

**CALCULATION OF THE COST OF AN ADEQUATE
EDUCATION IN MARYLAND IN 1999-2000 USING
TWO DIFFERENT ANALYTIC APPROACHES**

Prepared for

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and Excellence (Thornton Commission)

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TABLE OF CONTENTS

	Page
Executive Summary	1
I. Introduction	5
II. Alternative Approaches to Calculating a Base Cost Level	8
III. Implementing the Professional Judgement Approach in Maryland	12
Introduction	12
The Use of Expert Panels	12
Resource Needs of Elementary, Middle and High School Prototype Schools	14
Resource Prices	15
Prototype Cost Estimates	16
Determining a Base Cost Figure	17
IV. Implementing the Successful School (District) Approach in Maryland	19
Introduction	19
Selecting Successful Schools	19
Collecting the Data	21
Cost Estimates	22
V. Other Resources Available to Successful Schools in Maryland	24

TABLE OF CONTENTS (Continued)

VI.	Using Figures Derived from the Analysis for Policy Purposes	26
	Comparing Maryland's Professional Judgement Resources to Other States	26
	Differences in Reported Base Cost Figures Within Maryland	27
	Using Figures in a School Finance System	29

Tables

Table 1	Background Data Relevant to the Study of Adequate Funding for Public Schools in Maryland
Table 2	Personnel Requirements of Prototype Schools to Achieve Desired Results Given Specified School Characteristics
Table 3	Personnel per 1,000 Students for Prototype Schools
Table 4	Technology Needs of Prototype Schools
Table 5	Other Prototype School Programs and Support Services
Table 6A	Prices for Prototype Resource Elements and Components
Table 6B	Comparison of 1998-99 Statewide Average Teacher Salary in Maryland to Five Neighboring States with Adjustments for Geographic Cost-of-Living, Education, and Experience Differences
Table 7	Prototype District Central Office Costs (Excluding Transportation)
Table 8	Per Student Costs of Prototype Elementary, Middle, and High Schools in 1999-2000
Table 9	1999-2000 Total Cost (Excluding Transportation) and Base Cost for Elementary, Middle, and High School Prototypes and for All Schools Combined

TABLE OF CONTENTS (Continued)

Table 10	Characteristics of the 59 Schools Identified as Being Successful in Maryland
Table 11	Adjusted Per Pupil Spending of the 59 Schools Identified as Being Successful in Maryland
Table 12	Comparison of Basic Cost Figure Produced by the Professional Judgement Approach to That Produced by the Successful School Approach
Table 13	Summary of Responses to Maryland School-level Questionnaire Concerning Resources
Table 14	Comparison of Number of Personnel Assigned to Prototype Elementary Schools (at 500 Pupils) in Maryland, South Carolina, Wisconsin, Wyoming, and Oregon
Table 15	Comparison of Number of Personnel Assigned to Prototype Middle Schools (at 800 Pupils) in Maryland, South Carolina, Wisconsin, Wyoming, and Oregon
Table 16	Comparison of Number of Personnel Assigned to Prototype High Schools (at 1,000 Pupils) in Maryland, South Carolina, Wisconsin, Wyoming, and Oregon

Appendices

Appendix A:	List of Participants in Professional Judgement Panels
Appendix B:	Materials Distributed to Members of the Professional Judgement Panels
Appendix C:	Successful Elementary Schools Based on MDSE Analysis of State Performance Index
Appendix D:	Successful Middle Schools Based on MDSE Analysis of State Performance Index

TABLE OF CONTENTS (Continued)

Appendix E: Successful High Schools Based on MDSE Analysis of State Performance Index

Appendix F: Cost-of-Education Index for 10 School Districts with Successful Schools

EXECUTIVE SUMMARY

This report was prepared as part of the work Augenblick & Myers (A&M) is doing for the Maryland Commission on Education Finance, Equity, and Excellence (the Thornton Commission). The purpose of the report is to estimate the cost of an “adequate” K-12 education in Maryland.

Previously, A&M evaluated the equity of the state’s school finance system and concluded that, overall, the structure of the system was designed to promote inter-district fiscal equity by taking into consideration both the relative need and relative wealth of each school district in the distribution of state support; we also found that some components of the system, such as state retirement aid, were somewhat inequitable and that several components were designed to accomplish the same purpose, making the allocation system unnecessarily cumbersome.

The state uses a “foundation” formula for the purpose of distributing most state aid, under which a target level of revenue is established for each district, driven in large measure by the foundation level, a constant amount per student. Assuring that the system provides an adequate level of support requires that the foundation level be set at an appropriate level -- a level that has some meaning in terms of either the amount of services that can be delivered to students or the level of performance students achieve. Once a foundation level has been determined, it is common practice to adjust the level in each district so that the target revenue level is sensitive to cost pressures that are beyond the control of districts, and that vary across districts, including those associated with the cost-related characteristics of students, such as their need to receive special education services, or districts, such as geographic price differences.

Maryland, like many other states, is implementing a “standards-based” approach as part of the effort it is making to improve student performance. The standards-based approach requires a state to specify its expectations for student performance, develop procedures to measure how well students are meeting those expectations, and hold providers of education services accountable for student performance. The logic of the approach also implies that a state will assure that sufficient resources are available in school districts, if not in schools, so that they can reasonably be expected to meet state standards. In effect, this means that the foundation level should reflect the per pupil spending a district needs to make so that students without special needs can meet state performance expectations.

A few states are attempting to estimate the expenditures school districts need to make in order to fulfill state objectives. These states are using calculation procedures based on either the “professional judgement” model or on the “successful school (district)” model, which are two of the four generally recognized approaches that have been

developed to date to estimate the cost of an adequate education. The Thornton Commission asked A&M to pursue both the professional judgement approach and the successful school approaches in Maryland.

Using the professional judgement approach, A&M met with seven teams of people in order to develop the resources prototype elementary, middle, and high schools would need in order to expect that, given statewide average demographic characteristics, students would be able to meet state standards. In effect, the teams created a prototype school district of 30,000 pupils (31 percent of whom were from low income families, 13.5 percent of whom were enrolled in special education programs, and two percent of whom required LEP services) in which there were 40-50 schools with between 500 and 1,000 pupils in each school. Each prototype school was assigned specific numbers of staff as well as a specific array of technology, a set of supplementary programs related to full-day kindergarten or extended day/year, and other resources including supplies and materials. Based on a set of costs for those school resources and the cost associated with district wide services, such as administration and plant maintenance and operation, A&M estimated total costs to be \$12,060 per pupil in elementary school, \$9,004 per pupil in middle school, and \$9,599 per pupil in high school. After removing the costs associated with special education programs, services for students from low income families, and LEP programs, and combining costs across all grades, the base cost would have been \$6,612 in 1999-2000. Looking at the resources attributable to special education, we determined that the average excess cost of providing adequate services would be \$7,748 per student in a special education program, or 1.17 times the base cost figure. Similarly, we determined that added services for pupils from low income families would be expected to cost \$9,165 per such pupil, or 1.386 times the base cost figure. We made the assumption that supplemental services for LEP pupils would be equal to the base cost figure (\$6,612).

In order to implement the successful school approach, the Maryland State Department of Education (MSDE) identified a total of 59 elementary, middle, and high schools that met a set of state standards. Those schools enrolled over 46,000 pupils and were in 10 different counties. On average, the schools had a smaller percentage of pupils from low income families and a smaller proportion of pupils in special education programs than the statewide average. Since school level financial data were not available, A&M developed a data collection instrument for use by school district business officials to obtain basic expenditure information for each school based on the actual people employed in schools, their salaries, and procedures to allot district wide expenditures for services such as administration, plant maintenance and operation, and personnel benefits. Once data were received, auditors from the state legislature and MSDE reviewed the data for reasonableness. In addition, expenditures were adjusted for inter-district cost-of-education differences using factors determined by the National Center for Education Statistics. Our analysis of those data indicate that the cost of a successful elementary school was \$6,161 while the cost of a successful middle school was \$5,655 and the cost of a successful high

school was \$5,910. Combining these costs based on the statewide distribution of students by type of school produces a base cost figure of \$5,969, a level 9.7 percent lower than the base cost associated with the professional judgement approach. Because our work specifically focused on the base figure, and because the schools had very low proportions of pupils from low income families, on average, we were unable to derive pupil weights.

The statewide total cost that results from using these figures for 1999-2000 varies depending on which figures are used and how they are combined. Using only the figures derived from the professional judgement approach (a base level of \$6,612 and supplemental pupil weights of 1.17 for special education, 1.386 for pupils from low income families, and 1.00 for LEP pupils), the total cost would have been \$8.796 billion. Using the base cost figure derived from the successful school approach (\$5,969) and the pupil weights derived from the professional judgement approach, the total cost would have been \$7.939 billion in 1999-2000.

In our opinion, the supplemental pupil weights estimated for special education pupils (1.17 is slightly lower than the national average figure of 1.3 often cited as the average across all categories of special education pupils) and for LEP pupils (1.00, which we set based on our understanding of what policy makers in other states would like to happen although it is higher than what many states use) are reasonable; however the supplemental pupil weight estimated for pupils from low income families is extraordinarily high (at 1.386 it is well above the range of .25 – 1.00 that is sometimes used in other states). The supplemental pupil weight for pupils from low income families produces a total cost of \$2.352 billion when the base figure is \$6,612 (the total would have been \$2.123 billion using a base figure of \$5,969). If the supplemental weight for low income pupils were set at .900, the total cost of the entire program would have been \$7.195 billion in 1999-2000 (using a base cost of \$5,969) and the total supplemental cost for low income pupils would have been \$1.379 billion.

All of these total cost estimates exceed the total amount of revenue available in 1999-2000 from state, local, and federal sources, which was \$5.917 billion excluding state and local funds for transportation (since that function has not been considered).

It is worth noting that there are a variety of ways to apply pupil weights other than using a single number for a particular group of pupils. For example, assuming that the costs of serving pupils with different disabilities varies and that the proportions of pupils with different disabilities differs from district to district, it might make sense to use several weights for special education, the average of which should be 1.17. Too, assuming that the per pupil cost of providing supplemental services to pupils from low income families rises as their concentration in a district rises, it may make sense to use a “concentration” factor in applying that weight.

Finally, A&M conducted a survey of the 59 successful schools to determine whether they received supplemental resources, in the form of money, material, or contributed time, that would not have been reflected in their fiscal accounting. We found that: (1) almost all schools received monetary contributions, ranging from \$33 to \$97 per pupil, on average, depending on the level of the school; (2) over two-thirds of the schools received contributions of material, which had a value of between \$6 and \$24 per pupil, on average, depending on the level of the school; and (3) all schools obtained contributions of time, mostly from parents of pupils attending the schools, which ranged from 1 hour to 13 hours per student, on average, depending on the level of the school.

While the figures discussed above fulfill the objective of setting rational parameters so that an adequate amount of revenue is available to all school districts in Maryland, they do not, in and of themselves, suggest what portions of the total cost should be paid by state, local, or federal sources nor do they specify the source of any new revenue that might be needed to fully fund the total cost. More importantly, the numbers are not set in stone. All of these approaches to determining a base cost figure are evolving, having been used in states for the first time only in the past few years. The approaches should be viewed as a combination of “art” and “science.” There would be no reason to think that the results produced using two different approaches would be the same. Therefore, while the use of either the professional judgement approach or the successful school district approach is more rational than the methods that have typically been used to set the parameters of a school finance system, the figures produced should be viewed as reasonable estimates rather than as precise calculations. Policy makers should be wary of simply making changes with the sole purpose of lowering cost. In the end, the task for policy makers is to be artful -- rational and informed as much as possible by science, expertise, and experience.