AN ESTIMATION OF THE TOTAL COST IN 2002-03 OF IMPLEMENTING THE RESULTS OF THE SCHOOL FINANCE ADEQUACY STUDY UNDERTAKEN BY AUGENBLICK, PALAICH AND ASSOCIATES, INC.

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Introduction

In December 2003 Augenblick, Palaich and Associates, Inc. (APA) issued its report to the Coalition for Tennessee's Future that described the procedures used to estimate the costs of various components of an adequate elementary and secondary education in Tennessee. The primary purpose of the APA study was to determine the funding levels needed to assure that all school districts in Tennessee would have sufficient operating funds, excluding transportation and food services, to be able to meet the requirements and expectations that Tennessee and the federal government use to hold school districts accountable. The report identified several elements that would be necessary to determine the cost of adequacy in four hypothetical school districts, including: (1) a base cost figure adjusted for the enrollment level of a school district; and (2) adjustments to the base cost figure associated with the proportion of students in mild, moderate, and severe special education programs; at-risk students (whose number is based on the count of students eligible for free/reduced-price lunch; and English language learners (ELL). The report did not estimate the cost of an adequate education for all school districts in the state in the aggregate or for any individual school district because: (1) a statewide aggregate cost based on statewide average school district demographic characteristics can be misleading and (2) the only way to estimate costs for individual districts whose characteristics differ from the hypothetical districts is to create formulas that reflect the relationships that might exist between the base cost figure, or the adjustment factors, and the enrollment levels of school districts.

The purpose of this report is to estimate the cost of adequacy for individual school districts and to compare that cost to the actual, comparable spending of districts. Several things should be kept in mind in looking at this report: (1) most figures shown are for the

2002-03 school year, which is one year later than the year for which data were used in preparing the December 2003 report (therefore, some figures have been inflated for one year using an inflation rate of 2.0 percent); (2) the cost of adequacy focuses on current operating spending, which excludes capital outlay and debt service (to construct school buildings); (3) the costs of transportation and food services are also excluded since they were not examined in preparing the December 2003 report; (4) actual, comparable spending for school districts is for 2002-03 and does not include spending for capital outlay and debt service, transportation, or food service; and (5) in a change from the information contained in the December 2003 report, a new student weight for students from low income families is used (the weight was raised from .22 to .25, which is more in line with the levels we have found in other state school finance adequacy studies [although some are much higher]).

Estimating the Cost of Adequacy

One purpose of this report is to estimate the cost of adequacy for every school district in Tennessee and, on the basis of those figures, for the state as a whole and for groups of districts based on enrollment level. In order to make these cost estimates, we needed to: (1) create formulas that adjust the base cost figure relative to school district enrollment level and (2) create formulas for the added costs of special education, at-risk students, and ELL students relative to district enrollment level. We used a base cost figure of $5,049 to build these formulas. It is worth noting that our December 2003 report identified a base cost figure of $6,200[1] based on using the professional judgement approach, which we interpreted to be the amount needed in 2013-14 in order to fulfill the student performance expectations associated with No Child Left Behind (NCLB, the federal legislation passed in 2001 that requires student performance to improve in states in line with a state-specific schedule that must be approved by the U.S. Department of Education or risk the loss of some amount of federal support – every state's schedule must effectively result in the vast majority of all students meeting state standards in 2013-14). We also found that successful school districts spent $4,950 in 2001-02 for base cost purposes.[2] We suggested that the state could create a school funding system with two tiers, one using the base cost of $4,950 (in 2001-02) and a second providing added state aid to districts that both choose to generate up to $1,250 more per student and were relatively poor in terms of property wealth per student. It should be noted that because it is impossible to estimate the extent to which each school district would choose to take advantage of the second tier and we do not know the rate at which the state would match local taxes, we cannot estimate the cost of the second tier. In fact, we would expect the state to set a maximum amount, perhaps between $50 and $200 million, to be available in the first year of implementation of a second tier in order to evaluate the response of

[1] The figure represents the cost associated with the resources panels of educators thought were necessary to meet state and federal standards; in costing out those resources, salaries were raised by 2.76 percent above existing levels to make them competitive with surrounding states.

[2] The report noted that no school districts in Tennessee actually met all state standards at appropriate levels and that $4,950 was the amount that a few districts spent, on average, in meeting a reasonably high level of state expectations.

school districts to such aid. We also recommended that the state raise the base cost figure consistent with the rate at which it raises student performance expectations in compliance with NCLB and reduce the second tier as the base cost, adjusted for inflation, approached $6,200. This approach is designed to assure that revenue variations among districts not exceed 25 percent, which is sometimes considered to be consistent with the objectives of school finance equity. In effect, using this procedure to set the parameters of the two tiers establishes a specific relationship between education funding and education accountability.

Our analysis of base cost figures for hypothetical districts of varying size suggested that there was a slight relationship between the size of districts and the per student base cost (relatively small districts need to spend up to about 16 percent more than relatively large districts). Assuming a base cost figure of $5,049, the following formulas can be used to set the base cost figures in school districts of varying size (the formulas are designed to generate a set of lines similar to those that would be required to replicate the base cost figures for school districts of different size as shown in Table VI-1 in the earlier report):

District Size	Formula to Determine Base Cost Level
Less than 3,000	$5,865
3,001-8,000	[(.06) X (8,000 - enroll)] + $5,559
8,001-50,000	[(.012) X (50,000 – enroll)] + $5,049
Over 50,000	$5,049

In the earlier report, we treated base adjustment factors as if they were student "weights," which are expressed in percentage figures relative to the base cost amount; for example, a weight of .50 means that the added cost of providing a particular service is 50 percent as great as the base cost figure. Since there is a relationship between districts size and some of the adjustment factors, it is necessary to create formulas to determine the actual adjustment for districts of different size. In other cases, the weight is constant across districts of different size.

In the case of special education, we differentiated between the costs of programs for students with mild, moderate, and severe special education needs since proportions of students with such needs could vary among districts, which would cause their costs to differ. The weights are calculated as follows:

District Size	Weight for Mild Special Education
All sizes	.50

District Size	Weight for Moderate Special Education
All sizes	1.00

District Size	Formulas for Severe Special Education
Less than 3,000	3.45
3,001-45,000	2.60 + [(.00002) X (45,000 – enroll)]
Over 45,000	2.60

For “at-risk” students, based on the number of students eligible for free/reduced-price lunch, the weight is a constant, as follows:

District Size	Weight for At-Risk Students
All sizes	.25 (slightly higher than the level we found based on our earlier analysis, .22, but more consistent with results we have found in other adequacy studies)

Finally, weights for ELL students would be calculated using the following formulas:

District Size	Formulas for ELL Students
Less than 3,500	.60
3,501-8,500	.80 - [(8,500 – enroll) X .00004]
8,501-45,000	.90 – [(45,000 – enroll) X .000003]
Over 45,000	.90

When these formulas are used to determine the base cost figure and the associated student weights that reflect the added costs of serving students with special needs, the following figures would be associated with districts at the indicated enrollment levels when the base cost is $5,049:

Enroll.	Base Cost	Special Education Mild	Mod.	Severe	At-Risk	ELL
500	$5,865	.50	1.00	3.45	.25	.60
750	$5,865	.50	1.00	3.45	.25	.60
1,000	$5,865	.50	1.00	3.45	.25	.60
2,000	$5,865	50	1.00	3.45	.25	.60
4,000	$5,799	.50	1.00	3.42	.25	.62
6,000	$5,679	.50	1.00	3.38	.25	.70
10,000	$5,529	.50	1.00	3.30	.25	.80
20,000	$5.409	.50	1.00	3.10	.25	.83
30,000	$5,289	.50	1.00	2.90	.25	.86
50,000	$5,049	.50	1.00	2.60	.25	.90
75,000	$5,049	.50	1.00	2.60	.25	.90

The cost of adequacy in a school district in 2002-03 can be determined using the formulas specified above if the demographic characteristics of the district are known. For example, if a district had 4,000 students of which 15 percent were in special education programs (10 percent mild, four percent moderate, and one percent severe), 36 percent were eligible for free/reduced-price lunch, and one percent were ELL students, the total cost of adequacy would be $28,308,398 or $7,077 per each of the 4,000 students. This cost reflects: (1) base costs of $23,196,000 (4,000 X $5,799); (2) special education costs of $2,880,943 ([.10 X 4,000 X .50 X $5,799] + [.04 X 4,000 X 1.00 X $5, 799] + [.01 X 4,000 X 3.42 X $5,799]); (3) at-risk costs of $2,087,640 (.36 X 4,000 X .25 X $5,799); and (4) ELL costs of $143,815 (.01 X 4,000 X .62 X $5,799).

We made one additional adjustment in calculating the cost of adequacy. We applied a geographic cost index (one calculated by the National Center for Education Statistics) to half of the unadjusted cost of adequacy calculated using the formulas. This was done since, in determining base cost levels and adjustments to base cost for students with special needs, we used the same teacher salary in the four different size hypothetical districts. It is likely that salaries actually vary across districts of different size, which is reasonable as long as the variation is due to cost differences beyond the control of districts – a geographic cost index, as used in several states, is designed to account for uncontrollable price differences required to hire teachers with similar characteristics in different parts of a state. Because teacher salaries represent about half of the spending of school districts, we applied the cost index to half of the cost of adequacy (for example, if the unadjusted cost of adequacy were $6,000 per student in a particular district and the cost index for that district was 1.10, we multiplied $3,000 by 1.10 and added the product, $3,300, to the other half to get a total of $6,300). The geographic cost index can be positive or negative (the statewide average is 1.00); see Table I for a list of districts and their geographic cost indices.

The focus of the work described in the earlier report was the cost of operating K-12 school districts. While there are 120 such districts in Tennessee, there are 16 other districts that provide services in various combinations of grades kindergarten through eight. In order to determine the cost of adequacy in those districts, we assumed a base cost of $5,865 given that most districts have fewer than 4,000 students and that the cost of elementary and middle schools is similar, on average, across the small and moderate size hypothetical districts, to the cost of K-12 districts.

When these formulas and the geographic cost index are applied to all school districts, they produce the figures shown in Table 1, which range, in total, from $2,303,553 in Richard City to $804,616,131 in Memphis or in per student terms from $6,458 in Knox County to $8,259 in Fayette County. Total costs include revenues from all sources (state, local, and federal).

The actual, comparable spending levels of school districts in 2002-03 are also shown in Table 1. These figures reflect actual spending, on the basis of actual revenues, and are not based on budget figures. The data are based on information provided by the Tennessee Department of Education. The figures exclude spending for capital outlay and debt service, exclude spending for transportation and food service, but include spending for regular education programs, special education, services for at-risk students, and services for LEP students. The range in these figures is: (1) for total expenditures, from $1,463,547 in Richard City to $722,274,457 in Memphis and (2) for spending per student, from $3,923 in Smith to $7,751 in Oak Ridge City.

Table 1 provides the information needed to calculate the cost of an adequate education and to compare such costs to actual expenditures in 2002-03. The table does not include other information, such as student performance or district personal income, which might be of interest to anyone trying to explain the level of spending or how spending is related to factors such as student performance. In order to reach those explanations or to understand those kinds of relationships, statistical analysis would need to be undertaken that would go well beyond examining the data for a few districts.

Comparing the Costs of Adequacy to Current Spending For the State as a Whole and for Groups of Districts Based on Enrollment

Once the cost of adequacy has been estimated and the actual, comparable cost has been determined, it becomes possible to estimate the total, statewide cost of adequacy. In addition, it is possible to compare estimated costs to actual spending for groups of school districts in order to better understand the relationship between costs and actual spending.

The figures in Table 2 can be used to better understand the relationship between the cost of adequacy and actual, comparable costs. The table includes figures for districts organized by size category (using the same categories that were used in the professional judgement approach) and for the state as a whole.

Section I of Table 2 shows the demographic characteristics of school districts in Tennessee grouped by size. This information is the same that guided implementation of the professional judgement approach. It is worth noting that we characterized 30 districts as small (with a total of 35,793 students), 52 districts as moderate size (with a total of 170,575 students), 29 districts as large (with a total of 232,979 students), and nine districts as very large (with a total of 412,124 students). The 16 K-8 districts enrolled 24,777 students. Section II shows the base cost levels and student weights that would apply to districts that had the characteristics of districts of the hypothetical district representing each size group (this information is not provided for K-8 districts since we did not specifically examine them using a professional judgement panel). Section III indicates the total cost of adequacy for districts of different size and for the state as a whole disaggregated by type of cost. The total cost of an adequate education in 2002-03 would have been about $6.279 billion of which 77.7 percent ($4.880 billion) would have been for base costs. As shown in Section IV, these costs equate to $7,166 per student for the state as a whole, decreasing from $7,594 in relatively small districts to $6,872 in very large districts, on average.

Section V of Table 3 displays actual, comparable spending in 2002-03. In that year, school districts spent $5.170 billion, or $5,900 per student. These figures suggest that the total revenue needed to assure adequate expenditures in every district was $1.109 billion, or $1,377 per student – an increase of 23.3 percent over actual expenditures. The figures in Section VI indicate that the smallest districts require the largest increase in per pupil spending in order to reach adequacy (33.6 percent) while the largest districts require the smallest increase in per pupil spending in order to meet adequacy (9.7 percent). The problem is that these figures are somewhat misleading since some districts may have actually been spending above the calculated level of adequacy – it is unlikely that such districts would be willing, or that state policy would require, a movement of "excess" revenue to districts spending less than the calculated level of adequacy. Therefore, it becomes important to examine separately those districts spending above an adequate level and those districts spending below an adequate level.

Section VII displays information about districts spending more than the amount calculated as adequate in 2002-03. Only three of 136 districts, enrolling about 9,227 students out of 805,446 students were spending more than what was calculated to be adequate. Those three districts spent about $75.8 million, or about $8,215 per student. This level of spending was $4.4 million, or about $483 per student, over the level calculated to be adequate.

In 2002-03, 133 districts, enrolling 796,219 students, had spending levels below those calculated to be adequate, as shown in Section VIII. Those districts spent about $6,398 per student, which was about $1,284 per student under an adequate level. The total amount required to meet adequacy would have been $1.114 billion in 2002-03 (about $5 million more than the amount discussed above, which reflects the extent to which spending exceeded an adequate level in two districts, as shown in Section VII).

Conclusion

The simple conclusion that can be drawn from the discussion above is that $1.114 billion (over the $5.170 billion actually being spent) would have been needed in 2002-03 to assure that the revenues of 133 districts could have been raised to an adequate level while permitting the spending in three districts to exceed (by $4.4 million) the level considered to be adequate. This conclusion does not address questions about the source of new revenue or how knowledge about the cost of adequacy in every school district could affect the structure of the school finance system.

TABLE 1
DATA FOR TENNESSEE DISTRICTS 2002-03

		COL Adj.	Enrollment	Mild SpEd	Moderate SpEd	Severe SpEd	ESL	At-Risk	Professional Judgement Total	2002-03 Total Spending	Professional Judgement per Pupil	2002-03 Spending per Pupil
10	Anderson County	1.05	6,214.11	1,543	252	36	3	3,127	$47,299,688	40,208,599	$7,612	6,471
11	Clinton City	1.03	908.72	225	30	6	0	358	$6,899,943	5,655,723	$7,593	6,224
12	Oak Ridge City	1.05	4,247.60	984	252	57	55	1,127	$32,671,468	35,713,440	$7,692	8,408
20	Bedford County	1.00	6,599.42	979	92	28	516	2,923	$47,186,373	31,629,275	$7,150	4,793
30	Benton County	0.97	2,375.77	446	58	33	11	1,373	$18,003,500	14,212,398	$7,578	5,982
40	Bledsoe County	0.93	1,679.82	428	95	30	20	1,122	$13,487,675	9,558,151	$8,029	5,690
50	Blount County	1.05	10,348.12	1,825	396	123	52	4,152	$74,524,170	59,830,977	$7,202	5,782
51	Alcoa City	1.05	1,281.35	164	44	19	30	520	$9,710,443	10,166,135	$7,578	7,934
52	Maryville City	1.05	4,478.32	600	194	52	127	1,038	$32,442,633	29,361,287	$7,244	6,556
60	Bradley County	1.04	8,665.14	1,101	252	117	50	3,932	$61,431,122	42,819,853	$7,089	4,942
61	Cleveland City	1.04	4,166.09	591	228	55	128	2,207	$32,504,352	26,563,682	$7,802	6,376
70	Campbell County	1.02	5,597.09	883	87	105	8	4,361	$43,685,247	31,133,137	$7,805	5,562
80	Cannon County	0.95	2,055.72	348	75	32	16	1,023	$15,325,722	10,545,145	$7,455	5,130
92	Hollow Rock-Bruceton SSD	0.97	693.59	133	9	4	0	468	$5,209,676	3,519,301	$7,511	5,074
93	Huntingdon SSD	0.99	1,206.27	230	20	12	0	570	$8,889,635	6,199,275	$7,370	5,139
94	McKenzie SSD	0.99	1,242.53	220	10	2	12	632	$8,934,862	5,596,799	$7,191	4,504
95	South Carroll SSD	0.96	371.46	79	19	7	0	186	$2,880,842	1,950,329	$7,755	5,250
97	West Carroll SSD	0.98	1,006.68	165	30	3	0	622	$7,462,192	4,932,897	$7,413	4,900
100	Carter County	1.02	5,595.24	825	286	44	16	3,631	$42,438,434	32,445,663	$7,585	5,799
101	Elizabethton City	1.01	1,960.00	290	78	18	5	843	$14,512,617	12,638,229	$7,404	6,448
110	Cheatham County	1.03	6,708.38	821	148	81	30	1,943	$46,106,691	33,064,027	$6,873	4,929
120	Chester County	0.94	2,369.82	228	26	26	17	1,076	$16,386,700	10,943,339	$6,915	4,618
130	Claiborne County	0.97	4,378.91	706	252	133	5	3,151	$35,439,691	24,865,196	$8,093	5,678
140	Clay County	0.92	1,066.01	210	22	21	0	752	$8,177,026	6,435,352	$7,671	6,037
150	Cocke County	1.02	4,480.61	812	124	56	43	3,367	$35,330,007	23,563,048	$7,885	5,259
151	Newport City	0.99	699.64	107	9	-	2	285	$4,863,309	3,805,390	$6,951	5,439
160	Coffee County	1.01	3,882.16	667	152	46	54	1,881	$29,354,932	21,676,392	$7,561	5,584
161	Manchester City	0.99	1,227.17	267	67	18	57	599	$9,775,389	7,093,715	$7,966	5,781
162	Tullahoma City	1.01	3,504.50	672	121	23	30	1,209	$25,555,741	21,491,084	$7,292	6,132
170	Crockett County	0.96	1,610.39	267	24	18	158	882	$12,310,823	8,710,786	$7,645	5,409
171	Alamo City	0.93	484.35	80	14	2	20	257	$3,514,812	2,574,083	$7,257	5,314
172	Bells City	0.91	397.03	67	10	2	109	232	$3,209,278	2,011,878	$8,083	5,067
180	Cumberland County	1.00	6,604.08	1,000	293	82	107	3,906	$49,173,874	33,500,889	$7,446	5,073
190	Davidson County	1.11	68,206.79	10,875	2,574	402	5039	40,294	$489,097,774	483,541,129	$7,171	7,089
200	Decatur County	0.96	1,352.20	471	41	9	13	656	$10,513,592	8,833,123	$7,775	6,532
210	DeKalb County	0.96	2,422.38	511	79	53	61	1,220	$18,851,998	12,787,459	$7,782	5,279
220	Dickson County	1.03	7,795.75	1,540	242	111	78	3,207	$56,752,800	43,169,107	$7,280	5,538
230	Dyer County	1.00	3,059.45	699	82	29	23	1,710	$23,579,923	19,691,144	$7,707	6,436
231	Dyersburg City	1.00	3,458.82	504	117	47	43	1,900	$26,208,103	19,825,092	$7,577	5,732
240	Fayette County	1.02	3,308.63	517	98	63	30	2,914	$27,327,614	21,196,964	$8,259	6,407

		COL Adj.	Enrollment	Mild SpEd	Moderate SpEd	Severe SpEd	ESL	At-Risk	Professional Judgement Total	2002-03 Total Spending	Professional Judgement per Pupil	2002-03 Spending per Pupil
250	Fentress County	0.95	2,172.74	371	73	12	0	1,661	$16,476,133	11,909,078	$7,583	5,481
260	Franklin County	0.98	5,416.74	1,020	164	94	29	2,762	$40,197,850	30,715,606	$7,421	5,671
271	Humboldt City (Gibson Co.)	1.02	1,419.35	300	35	11	10	1,151	$11,444,370	8,986,074	$8,063	6,331
272	Milan SSD (Gibson Co.)	1.01	1,894.63	308	55	27	3	926	$14,343,629	9,894,482	$7,571	5,222
273	Trenton SSD (Gibson Co.)	1.01	1,354.50	139	37	7	5	740	$9,849,084	7,138,097	$7,271	5,270
274	Bradford SSD (Gibson Co.)	0.98	598.58	89	14	4	0	340	$4,386,387	3,041,216	$7,328	5,081
275	Gibson SSD (Gibson Co.)	1.01	2,554.12	444	99	23	1	1,082	$18,983,849	11,339,453	$7,433	4,440
280	Giles County	0.98	4,170.14	567	109	53	16	2,000	$30,113,586	23,455,738	$7,221	5,625
290	Grainger County	0.96	3,144.06	571	119	56	37	1,770	$24,171,972	17,064,507	$7,688	5,428
300	Greene County	1.04	6,473.14	1,231	332	131	23	3,791	$50,803,533	33,188,172	$7,848	5,127
301	Greeneville City	1.03	2,594.77	538	148	33	38	887	$20,066,574	19,926,394	$7,733	7,679
310	Grundy County	0.95	2,111.05	600	75	9	3	1,209	$16,121,206	12,004,814	$7,637	5,687
320	Hamblen County	1.03	8,642.21	1,163	331	65	496	4,130	$62,957,988	48,726,050	$7,285	5,638
330	Hamilton County	1.08	38,781.32	6,069	1,611	821	634	19,336	$274,665,904	254,390,469	$7,082	6,560
340	Hancock County	0.91	956.22	181	32	30	0	883	$7,872,359	6,047,676	$8,233	6,325
350	Hardeman County	0.96	4,231.01	707	245	47	16	3,209	$32,942,544	23,077,114	$7,786	5,454
360	Hardin County	0.96	3,586.50	598	60	42	13	2,051	$26,337,392	19,686,859	$7,343	5,489
370	Hawkins County	1.02	6,926.46	1,419	299	89	17	4,256	$52,930,361	37,808,834	$7,642	5,459
371	Rogersville City	0.99	641.02	68	11	4	8	217	$4,431,074	3,256,889	$6,913	5,081
380	Haywood County	0.98	3,360.02	497	126	60	106	2,798	$27,234,476	19,863,346	$8,105	5,912
390	Henderson County	0.99	3,101.59	602	47	16	16	1,564	$22,727,551	17,722,731	$7,328	5,714
391	Lexington City	0.97	1,010.23	228	34	5	4	407	$7,384,142	5,135,115	$7,309	5,083
400	Henry County	1.00	2,917.15	528	61	43	39	1,776	$22,584,949	17,143,367	$7,742	5,877
401	Paris SSD	0.98	1,482.75	183	25	2	4	823	$10,558,163	7,513,824	$7,121	5,067
410	Hickman County	0.97	3,601.67	656	161	50	14	1,779	$26,999,533	18,317,135	$7,496	5,086
420	Houston County	0.94	1,363.25	206	69	17	8	653	$10,004,313	7,144,762	$7,339	5,241
430	Humphreys County	0.99	2,798.44	521	95	13	1	1,335	$20,646,233	15,236,113	$7,378	5,444
440	Jackson County	0.93	1,523.73	279	58	11	0	1,092	$11,517,864	8,934,627	$7,559	5,864
450	Jefferson County	1.00	6,798.38	1,243	301	75	105	3,339	$49,920,153	35,598,906	$7,343	5,236
460	Johnson County	0.97	2,115.77	415	67	26	3	1,534	$16,559,020	13,519,491	$7,826	6,390
470	Knox County	1.07	50,032.63	6,502	1,340	778	774	18,477	$323,116,387	297,588,498	$6,458	5,948
480	Lake County	0.94	855.76	161	25	3	0	611	$6,413,735	5,104,685	$7,495	5,965
490	Lauderdale County	0.97	4,319.09	970	101	42	71	3,212	$33,657,271	22,756,285	$7,793	5,269
500	Lawrence County	0.99	6,233.46	1,019	255	162	14	3,361	$47,208,584	33,792,579	$7,573	5,421
510	Lewis County	0.94	1,899.08	232	88	29	4	1,039	$14,059,198	9,089,835	$7,403	4,786
520	Lincoln County	1.01	3,715.20	537	71	36	11	1,542	$26,706,783	20,225,347	$7,189	5,444
521	Fayetteville City	1.00	999.43	94	17	10	7	412	$7,055,620	5,437,032	$7,060	5,440
530	Loudon County	1.04	4,659.33	478	123	57	152	1,964	$34,111,865	24,896,208	$7,321	5,343
531	Lenoir City	1.03	1,945.67	229	44	37	182	992	$15,406,125	11,501,446	$7,918	5,911
540	McMinn County	1.02	5,398.20	994	185	51	54	2,747	$40,279,775	28,266,126	$7,462	5,236
541	Athens City	1.01	1,680.82	289	55	16	32	840	$12,771,775	10,289,643	$7,599	6,122
542	Etowah City	0.97	389.17	100	10	10	8	217	$3,130,678	1,994,533	$8,045	5,125
550	McNairy County	0.95	3,904.89	474	143	24	20	2,048	$27,730,582	20,383,684	$7,101	5,220

		COL Adj.	Enrollment	Mild SpEd	Moderate SpEd	Severe SpEd	ESL	At-Risk	Professional Judgement Total	2002-03 Total Spending	Professional Judgement per Pupil	2002-03 Spending per Pupil
560	Macon County	0.95	3,387.11	473	71	21	29	1,606	$23,865,279	17,197,077	$7,046	5,077
570	Madison County	1.01	13,054.64	2,763	526	213	214	8,231	$98,902,120	84,266,699	$7,576	6,455
580	Marion County	1.00	3,835.14	580	99	91	26	2,382	$29,822,796	20,288,556	$7,776	5,290
581	Richard City SSD	0.94	349.24	60	12	4	0	0	$2,303,553	1,597,143	$6,596	4,573
590	Marshall County	0.98	4,628.94	748	124	45	61	1,784	$32,943,418	25,738,832	$7,117	5,560
600	Maury County	1.03	10,747.24	1,761	500	127	205	4,713	$77,819,477	63,842,021	$7,241	5,940
610	Meigs County	0.97	1,738.42	251	55	46	0	1,174	$13,665,239	8,748,027	$7,861	5,032
620	Monroe County	1.01	4,890.36	693	188	57	80	2,904	$36,877,987	26,116,848	$7,541	5,340
621	Sweetwater City	0.99	1,434.94	215	69	17	52	834	$11,135,247	7,149,805	$7,760	4,983
630	Montgomery County	1.07	24,221.74	3,364	802	216	196	9,289	$165,641,241	122,269,408	$6,839	5,048
640	Moore County	0.94	902.80	175	20	6	0	333	$6,350,733	5,594,527	$7,035	6,197
650	Morgan County	0.96	3,060.28	513	113	22	0	1,951	$22,900,533	16,451,461	$7,483	5,376
660	Obion County	1.01	3,772.12	718	49	15	60	1,782	$27,505,830	20,729,569	$7,292	5,495
661	Union City	1.00	1,298.40	232	12	17	55	714	$9,967,033	8,986,819	$7,676	6,921
670	Overton County	0.97	3,039.52	746	71	19	1	1,846	$23,163,877	16,235,445	$7,621	5,341
680	Perry County	0.93	1,072.53	314	69	22	0	620	$8,660,432	6,564,738	$8,075	6,121
690	Pickett County	0.90	648.25	91	14	5	0	414	$4,622,872	4,181,735	$7,131	6,451
700	Polk County	0.98	2,355.99	274	33	31	4	1,261	$17,102,460	12,878,858	$7,259	5,466
710	Putnam County	1.01	9,601.71	1,615	404	108	333	3,630	$68,485,175	50,469,106	$7,133	5,256
720	Rhea County	1.02	3,604.15	385	103	39	66	2,031	$26,887,324	17,244,151	$7,460	4,785
721	Dayton City	0.99	705.96	101	16	5	23	343	$5,189,829	3,393,501	$7,351	4,807
730	Roane County	1.02	6,920.00	1,144	364	163	3	3,257	$52,396,048	32,901,611	$7,572	4,755
731	Harriman City	1.01	1342.94	232	62	23	0	683	$10,437,802	8,011,863	$7,772	5,966
740	Robertson County	1.06	9,291.95	1,752	288	71	229	3,217	$66,490,388	49,369,714	$7,156	5,313
750	Rutherford County	1.09	28,169.82	4,083	967	291	836	7,967	$192,742,542	142,080,065	$6,842	5,044
751	Murfreesboro City	1.09	5,993.33	702	200	15	160	1,538	$43,524,738	34,078,648	$7,262	5,686
760	Scott County	0.99	2,433.89	366	28	6	0	2,304	$18,930,279	15,004,656	$7,778	6,165
761	Oneida SSD	0.97	1,215.05	126	22	9	0	723	$8,752,426	6,907,803	$7,203	5,685
770	Sequatchie County	0.94	1,878.00	292	152	30	25	1,099	$14,610,386	9,386,824	$7,780	4,998
780	Sevier County	1.05	12,656.51	1,884	569	200	152	5,533	$91,812,628	71,241,476	$7,254	5,629
790	Shelby County	1.10	42,477.92	8,558	1,935	261	598	9,092	$281,091,800	254,185,697	$6,617	5,984
791	Memphis City	1.10	116,270.27	14,369	1,975	575	4002	86,315	$804,616,131	760,315,186	$6,920	6,539
800	Smith County	0.97	3,035.24	420	130	19	31	1,243	$21,688,477	14,212,217	$7,146	4,682
810	Stewart County	0.95	1,939.64	359	110	7	1	939	$14,233,445	11,058,109	$7,338	5,701
820	Sullivan County	1.05	11,921.99	2,220	582	119	55	4,207	$85,301,173	72,985,378	$7,155	6,122
821	Bristol City	1.05	3,508.53	506	147	37	29	1,597	$26,553,754	24,648,707	$7,568	7,025
822	Kingsport City	1.06	6,272.86	850	291	63	68	2,635	$46,015,951	43,527,427	$7,336	6,939
830	Sumner County	1.07	22,668.88	3,514	1,132	279	450	6,595	$158,534,027	120,728,272	$6,993	5,326
840	Tipton County	1.04	10,681.80	1,740	326	86	3	5,156	$75,791,309	49,246,410	$7,095	4,610
850	Trousdale County	0.94	1,198.97	240	46	16	5	503	$8,834,100	6,453,882	$7,368	5,383
860	Unicoi County	1.01	2,393.59	599	132	27	41	1,300	$19,281,812	12,347,440	$8,056	5,159
870	Union County	0.98	2,884.40	630	111	63	3	1,836	$23,206,582	15,410,198	$8,046	5,343
880	Van Buren County	0.91	721.91	106	9	3	0	451	$5,083,207	4,148,641	$7,041	5,747

		COL Adj.	Enrollment	Mild SpEd	Moderate SpEd	Severe SpEd	ESL	At-Risk	Professional Judgement Total	2002-03 Total Spending	Professional Judgement per Pupil	2002-03 Spending per Pupil
890	Warren County	0.99	5,608.14	1,128	365	91	223	2,822	$43,678,097	32,213,324	$7,788	5,744
900	Washington County	1.05	8,132.67	1,271	151	94	43	3,412	$57,615,049	43,681,877	$7,084	5,371
901	Johnson City	1.05	6,551.55	1,212	177	34	161	2,741	$47,820,726	41,219,323	$7,299	6,292
910	Wayne County	0.94	2,419.97	515	42	24	0	1,578	$18,162,498	14,691,014	$7,505	6,071
920	Weakley County	0.97	4,541.25	632	178	81	38	2,121	$33,372,864	23,534,037	$7,349	5,182
930	White County	0.97	3,743.77	639	76	40	8	1,963	$27,398,378	17,031,317	$7,318	4,549
940	Williamson County	1.13	21,294.48	3,186	736	176	324	1,564	$142,429,731	130,944,379	$6,689	6,149
941	Franklin SSD	1.13	3,698.10	584	139	41	229	926	$28,989,163	29,945,985	$7,839	8,098
950	Wilson County	1.09	11,522.45	1,235	488	93	122	2,097	$78,135,318	60,003,409	$6,781	5,208
951	Lebanon Special School District	1.09	3,024.57	419	161	24	162	1,342	$23,923,120	15,920,062	$7,910	5,264

TABLE 2

ESTIMATING THE COST OF ADEQUACY IN 2002-03 FOR SCHOOL DISTRICTS IN TENNESSEE BASED ON THE WORK OF AUGENBLICK, PALAICH AND ASSOCIATES, INC.

Using a Base Cost of $5,049 Based on the Hypothetical Districts Used in the Professional Judgement Approach

	K-12 Districts by Size Group					
	Small	Moder.	Large	Very Large	K-8	Grand Total
I. District Characteristics						
Range in Size of District (Students)	<2,000	2,001-5,000	5,001-19,000	>19,000		
Number of Districts	30	52	29	9	16	136
Number of Students	35,793	170,575	232,979	412,124	24,777	876,248
Hypothetical District Size	1,300	3,462	8,268	46,049		
Proportion of Students with Special Needs:						
Special Education						
Mild	10%	11%	11%	11%		
Moderate	2%	2%	2%	2%		
Severe	1%	1%	2%	1%		
At-Risk (Free/Reduced-Price Lunch)	50%	46%	39%	43%		
English Language Learners (ELL)	1%	1%	1%	2%		

TABLE 2 (Continued)

	K-12 Districts by Size Group					
	Small	Moder.	Large	Very Large	K-8	Grand Total
II. Base Cost Figures/ Add-On Weights						
Base Cost	$5,865	$5,836	$5,560	$5,097	$5,865	
Special Education						
Mild	.50	.50	.50	.50		
Moderate	1.00	1.00	1.00	1.00		
Severe	3.45	3.43	3.33	2.60		
At-Risk	.25	.25	.25	.25		
ELL	.60	.60	.79	.90		
III. Estimated Aggregate Cost (millions)*						
Base Cost	$206.3	$988.6	$1,321.1	$2,215.8	$148.7	$4,880.4
Special Education						
- Mild	$18.1	$83.3	$111.0	$162.9	$11.2	$386.5
- Moderate	$6.8	$33.2	$50.7	$70.6	$5.2	$166.5
- Severe	$9.1	$40.4	$53.8	$56.0	$3.7	$162.9
At-Risk	$29.7	$134.3	$151.9	$265.5	$14.3	$595.7
ELL	$1.8	$6.1	$14.7	$61.2	$3.3	$87.1
Grand Total	$271.8	$1,285.9	$1,703.2	$2,831.9	$186.4	$6,279.2
IV. Estimated Per Student Spending*						
Total	$7,594	$7,539	$7,310	$6,872	$7,521	$7,166

TABLE 2 (Continued)

	K-12 Districts by Size Group					
	Small	Moder.	Large	Very Large	K-8	Grand Total
V. Actual, Comparable Spending*						
Aggregate Total (millions)	$203.5	$964.3	$1,290.9	$2,566.0	$145.3	$5,170.0
Per Student Total	$5,685	$5,653	$5,541	$6,226	$5,862	$5,900
VI. Relationship Between Adequate and Actual Per Student Spending:						
Adequate Spending Is the Indicated Percent Over Actual Spending	33.6%	33.4%	31.9%	9.7%	28.3%	21.5%
Or						
Actual Spending Is the Indicated Percent of Adequate Spending	74.9%	75.0%	75.8%	90.6%	77.9%	82.3%

*Figures exclude spending for capital, transportation, and food service

TABLE 2 (Continued)

	K-12 Districts by Size Group					
	Small	Moder.	Large	Very Large	K-8	Grand Total
VII. Districts with ***Higher*** Spending than Calculated to be Adequate						
Number of Districts	1	1	0	0	1	3
Number of Students	1,281	4,248	0	0	3,698	9,227
Aggregate 2002-03 Total Spending (millions)*	$10.2	$35.7	--	--	$30.0	$75.8
Aggregate 2002-03 Estimated Cost of Adequacy (millions)*	$9.7	$32.7	--	--	$29.0	$71.4
Aggregate Spending ***Over*** Adequacy* (millions)	$0.5	$3.0	--	--	$1.0	$4.4
Per Student Spending ***Over*** Adequacy*	$356	$716	--	--	$259	$483

*Figures exclude spending for capital, transportation, and food service

TABLE 2 (Continued)

	K-12 Districts by Size Group					
	Small	Moder.	Large	Very Large	K-8	Grand Total
VIII. Districts with ***Lower*** Spending than Calculated to be Adequate						
Number of Districts	29	51	29	9	15	133
Number of Students	34,512	166,327	232,979	412,124	21,079	796,219
Aggregate 2002-03 Total Spending (millions)*	$193.3	$928.6	$1,290.9	$2,566.0	$115.3	$5,094.1
Aggregate 2002-03 Estimated Cost of Adequacy (millions)*	$262.1	$1,253.2	$1,703.2	$2,831.9	$157.4	$6,207.8
Aggregate Spending ***Under*** Adequacy (millions)*	$68.8	$324.6	$412.3	$265.9	$42.1	$1,113.7
Per Student Spending ***Under*** Adequacy*	$1,994	$1,952	$1,770	$645	$1,995	$1,284

*Figures exclude spending for capital, transportation, and food service