

# **Determining the Cost of Education in Minnesota**

Continuing the Work of the  
Governor's Education Funding Reform Task Force

## **FINAL REPORT**

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## INTRODUCTION

This fall, Augenblick, Palaich and Associates (APA) was employed by the Association of Metropolitan School District (AMSD), the Minnesota Rural Education Association (MREA), and Schools for Equity in Education (SEE) to estimate the costs associated with educating Minnesota students to state and national standards based on work done for the Governor's Education Funding Reform Task Force. The Task Force made several key recommendations; however, it stopped short of estimating the cost of education based on the work done by their consultants, Management, Analysis and Planning, Inc. (MAP).

The work completed by the nineteen member task force, appointed in June of 2003 by Governor Tim Pawlenty, resulted in the Education Finance Reform Task Force report titled, "Investing In Our Future: Seeking a Fair, Understandable, and Accountable 21<sup>st</sup> Century Education Finance System for Minnesota."

The "Determining the Cost of Education in Minnesota" report summarizes the key recommendations of the Governor's Task Force report. It also examines the consultants' work for the task force, identifies key strengths and weaknesses of the report, determines the cost of education in Minnesota using the results of the professional judgment approach used by the Task Force, and recommends next steps.

Augenblick, Palaich and Associates, Inc. (APA) is a Denver-based consulting firm that has worked with state policymakers on school funding issues for more than 20 years. APA's work uses MAP's professional judgment study to determine two key elements: 1) a base per-student cost; and 2) additional costs or "weights" for students with special needs. The "professional judgment" approach has been used effectively in other states by both MAP and APA, but APA has completed a larger number of adequacy studies and has had more success in helping policy makers translate study results into new school finance formulas.

For the purposes of this paper, "adequate revenues" or "adequacy" means providing sufficient funding so schools are able to provide the programs and services necessary for each student to achieve state and federal student performance expectations. These performance expectations are reflected in Minnesota's state education accountability system, the state's federally-approved plan to comply with the No Child Left Behind Act (NCLB), and other requirements associated with the Individuals with Disabilities Education Act (IDEA).

There are two primary, inter-connected reasons to determine the cost of adequacy:

- (1) To understand the cost implications associated with meeting state and federal requirements/expectations; and

(2) To estimate needed components of a state school finance formula.

When discussing state and federal performance expectations, the fact is that most states (including Minnesota) and the federal government have decided that standards-based reform is the best way to improve the elementary and secondary education system. Under standards-based reform, the role of the state is the following:

- set standards for students, teachers, schools, and/or school districts (in terms of both “inputs”, such as teacher qualifications, course offerings, or service requirements, and “outcomes”, such as student performance on achievement tests, attendance, or graduation rates);
- measure how well students, teachers, schools, and/or school districts are doing (which typically means developing assessment and auditing procedures specifically tied to the standards); and
- hold students, teachers, schools, and/or school districts accountable for their performance (often including consequences either for meeting or not meeting standards).

From the beginning of the standards-based reform movement in this country (starting with the reform of the Kentucky education system in 1990), most states and the federal government have not attempted to estimate the costs that every school or district would incur to help each of their students meet state/federal performance standards.

Determining these costs has become an essential missing piece that state policymakers need in order to understand what resources schools require to enable each student to succeed. In addition, once these costs are determined, state policymakers also need to properly address them in the state’s school finance system.

Minnesota, like many states, uses a “foundation-type” formula as the basis for allocating a majority of the state’s aid to school districts. Under a foundation approach, the state typically determines a “target” amount of revenue per student (combining a fixed, base amount – the foundation level – with added amounts for students with special needs). In some states, the foundation level is calculated based on the amount of revenue needed for a student with no special needs attending school in an average size school district. In other states, student weights, such as those used in Minnesota, are used to help reflect the added cost of serving students with special, high cost needs. Weights can also be used to reflect the added cost of providing services in districts that face uncontrollable cost pressures – often related to a district’s size or regional cost differences.

In many states, including Minnesota, the determination of the foundation level is instead based primarily on total available revenue and does not take into consideration the state and federal expectations for student, school and district performance. This method for determining the foundation does not reflect the level of resources needed to fully implement standards-based reform.

In the past few years, states and their consultants have developed approaches that can calculate a cost that reflects a particular level of desired student performance. These

efforts are designed to create a base cost that has meaning beyond simply reflecting available state revenue. Four approaches have emerged as ways to determine such a base cost:

- (1) The successful school district approach;
- (2) The professional judgment approach;
- (3) The evidence-based approach; and
- (4) The statistical approach.

Each of these methodologies has strengths and weaknesses. They differ in their underlying philosophies, the amounts of information they require, the types of information they produce, the number of states in which they have been used, and the magnitude of the parameters that they estimate.

APA has come to believe that the successful school district approach provides a reasonable estimate of the base cost in relation to what school districts are accomplishing at present. Under this approach the “base cost” is determined by examining the basic spending of districts that meet state standards. The base cost applies to students with no special needs attending schools in districts that do not face unusual cost pressures.

We have found that the professional judgment approach provides a reasonable estimate of the base cost for a level of performance expected in the future. If done appropriately, it also provides information about the additional costs of serving students with special needs or of serving students in districts that vary in size. The approach relies on the views of experienced educators and education service providers to specify the resources needed for schools and districts to achieve the specified performance objectives. Once the services have been specified (with a focus on numbers of personnel, regular school programs, extended-day and extended-year programs, professional development, technology, etc.) costs are attached and a per pupil cost is determined.

APA has found that the statistical approach – which is based on understanding those factors that statistically explain differences in spending across school districts while controlling for student performance – cannot be used effectively in most states due to a lack of available information. In particular, there is often a lack of needed fiscal data at the school level. Finally, we have found the evidence-based approach – which seeks to use information gleaned from research to define the resource needs of a hypothetical school district – is limited in its generalizability to most states and districts.

Based on our experience, APA recommends that Minnesota undertake an adequacy analysis based primarily upon both the successful school district and professional judgment approaches. The use of both is advantageous to policymakers because it allows for a more thorough examination of the underlying cost structure and can help policymakers consider how to phase-in the appropriate level of investment. Until that analysis is completed, what exists is the Task Force’s professional judgment study that did not result in a base student cost and adjustments. In the interim, this paper uses the

data prepared for the Task Force in order to determine those base student cost and adjustment numbers.

## **KEY RECOMMENDATIONS OF THE GOVERNOR'S TASK FORCE REPORT**

As a means to understand the context of the adequacy level developed in this paper it is necessary to review the key recommendation from the Task Force. Task Force recommendations provide a good first step in the crafting of a new school funding system for Minnesota. The recommendations provide expectations for what the State of Minnesota needs to do next. The recommendations primarily focus on basic principles and potential formula structures. A brief summary of the key principles that should govern a new school finance formula include the following.

- The funding formula should be rationally determined, learning-linked, student-oriented and cost-based.
- It should link education funding to school and student performance.
- It should allow local discretion in spending.
- It should equalize local option referendums.
- It should promote innovation to maximize resources.
- It should encompass a five-tier system that focuses on instructional services, local district revenue, innovative programs, categorical programs, and facilities and debt service.

## **STRENGTHS AND WEAKNESSES OF THE MAP WORK**

There are several strengths in the task force report that make it the potential framework for a new formula. These strengths include the following:

- the recommendations in the report were agreed upon by seventeen of the nineteen task force members;
- the recognition that a school district should be able to decide how it spends its funds;
- the support for experimenting with new governance structures for some schools;
- the examination of the demographics that influence student and district needs. The report contains a considerable amount of data on the achievement gap, student population diversity, student mobility, increased poverty, rural decline, aging population, and stagnating taxes; and
- the use of MAP consulting group and the professional judgment study that was completed.

The dissenting letter included in the Task Force report called for more emphasis on innovation, reform, pilot projects and accountability based on student results. The debate between those proposing to radically reform education and those who want to improve the existing system is intensifying. Historically, the Minnesota school finance formula

was developed to assure that local wealth was not the determining factor in how much funding was available for education. That formula is consistent with funding the existing system. Dramatic change in the way we educate students would require a new governance system, a new organizational model, and a new funding system.

Both in MAP's work and in the recommendations of the Task Force there is a recognition of the full range of activities school districts must provide to successfully focus on student, school, and district needs. MAP's work to study the resources needed for students to meet state standards used the respected professional judgment approach as a costing-out strategy. Using a professional judgment approach is a significant undertaking that requires considerable expertise and creates a large amount of information for the costing out process.

Unfortunately, the MAP work did not provide the clarity needed by the task force to establish a new school finance formula. The first two paragraphs of Appendix B, page 39 of the report, make it clear that the consultants did not fully support or utilize their own study and that they did not show an appreciation for the appropriate role of the state in establishing a school finance formula when they said:

“...a reader should understand that there is not a single “bottom line” here...decision-makers are free to select among, or, if they choose, exceed, rationally determined spending levels, and be confident that what they have done is defensible in terms of providing education resources that are “adequate”.”

Specifically, MAP should have provided a set of base student costs and special needs adjustments that could have been used by the task force to establish a school finance formula. This would have led to the inclusion of a “a single bottom line.” Additionally, they should not have suggested that policymakers could arbitrarily select among five alternative sets of funding levels.

In Appendix B on page 48 of the Task Force report the consultants said,

“The professional judgment panels were not charged with developing special education instructional programs...for children outside of the general classroom. Rather, the panels were tasked with developing the instructional programs for all children in the general education classroom, including the special education students”

“Existing adequate special education expenditures (considered adequate because of the mandate that special education be funded at an adequate funding level) were added to those resources considered adequate to deliver the general education programs developed by the panels.”

The MAP consultants argued that their approach, described above, would eliminate the issue of cross subsidization. In other words, the panel decisions and the addition of

existing special education funding would eliminate the need for general fund dollars to be used for special education programs. There is no evidence from other states that the proposed approach would work. It is also clear that the process MAP used did not provide resources necessary to meet the accountability provisions in Minnesota state standards.

Ultimately, the task force was shown five different sets of funding levels based on the work of three study teams. The three study teams' results were represented by a change in expenditure that would create a state-wide impact of 1.42%, -2.82% or 14.75%. These were provided along with two additional results, 6.85% and 6.89%, that were created by modifying the highest expenditure study team's result. The modifications lowered the expenditure that was found by that team.

The explanation given for the modification is that the highest expenditure study team found a need for a higher level of non-personnel resources. It seems equally logical to ask what the results would be if the non-personnel resources from the highest expenditure team were applied to the other two teams. Regardless of whether their conclusion should have been an increase of about 6.90% or somewhere between 6.90% and 14.75%, no adequacy level was recommended by the consultants.

### **USING THE MAP INFORMATION**

Using the information from the MAP professional judgment process to create a base cost and adjustment for use in a school finance system requires the use of five per pupil amounts. Those amounts vary depending on the percentage of special needs students represented by students receiving free and reduced price lunch (FRL) and English language learners (ELL) students. The amounts are provided in the table below.

#### **Potential Funding for Minnesota Schools (includes special education)**

| <b>% FRL</b> | <b>%LEP</b> | <b>RED TEAM</b> | <b>PURPLE TEAM</b> | <b>YELLOW TEAM</b> |
|--------------|-------------|-----------------|--------------------|--------------------|
| 6.5%         | 0.3%        | \$7,142.70      | \$6,899.81         | \$7,775.15         |
| 14.7%        | 0.3%        | \$7,142.70      | \$6,915.38         | \$7,832.16         |
| 27.3%        | 0.3%        | \$7,286.00      | \$7,094.82         | \$8,247.42         |
| 43.2%        | 4.2%        | \$7,595.33      | \$7,988.83         | \$8,552.84         |
| 69.7%        | 15.7%       | \$8,192.77      | \$8,683.13         | \$9,278.78         |

**Potential Funding for Minnesota Schools  
(excludes special education at \$1,238 per pupil)**

| <b>% FRL</b> | <b>%LEP</b> | <b>RED TEAM</b> | <b>PURPLE TEAM</b> | <b>YELLOW TEAM</b> |
|--------------|-------------|-----------------|--------------------|--------------------|
| 6.5%         | 0.3%        | \$5,904.70      | \$5,661.81         | \$6,537.15         |
| 14.7%        | 0.3%        | \$5,904.70      | \$5,677.38         | \$6,594.16         |
| 27.3%        | 0.3%        | \$6,048.00      | \$5,856.82         | \$7,009.42         |
| 43.2%        | 4.2%        | \$6,357.33      | \$6,750.83         | \$7,314.84         |
| 69.7%        | 15.7%       | \$6,954.77      | \$7,445.13         | \$8,040.78         |

**Modified<sup>1</sup> Potential Funding for Minnesota Schools  
(excludes special education at \$1,238 per pupil)**

| <b>% FRL</b> | <b>%LEP</b> | <b>YELLOW TEAM</b> | <b>YELLOW TEAM-RED</b> | <b>YELLOW TEAM-PURPLE</b> |
|--------------|-------------|--------------------|------------------------|---------------------------|
| 6.5%         | 0.3%        | \$6,537.15         | \$5,998.74             | \$5,989.49                |
| 14.7%        | 0.3%        | \$6,594.16         | \$6,031.60             | \$6,022.35                |
| 27.3%        | 0.3%        | \$7,009.42         | \$6,355.86             | \$6,341.61                |
| 43.2%        | 4.2%        | \$7,314.84         | \$6,696.19             | \$6,724.00                |
| 69.7%        | 15.7%       | \$8,040.78         | \$7,406.69             | \$7,515.45                |

APA used all five results by accepting MAP’s adjustments for the yellow team based on the non-personnel costs associated with the work of the red and purple teams. MAP made no attempt to adjust the red and purple teams to account for the non-personnel costs from the yellow team. (Even though there is research that suggests the professional development funding levels set by the yellow team may be more appropriate than those of the red and purple teams.) In order to proceed, APA chose to use the average of the yellow team and the two modified yellow team results. The averages as shown below:

**Potential Funding for MN Schools Based on Team Averages of Modified Team Results**

| <b>% FRL</b> | <b>%LEP</b> | <b>AVERAGE</b> |
|--------------|-------------|----------------|
| 6.5%         | 0.3%        | \$6,175.13     |
| 14.7%        | 0.3%        | \$6,216.04     |
| 27.3%        | 0.3%        | \$6,568.96     |
| 43.2%        | 4.2%        | \$6,911.68     |
| 69.7%        | 15.7%       | \$7,654.31     |

These amounts include a base, plus added amounts for special education, free and reduced priced lunch, and limited English proficient students, but the MAP report does not delineate these.

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<sup>1</sup> Based on MAP changes to account for the Yellow Team being systematically higher than the others.

The first step in separating the base from adjustments is to set a weight for special education. As explained above, MAP did not use the professional judgment panels to identify resources needed for special education. For special education, MAP assumed a state average of 12.50 percent of all students would be in special education. They determined that each special education student would receive an additional amount of \$1,238. This results in a weight for each special education student of 1.78 or 178 percent of the base cost per students.

When MAP averages are unpacked to come up with a base and the added amounts for the three categories of special needs, we determined their base cost to be \$5,558 per pupil. From that we developed weights for free and reduced priced lunch, and limited English proficient students that would work at the various concentrations that MAP used in the professional judgment process (see the tables below).

#### **Weights for Free and Reduced Lunch (FRL)**

| <b>CONCENTRATION</b> | <b>WEIGHT</b> |
|----------------------|---------------|
| 6.50%                | 1.23          |
| 14.70%               | 0.59          |
| 27.30%               | 0.55          |
| 43.20%               | 0.50          |
| 69.70%               | 0.41          |

#### **Weights for English Language Learners (ELL)**

| <b>CONCENTRATION</b> | <b>WEIGHT</b> |
|----------------------|---------------|
| 0.30%                | 1.16          |
| 0.30%                | 1.16          |
| 0.30%                | 1.16          |
| 4.20%                | 1.16          |
| 15.70%               | 0.51          |

In order to find the weights at other points, graphs representing the concentrations and weights were developed. From this, equations were derived for the line segments of the various points. These equations were applied to actual school district data for the state of Minnesota. This resulted in a per pupil amount for each district that allowed us to estimate a total cost. The total cost for this base plus adjustments in 2001-02 dollars is approximately \$6.52 billion.

#### **USING ALTERNATIVE WEIGHTS**

As mentioned above, there are questions about the MAP work as it relates to setting the number that we determined to be the base cost number plus adjustments. It would take a new adequacy study to better determine those numbers. However, we could look at special needs adjustments that are not based on concentration of students with special needs. Typically, adequacy studies have found variation in weights base on school

district size, but when weights vary because of concentration, they usually increase as concentration increases. We did not find that pattern in the MAP work and therefore we use a more defensible approach.

In selecting weights, APA considered the work of the Center for Special Education Finance (CSEF), adequacy studies done in other states and Minnesota’s traditions in providing strong finance formula support for student weights. Appropriate weights could be the same across all school districts regardless of size or concentration, although a new adequacy study will likely find variation in school district size.

CSEF has found the national average expenditure for special education is 1.90 times the average student cost. The growth in accountability associated with state standards has pushed adequacy studies to recognize the added costs of serving economically disadvantaged and English language learning students. By reviewing recent state studies APA chose student weights of 0.75 or an added 75 percent to serve at-risk students and 0.90 or an added 90 percent to assure English language learners can meet state standards.

If special education students received a 1.90 weight, free and reduced priced lunch students a 0.75 weight and English language learners a weight of 0.90, the total base plus adjustments total would be approximately \$6.94279 billion.

**COMPARING APA RESULTS TO ACTUAL 2003-04 EXPENDITURES**

Comparing these target dollar amounts to current spending required two steps. First, APA gathered actual school district expenditure data from the Minnesota Department of Education website. The most recent data available was 2003-04. The total operating expenditures for Minnesota schools was \$7.04554 billion. Transportation (\$378.659 million) and capital expenditures (\$364.100 million) were subtracted from the total operating expenditures to create a comparable approximate spending level (\$6.30278 billion).

Next, the 2001-02 target spending amount of \$6.94279 billion was adjusted for cost of living using a U.S. Department of Labor CPI. An adjustment of 4.5066 percent was applied. The result is in the table below:

| <b>Total Operating Expenditures</b>       | <b>2003-04 Cost Using MAP (Task Force) Base + APA Adjustments</b> | <b>2003-04 Actual Expenditures Comparable</b> | <b>Difference</b>       |
|---|---|---|-------------------------|
| <b>Without Transportation and Capital</b> | <b>\$7.25567 billion</b>  | <b>\$6.30278 billion</b>                      | <b>\$952.89 million</b> |
| <b>With Transportation and Capital</b>    | <b>\$7.99843 billion</b>  | <b>\$7.04554 billion</b>                      | <b>\$952.89 million</b> |

## CONCLUSION

A new school finance formula based on the work done for the Governor's Task Force as shown in this report would require increased funding for Minnesota school districts of \$952.89 million. Without further study, the level of funding needed to implement an adequate school finance system in 2003-04 would be approximately \$7.998 billion. This amount includes inflation adjusted total expenditures (the base costs determined by the Task Force's Professional Judgment Panel methodologies plus the APA adjustments for special needs students) plus the 2003-04 transportation and capital costs included in the state's currently funded total operating expenditures. Implementation of a new education finance framework using the Task Force's recommendations would likely require additional increases.

## NEXT STEPS

The Governor's Task Force report recommends several next steps in the implementation of a new school funding system. The first three of those recommendations are:

- (1) Conducting follow-up study and analysis to determine the accuracy of the school-level instructional programs identified by the Professional Judgment Panel study;
- (2) Determining the dollar value of the Instructional Services Allocation through additional study and research; and
- (3) Conducting research to determine the appropriate weighting for the various relevant characteristics of individual students and the appropriate funding adjustments for uncontrollable conditions impacting a school district.

This paper assists Minnesota in beginning to address those three recommendations.

Phase II of Myers' work will examine the cost of delivering state standards using additional research tools beyond the scope of the Governor's effort and will build the base upon which a new system of funding Minnesota's schools can and should be created. It is evident that the need for an adequacy (i.e. costing-out) study still remains, and Myers' Phase II effort will fill this void.

This next phase will be designed to identify funding levels for a base student cost with adjustments for special needs students. Once the analysis is complete, any emerging school funding system will require the separation of the revenue source from the expected expenditures for each component of the school finance formula. Simulation of a new formula will require that each school district's revenues and expenditures be identified. Finally, the new formula will need to be evaluated based on district wealth and student needs.

The needs of children who live in poverty and who may also experience language barriers must be accurately measured and recognized. The APA report shows that while MAP recognizes additional costs are associated with educating students in these demographical

categories, it has understated the resources necessary to meet state and federally mandated accountability provisions for student achievement.

As Minnesota policymakers consider reforming the state's school finance formula and the additional costs incurred with standards based reform, several implementation challenges will arise. In most states, the issue of economies of scale is raised concerning rural/small schools. Size adjustments, support for districts in sparsely populated areas, and declining enrollment provisions are generally incorporated. The Governor's Task Force also mentioned the need for a program assurance adjustment for smaller schools.

Another anticipated formula implementation issue relates to the cost differential among school districts of economically diverse areas. Several states use a cost-of-living adjustment to account for these differences. The Task Force suggested a labor market differential be considered in a new formula. These issues are critical in the creation of a new funding formula and must not be overlooked. Phase II of the Myers' study will address these issues as well.

This thorough analysis is work which, as the Governor's Task Force concluded, "We cannot delay." It is the intention of the education community to build upon what was started in "Investing In Our Future." We intend to clearly define the true level of need facing school districts and students throughout Minnesota in order that the need can best be met.