



## **Research Report**

# **THE RESOURCE ALLOCATION OF FOUNDATION FUNDING FOR ARKANSAS SCHOOL DISTRICTS**

**August 23, 2010**

**Prepared for  
The Joint Adequacy Evaluation Oversight Subcommittee  
of the House and Senate Interim Committees on Education**

**BUREAU OF LEGISLATIVE RESEARCH**

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## Introduction

This study is presented in partial fulfillment of the requirements of Act 57 of the Second Extraordinary Session of 2003, and Act 1204 of 2007. Those acts require the legislature to conduct an adequacy study each biennium to assess needs related to providing an adequate education for all Arkansas K-12 students. This part of that larger study examines FY 2008-09 school district expenditures and staffing in comparison with matrix assumptions about needed funding levels for staffing and expenditures.

Arkansas's K-12 education funding formula, referred to as the matrix, is used to determine the per-pupil level of foundation funding disbursed to each school district. The resource levels included in the matrix were determined originally by a 2003 study by Allan Odden, Lawrence Picus and Mark Fermanich (2003 consultants' report). The levels were subsequently refined in 2006 by Allan Odden, Lawrence Picus and Michael Goetz (2006 consultants' report). The matrix was not intended to reimburse schools for actual expenditures but rather to provide a methodology for determining an adequate level of funding to allow schools to meet minimum accreditation standards and adequately educate Arkansas students.

To complete this report, Bureau of Legislative Research (BLR) staff surveyed all 244 districts and 74 randomly selected schools through web surveys. They also conducted on-site interviews with staff at each surveyed school. Financial data was extracted from a data warehouse maintained by the Arkansas Public School Computer Network (APSCN) Division of the Arkansas Department of Education (ADE). An allocation of foundation expenditures was determined by adjusting expenditures of unrestricted funds by the ratio of foundation funding to unrestricted funding. Charter schools were omitted from the data collection.

This report also uses student achievement data to compare expenditure patterns. That analysis is based upon data prepared by the National Office for Research, Measurement and Evaluation Systems (NORMES) of the University of Arkansas. The data were provided by ADE from NORMES. The achievement data are based on 2009 district scores for six tests -- 4th grade literacy and math, 8th grade literacy and math, end of course algebra and 11th grade literacy. A weighted average of these six tests was calculated using the number of students scoring proficient or above for each of the six tests. The scores used were for the "combined population."

This report first analyzes the relationship of foundation funding revenue to districts' revenues from all sources. This section provides perspective for a later section that examines districts' expenditures for resources necessary for adequacy. It demonstrates that significant levels of additional unrestricted revenue is available to districts for meeting these needs.

This report also provides a review of the per student funding level for each item of the matrix since the original matrix for FY 2004-05 was established. The report then examines FY2008-09 school district expenditures and staffing in comparison with matrix assumptions about needed funding levels. The report reviews the basic assumptions of the matrix funding model regarding school size and the grade distribution of students. The report is then divided into three sections that correspond with sections of line items in the matrix. A fourth section addresses expenditures and staffing for subsets of schools and districts grouped by selected characteristics and Section 5 is a review of categorical funding.

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## Background

The Adequacy Subcommittee uses the following working definition of "educational adequacy" to serve as a basis for identifying the resources required for adequate funding:

- (1) The standards included in the state's curriculum frameworks, which define what all Arkansas students are to be taught, including specific grade level curriculum and a mandatory thirty-eight (38) Carnegie units defined by the Arkansas Standards of Accreditation to be taught at the high school level;
- (2) The standards included in the state's testing system. The goal is to have all, or all but the most severely disabled, students perform at or above proficiency on these tests; and
- (3) Sufficient funding to provide adequate resources as identified by the General Assembly.

The state's system for funding public schools is made up of a base per-student amount, known as foundation funding (A.C.A. § 6-20-2301 et seq.). Each district receives the foundation funding amount multiplied by the districts' three quarter average daily membership (ADM) from the prior year. The foundation funding was set at \$5,789 for 2008-09. The formula for arriving at that amount is known as the matrix.

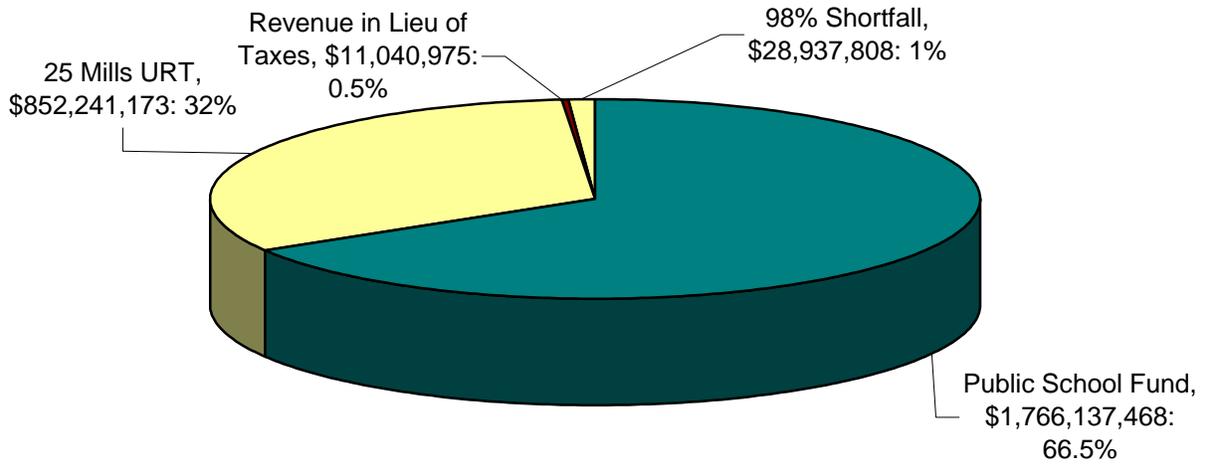
## Funding

Arkansas schools receive many different types of funding. Foundation funding makes up 55% of districts' total revenue. The charts on the following page illustrate the relationship of foundation funding revenue to districts' revenues from all sources. This analysis provides perspective for the expenditure review. The charts demonstrate that significant levels of additional unrestricted revenue are available to districts for meeting districts' adequacy needs. As listed on the pie charts, unrestricted revenue includes:

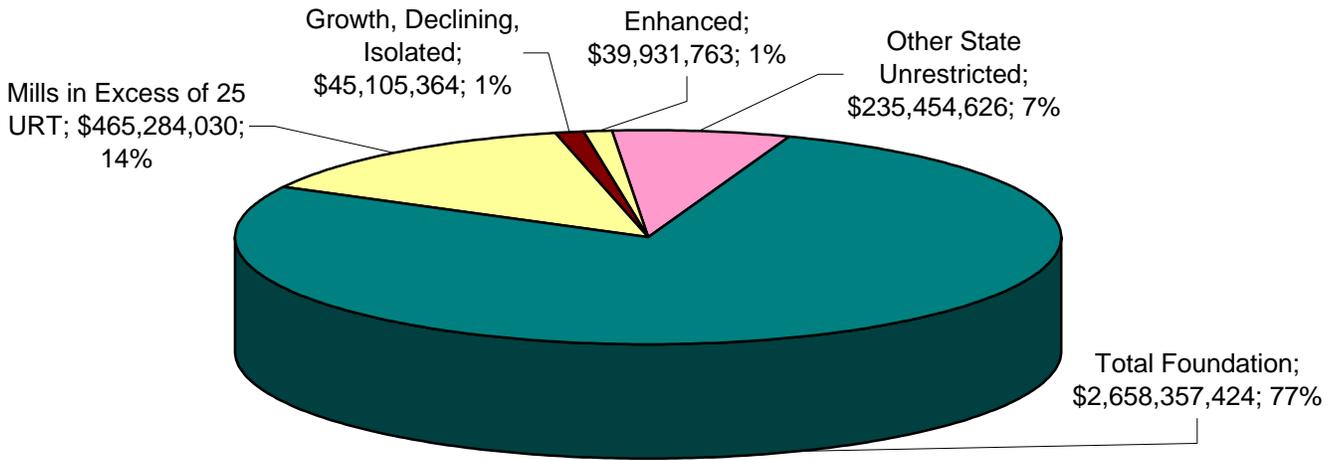
### Unrestricted Funds (Funds 1 And 2 Only - Teacher Salary Fund And Operating Fund)

- Foundation Funds (Including URT Property Taxes)
- Excess (Unused) Debt Service Millage
- Enhanced Educational Funding
- 98% Tax Collection Rate Guarantee
- Student Growth Funding
- Declining Enrollment Funding
- Isolated Aid
- Supplemental Millage Incentive Funding
- Catastrophic Loss Funding
- Revenues From Local Sources (Tuition, Fees, Investment Earnings, Etc.)

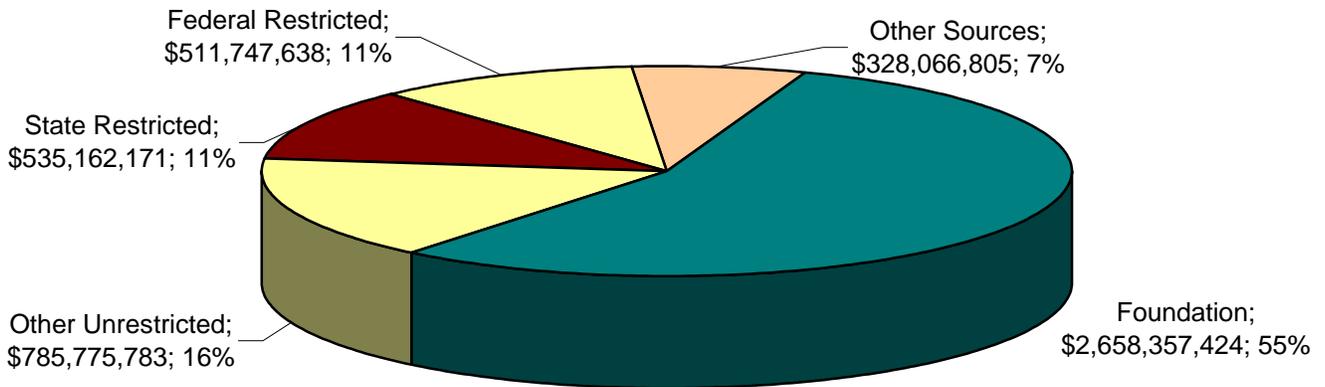
### Foundation Revenue



### Unrestricted Revenue



### Total Revenue



## Per Pupil Expenditures

Arkansas's per pupil expenditures for FY2008 rank 8th among the 16 SREB states, when adjusted for the cost of living, and rank 10th without the adjustment. FY 2008 is the most recent data available through NCES. This data reflects the mean per pupil expenditure not the median. See the following chart for the per pupil expenditures in SREB states.

<b>STATE</b>	<b>Mean Per Pupil Expense</b>	<b>Cost of Living Index</b>	<b>Non-Adjusted PPE Rank</b>	<b>Adjusted PPE Rank (AR-Base)</b>
Alabama	\$8,646	92.0	11	10
<b>Arkansas</b>	<b>\$8,855</b>	<b>90.4</b>	<b>10</b>	<b>8</b>
Delaware	\$12,330	102.8	2	1
Florida	\$8,995	103.6	9	12
Georgia	\$9,692	91.4	6	5
Kentucky	\$9,392	92.2	7	7
Louisiana	\$10,176	94.4	4	3
Maryland	\$13,453	127.6	1	6
Mississippi	\$7,705	92.4	14	15
North Carolina	\$7,987	96.7	13	16
Oklahoma	\$7,635	88.4	15	14
South Carolina	\$9,155	95.5	8	9
Tennessee	\$7,632	88.3	16	13
Texas	\$8,501	90.5	12	11
Virginia	\$10,960	100.6	3	2
West Virginia	\$10,109	94.6	5	4

Source Per Pupil Expense: Ave, E.P., and Honegger, S.D. (2010). Documentation for the NCES Common Core of Data National Public Education Financial Survey (NPEFS), School Year 2007–08 (Fiscal Year 2008) (NCES 2010-325). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved 08/05/2010 from <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2010325>.

Source Cost of Living Index: The Community Council for Economic Research. Cost of Living Index 1st Quarter 2008. Retrieved 08/05/2010 from [http://www.missourieconomy.org/indicators/cost\\_of\\_living/index.stm](http://www.missourieconomy.org/indicators/cost_of_living/index.stm).

## **Matrix Funding Levels 2005-2011**

The table that follows shows the adjustments made to the matrix since the original matrix for FY 2004-05 was established.

<b>ADEQUACY</b>							
Matrix Item	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Average Teacher Salary	39,000	40,287	41,717	43,702	44,575	45,493	46,428
+ Fringe Benefits	9,750	10,294	10,604	11,186	11,379	11,580	11,786
<b>Total = Salary + Fringe</b>	<b>48,750</b>	<b>50,581</b>	<b>52,321</b>	<b>54,888</b>	<b>55,954</b>	<b>57,073</b>	<b>58,214</b>
<b>Per Student Amounts</b>							
33.665* Teachers, Counselors, etc.	3,271	3,399	3,516	3,696	3,767	3,843	3,920
Secretary	0	0	0	70	71	72	74
Principal	144	147	153	172	176	179	183
<b>Sub-Total School-Level Staffing</b>	<b>3,415</b>	<b>**3551</b>	<b>3,669</b>	<b>3,937</b>	<b>4,014</b>	<b>4,094</b>	<b>4,176</b>
Teacher Continuing Education Pay	101	93	96	0	0	0	0
Technology	250	216	185	220	201	205	209
Instructional Materials	250	259	268	160	163	167	170
Extra Duty Funds	90	94	97	50	51	52	53
Supervisory Aides	35	36	37	49	50	51	53
Substitutes	63	57	59	59	59	60	61
<b>Sub-Total School-Level Resources</b>	<b>789</b>	<b>755</b>	<b>742</b>	<b>538</b>	<b>525</b>	<b>535</b>	<b>546</b>
Carry Forward	1,152	1,180	1,206				
Operations and Maintenance				581	581	593	605
Central Office				376	384	391	399
Transportation				286	286	292	298
<b>Sub-Total District-Level Resources</b>	<b>1,152</b>	<b>1,180</b>	<b>1,206</b>	<b>1,243</b>	<b>1,251</b>	<b>1,276</b>	<b>1,301</b>
<b>Matrix</b>	<b>5,356</b>	<b>5,486</b>	<b>5,617</b>	<b>5,719</b>	<b>5,789</b>	<b>5,905</b>	<b>6,023</b>
Cushion	44						
Retirement Add-on		42	42				
Enhanced				51	87	35	
<b>Total Foundation Funding</b>	<b>5,400</b>	<b>5,528</b>	<b>***5662</b>	<b>5,770</b>	<b>5,876</b>	<b>5,940</b>	<b>6,023</b>
* Amount varied slightly first 3 years							
** Amounts add to 3,546 but 3,551 was used							
*** Amounts add to 5,659 but 5,662 was used							

An explanation of matrix line items may be found in Appendix A.

## **School Size and Grade Distribution**

In the 2003 report to the legislature, the consultants recommended basing the state's funding model on the amount of funding and staffing needed to operate a prototypical school of 500 students. The original matrix for developing a per-pupil funding amount was calculated based on that recommended school size. After a thorough review, the consultants concluded again in the 2006 study that the use of 500 students as the base school size is a valid model for per-pupil funding. Since that time the method of funding has been held constitutional by the Arkansas Supreme Court.

The following table shows that, as in previous years, 70% of the schools in 2008-09 have fewer than 500 students. Open enrollment charter schools and special schools (e.g. Arkansas School for the Blind) were excluded. The size of schools has been substantially consistent for the past six years. There is no evidence based on the data compiled for the present BLR study that the assumptions regarding school size need to be changed.

<b>School Size</b>						
<b># of Students</b>	<b>Base for Matrix Study 2004-05</b>		<b>2006-07</b>		<b>2008-09</b>	
	<b># of schools</b>	<b>%</b>	<b># of schools</b>	<b>%</b>	<b># of schools</b>	<b>%</b>
100 or less	58	5%	42	4%	35	3%
101-249	229	21%	212	20%	215	20%
250-349	228	21%	225	21%	221	21%
350-499	271	25%	278	26%	280	26%
500 or more	320	29%	315	29%	316	30%

Note: Percents do not add to 100% because of rounding.

An individual school does not typically have grades K-12, but for the purpose of establishing a model, the prototypical school of 500 is assumed to have 40 kindergarten students, 115 students in grades one through three (38.3 per grade), and 345 students in grades 4 through 12 (38.3 per grade). This assumption is necessary because the funding model must account for the different staffing levels required for each of these grade groupings.

While the matrix was designed for schools with 500 students, its classroom teacher staffing assumptions concerning grade distribution for K through 12 invite comparison with school districts. For comparison the following table of district size is presented.

<b>District Size</b>		
<b># of Students</b>	<b>2008-09</b>	
	<b># of Districts</b>	<b>%</b>
350-499	35	14%
500-999	92	38%
1,000-2,499	72	29%
2,500-4,999	31	13%
5000 or more	15	6%

The following table shows how closely the matrix assumptions regarding the number of students per grade matched actual district data.

<b>Class Size and Grade Distribution Assumptions</b>								
<b>Grade Level</b>	<b>Pupil/Teacher Ratio Standards</b>		<b>Enrollment by Grade</b>					
	<b>Avg. in Standards</b>	<b>Max. in Standards</b>	<b>Matrix Assumptions</b>		<b>AR Students 2006-07</b>		<b>AR Students 2008-09</b>	
			<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>	<b>#</b>	<b>%</b>
Kindergarten	20:1	20:1	40	8%	39	7.82%	40.1	8.18%
Grades 1-3	23:1	25:1	115	23%	114	22.80%	119.6	23.93%
Grades 4-12	25:1	28:1	345	69%	346	69.34%	339.5	67.89%
Totals K-12*			500	100%	500	100%	500	100%

\*Rounding

The matrix combines grades 4-12 and uses the standards-based average class size for all grades. The following table demonstrates the break-out of student enrollment for grades 4-6 and 7-12. The student-teacher ratio is two students higher in grades 7-12.

Standards-Based Breakout of Grades 4-12								
Grade Level	Pupil/Teacher Ratio Standards		Enrollment by Grade					
	Avg. in Standards	Max. in Standards	Matrix Assumptions		AR Students 2006-07		AR Students 2008-09	
			#	%	#	%	#	%
Grades 4-6	25:1	28:1	115	23%	N/A	N/A	115.6	23.11%
Grades 7-12		30:1*	230	46%	N/A	N/A	223.9	44.78%
<b>Total 4-12</b>			<b>345</b>	<b>69%</b>	<b>346</b>	<b>69.34%</b>	<b>339.5</b>	<b>67.89%</b>

\*In exceptional cases or for courses that lend themselves to large group instruction, these ratios may be increased.

## SECTION 1: School-level staffing

Staffing and funding of school-level personnel is critical. Nearly three-fourths of these positions are classroom teachers who have direct daily interaction with students. Many studies consider the quality of the classroom teacher to be the most important factor in student achievement. In addition to traditional classroom teachers, school-level personnel include special education teachers, instructional facilitators, librarians, counselors, nurses, principals, and other health and clerical support. Funding for the total school-level personnel group constitutes 69.3% of the per-pupil funding contained in the FY08-09 matrix.

The staffing levels established in the matrix were developed in the original 2003 funding study based on the staffing requirements established by ADE Rules Governing Standards for Accreditation of Arkansas Public Schools and School Districts (Standards). They were confirmed in the subsequent 2006 study, and were components of the funding system that the Arkansas Supreme Court found constitutional (Lake View, 2007).

### Definition

The matrix separates classroom teachers into two groups. The first group, referred to in this report as core teachers, includes teachers whose primary responsibility in lower grades is to serve as the primary classroom teacher and in higher grades is to teach in one or more of four academic areas: literacy, math, science, and social studies. The second group, referred to as non-core teachers, includes educators who teach physical education, art, or music (PAM), or other electives. The composition of the non-core teacher line item of the matrix was not changed in the 2008 adequacy study. This line item was previously known as "PAM teachers," but in 2008, the category's name was changed to more accurately reflect the variety of teachers that have always been included in this line item. To see which teachers have been included in this line item, see page 57 of the 2003 consultants' study, which references these teachers as "specialist teachers" that should make up 20% of the teachers for elementary, middle and high school. On page 25 of the 2006 consultants' study, these teachers are described in a section labeled "Specialist teachers: Art, Music, Physical Education, etc." In that study Odden et. al note, "Act 59 allocates resources for specialist teachers (e.g., music, art, physical education, elective teachers) at the rate of an additional 20 percent over core teachers."

## Expenditures

In 2009, schools statewide spent \$1,191 million on classroom teachers. This equates to approximately \$2,596.40 per student. The matrix funded \$2,790.99 per student for classroom teachers for FY 2008-09. The expenditure per student for all students equates to 45.41% of the overall matrix rather than 48.21% of the matrix provided funding.

2008-09 Classroom Teachers Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$2,790.99	\$2,596.40	-\$194.59	\$1,191 million

## Staffing

The average number of combined classroom teachers is slightly lower than the staffing level established in the matrix. The following table compares the matrix number for classroom teachers with the average number for all districts.

2008-09 Classroom Teachers			
Staff	Matrix Number	District Average per 500 Students	Difference
Classroom Teachers	24.94	23.32	-1.62

Districts spend less than what is provided in the matrix for classroom teachers, and have slightly fewer teachers than provided in the matrix.

## A. Core Teachers

### Definition

The number of core academic classroom teachers funded by the matrix was calculated by dividing the number of students by the average number of pupils per teacher established by state standards. The matrix assumptions are shown in the following table.

Matrix Assumptions for Average Classroom Teacher Staffing Levels			
Grade Level	Average Pupil/Teacher Ratio	# of Students	# of Teachers
Kindergarten	20:1	40	2
Grades 1-3	23:1	115	5
Grades 4-12	25:1	345	13.8
<b>Totals</b>		<b>500</b>	<b>20.8</b>

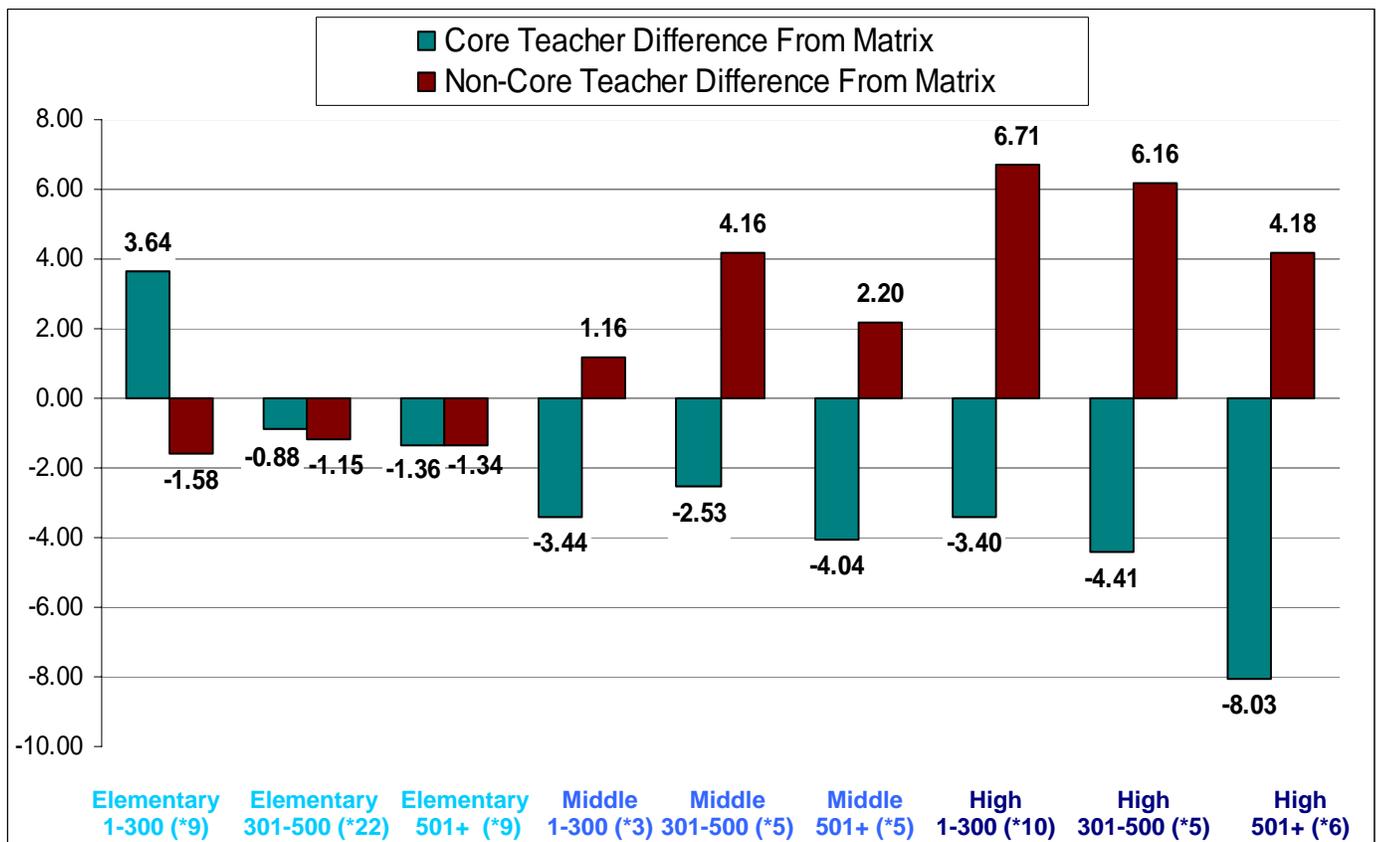
Based on BLR observations during school site visits and anecdotal comments by both teachers and principals, it became clear that schools, particularly those in large districts were not complying with the average classroom size accreditation standard. The ADE section for Standards and Assurance was contacted to resolve the apparent discrepancy. The schools with larger average classroom sizes than what is permitted in the Standards had not been cited for any accreditation violations according to ADE. A staff person in that section stated that the average pupil/teacher ratio isn't enforced and hasn't been "for years." The staff person indicated that the unit planned to request that the Board of Education update the standards, possibly this summer, in accordance with the current practice.

When student-to-teacher ratios are updated to conform to current practice, fewer teachers per 500 students will be needed. The updated Standards will result in a difference of 2.4 teachers, between the number of teachers required by current standards, 20.8, and the 18.4 teachers required by current practice. The additional 2.4 teachers could ameliorate staffing concerns related to fractional class sizes, e.g., a school with 24 first grade students would need 2 first grade teachers using the average first grade classroom size but would only need 1 first grade teacher using the maximum classroom size.

Standards Requirements For Maximum Classroom Teacher Staffing Levels			
Grade Level	Maximum Pupil/Teacher Ratio	# of Students	# of Teachers
Kindergarten	20:1	40	2
Grades 1-3	25:1	115	4.6
Grades 4-6	28:1	115	4.2
Grades 7-12	30:1	230	7.7
<b>Totals</b>		<b>500</b>	<b>18.5</b>

### Staffing

In the following chart staffing for core teachers is broken down by school level and school size for the 74 schools surveyed and visited by BLR staff.



\*Number of Schools in Group

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## **Average Teacher Salary**

The average teacher salary in the matrix is used to compute costs for the standards-based 33,665 school-level positions in the matrix. These positions include classroom teachers, special education teachers, instructional facilitators, librarians, counselors and nurses. Increases to the teacher salary in the matrix have not been based on the ADE reported average teacher salaries for a particular year. Rather they have been increased by the line item amount percentage increase approved for foundation funding by the Education Committees in the funding formula act for each year. For 2005, the base year, the salary was \$39,000 and each year since a percentage increase has been added to the base salary. After that increase is made the benefits are adjusted by adding approximately 22% in benefits and a flat rate of \$1,572 for health insurance. The health insurance amount is the annualized amount of the required \$131 in monthly health insurance benefits that districts are required to provide per A.C.A. §6-17-1117(a). This amount is added to matrix funding for all employees even though some employees elect not to participate in the public school employees' health insurance program. This results in savings to some districts. Also, some districts contribute in excess of the \$131 per month for participating employees.

A.C.A. §6-17-1117(a). Health insurance.

(a) Beginning on October 1, 2004, local school districts shall pay the health insurance contribution rate of one hundred thirty-one dollars (\$131) per month for each eligible employee electing to participate in the public school employees' health insurance program.

According to an April 19, 2010 ADE report the average teacher salary was \$45,767.14 for FY 2008-09 using the National Education Association (NEA) methodology. When benefits are added the amount is \$57,407.91. The average teacher salary with benefits in the matrix is \$55,954. The median salary with benefits is \$52,559.84. However 180 (73%) of the 245 districts had averages plus benefits below the average teacher salary and benefits in the matrix. Higher salaries in larger districts appear to be driving the statewide average salary higher. The 25 districts (10%) with the highest teacher salary averages employ over one-third (37%) of the FTE teachers in the state. In other words, the funding for the average teacher salary and benefits in the matrix meets or exceeds the average teacher salary in 73% of the districts in the state.

## **Minimum salary schedule and steps**

Each step in the minimum salary schedule costs the districts \$450 for bachelor's degrees and \$500 for master's degrees. The schedule is established in Arkansas Code § 6-17-2403. For FY 2009 the minimum salary for a bachelor's degree was \$29,244; and the minimum salary for a master's degree was \$33,630.

## **Additional factors affecting classroom teacher needs**

This section examines additional factors that may cause districts to need more or fewer classroom teachers.

### **Core courses**

The number of core teachers needed by a district may be lower than represented in the matrix if all students do not take four core courses throughout high school. The following table shows the percentage of juniors and seniors taking one to four core courses in each of the surveyed high schools. The decreased need for core teachers would correspondingly increase the need for non-core teachers because students substitute non-core classes for core classes not being taken.

Number of Schools	100-75% of Jrs. & Srs.	50-74% of Jrs. & Srs.	25-49% of Jrs. & Srs.	1-24% of Jrs. & Srs.	0% of Jrs. & Srs.
More than 4 core classes			1	12	4
4 core classes	5	6	4	2	0
3 core classes	0	1	6	5	5
2 core classes			2	10	5
1 core classes				4	12
No core classes					17

For high schools participating in the school-level survey, four of 17 reported that 1% to 24% of their juniors and seniors were taking only one core class. five reported that 75% to 100% of their upper classmen were taking four core courses. Six reported 50% to 74% with four core courses, four reported 25% to 49% in four core courses.

### **Larger Class Size**

The Standards permit increased classroom sizes for physical education and other classes in approved cases such as study halls. School principals in the sample middle and high schools were asked how many students have both a physical education class and an athletics period. Their responses follow:

Number of Schools	# of Students With PE and Athletics
2	100-200
8	21-80
6	20 or less
16	none

### **Required Personnel**

Certain classes do not require certified personnel, e.g., study hall and distance learning classes.

### **Distance learning**

In the district survey completed by all 244 districts, superintendents reported offering an average of 4.4 sections of distance learning, serving an average of 39.7 students. The most sections of distance learning reported by any district was 33, serving 1,316 students.

### **Instructional facilitators**

The number of classes taught by instructional facilitators, funded through that matrix line item, reduces the need for core and elective teachers. District administrators reported that instructional facilitators taught an average of 1.8 classes in their schools. Principals in the 74 sample schools reported the following:

# of Classes Taught	# of Schools
3 or More	20
2	7
1	3
None	33
No Instructional Facilitators	11

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### **Concurrent credit**

Concurrent credit courses may also reduce the need for certified personnel if taught by higher education personnel. In the district survey, superintendents reported the following number of concurrent credit courses, the majority of which were taught with higher education personnel.

<b>Concurrent Credit FY 2008-09 (District Survey)</b>						
	# of Courses		# of Sections		# of Students	
	Average	Highest	Average	Highest	Average	Highest
With High School Teacher	2	18	3.2	44	40.8	1050
With Higher Education Teacher	3.2	44	3.9	63	19.9	373

<b>Concurrent Credit Fall 2009 (District Survey)</b>						
	# of Courses		# of Sections		# of Students	
	Average	Highest	Average	Highest	Average	Highest
With High School Teacher	1.8	22	3.1	77	34.3	499
With Higher Education Teacher	3.1	50	3.6	56	17.6	312

### **Special education students**

Defined as students with an individual education plan (IEP), special education students constituted approximately 11.2% or 52,174 students statewide. A smaller set of these students were in self-contained classrooms for most or all of the day. The matrix provides special education classroom teachers for these students in a separate matrix line item. To accurately reflect the needed number of classroom teachers in the core and non-core teachers line items of the matrix, these students should be removed from the student counts. However, because an exact breakdown of the number of classes taken by these students in regular classrooms and in special education classes is unavailable, all of them remain in the student counts which inflates the number of core and non-core teachers needed.

### **38 units**

In testimony during Adequacy Subcommittee hearings, the Arkansas Association of Educational Administrators (AAEA) and the Arkansas School Boards Association (ASBA) voiced concerns that the matrix does not provide adequate staffing to cover the 38 units required by the Standards of Accreditation. For a list of these requirements see Appendix B. Districts also offer some of the mandated 38 units through distance learning, which does not require certified teachers at the site where the students are located. According to their reporting, districts offer the 38 units and the average district offers almost double the required units. ASBA also expressed concern about the requirement to offer AP classes, however according to the Standards, AP classes may count in the place of a specified 38 unit course upon approval by ADE. The following table shows the units offered above the required 38 units and the distance learning units according to the district survey.

<b>38 Units for Accreditation</b>				
	Additional Units Beyond Required		All Units Taught Through Distance Learning	
	Average	Highest	Average	Highest
Language Arts (6)	3.6	50	.5	11
Science (5)	3.2	51	3	7
Mathematics (6)	3.3	49	.5	11
Foreign Language (2)	2.1	27	.8	6
Fine Arts (3.5)	5.5	49.5	.2	10
Computer Applications (1)	1.9	17	0	6
Social Studies (4)	3.5	48	.3	9
Health/Phys. Education (1.5)	.9	26.5	0	2
Career Technical (9)	11.5	133	.4	21
<b>Added Averages</b>	<b>35.5</b>		<b>5.7</b>	

**Licensure limitations**

Another concern voiced by these two organizations is related to licensure constraints on the number of teachers that can be used to instruct the 38 units. Two hundred sixty-seven schools out of 1,068 have been cited or are on probation for failing to meet state accreditation standards. Of these all have failed to meet licensure requirements for teachers; 11 of the 267 have other accreditation issues as well. Fourteen districts have accreditation problems. All are for licensure violations and one district has on-site school review (OSR) violations also.

**Calculating classroom teachers**

AAEA and ASBA testified that the matrix does not provide sufficient staffing for a hypothetical grade K-4 school with 100 students in each grade. However, the two organizations reached different conclusions about the number of additional teachers that would be needed. It should be noted that grades K-4 require more personnel per student than grades 5-12 because of Standards staffing requirements. The matrix is designed to provide staffing for an average of all grades. The matrix provided 20.8 teachers will not adequately staff grades K-4. However it will adequately staff grades K-12.

Using the example provided in the testimony of the AAEA and ASBA :

<b>Grade</b>	<b>Students</b>	<b>Class Size</b>	<b>Teachers Needed with Average Classroom Size</b>
K	100	20	5.00
1	100	23	4.35
2	100	23	4.35
3	100	23	4.35
4	100	25	4.00
<b>Total for school of 500</b>	<b>500</b>	<b>25</b>	<b>22.05</b>

Staffing needed for 5 grades at the middle and high school level:

<b>Grade</b>	<b>Students</b>	<b>Class Size</b>	<b>Teachers Needed with Average Classroom Size</b>
8	100	25	4
9	100	25	4
10	100	25	4
11	100	25	4
12	100	25	4
<b>Total for school of 500</b>	<b>500</b>	<b>25</b>	<b>20</b>

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### **Teacher Planning Time**

Teacher planning time also affects the number of teachers needed. Arkansas state law requires 200 minutes per week.

6-17-114. Daily planning period.

Statute text

(a) (1) Effective beginning the 2003-2004 school year, each school district in this state shall provide a minimum of two hundred (200) minutes each week for each teacher to schedule time for conferences, instructional planning, and preparation for all classroom teachers employed by the school district.

(2) (A) The planning time shall be in increments of no less than forty (40) minutes during the student instructional day unless a teacher submits a written request to be allowed to have his or her planning time scheduled at some time other than during the student instructional day.

(B) A teacher who does not receive the planning time required under subdivision (a)(2)(A) of this section during the student instructional day shall be compensated at his or her hourly rate of pay for each missed planning period except for planning periods missed because of occasional, not-regularly-scheduled field trips, fire drills, or bomb scares.

(C) A school district shall be exempt from the provisions of this subdivision (a)(2) if it has collectively negotiated a contract through a local teachers' association and the collectively negotiated contract expressly provides for a teacher's daily planning period.

(b) (1) No school district shall provide planning time as required by this section by lengthening the school day unless the school district compensates teachers for the additional time at an hourly per diem rate.

(2) Any teacher not receiving individual planning time as provided for in this section shall be compensated for the planning time lost at his or her hourly rate of pay.

(c) Each school district shall implement the requirements of this section in accordance with § 6-17-201 et seq.

(d) As used in this section, "student instructional day" means the time that students are required to be present at school.

### **Fractional Students Per Grade**

Districts have expressed concern about the need for an additional teacher when a class has one student too many. In their most recent book on school finance policies, Odden and Picus (2008) suggest an approach referred to as a "step" function. This "step" function would add an FTE at a specified number of students above the classroom size per grade but below the size of another full classroom (Odden and Picus, 2008). They note, however, that such a function is impractical to implement in a statewide funding formula. They also noted that extra students per grade can be handled another way, referencing a 2005, report from the Rural School Community Trust (Malhoit, 2005) which lists the prevalence of multiage classrooms in rural schools as one of several advantages that small, rural schools provide (Odden and Picus, 2008).

## ***B. Non-Core Teachers***

### **Definition**

Both the 2003 and 2006 studies recommended that schools calculate the number of non-core teachers they need at 20% of the total core academic teachers. Twenty percent of 20.8 core teachers is 4.16 (or 4.14, the number in the matrix, when rounding of 20.8 is removed) non-core teachers per 500 students.

### **Staffing**

Staffing for both core and non-core teachers of the sample schools is shown in the table in the core teacher section.

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## Supporting Information

### Physical Education, Art, and Music (PAM)

State law establishes the number of minutes per week of physical education, art, and music that must be provided for K-12 students. For elementary students, the total number of instructional minutes in a week is 1,800 minutes consisting of six 60 minute periods per day for five days. The requirements for physical education in elementary school is 60 minutes per week, art is 40 minutes, and music is 40 minutes, for a total of 140 minutes per week. When the 140 minutes per week is divided by the total number of minutes per week, the teaching time generated is 8% of the core teachers' time. If 20.8 core teachers are needed then 1.7 non-core teachers are needed to cover the required non-core instructional time for elementary physical education, art and music. The legal requirements for each of these areas of instruction follows:

#### Physical Education 6-16-132

(b) (1) (A) The physical education curriculum and physical activity requirements for every public school student who is physically fit and able to participate are:

(i) Except as provided in subdivision (b)(1)(A)(ii) of this section, for students in kindergarten through grade six (K-6):

(a) Sixty (60) minutes of physical education training and instruction each calendar week of the school year; and

(b) Ninety (90) minutes of physical activity each calendar week of the school year, which may include without limitation daily recess, physical education instruction in addition to the requirement of subdivision (b)(1)(A)(i) (a ) of this section, or intramural sports;

(ii) For students in grades five through eight (5-8) who attend a public school organized to teach grades five through eight (5-8), or any combination thereof, sixty (60) minutes of physical education training and instruction each calendar week of the school year or an equivalent amount of time in each school year, with no additional requirement for physical activity; and

(iii) For students in grades nine through twelve (9-12), one-half ( $\frac{1}{2}$ ) unit of physical education as required for high school graduation, with no additional requirement for physical activity.

#### Art and Music 6-16-130

(b) (1) By no later than June 1, 2005, every public elementary school in the state shall provide instruction for no less than forty (40) minutes in visual art and no less than forty (40) minutes in music based on the state visual art and music frameworks each calendar week of the school year or an equivalent amount of time in each school year.

(2) (A) Every student in grades one through six (1-6) shall participate in the visual art and music class required in this subsection.

(B) Children with disabilities or other special needs shall be included in the visual art and music programs.

(3) The instruction required by subdivision (b)(1) of this section shall be provided by a licensed teacher certified to teach art or music, as applicable.

### Gifted and Talented

Schools are required to provide gifted and talented programs. In response to the school survey, principals indicated they use the following methods for handling the requirement.

- 17 schools said Pull-out and GT classes (enrichment)
- 12 schools said Pull-out
- 9 said AP
- 7 said AP and Pull-out
- 7 said GT Classes
- 6 said GT Teacher goes to classes
- 16 said other

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## Periods in the School Day

The strategy for providing 20% non-core teachers can be found in the 2003 consultants' study.

Teachers need some time during the regular school day for collaborative planning, job-embedded professional development, and ongoing curriculum development and review. Schools also need to teach art, music, library skills, and physical education. Providing each teacher one period a day for collaborative planning and professional development focused on the school's curriculum requires an additional 20 percent allocation of teachers to those needed to provide the above class sizes. This assumes a five-hour teacher instructional day at the elementary level and a five period day at the high school. Alternative school organization models might require modification of the 20 percent figure. In our view, the adequate resource model should recommend an appropriate percentage--in this case 20 percent--and schools that seek to implement alternative schedules or class schedules need to work those out within the resources provided. For example, "block scheduling" for high schools require an additional 33 percent of specialist teachers, assuming the school creates a four-period, 90-minute blocks (p.24).

By "additional 33 percent," they mean above the number of core teachers not above the 20% of non-core teachers.

State Standards require instructional time of six hours per day or 30 hours per week. Just over half of the districts in Arkansas offer students the opportunity to take up to eight classes per semester. Just under half offer seven classes. Eight classes with core teachers covering 7 classes would require only one-eighth, or 2.6, additional non-core teachers rather than the 4.14 teachers in the matrix. Seven classes with core teachers covering six classes would require only one-seventh non-core teacher, or 3, additional non-core teachers. A few districts may have contract arrangements that establish core teachers covering only six of eight or five of seven periods. Those arrangements would double the required number of non-core teachers. In the school survey, principals indicated that 15 schools provide students with the opportunity to take seven courses per semester and 15 schools provided eight courses/periods per day. In the district survey, administrators indicated the following number of courses/periods per day.

Type of School	7 Periods	8 Periods	Other
Middle School	94	120	30
High School	99	130	15

In addition to this structure, 23 schools said they offer an activity or X period and 25 schools offer a zero or remedial hour.

### ***C. Instructional Facilitators and Assistant Principals***

#### **Definition**

In 2006, ADE provided the following definition of an instructional facilitator.

Instructional Facilitator is responsible for facilitating continuous improvement in classroom instruction by providing instructional support to teachers in the elements of research-based instruction and by demonstrating the alignment of instruction with curriculum standards and assessment tools.

Position Description:

- Assists teachers in analyzing classroom and state assessment data to inform instruction
- Provides demonstration lessons in curriculum and teaching techniques for classroom teachers and others
- Facilitates communication about research based instructional practices and student achievement between and among teachers, within and across grade levels.

- Assists in the implementation of the components of the Arkansas Comprehensive School Improvement Planning (ACSIP) process
- Plans and provides professional development learning opportunities for classroom teachers by conducting formal workshops, group discussions and one-on-one mentoring
- Provides differentiated assistance to teachers based on individual needs
- Facilitates and participates in district and building level training

The original consultant's study and the original matrix established a staffing level of 2.5 instructional facilitators per 500 students. The 2006 consultant's study indicated that .5 full-time equivalent (FTE) of the instructional facilitators line item was to be for technology expertise. The matrix used in the 2007-09 biennium adjusted the staffing level to two instructional facilitators per 500 students and a .5 FTE assistant principal.

State Standards for Accreditation (15.02) state that a half-time assistant principal, instructional supervisor or curriculum specialist is required for schools exceeding 500 students. Since any one of the three positions will meet the requirement, all three of these positions may count toward the .5 FTE for this position in the line item.

### Expenditures

In 2009, schools statewide spent \$51.1 million on instructional facilitators. This equates to approximately \$111.38 per student. The matrix funded 279.77 per student for instructional facilitators for FY 2008-09. The expenditure per student for all students equates to 1.95% of the overall matrix rather than 4.83% of the matrix provided funding.

2008-09 Instructional Facilitators Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$279.77	\$111.38	-\$168.39	\$51.1million

### Staffing

The staffing level established in the matrix for instructional facilitators/assistant principals is more than three times the average number of instructional facilitators/assistant principals in districts. The following table compares the matrix number for instructional facilitators/assistant principals with the average number for all districts.

2008-09 Instructional Facilitator/Assistant Principals			
Staff	Matrix Number	District Average per 500 Students	Difference
Instructional Facilitator	2.5	0.72	-1.78

### Supporting Information

Schools have instructional facilitators in addition to those for whom foundation funding is used. In the 74 sample schools, an additional 25.31 instructional facilitators were funded by National School Lunch Act (NSLA) state categorical funds; federal Title I funds which are used primarily to support schools with low-income students; or Title II funds through the Improving Teacher Quality Grant program.

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According to ADE staff:

There is an endorsement for the instructional facilitators, but it is not required. There were approximately 1,000 teachers serving in these roles across the state and until the preparatory programs are in place across the state at local [institutes of higher education] IHEs, we will provide support through the training of these individuals but we are NOT going to cause them or districts harm by requiring that endorsement at this time.

On the district survey, district administrators indicated that they have about 1.8 information technology (IT) facilitators for each district. This number is not adjusted to groups of 500.

The table below shows districts' responses to the survey question about the primary role their assistant principals play in their schools. Districts indicated the primary role of the assistant principal is to manage student discipline and safety. This support enables the school principals to focus more fully on serving as the instructional leader of their school. A large number of the districts answered the survey question about the role of assistant principals as "not applicable" suggesting a lack of assistant principals at all school levels.

	<b>Elementary School</b>	<b>Middle School</b>	<b>High School</b>
Administration	8%	6%	8%
Parent Communication	3%	2%	3%
Student Discipline & Safety	28%	33%	38%
Instructional Leader	11%	6%	6%
Not Applicable	50%	53%	44%

Administrators indicated on the school surveys that instructional facilitators in some schools also teach regular classes. Eleven of the schools reported that they did not have an instructional facilitator.

<b># of Classes Taught</b>	<b># of Schools</b>
3 or More	20
2	7
1	3
None	33
No Instructional Facilitators	11

## ***D. Special Education Teachers***

### **Definition**

The following information is provided by ADE.

Arkansas school districts determine their special education services staffing needs based upon the population of students with disabilities identified for special education in the district, the array of services needed to fulfill the individualized education programs (IEPs) of those students and each student's placement on the continuum of placement options or least restrictive environment (LRE). This is done in accordance with the special education teacher-to-pupil caseload and class size requirements specified in Arkansas rules: Special Education and Related Services: Procedural Requirements and Program Standards, Section 17.00 Program Standards. Because all categories of disabilities under IDEA can range from mild to severe/profound in their impact, the placements for receipt of services range from the least restrictive, most natural or typical setting of "regular class, indirect services" all the way to what is usually considered the most restrictive and unnatural education setting, "hospital/homebound."

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## Expenditures

In 2009, schools statewide spent \$151.6 million on special education teachers. This equates to approximately \$330.38 per student. The matrix funded \$324.53 per student for special education teachers for FY 2008-09. The expenditure per student for all students equates to 5.78% of the overall matrix rather than 5.61% of the matrix provided funding.

2008-09 Special Education Teacher Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$324.53	\$330.38	\$5.85	\$151.6 million

## Staffing

The average number of special education teachers is slightly lower than the staffing level established in the matrix. The following table compares the matrix number for special education teachers with the average number for all districts.

2008-09 Special Education Teacher			
Staff	Matrix Number	District Average per 500 Students	Difference
Special Education Teachers	2.9	2.86	-0.04

## Supporting Information

In the 2003 consultants' report the authors stated:

The most progressive approach today is called a "census" approach to providing such resources [staffing]. This approach, which is embodied in the current school finance formula, assumes the incidence of these categories of disabilities is approximately equal across districts and schools and includes resources for providing needed services at an equal rate to all districts in the base allocation. Testimony from the Arkansas Department of Education, and experience around the state, shows that all districts and schools are able to provide students with mild and moderate disabilities, including students with speech and hearing handicaps, an appropriate and adequate level of services with current resources. Thus the Committee recommends that each prototypical school of 500 students be provided an additional 2.9 positions for these services (p.26).

ADE staff agreed that the 2003 consultants' study information is still accurate. They add:

Staffing needs for special education are not directly proportional to a count of the children in special education, given that some receive services from multiple providers but are counted in an unduplicated count for reporting purposes. Also, because you have to serve students in chronologically age-appropriate settings, regardless of their current actual performance levels, then you have to be adequately staffed for each organizational level – elementary, middle/junior high, senior high school. The actual make up of the students with disabilities also will influence the number of personnel needed, given that some require personal aides, not just an aide for the classroom, and possibly services like a private duty nurse. These latter services, however, may qualify as Related Services under IDEA and are often reimbursable under private or public insurance, such as Medicaid. It should be noted, however, that the purpose of the base funding is to cover the *average cost of educating students with special needs*, and the students with disabilities with needs that exceed the average costs are largely covered by the state line item reimbursement funds for districts that incur those costs. We've been able to determine the utilization and growth rates for those line items and adjust accordingly in our budget requests. Also, since the base funding for special education based on census is embedded in the current Formula Foundation Aid, it grows proportionally as the fund does to keep pace with any increase in the average cost of providing special education services to identified students with disabilities.

In a separate 2008 text, the consultants note that "The equity depends on the distribution of special-education students across all the districts in the state" (Odden and Picus, 2008, p.110).

During site visits school administrators discussed the practice of co-teaching. Co-teaching allows the special education teacher to work in the same classroom as the regular classroom teacher with both types of students combined in the same class as well. Other schools reported that they were hiring interventionists, a new area of specialization, to work with special education teachers.

### ***E. Librarians and Media Specialists***

#### **Definition**

State Standards for Accreditation (16.02.3) for library media specialists require schools with fewer than 300 students to have a 1/2 time library media specialist (0.5 per 300 is 0.83 per 500); schools with 300 to 1,499 students must have a full-time library media specialist (1.0); and schools with 1,500 or more students must have two library media specialist (two per 1,500 is 0.67 per 500).

#### **Expenditures**

In 2009, schools statewide spent \$55.2 million on librarians and media specialists. This equates to approximately \$120.25 per student. The matrix funded \$92.32 per student for librarians for FY 2008-09. The expenditure per student for all students equates to 2.82% of the overall matrix rather than 2.10% of the matrix provided funding.

<b>2008-09 Librarians Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$92.32	\$120.25	\$27.93	\$55.2 million

#### **Staffing**

The average number of librarians is more than one per 500 students while the staffing level established in the matrix is less than one. The following table compares the matrix number for librarians with the average number for all districts.

<b>2008-09 Librarians</b>			
<b>Staff</b>	<b>Matrix Number</b>	<b>District Average per 500 Students</b>	<b>Difference</b>
Librarians	0.825	1.10	0.275

#### **Supporting Information**

The current matrix funding level is the result of the following analysis, which was developed in 2006 using varying staffing levels based on state standards for the different sized schools.

<b>School Size</b>	<b># of Schools in 2006</b>	<b>Required Librarians</b>	<b>Librarians Multiplied by # of Schools</b>
Under 300	407	0.5	203.5
300-1500	689	1.0	689
Over 1500	10	2.0	20
<b>Totals</b>	<b>1,106</b>	<b>0.825</b>	<b>912.5</b>

## F. Counselors and Nurses

### Definition

The matrix established a staffing level for counselors and nurses of 2.5 positions. These positions may also include speech therapists, social workers, psychologists, and family outreach workers. State standards require one counselor per 450 students, or approximately 1.11 per 500 students. State law requires one school nurse per 750 students if funding is available, or .67 per 500 students. The funding for nurses is provided through this matrix line item. This leaves approximately 0.72 positions for student services personnel required under the Public School Student Services Act, A.C.A. § 6-18-1001 et seq.

#### Calculation for Counselors, Nurses, and Other Student Services Personnel

1.11 positions for a counselor (1 per 450 in standards)  
 0.67 positions for a nurse (1 per 750 in code)  
0.72 positions for additional student services personnel  
 2.50

### Expenditures

In 2009, schools statewide spent \$99 million on counselors and nurses. This equates to approximately \$215.61 per student. The matrix funded \$279.77 per student for counselors and nurses for FY 2008-09. The expenditure per student for all students equates to 3.77% of the overall matrix rather than 4.83% of the matrix provided funding. Districts are not spending all the available resources provided through the matrix for counselors and nurses.

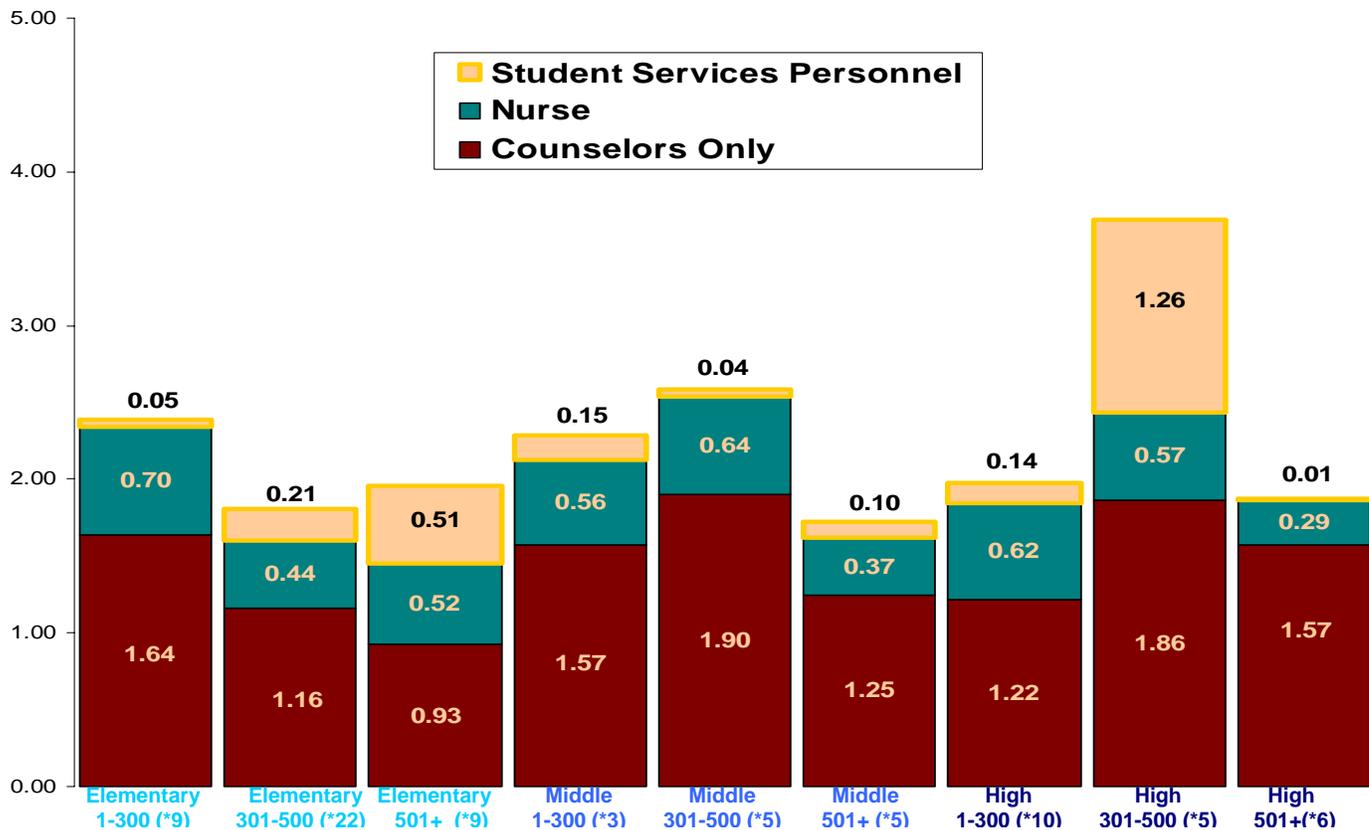
2008-09 Counselors and Nurses Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$279.77	\$215.61	-\$64.16	\$99 million

### Staffing

The average number of counselor and nurse positions is one-fifth less than the staffing level established in the matrix. The following table compares the matrix number for counselors and nurses with the average number for all districts.

2008-09 Counselors and Nurses			
Staff	Matrix Number	District Average per 500 Students	Difference
Counselors and Nurses	2.5	2.12	-0.38

The following table shows the breakout of these personnel for different school types followed by a chart with the totals for each type of personnel.



\*Number of Schools in Group

FY 2008-09 Counselors and Nurses			
Staff	Matrix Number	School Average per 500 Students	Difference
Counselors	1.11	1.35	.24
Nurses	0.67	.52	-.15
Other Pupil Support Staff	0.72	.25	-.47
<b>Total</b>	<b>2.5</b>	<b>2.12</b>	<b>-.38</b>

### Supporting Information

The required number of counselors and nurses is established through state standards and state law respectively. According to ADE Standards -- Section 16.01.3, "Each school shall assign appropriate certified counselor staff with the district being required to maintain an overall ratio of one (1) to four hundred fifty (450)."

State law provides the following:

6-18-706. School nurse.

Statute text

(a) In order to improve the health status and educational achievement of the children of this state, the General Assembly hereby determines that an appropriate school nurse-to-student ratio is essential to effectively meet the health care needs of these children.

(b) For purposes of this section, "school nurse" means a licensed nurse engaging in school nursing activities.

(c) (1) Beginning with the 2004-2005 school year, all school districts shall have no fewer than the full-time equivalent of one (1) school nurse per seven hundred fifty (750) students or the proportionate ratio thereof.

(2) In districts having a high concentration of children with disabling conditions as determined by the State Board of Education, the ratio of school nurses to students should be one (1) to four hundred (400) in those schools so designated.

(3) In a district that provides a center for profoundly disabled students, the ratio should be one (1) school nurse per one hundred twenty-five (125) students at that center.

(d) (1) School nurses may be employed or provided by contract or agreement with other agencies or individuals provided that the prescribed ratio and equivalency are maintained.

(2) However, no school nurse may be employed by, or contract with, any public secondary or elementary school of this state except with the prior approval of the local school board of directors.

(e) (1) The provisions of this section shall be effective only upon the availability of state funds.

(2) Available funds shall be distributed to school districts based on the previous year's three-quarter average daily membership.

During site visits, principals were asked to consider how counselors' time is used from two different perspectives. The first is a view of the different types of activities they undertake, and the second considers the level of student support they are able to provide. The responses from the 74 schools are provided in the following table. The needs and demands on counselors is expected to increase in lower grade levels, in addition to the needs in high schools, to assist students in preparation for college readiness due to the increased availability of scholarships.

Guidance Counselors Estimated Percentage of Time for the Selected Activities

	No response	0% - 24%	25% - 49%	50% - 74%	75% - 100%
Testing & IEPs	12	40	12	8	2
Behavior Counseling	11	33	21	8	1
Social Needs Support	11	37	20	3	3
College & Career Advising	11	53	6	4	0
Student Supervision	13	53	5	0	3
Other Administrative Duties	15	58	1	0	0

Guidance Counselors Estimated Percentage of Time for Student Interaction

	No response	0% - 24%	25% - 49%	50% - 74%	75% - 100%
Individual Students	11	18	27	11	7
Groups of Students	11	26	23	12	2
Work with Teachers & Administration	12	44	14	2	2
Paperwork	11	46	13	1	3

The school surveys reflected the following information concerning guidance counselors' interaction with students.

Percent of Students Seen Individually	# of Schools
75% to 100%	20
50% to 74.9%	12
25% to 49.9%	18
0% to 24.9%	17
No Response	7

## **Total Non-Administrative Pupil Support Personnel**

The matrix established total staffing for non-administrative pupil support personnel at a level of 33.665 positions. This includes classroom teachers, instructional facilitators, assistant principals, special education teachers, librarians, media specialists, and student service professionals, such as counselors and nurses.

### **Staffing**

The district average for non-administrative school-level staff was lower than the positions provided for with matrix funds. The following table compares the matrix number for all non-administrative school level staff with the average number for all districts. Additional analysis of the differences in district staffing levels is provided in Section 4.

<b>2008-09 Non-Administrative School Level Staffing</b>			
<b>Staff</b>	<b>Matrix Number</b>	<b>District Average per 500 Students</b>	<b>Difference</b>
Non-administrative school level total	33.665	29.97	-3.695

## **School-Level Administration Personnel**

Principals and their building-level clerical support are correctly considered the glue that holds a school together. Principals must provide the operational management and instructional leadership to make schools run smoothly and to improve student achievement. The duties completed by school clerical personnel are too numerous to list completely, but they include record-keeping, answering phones, managing the office, and serving as a liaison to parents.

### **G. Principals**

#### **Definition**

The matrix established staffing for principals at a level of one per 500 students. Standards require that every school employ at least a half-time principal, and schools with 300 or more students must have a full-time principal. Schools of 500 students or more must have a full-time principal and a half-time assistant principal, instructional supervisor, or curriculum specialist. The half-time assistant principal, instructional supervisor, or curriculum specialist are funded in the instructional facilitator line item.

#### **Expenditures**

In 2009, schools statewide spent \$83.2 million on principals. This equates to approximately \$181.24 per student. The matrix funded \$175.70 per student for principals for FY 2008-09. The expenditure per student for all students equates to 3.17% of the overall matrix rather than 3.04% of the matrix provided funding.

<b>2008-09 Principals Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$175.70	\$181.24	\$5.54	\$83.2 million

## Staffing

The average number of principal positions is slightly lower than the staffing level established in the matrix. The following table compares the matrix number for principals with the average number for all districts.

<b>2008-09 Principals</b>			
Staff	Matrix Number	District Average per 500 Students	Difference
Principals	1	.97	-0.03

## Supporting Information

In the 2006 study, the consultants concluded that although state standards require one principal per 300 students, existing matrix funding should support one principal for a school of 500 students. They reasoned that the actual salaries paid in smaller schools are typically low enough that the salary funding provided in the matrix is adequate even for schools with fewer than 500 students. Moreover, the salary level for principals was increased significantly in the 2007 matrix update.

As part of the district survey, school district administrators were asked to estimate the percentage of their principal's time for each of the following duties.

	<b>Elementary School</b>	<b>Middle School</b>	<b>High School</b>
Administration	27.4%	26.9%	29.0%
Parent Communication	15.4%	14.9%	14.5%
Student Discipline & Safety	22.5%	24.9%	25.7%
Instructional Leadership	33.6%	33.5%	30.7%

In a slightly different version of the same list, school principals at site visits were asked to estimate the percentage of their own time spent in the given activities:

	<b>No response</b>	<b>0% - 24%</b>	<b>25% - 49%</b>	<b>50% - 74%</b>	<b>75% - 100%</b>
Administration	11	30	17	11	5
Parent Communication	11	53	5	1	4
Student Discipline & Safety	11	36	19	7	1
Instructional Leadership	11	20	27	13	3
Other	24	48	0	2	0

District administrators indicated that principals at each level spent between 30 percent and 35 percent of their time as the school's instructional leader. Twenty principals, 27% of the respondents, indicated that less than one-fourth of their time was spent as an instructional leader while sixteen of the sixty-three respondents indicated that they spent more than half of their time as the school instructional leader.

## H. School-Level Secretary

### Definition

Clerical support is not required by state standards. However, the legislature believed that, as a practical matter, there is a clear need for clerical support. Therefore the matrix established staffing for clerical support at a level of one secretary position per 500 students.

### Expenditures

In 2009, schools statewide spent \$41.5 million on school secretaries. This equates to approximately \$90.45 per student. The matrix funded \$70.80 per student for school secretaries for FY 2008-09. The expenditure per student for all students equates to 1.58% of the overall matrix rather than 1.22% of the matrix provided funding.

2008-09 School Secretary Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$70.80	\$90.45	\$19.65	\$41.5 million

### Staffing

The average number of clerical positions is one and one-half times the staffing level established in the matrix. The following table compares the matrix number for clerical support with the average number for all districts.

2008-09 School Secretary			
Staff	Matrix Number	District Average per 500 Students	Difference
Clerical support	1	1.46	0.46

### Supporting Information

Principals of schools visited were asked to assess the duties performed by their school secretary or administrative assistant. The following chart indicates the percentage of time estimated for performing the duties listed:

Estimated Percent of School Level Administrative Support Time for Selected Activities

# of Schools	No response	0% - 24%	25% - 49%	50% - 74%	75% - 100%
School Level Financial Records	11	38	17	2	6
Parent Communication	11	27	28	5	3
Attendance Records	11	36	21	3	3
Intra-school communication & document distribution	11	41	17	2	3
Student Supervisory Duty	15	54	1	2	2
Other	20	47	5	2	0

## Staffing Overview

To identify the priority for school resource needs among districts, administrators were asked to rank their staffing needs. They were asked: "excluding the classroom teachers necessary to meet state standards, how would you rank your current personnel needs if your district were given the money to create these positions? 1=highest need, 9=lowest need."

	Overall Ranking	# of Districts		
		Rank 1-3	Rank 4-6	Rank 7-9
Non-certified (e.g., bus driver)	8	57	55	132
Instructional Facilitator	1	149	66	29
Assistant Principal	6	68	71	105
Teachers for Expanded Elective Curriculum	3	112	106	26
Athletic Personnel	9	9	29	206
Student Support (e.g., counselors, librarians)	5	55	119	70
Classroom Aides (excluding special education)	7	49	112	83
Curriculum or Federal Program Personnel	4	87	93	64
Technology Personnel	2	146	66	32

The overall ranking of personnel needs among the districts listed instructional facilitators as the top need and technology personnel as a close second. The need for additional athletic personnel ranked lowest among administrators, below the need for additional non-certified personnel. A very low number of districts--nine--ranked additional athletic personnel in their top three personnel needs.

## SECTION 2: School-level resources

School-level resources in the matrix are defined as technology expenditures, instructional materials, extra-duty funds, supervisory aides, and substitute teachers.

### I. Technology

#### Definition

The 2006 consultants' report considered the following components in the recommendations for funding levels for technology: 1) computers and a replacement cycle for them; 2) operating system and other non-instructional software; 3) network equipment, printers, copiers, and instructional software; 4) additional hardware; and 5) a .5 FTE technology instructional facilitator in the instructional facilitators line item. The report also recommended 1 FTE technology coordinator in the central office and other district-level expenditures line item.

#### Expenditures

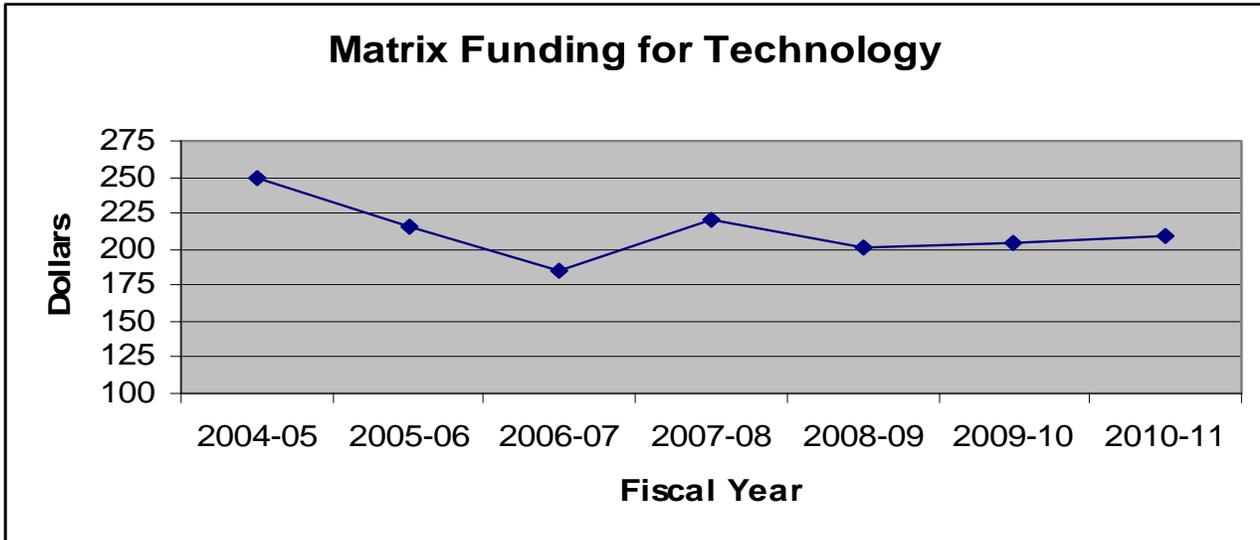
In 2009, schools spent \$63.5 million statewide on technology, including administrative technology services. This equates to approximately \$138.39 per student in 2008-09, compared with \$201 funded in the matrix. This is \$62.61 less than the amount provided by the matrix. The following table shows total and per student expenditures for 2008-09. The expenditures per student level for all students equates to 2.42% of the overall matrix rather than 3.47% of the matrix provided funding.

2008-09 Technology Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$201	\$138.39	-\$62.61	\$63.5 million

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## Supporting Information

Matrix funding for the technology line item has varied significantly since the original technology funding was set at \$250 in FY2004-05. For FY 2010-11 technology funding is \$209.10. Between FY2004-05 and FY2010-11 the technology line item has experienced three years in which reductions were made. For example, in FY 2008-09, technology funding was reduced to \$201 per pupil due to a decline in the price index for that sector. The following graph shows the changes from year to year.



The level of foundation or matrix funding needed to adequately provide for educational technology purposes is complicated by the fact that districts receive significant technology funding from other sources. Non-foundation funding for technology includes other state-funded technology programs, such as distance learning, and portions of National School Lunch Act (NSLA) categorical funding. A few districts have mills dedicated for capital outlay that are used for technology. Federal sources and support include Title I, Title IID, and the E-Rate Program. In FY2010 districts are using the American Recovery and Reinvestment Act funding extensively for educational technology which should reduce equipment needs for some time.

## ***J. Instructional Materials***

### **Definition**

The instructional materials line time includes the following items:

- Textbooks
- Workbooks, worksheets and other consumables
- Pedagogical aides such as math manipulatives and science supplies
- Library materials including books, other instructional materials and/or services such as subscriptions to electronic databases
- \$500 per pupil for instructional materials, books and supplies to reimburse teachers for out-of-pocket expenses.

## Expenditures

In 2009, schools statewide spent \$76.1 million on instructional materials. This equates to approximately \$165.74 per student. The matrix funded \$163.20 per student for instructional materials for FY 2008-09. The expenditure per student for all students equates to 2.90% of the overall matrix rather than 2.82% of the matrix provided funding.

2008-09 Instructional Materials Funding and Expenditures			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$163.20	\$165.74	\$2.54	\$76.1 million

## Supporting Information

The 2003 consultants' report stated, "Based on recommendations in other states, the Committee recommends that each school be provided with \$250 per pupil for instructional materials and supplies." (Odden, Picus, & Fermanich, 2003, p. 40). In 2006, the consultants recommended \$160 per student for instructional materials, basing the reduced amount on pricing for these same materials in other states (Odden, Picus, & Goetz, 2006, p. 44). While the consultants' 2003 recommendation for this matrix line item was based on one lump sum, \$250, their 2006 recommendation examined the cost of needed instructional materials as a calculation of costs in three areas: library collections, textbooks and other instructional materials. The 2006 calculation included a recommendation of \$25 for formative assessments, but that item was not included in the matrix. The funding for library collections, according to the consultants, was at that time above the national average. The textbook amount is based on an assumption that one textbook per student would be purchased each year under a six-year adoption cycle. Finally, elementary schools included an additional \$20 per student to cover the costs of the elementary teacher fund. This fund provides \$500 for each elementary school teacher for the purchase of instructional materials.

### Textbooks

The requirements for purchasing textbooks are contained in A.C.A. 6-21-401 et seq. Schools must provide all textbooks and other instructional materials to students in grades K-12 without cost. Districts may select their own textbooks, or they may select books from the state-approved list. ADE reports that no district has been cited for violations concerning instructional materials in the last two years. The State Board of Education has been charged in statute A.C.A. 6-21-404 (a)(3) to "Do whatever else may be necessary for the general welfare of the public school textbook and instructional materials system in order to acquire the items at the lowest possible cost."

### Library Materials

State standards require a minimum of 3,000 volumes or eight books per student, whichever number is larger. ADE reports that no district has been cited for violations concerning libraries in the last two years.

Responses to a school survey question concerning the number of books per student available in school libraries were as follows:

Books per student	# of Schools
20 or Less	28
20.1 to 30	27
30.1 to 50	14
50.1 or More	5

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During school site visits, schools were asked to assess the strengths and needs of their school libraries and research facilities. In response, 41 schools said they had no needs, 16 said they needed more and newer books, four said they needed library space improvements or expansion, and eight said they needed more computers.

#### Science Equipment and Supplies

Some elementary schools visited had no science lab or equipment. In past years, the lack of science equipment at that level was not a top concern for educators and policy makers. However, in 2007-08 school year, fifth grade students participated in benchmark testing in science for the first time. Additionally, new content standards required that "a minimum of 20% of instructional time must be spent in inquiry and conducting hands-on investigations."

During school site visits, schools were asked to assess the strengths and needs of their science labs, equipment and supplies. The responses were as follows:

- 32 schools said they had no needs;
- 5 schools said they were using stimulus funds to upgrade science labs;
- 23 schools said they need equipment and supplies;
- 7 schools said they did not have a lab but need one;
- 5 schools said they need more labs;
- 1 school said they need a new lab and equipment; and
- 4 schools asked for science carts to share between classrooms.

#### Additional Instructional Materials

Along with textbooks, the instructional materials line item includes workbooks, worksheets, and teaching aides, such as math manipulatives and science supplies. The 2006 consultants' report also included \$20 per pupil for elementary schools to ensure that each elementary teacher had \$500 for the purchase of instructional materials. Districts were asked as part of the on-line survey to confirm that teachers had received these funds. Two hundred thirty-one (231) of the districts (94.7%) indicated that the required funding was provided.

#### Formative Assessments

The 2006 consultants' report also recommended \$25 funding per pupil for formative assessment in the instructional materials line item. A February 21, 2007, Governor's letter requested the removal of this item and read: "Since the original ALC/JBC recommendation was made, it has been determined that formative assessments need to be studied for another biennium prior to participation in the program." In the interim, ADE asked Dr. Margaret Heritage, a national expert, to study the issue. Dr. Heritage met with the House and Senate Interim Committees on Education and then participated in a two-day workshop with district personnel, teachers and ADE staff. Her review emphasized that formative assessments are not just another product for schools to buy. Formative assessment is an educational technique or process for continuous evaluation of students. Dr. Heritage also stated that professional development programs should reflect the view that continuous assessment is a method of teaching, not an add-on. Currently, ADE does not require districts to have formative assessments.

The Arkansas Association of Educational Administrators (AAEA) in its written testimony presented to the committee on April 27, 2010, stated that the association members "recognize the amount presently spent on Formative Assessments does not reach the level recommended by the Odden/Picus study."

Responses to a school survey question concerning the type or source of formative testing used by schools were as follows:

<b>Formative Test</b>	<b># of Schools</b>
The Learning Institute	26
Target	17
Focus	5
Dibels	5
District Developed	5
None	2

### ***K. Extra Duty Funds***

#### **Definition**

Schools use extra duty funds to pay stipends for teachers who coach and those who supervise after-school clubs or other extracurricular activities.

#### **Expenditures**

In 2009, districts spent \$68.7 million statewide on extra duty pay. This equates to \$149.63 per student. The matrix provided \$51 per student in extra duty funding for FY 2008-09. The expenditures are \$98.63 more than the amount provided by the matrix. The following table shows the total and per student expenditures for 2008-09. The expenditures per student for all students equates to 2.62% of the overall matrix rather than 0.88% of the matrix provided funding.

<b>2008-09 Extra Duty Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$51	\$149.63	\$98.63	\$68.7 million

#### **Supporting Information**

In 2008, ADE calculated extra duty expenditures that included regular salaries, coaching salaries, coaching FTEs, and additional benefits. The number of extra duty FTEs reported by the districts are difficult to determine due to the part-time and varied nature of most extracurricular assignments. The extra duty salary data used by ADE included all pay to licensed personnel that was allocated to athletic and non-athletic extracurricular job assignments. This pay normally is in the form of stipends and additional contract days but also would include extracurricular assignments occurring during the school day and compensated in accordance with the teacher salary schedule.

The 2006 consultants' report recommended \$100 per student, but that recommendation was based on an earlier miscalculation in the original matrix, which inflated the actual cost of extra duty pay. The General Assembly corrected the calculation in 2007 by applying the consultants' 2003 recommendation to the FY2005-06 count of elementary, middle and high schools. That calculation resulted in a per student cost of \$48.84, which was rounded to \$50 for the FY2006-07 matrix level.

The matrix amount for extra duty pay was developed in FY2006 using the following calculations:

<b>Extra Duty Pay</b>				
School/Grade	FY06 Enrollment	% of Total	Unit Price	Weighted Cost
Elementary	224,241	48.34%	\$0	\$0
Middle	101,739	21.93%	\$60	\$13.16
Secondary	137,942	29.73%	\$120	\$35.68
<b>Totals</b>	<b>463,922</b>	<b>100%</b>		<b>\$48.84</b>

An alternate method of calculating the matrix value of extra duty was considered but rejected. That methodology used teacher salary data to determine the cost of extra duty. According to a 2006 ADE report, districts formerly reported extra-duty pay with teacher salaries. When it was removed from teacher salaries, the average teacher salary went down \$196 or .46% (from \$42,960 to \$42,869) for the 2004-05 school year. If the amount of \$196 per teacher is used and benefits equal to 22% are added, the average extra-duty cost per teacher amounts to \$239. Assuming a school of 500 students is funded for 33.665 teachers the total extra duty cost would be \$8,046 or \$16.09 per student. The methodology providing more funding to districts was selected.

During school site visits, principals were asked about their use of extra-duty pay outside of athletics. Some schools reported that teachers were paid a stipend for drama, choir, quiz bowls, etc. Also, 15 schools said they paid extra for tutoring.

## ***L. Supervisory Aides***

### **Definition**

In the 2006 report, the consultants describe supervisory aides as "individuals hired to help students get on and off buses in the morning and afternoons, and to supervise lunch and recess periods" (p.45).

### **Expenditures**

In FY2008-09, schools spent \$3.7 million statewide on supervisory aides. This equates to approximately \$8.01 per student compared with \$50.35 funded in the matrix. This is \$42.34 less than the amount provided by the matrix. The following table shows total expenditures and per student expenditures for 2008-09. The expenditures per student level for all students equates to 0.14% of the overall matrix rather than 0.87% of the matrix provided funding.

<b>2008-09 Supervisory Aide Funding and Expenditures</b>			
Matrix Amount	Expenditures Per Student	Difference	Expenditures
\$50.35	\$8.01	-\$42.34	\$3.7 million

### **Supporting Information**

In the 2006 report, the consultants recommended \$98.70 per student for supervisory aides. That amount was intended to cover the cost of two aides at a salary of \$24,676 each. However, when the matrix was developed that year, the General Assembly determined that one aide was sufficient and slightly increased funding for the supervisory aide over the 2005 matrix funding level for supervisory aides. The state standards do not require any aides.

During school site visits, principals were asked to discuss their use of supervisory aides. Most indicated that they do not pay for additional time but rather work within the 60 minutes of duty in teacher contracts, filling in with other classified personnel when needed. Many of the administrators felt the 60-minute statutory restriction was not enough time for management of their school.

The need for supervisory aides is reduced significantly by the amount of supervisory time provided by teachers under their contract pay. A 2006 ADE report discusses the amount of supervisory duty being provided by certified teachers within the allowable 60 minutes per week for non-instructional duties. That time would be covered under the teacher's contract and covered under the matrix in the teacher line items. The provision for teachers non-instructional duties follows:

6-17-117. Noninstructional duties.

Statute text

(a) (1) The purpose of this section is to provide additional time for instructional purposes and to reduce the amount of time for noninstructional duties.

(2) Any teacher assigned more than sixty (60) minutes of noninstructional duties per week shall be contracted in accordance with § 6-17-807(g).

(b) As used in this section, "noninstructional duties" means the supervision of students before or after the instructional day begins or ends for students or for the supervision of students during breakfasts, lunches, recesses, or scheduled breaks.

(c) As used in this section, "instructional purposes" means activities initiated by the teacher related to teaching duties, including, but not limited to, contacting parents, assessing student performance, documenting student performance, organizing the classroom, preparing instructional materials, and other teaching responsibilities related to instructional planning and the direct instruction of students.

A 2006 ADE report summarizes data from districts that were asked to submit the total hours spent for these duties and the cost of those hours. That data indicated that the average hours per day per student equals .01742. A school with 500 students would be spending 8.71 hours per day. The average salary and benefit cost of this time is \$87.21 per hour. The consultants recommended funding for 31.4 teachers in a school of 500. If each teacher is assigned 60 minutes per week for duty there is a total of 6.28 hours per day available --  $31.4 \times 1 \text{ hour per week} / 5 \text{ days per week} = 6.28 \text{ hours}$ . This is the maximum time that could be provided weekly by certified teachers at a school of 500 students.

## ***M. Substitutes***

### **Definition**

The matrix calculation was based on an average of 10 days of substitute time per teacher. It is not intended to cover substitutes for other school personnel. The numbers used for the expenditure calculation below are for both certified and classified personnel, therefore the result is higher than the amount provided by the matrix.

### **Expenditures**

In FY2008-09, schools spent \$34.2 million statewide on substitute pay. This equates to approximately \$74.55 per student compared with \$59 funded in the matrix. This is \$15.55 more than the amount provided by the matrix. The following table shows total and per student expenditures for 2008-09. The expenditure per student level for all students equates to 1.30% of the overall matrix rather than 1.02% of the matrix provided funding.

<b>2008-09 Substitute Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$59	\$74.55	\$15.55	\$34.2 million

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## Supporting Information

State law requires a substitute who teaches more than 30 days to have a bachelor's degree or be licensed to teach. The only requirement for all other substitutes is a high school diploma or Graduate Equivalent Degree (GED). The state law addressing these requirements follows:

A.C.A. 6-15-1004

(e) (1) No class of students shall be under the instruction of a substitute teacher or teachers for more than thirty (30) consecutive school days in the same class during a school year unless the substitute teacher or teachers instructing the class have a bachelor's degree awarded by an accredited college or university or have been licensed to teach by the State of Arkansas.

(2) A substitute teacher or teachers possessing a bachelor's degree shall continue to teach the class from at least the thirty-first consecutive day after the regular teacher is absent from the class until the return of the regular teacher to that class.

The AAEA, in its written comments, requested funding to pay substitutes for non-certified personnel such as school secretaries, custodians, and teaching aides. This is not a common practice in the governmental or business sectors, nor is it required by state standards. The districts' expenditures for substitute pay were approximately 62% for certified personnel and 38% for other personnel.

When surveyed, districts reported that 82% of their substitutes are not licensed. The mean daily pay for substitutes was \$63.22 without benefits for licensed substitutes and \$51.80 for unlicensed substitutes.

Among the sample schools, 51% of substitutes were reported as non-degreed, 30% were reported as degreed but unlicensed, and 19% were licensed. The sample schools paid an average of \$58.11 a day without benefits for licensed substitutes and \$51.94 for unlicensed substitutes.

## SECTION 3: District-level resources

District-level expenditures include operations and maintenance, central office expenses, and district transportation expenses. Expenses that are not covered explicitly in a matrix line item are grouped together and combined with central office expenses in the line item central office and district-level expenditures. Examples of these types of expenses paid from foundation funding include certain athletic expenditures and expenditures for instructional aides.

### ***CARRY-FORWARD TRANSITION***

The original matrix had a line item called "carry-forward" that represented what might be best described as miscellaneous expenditures that are not otherwise identified in the matrix. In the 2003 report, the consultants recommended line items and funding for many school costs that would be included in the "carry-forward" line item.

With these assumptions and methods, we began to calculate the additional costs. To do so, we took total expenditures of school districts (minus expenditures for debt and expenditures supported by federal source) and divided them into two parts. The first were those expenditures that would be "carried forward" unchanged, and included such things as fiscal services, board and legal services, executive administration (superintendent), athletics, facilities and capital other than debt, community services, food services, and other non-instructional services, operations and maintenance, transportation, technology services, certain instructional support such as drug and crime prevention and tuition paid to other local school districts (Odden et al., 2003 p. 61).

Identifying and quantifying those expenditures more precisely was one of the primary purposes of the 2006 consultants' report. The consultants separated the carry-forward amount into three line items that included: operations and maintenance; central office expenses; and transportation expenses. In FY 2006-07 the matrix amount for the carry-forward was \$1,206. In 2007-08 the total amount for all three of

the new line items was \$1,243. This results in a 3.1% increase in the first fiscal year of the biennium even after one clerical position was relocated to the school-level staff. In 2008-09 that amount increased again to \$1,250.50.

## ***N. Operations and Maintenance***

### **Definition**

Act 1426 of 2005 known as the Arkansas Public School Academic Facilities Program Act established within the state's foundation funding a dedicated 9% of foundation funding for the purposes of paying utilities, custodial, maintenance, repair, and renovation activities and related personnel costs. The Act also included language that directed unspent funds from this 9% of foundation to be transferred into an academic facilities escrow account to be released only upon approval of the Division of Public School Academic Facilities and Transportation for local academic facilities projects.

### **Expenditures**

In FY2008-09, schools spent \$312.8 million statewide on operations and maintenance. This equates to approximately \$681.60 per student compared with \$581 funded in the matrix. This is \$100.60 more than the amount provided by the matrix. The following table shows total and per student expenditures for 2008-09. The expenditure per student level for all students equates to 11.92% of the overall matrix rather than 10.04% of the matrix provided funding.

<b>2008-09 Operations and Maintenance Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$581	\$681.60	\$100.60	\$312.8 million

### **Supporting Information**

The funding stream for operations and maintenance, in its current form is based on the 2004 Statewide Educational Facilities Assessment report to the Joint Committee on Educational Facilities (2004). This report established the criteria of funding operations and maintenance through the foundation funding formula as 9% of the total foundation funding. The determination to use 9% of foundation funds was based on the 32nd Annual Maintenance and Operation Study conducted by American School and University Magazine (2003). That report estimated the cost to address the custodial/maintenance procedures in Arkansas as approximately 9% of the state's educational budget.

Based on the final report and recommendations of the 2006 Adequacy Study Oversight Subcommittee, the initial amount for operations and maintenance for the 2008 fiscal year was set at \$581 per ADM based on 9% of the overall consultant's recommendation for foundation funding (\$554 per ADM) and an additional \$27 per ADM for property insurance (2006). The amount for property insurance was derived through a calculation made in January 2007, when ADE analyzed the total state school district expenditures for property insurance. The total was \$12,350,868 which was divided by 456,648.56 ADM with the result being \$27.

Act 19 of 2006 amended the code relating to the dedicated 9% for operations and maintenance to allow districts to use funds from their public school facilities escrow account in any fiscal year for payment of utilities and costs of custodial maintenance, repair, and renovation activities, and related personnel costs for public school facilities.

The table below presents the operations and maintenance funding history for each year since the recalibration of the matrix in 2006 for fiscal year FY 2007-08.

**History of Matrix Foundation Funding for Operations & Maintenance**

<b>Fiscal Year</b>	<b>Matrix Funding for O &amp; M per ADM</b>	<b>Percent of Foundation Funding</b>
2007	\$0.00	
2008	\$581.00	10.16%
2009	\$581.00	10.04%
2010	\$592.60	10.04%
2011	\$604.50	10.04%

The 2008 matrix level for operations and maintenance (\$554 + \$27) was set at 9% of an amount that exceeded the foundation funding. When the General Assembly established the operations and maintenance funding level, the overall foundation funding level had not been finalized. The legislature used an amount they knew would exceed the final foundation level to make sure the operations and maintenance funding level would be adequate. The result is that the amount for 2007-08 is 10.16% of the total matrix for that year and 10.04% of the total matrix for 2008-09.

With current procedures, it is not possible to tell from the data maintained in the state data warehouse if the increased costs in operations and maintenance are due to additional consumption of utilities or higher utility costs. Two efforts were made to collect utility cost information outside the accounting system. The district survey requested documentation of utility costs and consumption with only approximately 40 districts responding adequately for the purpose of analysis. The second effort was made in coordination with ADE and the Arkansas Association of Educational Administrators. Despite extensive assistance from some of the state's utility providers, the response rate is still fewer than half of the districts. If districts want to document the source of increased utility expenditures, they could be required to add one or two fields to the accounting records that indicate the fuel or water consumption level and the rate so that the information is not difficult to retrieve when needed. Some districts already track this information through software used for management of district facilities and related expenses.

***O. Central Office and Other District-Level Expenditures***

**Definition**

The central office and other district-level expenditures component of the matrix includes items that might be widely considered as central office administration and district- and school-level expenditures that are not otherwise accounted for in a matrix line item. One portion of district-level administrative expenses includes classified and clerical salaries and benefits coded as central office excluding expenses coded as principal's office. Also included are expenditures other than salaries and benefits coded as central office. These central office expenditures account for 45.55% of the expenditures attributed to this line item.

The remaining 54.45% of the expenditures can be broken into two groups:

- Other Instruction (19.67%) - which largely consists of expenditures for instructional aides. These aides, who are not funded elsewhere in the matrix are classified aides including paraprofessionals and similar non-certified staff coded to the instruction function.

- Other Items Not Expressly Assigned to a Matrix Line Item (34.78%) - reflected in Central Office and Other District-Level Expenditures include:
  - miscellaneous instruction (such as summer school and underpayments),
  - miscellaneous other instructional support,
  - non-instructional expenditures (such as community services and food service expenditures paid from unrestricted funds),
  - supply and operating costs not related to salaries and benefits and were not otherwise included as part of a specific matrix line item, and
  - facilities acquisition/construction services or debt payments paid directly from unrestricted funds but distinct from the Building or Debt Service Funds.

### **Expenditures**

In FY2008-09, schools spent \$274.9 million statewide on expenses that have been attributed to the central office and other district-level expenditures matrix line item. This equates to approximately \$598.89 per student compared with \$383.50 funded in the matrix. This is \$215.39 more than the amount provided by the matrix. The following table shows total and per student expenditures for 2008-09. The expenditure per student level for all students equates to 10.47% of the overall matrix rather than 6.62% of the matrix provided funding.

<b>2008-09 Central Office Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$383.50	\$598.89	\$215.39	\$274.9 million

### **Supporting Information**

The 2007-08 matrix amount was derived by modifying the personnel levels recommended in the 2006 consultants' report. The recommendation was based on a prototypical district of 3,500 students, but in Arkansas in 2006 only 26 of the districts, or 11%, had 3,500 or more students. The salary levels were also adjusted to more accurately reflect Arkansas salaries. To test the appropriateness of the resulting funding level, ADE ran data on FY2005-06 Central Office expenditures and personnel counts for districts with an ADM between 3000 and 4000. The average number of personnel was 17.82. The average total central office cost was \$395 per ADM.

The following chart shows how the 17 positions allocated to the central office line item in the 2006 consultant's report were adjusted to a unit size of 500. The chart also shows the amount included for additional non-personnel central office expenses.

<b>Central Office</b>				
<b>Superintendent's Office</b>	<b>Positions</b>	<b>Costs</b>	<b>Per-Pupil</b>	<b>Associated Salary</b>
Superintendent	0.14	\$16,964	\$34	118,748
Asst. Superintendent	0.14	\$15,778	\$32	110,516
Senior Secretary	0.14	\$4,964	\$10	34,751
Senior Secretary	0.14	\$4,964	\$10	34,751
<b>Business Office</b>				
Business Manager	0.14	\$7,848	\$16	54,940
Human Resources Manager	0.14	\$15,788	\$32	110,516
Senior Secretary	0.14	\$4,964	\$10	34,751
Payroll Clerk	0.14	\$4,964	\$10	34,751
Accounts Payable Clerk	0.14	\$4,964	\$10	34,751
<b>Curriculum and Support</b>				
Director of Pupil Services	0.14	\$15,788	\$32	110,516
Director of SPED	0.14	\$15,788	\$32	110,516
Senior Secretary	0.14	\$4,964	\$10	34,751
Senior Secretary	0.14	\$4,964	\$10	34,751
Secretary	0.14	\$4,964	\$10	34,751
<b>Technology</b>				
Director of Technology	0.14	\$15,788	\$32	110,516
<b>Operations &amp; Maintenance</b>				
Director of M&O	0.14	\$15,788	\$32	110,516
Secretary	0.14	\$4,964	\$10	34,751
<b>Subtotal *</b>	<b>0.14</b>	<b>\$164,206</b>	<b>\$332</b>	
<b>Misc Per-Pupil Expenses*</b>		<b>\$131,513</b>	<b>\$259</b>	
<b>Total Central Office</b>		<b>\$295,719</b>	<b>\$591</b>	

\*Difference results from rounding

Instructional aides are included in the central office and other district-level expenditures line item because they are not included anywhere else in the matrix. In their 2008 book, Odden and Picus state that based on class-size research "a regular class of 24-25 with a teacher and an instructional aide did not produce a discernible positive impact on student achievement" (Odden and Picus, 2008, p.95). They also add that "the research is not supportive of instructional aides." That statement is qualified as follows, "Instructional aides can have an impact, but only if they are selected according to certain educational criteria, trained in a specific tutoring program, deployed to provide tutoring to struggling students and closely supervised" (Odden and Picus, 2008, p. 117). This qualification seems to describe what school districts called paraprofessionals or "para-pros" during site visits. This type of personnel was in use in the majority of schools visited. In many cases, the principal indicated that they were provided through Title I or NSLA funding rather than through foundation funding. In the 74 schools visited, approximately 25 instructional aides were funded with matrix funding.

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## **P. Transportation**

### **Definition**

Transportation expenditures include school bus and district vehicle operations and maintenance, transportation personnel, insurance and equipment costs. They also include bus purchases and non-academic transportation.

### **Expenditures**

In FY2008-09, schools spent \$117.3 million statewide on transportation expenses. This equates to approximately \$255.66 per student compared with \$286 funded in the matrix. This is \$30.34 less than the amount provided by the matrix. The following table shows total and per student expenditures for 2008-09. The per student expenditure equates to 4.47% of the overall matrix rather than 4.94% of the matrix provided funding.

<b>2008-09 Transportation Funding and Expenditures</b>			
<b>Matrix Amount</b>	<b>Expenditures Per Student</b>	<b>Difference</b>	<b>Expenditures</b>
\$286	\$255.66	-30.34	\$117.3 million

### **Supporting Information**

Act 57 of the Second Extraordinary Session of 2003 includes the following requirement for the adequacy study: "Review and continue to evaluate the costs of an adequate education for all students in Arkansas, taking into account cost of living variances, diseconomies of scale, transportation variability, demographics, school districts with a disproportionate number of students who are economically disadvantaged or have educational disabilities, and other factors as deemed relevant, and recommend any necessary changes. "

Transportation has been part of the matrix since its inception in 2004. The consultants, in both of their reports, addressed transportation funding as part of the matrix, and it has been included in both legislative interim study reports on educational adequacy. However, the consultants and the House and Senate Interim Committees on Education have indicated that the method of financing transportation through the matrix needs further study.

In their 2006 report the consultants fine-tuned or recalibrated the resources needed for the 2007-08 school year. On page 61 of the report the consultants state that they planned "to recommend a different approach to transportation funding. We anticipate proposing a method of funding transportation costs that will vary by district depending on district characteristics (i.e., population density, road conditions, distances and number of students transported, etc.) Because data on pupil transportation are limited, this document utilizes actual transportation expenditures of Arkansas school districts to estimate a state-wide per pupil figure." In another section, the consultants say, "For the present, we have used existing 2004-05 transportation expenses by district inflated to 2007-08. This 2007-08 estimate averages \$286 per ADM, but varies considerably by district from a low of \$67 to a high of \$695 per pupil" (p.72).

The difference in matrix expenditures for transportation now ranges from a low of \$74.78 (one outlier district excluded) to a high of \$842.12 per pupil. Some transportation funding is provided through other state support such as isolated or special needs isolated funding. A 2008 BLR study revealed that per student funding is not the best way to address transportation expenditures.

## SECTION 4: School Characteristics

The variety of needs for different districts and their individual student characteristics make it unlikely that each matrix line item's funding will fit all schools equally well, which is why districts are not required to spend according to the levels established in the matrix. This study reviewed each line item of the matrix in an effort to identify how schools of differing characteristics are using these resources.

When districts are sorted by achievement, size or poverty to compare expenditure data or staffing levels there is some overlap of districts but all low achieving districts are not necessarily also small or also have a high number of students in poverty.

**Cross-tabulation of ACTAAP, ADM & NSLA**

Count

ACTAAP			NSLA			Total
			< 70	70 - 89	90 or >	
< 60	ADM	< 500	2	8	0	10
		500 - 999	3	10	3	16
		1000 or >	5	11	3	19
		<b>Total</b>	<b>10</b>	<b>29</b>	<b>6</b>	<b>45</b>
60 - 69	ADM	< 500	8	4		12
		500 - 999	27	12		39
		1000 or >	22	7		29
		<b>Total</b>	<b>57</b>	<b>23</b>		<b>80</b>
70 or >	ADM	< 500	8	2		10
		500 - 999	29	7		36
		1000 or >	68	4		72
		<b>Total</b>	<b>105</b>	<b>13</b>		<b>118</b>

Statewide districts are spending less on teachers and certified staff than provided for in the matrix and more for the extra duty, operations and maintenance, and central office and other district-level line items.

Matrix				Statewide Average					
Line Item	Staffing	Funding	Percent	Staffing	Difference	Percent	Expenditure Per Pupil	Difference	Percent
Kindergarten	2	\$223.82	3.87%						
Grades 1-3	5	\$559.54	9.67%						
Grades 4-12	13.8	\$1,544.33	26.68%						
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>	<b>40.21%</b>						
PAM/Elective Teachers	4.14	\$463.30	8.00%						
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>48.21%</b>	<b>23.32</b>	<b>-1.62</b>	<b>71.98%</b>	<b>\$2,596.40</b>	<b>-\$194.59</b>	<b>45.41%</b>
Special Ed Teachers	2.9	\$324.53	5.61%	2.86	-0.04	8.83%	\$330.38	\$5.85	5.78%
Instruct. Facilitators (Asst Princ)	2.5	\$279.77	4.83%	0.72	-1.78	2.22%	\$111.38	-\$168.39	1.95%
Librarians	0.825	\$92.32	1.59%	1.10	0.275	3.40%	\$120.25	\$27.93	2.10%
Guidance Couns., Nurse, et al.	2.5	\$279.77	4.83%	1.97	-0.53	6.08%	\$215.61	-\$64.16	3.77%
<b>Subtotal \$55,954</b>	<b>33.665</b>	<b>\$3,767.40</b>	<b>65.08%</b>	<b>29.97</b>	<b>-3.695</b>	<b>92.50%</b>	<b>\$3,374.02</b>	<b>-\$393.36</b>	<b>59.01%</b>
Principal -- \$87,860	1	\$175.70	3.04%	0.97	-0.03	2.99%	\$181.24	\$5.54	3.17%
Admin Asst -- \$35,415	1	\$70.80	1.22%	1.46	0.46	4.51%	\$90.45	\$19.65	1.58%
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>69.34%</b>	<b>32.4</b>	<b>-3.265</b>	<b>100.00%</b>	<b>\$3,645.71</b>	<b>-\$368.17</b>	<b>63.76%</b>
Technology		\$201.00	3.47%				\$138.39	-\$62.61	2.42%
Instructional Materials		\$163.20	2.82%				\$165.74	\$2.54	2.90%
Extra Duty Funds		\$51.00	0.88%				\$149.63	\$98.63	2.62%
Supervisory Aides		\$50.35	0.87%				\$8.01	-\$42.34	0.14%
Substitutes		\$59.00	1.02%				\$74.55	\$15.55	1.30%
<b>Total School-Level Resources</b>		<b>\$524.55</b>	<b>9.06%</b>				<b>\$536.32</b>	<b>\$11.77</b>	<b>9.38%</b>
Operations and Maintenance		\$581.00	10.04%				\$681.60	\$100.60	11.92%
Central Office		\$383.50	6.62%				\$598.89	\$215.39	10.47%
Transportation		\$286.00	4.94%				\$255.66	-\$30.34	4.47%
<b>Total District-Level Costs*</b>		<b>\$1,250.50</b>	<b>21.60%</b>				<b>\$1,536.15</b>	<b>\$285.65</b>	<b>26.86%</b>
<b>Total Matrix</b>		<b>\$5,789</b>	<b>100.00%</b>				<b>\$5,718.18</b>	<b>-\$70.75</b>	<b>100.00%</b>

Small districts have more school-level staff than provided for by the matrix while large districts have less and both types of districts are spending less than provided for by the matrix. Small districts are spending more on central office and other district-level expenditures than larger districts.

Matrix			Size				Size				
Line Item	Staffing	Funding	Districts of 500 or Less				Districts of 5,000 or More				
			Staffing	Difference	Expenditures	Difference	Staffing	Difference	Expenditures	Difference	
Kindergarten	2	\$223.82									
Grades 1-3	5	\$559.54									
Grades 4-12	13.8	\$1,544.33									
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>									
PAM/Elective Teachers	4.14	\$463.30									
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>28.62</b>	<b>3.68</b>	<b>\$2,746.71</b>	<b>-\$44.28</b>	<b>21.14</b>	<b>-3.80</b>	<b>\$2,650.01</b>	<b>-\$140.98</b>	
Special Ed Teachers	2.9	\$324.53	2.39	-0.51	\$230.66	-\$93.87	3.01	0.11	\$393.96	\$69.43	
Instruct. Facilitators (Asst Princ)	2.5	\$279.77	0.04	-2.46	\$11.78	-\$267.99	1.03	-1.47	\$145.74	-\$134.03	
Librarians	0.825	\$92.32	1.21	0.385	\$125.52	\$33.20	0.99	0.17	\$114.49	\$22.17	
Guidance Couns., Nurse, et al.	2.5	\$279.77	2.21	-0.29	\$169.87	-\$109.90	\$1.93	-0.57	\$234.56	-\$45.21	
<b>Subtotal \$55,954</b>	<b>33.665</b>	<b>\$3,767.40</b>	<b>34.47</b>	<b>0.805</b>	<b>\$3,284.54</b>	<b>-\$482.86</b>	<b>28.10</b>	<b>-5.57</b>	<b>\$3,538.76</b>	<b>-\$228.62</b>	
Principal -- \$87,860	1	\$175.70	1.55	0.55	\$253.07	\$77.37	0.72	-0.28	\$153.29	-\$22.41	
Admin Asst -- \$35,415	1	\$70.80	1.96	0.96	\$102.85	\$32.05	1.08	0.08	\$80.62	\$9.82	
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>37.98</b>	<b>2.315</b>	<b>\$3,640.46</b>	<b>-\$373.44</b>	<b>29.90</b>	<b>-5.77</b>	<b>\$3,772.67</b>	<b>-\$241.23</b>	
Technology		\$201.00			\$140.14	-\$64.35			\$120.68	-\$80.32	
Instructional Materials		\$163.20			\$184.12	\$17.83			\$149.08	-\$14.12	
Extra Duty Funds		\$51.00			\$121.11	\$65.37			\$110.10	\$59.10	
Supervisory Aides		\$50.35			\$6.67	-\$43.59			\$10.17	-\$40.18	
Substitutes		\$59.00			\$77.32	\$17.02			\$77.36	\$18.36	
<b>Total School-Level Resources</b>		<b>\$524.55</b>			<b>\$529.36</b>	<b>\$4.81</b>			<b>\$467.39</b>	<b>-\$57.16</b>	
Operations and Maintenance		\$581.00			\$686.56	\$170.41			\$670.48	\$89.48	
Central Office		\$383.50			\$734.89	\$337.28			\$554.08	\$170.58	
Transportation		\$286.00			\$311.44	\$22.61			\$216.95	-\$69.05	
<b>Total District-Level Costs*</b>		<b>\$1,250.50</b>			<b>\$1,732.89</b>	<b>\$482.39</b>			<b>\$1,441.51</b>	<b>\$191.01</b>	
<b>Total Matrix</b>		<b>\$5,789</b>			<b>\$5,902.71</b>	<b>\$113.76</b>			<b>\$5,681.57</b>	<b>-\$107.38</b>	

Regardless of the poverty level, districts are spending less than the amount provided through the matrix for classroom teachers. Districts with more students in poverty are spending more than districts with fewer students in poverty for operations and maintenance, central office and other district-level expenditures, and transportation expenses.

Matrix			Poverty				Poverty				
Line Item	Staffing	Funding	Districts of 90% NSLA or More				Districts of 40% NSLA or Less				
			Staffing	Difference	Expenditures	Difference	Staffing	Difference	Expenditures	Difference	
Kindergarten	2	\$223.82									
Grades 1-3	5	\$559.54									
Grades 4-12*	13.8	\$1,544.33									
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>									
PAM/Elective Teachers	4.14	\$463.30									
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>21.79</b>	<b>-3.15</b>	<b>\$2,329.34</b>	<b>-\$461.65</b>	<b>22.35</b>	<b>-2.59</b>	<b>\$2,716.20</b>	<b>-\$74.79</b>	
Special Ed Teachers	2.9	\$324.53	2.63	-0.27	\$285.43	-\$39.10	3.19	-0.02	\$395.11	\$70.58	
Instruct Facilitators (Asst Princ)	2.5	\$279.77	0.76	-1.74	\$115.53	-\$164.24	0.75	-1.97	\$119.74	-\$160.03	
Librarians	0.825	\$92.32	0.97	0.145	\$112.18	\$19.86	1.09	0.28	\$116.20	\$23.88	
Guidance Couns.,Nurse, et al.	2.5	\$279.77	1.91	-0.59	\$189.36	-\$90.41	2.04	-0.50	\$250.25	-\$29.52	
<b>Subtotal \$55,954</b>	<b>33.665</b>	<b>\$3,767.40</b>	<b>28.06</b>	<b>-5.61</b>	<b>\$3,031.84</b>	<b>-\$735.54</b>	<b>29.42</b>	<b>-4.80</b>	<b>\$3,597.50</b>	<b>-\$169.88</b>	
Principal -- \$87,860	1	\$175.70	1.32	0.32	\$204.23	\$28.53	0.78	-0.03	\$162.49	\$6.13	
Admin Asst -- \$35,415	1	\$70.80	1.64	0.64	\$85.08	\$14.28	1.48	0.39	\$96.89	\$20.12	
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>31.02</b>	<b>-4.65</b>	<b>\$3,321.15</b>	<b>-\$692.73</b>	<b>31.68</b>	<b>-4.44</b>	<b>\$3,856.88</b>	<b>-\$143.63</b>	
Technology		\$201.00			\$164.44	-\$36.56			\$152.30	-\$48.70	
Instructional Materials		\$163.20			\$195.74	\$32.54			\$165.09	\$1.89	
Extra Duty Funds		\$51.00			\$81.98	\$30.98			\$147.72	\$96.72	
Supervisory Aides		\$50.35			\$1.39	-\$48.96			\$4.89	-\$45.46	
Substitutes		\$59.00			\$77.12	\$18.12			\$67.00	\$8.00	
<b>Total School-Level Resources</b>		<b>\$524.55</b>			<b>\$520.67</b>	<b>\$3.88</b>			<b>\$537.00</b>	<b>\$12.45</b>	
Operations and Maintenance		\$581.00			\$995.45	\$414.45			\$642.15	\$61.15	
Central Office		\$383.50			\$873.85	\$490.35			\$608.63	\$225.13	
Transportation		\$286.00			\$296.82	\$10.82			\$239.50	-\$46.50	
<b>Total Support Costs**</b>		<b>\$1,250.50</b>			<b>\$2,166.12</b>	<b>\$915.62</b>			<b>\$1,490.28</b>	<b>\$239.78</b>	
<b>Total Matrix</b>		<b>\$5,789</b>			<b>\$6,007.94</b>	<b>\$226.77</b>			<b>\$5,884.16</b>	<b>\$108.60</b>	

Low achieving schools spend over \$300 less per student for classroom teachers than high achieving schools. They spend more on operations and maintenance, and central office and other district-level expenses.

Matrix			Achievement				Achievement				
Line Item	Staffing	Funding	20 Lowest Performing Districts				20 Highest Performing Districts				
			Staffing	Difference	Expenditures	Difference	Staffing	Difference	Expenditures	Difference	
Kindergarten	2	\$223.82									
Grades 1-3	5	\$559.54									
Grades 4-12*	13.8	\$1,544.33									
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>									
PAM/Elective Teachers	4.14	\$463.30									
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>23.49</b>	<b>-1.45</b>	<b>\$2,531.34</b>	<b>-\$259.65</b>	<b>22.44</b>	<b>-2.50</b>	<b>\$2,694.31</b>	<b>-\$96.68</b>	
Special Ed Teachers	2.9	\$324.53	2.67	-0.23	\$299.77	-\$24.76	2.77	-0.13	\$343.40	\$18.87	
Instruct. Facilitators (Asst Princ)	2.5	\$279.77	0.52	-1.98	\$82.26	-\$197.51	0.67	-1.83	\$102.25	-\$177.52	
Librarians	0.825	\$92.32	1.08	0.255	\$114.65	\$22.33	1.14	0.32	\$117.87	\$25.55	
Guidance Couns., Nurse, et al.	2.5	\$279.77	1.73	-0.77	\$170.97	-\$108.80	2.07	-0.43	\$248.47	-\$31.30	
<b>Subtotal \$55,954</b>	<b>33.665</b>	<b>\$3,767.40</b>	<b>29.49</b>	<b>-4.175</b>	<b>\$3,198.99</b>	<b>-\$568.39</b>	<b>29.09</b>	<b>-4.58</b>	<b>\$3,506.30</b>	<b>-\$261.08</b>	
Principal -- \$87,860	1	\$175.70	1.25	0.25	\$203.17	\$27.47	0.75	-0.25	\$161.98	-\$13.72	
Admin Asst -- \$35,415	1	\$70.80	1.96	0.96	\$106.68	\$35.88	1.54	0.54	\$99.54	\$28.74	
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>32.7</b>	<b>-2.965</b>	<b>\$3,508.84</b>	<b>-\$505.04</b>	<b>31.38</b>	<b>-4.29</b>	<b>\$3,767.82</b>	<b>-\$246.06</b>	
Technology		\$201.00			\$178.22	-\$22.78			\$130.15	-\$70.85	
Instructional Materials		\$163.20			\$155.73	-\$7.47			\$169.55	\$6.35	
Extra Duty Funds		\$51.00			\$119.48	\$68.48			\$145.72	\$94.72	
Supervisory Aides		\$50.35			\$2.11	-\$48.24			\$2.06	-\$48.29	
Substitutes		\$59.00			\$58.25	-\$0.75			\$66.28	\$7.28	
<b>Total School-Level Resources</b>		<b>\$524.55</b>			<b>\$513.79</b>	<b>-\$10.76</b>			<b>\$513.76</b>	<b>-\$10.79</b>	
Operations and Maintenance		\$581.00			\$833.78	\$252.78			\$646.38	\$65.38	
Central Office		\$383.50			\$690.49	\$306.99			\$658.15	\$274.65	
Transportation		\$286.00			\$289.01	\$3.01			\$255.72	-\$30.28	
<b>Total Support Costs**</b>		<b>\$1,250.50</b>			<b>\$1,813.28</b>	<b>\$562.78</b>			<b>\$1,560.25</b>	<b>\$309.75</b>	
<b>Total Matrix</b>		<b>\$5,789</b>			<b>\$5,835.91</b>	<b>\$46.98</b>			<b>\$5,841.83</b>	<b>\$52.90</b>	

Districts in fiscal distress are spending \$350 less per student for classroom teachers than other non-distressed districts.

Matrix			Fiscal Distress				No Fiscal Distress			
Line Item	Staffing	Funding	Staffing	Difference	Expenditures	Difference	Staffing	Difference	Expenditures	Difference
Kindergarten	2	\$223.82								
Grades 1-3	5	\$559.54								
Grades 4-12	13.8	\$1,544.33								
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>								
PAM/Elective Teachers	4.14	\$463.30								
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>24.13</b>	<b>-0.81</b>	<b>\$2,373.60</b>	<b>-\$417.39</b>	<b>23.30</b>	<b>-1.64</b>	<b>2603.21</b>	<b>-187.78</b>
Special Ed Teachers	2.9	\$324.53	3.01	0.11	\$298.36	-\$26.17	2.85	-0.05	331.36	6.83
Instruct.Facilitators (Asst Princ)	2.5	\$279.77	0.28	-2.22	\$33.91	-\$245.86	0.73	-1.77	113.75	-166.02
Librarians	0.825	\$92.32	1.1	0.275	\$123.13	\$30.81	1.11	0.29	120.16	27.84
Guidance Couns., Nurse, et al.	2.5	\$279.77	2.11	-0.39	\$205.79	-\$73.98	1.96	-0.54	215.92	-63.85
<b>Subtotal \$55,954</b>	<b>77.405</b>	<b>\$3,767.40</b>	<b>30.63</b>	<b>-3.035</b>	<b>\$3,034.79</b>	<b>-\$732.59</b>	<b>29.95</b>	<b>-\$3.72</b>	<b>\$3,384.40</b>	<b>-382.98</b>
Principal -- \$87,860	1	\$175.70	1.23	0.23	\$205.32	\$29.62	0.97	-0.03	180.50	4.80
Admin Asst -- \$35,415	1	\$70.80	1.57	0.57	\$87.86	\$17.06	1.46	0.46	90.52	19.72
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>33.43</b>	<b>-2.235</b>	<b>\$3,327.97</b>	<b>-\$685.91</b>	<b>32.38</b>	<b>-\$3.29</b>	<b>\$3,655.42</b>	<b>-358.46</b>
Technology		\$201.00			\$137.95	-\$63.05			138.41	-62.59
Instructional Materials		\$163.20			\$123.03	-\$40.17			167.04	3.84
Extra Duty Funds		\$51.00			\$150.37	\$99.37			149.61	98.61
Supervisory Aides		\$50.35			\$5.80	-\$44.55			8.08	-42.27
Substitutes		\$59.00			\$78.61	\$19.61			74.43	15.43
<b>Total School-Level Resources</b>		<b>\$524.55</b>			<b>\$495.76</b>	<b>-\$28.79</b>			<b>537.57</b>	<b>13.02</b>
Operations and Maintenance		\$581.00			\$610.05	\$29.05			683.79	102.79
Central Office		\$383.50			\$701.61	\$318.11			595.75	212.25
Transportation		\$286.00			\$247.72	-\$38.28			255.9	-30.10
<b>Total Support Costs*</b>		<b>\$1,250.50</b>			<b>\$1,559.38</b>	<b>\$308.88</b>			<b>1535.44</b>	<b>284.94</b>
<b>Total Matrix</b>		<b>\$5,789</b>			<b>\$5,383.11</b>	<b>-\$405.82</b>			<b>\$5,728.43</b>	<b>-\$60.50</b>

Districts with lower teacher salaries have slightly more school-level staff than provided by the matrix while districts with the highest teacher salaries have less staff. The districts with higher teacher salaries pay about \$330 more per student for teachers than the lowest paying districts.

Matrix			Average Teacher Salary < \$50,000				Average Teacher Salary > \$60,000			
Line Item	Staffing	Funding	Staffing	Difference	Expenditures	Difference	Staffing	Difference	Expenditures	Difference
Kindergarten	2	\$223.82								
Grades 1-3	5	\$559.54								
Grades 4-12	13.8	\$1,544.33								
<b>Subtotal Core Teachers</b>	<b>20.8</b>	<b>\$2,327.69</b>								
PAM/Elective Teachers	4.14	\$463.30								
<b>Subtotal Classroom Teachers</b>	<b>24.94</b>	<b>\$2,790.99</b>	<b>26.65</b>	<b>1.71</b>	<b>\$ 2,530.68</b>	<b>-260.31</b>	<b>21.32</b>	<b>-3.62</b>	<b>2668.74</b>	<b>-122.25</b>
Special Ed Teachers	2.9	\$324.53	2.63	-0.27	251.00	-73.5332	2.96	0.06	385.4	60.87
Instruct.Facilitators (Asst Princ)	2.5	\$279.77	0.25	-2.25	33.53	-246.24	0.98	-1.52	134.59	-145.18
Librarians	0.825	\$92.32	1.26	0.435	128.91	36.5859	1.00	0.18	114.83	22.51
Guidance Couns., Nurse, et al.	2.5	\$279.77	2.16	-0.34	197.30	-82.47	1.99	-0.51	239.67	-40.10
<b>Subtotal \$55,954</b>	<b>33.665</b>	<b>\$3,767.40</b>	<b>32.95</b>	<b>-0.715</b>	<b>\$ 3,141.42</b>	<b>-625.963</b>	<b>28.25</b>	<b>-5.42</b>	<b>\$3,543.23</b>	<b>-\$224.15</b>
Principal -- \$87,860	1	\$175.70	1.38	0.38	224.45	48.75	0.71	-0.29	154.05	-21.65
Admin Asst -- \$35,415	1	\$70.80	1.69	0.69	88.54	17.74	1.20	0.20	88.61	17.81
<b>Total School-Level Personnel</b>	<b>35.665</b>	<b>\$4,013.90</b>	<b>36.02</b>	<b>0.355</b>	<b>\$ 3,454.41</b>	<b>-559.473</b>	<b>30.16</b>	<b>-5.51</b>	<b>3785.89</b>	<b>-227.99</b>

## SECTION 5: Categorical Funding

### Definition

Unlike foundation funding, categorical funding was not intended to be distributed for the benefit of all students. Three of the four categorical funds are intended for student populations with higher needs than the majority of students. These special needs groups include students in poverty, students who are not proficient in the English language, and students who need the additional assistance of an alternative learning environment. The fourth categorical fund type benefits students through the provision of professional development training for teachers. Providing for professional development through categorical funding, results in the funding being restricted to use for that purpose only.

### Funding and Expenditures

	<b>NSLA (Poverty)</b>	<b>English Language Learners</b>	<b>Alternative Learning Environments</b>	<b>Professional Development*</b>
Funding FY 2007-08	\$496,\$992,\$1,488	\$293	\$4,063	\$50
Funding FY 2008-09	\$496,\$992,\$1,488	\$293	\$4,063	\$50
Funding FY 2009-10	\$496,\$992,\$1,488	\$293	\$4,063	\$50
Funding FY 2010-11	\$496,\$992,\$1,488	\$293	\$4,063	\$50
Expenditures FY 2008-09	\$144,987,178	\$12,486,661	\$31,750,663	\$17,547,335

\*A varying amount (at least \$8) is reserved for use by ADE each fiscal year rather than being provided to the districts.

### Supporting Information

#### National School Lunch Act

National School Lunch Act (NSLA) funding is the Arkansas categorical funding program for schools with high percentages of students in poverty. This state poverty funding program should not be confused with the federal school lunch program. The federal school lunch program is used only as the measure of poverty for the Arkansas categorical funding program. The amount of funding received by each district is determined by the number of students eligible for the free and reduced price lunch program. Schools can use NSLA funding for classroom teachers, before- or after-school programs, pre-kindergarten programs, tutors, teachers' aides, counselors, social workers, nurses and curriculum specialists, parent education, summer programs, early intervention programs, and materials and supplies.

#### English Language Learners

English Language Learners funding is designed to help school districts educate students with limited English language proficiency. According to the ADE Rules Governing the Distribution of Student Special Needs Funding and the Determination of Allowable Expenditures of Those Funds (ADE Rules):

“English Language Learners (ELL)” are students identified by the State Board of Education as not proficient in the English language based upon approved English proficiency assessment instruments administered annually in the fall of the current school year, which assessments measure oral, reading, and writing proficiency.

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### Alternative Learning Environments

An Alternative Learning Environment (ALE) is a student intervention program designed to eliminate traditional barriers to student learning for at-risk students. ALE funding is designed to help school districts educate students who need different learning environments due to social or behavioral factors that make learning difficult in the traditional classroom. The rules of the State Board of Education specify not only which alternative learning environment programs qualify for funding, but also the characteristics of students who qualify for funding because they have been placed in an alternative learning environment program.

### Professional Development

Professional Development funding is designed to pay for professional development for teachers and staff. Professional development (PD) of teachers is a critical factor in the effort to improve student performance and ensure highly qualified teachers in the classroom. The Arkansas Accreditation Standard 10.01.3 requires that all teachers have 60 hours per year for professional development.

The current funding level for professional development remains at \$50 per student. In FY 2008-09, each district received \$41.33 per student with the balance of the funding going to the ADE for professional development purposes. A portion of the funding received by ADE was provided to Arkansas Educational Television Network (AETN) for professional development programs.

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## Summary

The matrix is the basis for determining a level of foundation funding. It was not intended to reimburse schools for actual expenditures but rather to establish a level of funding that is adequate for Arkansas schools to meet standards and to provide a substantially equal opportunity for an adequate education to the state's public school students. Districts bear responsibility for operating in an efficient and effective manner that focuses first on adequate academic instruction for their students. The variety of needs for different districts and their student characteristics make it unlikely that all individual matrix line items will fit all schools equally well, which is why the matrix is not mandated. As a result, superintendents are provided the flexibility to utilize these resources as they best see fit, with an assumption of optimal benefit for each school district. This study reviewed each line item of the matrix in an effort to identify how schools are using these increased resources.

Matrix line items are those deemed necessary to provide an adequate education. There is not a precise way to determine how foundation funds are expended for matrix line items because foundation funds are not segregated in the state accounting system but combined with other unrestricted funds. There is no source of funds code for foundation funding.

As in past years, districts spent more on some matrix line items than provided and less on other items. The overall expenditure of foundation funds for the matrix is approximately equivalent to the amount of foundation funds received in the districts. In a statewide context, districts are spending less on teachers and certified staff than provided for in the matrix and more for the extra duty, operations and maintenance, and central office and other district-level expenditures line items. Additional review may be needed to further assess the adequacy of the school staffing funding with regard to licensure issues and the structure of class periods within the school day. Another area where further consideration is warranted is the tracking of operations and maintenance costs.

District expenditures of foundation or matrix funding should be considered in the context of the availability of other unrestricted funds and other restricted funds from state sources, such as categorical funding. Categorical funding is designed to address additional needs that exist in districts with large numbers of students in poverty, students at-risk of academic failure, and students who are English language learners. The funding picture as a whole must be considered when determining the adequacy of the state's support for the K-12 education system.

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## Appendix A: Explanation of Matrix Line Items

KINDERGARTEN TEACHERS - Generally includes educational activities for students of age 5 or 6.

CLASSROOM TEACHERS (OTHER THAN KINDERGARTEN AND SPECIAL EDUCATION) - Elementary, middle school and high school classroom activities including regular programs, workforce education programs, compensatory education programs, and other classroom instruction such as gifted and talented, art, choir, band or music. This line item does not include adult education and does not include athletics or student activities.

SPECIAL EDUCATION TEACHERS - Instruction services for students with disabilities or special needs.

ISTRUCTIONAL FACILITATORS - Includes Assistant Principals, Curriculum Supervisors, Instructional Facilitators.

LIBRARIAN OR MEDIA SUPPORT - Activities concerned with the operation and effective use of circulating books, reference materials, audio visual materials and other instructional media.

COUNSELORS -- Includes Guidance Counselors, School Nurse, Psychologists, Social workers.

PRINCIPAL - The principal is responsible for directing school activities and operations.

SCHOOL SECRETARY - Secretaries working with principal's office.

TECHNOLOGY - Includes instructional and administrative technology.

INSTRUCTIONAL MATERIALS - General and instructional supplies directly related to the instruction and instructional support functions.

EXTRA DUTY - Generally includes non-classroom duties of certified teachers related to athletics or student activities.

SUPERVISORY AIDES - Non-instructional supervision of students in the lunchroom, playground, etc.

SUBSTITUTES - Persons filling in for regular staff on a temporary as-need basis and may be certified or classified.

OPERATIONS AND MAINTENANCE - Activities concerned with maintaining the usefulness, comfort and safety or existing buildings, facilities and grounds . Does not include facilities acquisition and construction services relating to new buildings and facilities. Typical positions include plant supervisor, custodians, electricians, carpenter, crossing guards, etc.

CENTRAL OFFICE - Includes district level support such as superintendent, fiscal operations and purchasing. Other items paid from unrestricted funds not included in another specific line item have also been included within 'Central Office' for purposes of this report. These items include instructional aides, miscellaneous instructional support, miscellaneous non-instruction such as community services and food service, facilities acquisition and construction services and miscellaneous LEA indebtedness.

TRANSPORTATION - activities relating to student transportation. Expenditures include bus maintenance, bus purchases, bus drivers, fuel and similar costs.

FUNDING SOUCICES INCLUDED IN UNRESTRICTED FUNDS (FUNDS 1 AND 2 ONLY - TEACHER SALARY FUND AND OPERATING FUND)

FOUNDATION FUNDS (INCLUDING URT PROPERTY TAXES)

EXCESS (UNUSED) DEBT SERVICE MILLAGE

ENHANCED EDUCATIONAL FUNDING

98% TAX COLLECTION RATE GUARANTEE

STUDENT GROWTH FUNDING

DECLINING ENROLLMENT FUNDING

ISOLATED AID

SUPPLEMENTAL MILLAGE INCENTIVE FUNDING

CATASTROPHIC LOSS FUNDING

REVENUES FROM LOCAL SOURCES (TUITION, FEES, INVESTMENT EARNINGS, ETC.)

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## Appendix B: Standards of Accreditation

### 9.03.4 GRADES 9-12

#### 9.03.4.1 Language Arts - 6 units

4 units English

1 unit oral communications or 1/2 unit oral communications and 1/2 unit drama

1 unit journalism

(Other options as approved by the Department)

#### 9.03.4.2 Science - 5 units (Active student participation in laboratory experience is required for a minimum of 20% of instructional time.)

1 unit biology

1 unit chemistry

1 unit physics

(Other options as approved by the Department)

#### 9.03.4.3 Mathematics - 6 units

1 unit Algebra I

1 unit geometry

1 unit Algebra II

1 unit pre-calculus mathematics to include trigonometry

(Other options as approved by the Department)

#### 9.03.4.4 Foreign Languages - 2 units of the same language

#### 9.03.4.5 Fine Arts - 3 ½ units

1 unit art

1 unit instrumental music

1 unit vocal music

½ unit survey of fine arts or an advanced art or an advanced music course

#### 9.03.4.6 Computer Applications with emphasis on current applications-1 unit

#### 9.03.4.7 Social Studies - 4 units

1 unit American history with emphasis on 20th Century America

1 unit world history

½ unit civics

½ unit of Arkansas history if not taught in grade 7 or 8

(Other options as approved by the Department)

#### 9.03.4.8 Economics - ½ unit

The Economics course must be taught by a teacher appropriately licensed in either Social Studies or Business Education.

#### 9.03.4.9 Health and Safety Education and Physical Education - 1½ units

1 unit physical education

½ unit health and safety education

#### 9.03.4.10 Career and Technical Education - 9 units of sequenced career and technical education courses (programs of study) representing three (3) occupational areas.