised March 1997), <http://digitalcommons.usu.edu/> (accessed May 30, 2014).
- 13 A simple linear regression of school-level administrative expenditures per pupil and student enrollment (ADM) found that for districts with less than 6,000 ADM, the relationship between the variables was not statistically significant ($p > .05$). For districts with more than 6,000 ADM, enrollment levels explained 50 percent (R-square) of the variation in school-level administrative spending per pupil, and for districts with more than 20,000 ADM, enrollment levels explained 75 percent (R-square).
- 14 Grouping the districts in different size categories, (for example, more or less than 6,000 enrollment versus more or less than 20,000 enrollment) produces different statistical results using the simple linear regression analyses done in this report. More analysis would be needed to identify more complex patterns in relationships of administrative spending per pupil and district size.
- 15 The Tennessee Department of Education's Annual Statistical Report, Table 49, does not include the category of "other central office and support services" in its breakout of administrative expenditures. Without this category of spending, districts'

administrative spending ranged from 4.8 to 14.2 percent of current expenditures, with a statewide rate of 9.3 percent.

¹⁶ The median point of administrative costs as a percentage of total current spending was the mid-point of the percentages listed for each district.

¹⁷ Carroll County School District and the Achievement School District were not included in the analysis due to their unique service models. Carroll County provides only certain services, such as transportation and special education, for the county's students. The bulk of the students' education services are provided by five special school districts serving the county. The Achievement School District (ASD) is the only state-run district. Each year it selects certain schools across the state performing in the lowest five percent and runs them as a state takeover or contracts with a charter school organization. They remain part of the ASD for at least five years as they try to improve student outcomes. There is no school board for the ASD and administration of a statewide district of the worst performing schools is significantly different than other districts.

¹⁸ The five special school districts in Carroll County and the four special school districts and one city school district in Gibson County are unique in that they do not receive a share of county education tax revenues like other special and city school districts. Because Carroll and Gibson counties serve all students in the county without a full-service county district, neither of these two counties have county property tax revenues that are shared among the districts. Five of the ten total districts in these two counties are among the higher spending administrative districts.

¹⁹ Central office administrative personnel calculated from Tables 3-2 and 4-1, and ratios calculated based on student average daily membership from Table 7, Tennessee Department of Education, *Annual Statistical Report*, 2013, <http://www.tn.gov/> (accessed March 7, 2014).

²⁰ In a simple linear regression of district-level administrative expenditures as a percent of current expenditures and the number of central office administrators per 1,000 student enrollment, the ratio of administrators to students explained 27 percent (R-square) of the variation in the percentage of district-level administrative expenditures.

²¹ Combined average salaries for principals and superintendents calculated from Table 5, Tennessee Department of Education, *Annual Statistical Report*, 2013, <http://www.tn.gov/education/> (accessed March 7, 2014).

²² Percentage of federal and local revenue from Table 19, Tennessee Department of Education, *Annual Statistical Report*, 2013, <http://www.tn.gov/education/> (accessed March 7, 2014).



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