



AMERICAN INSTITUTES FOR RESEARCH®

# **An Independent Comprehensive Study of the New Mexico Public School Funding Formula**

## **Volume I – Final Report**

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*The AIR research team takes sole responsibility for the entire substance and content of this report and operated independently on arriving at any recommendations regarding the costs of sufficiency.*



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## Executive Summary

*What is the cost of providing all New Mexico public school students with a sufficient education and how should the state equitably distribute these resources so that all students have the opportunity to meet the goals set forth by the public and the state?*

This report presents the results of a 16-month effort by the American Institutes for Research (AIR) to determine the cost of a sufficient education for all public school students in New Mexico. While AIR provided the framework for the analysis, the results presented here very much represent a collaborative effort among a dedicated group of policymakers, educators, advocates, and citizens of New Mexico.

The project included three major components: (1) a public engagement process to clarify the goals of public education and define the concept of sufficiency; (2) a component to determine the cost of a sufficient education; and (3) the development of a new school funding formula.

### **The Bottom Line**

The bottom line estimates derived from this study suggest that state support for public schools should increase by 14.5 percent (or \$334.7 million in 2007-08 dollars) to achieve sufficiency in New Mexico.<sup>1</sup> The methods used to arrive at these estimates and what they mean are described in this volume of the final report (Volume I). More details of the analysis are presented in a separate volume (Volume II – Technical Appendices).

### **The Funding Formula Study Task Force and the Project Advisory Panel**

AIR was ultimately accountable to the Funding Formula Study Task Force (henceforth referred to as the task force), which was responsible for contracting out the project and establishing the parameters for this study. AIR requested that a working group be formed as a subset of the task force to help serve as a liaison between the AIR team and the larger task force. This working group became the Project Advisory Panel (PAP) and included legislators, superintendents and other individuals with expertise and/or an interest in the funding of public schools.<sup>2</sup> The PAP met on numerous occasions during the course of the study to support the work of the AIR team.

### **Public Engagement, Role of the Stakeholder Panel, and Defining Sufficiency**

The initial phase of this project involved a public engagement process designed to define the concept of sufficiency. The definition of sufficiency then served as the foundation for the subsequent estimates of the cost to achieve sufficiency at the school, district, and state level. AIR organized a range of public engagement activities for the purpose of seeking public and policymaker input in defining the goals and objectives for New Mexico public schools. As part of this public engagement process, online and paper questionnaires were available to both the public and a targeted group of legislators and other key stakeholders. In addition, town hall meetings were held in a number of communities throughout the state.

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<sup>1</sup> 2007-08 was chosen for the analysis due to the fact that this was the most recent year for which the necessary fiscal and demographics data was available.

<sup>2</sup> Please see Volume II, Section 1.1 – Project Advisory Panel Membership List for a complete list of the PAP and their titles.

With the help of the PAP and a wide variety of education, citizen and advocacy groups around the state, the Legislative Council Service (LCS) worked with AIR to establish a larger Stakeholder Panel. The Stakeholder Panel was comprised of PAP members, representatives from various education organizations, superintendents, members of the business community, parents, taxpayers and other interested individuals.<sup>3</sup> The PAP members were a subset of the Stakeholder Panel and the task force. The Stakeholder Panel met on two occasions during the project and provided feedback to AIR and the PAP.

The Stakeholder Panel met in January of 2007 as part of a culminating activity of the public engagement process. This initial meeting synthesized the information emerging from the public engagement activities, and the Stakeholder Panel contributed to the development of the *Goals Statement* that was used as the basis for defining the concept of sufficiency (see exhibit I).

### **The Methodology: Costing-Out a Sufficient Education**

AIR used the professional judgment approach as the methodological centerpiece for this study. With input from the Stakeholder Panel, the PAP, school principals, district superintendents, and a wide variety of professional educator associations around the state, AIR selected six independent professional judgment panels (PJPs) representing the diversity of urban, suburban-small town, and rural-remote school districts around the state. Each PJP consisted of a superintendent, three principals, a special education director, an English learner specialist, school business officer, and two teachers.

The PJPs attended a three-day meeting to design the instructional programs they felt were necessary to achieve sufficiency as described in the Goals Statement. The PJPs were then asked to specify the resources necessary to deliver those programs to schools of varying size and student demographics (including poverty, English learner status, mobility, and disability). In order to complete this task, the panels were provided with a set of background information: (1) a series of research briefs written by experts in the field about effective practices for English learners, at-risk students, students with disabilities, and students in rural areas, as well as an additional brief addressing research-to-practice issues, and (2) an analysis of staffing patterns found on average statewide and in the most highly-performing schools in the state (compared to demographically similar schools). The AIR team used the variations in resource specifications associated with school size and pupil needs to estimate the differential cost of achieving sufficiency.

As part of its professional judgment approach, AIR incorporates a formal external review of the PJP program designs and specifications (the professional judgment review process). The purpose of this review is to ensure that the final program designs are efficient and to arrive at a more realistic and grounded set of specifications and cost estimates. AIR elected to have the PAP serve in this review capacity. To this end, a further step in our model required the PAP to interact with selected representatives from the professional judgment process to explore, question and comment on the panel deliberations. PJP representatives were expected to respond to the PAP's questions and justify the work they completed in the professional judgment process.

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<sup>3</sup> A complete list of members of the Stakeholder Panel can be found in Volume II, Section 1.2 - Stakeholder Panel Membership List.

## Exhibit I: Goals Statement

### Background

*It is the purpose of New Mexico schools, in partnership with families, to*

- 1. prepare all students to be responsible citizens and family members,*
- 2. prepare all students for educational success, and*
- 3. prepare all students to obtain and maintain gainful employment.*

*By “all” students, it is implied that each student will be provided the opportunity to meet these goals, regardless of classification (English language learner, poverty, special education or otherwise) or location. To accomplish these goals, public schools shall follow the Public Education Department (PED) Commitment to Excellence, which acknowledges that developing an educated citizenry requires all partners of the educational community to share and support a vision of excellence (NMAC, Title 6, Chapter 30, Part 2).*

### Four Critical Elements

This *Goals Statement* encompasses four indispensable and interrelated elements, each of which is described below. Details for each of these elements are provided in the Public Engagement Report found in Technical Volume, Section 2.1 - Public Engagement Report.

#### 1. Underlying Philosophies

State-level goals of excellence should coexist and be balanced with appropriate individual and local goals. Students shall have access to a multicultural education, diverse and highly qualified teachers, necessary supports to achieve these goals, and a range of enhancement opportunities offered in local communities.

#### 2. Content Standards

All public school students shall make positive and measurable gains through appropriate instructional programs aligned to state content standards and benchmarks. Children will be challenged to learn and succeed, drawing on their strengths through diverse and multiple learning styles.

#### 3. Knowledge, Skills, and Personal Qualities

New Mexico high school graduates shall exhibit a range of knowledge, skills, and personal qualities that enable them to be successful, productive members of their communities, the nation, and the world. Schools, in partnership with families and communities, seek to promote personal qualities in ways that integrate with content curriculum and in conjunction with curricular and co-curricular activities.

#### 4. Performance Goals

All students in New Mexico’s public education system should have the opportunity to make demonstrable, appropriate growth each year on a wide range of measures. Students should be provided the opportunity to demonstrate learning outcomes aligned with standardized measures reflective of state, national, and international standards *and* to demonstrate growth in areas not captured by standardized tests. In addition, students graduating from New Mexico high schools should have the requisite skills to enable entry into community college and/or entry into the work force without remedial needs.

This process involved a review of the PJP program designs, resource specifications, and corresponding preliminary cost estimates. The PAP invited representatives, including superintendents, from each of the six PJPs to a full-day meeting to gain a better understanding of the program inputs and resource specifications of each of the six panels. The PAP wanted to learn more about the perspectives of the PJPs and to obtain more information about the program designs and the resource specifications underlying the initial cost estimates. After these presentations and conversations with the representatives, there was agreement that some of the programs developed by the PJPs could be designed more efficiently.

As part of the review of the PJP program designs and resource specifications, the PAP was given the same materials that were provided to the PJPs prior to their deliberations, and was presented with the set of exercises that had been completed by the PJPs. An AIR research team member served as the facilitator for three two-day sessions of PAP deliberations. The majority of the PAP members who worked on revising the PJP designs and specifications were current or former educators including both superintendents and teachers. This type of review process has previously been used by AIR studies to synthesize information emerging from multiple panels.<sup>4</sup>

For these deliberations, the PAP started with the program design documents and cost model worksheets originally developed by the PJPs. The PAP made every effort to maintain the conceptual underpinnings of the deliberations and designs of the original PJPs in its decisions regarding final specifications.<sup>5</sup> The cost estimates derived from these PAP deliberations were used as the basis to develop the final projected costs of achieving sufficiency in New Mexico school funding.

Both the cost analyses derived from the PJPs and the PAP specifications reveal similar patterns of variation in the cost of sufficiency associated with student poverty, English learner status, student disability, student mobility, and the scale of school and district operations. It is important to note that there were some differences among the panels in the program designs and resource specifications they felt were necessary for achieving sufficiency. To some degree, these differences resulted from a lack of universal agreement in the professional literature in education as to “what works.” This suggests that there is no uniform model of services from which an unambiguous, single estimate of the cost of achieving sufficiency can be derived. The educational goals by which sufficiency was defined are not precise *per se*, but provided a guiding vision for the PJPs and the PAP in the development of their program designs. Both the PJPs and the PAP made deliberate efforts to develop program designs based on best practices and indeed the work of the PAP drew heavily from the work of the original PJPs.

In addition, the PAP revisions attempted to follow the laws addressing the provision of public education in New Mexico in developing what it believed were efficient specifications to achieve the goals set out by the Stakeholder Panel. The PAP was also guided by statements in the original request for proposal for this project, which stated that the purpose of the study was to determine:

- what an appropriately sufficient basic K-12 educational program includes and how to fund that program given the realities of New Mexico's economy;
- how to ensure that the factors in the formula meet the needs of New Mexico's diverse school districts, schools and students and distribute sufficient resources to support student achievement; and

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<sup>4</sup> See, for example, the discussion about the school finance adequacy study carried out for New York State (Chambers et al., 2004).

<sup>5</sup> The resulting program design documents and cost model worksheets used by the PAP are included in Volume II, Sections 3.11 - Program Design Documents from Project Advisory Panel (PAP) and 3.12 - Cost Model Worksheets for the Project Advisory Panel (PAP).

- how to provide effective and efficient incentives to enable low-performing schools to raise their performance to state and federal No Child Left Behind Act standards<sup>6</sup>.

Ultimately, this project and the proposed funding formula represents an amalgam of a process that identifies best educational practices, the judgments of professional educators and the careful assessment of policymakers regarding the political and economic realities of the state.

### **Overview of Instructional Program Designs**

The instructional program designs developed by the panels (PJPs and PAP) added resources to reduce class sizes, allocated additional personnel to support language and cultural heritage programs, extended the instructional year for all students, and added specialists to work with small groups of students and foster professional development opportunities for teachers. The need for high-quality professional development was seen as integral to improving student achievement and retaining quality teachers. Panels emphasized that student achievement was not necessarily dependent on the number of personnel staffed at the school level, but how their roles and time were allocated.

### **Projecting the Costs of a Sufficient Education**

As described above, the PJPs and the PAP deliberations resulted in a series of program designs and resource specifications for a series of school prototypes. School prototypes were developed for each schooling level (elementary, middle, and high schools) across the three categories of districts (urban, suburban-small town and rural-remote) represented. These prototypes were also designed for a series of schools to meet the varying pupil needs (e.g., varying percentages of students in poverty, English language learners, students receiving special education services, and mobile students) across schools of varying sizes.

The next step in the process involved costing out these school prototypes and then developing a procedure for projecting these costs across actual schools within the state. AIR used compensation rates for school personnel derived from extant PED data to cost out these prototypes. That is, these cost estimates reflected the per pupil dollar value of personnel and non-personnel resources deemed necessary for elementary, middle and high schools to achieve sufficiency. This analysis was used to generate several equations that estimated patterns of variation in elementary, middle and high school program specifications and subsequent necessary expenditure to reach sufficiency in a variety of educational settings defined by different levels of school enrollment and pupil needs.

To the school-level costs, AIR added three elements: (1) the estimated costs of ancillary or related services (e.g., speech therapy, and physical and occupational therapy) for students with disabilities; (2) the costs of instructional and related services for three- and four-year-old developmentally disabled (DD) students; and (3) the estimated costs of central school district administration along with the costs of maintenance and operations services.<sup>7,8</sup> The subsequent

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<sup>6</sup> See pp. 6-7 of the Request for Proposal for “An Independent Comprehensive Study of the New Mexico Public School Funding Formula”.

<sup>7</sup> The reader is further reminded that this project did not account for home-to-school transportation costs or any costs associated with major capital facilities, including debt service.

costs of non-charter schools were aggregated (summed) within district, while those for charter schools were kept disaggregated. Using these calculated projections, final district- and charter-school level regression analyses were performed, the results of which provided formulas used to derive per pupil and bottom-line total estimates of the cost of a sufficient education.

## The Results

### *Calculation of Marginal Spending Necessary to Achieve Sufficiency*

The main purpose of the professional judgment process was to generate a projected cost that would support the provision of a sufficient instructional program to all public school students, regardless of circumstance. To this end, the PJPs and PAP were instructed to design a comprehensive instructional program and specify the sets of resources necessary to provide this program in a variety of settings defined by levels of pupil needs and school size. In doing so, the panels were explicitly told to focus primarily on the comprehensive set of resources and services necessary to achieve the *desired goals*. They were told further not to think explicitly about specific revenue sources (e.g., Title I, IDEA, or other categorical funding programs) that might be used to support specific categories of classroom teachers, resource teachers, specialists, etc., necessary to implement their program designs.

Asking the panels to ignore specific revenue streams in this fashion was done for two reasons. First, it is undesirable to constrain the use of specific resources, as is regularly done with those supported by categorical funding streams. And second, doing so would inherently impose a budget constraint that undermines the primary intention of the process: that is, to identify how much funding is necessary to provide a sufficient education comprehensive enough to meet the needs of all students. Thus, the costing-out process yielded a formula to calculate the total projected cost to achieve sufficiency (see row A of table 5.1, below), irrespective of funding source. However, our goal is to use this information to develop a new public school funding formula that distributes sufficient resources.

Table I illustrates how we first estimated the overall marginal cost of achieving sufficiency and then uses this information to show how much program cost (i.e., the dollars that flow through the New Mexico public school funding) would need to be increased in order to achieve sufficiency. To calculate how much more had to be spent to achieve sufficiency (i.e., the marginal cost to achieve sufficiency), we had to first isolate the total current educational spending from the most recent (2005-06) expenditure file that was available from the PED (row B.1).<sup>9</sup> This total current

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<sup>8</sup> AIR also conducted a study to develop a geographic cost of education index (GCEI) for New Mexico. The purpose of this analysis was to address the following question:

*How much more or less does it cost in different local school districts to recruit and employ comparable teachers or other school personnel?*

We used data from the PED to analyze the patterns of variation in teacher costs across the state and to isolate those factors outside local control to incorporate into the GCEI. While AIR initially recommended the application of the GCEI to the sufficiency cost estimates, there were serious reservations expressed by the PAP regarding the external validity of the geographic cost adjustments. Due to these concerns the GCEI was not included in the final cost projections.

<sup>9</sup> Volume II, Section 5.3 - Expenditure Line Items Included in Total Current Spending Used to Compare Against Total Projected Sufficiency Costs provides a detailed listing of the line items from the expenditure file that were

educational spending figure was then adjusted to reflect 2006-07 dollars (row B.2), the most recent year for which we had demographics and enrollment data to project sufficiency.<sup>10</sup> The adjusted total current educational spending figure was then subtracted from the statewide bottom-line projection of sufficiency (the total projected cost to achieve sufficiency in row A), which was calculated by plugging the PED data on demographics and enrollment for the 2006-07 school year through the developed formula. This result provided the marginal cost to achieve sufficiency for the same year (row C). Finally, the marginal cost was then added to the 2006-07 total actual program cost (the total amount of funding distributed through the existing public school funding formula) to determine the projected sufficient program cost for 2006-07 (row E).<sup>11</sup>

<b>Table I: Determination of marginal cost to achieve sufficiency</b>	
A – Total Projected Cost to Achieve Sufficiency for 2006-07	\$ 2,836,755,450
B.1 – Total Current Educational Spending 2005-06	\$ 2,387,636,779
B.2 – Total Current Educational Spending 2005-06 Inflated to 2006-07 Dollars	\$ 2,500,928,765
C – Marginal Cost to Achieve Sufficiency (Incremental Cost Over Total Current Educational Spending Necessary to Achieve Sufficiency in 2006-07, Equal to A Minus B.2)	\$ 335,826,685
D – Total Actual Program Cost 2006-07	\$ 2,167,073,473
E – Projected Sufficient Program Cost 2006-07 (Equal to C Plus D)	\$ 2,502,900,158

Using the information in rows A and E of the table, we developed a scaling factor that allows the district- and charter-school funding formulas to project sufficient per pupil spending in terms of program cost (i.e., only the dollars that are to be distributed via the public school funding formula) rather than total educational spending.<sup>12</sup>

### ***Sufficient Per Pupil Cost Estimates by District Type***

Exhibit II compares the statewide average 2007-08 projected sufficient per pupil program cost generated by the final funding formulas to actual per pupil program cost and emergency supplemental funding as reported in PED fiscal data for the same year.<sup>13</sup> Note that AIR

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included as total current spending. Expenditure file taken from the 2005-06 StatBook, Section C, pages 175-516 (downloaded from <http://164.64.166.16/school.budget/nm.stat.06/indexnew.html>).

<sup>10</sup> This was done by taking a weighted average of inflation associated with compensation (salary and benefit) and non-personnel spending (using the Consumer Price Index (CPI)), the weights being the respective shares of personnel and non-personnel operational expenditures with the shares calculated from the 2005-06 Expenditure File.

<sup>11</sup> The 2006-07 actual total program cost was derived from the PED 2006-07 Final Funded data file and equals the sum of the State Equalization Guarantee (SEG), the 75 percent credits for the 0.5 mill levy, forest reserve and impact aid, and the energy savings credit. Note that this figure differs very slightly from the reported program cost in that it excludes held over cash balances, which is included in the definition of total program cost in the current funding formula. This was done because AIR recommends that districts be able to retain any cash balances from year to year (see footnote, below).

<sup>12</sup> Specifically, the scaling factor to adjust total sufficiency to sufficient program cost (equal to 0.882) is defined as the ratio of the Projected Sufficient Program Cost 2006-07 to Total Projected Cost to Achieve Sufficiency for 2006-07 in table 5.1.

<sup>13</sup> The 2007-08 emergency supplemental funding was calculated by adjusting the most recent data available (2006-07) by an appropriate inflation factor (1.047).

conducted the analysis for 2007-08 because this was the latest year for which we could obtain the necessary fiscal and demographic data.<sup>14</sup> In addition to the overall statewide averages, the chart provides average per pupil program costs within different types of districts. The district categories include urban, suburban-small town, and rural-remote districts.<sup>15</sup> It is important to note that these figures are pupil-weighted so that they represent actual and sufficient per pupil funding for the district attended by the average student statewide and within each of three district categories.

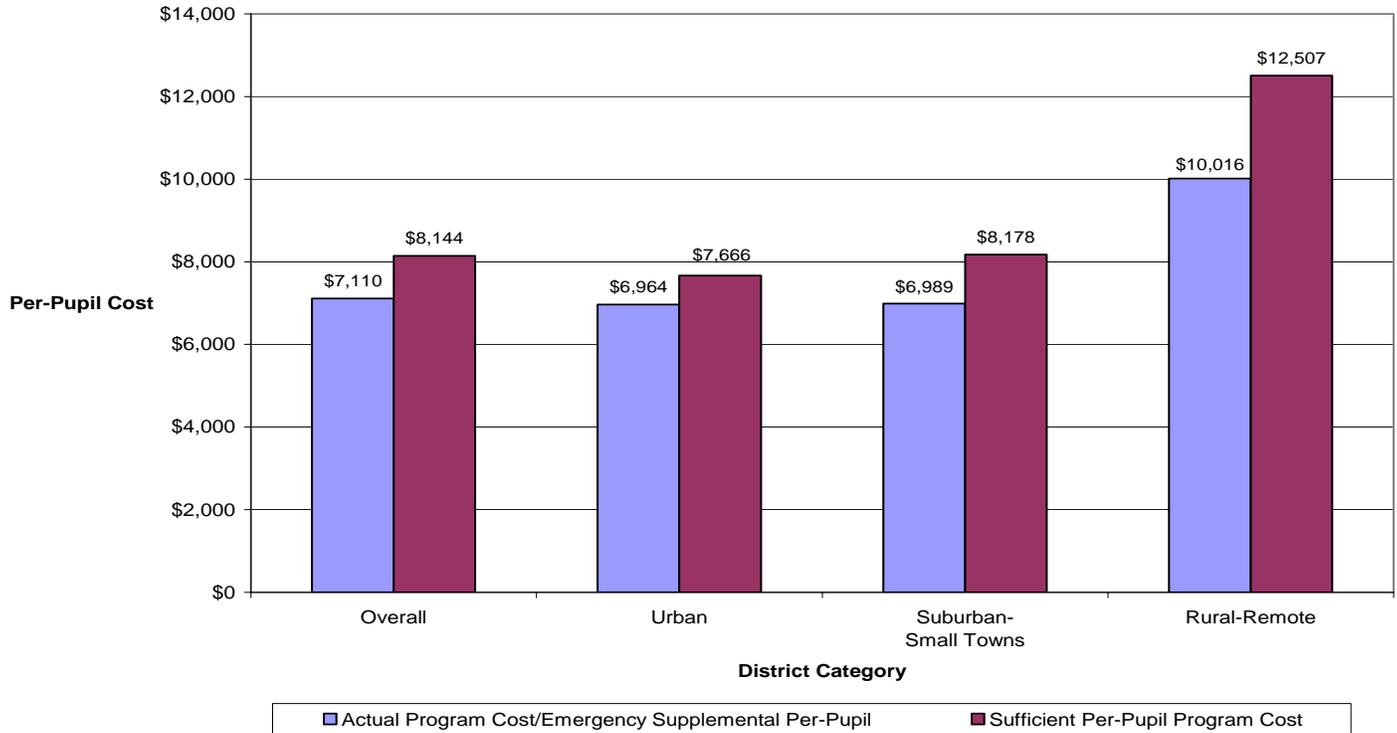
The exhibit shows that the statewide average sufficient per pupil program cost for the 2007-08 school year is \$8,144, which represents a 14.5 percent increase over what was actually budgeted that year (\$7,110). However, it is important to recognize that the figures show large variation across the three district categories. The results suggest that on average, students in rural-remote districts require the highest per pupil expenditure (\$12,507) to provide a sufficient education, while the average sufficient per pupil expenditures are lowest for districts that lie in urban areas (\$7,666). In part, this difference can be attributed to the economies of scale that urban and, to a lesser extent, suburban-small town districts enjoy. Nevertheless, it must be noted that the suggested ranges of sufficient per pupil expenditures for all district types are above what was actually budgeted.

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<sup>14</sup> The actual program cost data was derived from the PED 2007-08 Preliminary Final Funded data file, while the district demographics driving the sufficiency projections were derived from the PED 2006-07 STARS data files.

<sup>15</sup> These classifications of districts into urban, suburban-small town, and rural-remote are based on the locale codes used by the National Center for Education Statistics (NCES) and published in its Common Core of Data (CCD).

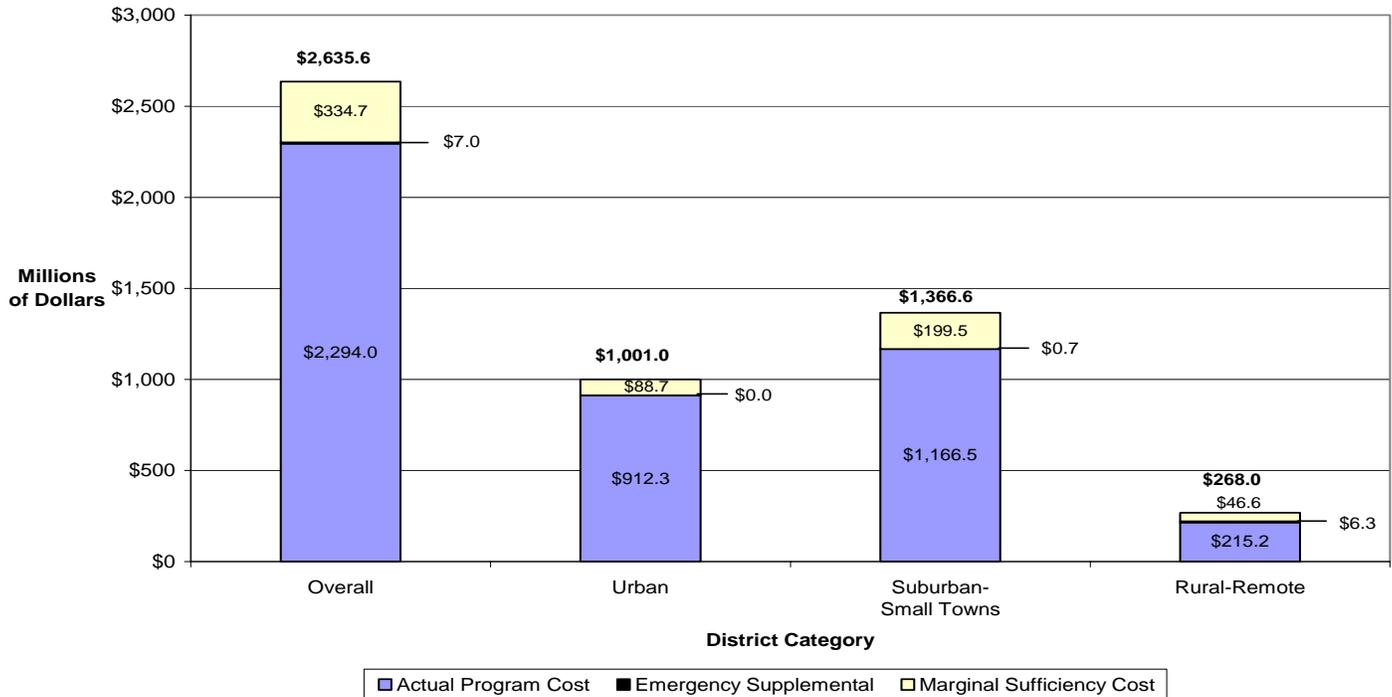
**Exhibit II: Actual program cost plus emergency supplemental funding per pupil versus sufficient per pupil program cost for 2007-08**



***Total Costs Required to Bring Districts to Sufficient Spending Levels***

Exhibit III presents a stacked bar chart that shows how the 2007-08 actual (budgeted) total program cost plus emergency supplemental funding in New Mexico compares to the projected total program cost necessary to provide all districts and charter schools with sufficient levels of spending (i.e., total sufficient program cost). Similar to the previous chart, this exhibit provides four bars corresponding to the state as a whole and broken out by district category. Each stacked bar describes the total 2007-08 actual budgeted program cost, the additional emergency supplemental funding, and the marginal increase in expenditure necessary to provide a sufficient education in all districts and charter schools.

**Exhibit III: Total necessary dollars to cover sufficient program cost in all New Mexico districts and charter schools in 2007-08 (total sufficient program cost figures in bold)**



From the PED data, AIR estimates that the actual budgeted program cost for FY 2007-08 was approximately \$2.294 billion, which includes the State Equalization Guarantee (SEG) in addition to the appropriate credits (i.e., the 75 percent credits for local property tax, forest reserve and impact aid, and the energy savings credit).<sup>16</sup> In addition, a total of \$7 million was provided in emergency supplemental funding resulting in a total outlay of \$2.301 billion in budgeted expenditure for the 2007-08 school year. The total sufficient program cost figures presented above are based on adding the total additional (marginal) program cost of achieving sufficiency (\$334.7 million) to the current (2007-08) budgeted program cost and emergency supplemental funding for the state. This total additional cost represents a 14.5 percent increase in statewide funding. It is important to recognize that these figures represent the amount it would take for districts to provide a sufficient education as projected by the AIR model holding harmless those districts already spending above sufficient levels.<sup>17</sup> That is, we provide an estimate of total expenditure necessary to bring all districts spending less than is deemed sufficient up to the projected sufficient levels of spending, with no change in current levels of spending for those

<sup>16</sup> AIR excluded the cash balances from the funded program cost figure because it recommends that the districts carry these funds over from year to year. Allowing districts discretion over the carry-over of cash balances encourages better planning in the use of funds and eliminates the “use it or lose it” mentality, which may result in less than optimal use of funds.

<sup>17</sup> The term “holding harmless” simply means not reducing funding for those districts that are spending at above-sufficient levels. The reason for doing this is to reduce the potential disruption in programs for these districts.

districts that are already at or above sufficiency. However, it turns out that almost all districts in the state are spending at levels below sufficiency. For 2007-08, our best estimates suggests there were only three districts whose actual budgeted program cost plus emergency supplemental funding measured above a level deemed sufficient given their size and the needs of the student population served.<sup>18</sup> It is important to note here that the projected total sufficient program cost covers both the actual budgeted program cost as well as the additional emergency supplemental funding provided statewide (i.e., fully funding the projected sufficient program cost would alleviate district need for emergency supplemental funding).

### **Recommended Funding Formula**

In addition to the questions surrounding the cost of providing a sufficient education, AIR was asked to evaluate the current funding formula as it relates to the equity with which funds are distributed across districts, schools, and students. Based on the analysis completed by AIR and reviewed by the PAP, AIR recommends that the state consider a revised, simplified funding formula that incorporates (1) a smaller and simplified set of pupil-needs weighting factors to achieve an equitable distribution of funds according to pupil need; (2) a simplified set of programmatic weights for student grade level composition for elementary, middle, and high school students; and (3) an enrollment size weighting schedule that accounts separately for the scale of district operations and charter school operations.

Using the district-level projections described above, multivariate regression analysis was used to derive a 2007-08 district-level formula comprised of a series of adjustments corresponding with each of the factors listed applied to a base per pupil cost. The base per pupil cost (\$5,106) denotes the sufficient per pupil cost for the average-sized district (3,532 students) with average shares of K-5, 6-8, and 9-12 enrollment (44.0 percent, 23.4 percent, and 32.5 percent, respectively) and no additional student needs (i.e., zero poverty, English learners, special education, or mobility).<sup>19</sup> This recommended formula takes the following form:

$$\begin{aligned} \text{Sufficient Per Pupil Cost} = & \text{Base Per Pupil Cost} \times \\ & \text{Poverty Adj.} \times \text{English Learner Adj.} \times \\ & \text{Special Education Adj.} \times \text{Mobility Adj.} \times \\ & \text{Share 6-8 Adj.} \times \text{Share 9-12 Adj.} \times \text{Enrollment Adj.} \end{aligned}$$

In the simple formula, the base per pupil costs are multiplied by a series of formula adjustment factors that provide additional funding for various pupil needs and size. While the recommended formula looks very different when compared to the one currently used by the state, it nevertheless captures almost all of the components in the current formula and is more precise in measuring need and scale.<sup>20</sup>

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<sup>18</sup> A precise estimate of the number of districts and charter schools that are above/below sufficiency will require data on the 2007-08 40-day enrollment, which would permit us to apply our Growth and Decline recommendation (see below).

<sup>19</sup> The base per pupil cost for charter schools is \$6,907 and defined as the sufficient per pupil cost of the average-sized charter school (160 students) with the average grade composition (29.9% in K-5, 27.6% in 6-8, and 42.6% in 9-12).

<sup>20</sup> For a complete list of the adjustment factors in the current formula and how they are accounted for in the suggested funding mechanism, the reader is referred to Volume II, Section 5.1 - Explanations of How Factors in the Current Public School Funding Formula are Represented in the Recommended Formula.

There are several merits of the recommended formula AIR has developed. Most notably, the formula is:

- Simple – It avoids unnecessary complexity by focusing directly on the factors associated with pupil need and scale.
- Fair – It promotes and preserves strict (vertical) funding equity across districts.
- Minimizes Incentives – It makes use of adjustment factors that are largely beyond a district’s control, thus minimizing the incentive to pursue funding that is not directly linked to student needs.
- Comprehensive – It accounts for most of the adjustments in the current funding formula.

### **Other Recommendations**

In addition to developing a revised school funding formula, AIR also provided a number of other recommendations for the consideration of state policymakers. These are briefly described below:

- **Fund Special Education Services with a Single Weight.** AIR recommends that the amount of funding associated with special education be determined by a single, overall weight (or cost adjustment factor) rather than three separate weights corresponding to the A/B, C, and D categories. Adopting a single weight to distribute funds for special education students will simplify the formula and eliminate the need to identify children in particular categories. In addition, a single weight will minimize the fiscal incentive to identify students with higher weights (i.e., categories C and D).
- **Adopt a Census-Based Funding System.** AIR also recommends that the state fund special education in school districts through a census-based system that determines the funding level by setting a fixed identification rate and applying the single, overall weight or cost adjustment factor as described above. This system would simply set a fixed identification rate of 16 percent to determine funding for each district rather than using the actual special education identification rate. Using a census-based system reduces the fiscal incentive to over-identify special education students and encourages districts to pursue early-intervention and pre-referral strategies.
- **Establish a Contingency Fund for High-Cost Special Education Students.** AIR recommends that the state establish a contingency fund to which districts can apply for funds to help pay the cost of educating high-cost special education students in their districts. This type of contingency fund serves as an insurance program to protect districts against extraordinarily high special education costs that may arise and that may be particularly difficult for small districts to meet. We present three alternative scenarios where the estimated cost for such a fund would amount to \$4.4, \$7.2 and \$24.2 million, respectively. Variations in the cost will occur with variations in the criteria for classifying students as high cost along with the percentage of costs the state will reimburse. As a starting point for the state, AIR recommends the most restrictive definition of high-cost special education students, which would require a contingency fund of about \$4.4 million.

- **Adoption of an Index of Staff Qualifications (ISQ).** AIR recommends that the state adopt an Index of Staff Qualifications (ISQ) to replace the T&E (Training and Experience) Index. The proposed ISQ is structured to reflect the three-tiered licensure system and calibrated to reflect the average values of experience and educational qualifications of the instructional staff employed in New Mexico. Calibration of the ISQ ensures that the cost estimates do not double count the costs already built into the basic sufficiency cost model. The ISQ is adjusted according to the percentage of the budget that districts actually spend on ISQ-applicable professional staff.
- **Compensation of National Board for Professional Teaching Standards.** AIR recommends that the state retain this program as a separate categorical program and continue to support the incentive for teachers to achieve National Board Certification.
- **Accounting for Growth and Decline.** AIR recommends that the state fund on the greater of the previous year average 80/120 day district enrollment or the 40-day pupil count from the current year. Also, AIR recommends that the state allocate additional money to the already-established New School Development Fund to provide support to districts for programmatic costs associated with the opening of new schools. The amount that should be set aside for this fund should be determined each year by the Legislature in consultation with the PED, with the appropriated amount of money to be used to offset some of the costs of schools during their inaugural year.
- **Implementation.** AIR recommends that the state consider at least a three-year phase-in period to implement the recommended level of sufficient funding and corresponding formula in order to allow districts and the state the opportunity to plan for the most cost-effective use of these new funds. To provide a picture of what this scenario might look like, AIR has developed an example of a three-year phase-in for the period 2009-10 through 2011-12 that appropriately accounts for inflation. Under this example, where demographics are assumed to be constant and all districts and charter schools are held harmless for the first two years of phase-in, we estimated the necessary increases over what was spent in the previous year to be \$208.7 million (2009-10), \$190.1 million (2010-11), and \$180.7 million (2011-12).<sup>21</sup> As a point of comparison, if the state were to fully fund sufficiency in 2009-10, the increase above the previous year would be \$422.3 million.<sup>22</sup>
- **Accountability.** AIR recommends that, as part of this reform of the school funding system, the state require districts to align their spending plans with the priorities laid out in their Educational Plan for Student Success (EPSS). The PED would need to establish clear guidelines and structures and work with the districts and charter schools to ensure that the increase in funds align with the EPSS. At the same time, as part of the accountability system, the state should develop a structure and information system that links student performance with school resources to help better target resources to areas of

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<sup>21</sup> These figures assume an inflation rate of approximately 2.9% and constant demographics across districts for the phase-in years.

<sup>22</sup> Please note that the year-to-year change figure from 2008-09 to 2009-10 (\$422.3 million) accounts for both inflation (\$68.11 million) and the additional funding necessary to reach sufficiency in 2009-10 dollars (\$354.2 million). The fully funded 2009-10 marginal cost of \$354.2 million is greater than the 2007-08 figure of \$334.7 million presented in Exhibit III due to inflation.

student need and monitor the progress of schools. First, such a system allows the state to see how schools and districts in different communities are allocating resources. Second, the information system would track the extent to which types of resources make a difference in terms of student performance across various student subpopulations and communities. Third, it would help the state identify which schools appear to be using resources most effectively and thus shed light on how resources are used at successful schools. Such knowledge could be shared across the state.

- **Updating the Funding Formula.** AIR recommends that the state consider approximately an eight-to-ten-year cycle for reviewing and updating the parameters of the school funding formula. It is important to allow sufficient time for the new funding levels to have an impact.

### **A Cautionary Note**

Although the PJPs and PAP developed instructional designs with which schools could construct a sufficient opportunity to meet the goals set forth by the state, AIR does not recommend that the theoretical designs become mandates for local practice. However insightful the instructional designs created by these panels or persuasive the case for their effectiveness, the intention of this exercise was *not* to create a “one size fits all” prescription for best educational practices. Rather, the model provides a systematic process with which to determine the level of expenditures needed to provide a sufficient education across a wide range of circumstances (i.e., needs and scale of operations). To take full advantage of the creativity, commitment, and experience of local educators, we recommend allowing them discretion to determine exactly how funds should be used. Of course, that discretion should be necessarily coupled with an effective accountability system and governance structure to ensure that districts are accountable to the Legislature and the taxpayers in their provision of a sufficient education.

### **Concluding Remarks**

The Goals Statement put forth to the panels was based on standards and personal quality objectives contained in the New Mexico school regulations. These standards do not simply focus on proficiency rates but also give high importance to an education that includes a focus on personal qualities such as accepting responsibility, and respecting oneself.

Finally, it is important to recognize that an investment in education by itself will not guarantee the desired outcomes. The success of our children depends on multiple factors that affect their ability to learn and thrive in the complex world in which we live. It requires investments in mental and physical health, nutrition, and family stability, all of which contribute to the ability of children to succeed in school. In essence, the success of our children depends on a variety of social service institutions in addition to schools.

# Chapter 1 - Introduction and Overview

## Summary of the Study and Results

This report presents the results of a 16-month effort by the American Institutes for Research (AIR) to determine the cost of a sufficient education for all public school students in New Mexico. While AIR provided the framework for the analysis, the results presented here represent a collaborative effort among a dedicated group made up of New Mexico policymakers, educators, advocates, the business community and individuals with an interest in public education.

The bottom-line estimates derived from this study suggest that state support for public schools should increase by at least 14.5 percent (or \$334.7 million in 2007-08 dollars) to achieve sufficiency in New Mexico. The methods used to arrive at these estimates are described in this volume of the final report (Volume I). More details of the analysis are presented in a separate volume (Volume II –Technical Appendices).

AIR was ultimately accountable to the Funding Formula Study Task Force, which was responsible for contracting out the project and establishing the parameters for this study. AIR requested that a working group be formed as a subset of the task force to help serve as a liaison between the AIR team and the larger task force. This working group became the Project Advisory Panel (PAP) and included legislators, school board members, superintendents, and other educators.<sup>23</sup> The PAP met on numerous occasions during the course of the study to support the work of the AIR team.

The initial phase of this project involved a public engagement process designed to define the concept of sufficiency. The definition of sufficiency then served as the foundation for the subsequent estimates of the cost to achieve sufficiency at the school, district, and state level. AIR organized a range of public engagement activities for the purpose of seeking public and policymaker input in defining the goals and objectives for New Mexico public schools. As part of this public engagement process, online and paper surveys were available to both the public and a targeted group of legislators and other key stakeholders. In addition, town hall meetings were held in a number of communities throughout the state.

With the help of the PAP and a wide variety of educators, interested citizens, and advocacy groups around the state, the Legislative Council Service (LCS) worked with AIR to establish a larger Stakeholder Panel. The Stakeholder Panel was comprised of PAP members, representatives from various education organizations, superintendents, members of the business community, parents, and other interested citizens of New Mexico.<sup>24</sup> The PAP members were a subset of both the Stakeholder Panel and the task force. The Stakeholder Panel met twice during the project and provided feedback to the AIR team and the PAP to help mold activities, decisions, and recommendations at critical junctures in the study.

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<sup>23</sup> Please see Volume II, Section 1.1 - Project Advisory Panel Membership List for a complete list of the PAP and their titles.

<sup>24</sup> A complete list of members of the Stakeholder Panel can be found in Volume II, Section 1.2 - Stakeholder Panel Membership List.

The Stakeholder Panel met in January of 2007 as part of a culminating activity of the public engagement process. This initial meeting synthesized the information emerging from the public engagement activities, and the panel contributed to the development of the *Goals Statement*, which was used as the basis for defining the concept of sufficiency.

AIR used the professional judgment approach as the methodological centerpiece for this study. With input from the Stakeholder Panel, the PAP, school principals, district superintendents, and a wide variety of professional educator associations around the state, AIR selected six independent professional judgment panels (PJPs) representing the diversity of urban, suburban, small town, and rural-remote school districts around the state. Each panel consisted of a superintendent, three principals, special education directors, English learner specialist, school business officers, and two teachers.

The PJPs attended a three-day meeting to design the instructional programs they felt were necessary to achieve sufficiency as described in the Goals Statement. The PJPs were then asked to specify the resources necessary to deliver those programs to schools of varying size and student demographics (including poverty, English learner status, mobility, and disability). The AIR team used the variations in resource specifications associated with school size and pupil needs to estimate the differential cost of achieving sufficiency.

As part of its professional judgment approach, AIR incorporates a formal external review of the PJP program designs and specifications (the PJP review process). The purpose of this review is to ensure that the final program designs are efficient and to arrive at a more realistic and grounded set of specifications and cost estimates. AIR elected to have the PAP serve in this review capacity. To this end, a further step in our model required the PAP to interact with selected representatives from the professional judgment process to explore, question and comment on their deliberations. PJP representatives were expected to respond to the PAP's questions and justify the work they completed in the professional judgment process.

This process involved a review of the PJP program designs, resource specifications, and corresponding preliminary cost estimates. The PAP invited representatives, including superintendents, from each of the six PJPs to a full-day meeting to gain a better understanding of the program inputs and resource specifications of each of the six panels. The PAP wanted to learn more about the perspectives of the PJPs and to obtain more information about the program designs and the resource specifications underlying the initial cost estimates. After these presentations and conversations with the representatives, there was agreement that some of the programs developed by the PJPs could be designed more efficiently.

After this meeting, the PAP conducted an independent review of the original program designs and resource specifications. Using the PJP work products as a starting point, the PAP completed the same set of exercises as all of the PJPs, with an AIR research team member facilitating these meetings. As a result of their review, the PAP developed a revised set of program designs and resource specifications, which AIR used to produce a final set of sufficiency cost estimates.

Both the cost analyses derived from the PJPs and the PAP specifications reveal similar patterns of variation in the cost of sufficiency associated with student poverty, English learner status, student disability, student mobility, and the scale of school and district operations. It is important to note that there were some differences among the panels in the program designs and resource specifications they felt were necessary for achieving sufficiency. To some degree, these differences resulted from a lack of universal agreement in the professional literature in education as to “what works.” This suggests that there is no uniform model of services from which an unambiguous, single estimate of the cost of achieving sufficiency can be derived. The educational goals by which sufficiency was defined are not precise *per se*, but provide a guiding vision for the PJPs and the PAP in the development of their program designs. Both the PJPs and the PAP made deliberate efforts to develop program designs based on best practices, and indeed the review work of the PAP drew heavily from that of the original PJPs.

In addition, the PAP revisions followed the laws addressing the provision of public education in New Mexico, and developed what it believed were efficient specifications to achieve the goals set out by the Stakeholder Panel. The PAP was also guided by the original request for proposal, which stated that the purpose of the study was to determine:

- what an appropriately sufficient basic K-12 educational program includes and how to fund that program given the **realities** of New Mexico’s economy;
- how to ensure that the factors in the formula meet the needs of New Mexico’s diverse school districts, schools, and students and distribute sufficient resources to support student achievement; and
- how to provide **effective and efficient incentives** to enable low-performing schools to raise their performance to state and federal No Child Left Behind Act standards.<sup>25</sup>

Ultimately, this project and the proposed funding formula represents an amalgam of a process that identifies best educational practices, the judgments of professional educators, and the careful assessment of policymakers regarding the political and economic realities of the state.

### **Funding Sufficiency in the Context of New Mexico**

In the last three decades there has been a nationwide shift in the responsibility for school funding. Traditionally, schools were funded for the most part by local taxes and supplemented by state funding, with the smallest share of funds coming from the federal level. Nationwide, there has been an increase in the proportion of school funding coming from the state (39.7 to 47.1 percent), along with a percentage decrease in local responsibility (from 51.6 to 43.9 percent).<sup>26</sup> In addition, the share of federal revenues has increased slightly, from 8.2 to 9.1 percent.

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<sup>25</sup> See pp. 6-7 of the Request for Proposal for “An Independent Comprehensive Study of the New Mexico Public School Funding Formula”.

<sup>26</sup> See [http://nces.ed.gov/programs/digest/d06/tables/dt06\\_158.asp](http://nces.ed.gov/programs/digest/d06/tables/dt06_158.asp) from the Digest of Education Statistics published by the National Center for Education Statistics, Table 158.

When compared to other states and the nation, New Mexico public schools receive a significantly higher proportion of their funds from the state (72.1 percent based on NCES data), substantially more from federal sources (15.0 percent), and substantially less from local and private sources combined (13.9 percent).<sup>27</sup>

With the growing role of the state, the focus of the school funding debate from the 1960's to the 1970's turned to equity (Coons et al., 1970) — initially horizontal equity (treating similar children and taxpayers in similar ways) and subsequently to vertical equity (in which the importance of differential pupil needs began to emerge). With this focus on equity, the debate surrounding what constitutes a sufficient education has, until relatively recently, been slow to enter the public arena. While the levels of general aid to poorer districts have in fact increased, the question surrounding school finance sufficiency still remains: Are current funding levels sufficient to provide an opportunity for all students to achieve the state's goals?

### ***Standards as a Means to Determine Sufficient Resources***

Often the clauses found in state constitutions provide only a vague definition of a sufficient education.<sup>28</sup> For instance, the term “thorough and efficient” was introduced in 1857 in Minnesota, in 1872 in West Virginia, and in 1947 in New Jersey to specify the obligations of these states in providing public education to its citizenry. The interpretation of such constitutional obligations will drive the determination of what resources are necessary to provide educational sufficiency. Therefore, before one can begin to address the issue of cost, it is essential to have a well-defined objective of the public education system that includes reference to the outcomes that must be attained.

While formal concrete statements stemming from constitutional clauses are not readily available across all states, two factors have helped push the establishment of these goals statements. First, the recent wave of court cases has revealed the need for states to operationalize their goals for public education. For example, a significant focus of the DeRolph case in Ohio was about defining the concept of “thorough and efficient” and how it relates to adequacy in school funding.<sup>29</sup> A recent court case in New York sought to define the concept of a “sound basic education” and to determine the cost of providing such an education to all children in New York public schools.<sup>30</sup>

Second, the federal No Child Left Behind Act (NCLB) has forced all states to design standards-based accountability systems that provide a foundation for what appropriate goals are with respect to *academic achievement*. However, it could be argued that academic achievement should be neither the sole basis upon which the performance of school systems should be

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<sup>27</sup> See [http://nces.ed.gov/programs/digest/d06/tables/dt06\\_160.asp](http://nces.ed.gov/programs/digest/d06/tables/dt06_160.asp) from the Digest of Education Statistics published by the National Center for Education Statistics, Table 160.

<sup>28</sup> We have used the term *sufficiency* throughout this report to refer to a concept that is commonly referred to as *adequacy* in the school finance literature. The language in the school finance parlance of New Mexico talks about sufficiency and this term was used in the original request for proposal to which AIR responded for this project.

<sup>29</sup> For a full discussion of the case *DeRolph v. State* (1997), 78 Ohio St.3d 193, see McKinley (2005a, 2005b).

<sup>30</sup> See Supreme Court of The State of New York, County of New York, Campaign for Fiscal Equity, Inc., et al., Plaintiffs, -against- THE STATE OF NEW YORK, et al., Defendants. Index No. 111070/93, Justice DeGrasse, J.

evaluated. In New Mexico, the Stakeholder Panel has developed a *Goals Statement* that takes into account “Personal Qualities” as well as “Knowledge and Skills” that students should exhibit upon graduation, as outlined in the New Mexico Administrative Code (NMAC).

Once an educational goal is established, the following two tasks must be completed:

- determining the cost of a sufficient education; and
- developing a system of resource distribution that ensures that all districts are able to provide sufficient educational services given their size and the population of children they serve.

### **Research Methods**

The professional judgment model is one method that may be employed in order to determine the cost of a sufficient education and serves as the methodological centerpiece for this study. The AIR research team selected highly qualified New Mexico educators to serve on six PJPs, each of which participated in a structured and facilitated three-day meeting to design instructional programs for students in schools of varying demographic compositions. The AIR research team asked the panels to design instructional programs so that students could meet the goals set forth in a goals statement. These panels were then asked to specify the resources necessary to deliver those programs.

Though the professional judgment model is the primary costing-out methodology of this study, other approaches were also incorporated, resulting in what AIR calls a “hybrid approach.” The elements of two alternative costing-out methodologies (the expert/evidence based model and successful schools approach) were manifested in the current study through the provision of specific materials to the PJPs prior to their deliberations:

- ***Expert briefs*** — Five brief summaries, written by educational scholars and practitioners, about existing educational research on the elements that contribute to sufficiently serving specific student populations (i.e., at-risk, special education, English learners and rural students) and the subsequent promotion of school success.
- ***Resource profiles of successful schools*** — Average resource profiles over all schools and of a set of schools in New Mexico determined to be high-performing based on adjusted performance measures (i.e., schools that are performing better than their peers with similar student needs).
- ***Public engagement materials*** — Summaries of input gathered through a wide ranging public engagement process (described fully in Chapter 2).

We have provided further details on the manner in which these PJPs functioned in Chapter 3 of this report.

### ***Professional Judgment Framework: A Historical Review***

The AIR principal investigator for this research project, Dr. Jay Chambers, pioneered a means for involving educators in the process of designing costing out models. Initial research in this arena was conducted in Illinois and Alaska (see Chambers and Parrish, 1982 and 1984). These early studies asked panels of educators to define service delivery systems that were appropriate

to meet the educational needs of various student populations. Detailed input models (e.g., regular classrooms and specialized instructional and related services) were designed for separate categories of students, including regular elementary and secondary, disadvantaged, disabled, and gifted students, as well as those enrolled in career technical programs.

In recent projects in New York State and California, Chambers et al. (2004, 2006) used an enhanced professional judgment model to determine the cost of a sufficient education. There were three elements that distinguish the New York work and other recent applications of the professional judgment model (e.g., MAP, 1997, 2001; Augenblick, 1997, 2001; and Augenblick and Myers, 2003) from the earlier work of Chambers and Parrish (1982, 1984):

- 1) The goals established for the professional judgment panels were clearly focused on student outcomes.
- 2) The professional judgment panels were asked to begin their deliberations by designing instructional programs at each schooling level. After determining the content and structure of the educational program, panels were then asked to develop the resource specifications necessary to deliver the desired services.
- 3) The professional judgment process was structured to provide for a more integrated approach to determine the programmatic needs of all types of students.

### ***Enhancements to the PJP Hybrid Approach for New Mexico Study***

Since the New York study, the AIR team has taken additional steps to improve and tailor the model to reflect the circumstances in New Mexico. First, the AIR research team placed a stronger emphasis on the program design dimension during the PJP and PAP deliberations—a more explicit definition of the instructional program design component of the process was provided to the panels. In addition, the panels were provided with a more structured set of questions surrounding instructional program design during their deliberations.

Second, panels were provided with information on the relative costs of the resources used in their specifications and the per pupil cost implications of their decisions. In New York, the panels were only asked to specify the resources required to deliver the programs without any information about their relative costs. In the New Mexico study, immediate (real-time) feedback on the per pupil cost implications of their resource allocation decisions, was provided to all panels. These modifications were made with the intention that this information would encourage efficiency at the programmatic level.

Third, panels were provided supplemental information, including average resource profiles for all schools as well as across only those high-performing schools (using adjusted performance measures) and expert briefs on effective programs and practices for English language learners, at-risk students, students in rural areas, and students with disabilities. The resource profiles and expert briefs are discussed further in Chapter 3.

Fourth, the work of these panels was translated into a new school funding formula. Specifically, the educational delivery systems developed by the panels were ultimately combined with other data on more centralized district overhead costs to devise a simulation model capable of estimating the costs of sufficiency for every school and district in the state. This simulation

model was then used to develop a simple and effective funding formula that equitably distributes resources according to district size and needs.

### **Organization of the Report**

This report contains six additional chapters and a separate technical volume. Chapter 2 describes the public engagement process, including input gathered from surveys and town hall meetings, which was used to develop the Goals Statement. Chapter 3 describes, in detail, the PJP and PAP deliberations. Chapter 4 describes the AIR costing-out methodology and results from the successful schools analysis, while Chapter 5 presents the findings from the costing out process and the recommended funding formula modifications. Chapter 6 presents recommendations on specific formula issues, and Chapter 7 discusses implementation and accountability issues associated with the infusion of additional money into the education system.

## **Chapter 2 – Public Engagement**

### **Purpose of the Public Engagement Process**

There were two significant purposes of the public engagement component of this project: to provide for public awareness of the project and to seek public input on goals and the necessary programmatic elements to achieve those goals. The AIR research team sought to make key constituencies aware of the costing out study and to provide an opportunity for public discourse. The process was designed to help stimulate a positive spirit of cooperation and to allow a wide range of people to feel vested in the process.

The public engagement component also sought to identify how New Mexicans envisioned the goals and priorities of their public schools. The AIR research team believed that it was crucial to gather input from as many citizens as possible so that the recommendations for change to the funding formula emerging from the study would clearly reflect the public's perceptions and goals.

The research team also obtained input on the educational and programmatic components necessary for New Mexico to achieve its desired goals. Information from the public engagement component was used to formulate a Goals Statement that the Professional Judgment Panels (PJPs) used in guiding the design of instructional programs necessary to achieve the goals. Ultimately, the Goals Statement derived from the public engagement task became the foundation for defining the concept of sufficiency in funding the public schools in New Mexico. The PJPs were instructed to specify programs and resources needed to achieve the goals outlined in the statement. In addition, specific information about the public's rankings of the importance of various programmatic elements (described below) was also presented to the PJPs for consideration in their resource specifications.

To obtain maximum input from all constituents, the public engagement component included the following activities:

- developing a project website to publicize the town hall meetings, inform the public about the project, and disseminate study results;
- constructing a survey to capture views on educational goals and priorities as well as the inputs that should be included to reach those goals. The survey was targeted for all legislators, superintendents, and principals, and was also available to any New Mexico citizen online; and
- hosting a total of 23 town hall meetings to gather input from citizens from across the state.

It was the AIR research team's intent that this combination of activities would solicit input from as many citizens as possible. In addition, special efforts were made to target groups and citizens in rural and indigenous communities, as requested by the task force. More detailed descriptions of the public engagement task, surveys, town hall meetings, and results for this project may be found in Volume II, 2.1 - Public Engagement Report.

## **Description and Development of Surveys**

As mentioned above, the AIR team developed a survey to gather input from New Mexicans about their goals for public schools, what students should be learning, and what programs should be made a priority. Dr. Karen DeMoss, then a professor at the University of New Mexico, served as the task leader for the public engagement component of the project and led the effort to develop the electronic surveys and to organize the town hall meetings around the state.

The surveys sought citizen input on the state's educational priorities by asking them to reflect on the current goals and standards as outlined in the New Mexico Administrative Code (NMAC). In line with the NMAC, these goals were divided into two categories: Knowledge and Skills and Personal Qualities. Participants were asked to rate the importance of each of the Knowledge and Skills and Personal Qualities items. Participants rated these 15 items on a nine-point scale, where 1 was "Low Importance" and 9 was "High Importance." Participants were also asked to provide feedback on the balance that schools should seek between emphasizing growth in student Knowledge and Skills versus Personal Qualities by allocating a total of 100 points between these two areas. These questions surrounding the goals and priorities were developed largely by drawing upon two key New Mexico documents: Laws 2003, Chapter 153, commonly referred to as the education reform bill or House Bill 212 (in particular, Section 22-1-1.2 NMSA 1978) and the Public Education Department (PED) Standards of Excellence (NMAC 6.30.2). These questions were also developed with input from a number of national scholars and stakeholders from across the state (not necessarily members of the Stakeholder Panel). The purpose section of the 2003 education reform bill (Section 22-1-1.2 NMSA 1978) and the Standards of Excellence can be found in the appendix of the complete Public Engagement Report in Volume II, Section 2.1 - Public Engagement Report.

In addition to gathering data on public perceptions surrounding the goals and priorities of the New Mexico's education system, the survey also contained questions about the programmatic elements necessary to achieve these goals. In order to identify those factors that respondents felt were highly important, they were provided with a list of common programmatic elements. These elements were organized into the following categories: Early Childhood Opportunities; Academics; Health and Wellness; Extracurricular Opportunities; Family and Community Involvement; Special Education; Language Learning; Extended Time; Teacher Quality; and School Environment. Respondents were asked to rank the individual elements on the nine-point scale discussed above.

In order to solicit responses surrounding education priorities and critical elements from the maximum number of constituents, the AIR research team developed both online and targeted surveys. First, to gather input from key constituents, the survey was sent directly to all legislators, superintendents, and school principals in the state. Over 100 individuals from various interest groups including business leaders received invitations and log-in instructions to permit them to respond to these secure surveys. The AIR research team encouraged participation through phone calls and emails, and received a response rate of approximately 33 percent.

Additionally, a public web-based survey was posted on the project website ([www.nmschoolfunding.org](http://www.nmschoolfunding.org)) and heavily publicized in the town hall meetings, through emails to superintendents and school board members, and in press releases. Over 1,700 individuals participated in this online survey.

## **Town Hall Meetings**

In addition to surveys, Dr. DeMoss led a series of town hall meetings across the state to solicit additional public input. Meetings were publicized through the local media. Cognizant of the remote areas of the state and at the request of the RFP, the study team specifically sought to include input from rural-remote populations. As a result, the AIR research team purposefully over-sampled rural locations in which to hold town hall meetings. Of the overall number of town hall participants, 40 percent resided in rural areas, while approximately 37 percent came from the four urbanized centers (Albuquerque, Farmington, Las Cruces, and Santa Fe), with the remaining coming from suburban-small town areas.

Because of the critical importance of soliciting input from a diverse range of constituents, the AIR research team responded to every request for a town hall meeting. While the PAP called for eight town hall meetings, by the end of the public engagement component Dr. DeMoss had hosted a total of 23 meetings, with an over-sampling in rural areas. A diverse group of participants attended these meetings, representing urban, suburban, small town, and rural-remote areas. Translation services were offered and provided when the representatives arranging these meetings thought it was appropriate.<sup>31</sup> The most common types of participants were parents of students in New Mexico schools and administrators from schools or districts. Overall, parents, administrators, and teachers comprised roughly 60 percent of the attendees.<sup>32</sup> Others attending the meetings identified themselves as having roles such as interested citizens, business leaders or community leaders.

All town hall meetings followed a similar format, where participants responded to a set of predetermined survey questions and were also given the opportunity to voice concerns and ideas surrounding the current funding formula. To provide systematic feedback and input, attendees used an Audience Response System (ARS), or “clicker” system, to answer survey-type questions surrounding the state’s educational goals and priorities. This system allowed for immediate display of survey results, which enabled further discussion of the goals and priorities. After the ARS input, the meetings were opened up for general discussion of ideas and concerns.

## **Public Engagement Results**

### ***Survey Responses***

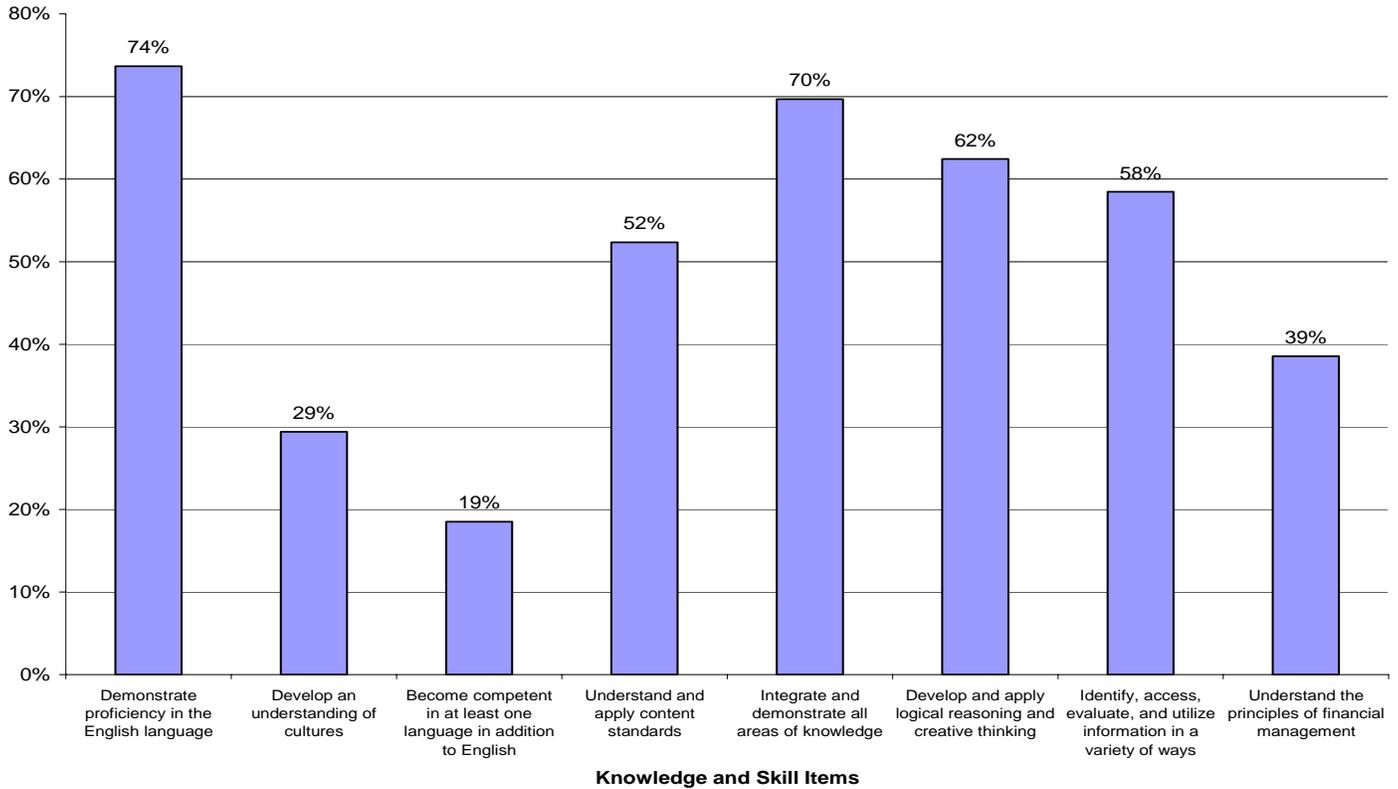
Among the Knowledge and Skills items, citizens overwhelmingly identified proficiency in the English language as the primary goal of the education system (74 percent of the responses were *highly important*), followed closely by students’ ability to integrate content knowledge and demonstrate understanding through reading, writing, and other forms of communication (70 percent *highly important* responses). Other highly rated goals included developing and applying creative and logical thinking skills (64 percent) and facility with information (59 percent). Proficiency in the content standards was scored as *critically important* by 52 percent of the sample. Please see exhibit 2.1 for the rankings of the Knowledge and Skill items.

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<sup>31</sup> However, this only occurred in two different locales, where Spanish translation and interpretation services for the deaf were provided, respectively.

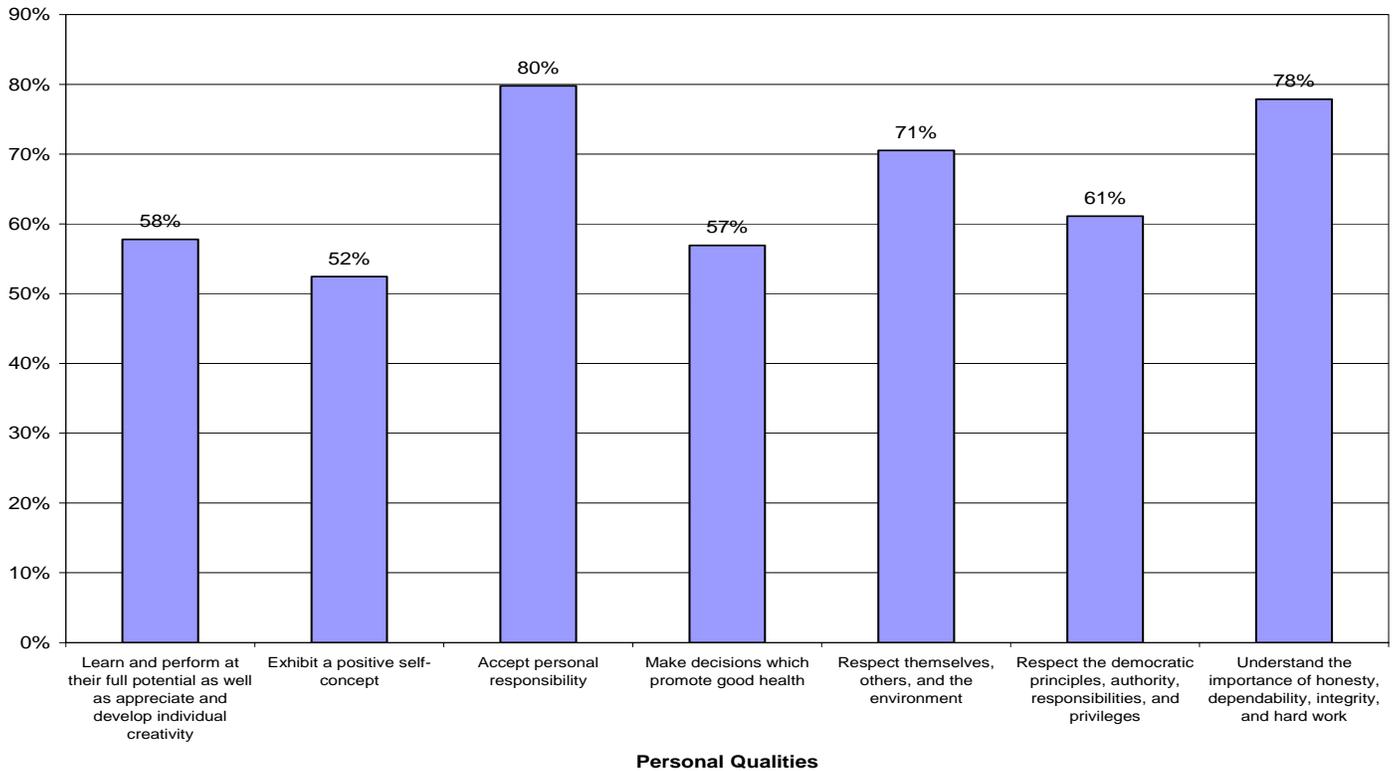
<sup>32</sup> For a complete description of the attendees of town hall meetings, please see Volume II, Section 2.1 - Public Engagement Report.

**Exhibit 2.1: Percent of respondents reporting a ranking of *critically important* across knowledge and skills survey items**



Among the Personal Qualities survey items, citizens rated students' acceptance of personal responsibility and their understanding of the importance of honesty, dependability, integrity, and hard work highest, with 80 percent and 78 percent, respectively, scoring these at the highest end of the scale. Respect for self, others, and the environment followed, with 70 percent identifying these items as *highly important*. Please see exhibit 2.2 for the rankings of the various Personal Qualities items.

**Exhibit 2.2: Percent of respondents reporting a ranking of *critically important* across personal qualities survey items**



Participants in the town hall meetings noted that the current public education system emphasized acquisition of content knowledge in reading and math at the expense of the development of other content areas and the development of personal qualities. In order to evaluate whether this perceived “crowding out” of other content areas and development of personal qualities was in line with the public concept of a sufficient educational program, participants were asked to allocate 100 points between Knowledge and Skills and Personal Qualities in order to designate the relative balance between these two major priorities. A tally of the results showed that survey respondents and town hall participants assigned roughly a 60/40 split between Knowledge and Skills and Personal Quality items. School district employees had a 56/44 split, while all other respondents (policymakers, parents, general citizens, and advocates) had a 61/39 split. It is important to note that in our town hall discussions, respondents noted that these items were not necessarily mutually exclusive and that a greater balance could be (and often is) achieved through a more holistic approach to instruction.

When asked about programmatic elements, respondents ranked the following School Environment elements as most important:

- safe building
- small classes
- learning environments characterized by respect
- good communication
- positive interactions
- close connections between students and teachers
- respectful interactions among staff, students, and parents
- up-to-date school facilities
- safe, drug- and violence-free environment
- an environment that seeks to constantly improve using input from parents, teachers and the community

Interestingly, extended time opportunities were ranked least critical for student success. When asked whether they agreed or disagreed if districts received enough money to meet state standards and goals, nearly half the total population strongly agreed that districts did not have enough money.<sup>33</sup>

### ***Public Concerns Expressed in Town Hall Meetings and Online Surveys***

In the town hall meetings and the open-ended responses on the online surveys, respondents expressed their desire for a high-quality education. In general, they believed that providing a sufficient education was a difficult but important task, and they voiced a strong desire for state elected representatives to continue to find ways to support quality educational efforts. In particular, the following five themes consistently emerged in town hall meetings:

- **Keep the funding formula equitable.** Participants in the town hall meetings described having great pride in the state's current funding formula. However, when unit values do not meet local needs, localities try to boost educational resources by, for example, seeking supplemental emergency funding or establishing foundations to provide additional funding opportunities for their schools. Participants acknowledged that these types of stop-gap measures inherently reduce the equity of the current system of funding. When asked whether localities would prefer local, unequal funding or equalized state-level sufficient funding, citizens almost universally preferred that money be distributed through an equalized state formula. However, these preferences came with the condition that the distributed funding levels must be sufficient to provide the inputs necessary to reach educational goals.
- **There should be additional local control in order to meet local needs.** Across the state, participants voiced the need for increased local control over decisions affecting the education system. Different geographic, linguistic, cultural, and community needs all interact with state and federal mandates in complex ways. Participants indicated that if localities did not have the flexibility necessary to address these area-specific needs, educational efforts would not meet community needs. Finding ways to generate equitable funding and allowing local

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<sup>33</sup> Additional details on item rankings and breakdowns of responses by respondent role can be found in Volume II, Section 2.1 - Public Engagement Report.

control of how that funding is spent while still providing for statewide accountability as appropriate should be a primary policy issue.

- **Educators are working hard, but there are issues surrounding licensure and ample pay.** Town hall meeting participants felt that teachers should not be asked to take on additional responsibilities without financial compensation. Citizens supported the recent pay increases for teachers associated with the three-tiered licensure system, and they wanted to make sure that teachers continued to be adequately compensated for their work. In addition to teacher salaries, the public wanted to ensure the availability of high quality teachers. For remote areas and for smaller schools, the revamped definition of “highly qualified teachers” has created significant staffing problems that respondents hoped could be addressed.

Similarly, school leaders have increased responsibilities under NCLB. Respondents felt strongly that administrative support and compensation packages should take this into account.

- **Current funding does not provide adequate learning opportunities for all students.** This theme was the primary reason given by respondents for participating in the public engagement component of the study. It was reported that required programs, special needs populations, rising fixed costs, and unfunded mandates have forced districts across the state to cut student learning opportunities. Many educators reported that their districts were unable to meet the needs of students with the current unit value assigned to each student. At one site respondents noted that a local Parent Teacher Association (PTA) had become nothing more than a fundraising entity, which they found particularly discouraging given their belief that parents are increasingly being called on to participate more fully in their children’s education in more substantial ways.
- **Education dollars should be distributed through the funding formula.** Respondents reported that categorical grants and funds distributed outside of the funding formula were not a desirable approach to school funding. For those districts successful at leveraging these funds to meet short-term needs, the result was programs that were dependent on funding that often was not sustainable. Districts not able to garner funding through these avenues felt strongly that this reduced equity and compromised the total dollar amount appropriated through the formula.

### **Development of the Goals Statement**

The culminating activity of the public engagement component was the initial Stakeholder Panel meeting held in late January 2007. Recall that the Stakeholder Panel was selected by the Legislative Council Service (LCS) and was composed of a number of legislators, educators, business officials, community representatives, and taxpayers.<sup>34</sup> The primary purpose of this meeting was to help the AIR research team establish the goals and priorities for the New Mexico public schools that were to be used to guide the deliberations of the PJPs.<sup>35</sup>

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<sup>34</sup> It is important to note that several of the members of the Stakeholder Panel had also participated in some of the town hall meetings held in various locations around the state.

<sup>35</sup> A complete list of Stakeholder Panel members can be found in Volume II, Section 1.2 - Stakeholder Panel Membership List.

During this first meeting, the preliminary public engagement results were shared with the Stakeholder Panel and the group participated in structured breakout sessions to discuss and draft a set of goals to guide the PJP deliberations. As mentioned, the group drew from the results of the town hall meetings and surveys, as well as from policies adopted by the New Mexico Legislature and the PED. The AIR team used input and key statements from these Stakeholder Panel sessions to draft the Goals Statement. These drafts were shared with the entire panel and edits were made based on feedback.

The Goals Statement is grounded in two key New Mexico documents: Section 22-1-1.2 NMSA 1978 and the State Board of Education's Standards of Excellence (NMAC 6.30.2). Much of the language contained in the Goals Statement and the supporting documents was drawn from the NMAC, Title 6, Chapter 30, Part 2. The final Goals Statement (see exhibit 2.3) embodies several key philosophical components. It begins with a statement emphasizing the partnership between the public schools and families. Next, the Goals Statement declares that students should become responsible citizens and family members, be prepared for educational success, and be prepared to obtain and maintain gainful employment. The members of the SP indicated that each of these components was important but, at the same time, were not mutually exclusive. The statement also emphasizes the significance of both content knowledge and skills and personal qualities that the SP felt should be embodied in students graduating from New Mexico public schools. However, after much discussion, the SP decided to specify more general performance goals around the concept of "appropriate growth" rather than specific concrete benchmarks for percentages of students meeting standards. The task of specifying more detailed specific measures would require more deliberations on the part of state policymakers around the design of an appropriate accountability system and would require incorporation of federal regulations as specified by NCLB.

## Exhibit 2.3: Final Goals Statement

### Background

*It is the purpose of New Mexico schools, in partnership with families, to*

- 1. prepare all students to be responsible citizens and family members,*
- 2. prepare all students for educational success, and*
- 3. prepare all students to obtain and maintain gainful employment.*

*By 'all' students, it is implied that each student will be provided opportunity to meet these goals, regardless of classification (English language learner, poverty, special education or otherwise) or location. To accomplish these goals, public schools shall follow the PED Commitment to Excellence, which acknowledges that developing an educated citizenry requires all partners of the educational community to share and support a vision of excellence (NMAC, Title 6, Chapter 30, Part 2).*

### Four Critical Elements

This *Goals Statement* encompasses four indispensable and interrelated elements, each of which is described below. Details for each of these elements are provided in the Public Engagement Report found in Volume II, Section 2.1 - Public Engagement Report.

#### **1. Underlying Philosophies**

State-level goals of excellence should coexist and be balanced with appropriate individual and local goals. Students shall have access to a multicultural education, diverse and highly qualified teachers, necessary supports to achieve these goals, and a range of enhancement opportunities offered in local communities.

#### **2. Content Standards**

All public school students shall make positive and measurable gains through appropriate instructional programs aligned to state content standards and benchmarks. Children will be challenged to learn and succeed, drawing on their strengths through diverse and multiple learning styles.

#### **3. Knowledge, Skills, and Personal Qualities**

New Mexico high school graduates shall exhibit a range of knowledge, skills, and personal qualities that enable them to be successful, productive members of their communities, the nation, and the world. Schools, in partnership with families and communities, seek to promote personal qualities in ways that integrate with content curriculum and in conjunction with curricular and co-curricular activities.

#### **4. Performance Goals**

All students in New Mexico's public education system should have the opportunity to make demonstrable, appropriate growth each year on a wide range of measures. Students should be provided the opportunity to demonstrate learning outcomes aligned with standardized measures reflective of state, national, and international standards *and* to demonstrate growth in areas not captured by standardized tests. In addition, students graduating from New Mexico high schools should have the requisite skills to enable entry into community college and/or entry into the work force without remedial needs.

## **Chapter 3 – Professional Judgment Process: Development of the Program Designs and Resource Specifications**

### **An Overview of the Professional Judgment Panel (PJP) Process**

To develop the range of estimates of what it might cost to provide a sufficient educational program to all public school students in New Mexico, AIR selected six independent panels of highly qualified educators to carry out a series of tasks over the course of a three-day meeting. Two panels from each of three categories of districts (urban, suburban-small town and rural-remote) were asked to develop a base model of instructional programs for prototypical elementary, middle, and high schools to achieve sufficiency as defined in the Goals Statement. The base model prototypes were designed for average-sized schools with “low need” demographic profiles (i.e., with low proportions of students receiving free- or reduced-price lunch, English language learners, receiving special education services, and with low student mobility rates). Each of these prototypical schools was derived from extant data and thus representative of actual New Mexico public schools within each of the nine combinations of schooling level (elementary, middle, and high school) and district category (urban, suburban-small towns and rural-remote).

After developing their instructional programs, each panel was asked to specify the resources necessary to deliver the designs they had completed for the elementary, middle, and high school base models. A structured Microsoft Excel cost model developed by AIR was provided for entering these data. Upon completing the base model resource specifications, each panel was asked to make modifications to their instructional program designs and corresponding base model specifications for elementary, middle and high schools with varying demographic compositions and sizes. Panels first made modifications for schools with high poverty levels (determined by the number of students receiving free or reduced-price lunch). Each panel followed a similar series of tasks that required them to modify the program design and specified resources based on schools with higher proportions of English learners, higher special education identification rates, and higher student mobility rates. Each panel was finally also asked to modify the program design and resource specifications for elementary, middle, and high schools designated as relatively small within the district category.

AIR derived preliminary cost estimates from the initial specifications, which were then presented at the second Stakeholder Panel meeting in June 2007. Following this meeting, the PAP then initiated a review process by inviting representatives from each of the PJPs to a full-day meeting held in order to examine their program designs and resource specifications. After this review, the PAP used the PJP work products as a starting point and over three two-day meetings proceeded to revise these materials. The cost estimates derived from these PAP deliberations were used as the basis to develop the final projected costs of achieving sufficiency in New Mexico school funding. The remainder of this chapter provides additional detail on the process of selecting the original PJPs, the materials provided to the PJPs and PAP to support their deliberations, the structure and content of the panel exercises and results of the deliberations.

### **Panelist Recruiting and Selection Process**

The objectivity and expertise of the educators involved in the PJP process was critical to the strength of the final product. AIR engaged in an extensive effort to recruit highly qualified

educators to participate on each of the PJPs, identifying potential PJP candidates through two processes:

- In addition to soliciting nominations at the town hall meetings, AIR directly contacted all district superintendents, all school board presidents, and numerous professional education associations throughout the state and asked for nominations.<sup>36</sup>
- AIR conducted statistical analysis to identify *relatively* high-performing schools and asked the principals from these schools to nominate high-quality educators from their staff. High-performing schools are those that performed better than predicted based on the demographics of the students they served over the previous three years.<sup>37</sup>

AIR received approximately 180 nominations to be considered for participation on the PJPs. AIR contacted each of the nominees and asked them to complete a questionnaire asking about their educational experience and preparation, job histories, and special areas of expertise. We also asked them about their availability for possible time slots when the meetings would be held and informed them that the project would provide a modest stipend for their participation.

From those nominees who completed the questionnaires, AIR selected 54 educators from districts located in all parts of the state. AIR organized these 54 educators into six panels. Districts in the state were divided into the following three categories: urban; suburban-small town; and rural-remote. AIR assembled two independent panels within each of the three district categories for a total of six panels.

Each of the six panels was composed of nine educators, including at least one superintendent; three principals, with one from each grade level (an elementary, middle, and high school); a special educator (e.g., a district director of special education); an English learner specialist; a school business official; and two classroom teachers. Every effort was made to ensure that no panel included more than one employee from a given district, though in a state with only 89 districts this was not always possible.<sup>38</sup> Within these constraints, AIR attempted to include educators from districts that reflected the size, ethnic, and geographic diversity of New Mexico.<sup>39</sup>

### **Organization of the PJP Meetings**

AIR convened a three-day PJP session from April 18–20, 2007 at the Capitol in Santa Fe. Panel deliberations were facilitated by trained AIR employees and consultants, while graduate students from the University of New Mexico served as data entry specialists in assisting the panelists with the documentation of their deliberations. As previously noted, each of the six PJPs operated independently of one another. Furthermore, they were explicitly instructed not to discuss their deliberations with other panels during the three-day meeting.

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<sup>36</sup> A full list of the organizations and individuals that provided nominations during the recruitment process can be found in Volume II, Section 3.1 - List of Organizations and Individuals That Provided PJP Nominations.

<sup>37</sup> A more in-depth description of this statistical analysis is included later in this chapter. For examples of similar analyses, the reader is referred to Parrish, et al. (2006) and O'Day and Bitter (2003).

<sup>38</sup> In fact, this proved impossible for the two urban PJPs, as each panel consisted of nine individuals and there are only four urban districts across the state.

<sup>39</sup> A list of all 54 panelists, their panel assignments and selected biographies can be found in Volume II, Section 3.2 - Professional Judgment Panel Participants and 3.3 - Professional Judgment Panelist Biographies.

### *Advance Materials*

Prior to convening the PJP meetings, each panelist received documents that the AIR research team felt would give panelists background of the mainstream research on effective instructional programs, as well as materials presenting public perceptions regarding the elements necessary to meet the educational priorities set forth by the state. These materials included the following items:<sup>40</sup>

- Public engagement report;
- Excerpts from the two key New Mexico documents outlining state standards;
- Expert briefs commissioned by AIR;
- Resource profiles from relatively high-performing schools; and
- Full set of deliberation instructions, which included the Goals Statement.

### *Expert Briefs*

As background for the members of the professional judgment panels, AIR commissioned papers from five education experts. The experts included four nationally recognized scholars in the field of education:

- Professor Henry Levin of Teachers College Columbia University – an expert on successful strategies for at-risk students;
- Professor Kenji Hakuta of Stanford University – an expert on programs for English learners;
- Professor Margaret McLaughlin of University of Maryland – an expert on special education programs and policies; and
- Mr. Jerry Johnson of the Rural School and Community Trust – an expert on rural education.

In addition, AIR asked a former practitioner, Dr. Anthony Cavanna (currently part of the AIR District Consulting Group), to provide a realistic perspective on issues related to the implementation of successful programs in schools.

Each of these experts prepared a research paper that included brief descriptions of the necessary elements for schools serving diverse student populations to be successful. Each of the papers explored how variations in student need impact the demand for additional resources, programs, and services. In addition, each paper included analysis of the existing evidence-based research regarding the most efficient (least costly) ways to achieve the educational goals and objectives through improving the allocation and utilization of school resources.<sup>41</sup>

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<sup>40</sup> See Volume II, Section 3.4 - Professional Judgment Panel Instructions for a detailed set of instructions, blank program design documents, and other materials provided to each of the professional judgment panels.

<sup>41</sup> All five expert briefs can be found in Volume II, Section 3.5 - Essential Elements of Successful Schools – The Expert Briefs.

### ***Resource Profiles from High-Performing Schools: Adjusted Performance Measures Analysis***

The AIR research team conducted a separate analysis that identified relatively high-performing schools. For this purpose, we defined high-performing schools as those that are producing better than expected results given their demographic composition. More precisely, this analysis used statistical models to identify those schools performing better than average on state reading and math assessments compared to other schools with similar percentages of students eligible for free or reduced-price lunch, identified as English learners, receiving special education services, and moving in or out of the school in a given year (mobile students). Schools were considered high-performing if both their overall student populations and their students receiving free or reduced-price lunch were performing better than peer schools.<sup>42</sup> This analysis in effect adjusts the student performance in each school to take into account the variations in the characteristics of the pupils served (i.e., an adjusted performance measure).

Based on this analysis, schools were divided into three groups: relatively high-, middle- and low-performing schools, controlling for student demographics. In other words, we only compared schools with similar demographics in assigning them to one of these three categories. Schools with high-need populations were not compared to schools with low-need populations.

AIR used detailed data provided by the Public Education Department (PED) to develop a set of resource profiles that compared the staffing ratios and qualifications for high performing schools to that of the average school in New Mexico. For the purpose of this analysis, the schools were divided according to their population-density category. That is, resource profiles for high-performing urban schools were compared to other urban schools, high-performing suburban schools to other suburban schools, etc. This was done to control for differences resulting from community context, of which urbanicity is a major component. AIR provided these resource profiles to the PJP members to help inform their deliberations.

In addition to developing the resource profiles, AIR conducted site visits to a small sample of schools and conducted interviews with staff and principals to gain further insight into what made them successful, though site visits took place after the PJP meetings and thus the results could not be offered to the PJPs for their deliberations. AIR gathered information to support some limited cost analyses of this small sample of high performing schools, the results of which are presented in Chapter 4 of this report.

Given the small sample size and limitations, the results of this analysis are in no way conclusive, but instead should be seen as simply an exploration into the practices of especially successful schools. While there was no one single factor that interviewed staff identified as making their schools successful, several common themes emerged out of the staff and principal interviews. The most commonly identified factors included a highly qualified, dedicated, and collaborative teaching staff; vertically aligned instruction tied to state standards and goals; and sensitivity to the community and cultural context.<sup>43</sup>

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<sup>42</sup> Please see Volume II, Section 3.6 - Methodology for Identifying High Performing (HP) Schools for a complete discussion of the methodology for identifying relatively high-performing schools.

<sup>43</sup> The complete practitioner briefs discussing the site visits to the relatively high-performing schools can be found in Volume II, Section 3.7 – High Performing Schools: What Makes Them So Successful?

### ***Overview of the PJP Instructions and Task Descriptions***

The general instructions directed each PJP to do the following:

1. **Read the Goals Statement.** This statement provided each panel with a foundation for its deliberations by defining what was meant by the concept of sufficiency.
2. **Design programs.** Each PJP was directed to work independently to design educational programs at the elementary, middle, and high school levels that, in the judgment of the panel members, would provide an adequate opportunity for students in schools with varying needs to have access to the learning opportunities specified in the Goals Statement and to achieve the desired results.
3. **Specify resources.** Each PJP was directed to specify the resources and services necessary to deliver those programs in elementary, middle, and high schools in New Mexico.

The instructions explained that the AIR research team would be using the results of PJP deliberations to estimate the costs of the school prototypes — in effect, to estimate the cost of the programs and resources the PJPs had developed to achieve sufficiency in funding of schools in New Mexico.

The following statement is quoted from the instructions because of its importance in defining the nature of the tasks we asked each of the PJPs to complete. It provided the panels with what we believed to be key concerns to keep in mind throughout the course of the deliberations:

*We are **not** asking PJPs to create a “one size fits all” model that would be implemented in all New Mexico public schools. Rather, we are asking panels to design instructional programs and specify the resources that they believe will deliver the desired results as **efficiently as possible** (i.e., at the least possible cost to the taxpayers). These program designs and resource specifications simply provide us with a basis from which to estimate the costs of achieving the goals and to show how these cost estimates might be used to modify the existing school funding formula. By developing cost estimates for an adequate education from the work of six independent panels, we can measure how sensitive the cost estimates of the panels are to alternative assumptions of what constitutes an adequate education.*

Prior to beginning the series of specific tasks, the PJPs met collectively to review a list of resources and services that the panels would be able to use in their program designs. The entire group of panels reviewed this list together in order to help them all begin with the same understanding of each resource or service. This discussion also helped the panels to establish a consistent set of definitions of resources and services and how specific program elements might be best represented during the process. Each day started with all six panels meeting as a collective body to discuss any issues that had arisen during the previous day to ensure consistency in the ways resources and services would be represented in the process.

Once this collective task was completed, the six panels adjourned to separate rooms and completed a specific series of tasks. All of these remaining tasks were essentially designed around schools that differed according to the demographic characteristics of the students they served. For each task, AIR provided panels with specific demographic information (total

enrollment, the percentage of students eligible for the free or reduced-price lunch program, the percentage of English learners, the percentage of students eligible to receive special education services and the mobility rate).

The demographic values were systematically changed for each of the tasks in an attempt to isolate the impact of each of these pupil need and scale factors. These demographic values were based on analysis of extant data and were represented to the district category and to the school level. For example, schools in urban districts are far larger than their counterparts in more sparsely populated areas. In addition, high schools tend to show lower rates of student poverty than elementary schools because of difficulty of obtaining accurate information at the high school level. As an example of a few of the school-level profiles that defined each task, table 3.1 includes the demographic compositions of the typical low-need suburban-town elementary, middle, and high schools used as the base model for this district category.<sup>44</sup>

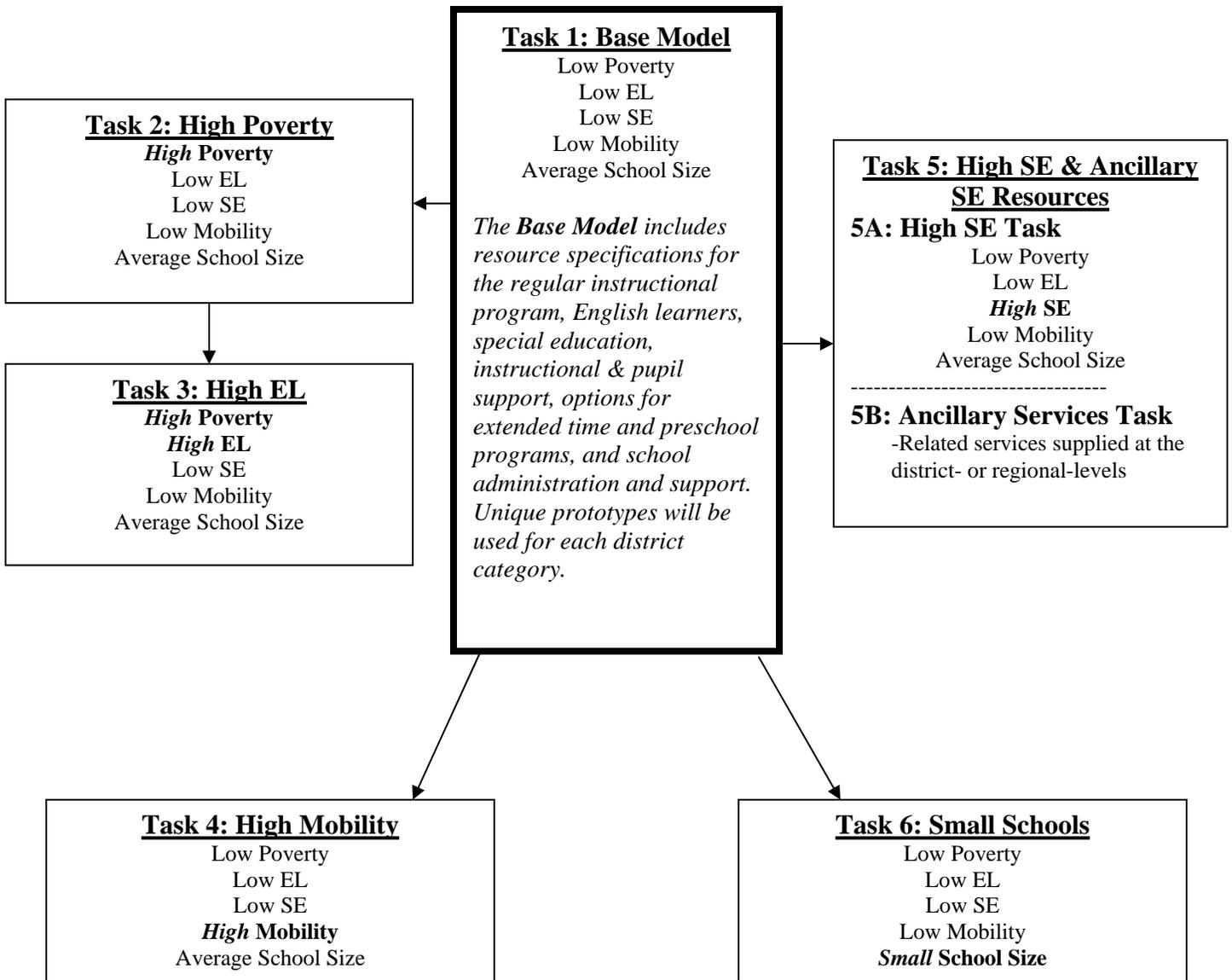
**Table 3.1: Demographic characteristics of the typical “low-need” elementary, middle, and high schools used for suburban-small town base model**

<b>School &amp; Student Characteristics</b>	<b>Elementary School (Grades K-5)</b>	<b>Middle School (Grades 6-8)</b>	<b>High School (Grades 9-12)</b>
<b>School Size</b>			
Total school enrollment	433	1,022	1,614
<b>Poverty</b>			
Percentage of students receiving free & reduced lunch	54%	40%	33%
<b>English Learners (ELs)</b>			
Percentage of students designated as English learners	10%	5%	5%
<b>Special Education Students (SE)</b>			
Percentage of students receiving special education services	12%	13%	13%
<b>Mobility Rates</b>			
Percentage of students entering/leaving school over the year	16%	16%	18%

<sup>44</sup> The demographic compositions across tasks for all of the district category/schooling level permutations are available in Volume II, Section 3.8 – Map of Demographics Used by the Professional Judgment Panels for the Cost Model Task.

The graphic in exhibit 3.2 describes each of the six primary tasks that the panels were asked to complete. Each box in this exhibit corresponds to a specific task and indicates the relative value (low versus high) of the specific student demographic (e.g., poverty, English learner status, special education and mobility) used for the task. The numbers in each box indicate the sequence of task exercises and the arrows show the dependencies between the tasks.

**Exhibit 3.2: Flow chart of PJP tasks**



For Task 1, each panel was asked to develop a “base model” instructional program design for elementary, middle, and high schools, and then to specify the resources necessary to deliver that program design at each level. The base model represented a prototypical school with relatively low levels of students in poverty, designated as English learners, and receiving special education services, as well as low student mobility (measured as the percent students entering and leaving school over the year).

Moving from Task 1 (the base model) to Task 2 (a high poverty model) involved only a change in the student poverty level from low in Task 1 to high in Task 2, while the remaining student demographic characteristics were held constant. Once Task 2 was completed, the PJPs were then asked to move to Task 3 (a high poverty/high EL model) in which the percentage of ELs increased while holding all other student demographics the same as in Task 2 (this is what the arrow (→) between the boxes is intended to convey). The reason for retaining the high poverty level in Task 3 is that EL levels and student poverty are highly correlated; while there are some high poverty schools with a low percent of EL students, it is generally the case that schools with high percentages of EL students also have a high percentage of student poverty.

Notice that all of the remaining tasks are linked with arrows to box 1. Thus, when the panel moves to Task 4 (a high mobility model), they start with Task 1 and change only the student mobility rate, while holding constant all other student demographics from Task 1. Similarly, Task 5 (a high special education model) and Task 6 (a small school model) both start from Task 1 and change only that element corresponding to the specific task.

Each panel was provided with its own laptop computer which contained two documents: a program design document (an MS Word file) and an Excel Cost Model spreadsheet. The program design documents included a series of open-ended questions inquiring about what the instructional program would look like for the types of schools associated with each task and the types of staff and materials required to provide these programs. For each task, the PJPs were given both electronic and hardcopy versions of the program design documents. The panels were asked to work with the data entry specialists, who assisted the AIR facilitators in completing the documents.

In addition to the school-level resources, the instructions for Task 5 directed each PJP to specify caseloads of ancillary personnel to be deployed at the district or regional level to serve special education students. These personnel include professionals such as speech and language pathologists, psychologists, audiologists, physical and occupational therapists, and other related service providers.

### ***Overview of the PJP Program Design Elements***<sup>45</sup>

Representatives from each of the six panels presented synopses of their finalized program designs and resource specifications at the second meeting of the Stakeholder Panel in late June of 2007. AIR also presented preliminary cost estimates for consideration by the stakeholders.

As expected, the program designs and resource specifications varied across district categories and schooling levels. Indeed, one of the rationales for having panels operate independently from one another is to take advantage of the potential diversity of designs and to assess the implications of these differences in estimating the cost of achieving sufficiency. However, there were some commonalities and trends that emerged from the six independent panels.

In general, the instructional program designs developed by the PJPs extended the instructional year for students and added additional days for teachers to participate in formal and informal professional development activities. In addition, panels specified English and math resource teachers and academic coaches to provide professional development opportunities and to support the work of regular classroom teachers with struggling students. Panels also noted the importance of art, music, and physical education programs, and allocated personnel for the delivery of these programs. Additional instructional support personnel (including guidance counselors, nurses and librarians) and aides were also allocated by the PJPs. Interestingly, panels emphasized that meeting the goals was not necessarily dependent on the number of personnel staffed at the school level, but what roles they assumed and how their time was allocated.

When designing instructional programs and allocating resources for high-poverty schools, most panels extended the amount of time in school, reduced class sizes, and added additional support personnel to assist with professional development and mentoring. Panels also reiterated the importance of providing extra-curricular enrichment and activities to address the academic and social needs of at-risk students. Again, panelists emphasized that meeting the Goals Statement required the creative deployment of resources to meet the needs of the students at the local level.

### **Professional Judgment Review Process**

Following the second Stakeholder Panel meeting and task force meeting in June, the PAP initiated the professional judgment review process. This process involved a review of the PJP program designs, resource specifications, and corresponding preliminary cost estimates. The PAP invited representatives, including superintendents, from each of the six PJPs to a full-day meeting to gain a better understanding of the program inputs and resource specifications of each of the six panels. The PAP wanted to learn more about the perspectives of the PJPs and to obtain more information about the program designs and the resource specifications underlying the initial cost estimates. After these presentations and conversations with the representatives, there was agreement that some of the programs developed by the PJPs could be designed more efficiently. For example, it was suggested that the programmatic inputs and resources set aside

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<sup>45</sup> The program design documents and cost model worksheets used by all six PJPs are included in Volume II, Sections 3.9 - Program Design Documents – Professional Judgment Panels and 3.10 - Cost Model Worksheets – Professional Judgment Panels, along with a document synthesizing the recommended caseloads and personnel assignments of the six panels (Volume II, Section 3.13 – Highlights of the Professional Judgment Panel Program Design Documents).

for activities such as parent academies and community outreach would be better funded through categorical grants outside the formula.

As part of this review process of the PJP program designs and resource specifications, the PAP was given the same materials that were provided to the PJPs prior to their deliberations, and was presented with the set of exercises that had been completed by the PJPs. An AIR research team member served as the facilitator for three two-day sessions of PAP deliberations. The majority of the PAP members who worked on revising the PJP designs and specifications were current or former educators including superintendents and teachers. This type of review process has previously been used by AIR studies to synthesize information emerging from multiple panels.<sup>46</sup>

For these deliberations, the PAP started with the program design documents and cost model worksheets originally developed by the PJPs. The PAP made every effort to maintain the conceptual underpinnings of the deliberations and designs of the original PJPs in its decisions regarding final specifications. The cost estimates derived from these PAP deliberations were used as the basis to develop the final projected costs of achieving sufficiency in New Mexico school funding.

### ***Program Design Elements of the PAP Deliberations***

The purpose of this section is to provide the reader with more detail on exactly what kinds of resources were included in the program designs and resource specification that ultimately supported the sufficiency cost estimates presented in this report. In one sense, the documents outlining these designs can be considered “best practices” that schools could decide to use as guidelines in allocating resources at the school-level. However, we need to emphasize that these resource specifications and the associated program designs should be seen only as a guide, and not a “one-size-fits-all” model. Given the diverse student populations and communities in New Mexico, it is important to maintain significant discretion in the hands of local decision makers on how resources are to be allocated and utilized in the schools. In his *expert brief* prepared for this project, Dr. Cavanna conveys this message very clearly by emphasizing the importance of higher-level policymakers and decision makers at the state- and district-levels setting the goals and providing the support, while leaving the final decisions to those closest to the students being served.

The resource specifications developed by the PAP provide a rational and thoughtful basis from which we were able to estimate the cost of a sufficient program. In general, the instructional program designs developed by the PAP added resources to reduce class sizes, allocated personnel to support language and cultural heritage programs, extended the instructional year, added specialists to work with small groups of students, and provided coaches to foster professional development opportunities for teachers. The need for high-quality professional development (both formal and informal) was seen as integral for improving student achievement and retaining quality teachers. Again, the PAP emphasized that *how* the roles and time were allocated was an important consideration.

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<sup>46</sup> See, for example, the discussion about the school finance adequacy study carried out for New York State (Chambers et al., 2004).

Exhibit 3.3 provides an example of the elements in the final resource specifications developed by the PAP.<sup>47</sup>

### **Exhibit 3.3: Examples of demographics, programmatic features, and resources included in the cost model worksheets**

#### *Demographics Defining School Prototypes*

- Size – Total school enrollment
- Pupil Needs – Percent of pupils receiving free or reduced price lunch; percent of pupils designated as English learners; percent of pupils eligible for special education services; percent of pupils designated as gifted; and student mobility rate

#### *Composition of School Day, Year, and Teaching Staff by Licensure Levels*

- Full day Kindergarten program
- Extended regular school year and day for pupils
- Extended regular school year for teachers and administrators
- Appropriate composition of teachers by licensure level

#### *Instructional Program*

- Reduced class sizes elementary schools
- Reduced pupil-teacher ratios for departmentalized classes at middle and high school levels
- Subject matter specialists at the elementary level including: arts and performing arts; English language arts (ELA); math; music; and physical education and athletics.<sup>48</sup>
- Increased numbers of English learner (EL) and bilingual program teachers
- Increased numbers gifted education program teachers
- Increased numbers special education program teachers and aides

#### *Instructional and Pupil Support Services*

- Appropriate levels of the following types of instructional and pupil support staff: guidance counselors; librarian/media specialists; school nurses; social workers; and technical consultants

#### *Ancillary Staff for Special Education Students*

- Appropriate levels of the following types of staff providing ancillary services: audiologists, diagnosticians, interpreters, orientation and mobility trainers, physical and occupational therapists, psychologists, speech and language pathologists, and social workers

#### *Non-Personnel Expenditures*

- Appropriate dollars for non-personnel resources to support instructional and related service programs

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<sup>47</sup> Please see Volume II, Sections 3.11 - Program Design Documents - Project Advisory Panel and 3.12 - Cost Model Worksheets - Project Advisory Panel for complete documentation of the PAP program designs and resource specification sheets.

<sup>48</sup> The PAP stressed that schools should be provided maximum flexibility in how they use their math and ELA subject matter specialists.

**Exhibit 3.3 (continued): Examples of demographics, programmatic features, and resources included in the cost model worksheets**

*Professional Development*

- Academic coaches to support teacher development
- Appropriate dollars to support training programs

*Extended Day and Year Programs - Instructional and Other Programs Outside the Regular School Day*

- Before/after school programs for general education population
- Summer school programs for general and special education populations

*School Administration*

- Appropriate school administrator and clerical support staff in each school
- Appropriate resources to cover the costs of substitutes, other leave, and separation pay<sup>49</sup>

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<sup>49</sup> The costs of substitutes, other leave, and separation pay for teachers, instructional and pupil support staff, and administrative staff were estimated based on ratios of expenditures on these substitutes to expenditures on compensation for corresponding permanent staff. These ratios were then applied to the costs of the respective staff specified by the panel.

## Chapter 4 – Costing Out Methodology

The previous chapter described the process through which the PJPs and the PAP deliberations resulted in a series of program designs and resource specifications for a series of school prototypes. School prototypes were developed for each schooling level (elementary, middle, and high school) across the three categories of districts (urban, suburban-small town, and rural-remote) represented. These prototypes were also designed for a series of schools to meet varying pupil needs (e.g., varying percentages of students in poverty, students receiving special education services, English language learners, and mobile students) across schools of varying sizes.

The next step in the process involved costing out these school prototypes and then developing a procedure for projecting these costs across actual schools within the state. AIR used compensation rates for school personnel derived from the PED data systems to cost out these prototypes. That is, for each district category these cost estimates reflected the per pupil dollar value of personnel and non-personnel resources the PJPs or the PAP (depending on which data source was used) deemed necessary for elementary, middle, and high schools to achieve sufficiency. This analysis was used to generate equations that reflect patterns of variation in elementary, middle, and high school program specifications and subsequent necessary expenditure in relation to school enrollment and pupil needs.

To the school-level costs, AIR added three elements: (1) the estimated costs of ancillary or related services for students with disabilities; (2) the costs of instructional and related services for three- and four-year-old developmentally disabled (DD) students, and (3) the estimated costs of central school district administration along with the costs of maintenance and operations services.<sup>50</sup> The total of these elements represent the full cost of achieving sufficiency.

This chapter explores the patterns in the resources specified by the PAP, variations in cost vis-à-vis student needs, and how these variations were translated into the projected additional expenditures necessary to bring districts to sufficient spending levels.

### Patterns of School-Level Sufficient Per Pupil Cost

To calculate the cost of the resources specified in each school prototype exercise, AIR made use of data on personnel compensation (salary plus benefits) obtained from the PED. In general, average compensation rates were applied to each of the categories of personnel, but the models also took into account the adjusted compensation rates for the appropriate composition of teachers according to the three-tier licensure structure used by New Mexico. Per the PAP deliberations, the composition of teachers by licensure level (17 percent Tier I, 50 percent Tier II and 33 percent Tier III) was set at the average of the statewide distribution.<sup>51</sup>

The AIR team multiplied the specified FTEs of personnel by the appropriate average compensation levels for the various categories of school personnel included in each school prototype. The total personnel costs were then added to the total of the non-personnel costs for

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<sup>50</sup> The reader is further reminded that this project did not account for home-to-school transportation costs or any costs associated with major capital facilities (including debt service).

<sup>51</sup> The average experience level associated with each of these average salaries is as follows: 2.6 years (Tier I), 12.0 years (Tier II), and 18.3 years (Tier III).

instructional supplies, materials, equipment, professional development, and student activities to determine the overall school-level per pupil cost associated with each prototype.

Table 4.1 provides an example of the common patterns of the sufficient school-level per-pupil cost that emerged from the school prototypes. The figures presented in the table represent index values within each district category (urban, suburban-small town, and rural-remote) of the elementary (K-5) *school-level* sufficient program per pupil costs derived from each of the six PJP/PAP tasks. In each of the three district category specific indices the low need (base model) prototype serves as the index centering value (1.00). For instance, the calculated per pupil cost of providing sufficient school-level resources in an urban high poverty elementary school is seven percent higher than in an otherwise identical low need (including low poverty) school. Similarly, the results show that high poverty suburban and rural-remote elementary schools need nine and seven percent more per pupil, respectively, than the low need schools in their areas. The prototypical schools with both high levels of poverty and English learners necessitated between eight and 12 percent more per pupil than their low need counterparts.

The figures show remarkably similar patterns across all district categories. Not surprisingly, the calculated sufficient school-level per pupil cost is lowest in the low-need (base model) school prototype and tends to be higher for those characterized by higher levels of student need or operating at a smaller size. While only the indices from the elementary school prototypes are presented here, patterns for the middle and high- school-level exercises exhibit similar patterns.

<b>Table 4.1: Sufficient elementary school-level per pupil cost index values calculated from final urban, suburban and rural-remote PAP specifications (low need base model equals 1.00)</b>							
		Low Need (Base Model)	High Poverty	High Poverty/High English Learners	High Special Education	High Mobility	Small Schools
District Category	Urban	1.00	1.07	1.08	1.02	1.07	1.00
	Suburban- Small Towns	1.00	1.09	1.12	1.03	1.10	1.02
	Rural-Remote	1.00	1.07	1.10	1.02	1.10	1.29
* Figures represent per pupil costs of sufficient school-level programs (i.e., <u>not</u> including district-level functions) calculated from final PAP resource specifications.							

It is important to note that the figures do not represent pupil-level weights (i.e., the relative cost of sufficiently educating a pupil with a specific type of need). The values are simply the relative per pupil cost of the prototypical schools for which the panels specified resources. In addition, it is important to understand that the figures only account for the school-level programmatic resources specified by the panels so that instructional and related services for three- and four-year-old DD students, centralized district administration and maintenance and operations services, and ancillary services for students with disabilities are not included in these per pupil cost figures. As will be seen below, these factors are accounted for later in the costing-out process.

## **Projecting School-Level Sufficiency Costs**

Using the calculated sufficient school-level per pupil costs as the dependent variable, the AIR team then estimated a simple multivariate regression model for each grade level (elementary, middle, and high school) to determine the relationship between the school-level per pupil sufficient costs and the pupil need and school size variables.<sup>52</sup> AIR then used these school-level models to develop projections of how *sufficient per pupil costs* vary across all schools in the state of New Mexico using actual data obtained from the PED on student needs (percent free/reduced-price lunch, special education, English learners, and mobility rate) and school size.<sup>53</sup> Finally, these estimates were multiplied by school enrollment to project the total sufficient school-level programmatic costs for every school in New Mexico.

## **Projecting District-Level Sufficiency Costs**

To arrive at district-level costs, the projected school-level sufficiency costs were aggregated to the district level and three additional components were added to cover the costs of: (1) three- and four-year old DD students; (2) ancillary services to support special education programs; and (3) overhead for district-level central administration and maintenance and operations. The following describes the development of each of these components in more detail.

### ***Three- and Four-Year Old Developmentally Disabled (DD) Students***

The PAP made the determination that the current reimbursement rates used to support the three and four-year old program for DD students represented a high quality program. However, further discussions with staff in rural districts suggested that while these reimbursement rates were sufficient for programs in more urbanized areas, they were not sufficient for programs in smaller and more remote areas of the state. AIR used its initial analysis of special education preschool programs to develop estimates of the adjustment in these reimbursement rates necessary to account for the higher costs of these smaller programs in rural communities.<sup>54</sup>

### ***Ancillary Special Education Services***

In addition to specifying resources needed to deliver instructional programs at the school level, the PAP developed specifications from which the additional cost of providing related services to students with disabilities were calculated.<sup>55</sup> These additional cost projections reflect the need for speech/language therapists, physical and occupational therapists, psychologists, and other related service providers, who in some cases are based out of the district office or regional education centers. The PAP was asked to specify appropriate caseloads (i.e., students per FTE) for each of these types of personnel (and their assistants) in addition to the related travel and other non-personnel costs that would be necessary to provide sufficient levels of service. These were then used to project the levels of ancillary services, and the funds necessary to provide these services,

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<sup>52</sup> The general mathematical representation is as follows:

Sufficient Per Pupil Cost =  $f(\text{Poverty, English Learners, Special Education, Mobility, Enrollment})$ .

<sup>53</sup> For a more detailed technical discussion of calculating sufficient per pupil costs from the panel resource specification prototypes and how these were used to make projections, please see Volume II, Section 4.1 – Estimating Equations for Sufficiency-Projected School-Level Programmatic Per Pupil Costs.

<sup>54</sup> A detailed account of these projected sufficiency costs as well as how they were arrived at is included in Volume II, Section 4.2 - Costing-Out Early Childhood Services in New Mexico.

<sup>55</sup> The ancillary services resource specification worksheets completed by the PJP's and PAP are included in Volume II, Sections 3.10 - Cost Model Worksheets – Professional Judgment Panels and 3.12 - Cost Model Worksheets – Project Advisory Panel.

for every district and charter school in the state. As mentioned above, the projected costs for ancillary services were added to the sum of the school-level sufficiency cost projections and costs of serving three- and four-year old DD students, to which district-level overhead rates were next applied.

### ***District Overhead Rates***

Overhead rates were used to account for the overhead costs associated with the provision of district-level central administrative and maintenance and operations services to schools. The overhead rates reflected the amount of additional spending required to support district overhead expenditures for every dollar spent at the school level on instructional and related service programs. AIR used actual data obtained from the PED for 2005-06 on central administration plus maintenance and operations services (which we refer to as overhead expenditures for short) to calculate actual and statistically estimate appropriate overhead rates for each of the 89 school districts.<sup>56,57</sup> The idea was to identify an appropriate set of independent variables that explains the patterns of variation in overhead expenditures across districts. Based on analysis of a number of variables, AIR found that total district enrollment was sufficient to explain a substantial proportion of the variance in overhead rates.<sup>58</sup>

Exhibit 4.1 charts 2005-06 actual district overhead rates and predicted overhead rates based on district size. Statistical analysis was used to determine that a substantial proportion of the variance in the actual rates could be explained by district size alone.<sup>59</sup> For example, in some of the larger districts in the state, approximately 20 cents was required to support central administration plus maintenance and operations services for every one dollar spent at the school level. In contrast, smaller districts spent a much larger amount of their budget on district-level services relative to those occurring at the school level. The middle curved line in the exhibit denotes the predicted overhead rate at each enrollment level (the top and bottom curves show the statistical upper- and lower-bound predictions, respectively). The predicted overhead rate for each district was multiplied by the sum of the aggregated school-level projections, the cost of three- and four-year old DD students, and the cost of ancillary special education services in order to calculate the amount of money needed to provide the district-level services necessary to support sufficient school-level programs.<sup>60</sup> The money was then added to the aggregated projections.

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<sup>56</sup> For an in-depth account of how the overhead rates were constructed please see Volume II, Section 4.3a - Technical Discussion of Overhead Rate Calculations. The section includes a description of the specific chart of account expenditure codes that were included as part of the overhead rate analysis.

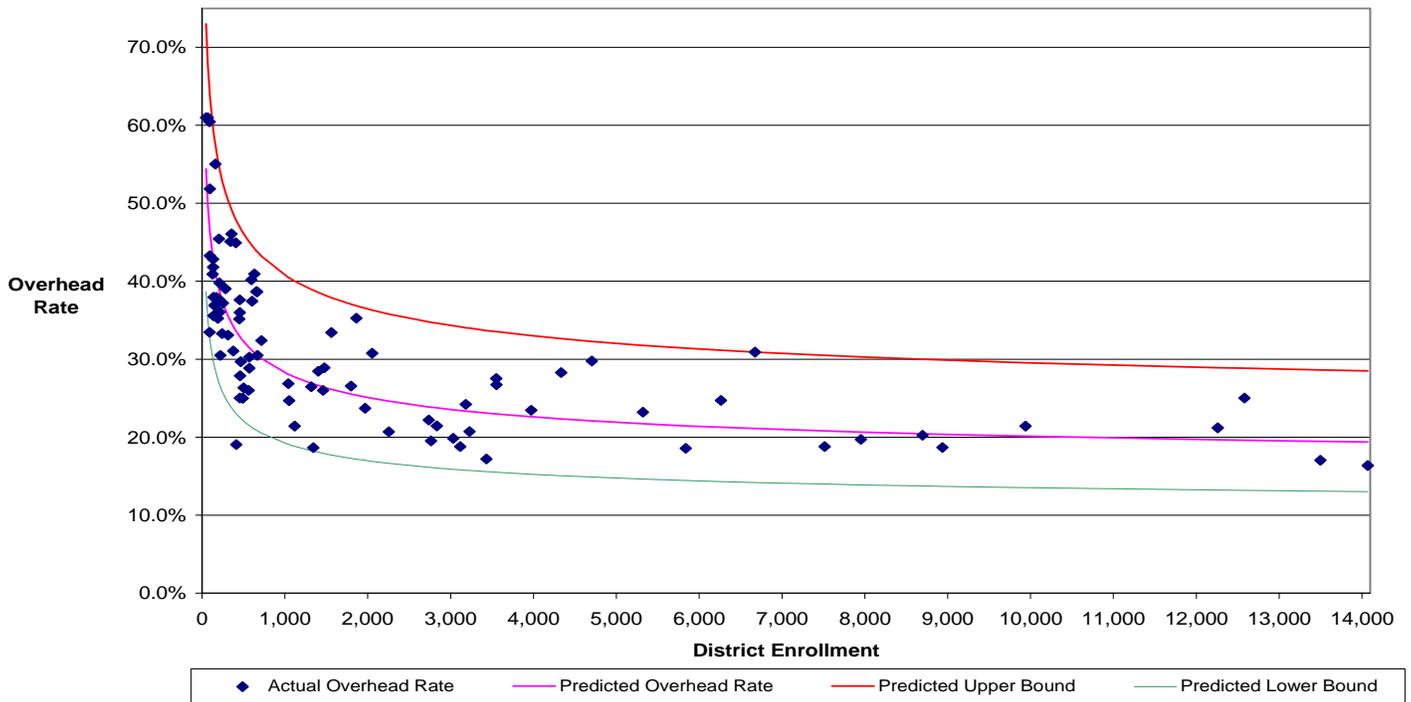
<sup>57</sup> The expenditure data used to calculate the overhead rates comes from the 2005-06 StatBook, Section C, pages 175-516 (downloaded from <http://164.64.166.16/school.budget/nm.stat.06/indexnew.html>). This data is contained in Volume II, Section 4.3b - Calculation of Actual Overhead Rates.

<sup>58</sup> Additional variables analyzed included population density and pupil needs, and the best models are ones based solely on district enrollment levels.

<sup>59</sup> Volume II, Section 4.3c - Overhead Expenditures and Rates contains data on overhead expenditures in addition to the calculated raw and predicted rates for 2005-06.

<sup>60</sup> As charter schools have been treated as autonomous entities, they were kept separate from the district-level school-level aggregations. However, rather than rely on separate charter school overhead regression estimates (which proved to be unreliable) or use the district-level function to estimate charter school overhead rates (which would result in overhead rates that were inordinately large), we have simply assigned to each charter school the predicted overhead rate of the district within which it is located. There is little reason to believe that charter schools could not make use of scale economies by simply contracting services from their local central district office.

**Exhibit 4.1: Actual and predicted overhead rates for New Mexico districts in 2005-06**



\* Note, for a clearer presentation of the information the data points for Albuquerque and Las Cruces have been omitted from chart. Their enrollment / actual overhead rate / predicted overhead rate values are 86,134 / 16.6% / 17.0% and 23,222 / 15.1% / 18.5%, respectively.

### Total Costs of a Sufficient Education

To arrive at the total costs of a sufficient education, the AIR team added together the sum of the school level sufficiency projections, the costs of three- and four-year old DD students, and the costs of ancillary special education services, and then applied the district-level overhead rates to account for the costs of district expenditures on overhead. To be clear, the calculated total sufficient district- and charter-school level costs are simply the aggregate of these four components: (1) the projected sufficient school-level projections (aggregated to the district-level for non-charter schools); (2) the cost of services for three- and four-year old DD students; (3) the cost of ancillary services for disabled students; and (4) the cost of district-level overhead functions. Note that only the projected sufficient costs for non-charter schools were aggregated to the district level. That is, the projected sufficiency figures for charter schools were kept at the school level for further analysis.<sup>61</sup>

<sup>61</sup> Later in the process, the PAP also raised some concern that the additional costs of alternative schools, which tend to have higher student need and operate on a smaller scale, were not being properly taken into account. However, an analysis shows that the projected school-level sufficient per pupil costs for each of the 24 alternative schools was far higher (between 37 and 240 percent higher) than the average of their within-district non-alternative school counterparts. As mentioned above, this is primarily due to the fact that alternative schools tend to be smaller and serve higher-need students (see Volume II, Section 4.4 Comparison of Alternative School to Within-District Average Projected Sufficient Per Pupil Cost).

## Reviewing the Geographic Cost of Education Index

In the field of education finance there is general recognition that districts located in different geographic regions of a state face differential costs of recruiting and employing comparable school personnel. Variations in the purchasing power of the educational dollar across local districts largely result from factors that are beyond local control. In general these factors include regional and/or district characteristics that affect the willingness of teachers and other professional personnel to supply their services to school districts in different regions of the state. Therefore, if a state is to provide equal access to similar educational resources in different parts of the state, the school finance formula should account for these differential costs of school personnel.

To address this issue, the AIR research team estimated geographic cost of education index (GCEI) models for the state. In short, the models were designed to answer the following question:

*How much more or less does it cost in different local school districts to recruit and employ comparable teachers and other school personnel?<sup>62</sup>*

The analysis focused on isolating those factors that affect the supply and, hence, the patterns of compensation of school personnel across local school districts.

While AIR initially recommended the application of geographic cost adjustments to the sufficiency cost estimates, there were concerns expressed by the task force and the PAP regarding the external validity of the estimated indices. Ultimately, if one were to adopt the GCEI numbers derived from this analysis, they would need intuitive appeal in terms of their ability to reflect cost differences across districts that are associated with labor market factors.<sup>63</sup>

With this in mind, the AIR research team asked the PAP and Gerry Bradley, an economist and the Research Director of New Mexico Voices for Children, to examine our estimates of the geographic cost adjustments for licensed and non-licensed personnel. Mr. Bradley brought his experience as an economist and his firsthand knowledge of the communities and labor markets around the state to his evaluation of these geographic cost indices. While his evaluation of the GCEI suggested some of the index numbers were consistent with his expectations, both Mr. Bradley and the PAP expressed concerns that the index values were not consistent with intuitive expectations.<sup>64 65</sup>

Often, the various econometric models that have been used in studies of teacher labor markets for the purpose of estimating the GCEI represent “black boxes” that require a significant leap of

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<sup>62</sup> A more detailed description of the conceptual framework, data requirements, and analyses on which the GCEI is based may be found in Volume II, Section 4.5 - GCEI Report.

<sup>63</sup> Indeed, to some degree the same factors that impact the supply and, hence, the cost of school personnel also impact the cost of other occupational categories as well.

<sup>64</sup> The text of Mr. Bradley’s comments may be found in Volume II, Section 4.6 - External Review of Indices for Geographic Cost Adjustments.

<sup>65</sup> For example, intuition would suggest that the geographic cost of education adjustments for Dexter and Lake Arthur should be extremely close. However, the GCEI values show an estimated 5 percent difference in the cost of hiring and retaining comparable staff between Dexter and Lake Arthur (with index values of 1.07 and 1.02, respectively).

faith on the part of policymakers. Ultimately, the value of these various methodologies must lie in the intuitive sense of the estimates they generate. The question facing policymakers when they view the GCEI numbers is, “Do the numbers make intuitive sense?” If the GCEI numbers do match expectations, the black box is a little easier to accept. But when they do not, it is difficult to accept these adjustments. Because of these concerns, adjustments for geographic cost of education differences were not applied to the cost estimates and have not been included in the final formula recommended for the state to consider.

## **Chapter 5 – The Cost of Sufficiency and How This Information is Used to Build a New School Funding Formula**

At the heart of this study were two questions:

- (1) What does it cost to provide a sufficient basic K-12 education program?
- (2) How should these resources be distributed to best support student achievement?

The initial sufficiency cost estimates presented in this chapter reflect the resource specifications of the PAP combined with the estimated costs of three- and four-year old DD students, ancillary special education services and district-level functions as described in Chapter 4. These findings represent the combination of both the professional judgment process to determine the necessary inputs at the school-level and associated district-level services to provide the final calculated costs of providing a sufficient education to all students in New Mexico public schools. This chapter explains how AIR made use of these calculated figures to derive a funding formula that both projects a specific sufficient level of funding for each district and charter school in the state, thus addressing both questions put forth, above.

### **The Cost of a Sufficient Education – Results**

As mentioned in the chapter above, the AIR research team used extant data, multivariate regression, and cost figures derived from the PAP deliberations to develop sufficiency projections for each school and district within the state. Using these calculated projections final district- and charter-school level regression analyses were performed, the results of which provided a formula used to derive the final bottom-line total and per pupil estimates of the cost of a sufficient education in 2007-08. The remainder of this chapter documents the recommended formula and then presents the final sufficiency estimates.

### **Recommended Formula to Distribute Public School Funding**

New Mexico has had its current school funding formula in place for more than 30 years. Through various pupil weighting structures, the formula has attempted to provide an equitable and transparent method of distributing state funding to local school districts. This study was intended to evaluate the current funding formula as it relates to the equity with which funds are distributed across districts, schools, and students, and whether the total amount of funds are sufficient to meet the educational and related service needs of students served at the local level. Based on the analysis completed by AIR and reviewed by the PAP, AIR recommends a revised, simplified funding formula as described below.

#### ***Structure of the Recommended Funding Formula***

In short, the AIR research team recommends that the state adopt a revised formula that incorporates: (1) a smaller and simplified set of pupil-needs weighting factors to achieve an equitable distribution of funds according to pupil need; (2) a simplified set of programmatic weights that accounts for student grade level composition for elementary, middle, and high school students; and (3) a weighting schedule that accounts separately for the scale of district and charter school operations.

While the recommended formula looks very different when compared to the one currently used by the state, it nevertheless captures almost all of the components in the current formula and is more precise in measuring need and scale.<sup>66</sup> The advantages of the proposed formula are that it is:

- Simple – It avoids unnecessary complexity by focusing directly on the factors associated with pupil need and scale.
- Fair – It promotes and preserves strict (vertical) funding equity across districts.
- Minimizes Incentives – It makes use of adjustment factors that are largely beyond a district’s control, thus minimizing any incentive to pursue funding not directly linked to student needs.
- Comprehensive – It accounts for most of the adjustments in the current funding formula.

### ***Formula Description***

Using the district-level projections detailed in Chapter 4, a multivariate regression analysis was used to derive a district-level formula. The formula is comprised of a series of seven multiplicative cost factor adjustments that are applied to a base per pupil cost. The recommended formula takes the following form:

$$\begin{aligned} \text{Sufficient Per Pupil Cost} &= \text{Base Per Pupil Cost} \\ &\times \text{Poverty Adjustment} \\ &\times \text{English Learner Adjustment} \\ &\times \text{Special Education Adjustment} \\ &\times \text{Mobility Adjustment} \\ &\times \text{Share 6-8 Adjustment} \\ &\times \text{Share 9-12 Adjustment} \\ &\times \text{Enrollment Adjustment} \end{aligned}$$

In this simplified formula, the base per pupil costs are multiplied by a series of seven formula adjustment factors that provide additional funding for various pupil needs and size.<sup>67</sup> In general, the formula adjustment factors are determined for each district by calculating indices based on student need measures and raising them to specific exponents that define the relationship between sufficient per pupil cost and the cost factors (see table 5.1, below).

The base per pupil cost (\$5,106) denotes the sufficient per pupil cost for the average-sized district (3,532 students) with average shares of K-5, 6-8 and 9-12 enrollment (44.0 percent, 23.4 percent and 32.5 percent, respectively) and no additional student needs (i.e., zero poverty, English learners, special education or mobility).<sup>68</sup>

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<sup>66</sup> For a complete list of the adjustment factors in the current formula and how they are accounted for in the suggested funding mechanism, the reader is referred to Volume II, Section 5.1 - Explanations of How Factors in the Current Public School Funding Formula are Represented in the Recommended Formula.

<sup>67</sup> In comparison, the current funding formula is much more complex containing approximately three times as many adjustments (21 in total, not including an adjustment for the Training and Experience Index).

<sup>68</sup> The base per pupil cost for charter schools is \$6,907 and defined as the sufficient per pupil cost of the average-sized charter school (160 students) with the average grade composition (29.9 percent in K-5, 27.6 percent in 6-8, and 42.6 percent in 9-12).

**Table 5.1: Formula adjustment factors definitions<sup>69</sup>**

<b>Cost Factor</b>	<b>Formula Adjustment Factor</b>
<b>Pupil Need Factors</b>	
Free and Reduced Lunch	(Poverty Index) <sup>0.375</sup>
English Learners	(English Learner Index) <sup>0.094</sup>
Special Education	(Special Education Index) <sup>1.723</sup>
Mobility Rate	(Mobility Index) <sup>0.190</sup>
<b>District-Specific Grade Composition and Enrollment</b>	
Enrollment Share in Grades 6-8	(Grade 6-8 Enrollment Index) <sup>0.291</sup> / 1.063
Enrollment Share in Grades 9-12	(Grade 9-12 Enrollment Index) <sup>0.608</sup> / 1.187
Overall District Enrollment	(Enrollment) <sup>-0.575</sup> * exp(ln(Enrollment) <sup>2</sup> ) <sup>0.029</sup> / 0.062
<b>Charter School-Specific Grade Composition and Enrollment</b>	
Enrollment Share in Grades 6-8	(Grade 6-8 Enrollment Index) <sup>0.291</sup> / 1.074
Enrollment Share in Grades 9-12	(Grade 9-12 Enrollment Index) <sup>0.608</sup> / 1.241
Charter School Enrollment	(Enrollment) <sup>-0.307</sup> * exp(ln(Enrollment) <sup>2</sup> ) <sup>0.012</sup> / 0.291

Because charter schools generally have enrollment levels that are far smaller than districts, the district-level formula adjustment for this cost factor is not applicable. Simply put, charter schools cannot be treated the same way districts are in analyzing the impact of scale. To address this difference, an additional regression procedure was run for charter schools that constrained all of the student need adjustments (i.e., for poverty, English learners, special education and mobility) and enrollment composition to be identical to those produced by the district-level equation, but estimated a different relationship between enrollment and sufficient per pupil cost. Therefore, the only difference between the way districts and charter schools are treated is in terms of the formula adjustment factor associated with enrollment.

<sup>69</sup> The indices contained within each formula adjustment factor are defined as follows: cost factor index = ln(1 + cost factor). For instance, the poverty index is defined (1 + percent free and reduced lunch). The denominators used in the enrollment share and total enrollment formula adjustment factors are used to center the base per pupil cost and formula projections around districts/charter schools of average size and grade composition.

Inserting the district formula adjustment factors from the table into the general formula for sufficient per pupil cost yields the following funding equation:<sup>70</sup>

$$\begin{aligned}
 \text{Sufficient Per Pupil Cost} = & \$5,106 \times \\
 & (\text{Poverty Index})^{0.375} \times \\
 & (\text{English Learner Index})^{0.094} \times \\
 & (\text{Special Education Index})^{1.723} \times \\
 & (\text{Mobility Rate Index})^{0.190} \times \\
 & (\text{Grade 6-8 Enrollment Index})^{0.291} / 1.063 \times \\
 & (\text{Grade 9-12 Enrollment Index})^{0.608} / 1.187 \times \\
 & (\text{Enrollment})^{-0.575} \times \exp(\ln(\text{Enrollment})^2)^{0.029} / 0.062
 \end{aligned}$$

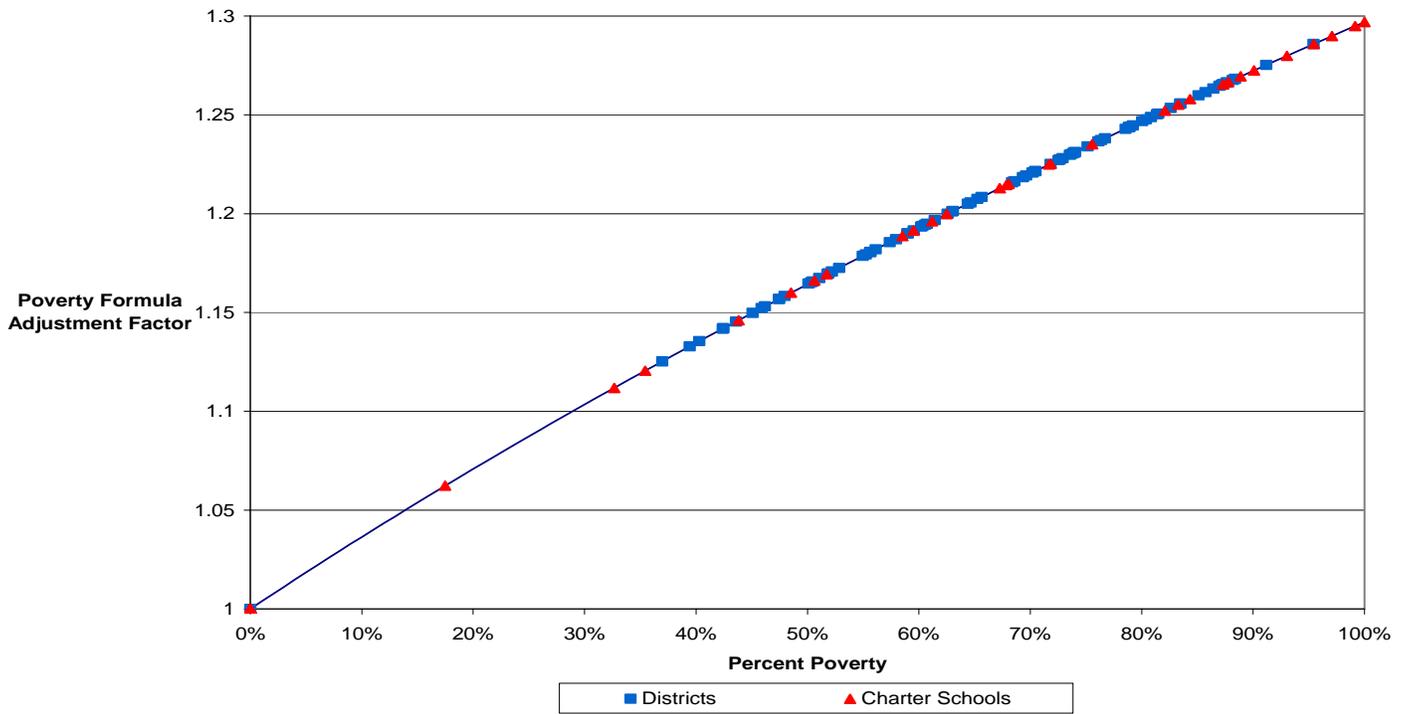
The charts in the following exhibits were created to illustrate the way the formula adjustments vary across the different factors. Exhibits 5.1 through 5.6 show the corresponding ranges of formula adjustments for poverty, English learners, special education, student mobility, district enrollment and charter school enrollment, respectively. For example, Exhibit 5.1 shows that the formula adjustment factor for a district or charter school with 80 percent of its students receiving free or reduced-priced lunch has a poverty formula adjustment factor of approximately 1.25, which means that to meet sufficiency, this district or school will have to spend 25 percent more per pupil than an otherwise identical school with zero poverty.<sup>71</sup>

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<sup>70</sup> For the charter school formula, the Formula Adjustment Factors for 6-8 and 9-12 grade composition, and enrollment must be replaced with those in the last three rows of table 5.1, respectively, in addition to the sufficient base per pupil cost, which equals \$6,907 for the average-sized charter school (160 pupils) with an average grade composition (enrollment in grades K-5, 6-8 and 9-12 equal to 29.9 percent in K-5, 27.6 percent in 6-8, and 42.6 percent in 9-12, respectively) and no additional needs.

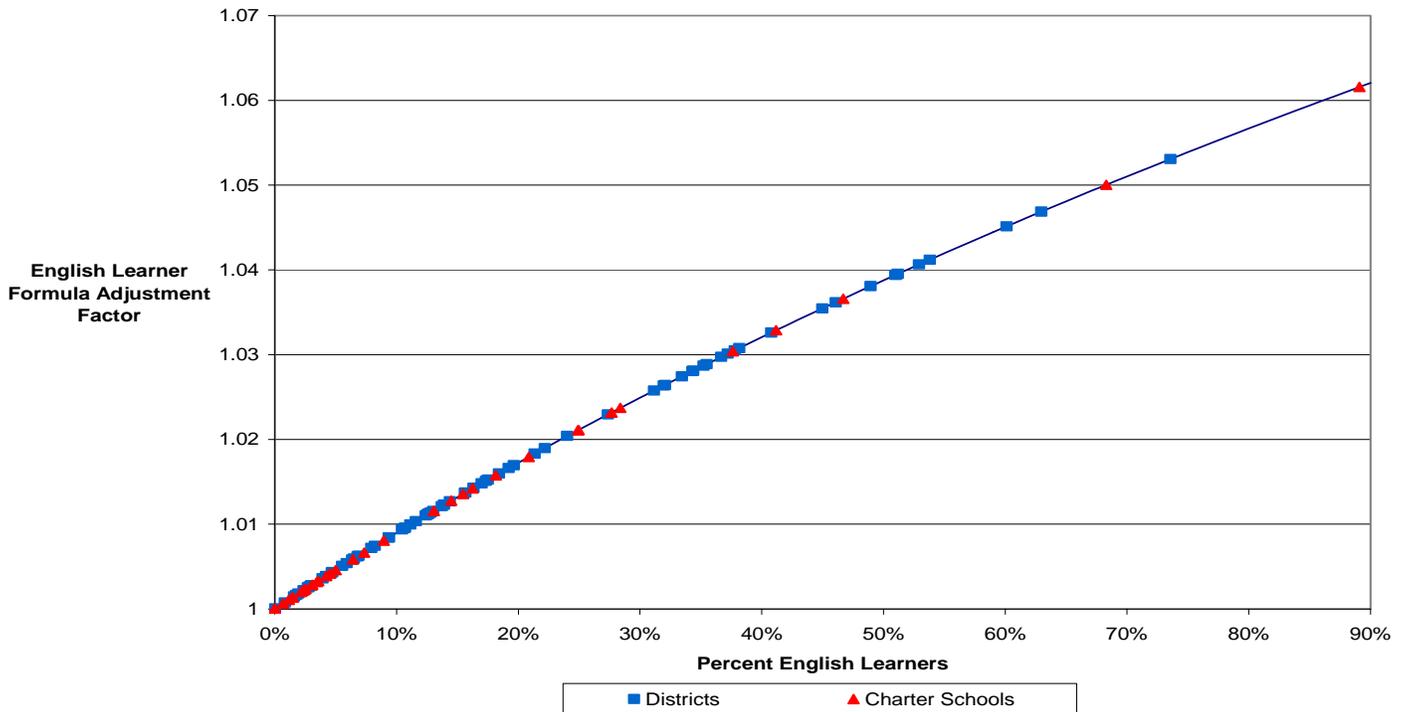
<sup>71</sup> The poverty index for this sample district would be 1 plus the proportion of students receiving free or reduced-price lunches or 1.80. Plugging 1.80 into the poverty formula adjustment factor yields  $1.80^{0.375}$ , which equals 1.25.

**Exhibit 5.1: Relationship between percent poverty and the poverty formula adjustment factor**

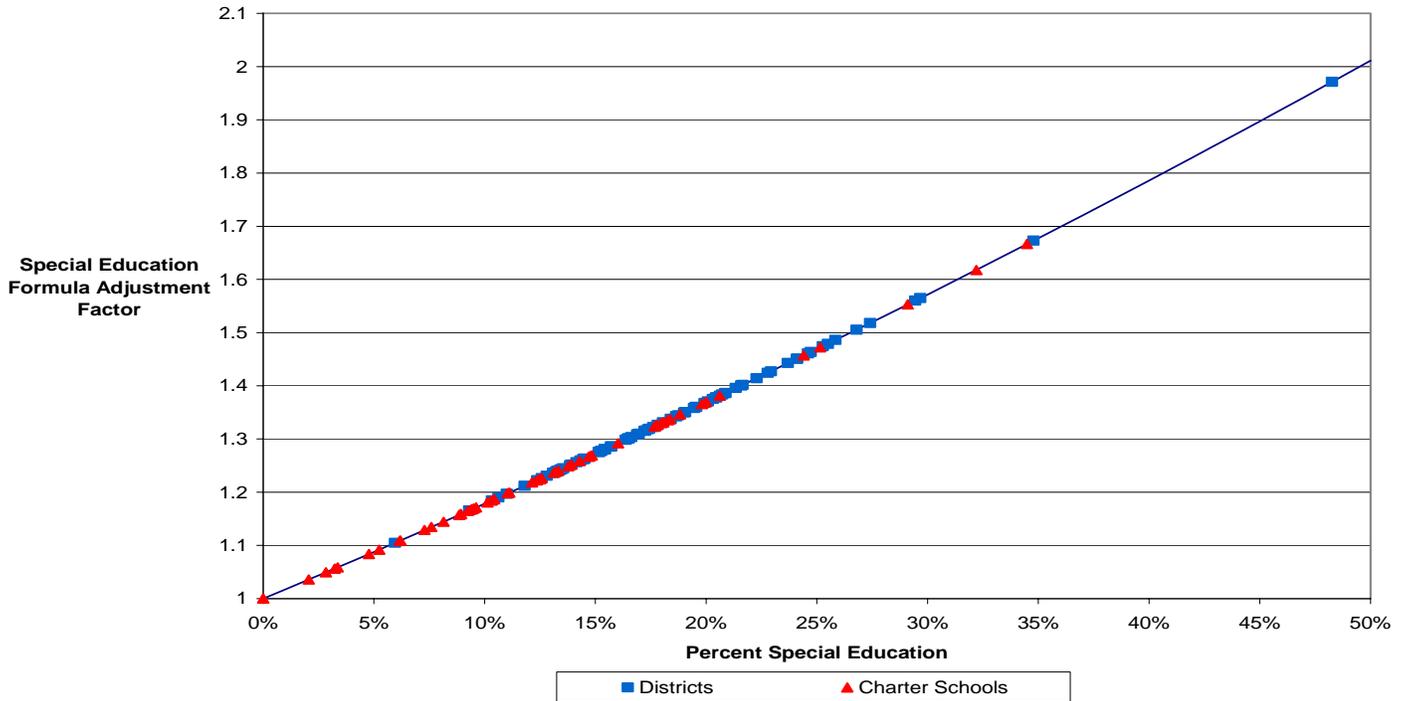


Exhibits 5.2 through 5.4 contain charts for the formula adjustment corresponding to the English learner, special education and student mobility cost factors that are quite similar to that of poverty in terms of their positive slope and shape (almost linear).

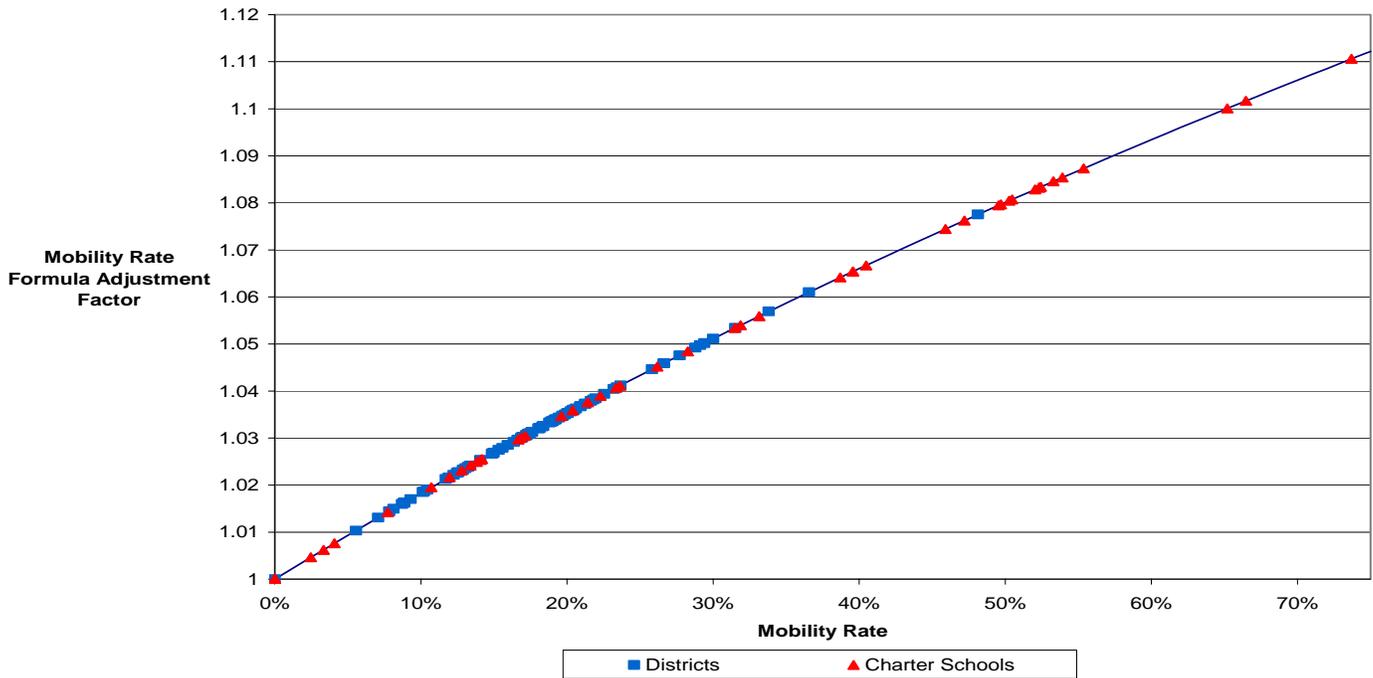
**Exhibit 5.2: Relationship between percent English learners and the English learner formula adjustment factor**



**Exhibit 5.3: Relationship between percent special education and special education formula adjustment factor**

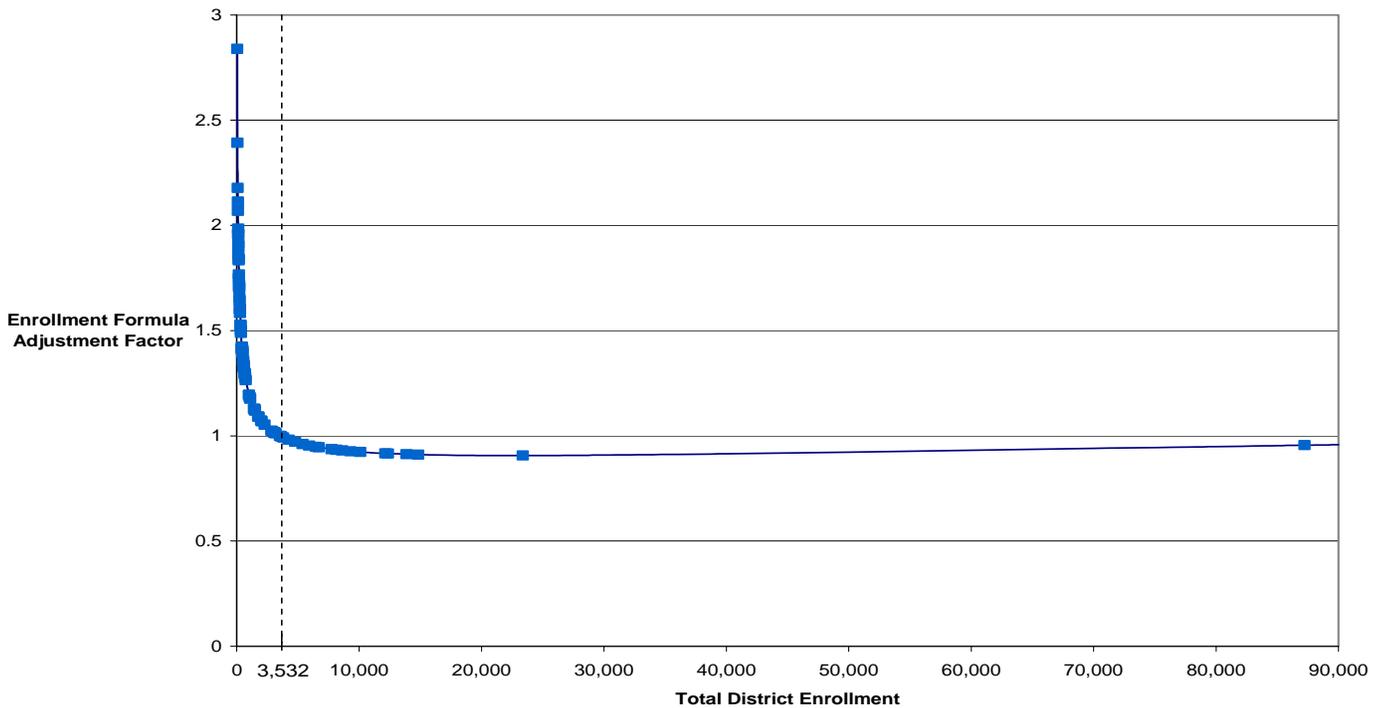


**Exhibit 5.4: Relationship between percent mobility and the mobility rate formula adjustment factor**

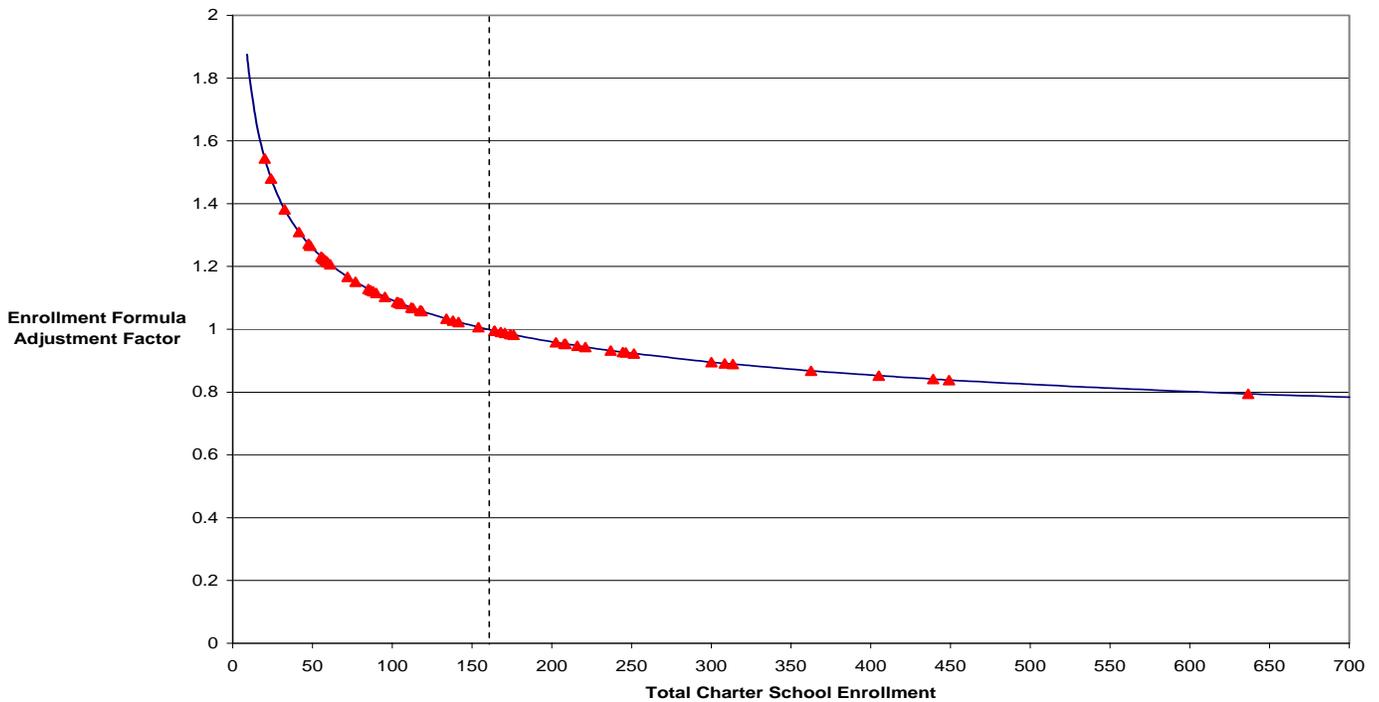


Exhibits 5.5 and 5.6 chart the formula adjustment factors for district and charter school enrollments, respectively. However, here we find that the formula adjustment factor drops as enrollment increases, reflecting the fact that larger districts and charter schools can provide a sufficient program more efficiently (i.e., larger districts and charter schools are able to make use of relative economies of scale). Another difference lies in the fact that the shapes of the formula adjustment factor schedules are curved so that the drop in the adjustment value becomes smaller as enrollment increases. Note that the enrollment formula adjustment factors have been centered around the statewide average district and charter school sizes (of 3,532 and 160, respectively) so that the adjustments at these enrollments equal 1.00 (denoted on the charts by the dotted vertical line). The adjustment factor rises sharply as enrollment drops below the average enrollment and declines with larger-than-average enrollments.

**Exhibit 5.5: Relationship between percent district enrollment and the district enrollment formula adjustment factor**



**Exhibit 5.6: Relationship between percent charter school enrollment and charter school enrollment formula adjustment factor**



**Cost Calculator**

The district and charter school sufficiency projections have been automated through a cost calculator that was developed by the AIR research team to distribute appropriations to districts and charter schools using the formula described in the section above. Under the proposed formula, districts with larger numbers of high-needs students (i.e., students in poverty, English language learners, students receiving special education services, and mobile students) receive additional funds to provide educational services necessary to meet the instructional needs of these populations. This cost calculator can be used by the state to determine the district-by-district allocations. Please see Volume II, Section 5.2 - Actual and Projected Sufficient Program Costs for a list of districts along with a comparison of actual budgeted 2007-2008 program cost and emergency supplemental funding to the projected sufficient program cost under the recommended formula.

**Calculation of Additional Spending Necessary to Achieve Sufficiency**

The main purpose of the professional judgment process was to generate a projected cost that would support the provision of a sufficient instructional program to all public school students, regardless of circumstance. To this end, the PJPs and the PAP were instructed to design a comprehensive instructional program and specify the sets of resources necessary to provide this program in a variety of settings defined by levels of pupil needs and school size. In doing so, the panels were explicitly told to focus primarily on the comprehensive set of resources and services

necessary to achieve the *desired goals*. They were told further not to think explicitly about specific revenue sources (e.g., Title I, IDEA, or other categorical funding programs) that might be used to support specific categories of classroom teachers, resource teachers, specialists, etc. necessary to implement their program designs.

Asking the panels to ignore specific revenue streams in this fashion was done for two reasons. First, it is undesirable to constrain the use of specific resources, as is regularly done with those supported by categorical funding streams. And second, doing so would inherently impose a budget constraint that undermines the primary intention of the process: that is, to identify how much funding is necessary to provide a sufficient education comprehensive enough to meet the needs of all students. Thus, the costing-out process yielded a formula to calculate the total projected cost to achieve sufficiency (see row A of table 5.1, below), irrespective of funding source. However, our goal is to use this information to develop a new public school funding formula that distributes sufficient resources.

Table 5.2 illustrates how we first estimated the overall marginal cost of achieving sufficiency and then uses this information to show how much program cost (i.e., the dollars that flow through the New Mexico public school funding) would need to be increased in order to achieve sufficiency. To calculate how much more had to be spent to achieve sufficiency (i.e., the marginal cost to achieve sufficiency), we had to first isolate the total current educational spending from the most recent (2005-06) expenditure file that was available from the PED (row B.1).<sup>72</sup> This total current educational spending figure was then adjusted to reflect 2006-07 dollars (row B.2), the most recent year for which we had demographics and enrollment data to project sufficiency.<sup>73</sup> The adjusted total current educational spending figure was then subtracted from the statewide bottom-line projection of sufficiency (the total projected cost to achieve sufficiency in row A), which was calculated by plugging the PED data on demographics and enrollment for the 2006-07 school year through the developed formula. This result provided the marginal cost to achieve sufficiency for the same year (row C). Finally, the marginal cost was then added to the 2006-07 total actual program cost (the total amount of funding distributed through the existing public school funding formula) to determine the projected sufficient program cost for 2006-07 (row E).<sup>74</sup>

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<sup>72</sup> Volume II, Section 5.3 - Expenditure Line Items Included in the Total Current Spending Used to Compare Against Total Projected Sufficiency Costs provides a detailed listing of the line items from the expenditure file that were included as total current spending. Expenditure file taken from the 2005-06 StatBook, Section C, pages 175-516 (downloaded from <http://164.64.166.16/school.budget/nm.stat.06/indexnew.html>).

<sup>73</sup> This was done by taking a weighted average of inflation associated with compensation (salary and benefit) and non-personnel spending (using the Consumer Price Index (CPI)), the weights being the respective shares of personnel and non-personnel operational expenditures with the shares calculated from the 2005-06 Expenditure File.

<sup>74</sup> The 2006-07 actual total program cost was derived from the PED 2006-07 Final Funded data file and equals the sum of the State Equalization Guarantee (SEG), the 75 percent credits for the 0.5 mill levy, forest reserve and impact aid, and the energy savings credit. Note that this figure differs very slightly from the reported program cost in that it excludes held over cash balances, which is included in the definition of total program cost in the current funding formula. This was done because AIR recommends that districts be able to retain any cash balances from year to year (see footnote, below).

<b>Table 5.2: Determination of marginal cost to achieve sufficiency</b>	
A – Total Projected Cost to Achieve Sufficiency for 2006-07	\$ 2,836,755,450
B.1 – Total Current Educational Spending 2005-06	\$ 2,387,636,779
B.2 – Total Current Educational Spending 2005-06 Inflated to 2006-07 Dollars	\$ 2,500,928,765
C –Marginal Cost to Achieve Sufficiency (Incremental Cost Over Total Current Educational Spending Necessary to Achieve Sufficiency in 2006-07, Equal to A Minus B.2)	\$ 335,826,685
D – Total Actual Program Cost 2006-07	\$ 2,167,073,473
E – Projected Sufficient Program Cost 2006-07 (Equal to C Plus D)	\$ 2,502,900,158

Using the information in rows A and E of the table, we developed a scaling factor that allows the district- and charter-school funding formulas to project sufficient per pupil spending in terms of program cost (i.e., only the dollars that are to be distributed via the public school funding formula) rather than total educational spending.<sup>75</sup>

### ***Sufficient Per Pupil Program Cost Estimates by District Type***

Exhibit 5.7 compares the averages of the 2007-08 projected sufficient per pupil program cost generated by the final funding formulas to actual budgeted per pupil program cost and emergency supplemental funding as reported in PED fiscal data.<sup>76</sup> In addition to the overall statewide averages, the chart provides average per pupil program costs within different types of districts. The district categories include urban, suburban-small town, and rural-remote districts.<sup>77</sup> It is important to note that these figures are pupil-weighted so that they represent actual and sufficient per pupil program costs for the district attended by the average student within each of four district categories.

The exhibit contains four clusters of bars that denote average per pupil program cost/emergency supplemental funding across the state as a whole and within each of the district categories. Each cluster contains two bars corresponding to 2007-08 actual budgeted per pupil program cost plus emergency supplemental funding and the corresponding sufficiency projections, respectively. It should be noted that the chart includes per pupil costs that have been calculated using the K-12 and three- and four-year-old developmentally disabled preschool program enrollments for the 2007-08 school year, as this represents the total population of students covered in the public school funding formula.<sup>78</sup>

<sup>75</sup> Specifically, the scaling factor to adjust total sufficiency to sufficient program cost (equal to 0.882) is defined as the ratio of the Projected 2006-07 Fully Funded Sufficient Program Cost to Total Projected Cost to Achieve Sufficiency for 2006-07 in table 5.1.

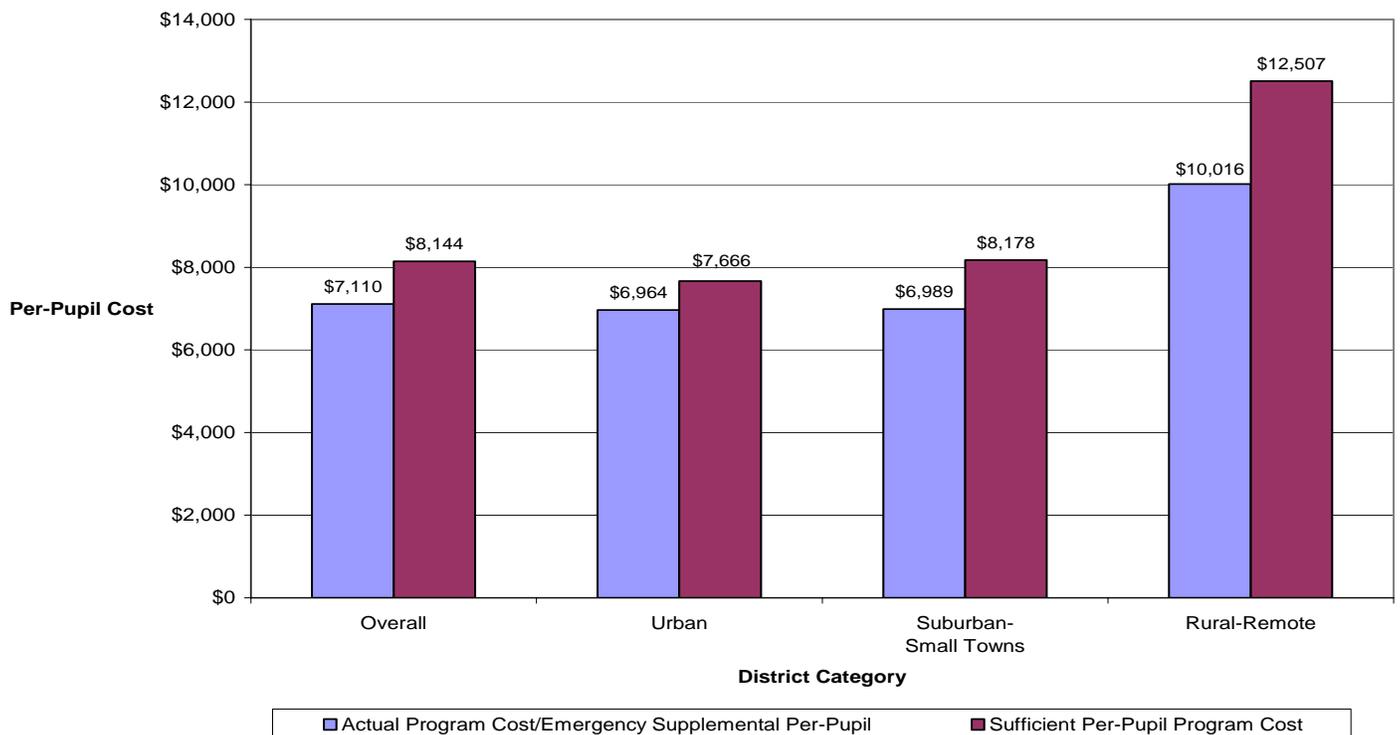
<sup>76</sup> The 2007-08 emergency supplemental funding was calculated by adjusting the most recent data available (2006-07) by an appropriate inflation factor (1.047).

<sup>77</sup> These classifications of districts into urban, suburban-small town, and rural-remote are based on the locale codes used by the National Center for Education Statistics (NCES) and published in its Common Core of Data (CCD).

<sup>78</sup> It should be noted that that these results, as well as those presented in the next exhibit, are based on applying a census-based approach to funding special education students where the identification rate at which districts are

The exhibit shows that the statewide average sufficient per pupil program cost for the 2007-08 school year is \$8,144, which represents a 14.5 percent increase over what was actually budgeted that year (\$7,110). However, it is important to recognize that the figures show large variation across the three district categories defined above. The results suggest that on average, students in rural-remote districts require the highest per pupil expenditure (\$12,501) to provide a sufficient education, while the average necessary per pupil expenditures are lowest for districts that lie in urban areas (\$7,666). In part, this difference can be attributed to the economies of scale that urban and, to a lesser extent, suburban-small town districts enjoy. Nevertheless, it must be noted that the suggested ranges of sufficient per pupil expenditures for all district types are above what was actually budgeted.

**Exhibit 5.7: Actual program cost plus emergency supplemental funding per pupil versus sufficient per pupil program cost for 2007-08**



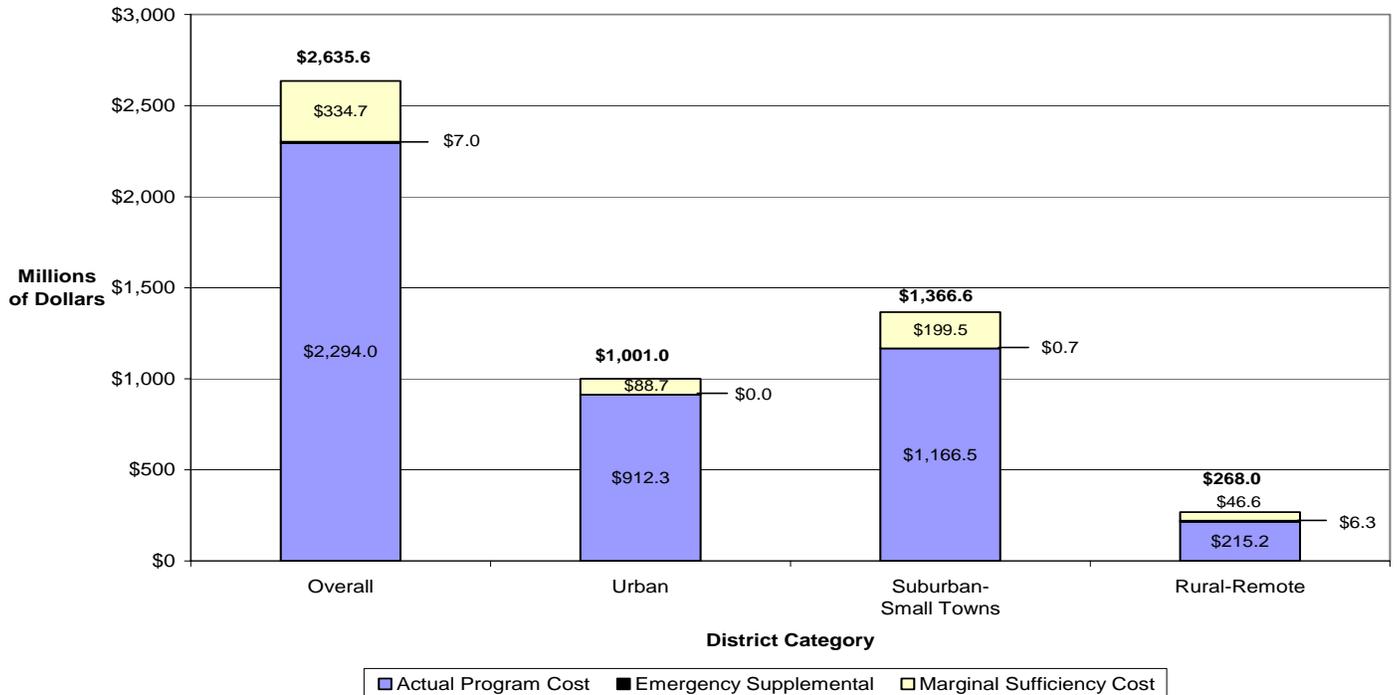
***Total Program Costs Required to Bring Districts to Sufficient Spending Levels***

Exhibit 5.8 presents a stacked bar chart that shows how actual (budgeted) total program cost plus emergency supplemental funding in New Mexico compares to the projected total program cost necessary to provide all districts and charter schools with sufficient levels of spending (i.e., total sufficient program cost). Similar to the previous chart, this exhibit provides four bars corresponding to the state as a whole and broken out by district category. Each stacked bar

funded for special education students is set at 16%. The recommendations that follow in Chapter 6 discuss this approach in further detail.

illustrates the total 2007-08 actual budgeted program cost, the additional emergency supplemental funding, and the marginal increases in expenditure necessary to provide a sufficient education in all districts and charter schools.

**Exhibit 5.8: Total necessary dollars to cover sufficient program cost in all New Mexico districts and charter schools in 2007-08 (total sufficient program cost figures in bold)**



From the PED data, AIR estimated that the actual budgeted program cost for FY 2007-08 was approximately \$2.294 billion dollars, which includes the State Equalization Guarantee (SEG) along with the appropriate credits (i.e., the 75 percent credits for local property tax, forest reserve and impact aid, and the energy savings credit).<sup>79</sup> In addition, a total of \$7 million was provided in emergency supplemental funding resulting in a total outlay of \$2.301 billion in budgeted expenditure for the 2007-08 school year. The total sufficient program cost figures presented above are based on adding the total additional cost of achieving sufficiency (\$334.7 million) to the current 2007-08 budgeted program cost and emergency supplemental funding for the state. This total additional cost represents a 14.5 percent increase in statewide funding. It is important to recognize that these figures represent the amount it would take for districts to provide a sufficient education as projected by our model holding harmless those districts already spending at sufficient levels.<sup>80</sup> That is, we provide an estimate of total expenditure necessary to bring all

<sup>79</sup> AIR excluded the cash balances from the funded program cost figure because it recommends that the districts carry these funds over from year to year to allow for more carefully thought-out strategic uses of resources.

<sup>80</sup> The term “holding harmless” simply means not reducing funding for those districts that are spending at above-sufficient levels. The reason for doing this is to reduce the potential disruption in programs for these districts in

districts spending less than is deemed sufficient up to the projected sufficient levels of spending, with no change in current levels of spending for those districts that are already at or above sufficiency. However it turns out that almost all districts in the state are spending at levels below sufficiency. For 2007-08, there were only three districts whose budgeted program cost plus emergency supplemental funding measured above a level deemed sufficient given their size and the needs of the student population served. It is important to note here that the projected total sufficient program cost covers both the actual budgeted program cost as well as the additional emergency supplemental funding provided statewide (i.e., fully funding the projected sufficient program cost would alleviate district need for emergency supplemental funding).

To reiterate, the results show that the state would have to increase spending by \$334.7 million above the current 2007-08 level of \$2.301 billion (or 14.5 percent) in order to ensure that every district is funded at levels capable of providing a sufficient education to all of its students. Note that the projected total sufficient program cost covers both the actual budgeted program cost as well as the additional emergency supplemental funding provided statewide (i.e., fully funding the projected sufficient program cost would alleviate district need for emergency supplemental funding). As one might expect, the expenditure shortfall varies greatly by type of district. The total additional expenditure required to bring all urban districts up to sufficient spending levels is highest in absolute expenditures, and totals \$88.7 million or a 9.7 percent increase above current budgeted expenditure. Suburban-small town districts would need \$199.5 million, representing a 17.1 percent increase. Districts categorized as rural-remote call for the largest increase in per pupil expenditures but, given the small number of students served in these districts, would only need an additional \$46.5 million (a 21.0 percent increase).

### ***Comparison with the High-Performing Schools<sup>81</sup>***

As mentioned in Chapter 3, the AIR research team identified and examined schools that were identified as *high performing* (i.e., performing above what would have been expected given the needs of the students they were serving). The resource profiles from these schools were given to the PJPs for reference during their deliberations. In an attempt to identify common themes from the factors that principals and staff deemed integral to their schools' success and to identify additional resources that may be needed to meet the goals set forth by the state, the AIR research team conducted a series of interviews and focus groups at three of the high-performing school sites. While we do not contend that these results can be generalized, the findings are insightful and provide suggestions as to what makes schools successful in terms the types and quantities of specific resources and how they are used.

The three schools visited by the AIR team were from districts of varying size (urban, suburban-small town and rural-remote) and represented a range of grade levels and demographic compositions. During these conversations, principals and staff were asked if their school needed any additional resources to continue meeting the goals outlined in the Goals Statement and, if so, the minimum amount of additional resources that would be needed to do so. Principals and teachers completed worksheets to specify these resources independently and the AIR team

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addition to adhering to the Maintenance of Effort requirement in the Federal Elementary and Secondary Education Act (ESEA).

<sup>81</sup> A more detailed discussion of these findings may be found in Volume II, Section 5.4 - High Performing Schools: What Resources Are Needed?

estimated the range of costs of these additional resources and the resulting total additional per pupil cost for these schools.

Although these schools could be considered among the most efficient in terms of producing high achievement outcomes with respect to their student need composition, staff at all three schools noted that they would still need additional resources in their schools to continue to meet the objectives set forth in the Goals Statement. Overall, the most commonly requested resources included art, music, and physical education teachers; library staff; a full-time nurse; social workers; additional special education teachers; and more funds for student activities. Based on these estimates of additional resource needs and average district per pupil expenditures, the increase in necessary funding for these schools was estimated to range between 14 and 21 percent.

Clearly, the lesson learned from visiting the three schools is that, despite each being amongst the most effective in the state, staff noted that they would be unable to meet the goals in the Goals Statement without additional resources. Moreover, this result is in line with the findings of the costing-out process, where AIR projected that the districts containing the three schools visited would each need additional resources to provide a sufficient education for their students.

## Chapter 6 – Specific Funding Recommendations

In addition to the overall recommendation that the state adopt a revised, simplified funding formula as described in Chapter 5, the AIR research team developed several other recommendations in response to the original research questions put forth by the Funding Formula Study Task Force. The RFP requested an examination of levels of sufficient funding for growth, for special education students, and for bilingual/multicultural-EL students. In addition, the RFP also asked AIR to provide suggestions on how to account for compensation of teachers, school principals, and instructional support providers, and to identify potential revenue sources for funding the state's commitment to public education. The following sections explain these suggestions and analysis in greater detail.

### Funding Special Education Services

#### *Context*

The AIR research team was asked to suggest ways that the state might think about funding its special education services for students. In 2005-2006, New Mexico had a pupil-weighted special education identification rate of approximately 15.8 percent, which was somewhat higher than the national average percent at that time (13.8 percent).<sup>82</sup> While New Mexico's identification rate has been declining in recent years, according to data from the National Center for Education Statistics, the state has historically exhibited rates above the national average.

The most recent special education identification rates (2006-07) exhibit a fairly wide range across the 89 school districts with the lowest district identification rate equaling 6.0 percent and the highest district identification rate equaling 34.8 percent (see Table 6.1). The high identification rate and the large range could be attributed to multiple factors including high poverty levels in the state or fiscal incentives in the current state funding formula to identify students as needing special education services.

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<sup>82</sup> For the purposes of this discussion, we focus entirely on students eligible to receive services under the federal Individuals with Disabilities Education Act (IDEA). These figures were taken from official statistics compiled by the National Center for Education Statistics (NCES), available for download at [http://nces.ed.gov/programs/digest/d06/tables/dt06\\_050.asp](http://nces.ed.gov/programs/digest/d06/tables/dt06_050.asp).

**Table 6.1. New Mexico districts with the highest and lowest overall special education identification rates in 2006-07\***

<b>District Name</b>	<b>Identification Rate</b>
<i>Districts with the Highest Identification Rates</i>	
Melrose Public Schools (rural-remote)	34.8%
Pecos Independent Schools (rural-remote)	29.7%
Vaughn Municipal Schools (rural-remote)	29.4%
Magdalena Municipal Schools (rural-remote)	27.4%
Logan Municipal Schools (rural-remote)	26.8%

<i>Districts with the Lowest Identification Rates</i>	
Des Moines Municipal Schools (rural-remote)	6.0%
Quemado Independent Schools (rural-remote)	9.3%
Deming Public Schools (suburban-small town)	10.3%
Dexter Consolidated Schools (rural-remote)	10.6%
Jemez Mountain Public Schools (rural-remote)	11.0%
* Note that Wagon Mound has not been taken into account in compiling the above list of top-five identification rate districts, as the district supports Valmora High School, which draws an abnormally large number of special education students that drives the districts exceptionally high identification rate (48.3%).	

Source: Compiled from the New Mexico Public Education Department 2006-07 Student Teacher Accountability Reporting System (STARS) data.

State policymakers have exhibited support for Response to Intervention (RTI) and other pre-referral programs designed to ameliorate learning problems prior to children being identified to receive special education services. In addition, federal IDEA has developed funding mechanisms and regulations that encourage states to find ways to reduce incentives to identify students as eligible for special education services and the need to serve them in more restrictive placements.

### ***Recommendations for Funding Special Education Services***

#### **Fund Special Education Services with a Single Weight**

AIR recommends that special education be funded using a single, overall weight rather than three separate weights corresponding to the A/B, C and D categories. As explained in earlier chapters, panels of professional educators and the PAP estimated the cost of providing a sufficient instructional program designed to meet a specific set of goals. In addition, these panels specified resources necessary to deliver sufficient services for special education students. According to an analysis of the resources specified in the PJP and PAP deliberations, the responsiveness of sufficient per pupil cost to a change in the incidence of special education students in the recommended simplified funding formula equals 1.723. This figure represents the percent change in sufficient per pupil cost resulting from a percent change in the incidence of special education students being served. For example, a district with a 20 percent special

education identification rate compared to a district with a 10 percent special education identification rate would require an additional 16.2 percent in overall per pupil funding.<sup>83</sup>

Adopting a single weight to distribute funds for special education students would simplify the formula and eliminate the need to identify children in particular categories. In addition, a single overall weight would also minimize the fiscal incentive to identify students with higher weights (e.g., categories C and D). This option provides supplemental funds for each identified special education student, regardless of the student's category of need.

Clearly, a single weight would not provide differential funds associated with the cost of serving more severe students. Therefore, a district with a skewed distribution of special education students with more severe disabilities would be slightly disadvantaged under this option. However, since the proposed overall weight in the formula is higher than the current weights in the formula for category A/B and C students, assigning a single, slightly lower weight for category D students would still provide sufficient funds to these students.

### Adopt a Census-Based Funding System

AIR also recommends that the state consider funding special education through a census-based system that determines the funding level by setting a fixed identification rate of some specified percentage. AIR recommends that the state set the fixed identification rate to 16 percent, which was the approximate statewide average identification rate in 2006-07. For example, a district with an identification rate of 10 percent would still receive funding to support special education as if it had an identification rate of 16 percent, and similarly a district with an actual identification rate of 20 percent would be funded at an identification rate of 16 percent.

Using a census-based system would remove any fiscal incentive that may currently exist to over-identify special education students and would encourage districts to pursue early intervention and other pre-referral strategies. In addition, recent studies also suggest that finance systems which provide additional special education funding contribute to increases in identification rates.<sup>84</sup> At the time of the Funding Formula study 33 states used special education finance systems based on actual head counts of special education students identified, all of which have exhibited increases in special education enrollment.

As of 1999-2000, 11 states (Alabama, Alaska, California, Connecticut, Idaho, Massachusetts, Montana, North Dakota, Pennsylvania, South Dakota, and Vermont) used a census-based system to distribute funds to the local education agencies. As of 2003, nine states allowed special education funds to be used for special education and pre-referral (e.g., response to intervention,

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<sup>83</sup> This is determined using the following calculation based on the funding formula equation in Chapter 5 (taking the ratio of the special education formula adjustment factors evaluated at 20 percent and 10 percent, respectively, and subtracting 1:

$$\begin{aligned}\text{Increase in funding} &= [(1+0.20)^{1.723}/(1+0.10)^{1.723}] - 1 \\ &= 1.162 - 1 \\ &= 0.162 \text{ or } 16.2\%\end{aligned}$$

<sup>84</sup> See the following two articles: Greene and Forster (2002), *Effects of Funding Incentives on Special Education Enrollment*, Center for Civic Innovations at the Manhattan Institute and Mahitivanichcha and Parrish (2005) "Do Non-Census Funding Systems Encourage Special Education Identification? Reconsidering Greene and Forster", *Journal of Special Education Leadership*, 18(1), pp. 38-46.

or RTI) services; 11 others allowed these funds to be used for any public education service, and two others allowed these funds to be spent on “any public purpose” (Parrish et al., 2003).

As noted, using a census-based system would provide money to districts to fund RTI and other early intervention or pre-referral programs for students who do not (yet) have an IEP. The report of the *President’s Commission on Excellence in Special Education* suggests that to some extent, the rate of special education identification is due to inadequate school funding and the provision of quality programs being offered to students sufficiently early to avoid the learning problems that eventually lead to identification for special education services.<sup>85</sup>

### Establish a Contingency fund for High-Cost Special Education Students

AIR also recommends that the state establish a contingency fund from which districts can apply for money to help pay for the cost of educating high-cost special education students in their districts. This type of contingency fund serves as an insurance provision to protect districts against extraordinarily high special education costs that may arise and be particularly difficult for small districts. Because of the number of small districts in New Mexico, the establishment of this type of fund is especially important.

As of 1999-2000, 31 states had such contingency funds for high-cost students. To define what constitutes a high-cost student, most states establish a threshold per pupil cost based on a multiple of the average cost of a regular education student, and these multiples range from 1.1 to 5.0. Kansas reimburses expenditures over a base of \$25,000 per student (Parrish et al., 2003). The percentage of spending above this threshold covered by states also varies from 65 to 80 percent.

The contingency fund should be designed to be used rarely, to be transparent and simple, and to be low-cost to administer. Districts would be eligible to apply for funds for students for whom they can document costs of more than, for example, three times that of the average pupil. There should be some district responsibility (e.g., co-pay) for the excess costs for these high-cost students; thus, the state could cover 75 percent of the cost above the threshold of special education services for students who cost over three times the average per pupil cost for a general education student.

Table 6.2 presents data that offer estimates of the potential costs of establishing a contingency fund to support exceptionally high cost special education students in New Mexico. Data used in this exhibit include items from the sufficiency cost study presented in this report, data from the PED, and estimates of costs and percentages of students under the alternative scenarios (1, 2, and 3) based on data originally collected as part of the Special Education Expenditure Project (SEEP)

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<sup>85</sup> The introduction to the report to President Bush, states:

*“Of those with “specific learning disabilities,” 80% are there simply because they haven’t learned how to read. Thus, many children identified for special education—up to 40%—are there because they weren’t taught to read. The reading difficulties may not be their only area of difficulty, but it’s the area that resulted in special education placement. Sadly, few children placed in special education close the achievement gap to a point where they can read and learn like their peers.”*

Excerpt taken from [A NEW ERA: Revitalizing Special Education for Children and their Families](#), report of the President’s Commission on Excellence in Special Education (2002), available for download at <http://www.ed.gov/inits/commissionsboards/whspecialeducation/index.html>.

conducted by AIR for the Office of Special Education Program.<sup>86</sup> Scenario 1 classifies students as high cost if the cost of serving them is at least four times the base cost of sufficiency (\$5,106), while Scenarios 2 and 3 classify as high cost only the top one percent and the top one-half of one percent of students, respectively, with respect to their cost of services. Under each of the three scenarios, we have estimated the percentage of special education students, based on district data, that are likely to be identified as high cost (e.g., severely and profoundly handicapped), and we have applied that percentage to actual counts of special education students in New Mexico in 2006-2007 (50,345).

In row E, we have also estimated the cost thresholds for students to qualify as being high cost under the two scenarios along with the average per pupil costs for qualifying students. We have then calculated the excess cost for which the state would assume some responsibility for reimbursement. We are using cost estimates originally produced under the SEEP study conducted by AIR to come up with values for the cost thresholds and the average costs of the special education students identified under the two scenarios (see footnotes to the exhibit for further explanation).

We have then assumed the state would take responsibility for 75% of those excess costs under the contingency fund program, and have calculated the total cost based on the percentages of students likely to be served. Based on these estimates, the costs of such a program under Scenarios 1, 2, and 3 are \$24.2 million, \$7.2 million, and \$4.4 million, respectively. One can see that these estimates will vary with the choice of the criteria for classifying students as high cost along with the choice of what percent of costs the state will reimburse.

The proposed new funding formula provides significant funding associated with the special education in New Mexico school districts. In fact, it is estimated that approximately 12.5 percent of total sufficient funding under the new formula is attributable to special education. AIR is proposing that New Mexico establish this contingency fund that would be used in circumstances in which the presence of some small number of very high cost students with disabilities could unexpectedly impact the financial viability of a school district and/or unfairly threaten programmatic offerings to other students within an affected district.

How large should a contingency fund be? Unfortunately, there is no straightforward answer to this question. AIR was able to obtain estimates from two states, Connecticut and New Hampshire, based on NCEES data on total expenditures combined with data from (Parrish et al 2003) on the amounts set aside for these contingency funds. In both instances, the contingency funds were significantly less than one percent of total K-12 spending. New Hampshire set aside one million for the contingency fund, while spending a total of 1.6 billion on K-12 education. Connecticut set aside \$11.5 million while spending \$6.2 billion on K-12 education.

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<sup>86</sup> Data for this analysis draws on information published in the Journal of Special Education Leadership.

**Table 6.2: Steps to calculate a special education contingency fund to support exceptionally high cost students with disabilities (2006-07)**

Row	Description	Scenario 1	Scenario 2	Scenario 3	Source/Explanation
A	High Cost Student Definition	4 x Base Cost	Top 1%	Top ½%	Scenario 1 equals four times base per pupil cost, Scenarios 2 and 3 equal costs of top one and one-half percent of special education students, respectively.
B	Total number of special education students	50,345	50,345	50,345	PED Accountability Data System (ADS), STUDENT file, 2006-07
C	Percent classified as high cost	5.7%	1.0%	0.5%	Chambers et al, Journal of Special Education Leadership (2005)
D	Estimated students classified as high cost	2,888	503	252	Equals B x C
E	Base per pupil cost	\$5,106	\$5,106	\$5,106	Defined in AIR recommended public school funding formula (see Chapter 5)
F	Estimated cost reimbursement threshold, above which costs are partially reimbursed from the contingency fund	\$20,424	\$35,134	\$42,590	Scenario 1 is four times the base sufficiency cost, while for Scenarios 2 and 3 the thresholds have been estimated (see note <a>, below)
G	Estimated average cost of a special education student falling above the threshold	\$31,584	\$54,331	\$65,861	Estimates are based on ratio of per pupil expenditures for high cost special education students to general education students (source: Figure 1 in Chambers et al, Journal of Special Education Leadership, 2005), see <b>
H	Average excess cost per high-cost special education student	\$11,160	\$19,197	\$23,271	Average cost over and above the cost reimbursement threshold, equal to G-F (see note <b>, below)
I	Percentage of this excess cost that state would pay	75%	75%	75%	Option for state responsibility for excess costs based on a survey of practices from multiple states
J	Total amount necessary for Contingency Fund	\$24,168,861	\$7,248,679	\$4,393,472	Equals D x H x I

<a> As a rough estimate of the threshold values under scenarios 2 and 3, we applied the Scenario 1 ratio of the average high cost special education student to cost reimbursement threshold in rows G and F, respectively, or 1.55 (= \$31,584/\$20,424). The estimated cost reimbursement thresholds for Scenarios 2 and 3 are as follows: \$35,134 (= \$54,341/1.55) and \$42,590 (= \$65,861/1.55).

<b> The ratios presented in the table below were applied to the projected sufficient base per pupil cost in order to estimate the average cost per pupil of special education students qualifying as high cost under Scenarios 1, 2, and 3 in the exhibit above. In each case, the ratio in row C of the following table was applied to the \$5,106 figure presented in Row E of the table.

		Scenario 1	Scenario 2	Scenario 3
A	Nationwide estimates of the cost of a special education student, Special Education Expenditure Project (SEEP)	\$ 40,553	\$ 69,760	\$ 84,564
B	Nationwide cost of a regular education student, SEEP	\$ 6,556	\$ 6,556	\$ 6,556
C	Ratio of A to B	6.19	10.64	12.90

With these figures in mind, AIR recommends establishing a fund based on scenario 3, the most restrictive case of the three scenarios, as a starting point. This scenario would necessitate establishing a fund of about \$4.4 million, which represents roughly 0.2 percent of total K-12 funding under the new formula. We would further advise the state to monitor closely applications for the contingency funds and to ascertain with the help of the district decision makers whether this level of support is reasonable.

#### A Note about Programs for Gifted Students

The projected expenditures developed from the school prototypes specified by both the PJPs and the PAP take into account services to gifted students and are based on the assumption that all schools will be able to identify a certain percentage of students who should receive gifted and talented services. The counts of students identified as special education used in the cost projections include only students who are receiving services under IDEA. That is, gifted students are not considered in the formula cost adjustments. Rather, the costs of services for gifted and talented students are captured in the basic cost model for every school.

### **Accounting for Instructional Staff Education and Experience**

#### *Context*

At the time of the study, the New Mexico public school funding formula used a five-by-five matrix to adjust the value of the pupil unit on the basis of the training and experience (commonly referred to as the T&E Index) of each school district's professional staff, excluding principals.<sup>87</sup> The index was a multiplier in the funding calculation, and districts with an actual T&E Index of less than 1.0 were simply assigned a value of 1.0 prior to adjusting the number of program units for which districts were eligible under the formula. This adjustment was intended to promote and provide incentives for districts to hire and retain more highly educated and experienced teachers.

In 2003, the state adopted a three-tiered licensure system that is based on the attainment and demonstration of PED-adopted competencies. The new system links teachers' licensure levels, education and experience to minimum salaries, and supports ongoing professional development in PED-established competency areas. The minimum salary levels were phased in over a five-year period beginning in the 2003-2004 school year.

### ***Suggestions for Accounting for Instructional Staff Education and Experience***

#### Adoption of an Index of Staff Qualifications (ISQ)

AIR recommends that the state adopt an Index of Staff Qualifications (ISQ) to replace the T&E Index and to account for the costs associated with training, experience, and the three-tiered licensure system. The proposed ISQ is structured to reflect the three-tiered licensure system and calibrated to reflect the average values of experience and educational qualifications of the instructional staff employed in New Mexico. Specifically, the value of 1.00 in the ISQ corresponds to the average compensation levels used in the school prototypes developed by the PJPs and the PAP and the sufficiency cost estimates. Calibration of the ISQ ensures that the cost

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<sup>87</sup> To be clear, the T&E index also excludes substitute teachers and non-licensed staff such as instructional aides, secretaries and clerks.

estimates do not double count the costs already built into the basic cost model that support instructional staff qualifications. In addition, the ISQ is structured to reflect the realities associated with the adoption of the three-tiered licensure system in 2003. This recommended ISQ matrix is presented below (Exhibit 6.3).

**Exhibit 6.3: Index of Staff Qualifications (ISQ)**

Academic Classification	Years of Experience Within Tier									
	Tier I				Tier II			Tier III		
	0-1	2-3	4-5	4-6	7-8	9-15	Over 15	7-8	9-15	Over 15
Bachelor's Degree	0.64	0.67	0.71	0.76	0.82	0.93	1.04	0.90	1.02	1.17
Master's Degree	0.68	0.72	0.76	0.81	0.88	1.00	1.11	0.96	1.09	1.25
Master's Plus 45 Credit Hours or Post-Master's Degree	0.71	0.75	0.79	0.85	0.92	1.05	1.16	1.01	1.14	1.31

AIR recommends that state statute provide that no district's ISQ factor be less than 1.0.

The index values contained in Exhibit 6.3 reflect both the minimum compensation levels associated with each of the three tiers (I, II, and III) and the marginal values of additional years of experience and different degree levels for professional staff. These marginal values of experience and education were estimated using portions of the wage analysis conducted by Professor Lori Taylor from Texas A&M University as part of the AIR study.

In some cases, the categories for the years of experience (9-15 and over 15) remained the same as those previously used in the T&E Index. In other cases, the categories for the years of experience were modified in order to reflect the realities associated with the implementation of the three-tiered licensure system. Academic classification was simplified to include a bachelor's, master's, or post-master's degree to be consistent with the three-tiered licensure structure. The resources specified by the PJPs and the cost analysis incorporated the three-tiered licensure system, and also assume average salaries for Tier I, II, and III instructional staff. Because the average educator in New Mexico has approximately 11 years of experience and a master's degree, the AIR research team calibrated the ISQ around this category.

Extant data from ADS was used to identify the average experience and classification of New Mexico teachers and to determine the differentials in pay for each year of experience and additional academic degree. This information was used to determine the incremental changes in the index values when moving between the experience and degree classifications in the matrix. In addition, differences in base salaries between the tiers were used to determine the incremental differences in the values between the tiers. This information allowed the AIR research team to calibrate the index around this average and determine the incremental changes with each year of experience, academic degree, and tier assignment.

In the application of the ISQ, AIR used only the value for districts in which the value was greater than 1.0, and the index itself was adjusted to reflect an estimate for each district of the actual percentage of expenditures allocated to total compensation (salary plus benefits) of professional personnel for whom the ISQ was applicable (a list of these professional personnel can be found in Volume II, Section 6.3 - Accounting for Instructional Experience and Education). For example, on average, about 64 percent of operating budgets are expended on these types of

professional personnel, so that a district with an ISQ of 1.10 would have its ISQ cost factor adjusted downward to 1.064 to reflect the 64 percent.<sup>88,89</sup> This ISQ formula adjustment factor would then be multiplied by the unadjusted projected sufficient per pupil cost estimate for the district to determine the final per pupil cost estimate to be used for funding. It should be noted that the percentage of district personnel expenditure to which the ISQ is applied exhibits a significant positive correlation with district enrollment (0.37). That is, larger districts tend to have a larger share of their personnel expenditures to which the ISQ is applicable.

### Compensation for National Board for Professional Teaching Standards Certification

To compensate National Board for Professional Teaching Standards (NBPTS)-certified teachers, AIR recommends that the state continue to reimburse these teachers at a level comparable to what they were awarded in 2006-07. Moving ahead, the state would set a fixed amount that each national board certified teacher would receive that would be adjusted for inflation yearly. In 2006-07, the amount provided to each teacher totaled approximately \$5,170 (equal to 1.5 times the unit value of \$3,446.44 for this year). Inflating the \$5,170 figure to 2007-08 dollars, the amount needed to be set aside for each National Board Certified teacher increases to \$5,411. The compensation per certified teacher would similarly be inflated accordingly for each year thereafter. In 2007-08 there were 174 National Board Certified teachers who cost the state approximately \$941,504. Furthermore, this money is not to be distributed as general funding through the formula, but rather through a categorical fund.

### **Accounting for Growth and Decline**

#### *Context*

Over the past decade, New Mexico's student population has remained relatively constant. In the last five years alone, the student population has grown from 319,734 in 2002-2003 to 327,666 in 2006-2007, representing an average annual compounded growth rate of approximately 0.5 percent.

There have, however, been shifts in the distribution of this student population. All four urban areas and many of their neighboring districts have experienced neutral or positive growth while a number of rural-remote districts and small towns have experienced steady decline. For example, Albuquerque and the neighboring districts of Estancia and Rio Rancho have experienced consistent growth over the last several years. Conversely, many rural-remote districts, especially in the northeast corner of the state, have had to endure consistently declining enrollments. For example, the neighboring districts of Springer, Roy, and Mosquero have declined an average of 10.4, 5.1, and 4.9 percent respectively over the last five years. Please see Volume II, Section 6.4 - Accounting for Growth and Decline for a complete list of districts and enrollments trends over the last five years.

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<sup>88</sup> Descriptive statistics (i.e., average, maximum, minimum) of the percent of district personnel expenditure to which the ISQ is applied are provided in Volume II, Section 6.3 - Accounting for Instructional Experience and Education.

<sup>89</sup> The calculation of the final adjusted ISQ cost factor is as follows:

Final ISQ Cost Factor = (Percent of ISQ Applicable Personnel Expenditure × Index of Staff Qualification) + 1 - Percent of ISQ Applicable Personnel Expenditure.

There are several issues of concern in growing districts. District personnel reported that additional money is often needed in growing districts for the initial, “one-time” purchase of books, materials, and supplies. In addition, the timeliness of the distribution of funds is an issue. Districts and schools need the money for additional students at the beginning of the year so that they can set up classrooms and have teachers in place from the beginning of the school year.

However, under the current funding formula, districts receive money based on the previous year’s enrollment, creating a “funding lag” of approximately one year. Since growing districts are not being funded for the actual number of students in their schools and classrooms, this lag year is especially problematic for districts that are consistently growing since these growing districts never really “catch up.”

There are also several issues of concern for declining districts. Due to economies of scale, the smaller a school becomes, the more difficult it is to sustain instructional programs. It is important to consider the point at which a district becomes “too small.” In addition, when a district experiences a rapid decline in enrollment, it is forced to make cuts in personnel and other programmatic costs, but these kinds of adjustments cannot always be made immediately.

### ***Suggestions for Accounting for Growth and Decline***

AIR suggests that the state fund based on the larger pupil count of the previous year’s 80 and 120 average day or the current year’s enrollment as determined by the 40-day membership (MEM). In addition, AIR suggests that the state allocate monies to the already established fund that provides support to districts for non-personnel programmatic costs associated with the opening of new traditional and charter schools. The amount that should be set aside for this fund should be determined each year by the PED, and the PED should appropriate an amount of money to be used to offset some of the costs of establishing new schools during the inaugural year.

To determine the impact of this option on the district and the state, the AIR team calculated and examined growth and decline trends by district for the last five years. As noted in the section above, the trend reflects little change in the overall student population—just a gradual shift from rural-remote districts to urban districts. Overall, there are many more districts affected by decline than growth. However, these declining districts tend to have smaller student populations and affect fewer students. For example, the total enrollment of the top-five declining districts was approximately 601 while the total enrollment in the top-five growth districts (as defined by the average compounded growth rate) was 15,558.

The AIR research team also examined how other similar states addressed growth and decline. At least two states with similar characteristics (Kentucky and Nevada) address issues with growth and decline in the manner suggested above, while many other states have some sort of re-calculation throughout the academic year to readjust for unanticipated enrollment changes. In these states, the amount allotted to districts for costs associated with opening the new schools depends on the growth of that year. Other states, including the neighboring state of Arizona, have set up separate funds for “growth” school districts experiencing student growth in the current year. The AIR team ran alternate simulations with the maximum enrollments and using projected sufficiency levels. Through these alternate simulations, the AIR research team was able to determine the impact on the individual districts and the state.

By funding on the current year enrollment, growing districts would not be required to absorb the cost of the “growth” pupils for an additional academic year and would receive allocations more representative of the actual enrollments. However, funding in the current year means that declining districts would not have a “lag” year where they could make programmatic adjustments. The save harmless clause would allow declining districts the time to make programmatic decisions and cuts if necessary. In essence, this recommendation would guarantee that at the very least districts would receive monies for their previous year’s enrollment.

In terms of overall costs to the state, the state would have to absorb the additional costs for the declining districts under the save harmless clause for one year while funding the growing districts on current year enrollment. To determine the impact of this recommendation, AIR projected what the difference in costs would be to the state if funded on current year 40-day membership or previous years’ average 80/120-day membership, whichever was greater for the 2005-06 and 2006-07 academic years.

When funding on projected sufficient funding, the AIR research team projected that the overall sufficient program cost based on previous years’ enrollment for the 2005-2006 academic year was \$2.377 billion. If the state funded based on the larger of the two enrollments (previous year’s average 80/120 or the current year’s day 40), the overall cost to the state would be \$2.393 billion, a difference of \$16 million.<sup>90</sup>

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<sup>90</sup> At the time this document was written, the 2007-08 40-day membership counts were not yet available, making it impossible to perform a similar analysis for the 2006-07 to 2007-08 years.

## **Chapter 7 – Conclusion**

This chapter offers reflections resulting from a 16-month study focused on determining how best to fund a sufficient education in New Mexico. The results provide estimates of the cost of providing a sufficient education to all public school students, regardless of circumstance, and a mechanism to distribute funds equitably. To facilitate this analysis, AIR carried out three main study components: public engagement; a costing-out analysis; and formula development.

The public engagement process served to establish a definition of sufficiency in terms of the outcomes that should be expected from the public education system. This component culminated in the development of a *Goals Statement*, which included preparing all public school students in New Mexico for educational success, to be responsible citizens and family members, and to obtain and maintain gainful employment.

For the costing-out analysis, AIR organized a cadre of highly qualified educators to develop instructional program designs that would achieve the goal of sufficiency (as defined by the *Goals Statement* developed in the public engagement process), and to specify the resources to deliver that design. For this purpose, AIR held a very structured three-day meeting with 54 carefully selected educators, each assigned to one of six independent professional judgment panels (PJPs). The Project Advisory Panel (PAP) carried out an extensive review of the PJP process and findings to determine a final set of sufficient instructional programs and resource specifications to meet the desired goals. AIR then used these resource specifications along with prevailing compensation levels to develop a model that was capable of projecting the cost of a sufficient education across all schools and districts in the state.

Using the projections generated in the costing-out analysis, AIR constructed a new, simpler yet comprehensive, school funding formula and developed a set of recommendations around policy issues for implementation of the new formula. These recommendations were based on a combination of technical analysis and thoughtful policy conversations involving a wide range of stakeholders and policymakers.

The remainder of this chapter focuses on three areas: (1) a discussion of implementation and accountability, (2) the need for updating the funding formula, and (3) concluding thoughts.

### **Implementation and Accountability**

#### ***Implementation and Phase-In***

Adding significant amounts of funding to educational budgets requires a great deal of planning at the state and local level to ensure that these new revenues are expended in the most cost-effective manner. New York, for example, which was attempting to add substantial amounts of funding for K-12 education at the time of this report, decided to phase in the additional monies over a five-year period instead of infusing all the funds at once. The AIR research team proposes that the governing bodies, including the PED, the Legislature, and the individual districts, work together in a multi-year phase-in of additional funding. In addition AIR strongly recommends that the state modify their existing accountability system to ensure that increased expenditures are in line with key educational strategies while allowing districts to maintain local control over the types and quantities of resources employed to carry out their instructional programs.

Using the estimated increase in expenditures derived from the PJP and PAP resource specifications and cost simulations, the AIR research team estimated that in 2007-08 total program costs should be increased by approximately 14.5 percent (or \$334.7 million in 2007-08 dollars) to achieve full sufficiency. Table 7.1 shows how this increased funding might be phased in over a three-year period from 2009-10 to 2011-12 accounting for the estimated impact of inflation. The table also compares this three-year phase-in to a scenario where sufficiency is fully funded and implemented in the 2009-10 school year.

The first row of the table simply contains inflation rates used to calculate our best estimate of the 2009-10 actual program cost (i.e., the amount of money the current public school funding formula would distribute in each year) plus emergency supplemental funding. For instance, the dollar figure in the first column (\$2,336.7 million in row B) is simply the value of the 2008-09 actual program cost plus emergency supplemental funding (estimated from 2007-08 data). This number is inflated by 1.029 to provide the 2009-10 dollar equivalent of \$2,434.8 (in column 2). As will be seen below, the inflation rates are also used in the three-year phase-in example to inflate the previous year's total appropriation.

### Single-Year Implementation

For comparative purposes, column 2 of the table provides a scenario depicting what would happen if sufficiency were fully funded in a single year (2009-10). Here, the formula recommended by AIR suggests that in 2009-10 it would cost \$2,782.6 million to provide a sufficient education to all pupils statewide (i.e., the fully funded projected total sufficient program cost listed in row D). The difference between the actual program cost plus emergency supplemental (\$2,434.8 million) and the projected total sufficient program cost (i.e., the marginal sufficiency cost) for that year equals the \$347.8 million listed in row E.

It is important to understand that the marginal sufficiency cost is defined as the amount of money that will just provide a sufficient education to all students statewide. However, there exists a small group of districts and charter schools whose actual program cost exceeds what was deemed sufficient by the recommended formula. In order to provide them with a funding level equivalent to what they would receive under the current formula (i.e., hold them harmless), it would be necessary to allocate an additional \$6.3 million (the additional cost to hold harmless in row H). In turn, the sum of the marginal sufficiency cost and additional cost to hold harmless (termed marginal sufficiency cost with hold-harmless) equals \$354.2 million. Adding this sum to the actual program cost plus emergency supplemental funding (\$2,434.8 million) yields the total appropriation of \$2,789.0 million necessary to fully fund sufficiency in a single year (2009-10). This represents a 14.5 percent increase over what would be spent under the existing funding formula in the same year and a 17.8 percent nominal (year-over-year) increase over spending in the prior year 2008-09.

**Table 7.1: Example of single-year implementation (2009-10) and three-year phase-in (2009-10 to 2011-12) of recommended public school funding formula (all dollar values in millions)**

	Phase-In Planning Year	Single-Year Implementation	Phase-In Planning Year	Three-Year Funding Phase-In		
	1 - 2008-09	2 - 2009-10	3 - 2008-09	4 - 2009-10	5 - 2010-11	6 - 2011-12
A - Inflation Rate	1.000	1.029	1.000	1.029	1.029	1.029
B - Actual Program Cost Plus Emergency Supplemental (2008-09 Base Value and Inflated Thereafter)	\$2,366.7	\$2,434.8	\$2,366.7	\$2,434.8	N/A	N/A
C - Previous Year's Total Appropriation Inflated to Current Year	N/A	N/A	N/A	N/A	\$2,650.0	\$2,845.7
D - Projected Total Sufficient Program Cost (Fully Funded)	N/A	\$2,782.6	N/A	\$2,782.6	\$2,863.3	\$2,946.2
E - Marginal Sufficiency Cost <sup>a</sup>	N/A	\$347.8	N/A	\$347.8	\$213.2	\$100.6
F - Share of Marginal Sufficiency to be Phased-In	N/A	N/A	N/A	33.4%	50.0%	100.0%
G - Increase in Spending Above Real Value of Previous Year's Total Appropriation <sup>b</sup>	N/A	N/A	N/A	\$116.2	\$106.6	\$100.6
H - Additional Cost In Order to Hold Harmless	N/A	\$6.3	N/A	\$24.4	\$8.9	N/A
I - Marginal Sufficiency Cost With Hold-Harmless <sup>c</sup>	N/A	\$354.2	N/A	\$140.6	\$115.5	N/A
J - Total Appropriation for Phase-In Year <sup>d</sup>	N/A	\$2,789.0	N/A	\$2,575.4	\$2,765.5	\$2,946.2
K - Relative Increase Over Actual Program Cost Plus Emergency Supplemental	N/A	14.5%	N/A	5.8%	4.4%	3.5%
L - Actual Dollar Increase From Previous Year	N/A	\$422.3	N/A	\$208.7	\$190.1	\$180.7
M - Relative Dollar Increase From Previous Year	N/A	17.8%	N/A	8.8%	7.4%	6.5%
N - Total Appropriation Held-Harmless	N/A	Yes	N/A	Yes	Yes	No
<sup>a</sup> For 2009-10, the marginal sufficiency cost equals the value in rows D minus B, and for all other years equal to rows D minus C. <sup>b</sup> Increase in spending above real value of previous year's appropriation is equal to rows E times F. <sup>c</sup> Marginal sufficiency with hold harmless for the 2009-10 Single Year Implementation is equal to rows E plus H, for all other years equal to G plus H. <sup>d</sup> Total appropriation for phase-in year for 2009-10, 2010-11 and 2011-12 equals rows B plus I, C plus I, and C plus G, respectively.						

### Three-Year Phase-In

There are several reasons why undertaking a significant increase in funding should be phased-in over time. First, a phase-in of funds allows the state to gradually leverage potential revenue sources over time and minimize the immediate impact and burden on the General Fund. In addition, a phase-in allows schools to make gradual adjustments in programmatic inputs and to recruit, hire, and train new personnel to deliver these services. Moreover, a gradual phase-in gives lawmakers and the PED time to draft legislation and modify their accountability system. Finally, a phase-in also provides time for the PED and the Legislature to consider the potential implications of these increases in funds for the demand for new school personnel; the adjustment of funds allocated to support university-level and other teacher training programs to provide for the adequate supply of personnel resources; and to make adjustments in the allocations of capital resources that might be required to support programmatic expansion.

The last four columns of table 7.1 provide an example of how a three-year phase-in to fully fund sufficiency might be implemented. In the first year of the phase-in (column 4 of table 7.1), the example first calculates a third of the total marginal sufficiency cost (\$347.8 million) or \$116.2 of the total additional funding needed to reach sufficiency in that year (row G). Increasing spending above the 2009-10 actual program cost plus emergency supplemental by this amount, which is only a third of the total necessary to achieve full sufficiency, results in a larger number of districts and charter schools that must be held harmless compared to the single-year implementation described above. In turn, for the first year (2009-10) of the three-year phase-in, an additional \$24.4 million must be added to ensure that no district or charter school receives less funding in *real* terms than the previous year (row H). That is, every district and charter school that is held harmless will have the exact same purchasing power as they did the previous year to account for yearly inflation in salaries and the price of non-personnel inputs. Summing the marginal sufficiency cost (\$116.2 million) with the additional cost to hold harmless (\$24.4 million) yields a total of \$140.6 million that must be added to the actual program cost and emergency supplemental in the first year of the phase-in (i.e. the marginal cost with hold-harmless in row I). The total appropriation for the phase-in year of \$2,575.4 (row J) represents a \$140.6 million (5.8 percent) increase over the actual program cost plus emergency supplemental that would have been allocated under the existing formula in 2009-10 and a \$208.7 million (8.8 percent) nominal increase over the actual program cost and emergency supplemental dollars spent in 2008-09.

Column 5 of the table shows the second year of the phase-in (2010-11). The marginal sufficiency cost is defined as the difference between the inflated value of the previous year's (2009-10) total appropriation (the \$2,650.0 million in row C) and the fully funded projected total sufficient program cost (the \$2,863.3 million in row D) for this year, or \$213.2 million (row E).<sup>91</sup> In contrast to the first year of phase-in, we now add 50 percent of the marginal sufficiency cost (the \$106.6 million in row G). As a result, the additional funding necessary to hold districts and charter schools harmless is now only \$8.9 million (row H). Therefore, the marginal sufficiency cost with hold harmless for this phase-in year equals \$115.5. Adding this figure to the inflated total appropriation from the previous year (\$2,650 million) yields a total appropriation for the

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<sup>91</sup> It is important to note that by using the inflated value of the previous year's total appropriation, the calculated necessary funding to hold districts and charter schools harmless will ensure they have the same purchasing power as the previous year.

second phase-in year of \$2,765.5 million (row J). The total appropriation for the second phase-in year (2010-11) is \$190.1 million higher than for the previous year (2009-10) representing a 7.4% year-over-year increase in spending.

The final column of the table shows the final year of the phase-in example (2011-12). Again, we start by calculating the inflated value of the previous year's total appropriation (\$2,845.7 million) and compare this to the fully funded projected total sufficient program cost (\$2,946.2 million), which results in a marginal sufficiency cost of \$100.6 million. However, instead of taking a share of this calculated marginal sufficiency cost, as was done in the first and second phase-in years, the final year of phase-in simply adds the full amount. In addition, districts and charter schools **are not** held harmless in the final year of the phase-in. Therefore, adding the full year-three marginal sufficiency cost to the previous year's inflated total appropriation and not holding districts and charter schools harmless is simply the equivalent of supplying the fully funded projected sufficient program cost of \$2,946.2 million. This represents an increase in funding over the previous year of \$180.7 million or 6.5%.

### *Accountability*

States and districts often require that schools align their academic plans to emphasize priorities that address student learning needs. The Educational Plan for Student Success (EPSS) could serve as a blueprint in guiding resource allocation and staffing at the school and district levels. These plans already require all districts to identify areas for improvement in the areas of effective leadership, quality teaching and learning, collaborative relationships, and support for system-wide improvement. AIR suggests that the state provide additional funds to the districts with the requirement that they align these funds with the priorities laid out in their EPSS. The PED would need to establish clear guidelines and structures to ensure that the increase in funds align with the EPSS.

As Dr. Anthony Cavanna noted in his expert brief, policymakers, state education agencies, and district administrators should set criteria and provide support but “allow schools to seek to meet expectations in self-determined ways because educators closest to students know what students need.” Aligning funds to EPSS priorities would allow district flexibility in use of funds while providing guidance. Districts receiving additional funds should be required to provide a realistic plan to the PED that documents how these funds will meet the areas outlined in the EPSS.

However, at the same time, as part of the accountability system, the state should develop a structure and information system that links student performance with school resources. By student performance, we mean not only reading and math scores, but also some of the dimensions that are reflected in the goals statement developed for this project.

- What is the rate of growth of student achievement test scores over time?
- To what extent are student attendance rates and rates of expulsions or suspensions changing over time?
- How are graduation rates changing?
- To what extent are these outcomes changing for various subpopulations of students?

- What are the rates at which students are enrolling in advanced placement classes or career education classes in high schools and to what extent are these classes available in all jurisdictions?

The PED should also work with policymakers to consider alternative mechanisms for assessing the success of the education system in developing *responsible citizens and family members*. Some of this can be assessed through evaluation of progress in subjects such as history, government, economics, and political science. However, it also may require specialized surveys and assessment instruments to address outcomes such as:

- individual creativity
- student self-concept
- willingness to accept personal responsibility
- ability to make decisions to promote good health
- respect for oneself, others and the environment
- honesty
- dependability
- strong work ethic

The PED should also track the resources being expended at the state, district, and school levels. Most school-level resources may be captured through personnel data systems that indicate the compensation, qualifications, and job titles of individual staff tracked to the school level.

A key responsibility of the PED should be taking the mass of data it collects and developing standardized reports that link fiscal, personnel, and student outcome data at the school-level to permit policymakers and educators to track how well the system is functioning. Most states, including New Mexico, have the data, but few take the next step to turn data into valuable information that can be used for decision making.

First, such a system allows the state to see how schools and districts in different communities are allocating resources. Second, the information system would track the extent to which types of resources make a difference in terms of student performance across various student subpopulations and communities. Third, it would help the state identify which schools appear to be using resources most effectively and thus shed light on how resources are used at successful schools. Such knowledge could be shared across the state.

### **Updating the Funding Formula**

The formula adjustment factors presented in Chapter 5 represent incremental increases over the projected base per pupil sufficiency costs, which are intended to remain relatively stable over a reasonable period of time. However, as population demographics shift, as we learn more about what works in education, and as the federal role changes, it will be important for the state to periodically review the assumptions upon which their school funding formulas rest.

At the same time, it is important that state policymakers allow sufficient time for the new funding levels to have an impact. If the state is considering a three- to five-year phase-in of the new formula, it may require an additional five to seven years to be able to detect a significant

impact. This may be difficult for the citizens and policymakers of the state to accept, but it is important to recognize that significant change in outcomes for children will require a substantial amount of time to be realized.

With these ideas in mind, AIR recommends that the state consider an eight- to ten-year cycle for reviewing the models on which the funding formula is based. To reevaluate these adjustment factors, the state could use a professional judgment approach much like the one that has been applied for the present study.

### **Concluding Thoughts**

As emphasized in Chapter 1, costing out is not an exact science, but a process of estimation. The approach taken in this study draws on public engagement to help establish the goals and to solicit input from a wide range of constituents as to what is required to achieve them. It is based in part on objective research along with the experience of knowledgeable and caring educators. The process has also attempted to recognize the realities of public education and the economy of the state of New Mexico in arriving at a reasonable and rational estimate of the cost of providing a sufficient education to all students.

The scale of operations and the distribution of special student needs (poverty, EL, special education, and mobility) are the two major factors underlying the cost estimates resulting from this study. The recommended funding formula attempts to distribute the projected sufficiency estimates so that schools and districts with high proportions of students with specific needs receive additional funding. AIR firmly believes the adoption of this formula will improve funding equity while simplifying the structure of the current formula. In addition, the recommended formula continues to support local control over how funds are expended and programs are implemented.

Also, although the PJPs derived instructional designs by which schools could construct a sufficient opportunity to meet New Mexico content standards, this theoretical design does not include, or recommend, that the specific components of these models become mandates. However insightful the instructional designs created in the PJP process or persuasive the case for their effectiveness, education continues to be more of an art than a science. Harnessing creativity and commitment, and taking advantage of the experience of local educators, necessitates providing them with discretion to determine exactly how funds should be used.

Finally, it is important to recognize that investment in education by itself will not guarantee the desired outcomes. The success of our children depends on a multitude of factors that affect their ability to learn and thrive in the complex world in which we live. It requires investments in mental and physical health, investments that support nutrition, and investments that support family stability— all of which contribute to the ability of children to succeed in school. In turn, it should be acknowledged that schools can not do the job alone. In essence, the success of our children depends on a variety of social service institutions in addition to schools.