

**CALCULATION OF THE COST OF A SUITABLE  
EDUCATION IN KANSAS IN 2000-2001 USING  
TWO DIFFERENT ANALYTIC APPROACHES**

Prepared for  
Legislative Coordinating Council

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## EXECUTIVE SUMMARY

This report is the product of a seven month effort by Augenblick & Myers, Inc. (A&M) to study the adequacy of school funding in Kansas for the Legislative Coordinating Council, which delegated the responsibility of monitoring the work to the Legislative Education Planning Committee (LEPC). The primary purpose of the study was to determine the funding level necessary for school districts to meet the objectives of a “suitable” education. A&M agreed to undertake several tasks as part of its work, including: (1) meeting with 60 or so people to discuss the strengths and weaknesses of the school finance system; (2) using two methodologies to calculate a base cost figure; (3) estimating adjustment factors to the base cost for school district size, special education, at-risk students, and bilingual students; (4) reviewing the structure of the school finance system and examining several ancillary issues (the approach to allocating state aid for transportation, the use of a regional cost factor, a procedure to make annual changes in school finance formula parameters, the way the state supports vocational education, and the provision of state aid for newly opened schools); and (5) making recommendations to improve the structure of the school finance system and to set the levels of the parameters used in the system’s formulas.

A&M formed a team to do complete the work, which included the National Conference of State Legislatures (NCSL) and the Education Commission of the States (ECS). John Augenblick, John Myers, Justin Silverstein, and Anne Barkis participated in the team from A&M, David Shreve, Steve Smith, and Josiah Pettersen represented NCSL, and Michael Griffith participated from ECS.

During the course of the project, the team spent a considerable amount of time in Kansas. We conducted interviews on November 13, 2001 in Topeka, on December 4, 2001 in Hays, and on January 8, 2002 in Wichita. We met with people involved in estimating resources in Salina on December 4-5, 2001, in Wichita on January 8-9, 2002, and in Topeka on March 13, 2002. In all, we interviewed 59 people (out of 97 who were invited to participate) and met with 47 others in developing cost estimates.

Based on our discussions with people around the state, we concluded that there is strong support for the foundation program concept (the fundamental basis of allocating state aid in Kansas), as well as for the use of pupil weights to recognize the high costs of serving students with special needs. However, interviewees felt that the foundation level (\$3,820 in 2000-01) was too low; they also thought that the existing pupil weights were somewhat low. People also felt that the expected local contribution to the foundation program (currently the yield of a 20 mill property tax) should be increased. Interviewees generally supported the concept of the Local Option Budget (LOB) as it was originally designed to operate – as a way for districts to generate revenue above an adequate base. Their view is that the only way for districts to obtain adequate funding currently is to use the LOB to its full extent.

The underlying rationale for a study of school finance adequacy (or suitability) is to



link education accountability to finance. Kansas, like many other states and the federal government, is implementing a “standards-based” approach as part of an effort to improve student performance. The standards-based approach requires a state to do three things: (1) specify its expectations for student performance; (2) develop procedures to measure how well students are meeting those expectations; and (3) hold providers of education services (school districts, schools, teachers, and so on) accountable for student performance. The logic of the standards-based approach to education improvement implies that a state will assure that sufficient resources are available so that school districts can reasonably be expected to meet state standards.

Kansas, like most states, uses the foundation program concept as the basis for allocating the majority of state aid to school districts. The foundation level, or base cost, is the primary determinant of the level of support, along with adjustments for students with special needs or other uncontrollable factors that affect the cost of providing services. In order to link the accountability system, and state standards, to the finance system, the foundation level needs to have some “meaning” – it should reflect the amount of money that should be spent on a student with no special needs, attending school in a district with no special circumstances, if that student is going to meet state standards. In the past few years, some states have begun to develop new approaches to calculating the base cost that are designed to reflect the cost of fulfilling a particular set of services or a particular level of performance, or both, so that the base cost has a meaning beyond simply reflecting available revenue. Several methodologies have been developing to help estimate the cost of meeting state standards. The two most popular methodologies are the “professional judgement” approach and the “successful school district” approach. Several states have used the professional judgement approach, including Oregon, South Carolina, Wisconsin, and Wyoming. Some states, such as Illinois, Mississippi, New Hampshire, and Ohio, have used the successful school district approach. One state, Maryland, enacted a new school finance system this year that incorporates the results of using both approaches.

In order to use these approaches in Kansas, we worked with the LEPC to develop a definition of a suitable education, which included numerous “input” components (such as course offerings) and indicators of student performance. The standard was built on the school district evaluation process that is part of the Quality Performance Act (QPA) as well as on the statewide performance tests that students take.

The professional judgement approach is based on the assumption that experienced educators can specify the resources prototype schools need in order to assure that school districts can meet state expectations. In order to implement the professional judgement approach, A&M created four prototype school panels, two prototype district panels, and a single expert panel to identify the resources school districts would need to have in place to meet the state’s definition of education suitability. The panels, each composed of 6-8 people, focused their attention on schools and districts of different enrollment levels. In doing their work, the panels were asked to separate the resource needs of students without special needs from those of students in special education programs, at-risk

students (based on the numbers of students from low income families), and bilingual students. Once the district panels had reviewed the work of the school panels and the expert panel had examined the work of the district panels, A&M estimated the cost of the resources that had been identified. In making its cost estimates, A&M relied heavily on salary figures and benefit rates, using statewide average figures adjusted by school district size. Although people suggested that it might be necessary to raise salary levels in order to attract and retain highly qualified personnel, A&M could not find evidence to support raising the average salary of all teachers.

Our cost estimates for 2000-01 show that per student base costs rise from \$5,811 to \$8,581 as enrollment decreases from over 11,000 students to under 500 students and that the cost of special education adds over \$7,000 per special education student while the cost of education services for at-risk students adds over \$2,000 per at-risk student and the cost of bilingual education adds between \$1,200 and \$6,000 per bilingual student, with all such added costs becoming proportionally higher as district size increases.

Using the successful school district approach, A&M identified 85 districts that met the student performance standard the LEPC adopted while also meeting QPA requirements. The average basic spending of those districts was \$4,547. The spending of successful school districts is about six percent higher than other districts.

Almost all of the difference between the base cost figures produced by the two approaches (\$4,547 and \$5,811) can be explained by the higher numbers of personnel associated with the professional judgement approach. The remaining difference is attributable to added costs for professional development and for certain programs, such as full-day kindergarten, that were recommended by the professional judgement panels.

A&M used these figures, our findings concerning the strengths and weaknesses of the current school finance system, and our review of other issues as the basis of making several recommendations to improve the way Kansas distributes state aid for public schools.

- " Kansas should continue to use a foundation program in combination with the LOB as the primary basis for distributing public school support.
- " The foundation level (base cost) should be raised in the future to a level that would be equivalent to \$4,650 in 2000-01.
- " The foundation level should be adjusted by a regional cost factor using figures from the National Center for Education Statistics until such time as the state conducts its own study.
- " The foundation level should be adjusted in recognition of the higher costs associated with: (1) the operation of moderate size and small school districts; (2) the needs of students in special education programs; (3) the

needs of at-risk students (based on the number of students participating in the free lunch program); and (4) the needs of bilingual students. The adjustments should be based on formulas that are sensitive to the enrollment level of school districts.

- " There should be no pupil weight specifically for vocational education; rather, the cost of vocational education should be included in the base cost figure.
- " The weight for students in newly opened schools should continue to be used although it should be used for three years, not two years, and the weight should decrease each year.
- " School districts should be expected to contribute to the foundation program based on a property tax rate of 25 mills.
- " The second tier (Local Option Budget) should permit districts to raise up to 25 percent more than the revenue generated by the foundation program (based on the foundation level and the adjustments for size, special education, at-risk students, and bilingual students). The state should continue to equalize the second tier in the same manner as it does currently.
- " The foundation level should be restudied every 4-6 years or when there is either a significant change in state student performance expectations or a significant change in the way education services are provided. In intervening years, the foundation level should be increased based on the work of a committee designated by the legislature to determine an annual rate of increase, which should consider annual changes in the consumer price index (CPI) in Kansas.
- " The state should continue to use its density-based formula for transportation support but include the full cost of serving students living 1.25 miles from school as part of the analysis.

We estimate that if this set of decisions had been made in 2000-01 (excluding the use of a regional cost differential and the modification of the transportation formula), the cost of the foundation program, including adjustments, would have been about \$3.066 billion. As best we can tell, school districts spent \$2.837 billion for comparable purposes (that is, excluding capital spending, transportation, food services, community services, and adult education) in 2000-01. Therefore, we are suggesting that total spending needs to increase by \$229 million, or about \$512 per student (an increase of about 8.1 percent).

In terms of revenue, assuming that local revenue (estimated to have been \$420 million for non-capital purposes) and federal revenue (estimated to have been \$247 million) could have been used to offset the total cost, state support would have needed to increase from \$2.122 billion to \$2.399 billion, an increase of \$277 million, or 13.1 percent.

This figure, however, assumes that the local property tax effort required in the foundation program would remain at 20 mills. Given that the foundation level we suggest is nearly 22 percent higher than the one actually used in 2000-01 (\$4,650 vs. \$3,820) and given the increase in the adjustments for students with special needs, we recommend raising the required tax effort to 25 mills which would have generated an estimated additional \$94 million in local revenue (assuming assessed valuation of \$18.9 billion), reducing the increase in state aid to \$183 million.

These figures assume that all LOB funds are rolled into the foundation program; in fact, the second tier could permit additional expenditures of between \$520 million and \$773 million depending on whether the second tier is based on 25 percent of the base expenditure (\$4,650) or 25 percent of the adjusted base cost per student (\$6,918, on average, including expenditures based on school district size, special education, at-risk students, and bilingual students).

## I. INTRODUCTION

This report concludes a seven-month study by Augenblick & Myers (A&M) on the adequacy of school funding in Kansas, designed to determine the funding level necessary for school districts to produce a specific level of student performance. A&M began work for the Legislative Coordinating Council in October, 2001, and conducted a total of six meetings across the state between November, 2001 and March, 2002. Three meetings brought people from across the state together for discussions about the current school finance formula. A&M, along with representatives of the National Conference of State Legislatures (NCSL) and the Education Commission of the States (ECS), also convened three meetings for the purpose of conducting a professional judgment adequacy study. In total, 105 Kansas citizens, with knowledge of education issues contributed to the information contained in this report.

Kansas uses a “foundation” formula to distribute most state aid. Under this approach, a target level of revenue is established for each district, driven largely by the foundation level, a constant amount per student. The foundation level was set at \$3,820 for 2000-2001, a level that was far less than the average per pupil spending of school districts that year. More importantly, it is difficult to say what the foundation level is supposed to mean. It is a number that is set so that, given the formula, the state allocates as much total support as the state legislature provides. Assuring that the system provides an adequate level of support requires that the foundation level be set at an appropriate level—a level that has some meaning in terms of either the amount of services that can be delivered to students or the level of performance students are able to achieve.

Once a foundation level has been determined, it is common practice among the states to adjust that level in each district so that the revenue level actually received by a district is sensitive to cost pressures that are beyond its control, and that tend to vary across districts. For example, some districts have higher proportions of pupils that participate in special education programs, which may cost much more than regular programs. Districts with relatively higher proportions of pupils in high cost programs will have higher overall costs per student than districts with relatively lower proportions of such pupils, which requires that their target revenue levels be higher. Other types of students may also require that districts spend more, such as bilingual students or students who are at risk of failing in school, which is strongly associated with the socio-economic characteristics of students’ families. Too, certain characteristics of school districts, such as their size or location, may result in relatively higher costs that might require an adjustment in the foundation level in determining a target revenue level.

The statutes governing education funding in Kansas are found primarily in Chapter 72, Article 64 of the Kansas Statutes Annotated, referred to as the School District Finance and Quality Performance Act (SDFQPA). The Act, first passed in 1992, sets out

guidelines for school finance as well as accreditation and assessment. It addresses how and when students are to be counted for funding purposes, and designates weights for certain categories of pupils, such as bilingual students and students at risk of failing. Section 72-6410 sets the base state aid at \$3,820 for 2000-2001 and every year thereafter. The Act also designates adjustments to that base for building new facilities, vocational education programs, and districts with enrollment below 1,725. In addition, it sets the methods for calculating other types of funding, such as transportation funding or supplemental general state aid. The requirements for implementing the local option budget (LOB) as a source of revenue for districts are also set forth in the SDFQPA. These requirements include a limitation on the level at which the LOB may be set, passage of a resolution by the local board, and specific rules on how the LOB amount should be computed. In terms of assessment and performance, the SDFQPA requires that the state board create accountability standards that are compatible with assessments. It also establishes local site councils in each district for the purpose of providing advice on the performance goals and evaluation processes in that district.

Kansas, like many other states, is implementing a “standards-based” approach as part of an effort to improve student performance. In simple terms, the standards-based approach requires a state to do three things: (1) specify its expectations for student performance; (2) develop procedures to measure how well students are meeting those expectations; and (3) hold providers of education services (school districts, schools, teachers, and so on) accountable for student performance. The logic of the approach also implies that a state will assure that sufficient resources are available in all school districts, if not in all schools, so that they can reasonably be expected to meet state standards. In effect, this means that the foundation level should reflect the per pupil spending a district needs to make so that students without special needs can meet state performance expectations.

While many states are pursuing the standards-based approach, most states, including those that use foundation formulas, have not made a concerted effort to assure that the amount of revenue available in school districts is related to the cost of meeting state standards. Although some states have created systems of “rewards” and/or “sanctions” in recognition of student performance, most states have failed to specify how their expectations for student performance might be related to the basic resource needs of school districts. In fact, it is not unusual among the states to see little or no relationship between expected levels of performance and the availability of state aid; conversely, the level of state aid often reflects the availability of money, associated with the effort required to obtain it, not the resource needs of pupils, schools, or school districts.

A few states, including Illinois, Louisiana, Mississippi, New Hampshire, Ohio, Oregon, and Wyoming, are attempting to estimate the expenditures school districts need to make in order to fulfill state objectives. Some of these states have been required to review their funding systems as part of school finance litigation while others are doing so as a result of gubernatorial, legislative, or state board of education interest. These states

are using calculation procedures based on one of two data-based approaches that have evolved over the past few years: (1) the “professional judgment” model or (2) the “successful school (district)” model. These two approaches are among the four approaches (the other two approaches include one based on the cost of whole-school reform models and one based on statistical analysis of school district performance and expenditure data – neither of which has actually been used by a state) that academics and policymakers have been examining in recent years.

The professional judgment approach is a modern version of what used to be called a “resource cost model,” or “market-basket” approach that asked educators to specify the resource needs of quality schools. Today, the approach asks educators to identify the resources they feel need to be in place in prototype schools in order for students to achieve a specific set of objectives. Once resources have been specified, prices are determined for the resources which, when applied to the resources, produces a hypothetical cost. Costs for elementary, middle, and high schools can be combined with district level costs to produce an overall cost per student. The district level costs include those expenditures that are in addition to school site expenditures, such as district administration, or those expenditures that cannot be disaggregated to school sites, such as plant maintenance and operation. When undertaken carefully, the approach can be used to distinguish costs of special, high-cost programs from basic services, allowing the user to determine a base cost, or foundation level, as well as adjustments to the base.

The successful school (district) approach relies on a different logic than the professional judgment approach, seeking to infer a base cost figure from the actual spending of school districts, or schools, determined to be successful because they meet whatever standards are used by a state to evaluate student and school performance. Using this approach, a set of schools or school districts are selected from among all schools or districts that meet a variety of criteria related to their level of success in meeting state standards, their normalcy in terms of socio-economic characteristics such as district wealth or proportion of pupils from low income families, and their efficiency in terms of spending. Once districts have been selected, their basic spending (excluding spending for capital purposes, transportation, special education, other special programs, and any service funded by federal revenue) is examined to determine a base cost level. While this approach is best used to determine a base cost figure, it may be possible to use the approach to determine adjustments to the base cost if a sufficient number of cases can be found with varying levels of special needs to determine the relationship between the proportion of pupils with those needs and the excess spending associated with serving those pupils.

Unlike most states, Kansas has chosen to employ both the professional judgment model and the successful school (district) model. Maryland is the only other state to combine both of these methods in a single study. In 2001, A&M conducted an adequacy study for the Thornton Commission in Maryland, which utilized both of these models. The specific methodology varied slightly due to the demographic differences between Kansas

and Maryland. However, the procedure was quite similar, with professional judgment panels meeting to create prototype schools, and successful school districts identified and spending analyzed. The result of this combination was the production of two base cost figures—one from the professional judgment model, and one from the successful schools model. The Thornton Commission then used various aspects of each of the two models (the base figure from the successful schools approach was used in conjunction with the weights produced by the professional judgment approach) in crafting school finance legislation that has since been passed into law.

The following chapters will discuss how other states examine issues of adequacy and how the standard for defining a suitable education was set for purposes of this study. It will also explain in more detail both the professional judgment and successful school (districts) approaches to studying adequacy, and how each approach was implemented in Kansas. The report will also explore the distinctions between these two methods, and discuss how the results of this study may be incorporated into Kansas' current school finance formula.



## II. ALTERNATIVE APPROACHES TO CALCULATING A BASE COST LEVEL

In most states, the base cost figure that drives the foundation program represents a political judgment, reflecting how much revenue is available or how much might become available through higher levels of taxation.<sup>1</sup> In the past few years, some states have begun to develop new approaches to calculating the base cost that are designed to reflect a particular set of services or a particular level of performance, or both, so that the base cost has a meaning beyond simply reflecting available revenue (see Appendix A for further discussion on actions by specific states).<sup>2</sup> The effort to develop these approaches is necessitated by the fact that no research exists that demonstrates a straightforward relationship between how much is spent to provide education services and student, school, or school district performance. If such a relationship existed, then state policy-makers could simply determine the level of performance they wanted, and provide the appropriate amount of revenue or, conversely, determine how much revenue was available and know the level of performance

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<sup>1</sup> See "A New Millennium and a Likely New Era of Education Finance" by James W. Guthrie and Richard Rothstein, a chapter in the *2001 Annual Yearbook of the American Education Finance Association* (edited by Stephen Chaikind and William F. Fowler) for a discussion of the history of state attempts to deal with adequacy in the distribution of state aid.

<sup>2</sup> More is being written about the issue of education funding adequacy, including, for example: "Enabling Adequacy to Achieve Reality: Translating Adequacy into State School Finance Distribution Arrangements" by James W. Guthrie and Richard Rothstein in *Equity and Adequacy in Education Finance*, edited by Helen F. Ladd, Rosemary Chalk, and Janet S. Hansen (National Research Council, National Academy press, Washington DC, 1999); "The Empirical Argument for Educational Adequacy, the Critical Gaps in the Knowledge Base, and a Suggested research Agenda" in *Selected Papers in School Finance, 1995* (National Center for Education Statistics, Washington DC, 1997); "Defining Adequacy: Implications for School Business Officials" by Lawrence O. Picus (*School Business Affairs*, January 1999); "The Costs of Sustaining Educational Change Through Comprehensive School Reform" by Allan Odden (*Phi Delta Kappan*, February 2000); "Alternative Approaches to Measuring the Cost of Education" by William Duncombe, John Ruggiero, and John Yinger in *Holding Schools Accountable: Performance-based Reform in Education*, edited by Helen F. Ladd (The Brookings Institution, Washington DC 1996); and "Recommendations for a Base figure and Pupil-Weighted Adjustments to the Base Figure for Use in a New School Finance System in Ohio" by John Augenblick (School Funding Task Force, 1997).

that could be attained. In the absence of such a simple relationship, and in light of the fact that some people believe that there is no clear association between spending and performance, four rational approaches have emerged as ways to determine a base cost level: (1) the professional judgment approach; (2) the successful school (district) approach; (3) the comprehensive school reform approach; and (4) the statistical approach. These approaches differ in terms of underlying philosophy, assumptions, data needs, reliance on research, and ease of understanding. They should not be viewed as competing approaches but, rather, as alternatives that might be appropriate depending on particular circumstances. Moreover, while any of these approaches might be used to calculate a base cost figure, they might be more or less useful in calculating adjustments to the base cost to account for the varying, uncontrollable costs pressures that different districts face.

The professional judgment approach relies on the views of experienced service providers to specify the kinds of resources, and the quantities of those resources, that would be expected to be available in order to achieve a set of objectives specified for the service providers. This contribution-focused approach has been used in Wyoming to calculate a base cost amount in response to the state Supreme Court's requirement that the school finance system reflect the cost of the "basket" of goods and services needed to assure that a high school graduate could be admitted to an institution of higher education in the state. The approach uses a panel of "experts" to specify the way education services should be delivered in prototypical elementary, middle, and high schools, which combine to form a prototype school district.

Once the services have been specified, with a focus on the necessary numbers of different types of personnel, costs are attached and a prototype per pupil cost is determined. This approach best reflects the experiences of people who are actually responsible for delivering education services and may be combined with research results as the basis of a rational way to specify the magnitude of resources that are expected to produce some level of results. As the approach has been implemented, it is designed to distribute funds through a "block grant," without specifying exactly how money should be spent, despite the fact that the prototype schools designate what the experts believe is the best combination of resources. The advantages of the approach are that it reflects the views of actual service providers and it is easy to understand; the disadvantages are that it tends to be based on current practice and there is little evidence that the provision of money at the designated level, or even the deployment of resources as specified by the prototype models, will produce the anticipated outcomes.

The successful school district approach is based on the simple premise that any district should be able to be as successful at meeting a set of objectives as those schools that actually meet those objectives provided that every district has the same level of funding that has been available to the successful districts, and that differences in student characteristics have been taken into consideration. This approach has been used in Mississippi, New Hampshire, and Ohio to establish base cost levels. For example, in Ohio,

the average “basic” spending (excluding spending for capital purposes and transportation, expenditures funded by federal revenues, and expenditures for which adjustments would be expected to be calculated) of the districts that met almost all of the state’s 18 measurable objectives is the foundation level; in New Hampshire, the approach was modified to include only those districts that were among the lower spending of those that were within a narrow range of meeting the state’s objectives (excluding those that far exceeded the state’s objectives). In Mississippi, separate groups of districts were identified to calculate base cost figures for instruction, administration, and plant maintenance and operation, which were then combined to produce a single base cost level.

The successful schools approach is most useful when the state has specified its objectives, and districts can be identified that meet them on the basis of acceptable criteria. The strengths of the approach are that it is based on actual evidence that districts can be successful at a certain resource level and that the ways that resources are used can vary among successful districts; a weakness of the approach is that it makes no adjustments to the base cost to reflect uncontrollable cost pressures, since the characteristics of some districts might differ from those that have been successful.

The comprehensive school reform approach is based on the estimated costs of implementing whole-school, systemic reform models, such as those developed by the New American Schools Development Corporation (NAS). The assumption is that such models reflect the best thinking about how to organize schools to assure their success, particularly with the most difficult students, and that any school that had the same resources as the model school would have the ability to put the model into effect and be equally successful. No state has actually pursued this approach, which may simply reflect the fact that the models are not in widespread use and that they have not had a chance to prove their success yet.

The statistical approach is based on understanding those factors that statistically explain differences in spending across school districts while “controlling” for performance. In some sense, the statistical approach is the most powerful of the alternatives and is subject to the least manipulation. However, it has proven difficult to explain how the approach works in situations other than academic forums. The approach requires the availability of lots of data, much of which needs to be at the school or student level in order to be most useful. No state has used the statistical approach to determine the parameters in a school finance formula. However, the statistical approach has been used to establish some of the adjustments states use to make the allocation of support sensitive to uncontrollable cost pressures, such as setting the “weights” for students enrolled in special education programs or creating the formulas to reflect the costs associated with different enrollment levels.

None of these approaches are immune to manipulation; that is, each is subject to tinkering on the part of users that might change results. In addition, it is not known at this

point whether they would produce similar results if used under the same circumstances (in the same state, at the same time, with similar data). In fact, there is some speculation that the successful school district approach and the comprehensive school reform approach produce lower costs than the professional judgment approach or the statistical approach. Regardless of these shortcomings, each approach represents an attempt to rationally determine the parameters that drive the allocation of state aid, and the use of any of the approaches raises the level of discussion about school finance adequacy.

### III. SETTING A SUITABLE EDUCATION DEFINITION

#### Introduction

In order to calculate the cost of a suitable education in Kansas, A&M needed to have a specific definition of what that constituted. We began by reviewing information in the request for proposals, provided by the Legislative Education Planning Commission (LEPC), and comparing how it related to approaches to adequacy (suitability) other states have taken. A&M then examined what measures of success, already in existence in Kansas, could be used to define a suitable education. Finally, we worked with the LEPC to create a specific definition of a suitable education in Kansas. This section will review these three steps and discuss how A&M applied the definition of a suitable education in both the professional judgement approach and the successful schools approach.

#### Examples of Adequacy (Suitability) Definitions

In defining a suitable or adequate education, states primarily use two types of measures of success; input and output measures. Often states rely more heavily on one or the other when setting their definition of adequacy (suitability). Input measures focus on the types of resources, the number of teachers, and the course offerings that should be provided to students. Wyoming is an example of a state that used input measures in setting its adequacy level. The Wyoming measure focused on those activities a student had to complete in order to be admitted to the Wyoming university system. These activities focus mainly on high school course offerings. Wyoming did not use student performance on assessments as a measure.

While Wyoming used only input measures in its definition of adequacy, many states have relied on output measures. Output measures focus on student performance and are typically associated with statewide testing in a variety of subject areas at several grade levels. Minimum graduation rates and minimum attendance rates are also considered output measures. In Illinois, outcomes on tests were the main measures used in determining adequacy. Districts that met state measures on a number of tests were considered to be performing at an adequate level. Illinois districts either had to meet the absolute standard—a certain percent of kids meeting state goals on the tests—or a change over time standard. The change over time standard measured adequacy in terms of improvement. If a district improved at a level that kept them on pace to achieve the absolute standard in a given period of time, they were also deemed to be performing at an adequate level.

## Current Kansas Measures

Included in the request for proposals was information on the extensive system of input measures that are contained in Kansas' Quality Performance Act (QPA). The state uses a school district accreditation system that is driven by course offering requirements. These include separate measures for elementary and high school. Elementary schools must teach a number of areas ranging from reading to health and hygiene. The high school requirements are more specific in the types of courses and the number of courses that must be taken. For example, students must take 3 units math that must include one unit of Algebra I, Algebra II, and Geometry<sup>1</sup>. There are also requirements in English, Natural Science, Mathematics, Social Science, and Computer Technology. An added requirement for the state scholarship program includes two units of foreign language.

Kansas has a system of statewide student performance assessment tests, given each year to students in every district. Although these tests are not currently used to evaluate the success of school districts, they do measure the success of students in several different content areas and at different grade levels. The content areas that are tested are reading, math, writing, science, and social studies. The tests are given in grades 4 through 11. The wide range of tests, in both content area and grade span, set up a system that could very easily be used to evaluate the success of school districts.

## Setting the Suitability Definition

A&M worked with the LEPC to develop a more specific definition of a suitable education. We suggested using a combination of both input and output measures. For the input measures, it was decided that the current QPA requirements would be used, along with some added language provided by the LEPC. This additional language included vocational education as a required course offering, and identified other programs and services that might be provided as part of a suitable education.

Next we set the performance measures that would be used. Again, A&M worked with the LEPC. Together we determined which content areas and grade levels would be used. The math and reading tests are given in the same grade levels every year, the writing, science and social studies tests are given in alternating years. A&M felt that the reading and math tests, which are given every year, gave us the most flexibility in setting the output measures.

Tables III-1 and III-2 show information on all of the reading and math tests for 2000 and 2001. The tables show the number of districts that took each test, and the average percentage of students statewide who scored at either the basic or satisfactory level. From this information, it was determined that districts would need a period of time to meet

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<sup>1</sup> From the Kansas SDFQPA

the new performance standard related to a suitable education. Districts would be given five years to get a certain percentage of their students to the satisfactory level on the tests. This percentage would differ for each of the six tests. It would be 70% for 5<sup>th</sup> grade reading, 65% for 8<sup>th</sup> grade reading, 60% for 11<sup>th</sup> grade reading, 65% for 4<sup>th</sup> grade math, 60% for 7<sup>th</sup> grade math and 55% for 10<sup>th</sup> grade math. The full definition, both inputs and output measures, can be seen in Appendix B.

### Using the Suitable Education Definition

The definition was used differently for the two approaches. In the professional judgment approach, participants were asked to build school districts that would provide the suitable education. In this approach the participants were given Appendix B. They were asked to build school districts that could accomplish all of the goals of the definition. The districts had to be able to offer all courses that are current requirements of the state, and had to include a mix of the other programs and services the commission identified as being part of a suitable education. These course offerings had to be delivered in a way that would also get students to succeed on the assessments. In order to qualify as providing a suitable education, the districts had to have the designated percentage of their students performing at the satisfactory level for all six of the tests within five years.

For the successful school districts approach, A&M had to figure out how to identify districts that were already meeting the definition of a suitable education. Compliance with QPA was used to determine if districts were meeting the input standards. The state was able to give us a list of all of the districts who did not meet the input measures. Next, we identified those districts that met the output performance measures. Since the output measure focuses on a goal five years out, A&M had to figure out how to identify districts that we felt would be meeting the standard at that time. We used a combination of measures to identify districts that were meeting the testing measure. A&M first looked at all districts that were currently meeting the performance levels on at least five of the six tests. We also included any districts that were showing the level of improvement needed on at least five of the six tests to get to the measure in five years. The level of improvement needed was computed by taking the absolute standard that needed to be met for each test in five years, subtracting the 2000 score and dividing by five. This gave us the average amount in each year a district needed to improve in each of the five years to meet the absolute standard. If the district had this level of improvement between 2000 and 2001 for five of the six tests they were considered to be meeting the output measure.

The following two sections describe the full process of undertaking the professional judgment and successful school districts approaches.

TABLE III-1

CHARACTERISTICS OF KANSAS SCHOOL DISTRICTS IN  
RELATIONSHIP TO STUDENT PERFORMANCE BASED  
ON STATEWIDE ACHIEVEMENT TESTS FOR 2000

Subject:	<u>Reading</u>			<u>Mathematics</u>		
Grade:	<u>5<sup>th</sup></u>	<u>8<sup>th</sup></u>	<u>11<sup>th</sup></u>	<u>4<sup>th</sup></u>	<u>7<sup>th</sup></u>	<u>10<sup>th</sup></u>
<u>Characteristics</u>						
<u>Number Reporting</u>						
Districts	291	293	293	297	298	292
Students (000s)	445.6	445.3	443.5	446.2	446.0	444.1
<u>Statewide Statistics</u>						
<i>Unweighted Percent</i>						
<b>Satisfactory and Above</b>						
Mean %	63.4	68.2	55.6	64.0	54.9	41.7
Median %	63.0	68.0	56.0	63.0	54.5	40.5
Std. Dev. %	12.3	11.5	12.8	15.9	15.7	13.3
Low %	19.0	40.0	7.0	18.0	13.0	6.0
High %	100	100	95	100	100	77.0
<i>Student Weighted Percent</i>						
<b>Satisfactory and Above</b>						
Mean %	61.2	65.2	56.0	60.7	52.1	40.4
Median %	61.0	66.0	55.0	60.0	53.0	38.0
Std. Dev. %	13.0	11.6	11.2	15.3	16.5	12.3
Low %	19.0	40.0	7.0	18.0	13.0	6.0
High %	100	100	95	100	100	77.0



TABLE III-2

CHARACTERISTICS OF KANSAS SCHOOL DISTRICTS IN  
RELATIONSHIP TO STUDENT PERFORMANCE BASED  
ON STATEWIDE ACHIEVEMENT TESTS FOR 2001

Subject:	<u>Reading</u>			<u>Mathematics</u>		
Grade:	<u>5<sup>th</sup></u>	<u>8<sup>th</sup></u>	<u>11<sup>th</sup></u>	<u>4<sup>th</sup></u>	<u>7<sup>th</sup></u>	<u>10<sup>th</sup></u>
<u>Characteristics</u>						
<u>Number Reporting</u>						
Districts	297	296	293	295	294	298
Students (000s)	446.3	445.7	444.1	446.1	445.7	444.8
<u>Statewide Statistics</u>						
<i>Unweighted Percent Satisfactory and Above</i>						
Mean %	65.1	68.5	54.5	70.5	57.6	44.4
Median %	65.4	70.1	54.2	71.4	57.0	42.8
Std. Dev. %	12.8	12.0	12.4	15.2	15.9	15.8
Low %	20.0	19.6	7.1	22.2	6.7	7.1
High %	100	100	87.5	100	100	87.5
<i>Student Weighted Percent Satisfactory and Above</i>						
Mean %	62.6	64.6	53.6	66.4	55.1	42.5
Median %	64.4	65.8	53.4	68.2	54.8	42.0
Std. Dev. %	13.3	12.2	11.6	14.9	16.5	13.9
Low %	20.0	19.6	7.1	22.2	6.7	7.1
High %	100	100	87.5	100	100	87.5

## **IV. IMPLEMENTING THE PROFESSIONAL JUDGMENT APPROACH IN KANSAS**

### Introduction

The primary purpose of the professional judgment is to estimate the cost of providing those services believed to be necessary to assure that the average student, attending school in an average school district, can meet whatever objectives the state has established. In addition, the professional judgement approach can be designed to estimate the added cost of providing services in different circumstances and to students with special needs. In this case, we were particularly interested in estimating the cost of serving pupils in special education programs, pupils at risk of academic failure, and pupils with English language difficulties as well as the cost of providing regular services and special services in districts of varying size (enrollment level).

In its simplest form, the professional judgment approach uses a panel of well-qualified people to identify the resource needs of prototype elementary, middle, and high schools with a particular set of characteristics. To the extent that all of the schools within a state would be reasonably well represented by a set of prototype schools with one set of characteristics, a single group of people would suffice to get the job done. However, in order to calculate all of the desired adjustments (which are necessary because school and school district characteristics vary widely in Kansas), we needed to use multiple groups of people, each focused on prototype schools and/or districts of different size.

Further, based on our experience using the professional judgment approach in other states, we felt that it was best to use multiple panels of people, each of which had different responsibilities: (1) school panels focused exclusively on estimating the resource needs of prototype schools; (2) district panels reviewed the work of the school panels and estimated the resource needs of prototype school districts; and (3) an “expert” panel reviewed the work of the district panels, discussed resource prices, and examined cost figures. The remainder of this chapter discusses the characteristics of the prototype schools and school districts, the ways the panels went about their work, the resource needs of prototype schools and school districts, the prices assigned to those resources, the resulting costs for a variety of resource components, the differing resource costs for school districts of different size, and the relationships we found between the added costs of special services and the base cost.

### Determining the Characteristics of Prototype Schools and School Districts

In 2000-2001, 446,970 students attended public schools in Kansas. They were enrolled in 1,426 schools that were organized into 304 school districts. The school districts varied dramatically, from those having one or two schools, to those having fewer

than 150 students, to those having more than 10,000 students. In order to better understand the diversity of school districts, we grouped them into four size categories (quartiles) based on equal numbers of school districts in each group, and equal numbers of students in each group. The characteristics of these groups are shown in Tables IV-1A and IV-1B. When districts are organized with equal numbers of school districts in each quartile (Table IV-1A), districts in the smallest quarter enroll 3.5 percent of all students, have about 208 students per district, and have 2.3 schools per district. Districts in the largest quarter of districts enroll 75.3 percent of all students, have about 4,429 students per district, and have about 10.2 schools per district. When school districts are organized with similar numbers of students in each quartile (Table IV-1B), the smallest 230 districts enroll about the same number of students as the largest four districts, and while the smallest districts have an average of 490 students and 2.9 schools the largest districts have 28,706 students and 56.5 schools on average. Based on this information, we felt that four prototype districts would be sufficient to represent the diversity of districts in the state (remembering that the purpose of the exercise is to develop a set of adjustments that can be translated into factors designed to consider the actual circumstances of each district). The information below describes the four prototype school districts, including their size, numbers and sizes of schools, and proportions of students with special needs, which reflect the actual averages for districts of the specified size.

#### Prototype School and District Characteristics

	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
Range in Enrollment	#324	325-555	556-3,600	\$3,600
Size of Prototype District	200	430	1,300	11,200
Size of <u>Prototype School</u>				
Elementary	140	150	200	430
Middle	-	-	300	430
High School	60	130	400	1,150
Number of <u>Prototype Schools</u>				
Elementary	1	2	3	12

	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
Middle High School	1	1	1	3
Proportion of Students in Special Education	14%	14%	13%	14%
Proportion of Students Eligible for Free/Reduced Price Lunch	35%	35%	29%	36%
Proportion of Bilingual Students	2%	2%	3%	4%

### The Work of the Professional Judgment Panels

Having determined the numbers of prototype school districts we needed to examine, the characteristics of prototype schools and school districts, and the objectives the schools would be expected to achieve (see Chapter III), we created the professional judgment panels and oversaw their work. We organized four prototype school panels to identify the resource needs of elementary, middle, and high schools in four different size school districts. Because we felt that the moderate size school district would be particularly important, we had two separate panels focus their attention on schools associated with that size school district. Because we felt that it would be relatively easy to focus on the resource needs of small school districts, we had a single panel deal with the small and very small size school districts. Finally, a single panel focused attention on the needs of schools in the large school district. Once we identified the characteristics of the individuals we wanted to serve on those panels (in terms of role, experience, and expertise), we sought advice from the Kansas State Department of Education (KSDE) and the LEPC regarding who might serve on the panels. Twenty-five people attended the one-and-a-half day meeting on December 4-5, 2001 in Salina (see Appendix C-1A for names of participants). At that meeting, participants were placed into four panels, given a set of instructions to guide their work (see Appendix C-2A), and assigned someone from our team to oversee the work (John Myers and Justin Silverstein from A&M, Josiah Pettersen from NCSL, and Michael Griffith from ECS fulfilled this role – John Augenblick and Anne Barkis from A&M also were present for part of the time). Each panel identified a recorder whose job was to enter the opinions of the group into computer-based information gathering tools that we supplied. The panels developed an underlying philosophical approach and specified the resource needs of prototype schools. Some of these

resources included the number and size of classes to be offered during the school year, the availability of supplemental learning opportunities (during the regular school year and during the summer), the availability of services for some children before kindergarten, equipment, additional amounts of professional development, technology, support services, and non-academic activities. Following this meeting, we summarized the work of the panels for review by the prototype school district panels.

We created two prototype school district panels, one of which focused on the two small school districts and one of the moderate size districts, while the other focused on the large school district and the other moderate size district. We followed a similar procedure in identifying participants for the prototype school district panels as we had in finding individuals to serve on the prototype school panels (see Appendix C-1B for names of participants). The two panels, with a total of 15 participants, met for a day and a half in Wichita on January 8-9, 2002. John Myers and Justin Silverstein from A&M oversaw the work of the two panels (John Augenblick and Anne Barkis of A&M also were present for part of the panel discussions). Again, panel members were given a set of materials to guide their work (see Appendix C-2B) and one participant recorded the opinions of the group on computer-based forms. The panels reviewed the work of the prototype school panels, amended the list of resources for the prototype schools, and created a resource list for central district activities that had not been included in the prototype schools. Following these meetings, we made some preliminary decisions about resource prices and, based on panel decisions about resources, we estimated the cost of basic services, and the added cost of services for students with special needs.

The cost estimates, and the underlying resources and prices, were reviewed by the expert panel at a day-long meeting in Topeka on March 13, 2002. Expert panel members were selected using a similar procedure to those used for the prototype school and prototype school district panels (see Appendix C-1C), and they were given a set of materials to assist them in their work (see Appendix C-2C). At that meeting, the expert panel selected one of the two resource models that had been developed by the prototype school and school district panels for moderate size school districts, modified some resources to make them somewhat more consistent from school to school, and suggested changes in the prices used to estimate costs.

### The Resource Needs of Schools and School Districts

The figures shown in Tables IV-2A, IV-2B, IV-2C, and IV-2D indicate the personnel needs of a prototype elementary school, middle school, and high school, based on the work of the professional judgement panels. Some things should be kept in mind in looking at the figures displayed in the tables. First, figures may be in full-time equivalent personnel terms – they reflect the resource needs of schools not the way schools may be organized to deliver services. Second, because we wanted to estimate the costs of services for students with special needs, we asked panels to distinguish, as best they could, the extra

resources that students with particular needs might require – this often results in some resources being included as basic resources since most students with special needs are not treated separately. Third, we asked panels to be as precise as they could, but precision should not be over-interpreted; that is, panel members find it difficult to precisely link resources to performance expectations. Fourth, many of the panels wanted to use full-time teachers as substitute teachers rather than using a pool of people. Fifth, some activities are covered by the specified resources without being addressed separately – for example, the panels felt that programs for gifted/talented students could be provided in all schools without requiring additional resources or without distinguishing such resources. Finally, we treated each group of students with special needs as if they were independent while, in reality, there may be cross-over among groups that leads to some double counting of resources.

In an attempt to make it easier to compare personnel resources across different schools, Tables IV-3A, IV-3B, and IV-3C standardize the resources shown in the previously discussed tables by displaying numbers of personnel per 1,000 students. The tables compare schools serving similar grades across districts of differing size. Again, the caveats expressed above need to be kept in mind while comparing figures. However, in general, as size of district and school increases, the numbers of personnel per 1,000 students tend to decrease. In some cases, this change is dramatic, as for principals or the sum of classroom teachers and other teachers in high schools. In other cases, the ratio changes only slightly, as for guidance counselors. While there tend to be more teachers per 1,000 students needed in high schools than in elementary schools, this is not the case in the largest districts.

The figures in Tables IV-4A, IV-4B, and IV-4C show the other resources needed in schools, including those associated with professional development, student activities, and assessment. After reviewing the work of the other panels, the expert panel agreed that teachers needed five days for professional development each year and that \$500 per teacher was required to assure that such activities would be of high quality. They also agreed that funds would need to be available for instructional supplies and materials, and for equipment. While there is some consistency in amounts across different schools and school districts of different size, there is no standard amount could be used. Assessment was viewed as a relatively small but important cost. Student activities, including all costs associated with extra-curricular activities such as sports, is a substantial cost the magnitude of which could only be estimated.

Tables IV-5A and IV-5B indicate the other kinds of services the panels felt needed to be in place in order to assure that schools could meet state expectations. Most of these programs are at the elementary level and many of them are designed to serve at-risk students, with the expectation that investments in services made early, even before kindergarten, would alleviate the need for some services later. At the elementary level, the panels felt that full-day kindergarten was essential for all students and that pre-school programs and extended-day programs were necessary for students at risk of failing in

school. At the middle school level, extended-day programs and summer programs for at-risk students were considered to be important. At the high school level, summer programs for at-risk students were thought to have value regardless of district size.

The technology needs of elementary, middle, and high schools are shown in Tables IV-6A, IV-6B, and IV-6C. In order to develop the technology needs, panels were given a standard list of equipment, based on work done by the Education Commission of the States, which was modified as necessary to be consistent with each panel's design. In most cases, the panels wanted to see an extensive array of technology available in classrooms, in computer labs, in media centers, and for teachers and administrative staff.

### Resource Prices

The prices of personnel and technological equipment are shown in Table IV-7. Prices for personnel are based on both salaries and benefits – the figures shown in the table are only salary levels and reflect the 2000-01 average salary paid to specific personnel in Kansas based on actual salary levels, or inferences made by comparing Kansas salaries to national data when specific salary data was missing. Although we often use statewide average salaries to estimate costs, we found that salary levels varied somewhat depending on the size of school district. For example, the average teacher salary in large districts is about 14 percent higher than the average salary in small districts. Therefore, we developed salary information for three size groups (the small group takes into consideration the very small and small prototype districts we have discussed previously).

While some panel members discussed the need for higher salary levels in Kansas, their comments focused on teachers with specific credentials (such as special education or music) or on new teachers. We did not feel comfortable modifying the average salary for all teachers based on those conversations, particularly after we compared salary levels in Kansas to those in surrounding states, as shown in Table IV-8. Looking at 1998-99 data, the latest available from the National Center for Education Statistics, it is clear that the average teacher salary in Kansas is higher than the average salary in Missouri, Nebraska, and Oklahoma although it is lower than the average salary in Colorado. Since the average reflects the characteristics of teachers, which may vary from place to place, we attempted to control for differences in both cost-of-living and characteristics of teachers among the states. After modifying salaries relative to Kansas for those factors, we found that salaries in Kansas are substantially higher than they are in the surrounding states, which made it difficult to justify raising them for the purpose of costing out the resources identified by the professional judgement panels.

As mentioned above, we used the average teacher salary in costing out substitute teachers since the panels wanted to use full-time teachers as substitutes rather than relying on people who might not be fully qualified as a teacher paid on a daily rate basis.

We had a difficult time determining a benefit rate. Benefits provided to teachers vary substantially across the state, and many panel members expressed a concern about how low benefits were in some places. Too, benefit rates vary with salary since a portion of benefits is a fixed cost. After taking into consideration teacher retirement, federal social security and medical programs, and single-person medical coverage, we concluded that a 20 percent rate was reasonable.

Given that the panels expected teachers to be paid for five days beyond the typical contract year for professional development (current contracts may be for 185 days, which includes some time beyond student contact days, although the amount of time and the use of time varies across school districts), we developed a daily rate for such time. Our rate, \$201 per day, is the average teacher salary paid in large districts divided by 185.

Prices for technology reflect our best estimate of such costs based on work done at the Education Commission of the States and conversations with people in Kansas and other states. We assume that technology is replaced every four years so when we estimated technology costs, we multiplied quantities of technology by price and divided by four.

## Prototype Cost Estimates

### *School Level Costs*

Tables IV-9A, IV-9B, IV-9C, and IV-9D show the prototype school costs that result from applying the prices discussed above to the resources specified by the professional judgment panels. Per pupil figures were calculated for all pupils and for pupils with special needs by multiplying numbers of things (such as personnel or technological equipment) by prices and dividing either by the number of students in each prototype school or by the number of students with a particular special need.

In looking at the tables, we have divided the information into two categories: (1) figures related to base spending – that is spending for all students that cannot be disaggregated for students with special needs; and (2) figures related to spending for students with special needs, which are disaggregated by specific need. Within the first category, we divided figures into basic programs (which includes a basic cost that reflects personnel, annually consumed supplies and materials, and ancillary school-based costs) professional development, and technology. For all figures we show school level costs and then combine costs across levels to calculate a district-wide figure based on the statewide average distribution of students in elementary schools (51.6 percent), middle schools (17.2 percent), and high schools (31.2 percent).

Focusing on very small districts (Table IV-9A), we estimate that high school costs are \$8,352 per student, about 67 percent higher than elementary (K-8) costs. We also found that the cost of professional development (\$125 per student) represents 2.1 percent



of the basic cost (\$6,041) while technology (\$363 per student) represents 6.0 percent of the basic cost and other basic programs (summing the two programs to \$163 per student) represents 2.6 percent of the basic cost. Taken together, the total basic cost would be \$6,692. The cost of special education would be \$7,403 per special education student while the cost of programs for at-risk students would be \$1,919 per at-risk student and the cost of bilingual programs would be \$967 per bilingual student.

This pattern is similar across larger school districts although as school district size increases, basic cost figures tend to decrease and the cost of programs for students with special needs rises, particularly for special education and bilingual education. In the largest district, basic spending would be \$4,271 per student, professional development would remain about 2.1 percent of basic spending, technology would represent 5.9 percent of basic spending, other basic programs would be about 2.6 percent of the cost of the basic program – all about the same ratios as was true in the case of the very small district. However, special education costs at schools in the large district are \$10,508 per special education student, costs for at-risk students are \$2,281 per at-risk student, and costs for bilingual students are \$4,928 per bilingual student.

#### *District Level Costs*

The figures discussed above are school level costs to which district level spending needs to be added in order to get to both a full basic cost and the full cost of programs for students with special needs. Full cost figures for school districts of different size are shown in Table IV-10. Added district costs are for central services, some of which affect all students, such as administration and plant maintenance and operation (M&O), and others of which affect only students with special needs. The figures in Table IV-10 indicate that district level costs that affect all students decrease substantially as the size of a district increases (from \$1,889 per student in the smallest prototype district to \$1,087 per student in the largest prototype district). On the other hand, district costs specifically for students with special needs are much higher in the largest district than in any other size district.

Table IV-10 also shows total spending after combining school and district spending. The total base spending decreases as school district size increases, from \$8,581 per student in a prototype district with 200 students to \$5,811 in a prototype district with 11,300 students. Additional costs for special education also vary somewhat with size of district, from something over \$7,000 per special education student in small and moderate size districts to around \$12,000 per special education student in the largest district. Costs for at-risk students tend to be higher in moderate size and large districts as compared to small and very small districts. Added costs for bilingual students are relatively low in small and very small districts while being much higher in moderate size and large districts.

A note of caution is in order concerning these costs. They represent estimates based on the best judgments of many people, reviewed multiple times, and on estimated prices, often based on statewide average figures with some adjustments. We present them as precise figures reflecting the assumptions that were used to calculate them. But it

is probably wiser to view them as indicative of an order of magnitude that might be slightly low or slightly high and that could change more substantially if other people, informed by experience, research, and expertise, thought the objectives identified to the panels could be met even if some components were modified or eliminated.

It should also be noted that no individual member of our panels would suggest that resources be deployed precisely in the way the panels did for the purpose of estimating cost. First, the final figures represent a series of trade-offs among the experts themselves – trade-offs not required by an expenditure limit placed on panel members, but by the fact that there is no one best way to provide services. Second, the panels focused on several schools and districts with average characteristics among groups of districts of different size – no such schools or districts actually exist in Kansas. Finally, even if such a school did exist, the panel members suggested that other factors, outside the scope of their discussions, might affect the way they would use resources in an actual school.

Finally, it is worth noting that these cost estimates do not include transportation, food services, other services schools provide such as adult education, or capital outlay and debt service related to facilities. In particular, panel members noted that existing facilities might not be able to accommodate the numbers of personnel they assigned to schools.

**TABLE IV-1A**

**DISTRIBUTION OF SCHOOL DISTRICTS IN KANSAS IN TERMS  
OF NUMBERS OF SCHOOLS OPERATED BY DISTRICTS  
BASED ON EQUAL DISTRICT ENROLLMENT QUARTILES**

	<u>District Enrollment Quartile</u>			
	<u>Quartile 1</u> # 324 stu.	<u>Quartile 2</u> 325-555	<u>Quartile 3</u> 556-1,139	<u>Quartile 4</u> \$1,140 stu.
<u>Quartile Characteristics</u>				
Number of Districts	76	76	76	76
Number of Students	15,788	32,872	61,698	336,612
Average Size of Districts	208 stu.	433 stu.	812 stu.	4,429 stu.
Total Number of Schools	175	207	272	772
Average Number of Schools	2.3	2.7	3.6	10.2
Average Size of School	90 stu.	159 stu.	227 stu.	436 stu.
<u>Number of Districts with So Many Schools</u>				
1 school	1			
2 schools	53	39	12	
3 schools	20	23	32	4
4 schools	2	11	17	15
5 schools		2	8	13
6 schools		1	5	8
7 schools			2	10
8 schools				2
9 schools				6
10 schools				3
11 schools				2
\$12 schools				13

**TABLE IV-1B**

**DISTRIBUTION OF SCHOOL DISTRICTS IN KANSAS IN TERMS  
OF NUMBERS OF SCHOOLS OPERATED BY DISTRICTS  
BASED ON NEARLY EQUAL STUDENT ENROLLMENT QUARTILES**

<u>Quartile Characteristics</u>	<u>District Enrollment Quartile</u>			
	<u>Quartile 1</u> # 1,149 stu.	<u>Quartile 2</u> 1,150-3,599	<u>Quartile 3</u> 3,600-16,499	<u>Quartile 4</u> \$16,500 stu.
Number of Districts	230	54	16	4
Number of Students	112,656	109,812	109,679	114,823
Average Size of Districts	490 stu.	2,034 stu.	6,855 stu.	28,706 stu.
Total Number of Schools	668	300	232	226
Average Number of Schools	2.9	5.6	14.5	56.5
Average Size of School	169 stu.	366 stu.	472 stu.	508 stu.
<u>Number of Districts with So Many Schools</u>				
1 school	1			
2 schools	104			
3 schools	75	4		
4 schools	30	15		
5 schools	10	13		
6 schools	6	7	1	
7 schools	4	7	1	
8 schools		2		
9 schools		5	1	
10 schools			3	
11 schools		1	1	
\$12 schools			9	4

## TABLE IV-2A

### PERSONNEL REQUIREMENTS OF PROTOTYPE SCHOOLS TO ACHIEVE DESIRED RESULTS GIVEN SPECIFIED SCHOOL CHARACTERISTICS

#### *Very Small School District*

<u>Specified Characteristics</u>	<u>Elementary</u>	<u>High School</u>
Enrollment	140	60
Number of Students in Special Education	20	8
Number of Students Eligible for Free/ Reduced Price Lunch	49	21
Number of Bilingual Students	3	1
 <u>Personnel</u>		
(1) <u>Teaching Staff</u>		
<i>Regular Student</i>		
Classroom Teacher	8.0	4.5
Other Teacher	3.0	2.5
Aide	1.0	1.0
<i>Special Education</i>		
Classroom Teacher	1.2	.5
Other Teacher	-	-
Aide	4.0	2.0
<i>Free/Reduced Price Lunch</i>		
Classroom Teacher	-	.5
Other Teacher	-	-
Aide	1.0	-
<i>Bilingual</i>		
Classroom Teacher	-	-
Other Teacher	-	-
Aide	.1	.1

**TABLE IV-2A (Continued)**

<u>Personnel (Continued)</u>	<u>Elementary</u>	<u>High School</u>
<b>(2) <u>Pupil Support Staff</u></b>		
<i>Regular Student</i>		
Guidance Counselor	.3	.2
Nurse	.2	.2
Psychologist	-	-
<i>Special Education</i>		
Guidance Counselor	.3	.2
Nurse	.2	.2
Psychologist	.1	.1
<i>Free/Reduced Price Lunch</i>		
Guidance Counselor	.4	.2
Nurse	.1	.1
Psychologist	-	-
<i>Bilingual Student</i>		
Guidance Counselor	-	-
Nurse	-	-
Psychologist	-	-
<b>(3) <u>Other Staff</u></b>		
<i>All Students</i>		
Librarian/Media Specialist	.5	.5
Technology Specialist	.5	.5
Substitutes	.5	1.0
<b>(4) <u>Administration</u></b>		
<i>All Students</i>		
Principal	1.0	.5
Clerical/Data	1.0	1.0

## TABLE IV-2B

### PERSONNEL REQUIREMENTS OF PROTOTYPE SCHOOLS TO ACHIEVE DESIRED RESULTS GIVEN SPECIFIED SCHOOL CHARACTERISTICS

#### *Small School District*

	<u>Elementary</u>	<u>High School</u>
<u>Specified Characteristics</u>		
Enrollment	150	130
Number of Students in Special Education	21	18
Number of Students Eligible for Free/ Reduced Price Lunch	53	46
Number of Bilingual Students	3	3
 <u>Personnel</u>		
(1) <u>Teaching Staff</u>		
<i>Regular Student</i>		
Classroom Teacher	8.0	8.0
Other Teacher	3.0	5.0
Aide	1.0	-
<i>Special Education</i>		
Classroom Teacher	1.2	1.0
Other Teacher	-	-
Aide	4.0	4.0
<i>Free/Reduced Price Lunch</i>		
Classroom Teacher	-	1.0
Other Teacher	-	-
Aide	1.0	2.0
<i>Bilingual</i>		
Classroom Teacher	-	.1
Other Teacher	-	-
Aide	.1	.1

**TABLE IV-2B (Continued)**

<u>Personnel (Continued)</u>	<u>Elementary</u>	<u>High School</u>
<b>(2) <u>Pupil Support Staff</u></b>		
<i>Regular Student</i>		
Guidance Counselor	.3	.5
Nurse	.1	.1
Psychologist	-	-
<i>Special Education</i>		
Guidance Counselor	.3	.1
Nurse	.1	.1
Psychologist	.05	.2
<i>Free/Reduced Price Lunch</i>		
Guidance Counselor	.4	.4
Nurse	.05	.1
Psychologist	-	-
<i>Bilingual Student</i>		
Guidance Counselor	-	-
Nurse	-	-
Psychologist	-	-
<b>(3) <u>Other Staff</u></b>		
<i>All Students</i>		
Librarian/Media Specialist	.5	1.0
Technology Specialist	.25	.5
Substitutes	.5	1.0
<b>(4) <u>Administration</u></b>		
<i>All Students</i>		
Principal	1.0	1.0
Clerical/Data	1.0	2.0



**TABLE IV-2C**

**PERSONNEL REQUIREMENTS OF PROTOTYPE  
SCHOOLS TO ACHIEVE DESIRED RESULTS  
GIVEN SPECIFIED SCHOOL CHARACTERISTICS**

*Moderate Size School District*

	<u>Elementary</u>	<u>Middle School</u>	<u>High School</u>
<u>Specified Characteristics</u>			
Enrollment	200	300	400
Number of Students in Special Education	26	39	52
Number of Students Eligible for Free/ Reduced Price Lunch	58	87	116
Number of Bilingual Students	6	9	12
<u>Personnel</u>			
(1) <u>Teaching Staff</u>			
<i>Regular Student</i>			
Classroom Teacher	11.0	14.0	26.0
Other Teacher	2.5	5.0	5.5
Aide	1.3	3.0	2.0
<i>Special Education</i>			
Classroom Teacher	1.0	4.0	4.0
Other Teacher	1.1	-	-
Aide	5.0	5.0	4.0
<i>Free/Reduced Price Lunch</i>			
Classroom Teacher	2.0	4.0	3.0
Other Teacher	-	-	-
Aide	2.0	2.0	3.0
<i>Bilingual</i>			
Classroom Teacher	.5	1.0	1.0
Other Teacher	-	-	-
Aide	.5	1.0	1.0

**TABLE IV-2C (Continued)**

<u>Personnel (Continued)</u>	<u>Elementary</u>	<u>Middle School</u>	<u>High School</u>
<b>(2) <u>Pupil Support Staff</u></b>			
<i>Regular Student</i>			
Guidance Counselor	1.0	1.0	2.0
Nurse	.5	1.0	1.0
Psychologist	-	-	-
<i>Special Education</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	.5	.5	.5
<i>Free/Reduced Price Lunch</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	-	-	-
<i>Bilingual Student</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	-	-	-
<b>(3) <u>Other Staff</u></b>			
<i>All Students</i>			
Librarian/Media Specialist	1.0	1.0	1.0
Media Aide	-	.5	1.0
Technology Specialist	.33	1.0	1.0
Substitutes	.8	1.4	1.0
<b>(4) <u>Administration</u></b>			
<i>All Students</i>			
Principal	1.0	1.0	1.0
Assistant Principal	-	1.0	1.0
Clerical/Data	1.0	2.5	3.0
+ for Special Education	.2	.2	.2

## TABLE IV-2D

### PERSONNEL REQUIREMENTS OF PROTOTYPE SCHOOLS TO ACHIEVE DESIRED RESULTS GIVEN SPECIFIED SCHOOL CHARACTERISTICS

#### *Large School District*

<u>Specified Characteristics</u>	<u>Elementary</u>	<u>Middle School</u>	<u>High School</u>
Enrollment	430	430	1,150
Number of Students in Special Education	60	60	161
Number of Students Eligible for Free/ Reduced Price Lunch	155	155	414
Number of Bilingual Students	17	17	46
 <u>Personnel</u>			
(1) <u>Teaching Staff</u>			
<i>Regular Student</i>			
Classroom Teacher	22.0	19.5	49.5
Other Teacher	4.4	6.5	14.5
Aide	1.0	1.0	2.0
<i>Special Education</i>			
Classroom Teacher	5.0	5.0	12.0
Other Teacher	-	1.0	1.0
Aide	10.0	10.0	20.0
<i>Free/Reduced Price Lunch</i>			
Classroom Teacher	-	-	4.0
Other Teacher	4.0	4.0	6.0
Aide	-	-	-
<i>Bilingual</i>			
Classroom Teacher	1.0	1.0	2.0
Other Teacher	-	-	-
Aide	1.0	3.0	4.0

**TABLE IV-2D (Continued)**

<u>Personnel (Continued)</u>	<u>Elementary</u>	<u>Middle School</u>	<u>High School</u>
<b>(2) <u>Pupil Support Staff</u></b>			
<i>Regular Student</i>			
Guidance Counselor	1.0	1.5	4.0
Nurse	1.0	1.0	1.0
Psychologist	-	-	-
<i>Special Education</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	.4	.3	.5
Social Worker	.5	.5	1.0
Therapist	2.0	1.0	2.0
<i>Free/Reduced Price Lunch</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	-	-	.5
Social Worker	.5	.5	1.0
<i>Bilingual Student</i>			
Guidance Counselor	-	-	-
Nurse	-	-	-
Psychologist	-	-	-
<b>(3) <u>Other Staff</u></b>			
<i>All Students</i>			
Librarian/Media Specialist	1.0	1.0	2.0
Media Aide	-	1.0	1.0
Technology Specialist	1.0	1.0	1.0
Substitutes	2.0	3.0	9.0

(4) Administration

*All Students*

Principal	1.0	1.0	1.0
Assistant Principal	-	1.0	3.0
Clerical/Data	2.0	3.0	7.5
Resource Officer	-	1.0	2.0

**TABLE IV-3A**

**PERSONNEL PER 1,000 STUDENTS FOR SELECTED TYPES  
OF PERSONNEL SERVING REGULAR STUDENTS OR ALL  
STUDENTS BY SCHOOL DISTRICT SIZE BASED ON THE  
WORK OF THE PROFESSIONAL JUDGMENT PANELS**

**Elementary School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Teaching Staff</u>				
Clsm. Teacher	57.1	53.3	55.0	51.2
Other Teacher	21.4	20.0	12.5	10.3
Aide	7.1	6.7	6.5	2.3
(2) <u>Pupil Support Staff</u>				
Guidance Counselor	2.1	2.0	5.0	2.3
Nurse	1.4	.7	2.5	2.3
(3) <u>Other Staff</u>				
Librarian/Media Spec.	3.6	3.3	5.0	2.3
Technology Spec.	3.6	1.7	1.7	2.3
(4) <u>Administration</u>				
Principal	7.1	6.7	5.0	2.3
Asst. Principal	-	-	-	-
Clerical/Data	7.1	6.7	5.0	4.7

**TABLE IV-3B**

**PERSONNEL PER 1,000 STUDENTS FOR SELECTED TYPES  
OF PERSONNEL SERVING REGULAR STUDENTS OR ALL  
STUDENTS BY SCHOOL DISTRICT SIZE BASED ON THE  
WORK OF THE PROFESSIONAL JUDGMENT PANELS**

**Middle School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Teaching Staff</u>				
Clsm. Teacher	N/A	N/A	46.7	45.3
Other Teacher	N/A	N/A	16.7	15.1
Aide	N/A	N/A	10.0	2.3
(2) <u>Pupil Support Staff</u>				
Guidance Counselor	N/A	N/A	3.3	1.3
Nurse	N/A	N/A	3.3	.9
(3) <u>Other Staff</u>				
Librarian/Media Spec.	N/A	N/A	3.3	.9
Technology Spec.	N/A	N/A	3.3	.9
(4) <u>Administration</u>				
Principal	N/A	N/A	3.3	.9
Asst. Principal	N/A	N/A	3.3	.9
Clerical/Data	N/A	N/A	8.3	2.6

Note: N/A (not applicable) indicates that districts of this size do not have separate middle schools.

**TABLE IV-3C**

**PERSONNEL PER 1,000 STUDENTS FOR SELECTED TYPES  
OF PERSONNEL SERVING REGULAR STUDENTS OR ALL  
STUDENTS BY SCHOOL DISTRICT SIZE BASED ON THE  
WORK OF THE PROFESSIONAL JUDGEMENT PANELS**

**High School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Teaching Staff</u>				
Clsm. Teacher	75.0	61.5	65.0	43.0
Other Teacher	41.7	38.5	13.8	12.6
Aide	16.7	-	5.0	1.7
(2) <u>Pupil Support Staff</u>				
Guidance Counselor	3.3	3.8	5.0	3.5
Nurse	3.3	.8	2.5	.9
(3) <u>Other Staff</u>				
Librarian/Media Spec.	8.3	7.7	2.5	1.7
Technology Spec.	8.3	3.8	2.5	.9
(4) <u>Administration</u>				
Principal	8.3	7.7	2.5	.9
Asst. Principal	-	-	2.5	2.6
Clerical/Data	16.7	15.4	7.5	6.5

Note: N/A (not applicable) indicates that districts of this size do not have separate middle schools.



**TABLE IV-4A**

**OTHER NON-PERSONNEL COSTS TO OPERATE PROTOTYPE  
SCHOOLS IN DISTRICTS OF DIFFERENT SIZE BASED ON THE  
WORK OF THE PROFESSIONAL JUDGMENT PANELS**

**Elementary School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Professional Development</u>				
Time	5 days	5 days	5 days	5 days
Added Funding	\$500/tchr.	\$500/tchr.	\$500/tchr.	\$500/tchr.
(2) Instructional Supplies/Materials	\$150/pup.	\$150/pup.	\$75/pup.*	\$150/pup.*
(3) Equipment	\$40/pup.	\$40/pup.	\$5,000	\$50/pup.
(4) Assessment	\$20/pup.	\$20/pup.	\$20/pup.*	\$20/pup.
(5) Student Activities	\$250/pup.	\$250/pup.	\$20/pup.*	\$20/pup.
(6) Safety/Security	\$10/pup.	\$10/pup.	-	\$10/pup.
(7) Other	\$20/pup.	\$20/pup.	-	\$20/pup.**

\* Other funds are added specifically for pupils in special education, at-risk, or bilingual programs.

\*\* This is for supervision.

**TABLE IV-4B**

**OTHER NON-PERSONNEL COSTS TO OPERATE PROTOTYPE SCHOOLS IN DISTRICTS OF DIFFERENT SIZE BASED ON THE WORK OF THE PROFESSIONAL JUDGEMENT PANELS**

**Middle School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Professional Development</u>				
Time	N/A	N/A	5 days	5 days
Added Funding	N/A	N/A	\$500/tchr.	\$500/tchr.
(2) Instructional Supplies/Materials	N/A	N/A	\$150/pup.*	\$200/pup.*
(3) Equipment	N/A	N/A	\$15,000	\$50/pup.
(4) Assessment	N/A	N/A	\$20/pup.*	\$20/pup.
(5) Student Activities	N/A	N/A	\$75,000	\$175/pup.
(6) Safety/Security	N/A	N/A	.75 RO***	\$10/pup.
(7) Other	N/A	N/A	-	\$10/pup.**

\* Other funds are added specifically for pupils in special education, at-risk, or bilingual programs.

\*\* This is for supervision.

\*\*\* RO is a resource officer.

**TABLE IV-4C**

**OTHER NON-PERSONNEL COSTS TO OPERATE PROTOTYPE SCHOOLS IN DISTRICTS OF DIFFERENT SIZE BASED ON THE WORK OF THE PROFESSIONAL JUDGEMENT PANELS**

**High School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Professional Development</u>				
Time	5 days	5 days	5 days	5 days
Added Funding	\$500/tchr.	\$500/tchr.	\$500/tchr.	\$500/tchr.
(2) Instructional Supplies/Materials	\$150/pup.	\$150/pup.	\$250/pup.*	\$250/pup.*
(3) Equipment	\$40/pup.	\$40/pup.	\$100/pup.	\$65/pup.
(4) Assessment	\$10/pup.	\$10/pup.	\$25/pup.*	\$20/pup.
(5) Student Activities	\$500/pup.	\$350/pup.	\$400/pup.	\$250/pup.
(6) Safety/Security	\$20/pup.	\$20/pup.	1 RO***	\$25/pup.
(7) Other	\$40/pup.	\$20/pup.	-	\$25/pup.

\* Other funds are added specifically for pupils in special education, at-risk, or bilingual programs.

\*\* This is for supervision.

\*\*\* RO is a resource officer.

**TABLE IV-5A**

**OTHER PROGRAMS INCLUDED AS RESOURCE  
NEEDS OF PROTOTYPE SCHOOLS IN DISTRICTS OF  
DIFFERENT SIZE BASED ON THE WORK OF THE  
PROFESSIONAL JUDGEMENT PANELS**

**Elementary School**

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) Pre-School				
All Students				
Special Education				U
At-Risk Students	U	U	U	U
Bilingual				U
(2) Full-Day Kindergarten				
All Students	U	U	U	U
At-Risk Students				
(3) Mentor Program				
All Students				
At-Risk Students			U	
(4) Extended-Day				
All Students				
At-Risk Students	U	U	U	U
(5) Summer Programs				
All Students				
Special Education				U
At-Risk Students	U	U		U
(6) Parent Training				
All Students	U	U		
At-Risk Students				

**TABLE IV-5B**

**OTHER PROGRAMS INCLUDED AS RESOURCE  
NEEDS OF PROTOTYPE SCHOOLS IN DISTRICTS OF  
DIFFERENT SIZE BASED ON THE WORK OF THE  
PROFESSIONAL JUDGEMENT PANELS**

**Middle School and High School**

	<u>Size of School District</u>			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
<u>Middle School</u>				
(1) Mentor Program All Students At-Risk Students	N/A	N/A	U	
(2) Extended-Day All Students At-Risk Students	N/A	N/A	U	U
(3) Summer Programs All Students Special Education At-Risk Students	N/A	N/A	U	U U
<u>High School</u>				
(1) Extended-Day All Students At-Risk Students			U	U
(2) Summer Programs All Students Special Education At-Risk Students	U	U	U	U U

**TABLE IV-6A**

**TECHNOLOGY NEEDS OF PROTOTYPE SCHOOLS IN  
DISTRICTS OF DIFFERENT SIZE BASED ON THE WORK  
OF THE PROFESSIONAL JUDGEMENT PANELS**

**Elementary School**

	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Classroom</u>				
Computer	18.4	18.4	58.0	112.0
Printer (Inkjet)	9.2	9.2	14.5	28.0
TV/VCR	9.2	9.2	14.5	28.0
(2) <u>Computer Lab</u>				
Computer	25.0	25.0	25.0	25.0
Mobile Lab	25.0	25.0	16.0	25.0
Scanner	1.0	1.0	1.0	1.0
Printer (Laser)	1.0	1.0	1.0	1.0
(3) <u>Media Center</u>				
Computer	6.0	6.0	8.0	9.0
Printer	-	-	-	2.0
Digital Video Camera	-	1.0	1.0	2.0
Digital Camera	-	1.0	2.0	2.0
Video Editing Complex	-	1.0	1.0	1.0
Projector	-	1.0	2.0	1.0
DVD-ROM Tower	-	1.0	1.0	1.0
Server	-	-	1.0	-
(4) <u>Admin./Support/Other Staff</u>				
Computer	1.0	2.0	3.0	6.0
Printer (Laser)	1.0	1.0	2.0	4.0
(5) <u>Other</u>				
Faculty Laptop	12.2	12.2	18.1	36.4
Server	-	-	1.0	1.0

**TABLE IV-6B**

**TECHNOLOGY NEEDS OF PROTOTYPE SCHOOLS IN  
DISTRICTS OF DIFFERENT SIZE BASED ON THE WORK  
OF THE PROFESSIONAL JUDGEMENT PANELS**

**Middle School**

	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Classroom</u>	N/A	N/A		
Computer			36.0	102.0
Printer (Inkjet)			18.0	25.5
TV/VCR			18.0	25.5
(2) <u>Computer Lab</u>	N/A	N/A		
Computer			25.0	75.0
Mobile Lab			50.0	-
Scanner			2.0	3.0
Printer (Laser)			2.0	6.0
(3) <u>Media Center</u>	N/A	N/A		
Computer			8.0	13.0
Printer			-	3.0
Digital Video Camera			1.0	2.0
Digital Camera			4.0	2.0
Video Editing Complex			1.0	1.0
Projector			3.0	1.0
DVD-ROM Tower			1.0	1.0
Server			1.0	-
Smart Board			-	3.0
(4) <u>Admin./Support/Other Staff</u>	N/A	N/A		
Computer			5.0	9.0
Printer (Laser)			2.0	3.0
(5) <u>Other</u>	N/A	N/A		
Faculty Laptop			28.0	37.0
Server			2.0	1.0

**TABLE IV-6C**

**TECHNOLOGY NEEDS OF PROTOTYPE SCHOOLS IN  
DISTRICTS OF DIFFERENT SIZE BASED ON THE WORK  
OF THE PROFESSIONAL JUDGEMENT PANELS**

**High School**

	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>Classroom</u>				
Computer	11.0	20.2	54.0	270.0
Printer (Inkjet)	5.5	10.1	27.0	67.5
TV/VCR	5.5	10.1	27.0	67.5
(2) <u>Computer Lab</u>				
Computer	25.0	25.0	100.0	200.0
Mobile Lab	-	25.0	-	-
Scanner	1.0	1.0	4.0	8.0
Printer (Laser)	1.0	1.0	4.0	8.0
(3) <u>Media Center</u>				
Computer	6.0	10.0	9.0	21.0
Printer	-	3.0	-	2.0
Digital Video Camera	2.0	3.0	3.0	4.0
Digital Camera	2.0	4.0	8.0	4.0
Video Editing Complex	1.0	1.0	2.0	3.0
Projector	1.0	1.0	3.0	3.0
DVD-ROM Tower	1.0	1.0	1.0	1.0
Server	-	-	-	-
(4) <u>Admin./Support/Other Staff</u>				
Computer	2.0	3.0	5.0	21.0
Printer (Laser)	1.0	2.0	3.0	5.0
(5) <u>Other</u>				
Faculty Laptop	8.0	14.1	39.5	88.0
Server	1.0	1.0	2.0	2.0



**TABLE IV-7**

**PRICES FOR PROTOTYPE RESOURCE ELEMENTS  
AND COMPONENTS BY SIZE OF SCHOOL DISTRICT  
(WHERE APPLICABLE, OTHERWISE USE MODERATE)**

<u>Resource Element</u>	<u>Size of District</u>		
	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
<b>(1) Salary Levels (2001-2002)</b>			
Classroom Teacher	\$32,623	\$35,078	\$37,183
Other Teacher	\$32,623	\$35,078	\$37,183
Librarians/Media Specialist	\$38,573	\$41,476	\$43,965
Technology Specialist	\$41,302	\$44,410	\$47,075
Guidance Counselor	\$41,667	\$44,803	\$47,491
Nurse	\$32,538	\$34,987	\$37,086
Psychologist	\$42,461	\$45,657	\$48,397
Aide	\$14,880	\$16,000	\$16,960
Clerical/Data	\$21,550	\$23,172	\$24,562
Principal	\$54,805	\$58,930	\$62,466
Assistant Principal	\$43,844	\$47,144	\$49,973
Superintendent	\$68,468	\$75,239	\$86,525
Assistant Superintendent	\$59,361	\$65,232	\$75,017
Supervisor/Coordinator/Director	\$54,295	\$59,665	\$68,615

**(2) Substitute Teacher**

Same cost as teacher

**(3) Personnel Salary Benefit Rate = 20% of salary****(4) One Day of Professional Development = \$201**

**TABLE IV-7 (Continued)**

(5) Technology

Computer	\$1,571
Printer (Inkjet)	\$168
Printer (Laser)	\$729
TV/VCR	\$1,626
Scanner	\$598
Digital Video Camera	\$1,699
Digital Camera	\$931
Video Editing Complex	\$3,000
Projector	\$3,175
DVD-ROM Tower	\$5,000
Laptop	\$2,207
Server	\$4,000
Smart Board	\$3,175

**TABLE IV-8**

**COMPARISON OF 1998-99 STATEWIDE AVERAGE TEACHER SALARY IN KANSAS TO FOUR NEIGHBORING STATES**

<u>State</u>	(1) 1998-99 Average Teacher Salary	(2) Relative Cost of of Living (COL)	(3) Salary Adjusted for COL*	(4) 1993-94 % Teachers with More than B.A.	(5) Educ. Adjust. Factor (EAF)**	(6) Salary Adjusted for COL and EAF	(7) 1993-94 Average Years of Exper.	(8) Exper. Adjust. Factor (XAF)***	(9) Salary Adjusted COL, EAF and XAF
<b>Kansas</b>	<b>\$37,405</b>	<b>92.2</b>	<b>\$37,405</b>	<b>46.2%</b>	<b>1.0462</b>	<b>\$37,405</b>	<b>13</b>	<b>1.26</b>	<b>\$37,405</b>
Colorado	\$38,025	103.3	\$33,939	52.4%	1.0524	\$33,739	14	1.28	\$33,212
Missouri	\$34,746	93.4	\$34,300	45.2%	1.0452	\$34,332	14	1.28	\$33,796
Nebraska	\$32,880	91.2	\$33,241	38.3%	1.0383	\$33,493	14	1.28	\$32,970
Oklahoma	\$31,149	88.1	\$32,599	43.1%	1.0431	\$32,695	13	1.26	\$32,695

\* Salary adjusted for COL [column 3]) is calculated by multiplying the unadjusted salary [column (1)] by the ratio of Kansas' COL (92.2) to each comparison state's COL [column (2)].

\*\* The education adjustment factor (EAF) is calculated by expressing the proportion of teachers with more than a B.A. [column (4)] as a decimal, dividing by 10, and adding the product to 1.000. Each state's adjusted salary [column (6)] is the salary in column (3) multiplied by the ratio of Kansas' EAF (1.0462) divided by each comparison state's EAF [column (5)].

\*\*\* The experience adjustment factor (XAF) is calculated by multiplying the number of years of experience [column (7)] by .02 and adding the product to 1.00. Each state's adjusted salary [column (9)] is the salary in column (6) multiplied by the ratio of Kansas' XAF (1.26) divided by each comparison state's XAF [column (8)].

Sources: National Center for Education Statistics, Digest of Education Statistics, 2000 (salary, Table 76, education and experience, Table 69). American Federation of Teachers (state cost-of-living adjustment).

## TABLE IV-9A

### SCHOOL LEVEL COSTS FOR A SCHOOL DISTRICT OF A SPECIFIC SIZE BASED ON THE WORK OF THE PROTOTYPE PANELS

#### Very Small School District

	<u>Elementary School</u>	<u>High School</u>	<u>Combined</u>
<b>(1) <u>Base Spending*</u></b>			
Basic**	\$4,993	\$8,352	\$6,041
Prof. Devel.	\$109	\$161	\$125
Technology	\$309	\$483	\$363
 <u>Other Prog.</u>			
Full-Day K	\$140	\$0	\$96
Prnt. as Tchr.	\$97	\$0	\$67
 <b>(2) <u>Spending for Special Student Populations***</u></b>			
Special Educ.	\$7,398	\$7,413	\$7,403
 <u>At-Risk</u>			
Base	\$852	\$695	\$803
Pre-K	\$1,204	\$0	\$828
After School	\$352	\$0	\$242
Summer	\$47	\$42	\$46
Bilingual	\$595	\$1,786	\$967

\* Costs are shown per pupil in school.

\*\* Basic base spending includes school level personnel salaries and benefits, supplies and materials, assessment, and other expenditures.

\*\*\* Costs are shown per pupil in the program.

Note: Combined figures are based on the following statewide proportions of students: elementary (K-8), 68.8% and high school (9-12), 31.2%.

## TABLE IV-9B

### SCHOOL LEVEL COSTS FOR A SCHOOL DISTRICT OF A SPECIFIC SIZE BASED ON THE WORK OF THE PROTOTYPE PANELS

#### Small School District

	<u>Elementary School</u>	<u>High School</u>	<u>Combined</u>
(1) <u>Base Spending*</u>			
Basic**	\$4,584	\$6,479	\$5,175
Prof. Devel.	\$101	\$138	\$113
Technology	\$314	\$415	\$346
<u>Other Prog.</u>			
Full-Day K	\$130	\$0	\$90
Prnt. as Tchr.	\$91	\$0	\$63
(2) <u>Spending for Special Student Populations***</u>			
Special Educ.	\$6,739	\$7,280	\$6,908
<u>At-Risk</u>			
Base	\$751	\$2,177	\$1,196
Pre-K	\$1,113	\$0	\$766
After School	\$325	\$0	\$224
Summer	\$44	\$38	\$42
Bilingual	\$595	\$1,946	\$1,017

\* Costs are shown per pupil in school.

\*\* Basic base spending includes school level personnel salaries and benefits, supplies and materials, assessment, and other expenditures.

\*\*\* Costs are shown per pupil in the program.

Note: Combined figures are based on the following statewide proportions of students: elementary (K-8), 68.8% and high school (9-12), 31.2%.

## TABLE IV-9C

### SCHOOL LEVEL COSTS FOR A SCHOOL DISTRICT OF A SPECIFIC SIZE BASED ON THE WORK OF THE PROTOTYPE PANELS

#### Moderate Size School District

	<u>Elementary School</u>	<u>Middle School</u>	<u>High School</u>	<u>Combined</u>
(1) <u>Base Spending*</u>				
Basic**	\$4,478	\$4,980	\$5,603	\$4,915
Prof. Devel.	\$98	\$92	\$114	\$102
Technology	\$332	\$291	\$291	\$312
<u>Other Prog.</u>				
Full-Day K	\$329	\$0	\$0	\$170
(2) <u>Spending for Special Student Populations***</u>				
Special Educ.	\$8,537	\$7,807	\$5,495	\$7,462
<u>At-Risk</u>				
Base	\$2,164	\$2,564	\$1,623	\$2,064
Pre-K	\$1,103	\$0	\$0	\$569
Mentor	\$322	\$351	\$0	\$227
After School	\$478	\$392	\$611	\$505
Summer	\$0	\$62	\$16	\$16
Bilingual	\$5,318	\$6,996	\$5,263	\$5,590

\* Costs are shown per pupil in school.

\*\* Basic base spending includes school level personnel salaries and benefits, supplies and materials, assessment, and other expenditures.

\*\*\* Costs are shown per pupil in the program.

Note: Combined figures are based on the following statewide proportions of students: elementary (K-5), 51.6%, middle school (6-8), 17.2%, and high school (9-12), 31.2%.

## TABLE IV-9D

### SCHOOL LEVEL COSTS FOR A SCHOOL DISTRICT OF A SPECIFIC SIZE BASED ON THE WORK OF THE PROTOTYPE PANELS

	Large School District			
	<u>Elementary School</u>	<u>Middle School</u>	<u>High School</u>	<u>Combined</u>
(1) <u>Base Spending*</u>				
Basic**	\$4,066	\$4,748	\$4,347	\$4,271
Prof. Devel.	\$92	\$91	\$84	\$89
Technology	\$251	\$272	\$246	\$253
<u>Other Prog.</u>				
Full-Day K	\$215	\$0	\$0	\$111
(2) <u>Spending for Special Student Populations***</u>				
<u>Special Educ.</u>				
Basic	\$10,068	\$9,772	\$7,540	\$9,228
Pre-K	\$2,399	\$0	\$0	\$1,238
Summer	\$46	\$46	\$33	\$42
<u>At-Risk</u>				
Base	\$1,388	\$1,378	\$1,469	\$1,411
Pre-K	\$945	\$0	\$0	\$488
After School	\$451	\$451	\$166	\$362
Summer	\$22	\$22	\$15	\$20
Bilingual	\$4,616	\$7,011	\$4,297	\$4,928

\* Costs are shown per pupil in school.

\*\* Basic base spending includes school level personnel salaries and benefits, supplies and materials, assessment, and other expenditures.

\*\*\* Costs are shown per pupil in the program.

Note: Combined figures are based on the following statewide proportions of students: elementary (K-5), 51.6%, middle school (6-8), 17.2%, and high school (9-12), 31.2%.

TABLE IV-10

DISTRICT LEVEL COSTS AND TOTAL COSTS FOR  
SCHOOL DISTRICTS OF VARYING SIZE BASED  
ON THE WORK OF THE PROTOTYPE PANELS

	Size of School District			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
(1) <u>District Level Spending</u>				
Administration*	\$1,019	\$616	\$353	\$389
Plant M&O*	\$620	\$784	\$775	\$417
Other*	\$250	\$175	\$56	\$281
<u>Spec. Need Stu.</u>				
Special Ed.**			\$269	\$1,582
At-Risk**			\$12	\$297
Bilingual**	\$250	\$250		\$315
(2) <u>Total Spending</u>				
<u>Base Spending*</u>				
School Level	\$6,692	\$5,786	\$5,499	\$4,724
District Level	\$1,889	\$1,575	\$1,184	\$1,087
<b>Total Base Cost</b>	<b>\$8,581</b>	<b>\$7,361</b>	<b>\$6,683</b>	<b>\$5,811</b>
<u>Added Cost of Spec. Need Stu.**</u>				
Special Ed.	\$7,403	\$6,908	\$7,731	\$12,090
At-Risk	\$1,919	\$2,228	\$3,392	\$2,578
Bilingual	\$1,217	\$1,267	\$5,590	\$5,993

\* Costs are per all pupils.

\*\* Costs are per pupil with the special needs identified.



## V. IMPLEMENTING THE SUCCESSFUL SCHOOL DISTRICT APPROACH IN KANSAS

### Introduction

The successful school district approach is the second method we used to examine the base cost figure associated with providing a suitable education. This approach determines a base cost amount by looking at the actual spending by districts that already meet the suitable education standard. The strength of the successful school district approach is in determining the base cost figure. It is less frequently used to determine adjustment for special needs populations, and was not used for this purpose in our report. In order to get the base cost figure, it is necessary to do three things: 1) identify the school districts that are successful (using the modified approach to determining a suitable education for the successful school district approach discussed in Chapter III); 2) examine the basic expenditures of those successful districts (excluding spending for capital purposes, transportation, special education, bilingual programs, services for at-risk pupils, and food service operations); and 3) calculate a base cost figure using the basic expenditures of the successful districts.

### Selecting Successful Schools

A&M used the suitable education definition, discussed fully in Chapter III, to identify the successful districts. We began by identifying districts that met the output standards. The output standards focused on tests for reading and math given in both 2000 and 2001. These reading and math tests are given in three grades every year. In the 2000 - 2001 school year, a district was selected if it was either already meeting the test score standards, shown in Table V-1, for five of the six tests, or was improving, between the 2000 and 2001 tests, at a rate that would get the district to the standards in the five-year time period. A&M next looked to see if the districts that met the output standards also met the input standards. We asked the Kansas Department of Education to give us a list of all the districts that did not meet the Quality Performance Accreditation standards for the state in the 2000-2001 school year. By comparing this list to the list of 86 districts that met the output standard we were able to filter out any district that did not meet the input standards. Only one of those districts did not meet the input standard, leaving us with 85 districts, Table V-2 that met both the input and output standards related to a suitable education.

One of the strengths of the successful schools approach is that it allows for the inclusion of spending efficiency to be used as a measure of success. In New Hampshire the lowest spending half of successful districts were used to create the base cost figure. The state wanted to target those districts who were successful but also spent their money in an efficient way. To measure the efficiency of districts in Kansas, we turned to our previous study for the state, "A Comprehensive Study of the Organization of Kansas School Districts." In this study we examined the efficiency with which districts spent their

money. A&M ran a regression analysis to see if a district's spending was in line with that of districts of similar size and characteristics. The dependent variable in the regression analysis was spending in 1998 -99 for instruction, plant maintenance and operations, and administration. We looked at size of attendance centers, enrollment, proportion of students from low income families, tax effort, and assessed value per pupil to see if any of these affected spending. Once A&M had determined how each of these factors effected spending, we used that information to predict the spending for each district. We then compared actual spending of each district to the predicted spending. If a district's actual spending was higher than the predicted spending, the district was considered to be inefficient. We used this previous list of inefficient districts to filter our list of 85 districts for efficiency. Fifty districts would have been considered inefficient from our successful group. Since the majority of successful districts would be considered inefficient spenders, we did not use this examination of efficiency. Excluding these districts might undermine the possibility that this higher spending is what allows districts to be successful in Kansas.

### Examining Basic Expenditures

The next step for A&M was to identify the basic expenditures for each of the 85 districts. Basic expenditures do not include all spending that occurs in the district. We only look at the cost of educating an average student. That is, a student with no special needs, such as special education, bilingual education, or services related to being at-risk. We excluded the costs of these services from the expenditures we examined. A&M also excluded expenditures for capital purposes, food service, or transportation. Transportation is not included because it varies widely between districts. The differences include the size of districts and choices that districts make on the distance they will transport their students. We did include expenditures for vocational education in the basic education figure. This allowed us to have comparable base figures for the successful school district and professional judgment approaches. The Kansas Department of Education was able to get us the basic expenditure information for the 2000-2001 school year for each of the 85 successful school districts.

### Calculating the Base Cost

Once we had the basic expenditures for the 85 districts, we created the per pupil basic expenditure. The per pupil figure represents what it takes for each district to educate an average pupil. The 85 districts had a weighted average base cost per pupil of \$4,547 with a range from \$3,112 to \$5,351. This compares to the 304 district weighted average of \$4,365 with a range from \$3,022 to \$7,785. For this study, 219 districts were not considered to be successful. Their weighted average basic expenditure was \$4,282 or about six percent lower than the spending of the successful districts.

The average basic expenditure number does not tell us anything about how the districts spend their money. It only tells us, on average, the amount of money districts need

to provide an education to average students to meet the success standards. Our belief is that districts can use this amount of money in the way they feel best meets the needs of their student population. Of course, this base amounts does not cover the costs of serving students with special needs. What is important is that the successful schools approach shows higher performing districts in Kansas spend more than lower performing districts. To improve overall performance in the state, spending may have to be increased.

**TABLE V-1**  
**PERFORMANCE STANDARD FOR KANSAS**  
**ASSESSMENT TESTS**

<u>TEST</u>	<u>STANDARD*</u>
5 <sup>th</sup> Reading	70%
8 <sup>th</sup> Reading	65%
11 <sup>th</sup> Reading	60%
4 <sup>th</sup> Math	65%
7 <sup>th</sup> Math	60%
10 <sup>th</sup> Math	55%

\*Percentages represent students scoring in the Proficient or Advanced category.

## Table V-2

### LIST OF THE 85 DISTRICTS SELECTED USING THE SUCCESSFUL SCHOOL DISTRICTS APPROACH

District Number	District Name
D0104	WHITE ROCK
D0200	GREELEY COUNTY
D0208	WAKEENEY
D0209	MOSCOW PUBLIC SCHOOLS
D0212	NORTHERN VALLEY
D0217	ROLLA
D0218	ELKHART
D0222	WASHINGTON SCHOOLS
D0223	BARNES
D0224	CLIFTON-CLYDE
D0225	FOWLER
D0229	BLUE VALLEY
D0233	OLATHE
D0237	SMITH CENTER
D0239	NORTH OTTAWA COUNTY
D0242	WESKAN
D0248	GIRARD
D0251	NORTH LYON COUNTY
D0255	SOUTH BARBER
D0258	HUMBOLDT
D0260	DERBY
D0262	VALLEY CENTER PUBLIC SCHOOLS
D0266	MAIZE
D0267	RENWICK
D0272	WACONDA
D0281	HILL CITY
D0282	WEST ELK
D0284	CHASE COUNTY
D0291	GRINNELL PUBLIC SCHOOLS
D0293	QUINTER PUBLIC SCHOOLS
D0297	ST FRANCIS COMMUNITY SCHOOLS
D0299	SYLVAN GROVE
D0300	COMANCHE COUNTY
D0306	SOUTHEAST OF SALINE
D0309	NICKERSON
D0310	FAIRFIELD
D0311	PRETTY PRAIRIE
D0312	HAVEN PUBLIC SCHOOLS
D0313	BUHLER
D0314	BREWSTER
D0318	ATWOOD
D0320	WAMEGO

## Table V-2

District Number	District Name
D0321	KAW VALLEY
D0323	ROCK CREEK
D0324	EASTERN HEIGHTS
D0327	ELLSWORTH
D0328	LORRAINE
D0329	MILL CREEK VALLEY
D0332	CUNNINGHAM
D0339	JEFFERSON COUNTY NORTH
D0345	SEAMAN
D0354	CLAFLIN
D0359	ARGONIA PUBLIC SCHOOLS
D0373	NEWTON
D0377	ATCHISON CO COMM SCHOOLS
D0378	RILEY COUNTY
D0379	CLAY CENTER
D0385	ANDOVER
D0392	OSBORNE COUNTY
D0393	SOLOMON
D0400	SMOKY VALLEY
D0407	RUSSELL COUNTY
D0408	MARION-FLORENCE
D0410	DURHAM-HILLSBORO-LEHIGH
D0412	HOXIE COMMUNITY SCHOOLS
D0419	CANTON-GALVA
D0427	BELLEVILLE
D0437	AUBURN WASHBURN
D0438	SKYLINE SCHOOLS
D0439	SEDGWICK PUBLIC SCHOOLS
D0441	SABETHA
D0442	NEMAHA VALLEY SCHOOLS
D0451	B & B
D0460	HESSTON
D0463	UDALL
D0469	LANSING
D0473	CHAPMAN
D0482	DIGHTON
D0491	EUDORA
D0492	FLINTHILLS
D0493	COLUMBUS
D0502	LEWIS
D0506	LABETTE COUNTY
D0508	BAXTER SPRINGS
D0512	SHAWNEE MISSION PUBLIC SCHOO

## VI. COMPARING THE RESULTS OF THE TWO APPROACHES USED TO DETERMINE THE COST OF A SUITABLE EDUCATION

### Introduction

Both the professional judgment approach and the successful school district approach yield information about the cost that school districts face in meeting the input and outcome expectations associated with the definition of a suitable education. The professional judgment approach identified a base cost figure of \$5,811 per student and a series of adjustments, based on separate mathematical formulas, in recognition of the cost pressures associated with school size, special education, at-risk students, and bilingual students. The successful school district approach identified a base cost figure of \$4,547 but did not provide information about any adjustments (the methodology is not designed to produce those results, although the fact that they are not calculated does not mean they are not necessary). The purpose of this chapter is to explain the difference in the base cost figures that the two approaches yielded.

### Comparing Alternative Base Cost Figures

#### *Philosophical Differences*

There is a real difference between the base cost figures produced by the professional judgement and successful school district approaches – the professional judgement approach base cost is \$1,264 per student, or 27.8 percent, higher than the successful school district base cost. On one level, the variation reflects the underlying difference in the philosophies of the two approaches. The professional judgment approach assumes that people can be reasonably precise in specifying the resources schools need if they are expected to meet a particular set of objectives, however our experience contradicts that assumption. If for example, the expectations were to change slightly, people would have a difficult time modifying their resource recommendations accordingly. Also, our experience suggests that people tend to overestimate the resources schools need. In part, this is because people believe schools should meet broader objectives than those defined by state accountability systems and, in part, it is because panel participants tend to avoid being Machiavellian (that is, they want to serve the needs of all students even when doing so is not necessary to meet state objectives) Therefore, the professional judgment approach may yield a figure that is somewhat higher than what is necessary, which reflects the fact that people have identified more resources than are actually required for schools with particular characteristics to fulfill the objectives specified. The only way to improve the precision of the estimates would be to run a series of experiments under which schools with exactly those characteristics are given different levels of resources and evaluated in regard to how well they accomplish the objectives,

controlling for a wide variety of other factors that might influence the outcome such as the quality of personnel or leadership.

The successful school district approach pays no attention to the specific ways that school districts use their resources and, further, assumes that if a district spent the same amount as the average basic spending of a number of districts that actually do meet state expectations, it should also be able to meet the standards (or at least, students without special needs should be able to do so). A number of issues arise in using this logic. First, the focus is on basic expenditures, which are not well defined within state accounting systems; in order to exclude spending for students with special needs, particularly at-risk students, estimates must be made of expenditures and such estimates may overstate the actual spending of districts for such purposes (which would lower the basic expenditure figure). Second, there tends to be a wide range of basic expenditures among districts that meet state standards; because the average of successful districts is used, some districts that are successful spend below the average and others spend above the average. Among the successful school districts, the range in expenditures was from \$3,112 to \$5,351; that is, some of the successful districts spent less than the current foundation level (\$3,820) and none of them spent as much as the amount suggested by the professional judgement approach. Third, it is possible that districts identified as being successful do not meet the full range of criteria that define success. We identified successful districts primarily on the basis of student performance. While the districts that were identified on that basis also were reviewed for their compliance with the QPA, that does not mean that they meet all of the components of the definition of suitability.

As a result of these philosophical and computational issues, it should not surprise anyone that there might be a difference between the base cost figures produced by these two alternative calculation approaches. In our view, the two figures can be viewed as upper and lower limits within which the true figure probably exists. Policymakers may favor one or the other approach, and the figure associated with that approach, but they should remember that each approach has a rationale that should not simply be dismissed out-of-hand. In this case, we know that both figures are higher than the current foundation level, suggesting that it is probably too low; in fact, the lower of the two figures is slightly lower than the current base modified by the LOB (\$4,775, or 1.25 times \$3,820).

#### *A More Practical Explanation*

There are a number of things that might help to explain the actual difference between the two base cost figures. Since each one represents spending for education purposes, and since such spending is driven by certain key ingredients, an understanding of the ingredients should help explain the difference. The key ingredients include the numbers of people employed, the salaries and benefits paid to those people, the costs of supplies and materials, and the costs of special, supplementary programs (such as summer school or full-day kindergarten). Looking at numbers of personnel, in 2000-01 there were about 58,700 people employed in the public schools (excluding employees



related to transportation or food services), which included 32,100 teachers, 7,500 aides, 5,100 plant maintenance and custodial workers, and 14,000 other support (such as guidance counselors, nurses, and clerical workers) and administrative personnel. Given that the successful school districts identified by the successful school district approach spent about six percent more than unsuccessful school districts, we believe that about 62,200 personnel would be needed statewide if all school districts looked like successful ones. On the basis of the professional judgment approach, the state would need to employ 79,400 people, including 40,100 teachers, 14,900 aides, 5,400 plant maintenance and custodial workers, and 19,000 support and administrative personnel. Putting these figures together, the professional judgment approach envisions about 17,200 more employees than the successful school district approach. Assuming an average salary/benefits of those people of \$28,000 (which reflects the fact that about 6,100 of them are teachers, 7,000 of them are aides, and the remainder are divided between relatively high paid people such as guidance counselors or technology specialists and relatively low paid people such as clerks), the total cost of those added people translates into about \$1,077 per student. This amount alone explains about 85 percent of the \$1,264 difference between the base figures produced by the two approaches.

Since we did not modify the salary level of teachers in estimating costs and we believe that the benefit rate we used (20 percent) reflects the statewide average reasonably well, none of the difference in cost is attributable to those factors. We have no way of comparing the cost of supplies and materials in the adequacy studies although the cost of technology in the professional judgment approach is about \$287 per student, which we believe is somewhat higher than what is currently spent, at least on average, for technology. The two programs included in the professional judgment approach that we do not think are provided fully by average school districts or by successful school districts are professional development and full-day kindergarten. These programs cost \$97 and \$132 per pupil when costs are spread across all students. In the case of full-day kindergarten, we understand that about one third of all students participate in such a program, so the added cost should be about \$88 per student. Therefore, we feel that it is the added cost of technology, the extended time for professional development, and the expansion of full-day kindergarten to all districts that must explain the remaining 15 percent (\$190) differential between the professional judgment base cost figure and the successful school district base cost figure.

## VII. USING THE RESULTS OF THE ADEQUACY STUDIES IN THE KANSAS SCHOOL FINANCE SYSTEM

### Introduction

The Legislative Education Planning Committee (LEPC) asked A&M not only to conduct multiple studies of school finance adequacy in Kansas, but to find a way to use the results of such studies in distributing funds to the state's school districts. In order to meet the LEPC's expectations, we needed to: (1) understand how the school finance system works, including people's views about the strengths and weaknesses of the system; (2) translate the results of the adequacy studies into both parameters and formulaic components that could be used in the school finance system; (3) investigate some of the statewide implications of using the results of the adequacy studies; and (4) examine other aspects of the system as specified in the contract between the LEPC and A&M, including factors related to cost-of-living, transportation, vocational education, and opening new schools.

### The Kansas School Finance System

The current school finance system was enacted in 1992, replacing another approach that had been in place for two decades. The primary components of the system are a foundation program and a second tier. The purpose of the foundation program is to assure that a specific amount of revenue is available for all students (base state aid), that additional revenue is available for students with special needs (special education, students from low income families, and bilingual students) or for districts with certain cost-related characteristics (particularly enrollment level based on low enrollment weighting and correlation weighting), and that property tax rates are essentially uniform across the state. The purpose of the second tier, or local option budget (LOB), is to equalize the ability of school districts to generate a limited amount of revenue above the foundation program. While the foundation program approach is used in most states, in one form or another, the second tier concept is not widely used. Nevertheless, the general structure of the system is designed to be sensitive to the needs of school districts and to wealth differences across districts, which means it meets the criteria necessary to promote inter-district fiscal equity and taxpayer equity.

Specifically, in 2001-02 the system had a foundation level or base of \$3,820 and student weights were used to adjust the base for at-risk students (using a weight of .09 for students who are eligible for the federal free lunch program), bilingual students (using a weight of .20), the full-time equivalent of students participating in vocational programs (using a weight of .50), and the number of students enrolled in a newly opened school (using a weight of .25). The low enrollment weight provided a sliding scale of adjustments for districts with fewer than 1,750 students, with the adjustment rising as district size decreased. School districts were required to make a 20 mill tax effort to generate their share of foundation program costs. Therefore, under the foundation program, the state

provided more aid to districts with greater needs and lower wealth, all other things being equal.

The second tier had a revenue limit of 25 percent of the foundation level and state aid was provided to districts with per student property wealth less than the 75<sup>th</sup> student weighted percentile of all districts. State aid for special education was allocated on the basis of the number of teachers and approved para-professionals determined to be needed after subtracting allowances for catastrophic aid (the state pays 75 percent of the cost of services over \$25,000) and for teacher travel, student transportation, and a portion of maintenance expenses for children away from home. The state also contributes to the Kansas Public Employee Retirement System on behalf of educators based on the amount required to keep the system actuarially sound and an expected individual contribution. In addition, the state provided support for transportation based on a density-cost graph that plots the relationship between eligible expenditures (primarily based on the cost of providing services to students living more than 2.5 miles from school) and the population density of school districts. Finally, the state contributed support to several targeted programs, including parental education, in-service education, and summer school (some of which are based on competitive grants or require local matching funds).

In 2000-01, it is estimated that school districts spent about \$3.457 billion for all purposes, or about \$7,735 per student (based on a count of 446,970 students including at-risk four year-olds). Of this amount, \$2.277 billion came from the state, \$.933 billion came from local sources, and .247 billion came from the federal government. A portion of these expenditures were unrelated to basic purposes (instruction, support, administrative, and the operation of facilities), including capital outlay and debt service, transportation, food services, community services, and adult education. Basic expenditures were about \$2.837 billion, or \$6,347 per student.

### The Strengths and Weaknesses of the School Finance System

One component of our work was to conduct interviews with a set of people concerning their views about the Kansas school finance system. The interviews were not organized to learn the general public opinion of school funding – a random sample of Kansas citizens was not selected to respond to a survey focused on the implications of school funding for the average citizen. Rather the effort was designed to identify the strengths and weaknesses of the funding system based on the views of people who were generally familiar with schools, and the way they are funded.

A&M met with 59 people between November 2001 and January 2002 (see Appendix D for the full report, including the list of participants). Those people were among the 97 people we contacted to participate, some of whom were unable to attend due to scheduling conflicts, travel difficulties, and other factors that made it impossible for them to meet with us at a location or on a specific date. The names of suggested participants were provided by the Kansas State Department of Education and by LEPC members. Of the 59 participants, seven were school board members, 21 were school or school district

administrators, 12 were teachers or other certificated personnel, and 19 were members of the business community, parents, or other people with knowledge of schools and their funding, but not employed by the public schools.

A&M met with participants in Topeka, Hays, and Wichita. Participants were organized into small groups of about 10 people. Each group met with one or two people from the A&M team for up to four hours. All participants were asked to complete a questionnaire, which was designed to obtain information about specific components of the funding system, before engaging in a general discussion.

### *Questionnaire Results*

The vast majority of participants felt that the foundation level, one of the primary determinants of the amount of state aid received by school districts, was too low; 48 of the 56 people who thought the level was too low suggested that a more appropriate amount would be about \$4,950.

Participants had mixed views about the weights currently used to provide added funds for students with special needs. About 84 percent of the 55 respondents with an opinion thought the weight for at-risk pupils was too low and should be raised from .10 to .39. Similarly, 70 percent of the 43 participants with an opinion felt the vocational education weight was low, although only 11 people suggested an alternative level. And about 58 percent of the 45 people with an opinion believed the bilingual weight was too low and should be raised from .20 to .53.

The questionnaire sought people's views about the added funds available to districts based on their size. While 20 participants thought the adjustment for small school districts was sufficient, 24 people thought it was too low and 15 people thought it was too high. Evaluated based on the size of the district in which a respondent worked/lived, all people from districts with less than 1,000 students thought the adjustment for small districts was too low, while respondents in districts with more than 1,000 students were evenly split between the adjustment being too high or too low. While 22 respondents thought the adjustment for large school districts was sufficient, 95 percent of the 37 people who thought it was inappropriate believed it to be too low.

Although participants supported the concept of the foundation program, 86 percent of the 50 people with any opinion felt that the local contribution expected to support the foundation program was inappropriate; of those people, 91 percent felt that it was too low.

About 56 percent of the 57 participants with any opinion felt that the concept of the second tier (the LOB) was appropriate. As discussed below, this may reflect the fact that while many people support the LOB concept, particularly as it was originally implemented, a significant number believe that it no longer accomplishes what it was originally designed to do.

The vast majority of participants believed that the provision of state aid for facilities was appropriate, and 69 percent of the 36 people with any opinion felt that providing aid when a school opens was appropriate.

Most people felt that the distance limit used in determining state aid for transportation, at 2.5 miles, was inappropriate, and 81 percent of the 42 people responding thought the distance should be reduced.

Almost 90 percent of the respondents did not support the current approach used by the state to allocate support for special education. Given a choice of alternative approaches, 74 percent of the respondents would like the state to reimburse districts based on their actual expenditures and 54 percent of respondents favored the use of pupil weights (15 percent of respondents supported either of those approaches over the current approach).

About 81 percent of participants felt that the state should require districts to set aside time for professional development, and while 18 percent of participants thought that the state should require more than 10 days to be used for that purpose, 31 percent of participants thought that less than five days would be sufficient, and 51 percent thought between five and nine days would be appropriate.

Given the way a “suitable” education is defined for the purpose of our study, we were particularly interested in whether discussion participants felt that specific services or activities should be required by the state or paid by the state. A vast majority of participants believed that school libraries, school nurses, and technology training should be required in schools, while a majority thought that early childhood programs and alternative schools should be required. A large majority of people felt that a longer school day for students should not be required by the state. A slight majority of respondents thought that extra-curricular activities and a longer school year for students should be required by the state.

A vast majority of participants believed that the state should provide support for early childhood programs, school libraries, school nurses, technology training, and alternative schools, while a large majority of people felt the state should provide support for a longer school year, and a majority thought the state should provide support for extra-curricular activities and a longer school day for students.

### *Summary of Discussions*

We asked participants to examine the definition of a suitable education that was developed to guide our work, including certain course requirements, optional programs and services, and student performance expectations. We heard numerous comments about the definition, many of which suggested that the state should focus almost all of its attention on student performance while reducing the emphasis on specific courses, programs, and services. This view was bolstered by two underlying attitudes: (1) that many of the courses listed in the definition were “old fashioned” (such as “arithmetic” or “algebra

l”) and no longer considered to be appropriate; and (2) that if the state is going to hold teachers, schools, and/or school districts accountable for student performance, educators should have wide latitude in organizing the way education programs and services are delivered.

Most participants were familiar with the fact that the state uses several procedures to identify student-related and district-related factors that have a fiscal impact on school districts. While they addressed most of their concerns in the questionnaire, they reiterated in discussion that the revenue needs of many school districts were not adequately reflected in the pupil weights, or other procedures, the state uses to quantify fiscal impact. In fact, most people saw the problem as one that combined the adjustments, such as pupil weights, with the foundation level in producing lower than needed revenue. In addition, there was discussion of the fact that the use of the count of pupils eligible for free/reduced price lunch as a proxy for the number of at-risk pupils was too narrow, resulting in an underestimation of the number of students for whom special services were needed.

Most participants understood the concept of the foundation program approach and agreed with its philosophical objectives. As reflected in the questionnaire, many people felt that the foundation level is too low and/or that the local contribution expected by the system is too low, which undermines the ability of the program to provide an adequate level of support to “regular” students (those with no special needs) attending schools in districts with average characteristics. People understood and agreed with the concept of wealth “equalization” that the foundation program is designed specifically to accomplish.

Most people agreed with the concept of a revenue cap on school districts that absolutely limits their ability to generate revenue beyond a specified amount. A sizeable minority of people disagreed with the cap and wondered why school districts should be limited in raising revenue if the voters in a community are willing to approve higher tax effort. Many of those who would like there to be no cap, or a higher cap than exists now, would be more supportive if other parameters used in the foundation program, such as the foundation level or the pupil weights, were set sufficiently high to provide adequate revenue.

All participants were familiar with the concept of local option budgets and many agreed with the concept as it was implemented almost a decade ago. That is, they felt that school districts should have the ability to generate some funds above the amount thought to provide an adequate basic level of support. But most commented that, over time, the system had deteriorated to the extent that the LOB provided funds that were an essential component of basic support, which meant that communities unwilling to support the full local option budget might not be able to provide basic services.

Many participants were also aware that the state equalizes the ability of school districts with below average wealth to generate similar amounts per pupil when districts make the same property tax effort above the level required in the foundation program. Most of them thought that the approach should be expanded so that most districts have that ability. Participants felt that the availability of state aid was an important determinant

of voter approval of higher tax effort and that the more state aid was available for that purpose, the greater the likelihood that local funds would also be provided.

All of the discussion participants believed that professional development was a key element in improving schools and that much more of it should be a routine part of every teacher's experience. While some could identify specific needs for professional development (related, for example, to inclusion, technology, and at-risk students), most felt that paid time should be available and that such time should be used at the discretion of each school.

Participants felt that teachers were well qualified and competent. No one expressed any reservations about teacher qualifications other than the difficulty in recruiting teachers in certain subject areas or specialties and the increasing problem of retaining highly qualified people. Most people saw this as an issue related to salary and benefits.

Most people made comments about the need to improve teacher salary and benefits in Kansas. In some cases, the view was a general one – that salary and benefits need to rise for all teachers in order to be competitive with other states and with other jobs for which teachers are qualified. But in many cases, the comments were focused on specific subject areas, such as special education, music, foreign language, mathematics, science, and technology, where in recent years it has proven very difficult to attract new teachers. Some suggested that signing bonuses, including indirect benefits associated with housing, needed to be offered to remain competitive. Further, people mentioned what they perceived to be comparatively low benefits for teachers, which further complicated the ability to attract and retain highly qualified personnel.

#### Using the Results of the Professional Judgement and Successful School District Studies in the Kansas School Finance System

Having examined the general structure of the school finance system in Kansas, and having thought about the views of the people we interviewed, A&M concluded that no significant changes are needed in the structure of the approach Kansas uses to distribute state aid to school districts. Rather, changes need to be made in the parameters that drive the system, including the foundation, or base cost, level, the weights for students with special needs, and the formulas used to adjust figures in light of the size of school districts. While all of these modifications have important implications, perhaps the most fundamental structural change we would recommend is replacing the current approach to funding special education with a student weight. As described below, the student weights we propose operate somewhat differently from the ones that are currently used in the system because, based on our work, they should vary by school district size.

### *Determining a Foundation Level*

Both the professional judgement approach and the successful school district approach yielded base cost figures, as discussed in Chapter VI, that could be used in the foundation program component of the Kansas School Finance System. The figures derived from the two adequacy studies are different (\$4,547 based on the successful school district approach, and \$5,811 based on the professional judgment approach). Much of the difference can be explained either by the possibility that the school districts we identified as being “successful” may not, in fact, meet all of the “input” standards associated with the state’s definition of suitability, or by the fact that the professional judgment approach included more services, or a more enhanced approach to service delivery, than is actually necessary to meet state “output” expectations. Given a difference of \$1,264 per student, or about 27.8 percent, it would be possible to use the lower figure as the foundation level and to use the higher figure as the limit on the second tier (LOB). Using the figures in that way (and adjusting them to whatever future year is being discussed), would be consistent with the current structure of the school finance system while addressing the concerns of people who feel that foundation level is too low. If the 25 percent limit on the second tier needs to remain fixed, then either the foundation level could be raised to \$4,649 (so that \$5,811 is 25 percent higher) or the second tier limit could be lowered to \$5,684 (which would be 25 percent higher than \$4,547).

### *Creating a School District Enrollment Level Adjustment*

We examined four prototype school districts, of different enrollment level, in order to determine whether school district size affects resource needs. As expected, the base cost of small districts is higher, on a per pupil basis, than the base cost of moderate size or large school districts. That information (as shown in Table IV-10), can be used to develop formulas, similar to the ones used in Kansas currently, that would modify the foundation level depending on the number of students in a school district. In fact, the formulas would be as shown below, which calculate an adjusted foundation amount for every enrollment level. The formulas differ somewhat depending on the starting foundation level, so we show them for two levels, \$5,800 and \$4,550, which correspond to the two levels associated with the two adequacy studies.

#### Using a \$5,800 base cost:

less than 430 students =  $\{[(430 - \text{Enroll.})/10, X .01] X 5,800\} + \$7,465$

430-1,300 students =  $\{[(1,300 - \text{Enroll.})/80, X .01] X 5,800\} + \$6,834$

1,130-11,200 students =  $\{[(11,200 - \text{Enroll.})/600, X .01] X 5,800\} + \$5,800$

over 11,200 students = \$5,800



Using a \$4,550 base cost:

$$\text{less than 430 students} = \{[(430 - \text{Enroll.})/10, X .01] X 4,550\} + \$5,852$$

$$430-1,300 \text{ students} = \{[(1,300 - \text{Enroll.})/80, X .01] X 4,550\} + \$5,358$$

$$1,130-11,200 \text{ students} = \{[(11,200 - \text{Enroll.})/600, X .01] X 4,550\} + \$4,550$$

$$\text{over 11,200 students} = \$4,550$$

Using these formulas, the foundation levels for districts of different sizes would be as follows:

<u>Enrollment</u>	<u>\$5,800 Foundation</u>	<u>\$4,550 Foundation</u>
100	\$9,379	\$7,354
500	\$7,414	\$5,813
1,000	\$7,052	\$5,529
2,500	\$6,641	\$5,209
7,500	\$6,158	\$4,831
15,000	\$5,800	\$4,550
30,000	\$5,800	\$4,550

*Creating Pupil Weights for Special Education,  
At-Risk Students, and Bilingual Students*

The professional judgement approach also produces information about the relative cost of special education, services for at-risk students, and services for bilingual students based on the cost of the resources the professional judgment panels attributed to those programs. In Chapter IV (Table IV-10), we indicated the cost of these services above and beyond the cost of basic services. The relationships between those figures generates a set of preliminary pupil weights for prototype school districts of different size, which are shown below.

<u>Special Cost Category</u>	<u>Size of School District</u>			
	<u>Very Small</u>	<u>Small</u>	<u>Moderate</u>	<u>Large</u>
Special Education	.86	.94	1.16	2.08
At-Risk Students	.22	.30	.51	.44
Bilingual Students	.14	.17	.84	1.03

These preliminary weights suggest that there are significant relationships between the relative costs of services for students with special needs and the size of school districts. It is worth noting that, as far as we know, no other state has adjusted pupil weights in light of school district size, although a few states do adjust weights based on the concentration of students with particular needs, which may be correlated with district enrollment level.

In the case of special education, relative cost rises directly with size although the increase in the weight is relatively small compared to the change in size; that is, over an enrollment range of 11,000 students from the very small prototype district to the large prototype district, the weight increases from .86 to 2.08. Up until recently, an average special education excess cost weight of 1.3 would have been consistent with the national average figure but recent work by the National Center for Special Education Finance indicates that a more appropriate figure is .9. In our view, the weights for the very small, small, and moderate size prototype school districts seem reasonable but the weight for the large prototype appears to be very high. We believe a formula could be used to adjust the weight for size, which would be as follows:

$$\text{Special education weight} = .90 + (\text{enroll.} \times .00002)$$

This equation results in a weight of .90 for a district with an enrollment of 200 students, a weight of .92 for a district with an enrollment of 1,000 students, a weight of 1.10 for a district with 10,000 students, and a weight of 1.50 for a district with 30,000 students. Once a weight has been calculated, it would be multiplied by the actual number of students in special education programs (that is, students with an individual education plan [IEP] under the federal Individuals with Disabilities Education Act [IDEA]) and then multiplied by the base cost figure to determine the total needs of districts. This approach does not use multiple pupil weights for students with different types of disabilities (which may have different costs) and does not assume that the proportion of students with disabilities is constant across all school districts. Some people believe that the use of multiple levels of weights provides an inappropriate incentive to mis-classify students while others feel that the use of a constant proportion of students with disabilities better recognizes what the true distribution of students is. We believe the use of the formula presented above and the actual number of students with disabilities is a reasonable compromise that is also consistent with the results of the professional judgement approach.

In the case of at-risk students, the weight is relatively low for small school districts and rises to a relatively higher level for moderate size and large districts. Our feeling is that the following formula can account for these differences relative to school district size:

$$\text{Weight for at-risk students} = .60 - [(1,000/\text{enroll.}) \times .08]$$

where enrollment has a lower limit of 200

This equation results in a weight of .20 for districts with 200 or fewer students, a weight of .52 for districts with 1,000 students, a weight of .59 for district with 10,000 students, and a weight of .60 for districts with 30,000 students. This weight would be multiplied by the number of students participating in the federal free lunch program (as is done now), which serves as a proxy measure of low-income families, which in turn is a reasonable predictor of being at risk of failure in school, times the base cost figure, to determine the needs of school districts. While other states have examined the use of other proxy measures, such as the number of students scoring below specific levels on statewide tests or complex census-based indicators of family socio-economic status, many states use free (or free and reduced price) lunch to avoid providing an incentive for low performance in order to increase revenue, and because the data are beyond the control of school districts and are updated annually. The magnitude of the weights used in other states is typically lower than .50 although the use of concentration factors or of approaches other than weights may provide well over an amount that corresponds to a .50 weight when applied against a state's foundation level.

In regard to bilingual students, we propose a more complex procedure in order to: (1) recognize the cost difference in school districts with less than 1,000 students in comparison to those with more than 1,000 students; and (2) avoid a "cliff" effect where the transition from low to high weight occurs: The following set of equations accomplish this result, while being consistent with the weights associated with the work of the professional judgment panels:

Weight for bilingual students = .15 for districts with less than 500 students

Weight for bilingual students = .15 + [.0014 X (enroll. - 500)] for districts  
with between 500 and 1,000 students

Weight for bilingual students = .85 + [.000004 X (enroll. - 1,000)] for  
districts with more than 1,000 students

The use of these equations results in a pupil weight of .15 for a district with 200 students, a weight of .85 for a district with 1,000 students, a weight of .89 for a district with 10,000 students, and a weight of .97 for a district with 30,000 students. This weight would be multiplied by the number of bilingual students (times the base cost figure) to determine the needs of school districts.

To summarize the impact of the pupil weights on districts of different size, the following list shows the weights for districts with varying numbers of students:

<u>Enrollment</u>	<u>Special Need Category</u>		
	<u>Special Education</u>	<u>At-Risk</u>	<u>Bilingual</u>
100	.90	.20	.15
500	.91	.44	.15
1,000	.92	.52	.85
2,500	.95	.57	.86
7,500	1.05	.59	.88
15,000	1.20	.59	.91
30,000	1.50	.60	.97

The use of these equations to determine pupil weights results in 68,441 weighted special education students, 81,275 weighted at-risk students, and 8,352 weighted bilingual students. This means that the average excess cost weight for special education is 1.13, the average excess cost weight for at-risk students is .74, and the average excess cost weight for bilingual students is .86.

#### The Statewide Cost Implications of Using the A&M Recommendations for a Base Cost Figure and Adjustments for Students with Special Needs

In order to determine the statewide cost of a set of recommendations, A&M had to make some decisions about how to implement its findings concerning a base cost figure, a set of weights to adjust the base, and a second tier. Given that the current foundation level was \$3,820 in 2000–01, and given that the two base cost figures that emerged out of the professional judgement and successful school district approaches differed by more than \$1,250 (\$5,811 vs. \$4,547), we decided that it would be appropriate for Kansas to use the higher figure as the limit on the second tier while setting the foundation level at \$4,650, which preserves the 25 percent limit on the second tier (rather than using \$4,547 and expanding the limit to 27.8 percent, which could increase the per student revenue variation within the system). We also decided to use the adjustments as they were described above for school district size, special education, at-risk students, and bilingual students (the formula for the size adjustment had to change a bit given the change in the base). Finally, as discussed below, we made the decision to maintain the .25 weight for students in newly opened schools while eliminating entirely the .50 weight for vocational education.

We estimate that if this set of decisions had been made in 2000-01, the cost of the foundation program, including adjustments, would have been about \$3.073 billion. There are several ways to look at this amount in comparison to actual expenditures or revenues in 2000-01. First, as best we can tell, school districts spent \$2.837 billion for comparable purposes (that is, excluding capital spending, transportation, food services, community services, and adult education, as mentioned above). Therefore, we are suggesting that total spending needs to increase by \$236 million, or about \$528 per student (an increase of about 8.3 percent) in order to assure that a suitable education is available to all students

throughout the state. Second, in terms of revenue, assuming that local revenue (estimated to have been \$420 million for non-capital purposes) and federal revenue (estimated to have been \$247 million) could have been used to offset the total cost, state support would have needed to increase from \$2.122 billion to \$2.406 billion, an increase of \$284 million, or 13.4 percent. This figure, however, assumes that the local property tax effort required in the foundation program would remain at 20 mills. Given that the foundation level we suggest is nearly 22 percent higher than the one actually used in 2000-01 (\$4,650 vs. \$3,820), and given the increase in the adjustments for students with special needs, we recommend raising the required tax effort to 25 mills, which would have generated an estimated additional \$94 million in local revenue (assuming assessed valuation of \$18.9 billion), reducing the increase in state aid to \$190 million. The recommendation to increase local tax effort is consistent with the interviews we conducted, in which participants expressed a willingness to raise the local contribution to the foundation program if the foundation level were raised to a more appropriate level.

These figures assume that all LOB funds are rolled into the foundation program. In fact, the second tier could permit additional expenditures of between \$520 million and \$773 million depending on whether the second tier is based on 25 percent of the base expenditure (\$4,650) or 25 percent of the adjusted base cost per student (\$6,918, including expenditures based on school district size, special education, at-risk students, and bilingual students). Our assumption is that the state would need to take 3-4 years in order to reach the adequacy target revenue level. During that time, reliance on the second tier would decrease in most places, and if the state kept figures current during the phase-in period and beyond, the LOB would not be used to a great extent, other than by districts that would not likely be eligible for much state aid anyway.

### Adjusting State Support in Recognition of Regional Cost Differences and Changes in Cost Over Time

We asked the National Center on Education Finance at the National Conference of State Legislatures (NCSL) to review both the literature and state practice concerning approaches that might be used to adjust the distribution of state aid based on regional cost differences and alternative ways to adjust the parameters used in state aid formulas over time. NCSL prepared a short paper, which is contained in Appendix E and summarized below with some supplementary information.

#### *Adjusting State Aid for Regional Cost Differences*

Policymakers have discussed the need for regional cost factors to adjust the allocation of state support for many years. They recognize that the “cost of doing business” varies from place to place due to differences in the prices that must be paid for certain resources, including professional staff salaries and certain supplies and materials. In the past 20 years, several alternative methodologies have been developed to measure such price variations, although they tend to be so complex that states have been reluctant to adopt any of them. Most require large amounts of data, use sophisticated statistical calculations, and are, at best, difficult to understand, particularly when results are not

consistent with conventional wisdom. Only a few states have created geographic price factors, including Colorado, Florida, Ohio, and Texas (Maryland expects to develop such a factor in the next few years).

The National Center for Education Statistics (NCES) has developed a geographic price factor for most school districts in the country based on a methodology that focuses on teacher salaries. The approach attempts to control for factors that are beyond the control of school districts that affect teacher salary levels, including school district characteristics, regional amenities, and teacher characteristics and produces an index that indicates how much more or less particular districts need to pay in order to deal with factors that they do not control. At this point, the index is several years old although our understanding is that it should be stable over several years. Table VII-1 shows the index for school districts in Kansas adjusted so that the statewide average is 1.00 (the figures are provided by NCES so that the national average is 1.00).

In our view, it would be appropriate to use the figures in Table VII-1 to adjust state aid within the school finance system we are recommending. There are several ways to incorporate a regional cost index. First, the numbers could be used as is (that is with figures above and below one), which means that the foundation level (\$4,650) would be lower in some districts and higher in others, which in turn would affect the revenue associated with the pupil weights; if the state adopted the new foundation level in a single year, the adjustment would probably not be problematic since the new foundation level would be much higher than the existing level – if the state phased in the new foundation level, the geographic cost adjustment could be phased in too. Second, it would be possible to adjust the figures in Table VII-1 so that the lowest figure was 1.00 before they were applied to the foundation level. Using this approach, the cost to the state could be significant since the actual foundation level would be higher than \$4,650 in every district. A third approach would be a variation on the first approach in which an adjustment would only be made if the index were greater than 1.00 (which, at least to some extent, defeats the purpose of using the index); our understanding is that Maryland is taking this approach until the state develops its own index using a similar methodology.

### *Adjusting System Parameters Over Time*

One of the problems policymakers face is how to adjust the parameters that drive the allocation of funds from one year to another. As it turns out, the only parameter that needs to be modified in the school finance system we described above is the base cost figure (foundation level). Assuming that there is no need to undertake adequacy studies every year (such studies may need to be done every 5-6 years as state expectations change or as approaches to service delivery change), there is still a need to increase the base cost figure to keep up with cost increases that are beyond the control of school districts. The cost increase most people feel needs to be addressed is the annual change in “cost of living.” For example, many public and private sector organizations use annual cost-of-living changes in order to compare revenue and expenditure figures from one year to the next. While this seems like a relatively simple concept, it can become a complex undertaking since: (1) there are a variety of approaches that might be used to measure the cost-of-living; and (2) other factors, particularly those associated with the quality of the

service being provided or the product being produced, also affect cost.

The alternative ways to calculate an annual cost index include: (1) the consumer price index (CPI), the most widespread index and one that is available at a national level as well as for larger communities/regions, and has decades of history in order to make comparisons over long periods of time; (2) the school price index (SPI), which is similar to the CPI except that it focuses on items that schools purchase rather than items purchased by the general public but is only available as a national figure and only has 10 years or so of comparative data; (3) the inflationary cost-of-education index (ICEI), which is primarily based on the cost of school staff, is available only at the national level, but has less than a decade of data for comparison purposes; and (4) the employment cost index (ECI), which focuses on employee compensation in the public and private sectors of the economy, is available at a national and regional level, and has been in use for 15 years.

In our view, the CPI is a perfectly reasonable index to use in measuring year to year inflation in the cost of education services. This is true for at least three reasons: (1) the vast majority of education expenditures are for personnel and the year to year cost increases employees of school districts face are measured well by the CPI (in fact, there is quite a mix of people in schools considering that teachers represent about half of all employees and the remainder are divided between managers and ancillary service providers such as bus drivers); (2) local versions of the CPI exist, allowing a number more tailored to Kansas than a national figure to be used; and (3) the CPI is a generally accepted figure with which policymakers and voters are familiar and it is widely used in a variety of contexts. This is not to say that it is necessary to require that the base figure be automatically adjusted each year by the CPI. Rather, we would suggest that the legislature should recognize the need for an annual adjustment and assign a committee the task of specifying the figure to be used each year based on a review of alternative approaches and figures but not based on available revenue or revenue projections. Other states, such as Louisiana, have successfully used that approach, which is a reasonable compromise between doing nothing and specifying a particular methodology.

### Other Issues

The LEPC asked A&M to examine three components of the school finance system – the provision of state aid for transportation, state support for newly opened schools, and the funding of vocational education – that are either not directly related to the primary work we were asked to do or that need to be addressed separately. The purpose of this section is to answer three questions about each issue: (1) should the activity be funded by the state? (2) is the current policy appropriate? and (3) what is the right level of funding?

#### *Transportation*

A&M asked the National Conference of State Legislatures (NCSL) to review the procedures Kansas uses to distribute state aid for transportation. The NCSL report, contained in Appendix F, is the basis for the comments included here.

The state currently provides each school district with a set amount per qualifying pupil. Though the payment to the district for transportation is formally a weight and part of the general state aid, for practical purposes, it is a separate compensation. To qualify, students must be transported and reside more than 2.5 miles from school. The amount received for qualifying students is calculated on the basis of the per qualifying student expenditures for all districts, adjusted for density. Initially, districts report their transportation expenditures per qualifying student, adjusted under the assumption that transported students who reside less than 2.5 miles from the school cost less than those residing farther away. The state then finds the curve of best fit, across all districts, between spending and the per square mile density of qualifying students. The district is not directly reimbursed for its actual costs but, rather, is compensated based on the per pupil spending of districts of similar density.

The current policy requires little in the way of special data collection, provides districts with an incentive to find efficient means of transportation, and -- except for the 2.5 mile residence criterion -- leaves decisions about the need for transportation up to the districts.

Forty-nine states and the District of Columbia compensate localities for the costs of transporting students to school, as the transportation of students who live at a distance from school is necessary for education to take place. The states vary widely in the methods they use to fund transportation. About one-third use the foundation program concept while the rest use categorical programs, as Kansas does. Some rely on density-based payments, which provide some incentive to districts to use the most efficient methods of transportation but have the disadvantage of ignoring some of the factors that influence the cost of providing transportation services. Other states reimburse on the basis of actual mileage, which requires more record keeping, and a final group reimburses actual expenses, which provides little incentive for efficiency. By using density-related patterns of expense, Kansas takes account of actual expenses while providing districts with an incentive to keep costs down.

The most controversial aspect of the transportation policy is the 2.5 mile criterion. Only eight states specify a mileage qualifying standard, and all but Kansas use a standard of 2.0 miles or less, with 1.0 to 1.5 miles being the norm. Most states leave mileage standards up to school districts. In the interviews done for the public opinion part of this study, 93 percent of the 59 respondents had an opinion about the appropriateness of this standard -- 75 percent said it was inappropriate and 81 percent of those said the distance should be shorter. While the 2.5 mile standard has certain advantages (primarily by forcing districts to think carefully about the provision of transportation services, which keeps costs down), it has the serious disadvantage of not recognizing that districts provide service to children living less than 2.5 miles from school for appropriate reasons.

In our view, the state should continue to use its density-based approach but lower the mileage criterion from 2.5 to 1.25 miles.



## *Opening New Schools*

Present policy provides for a weight of .25 to be added for each pupil enrolled in school facilities whose operation commenced in the past two years. New facilities have special costs associated with their initial operation, which justify the additional compensation. To receive the weight, a district must be using the full amount of the local option budget (LOB) authorized for the year. Additionally, school districts experiencing extraordinary growth, averaging over 6 percent, or 1200 pupils per year over three years, may appeal to the State Board of Tax Appeals for permission to levy an additional property tax to cover the costs of initial operations.

In 2001-02, qualifying new facilities housed eleven thousand students, so that the state contributed \$10.6 million to districts under this program. Additionally, three districts qualified for extraordinary growth taxing for related costs.

This program narrowly targets costs that fall between long term capital expenditures and annual operating expenditures. Neither of the approaches we used to analyze suitability addressed costs other than annual operating costs. Because the costs of opening schools vary dramatically across school districts, a weight applied to affected students is a reasonable basis for allocating state aid. While our opinion interviews spoke to the issue, we supplemented that information by speaking to several people at the state level and in school districts about the issue. These interviews suggested that districts incur added costs for more than the two year period for which aid is provided, and that their needs decrease over time. Therefore, we believe that it would be appropriate to extend the program for three years and to reduce the weight from .25 to a lower level, such as .10 over that period of time. This approach maintains the advantages of the current program, which provides a modest amount for a small number of students only when districts have exerted maximum tax effort, while addressing some of the concerns people raised about the issue.

## *Vocational Education*

Currently, the state provides support for vocational education by using a pupil weight of .50 and multiplying it by the number of full-time-equivalent (FTE) students participating in vocational programs. Using this approach, the state reimbursed districts for about a third of the actual expenditures incurred by both individual school districts and area vocational schools in providing such services (about \$88 million in 2000-01).

Vocational education has long been an accepted part of a comprehensive high school program. Much of the cost of the program is attributable to the capital investment necessary to assure that students are exposed to the latest technology in business, agriculture, construction, transportation, and other areas. Operating costs are not very different from other curricular areas, such as science or language, where class sizes are small or non-capital equipment needs are higher than average. In fact, the per FTE student operating costs of vocational education are about 12 percent higher than those of all programs, on average (about \$6,500 vs. \$5,800 in 2000-01).

Given that the costs of vocational education are similar to those of other programs that are embedded in the general curriculum, and given that the proportion of students taking vocational classes are not expected to vary dramatically from place to place, we do not believe it is necessary to use a separate weight for vocational education. We would make the same argument about foreign language, or science, or any other subject area that is an essential part of the general curriculum. Our sense is that vocational education costs should be included in the calculation of the base cost figure and not distinguished from other components of the basic program. The fact is that participants in the professional judgment panels included vocational education in their thinking (since it was part of the definition of a suitable education) and we included vocational education expenditures in our calculation of basic expenditures for the successful school district analysis. Our conclusion is that there is no need to weight vocational education but rather, to include vocational education costs in the foundation level.

### Summary of Recommendations

We have made several recommendations in this chapter about both the structure of the Kansas school finance system and the parameters the system should use to allocate funds to school districts, which are summarized below:

- " Kansas should continue to use a foundation program in combination with a second tier (Local Option Budget) as the primary basis for distributing public school support.
- " The foundation level (base cost) should be raised in the future to a level that would be equivalent to \$4,650 in 2000-01.
- " The foundation level should be adjusted by a regional cost factor using figures from the National Center for Education Statistics until such time as the state conducts its own study.
- " The foundation level should be adjusted in recognition of the higher costs associated with: (1) the operation of moderate size and small school districts; (2) the needs of students in special education programs; (3) the needs of at-risk students (based on the number of students participating in the free lunch program); and (4) the needs of bilingual students. The adjustments should be based on formulas that are sensitive to the enrollment level of school districts, which are listed below:

- for school district size

$$\#430 \text{ stu.} = \{[(430 - \text{Enroll.})/10, X .01] X 4,650\} + \$5,923$$

$$430-1,300 \text{ stu.} = \{[(1,300 - \text{Enroll.})/80, X .01] X 4,650\} + \$5,417$$

$$1,130-11,200 \text{ stu.} = \{[(11,200 - \text{Enroll.})/600, X .01] X 4,650\} + \$4,650$$

$$\$11,200 \text{ stu.} = \$4,650$$

- for special education

$$\text{weight} = .90 + (\text{enroll.} X .00002)$$

- for at-risk students (participating in the free lunch program)

$$\text{weight} = .60 - [(1,000/\text{enroll.}) X .08], \text{ where enrollment has a lower limit of 200}$$

- for bilingual students

$$\#500 \text{ stu.} = .15$$

$$500-1,000 \text{ stu.} = .15 + [.0014 X (\text{enroll.} - 500)]$$

$$\$1,000 \text{ stu.} = .85 + [.000004 X (\text{enroll.} - 1,000)]$$

- " There should be no pupil weight specifically for vocational education; rather the cost of vocational education should be included in the base cost figure.
- " The weight for students in newly opened schools should continue to be used although it should be used for three years, not two years, and the weight should decrease each year.
- " School districts should be expected to contribute to the foundation program based on a property tax rate of 25 mills on assessed valuation.
- " The second tier (or Local Option Budget) should permit districts to raise up to 25 percent more than the revenue generated by the foundation program (based on the foundation level and the adjustments for size, special education, at-risk students, and bilingual students). The state should continue to equalize the second tier in the same manner as it does currently.
- " The foundation level should be restudied every 4-6 years or when there is either a significant change in state student performance expectations or a significant change in the way education services are provided. In intervening years, the foundation level should be increased based on the work of a

committee designated by the legislature to determine an annual rate of increase, which should consider annual changes in the consumer price index (CPI) in Kansas.

- " The state should continue to use its density-based formula for transportation support, but include the full cost of serving students living 1.25 miles from school as part of the analysis.

**TABLE VII-1**

**ALTERNATIVE APPROACHES TO USING THE NCES GEOGRAPHIC COST INDICES FOR KANSAS**

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
101	ERIE-ST PAUL	0.97	1.10	1.00
102	CIMARRON-ENSIGN	1.00	1.13	1.00
103	CHEYLIN	0.96	1.08	1.00
104	WHITE ROCK	0.90	1.01	1.00
200	GREELEY COUNTY	0.97	1.10	1.00
202	TURNER-KANSAS CITY	1.17	1.32	1.17
203	PIPER-KANSAS CITY	1.14	1.29	1.14
204	BONNER SPRINGS	1.15	1.30	1.15
205	BLUESTEM	1.08	1.21	1.08
206	REMINGTON-WHITEWATER	1.06	1.20	1.06
207	FT LEAVENWORTH	1.14	1.29	1.14
208	WAKEENEY	0.95	1.07	1.00
209	MOSCOW PUBLIC SCHOOLS	0.98	1.10	1.00
210	HUGOTON PUBLIC SCHOOLS	1.02	1.16	1.02
211	NORTON COMMUNITY SCHOOLS	0.98	1.11	1.00
212	NORTHERN VALLEY	0.94	1.06	1.00
213	WEST SOLOMON VALLEY SCHOOLS	0.91	1.03	1.00
214	ULYSSES	1.03	1.16	1.03
215	LAKIN	1.01	1.14	1.01
216	DEERFIELD	0.99	1.12	1.00
217	ROLLA	0.98	1.10	1.00
218	ELKHART	1.00	1.13	1.00
219	MINNEOLA	0.94	1.07	1.00
220	ASHLAND	0.94	1.06	1.00
221	NORTH CENTRAL	0.91	1.03	1.00
222	WASHINGTON SCHOOLS	0.93	1.05	1.00
223	BARNES	0.93	1.05	1.00
224	CLIFTON-CLYDE	0.93	1.06	1.00
225	FOWLER	0.95	1.07	1.00
226	MEADE	0.97	1.10	1.00
227	JETMORE	0.94	1.06	1.00
228	HANSTON	0.91	1.03	1.00
229	BLUE VALLEY	1.20	1.36	1.20
230	SPRING HILL	1.17	1.33	1.17
231	GARDNER-EDGERTON-ANTIOCH	1.18	1.33	1.18
232	DESOTO	1.18	1.33	1.18
233	OLATHE	1.20	1.36	1.20
234	FORT SCOTT	1.00	1.13	1.00
235	UNIONTOWN	0.97	1.10	1.00
237	SMITH CENTER	0.95	1.07	1.00
238	WEST SMITH COUNTY	0.91	1.03	1.00
239	NORTH OTTAWA COUNTY	0.96	1.09	1.00
240	TWIN VALLEY	0.95	1.08	1.00
241	WALLACE COUNTY SCHOOLS	0.97	1.09	1.00
242	WESKAN	0.93	1.06	1.00
243	LEBO-WAVERLY	0.98	1.11	1.00

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
244	BURLINGTON	1.00	1.13	1.00
245	LEROY-GRIDLEY	0.97	1.10	1.00
246	NORTHEAST	0.99	1.12	1.00
247	CHEROKEE	1.00	1.13	1.00
248	GIRARD	1.00	1.13	1.00
249	FRONTENAC PUBLIC SCHOOLS	0.99	1.11	1.00
250	PITTSBURG	1.02	1.16	1.02
251	NORTH LYON COUNTY	1.02	1.15	1.02
252	SOUTHERN LYON COUNTY	1.02	1.15	1.02
253	EMPORIA	1.06	1.20	1.06
254	BARBER COUNTY NORTH	0.96	1.09	1.00
255	SOUTH BARBER	0.94	1.06	1.00
256	MARMATON VALLEY	0.96	1.08	1.00
257	IOLA	1.00	1.13	1.00
258	HUMBOLDT	0.98	1.10	1.00
259	WICHITA	1.13	1.28	1.13
260	DERBY	1.13	1.28	1.13
261	HAYSVILLE	1.12	1.27	1.12
262	VALLEY CENTER PUBLIC SCHOOLS	1.11	1.26	1.11
263	MULVANE	1.11	1.26	1.11
264	CLEARWATER	1.10	1.24	1.10
265	GODDARD	1.12	1.26	1.12
266	MAIZE	1.12	1.27	1.12
267	RENWICK	1.10	1.25	1.10
268	CHENEY	1.09	1.23	1.09
269	PALCO	0.93	1.05	1.00
270	PLAINVILLE	0.96	1.08	1.00
271	STOCKTON	0.96	1.08	1.00
272	WACONDA	0.97	1.09	1.00
273	BELOIT	0.97	1.10	1.00
274	OAKLEY	0.99	1.12	1.00
275	TRIPLAINS	0.94	1.06	1.00
278	MANKATO	0.91	1.02	1.00
279	JEWELL	0.89	1.01	1.00
280	WEST GRAHAM-MORLAND	0.92	1.04	1.00
281	HILL CITY	0.97	1.09	1.00
282	WEST ELK	0.91	1.03	1.00
283	ELK VALLEY	0.89	1.00	1.00
284	CHASE COUNTY	0.93	1.05	1.00
285	CEDAR VALE	0.90	1.01	1.00
286	CHAUTAUQUA COUNTY COMMUNITY	0.91	1.03	1.00
287	WEST FRANKLIN	1.01	1.14	1.01
288	CENTRAL HEIGHTS	1.01	1.14	1.01
289	WELLSVILLE	1.01	1.14	1.01
290	OTTAWA	1.04	1.17	1.04
291	GRINNELL PUBLIC SCHOOLS	0.95	1.07	1.00
292	WHEATLAND	0.95	1.07	1.00
293	QUINTER PUBLIC SCHOOLS	0.97	1.10	1.00
294	OBERLIN	0.98	1.11	1.00
295	PRAIRIE HEIGHTS	0.92	1.04	1.00
297	ST FRANCIS COMMUNITY SCHOOLS	0.97	1.10	1.00

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
298	LINCOLN	0.92	1.04	1.00
299	SYLVAN GROVE	0.90	1.01	1.00
300	COMANCHE COUNTY	0.92	1.04	1.00
301	NES TRE LA GO	0.91	1.03	1.00
302	SMOKY HILL	0.94	1.06	1.00
303	NESS CITY	0.96	1.08	1.00
304	BAZINE	0.93	1.05	1.00
305	SALINA	1.07	1.21	1.07
306	SOUTHEAST OF SALINE	1.03	1.16	1.03
307	ELL-SALINE	1.02	1.15	1.02
308	HUTCHINSON PUBLIC SCHOOLS	1.06	1.20	1.06
309	NICKERSON	1.04	1.17	1.04
310	FAIRFIELD	1.01	1.14	1.01
311	PRETTY PRAIRIE	1.00	1.13	1.00
312	HAVEN PUBLIC SCHOOLS	1.03	1.17	1.03
313	BUHLER	1.05	1.18	1.05
314	BREWSTER	0.97	1.10	1.00
315	COLBY PUBLIC SCHOOLS	1.03	1.17	1.03
316	GOLDEN PLAINS	0.97	1.10	1.00
317	HERNDON	0.93	1.05	1.00
318	ATWOOD	0.98	1.11	1.00
320	WAMEGO	1.03	1.17	1.03
321	KAW VALLEY	1.03	1.16	1.03
322	ONAGA-HAVENSVILLE-WHEATON	1.01	1.14	1.01
323	ROCK CREEK	1.02	1.15	1.02
324	EASTERN HEIGHTS	0.93	1.05	1.00
325	PHILLIPSBURG	0.97	1.09	1.00
326	LOGAN	0.94	1.06	1.00
327	ELLSWORTH	0.96	1.09	1.00
328	LORRAINE	0.95	1.08	1.00
329	MILL CREEK VALLEY	0.98	1.11	1.00
330	WABAUNSEE EAST	0.98	1.11	1.00
331	KINGMAN	0.99	1.12	1.00
332	CUNNINGHAM	0.96	1.08	1.00
333	CONCORDIA	0.98	1.11	1.00
334	SOUTHERN CLOUD	0.94	1.06	1.00
335	NORTH JACKSON	0.98	1.11	1.00
336	HOLTON	1.00	1.13	1.00
337	ROYAL VALLEY	1.00	1.13	1.00
338	VALLEY FALLS	1.03	1.16	1.03
339	JEFFERSON COUNTY NORTH	1.03	1.16	1.03
340	JEFFERSON WEST	1.04	1.18	1.04
341	OSKALOOSA PUBLIC SCHOOLS	1.04	1.17	1.04
342	MCLOUTH	1.03	1.17	1.03
343	PERRY PUBLIC SCHOOLS	1.05	1.18	1.05
344	PLEASANTON	0.97	1.10	1.00
345	SEAMAN	1.12	1.26	1.12
346	JAYHAWK	0.98	1.11	1.00
347	KINSLEY-OFFERLE	0.94	1.06	1.00
348	BALDWIN CITY	1.09	1.23	1.09
349	STAFFORD	0.93	1.05	1.00

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
350	ST JOHN-HUDSON	0.94	1.06	1.00
351	MACKSVILLE	0.93	1.05	1.00
352	GOODLAND	1.01	1.14	1.01
353	WELLINGTON	1.03	1.17	1.03
354	CLAFLIN	0.98	1.10	1.00
355	ELLINWOOD PUBLIC SCHOOLS	0.99	1.12	1.00
356	CONWAY SPRINGS	1.00	1.13	1.00
357	BELLE PLAINE	1.01	1.14	1.01
358	OXFORD	1.00	1.12	1.00
359	ARGONIA PUBLIC SCHOOLS	0.98	1.10	1.00
360	CALDWELL	0.99	1.11	1.00
361	ANTHONY-HARPER	0.98	1.10	1.00
362	PRAIRIE VIEW	0.99	1.12	1.00
363	HOLCOMB	1.03	1.17	1.03
364	MARYSVILLE	0.98	1.11	1.00
365	GARNETT	0.99	1.11	1.00
366	YATES CENTER	0.92	1.04	1.00
367	OSAWATOMIE	1.07	1.21	1.07
368	PAOLA	1.08	1.22	1.08
369	BURRTON	1.00	1.13	1.00
371	MONTEZUMA	0.97	1.09	1.00
372	SILVER LAKE	1.07	1.21	1.07
373	NEWTON	1.07	1.21	1.07
374	SUBLETTE	0.99	1.12	1.00
375	CIRCLE	1.09	1.23	1.09
376	STERLING	0.96	1.08	1.00
377	ATCHISON CO COMM SCHOOLS	1.00	1.13	1.00
378	RILEY COUNTY	1.06	1.20	1.06
379	CLAY CENTER	0.99	1.12	1.00
380	VERMILLION	0.97	1.09	1.00
381	SPEARVILLE	0.99	1.12	1.00
382	PRATT	1.00	1.13	1.00
383	MANHATTAN	1.11	1.25	1.11
384	BLUE VALLEY	1.04	1.18	1.04
385	ANDOVER	1.10	1.24	1.10
386	MADISON-VIRGIL	0.93	1.05	1.00
387	ALTOONA-MIDWAY	0.95	1.08	1.00
388	ELLIS	1.01	1.14	1.01
389	EUREKA	0.95	1.07	1.00
390	HAMILTON	0.90	1.02	1.00
392	OSBORNE COUNTY	0.92	1.03	1.00
393	SOLOMON	0.99	1.12	1.00
394	ROSE HILL PUBLIC SCHOOLS	1.09	1.23	1.09
395	LACROSSE	0.92	1.04	1.00
396	DOUGLASS PUBLIC SCHOOLS	1.07	1.21	1.07
397	CENTRE	0.96	1.08	1.00
398	PEABODY-BURNS	0.97	1.09	1.00
399	PARADISE	0.92	1.04	1.00
400	SMOKY VALLEY	1.02	1.15	1.02
401	CHASE	0.93	1.05	1.00
402	AUGUSTA	1.10	1.24	1.10



District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
403	OTIS-BISON	0.92	1.04	1.00
404	RIVERTON	0.99	1.12	1.00
405	LYONS	0.97	1.10	1.00
406	WATHENA	0.99	1.11	1.00
407	RUSSELL COUNTY	0.99	1.11	1.00
408	MARION	0.98	1.10	1.00
409	ATCHISON PUBLIC SCHOOLS	1.02	1.15	1.02
410	DURHAM-HILLSBORO-LEHIGH	0.98	1.10	1.00
411	GOESSEL	0.95	1.08	1.00
412	HOXIE COMMUNITY SCHOOLS	0.96	1.08	1.00
413	CHANUTE PUBLIC SCHOOLS	1.00	1.13	1.00
415	HIAWATHA	0.99	1.11	1.00
416	LOUISBURG	1.07	1.20	1.07
417	MORRIS COUNTY	0.97	1.10	1.00
418	MCPHERSON	1.04	1.18	1.04
419	CANTON-GALVA	1.00	1.13	1.00
420	OSAGE CITY	1.01	1.14	1.01
421	LYNDON	1.00	1.13	1.00
422	GREENSBURG	0.95	1.08	1.00
423	MOUNDRIDGE	1.00	1.13	1.00
424	MULLINVILLE	0.92	1.03	1.00
425	HIGHLAND	0.97	1.10	1.00
426	PIKE VALLEY	0.91	1.03	1.00
427	BELLEVILLE	0.93	1.05	1.00
428	GREAT BEND	1.04	1.17	1.04
429	TROY PUBLIC SCHOOLS	0.98	1.11	1.00
430	SOUTH BROWN COUNTY	0.98	1.10	1.00
431	HOISINGTON	1.01	1.14	1.01
432	VICTORIA	1.00	1.13	1.00
433	MIDWAY SCHOOLS	0.96	1.09	1.00
434	SANTA FE TRAIL	1.03	1.16	1.03
435	ABILENE	1.03	1.16	1.03
436	CANEY VALLEY	0.99	1.12	1.00
437	AUBURN WASHBURN	1.12	1.26	1.12
438	SKYLINE SCHOOLS	0.97	1.10	1.00
439	SEDGWICK PUBLIC SCHOOLS	1.01	1.14	1.01
440	HALSTEAD	1.03	1.17	1.03
441	SABETHA	0.99	1.11	1.00
442	NEMAHA VALLEY SCHOOLS	0.97	1.09	1.00
443	DODGE CITY	1.06	1.20	1.06
444	LITTLE RIVER	0.94	1.06	1.00
445	COFFEYVILLE	1.02	1.15	1.02
446	INDEPENDENCE	1.01	1.15	1.01
447	CHERRYVALE	0.98	1.11	1.00
448	INMAN	1.00	1.13	1.00
449	EASTON	1.10	1.25	1.10
450	SHAWNEE HEIGHTS	1.11	1.26	1.11
451	B & B	0.95	1.07	1.00
452	STANTON COUNTY	0.98	1.11	1.00
453	LEAVENWORTH	1.15	1.30	1.15
454	BURLINGAME	0.99	1.12	1.00

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
455	HILLCREST RURAL SCHOOLS	0.89	1.01	1.00
456	MARAIS DES CYGNES VALLEY	0.98	1.11	1.00
457	GARDEN CITY	1.08	1.22	1.08
458	BASEHOR-LINWOOD	1.12	1.27	1.12
459	BUCKLIN	1.00	1.13	1.00
460	HESSTON	1.03	1.17	1.03
461	NEODESHA	0.95	1.08	1.00
462	CENTRAL	0.98	1.11	1.00
463	UDALL	0.98	1.11	1.00
464	TONGANOXIE	1.12	1.27	1.12
465	WINFIELD	1.03	1.16	1.03
466	SCOTT COUNTY	1.00	1.13	1.00
467	LEOTI	0.99	1.12	1.00
468	HEALY PUBLIC SCHOOLS	0.92	1.04	1.00
469	LANSING	1.13	1.28	1.13
470	ARKANSAS CITY	1.03	1.17	1.03
471	DEXTER	0.96	1.08	1.00
473	CHAPMAN	1.02	1.15	1.02
474	HAVILAND	0.93	1.05	1.00
475	JUNCTION CITY	1.09	1.24	1.09
476	COPELAND	0.95	1.07	1.00
477	INGALLS	0.98	1.11	1.00
479	CREST	0.96	1.08	1.00
480	LIBERAL	1.07	1.20	1.07
481	RURAL VISTA	0.99	1.12	1.00
482	DIGHTON	0.96	1.09	1.00
483	KISMET-PLAINS	1.03	1.16	1.03
484	FREDONIA	0.97	1.10	1.00
486	ELWOOD	0.96	1.09	1.00
487	HERINGTON	1.00	1.13	1.00
488	AXTELL	0.95	1.08	1.00
489	HAYS	1.05	1.19	1.05
490	EL DORADO	1.10	1.24	1.10
491	EUDORA	1.09	1.23	1.09
492	FLINTHILLS	1.04	1.18	1.04
493	COLUMBUS	1.00	1.13	1.00
494	SYRACUSE	0.97	1.10	1.00
495	FT LARNED	0.99	1.12	1.00
496	PAWNEE HEIGHTS	0.94	1.06	1.00
497	LAWRENCE	1.13	1.27	1.13
498	VALLEY HEIGHTS	0.96	1.08	1.00
499	GALENA	0.99	1.12	1.00
500	KANSAS CITY	1.18	1.33	1.18
501	TOPEKA PUBLIC SCHOOLS	1.13	1.28	1.13
502	LEWIS	0.92	1.04	1.00
503	PARSONS	1.00	1.13	1.00
504	OSWEGO	0.96	1.08	1.00
505	CHETOPA	0.95	1.07	1.00
506	LABETTE COUNTY	0.99	1.12	1.00
507	SATANTA	0.99	1.12	1.00
508	BAXTER SPRINGS	0.99	1.12	1.00

District Number	District Name	Adjustment with Average of 1.00	Adjustment with Every District Adjusted so Lowest Number is 1.00	Adjustment with Minimum 1.00
509	SOUTH HAVEN	0.98	1.10	1.00
511	ATTICA	0.93	1.05	1.00
512	SHAWNEE MISSION PUBLIC SCHOOLS	1.20	1.35	1.20

## Appendix A

### Review of State Systems for Measuring Educational Adequacy

(For A&M's Report to the State of Kansas)

Mike Griffith, Policy Analyst

Education Commission of the States

Denver, Colorado

#### Introduction

Until recently state policymakers have not clearly defined what they consider to be an “Adequate” education for their public school students. However, state court rulings on education funding, the increased focus on educational standards, and the higher educational expectations of the public in general have encouraged policymakers in several states to define what they believe an adequate education is. Several states have undertaken “Adequacy Studies” in which they define what an adequate education is, other states have defined an adequate education in other ways. This paper has reviewed seven state’s adequacy studies, along with reviewing four states that have education adequacy measures but have not undertaken a study, to help provide a better understanding what measures states use to define an adequate education and what impact, if any, these measures have had on state policy.

#### States Chosen For This Study

In the past ten years many states, or groups within states, have undertaken adequacy studies however this paper has limited its review to only eight of these reports. The states that were chosen for this paper were the ones who’s complete adequacy studies were made available to the public. The eight state adequacy studies reviewed for this paper were: Illinois (completed in 2001), Louisiana (2001), Maryland (2001), Mississippi (1993), Ohio (1997), Oregon (2000), South Carolina (2000) and Wyoming (1997). In addition, other states that did not undertake an adequacy study were included to provide a view of how some of those states measure an “adequate” education. These other states looked at were: Colorado, Florida, Massachusetts and Texas.

#### Adequacy Models

It is generally accepted that there are four different methods used for undertaking an adequacy study, they are: Successful Schools, Professional Judgment, Statistical Modeling and the Whole Schools Approach. Although the eight states in survey only used the first two methods, Successful Schools and Professional Judgment, it might be helpful to understand all four of the systems<sup>1</sup>:

*Successful Schools:* This model first chooses schools/school districts that have met an accepted level of educational outcomes (test scores, graduation rates, drop-out rate ect...). Once these “successful” schools/districts have been chosen it is then determined the amount of resources that were used to get the desired outcomes, these resources do

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<sup>1</sup> For a more complete definition of each of these “Adequacy Models” please see: “Making Money Matter – Financing America’s Schools”, National Research Council. National Academy Press, Washington, D.C., 1999.

## Appendix A

not include certain non-educational cost such as transportation or food services. The average cost figure from these schools/districts is then determined to be the adequate funding amount.

*Professional Judgment:* This model uses the “professional judgment” of education professionals (teachers, administrators, school business officials and others) to determine what a school would look like that could produce an adequate education for all students. Once the model school is designed an expert is brought in to cost out each of the resources that are identified.

*Statistical Modeling:* This is a model favored by econometricians, which attempts to use multiple regression analysis to determine the dollar amount associated with educational outcomes. This model requires a great deal of information about educational expenditures, student demographics and educational outcomes.

*Whole Schools:* This model attempts to determine adequate cost by looking at a preexisting “whole school” design, such as those from the American Schools organization, and costing them out.

Four of the states studied in this paper (Louisiana, Illinois, Mississippi and Ohio) used the Successful Schools model, three states (Oregon, South Carolina and Wyoming) used the Professional Judgment Model and one state (Maryland) chose to use both the Successful Schools and Professional Judgment models.

### Reasons for Undertaking An Adequacy Study

The seven states in this survey that undertook an adequacy study did it for many different reasons; however, these reasons can be divided into three basic groups:

*Assisting the State to Comply with a court Ruling:* Ohio<sup>2</sup> and Wyoming<sup>3</sup> received court rulings that determined that their school finance systems were not sufficient to provide an adequate education for all students. As a way of determining an acceptable level of education spending both states undertook adequacy studies.

*Connecting the State’s Finance System with the Its Accountability Program:* In Illinois, Louisiana and South Carolina they commissioned adequacy studies to help them better understand how they could align the state’s education finance system to their goals and expectations set fourth in the states new accountability programs.

*Used as a Tool to Reevaluate the State’s Current School Finance System:* Maryland, Mississippi and Oregon each undertook an adequacy study to help them better evaluate their current funding systems and to provide them with guidance on what changes could be made to improve the system.

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<sup>2</sup> DeRolph v. State, 1997

<sup>3</sup> Campbell County v. State, 1995

## Appendix A

### Defining Adequacy

The exact definition of an adequate education finance system can vary greatly from state-to-state, as will be shown later in this paper, however there is a theme in all the proposed systems that can be best defined from a section in the state of Maryland's adequacy study:

“...schools are being adequately funded when the amount of funding provided is sufficient to allow students, schools and school systems to meet prescribed State performance standards.”<sup>4</sup>

This idea, of providing sufficient resources to allow students and schools to meet state standards, is an underlying principle in all of the adequacy studies reviewed for this paper.

### Individual States Definition of an Adequate Education:

An adequate education can be defined in many different ways, however, there are two basic types of measures that are used they are either input measures or outcome measures.

*Input Measures:* This is a measurement of the resources that are “inputted” into a student’s education. The most commonly used input measure for the states surveyed were class offerings, these included Carnegie Units (Mississippi), advanced placement courses (South Carolina) or in the case of Wyoming “(the) Opportunity (for all students) to acquire postsecondary prerequisites”. Other input measures included teacher experience (Mississippi) and school accreditation level (Mississippi).

*Outcome Measures:* This is a measure of the “outcome” or results from a student who has gone through the education system. The most common form of outcome measures used has been state test scores. There were several ways that states looked at test results, which included: the number of students reaching a preset score on the test (Florida, Illinois, Maryland, Massachusetts, Ohio, South Carolina and Texas), student improvement on the test (Colorado) or a combination of the two (Louisiana and Oregon). Other outcome measures include: attendance rate (Maryland, Ohio, South Carolina and Texas), dropout rate (Maryland, Ohio and South Carolina) and graduation rates (Texas).

Five of the states surveyed (Florida, Illinois, Louisiana, Massachusetts and Oregon) choose to use only state test results as their measurement of educational adequacy. The remaining states choose several different measures with South Carolina using nine different measures and Ohio using six different criteria and 18 separate measures to select successful school districts. (Ohio would later expand this to 24 separate measures).

### Adequate vs. High Achieving Schools/Districts

In the case of the states that did not undertake adequacy studies all four have at least two levels of educational expectations for their schools the first is the adequate, or average, level the second

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<sup>4</sup> “Final Report to the Maryland Commission on Education, Finance, Equity and Excellence”, 2001, pg. X.

## Appendix A

is the high achieving level. For example Florida's adequate schools/districts (ones receiving a "C" on the states scale) are those with reading, writing and math scores that are above the states minimum criteria, the high ranking schools (those receiving an "A" on the state's report card) on the other hand are those with reading, writing and math scores at or above the states higher performing criteria. In addition for a district to receive an "A" it must have 95% of its students take the test and show a substantial improvement in reading scores without having a substantial decrease in writing and math scores. Florida's "A" schools are also required to have absentee, dropout and suspension rates that are below the state averages. (For an outline of how Colorado, Florida, Massachusetts and Texas rank their school districts; please see "Attachment XX).

## **Appendix B**

### **Suitable Education Defined**

#### Required Subjects in Elementary Schools

Every accredited elementary school shall teach:

Reading	Writing
Arithmetic	Geography
Spelling	English Grammar and Composition
Health and Hygiene	History of the U.S. and State of Kansas
Civil Government, Patriotism, and the Duties of Citizenship	

#### Qualified Admissions Pre-College Curriculum

**English** (4 Units) Students must take at least one unit of English for each year of high school. Although students are encouraged to take courses in journalism, speech, drama/theatre, and/or debate in addition to the English requirement, these courses cannot fill any part of the English requirement.

**Natural Science** (3 Units) Students must take three units chosen from the following courses: Biology, Advanced Biology, Physical/Earth/Space Science/General Science, Chemistry, Physics (at least one unit must be in Chemistry or Physics). There are other courses that may substitute for some of these. Students are encouraged to take one additional unit of science chosen from the previously mentioned courses.

**Mathematics** (3 Units) Students must take one unit each of: Algebra I, Algebra II, and Geometry. If a student completes any of the required math courses in middle school or junior high school, it can count toward the math requirement for Qualified Admissions. Completion of both applied mathematics I and II can be substituted for Algebra I only. Students are strongly encouraged to take a mathematics course every year of high school.

**Social Sciences** (3 Units) Students must complete the following: one unit of U.S. History, and one-half unit of U.S. Government; one unit selected from: Psychology, Economics, Civics, History, Current Social Issues, Sociology, Anthropology, Race and Ethnic Group Relations, or Geography; one-half unit selected from World History, World Geography, or International Relations. All high schools (public or private) must provide a course of instruction concerning the government and institutions of the U.S., and particularly of the Constitution of the United States. The State Board of Education will



## Appendix B

also provide a course of instruction in Kansas History and Government, which shall be required for all students graduating from an accredited high school in the state.

**Computer Technology** (1 Unit) Students are required to have one unit of computer technology. At some school students may fulfill this requirement by passing a proficiency examination.

### Requirements for the State Scholarship Program that differ from the pre-college curriculum

**Foreign Language** (2 Units) This requirement is in addition to all requirements listed above for the Qualified Admissions Pre-College curriculum.

### A Suitable Education Must Also Include:

Vocational Education

And a **mix** of the Following Programs and Services:

Student and Staff Safety  
Extended Learning Time  
Technical Education  
Library Media Services  
Fine Arts  
Activities Programs  
Qualified Teachers

Early Childhood Programs  
Alternative Schools  
Technical Training  
Foreign Language  
Nursing and Counseling Services  
Student Transportation

### Outcomes:

In addition to the inputs represented by the required courses described above, a suitable education should also yield the following outcomes **in five years**:

On statewide assessment scores in reading,

70% of 5<sup>th</sup> graders must score Satisfactory or above;  
65% of 8<sup>th</sup> graders must score Satisfactory or above; and  
60% of 11<sup>th</sup> graders must score Satisfactory or above.

And on statewide assessment scores in math,

65% of 4<sup>th</sup> graders must score Satisfactory or above;  
60% of 7<sup>th</sup> graders must score Satisfactory or above; and  
55% of 10<sup>th</sup> graders must score Satisfactory or above.

## Appendix C-1A School Site Panel Participants

<u>Name</u>	<u>Title/Position</u>	<u>City</u>
Sheldon Pokorney	Principal	Wathena
Steve Nilhas	Superintendent	Hill City
Mona Capell	Teacher	Hoxie
Jim Lambert	Principal	Fredonia
Phyllis Herzog	Teacher	Quinter
Eric Urban	Teacher	Otis
Linda Jones	Bs. Mgr.	Wichita
Marilyn Green	Curriculum	Salina
George Abel	Curriculum	Emporia
Dr. Louise Herrington	Principal	Valley Center
Dr. Bill Flannigan	SpEd	Topeka
Paul Babich	Teacher	Wichita
Lisa Elliot	Teacher	Shawnee
Jim Knox	Bs. Mgr.	Mound City
Jean Brittnall	Curriculum	Hiawatha
Sharlene Ramsey	Principal	Gypsum
Roger Allen	SpEd	Salina
Doug Powers	Curriculum	DeSoto
Dorothy Rucker	Teacher	Peabody
Bill Folsom	Bs. Mgr.	Paola
Kathy Metsker	Curriculum	Augusta
Blaise Bauer	Principal	Girard
Sandy Wanklyn	Teacher	Lakin
Kelli Allen	Teacher	Garnett
Diana Wieland	Curriculum	Colby

## Appendix C-1B District Panel Participants

<u>Name</u>	<u>Position/Title</u>	<u>City</u>
Pat Anderson	Asst. Supt. for Curric.& Inst.	Junction City
Laura Caillouet	Avg. Teacher	Iola
ZoAnn Torrey	Coop. Director	Ulysses
Ken Kennedy	Avg. Superintendent	Pratt
Gary Price	Avg. Superintendent	Pittsburg
David Pryor	Avg. Sch. Bd.	Mt. Hope
Jo De Young	Avg. Dist. Fin. Ofcr.	Colby
Greg Hafner	Sm. Superintendent	Frontenac
John Harris	Asst. Supt. for Operations	Great Bend
Sheril Logan	Lg. Asst. Supt.	Wichita
Susan Rogers	Lg. Assoc. Supt.	Topeka
Tim Rooney	Lg. Dist. Fin. Ofcr.	Shawnee Msn.
Kathleen Whitley	Avg. Dist. Fin. Ofcr.	Garden City
Renita Ubel	Avg. Teacher	Ottawa
Steve Pegram	Sm. Superintendent	Silver Lake

**Appendix C-1C**  
**Expert Panel Participants**

<u>Name</u>	<u>Position/Title</u>	<u>City</u>
Jim Chadwick	Superintendent	Haven
Sara Johnston	School Board Member	El Dorado
Tom Trigg	Deputy Superintendent	Overland Park
Sue Rippe	Teacher	Wichita
George Blevins	Superintendent	Sedan
Ken Gentry	Retired KSDE	Lawrence

## Appendix C-2A

### INSTRUCTIONS TO PROFESSIONAL JUDGEMENT PROTOTYPE PANEL MEMBERS

Augenblick & Myers, Inc.  
Denver, CO

December 4-5, 2001  
Salina, KS

1. You are a member of one of four panels of people that is being asked to design a set of prototype schools — a prototype elementary school, a prototype middle school, and a prototype high school. The prototype schools are hypothetical — they do not actually exist and they may never be created. They are a convenient way to specify the resources that schools with a particular set of characteristics should have in order to accomplish a specific set of objectives.
2. Four prototype panels will be working today and tomorrow. Two panels will independently focus on schools of average size in an average district. One panel will focus on two sets of small schools in small districts. One panel will focus on large schools in a large school district.
3. Each group should identify someone as a recorder for the group. The recorder will be asked to fill out forms on the computer provided to the group. If possible, we hope the recorder might be able to stay a short time after the conclusion of the activity to clarify any questions A&M might have about the information provided by the group.
4. The characteristics of the prototype schools are shown on a separate page. The characteristics that define the schools include their enrollment, grade span, the proportion of pupils with special education needs, and the proportion of pupils from low income families (eligible for free/reduced price meals).

## Appendix C-2A

5. The objectives that need to be accomplished by the prototype schools are shown on a separate page. The objectives can be described broadly as either education opportunities/programs/services or as levels of education performance. See the separate document that shows how well districts are doing now.
6. In designing the prototype, we need you to provide some very specific information so that we can calculate the cost of the resources needed to meet the objectives identified above. The fact that we need that information should not constrain you in any way in designing the program of a prototype school. Your job is to create a set of programs/curriculums designed to serve students with particular needs in such a way that the objectives specified above are fulfilled. Use your experience and expertise to organize personnel, supplies and materials, and technology in any way you feel confident will produce the desired outcomes.
7. You can make certain assumptions about the prototype schools and the environment in which they exist. These assumptions may not characterize the school, or the school district, in which you work and we will devote some time to discussing the assumptions after you have completed your work.

Teachers: You should assume that you can attract and retain qualified personnel and that you can employ people on a part-time basis if needed (based on tenths of a full-time equivalent person).

Facilities: You should assume that the prototype school has sufficient space to meet the requirements of the program you design.

Revenues: You should not be concerned about where revenues will come from to pay for the program you design. Don't worry about federal or state requirements that may be associated with some kinds of funding. You should not think about whatever revenues might be available in the school or district in which you work or about any of the revenue constraints that might exist on those revenues.

Timing: You may create new programs or services that do not presently exist that you believe address problems that arise in schools. You should assume that such programs or services are in place and that no

## Appendix C-2A

additional time is needed for them to produce the results you expect of them.

8. We encourage you to be creative and innovative. There is no single “right” approach to the task. For example:
- You may base your design on a “whole-school approach” (such as Roots and Wings), a charter school approach (such as Edison), or any other philosophical basis (such as Montessori) with which you are familiar even though you do not currently use it in your school district.
  - You may want to use block scheduling even though your district uses a more traditional approach.
  - You may want to have a longer or shorter school day or a longer or shorter school year (for some or for all students) than you use currently.
  - You may expect some students to obtain some courses using education television, the internet, or through experiences in the community or in postsecondary education.
  - You may choose to supplement professional staff with community volunteers.

## Appendix C-2B

### INSTRUCTIONS TO PROFESSIONAL JUDGEMENT DISTRICT PANEL MEMBERS

Augenblick & Myers, Inc.  
Denver, CO

March 13, 2002  
Topeka, KS

1. You are a member of a panel of experts – people who have been identified as having extensive knowledge of how schools and school districts operate and the resources schools need to fulfill their objectives. Your job is to review the work of other panels that have created prototype elementary, middle, and high schools as well as prototype school districts of different size. The prototype schools and school districts are hypothetical — they do not actually exist and they may never be created. They are a convenient way to specify the resources that schools and school districts with a particular set of characteristics should have in order to accomplish a specific set of objectives.
2. While there is only one expert panel, it needs to review several different configurations of schools and school districts: (1) a set of small schools operating in a small school districts; (2) two alternative sets of average size schools operating in average size school districts; and (3) a set of large schools operating in a large school district.
3. The characteristics of the prototype schools and school districts are shown on a separate page. The characteristics that define the schools/districts include their enrollment, grade span, the proportion of pupils with special education needs, the proportion of pupils from low income families (eligible for free/reduced price meals), and the proportion of bilingual students.
4. The objectives that need to be accomplished by the prototype school district are shown on a separate page. The objectives can be described broadly as either



## Appendix C-2B

education opportunities/programs/services or as levels of education performance. A separate document shows how well districts are doing now.

5. We are making a number of assumptions about the environment in which schools operate. These assumptions may not characterize the schools, or the school districts, with which you are familiar.

Teachers: You should assume that you can attract and retain qualified personnel and that you can employ people on a part-time basis if needed (based on tenths of a full-time equivalent person).

Facilities: You should assume that prototype schools and central facilities have sufficient space to meet the requirements of the program you design.

Revenues: You should not be concerned about where revenues will come from to pay for the program you design. Don't worry about federal or state requirements that may be associated with some kinds of funding. You should not think about whatever revenues might be available in the school or district in which you work or about any of the revenue constraints that might exist on those revenues.

Timing: You may create new programs or services that do not presently exist that you believe address problems that arise in schools. You should assume that such programs or services are in place and that no additional time is needed for them to produce the results you expect of them.

6. You should know that we encouraged members of the prototype school and prototype district panels to be creative and innovative. Some of the resources they suggest, or the way resources are organized, may not reflect what is being done in most school districts, or in any school district. In our view, there is no single "right" approach to the task and we are not asking you to determine whether the what the other panels have done is perfect. We only want you to decide whether the approaches being taken are reasonable – that is, capable of accomplishing the objective efficiently.

## **Appendix C-2C**

### **INSTRUCTIONS TO PROFESSIONAL JUDGEMENT EXPERT PANEL MEMBERS**

Augenblick & Myers, Inc.  
Denver, CO

March 13, 2002  
Topeka, KS

1. You are a member of a panel of experts – people who have been identified as having extensive knowledge of how schools and school districts operate and the resources schools need to fulfill their objectives. Your job is to review the work of other panels that have created prototype elementary, middle, and high schools as well as prototype school districts of different size. The prototype schools and school districts are hypothetical — they do not actually exist and they may never be created. They are a convenient way to specify the resources that schools and school districts with a particular set of characteristics should have in order to accomplish a specific set of objectives.
2. While there is only one expert panel, it needs to review several different configurations of schools and school districts: (1) a set of small schools operating in a small school districts; (2) two alternative sets of average size schools operating in average size school districts; and (3) a set of large schools operating in a large school district.
3. The characteristics of the prototype schools and school districts are shown on a separate page. The characteristics that define the schools/districts include their enrollment, grade span, the proportion of pupils with special education needs, the proportion of pupils from low income families (eligible for free/reduced price meals), and the proportion of bilingual students.

## Appendix C-2C

4. The objectives that need to be accomplished by the prototype school district are shown on a separate page. The objectives can be described broadly as either education opportunities/programs/services or as levels of education performance. A separate document shows how well districts are doing now.
5. We are making a number of assumptions about the environment in which schools operate. These assumptions may not characterize the schools, or the school districts, with which you are familiar.

Teachers: You should assume that you can attract and retain qualified personnel and that you can employ people on a part-time basis if needed (based on tenths of a full-time equivalent person).

Facilities: You should assume that prototype schools and central facilities have sufficient space to meet the requirements of the program you design.

Revenues: You should not be concerned about where revenues will come from to pay for the program you design. Don't worry about federal or state requirements that may be associated with some kinds of funding. You should not think about whatever revenues might be available in the school or district in which you work or about any of the revenue constraints that might exist on those revenues.

Timing: You may create new programs or services that do not presently exist that you believe address problems that arise in schools. You should assume that such programs or services are in place and that no additional time is needed for them to produce the results you expect of them.

6. You should know that we encouraged members of the prototype school and prototype district panels to be creative and innovative. Some of the resources they suggest, or the way resources are organized, may not reflect what is being done in most school districts, or in any school district. In our view, there is no single "right" approach to the task and we are not asking you to determine whether the what the other panels have done is perfect. We only want you to decide whether the approaches being taken are reasonable – that is, capable of accomplishing the objective efficiently.

## **Appendix D**

### **A SUMMARY OF THE INTERVIEWS CONDUCTED FOR THE LEGISLATIVE EDUCATION PLANNING COMMITTEE AS PART OF ITS STUDY OF THE COST OF A SUITABLE EDUCATION IN KANSAS**

Prepared by

Augenblick & Myers, Inc.  
Denver, CO

February 2002

## Appendix D

### Background

A component of the work Augenblick & Myers, Inc. (A&M) is doing for the Legislative Education Planning Committee (LEPC) includes conducting interviews with a set of people concerning their views about the Kansas school finance system. The interviews were not organized to learn what the opinion of the general public was about school funding – a random sample of Kansas citizens was not selected to respond to a survey focused on the implications of school funding for the average citizen. Rather the effort was designed to identify the strengths and weaknesses of the funding system based on the views of people who were generally familiar with schools, and the way they are funded, in order to help the LEPC both focus attention on critical aspects of the system and use the findings and conclusions associated with the other work A&M is undertaking.

A&M met with 59 people between November 13, 2001 and January 8, 2002 (see Appendix A for a list of the 59 participants). Those people were among the 97 people we contacted to participate, some of whom were unable to attend due to scheduling conflicts, travel difficulties, and other factors that made it impossible for them to meet with us at a location or on a specific date, particularly with notice of only a couple of weeks or less. The names of suggested participants were provided by the Kansas Department of Education and by LEPC members. They were categorized as teachers, administrators, school board members, members of school and school district advisory groups, members of the business community, and parents who were familiar with schools and, to at least some extent, the way schools are funded. These people are not necessarily representative of the entire population of the state of Kansas. In fact, they were selected based on their knowledge of and interest in school finance--a perspective that was expected to be more beneficial to the LEPC than that of the general public.

A&M met with participants in three locations around the state: in Topeka on November 13, 2001, in Hays on December 4, 2001, and in Wichita on January 8, 2002. At those locations, participants were organized into small groups of about 10 people. Each group met with one or two people from the A&M team for up to four hours. All participants were asked to complete a questionnaire before engaging in a general discussion (see Appendix B for a typical meeting schedule). The questionnaire was designed to obtain information about specific components of the funding system (see Appendix C for a copy of the questionnaire) while the discussion was designed to probe areas of interest to A&M and to participants (see Appendix D for a list of issues given to all participants to stimulate the discussion).

The remainder of this report summarizes what we learned from the questionnaire and from the discussions.

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### Questionnaire Results

The purpose of the questionnaire was to allow participants to express their views about specific components of the Kansas school finance system prior to any discussion with A&M. The questionnaire also permitted the collection of background information about participants. A question by question summary is provided in Appendix E, including cross-tabulations of responses by characteristics of participants.

Of the 59 participants, seven were school board members, 21 were school or school district administrators, 12 were teachers or other certificated personnel, and 19 were members of the business community, parents, or other people with knowledge of schools and their funding but not employed by the public schools. The largest number of participants lived in the central region of the state (see Appendix F for the map used to classify where people lived) while only a few lived in the eastern and southwestern parts of the state. The majority of participants worked in or lived in school districts with between 1,000 and 4,999 students although people came from smaller and larger school districts. Relative to the actual distribution of students, moderate size districts (1,000-4,999 pupils) were over-represented while larger districts were under-represented. Too, looking at the relationship between role (such as teacher) and size of community in which an individual worked/lived, the majority of administrators and teachers were from districts with between 1,000 and 4,999 students while the majority of members of the business community, parents, and others were from districts with over 1,000 pupils. As indicated above, participants were not selected on the basis of how well they, as a group, represent the population of the state; rather, they were selected based on their knowledge of and interest in the funding of education.

The vast majority of participants felt that the foundation level, one of the primary determinants of the amount of state aid received by school districts, was too low; 48 of the 56 people who thought the level was too low suggested a more appropriate amount. The average suggestion was \$4,950, nearly \$1,100 over the current level of \$3,870.

Participants had mixed views about the weights currently used to provide added funds for students with special needs or enrolled in high cost programs. About 84 percent of the 55 respondents with any opinion thought the weight for at-risk pupils was too low and should be raised from .10 to .39 (the average of 41 responses). Similarly, 70 percent of the 43 participants with any opinion felt the vocational education weight was low, although only 11 people suggested an alternative level (.89 compared to the current level of .50). And about 58 percent of the 45 people with an opinion believed the bilingual weight was too low and should be raised from .20 to .53 (based on the average of 23 responses). Because the views about the bilingual weight were more evenly split, we examined responses based on both the size of school district in which respondents worked/lived and the role of the respondent. While respondents in districts with less than 5,000 pupils were fairly evenly split in their feeling about the appropriateness of the weight, most respondents in districts with over 5,000 pupils thought the weight was too low. Too, more school board

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members and administrators though the weight was low than thought it was appropriate while teachers and other respondents were evenly split.

The questionnaire sought people's views about the added funds available to districts based on their size. While 20 participants thought the adjustment for small school districts was sufficient, 24 people thought it was too low and 15 people thought it was too high. Evaluated based on the size of the district in which a respondent worked/lived, all people from districts with less than 1,000 students thought the adjustment for small districts was too low while respondents in districts with more than 1,000 students were evenly split between the adjustment being too high or too low. Analyzed based on role, a majority of school board members, administrators, and teachers thought the small district adjustment was too low while other respondents were evenly split. While 22 respondents thought the adjustment for large school districts was sufficient, 95 percent of the 37 people who thought it was inappropriate believed it to be too low.

Although participants support the concept of the foundation program (as discussed below), 86 percent of the 50 people with any opinion felt that the local contribution expected to support the foundation program was inappropriate; of those people, 91 percent felt that it was too low based on 20 mills of property tax effort.

About 56 percent of the 57 participants with any opinion felt that the concept of the local option budget (LOB) was appropriate. As discussed below, this may reflect the fact that while many people support the LOB concept, particularly as it was originally implemented, a significant number believe that it no longer accomplishes what it was originally designed to do. Nonetheless, about 61 percent of all people who work/live in districts with between 1,000 and 4,999 students think the LOB concept is appropriate, and 60 percent of all the people who work/live in districts with over 5,000 students believe the concept is appropriate. While other groups are evenly split, 65 percent of school/district administrators think the LOB concept is appropriate. Asked about the appropriateness of the level of LOB limit, only four people felt that the limit should be lowered from the current level of 25 percent and the 41 people with an opinion were evenly split between the level remaining where it is or being raised. For people working/living in districts with more than 5,000 students, most thought the limit should be raised, and although a majority of school board members thought the limit was appropriate, a majority of members of the business community, parents, and others, as well as teachers, thought the limit should be raised.

The vast majority of participants believed that the provision of state aid for facilities was appropriate and 69 percent of the 36 people with any opinion felt that providing aid when a school opens was appropriate (with opinion being evenly split about the weight currently used to determine the amount of state aid).

Most people felt that the distance limit used in determining state aid for transportation, at 2.5 miles, was inappropriate and 81 percent of the 42 people responding thought the distance should be reduced.

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Almost 90 percent of the respondents did not support the current approach used by the state to allocate support for special education. Given a choice of alternative approaches, 74 percent of the respondents would like the state to reimburse districts based on their actual expenditures and 54 percent of respondents favored the use of pupil weights (15 percent of respondents supported either of those approaches over the current approach).

About 81 percent of participants felt that the state should require districts to set aside time for professional development and while 18 percent of participants thought that the state should require more than 10 days to be used for that purpose, 31 percent of participants thought that less than five days would be sufficient while 51 percent thought between five and nine days would be appropriate. Based on the responses of 40 people, about eight days are currently available for professional development assuming that every day teachers are required to work beyond the number of days students attend school are used for that purpose.

Given the way a “suitable” education is defined for the purpose of our study, we were particularly interested in whether discussion participants felt that specific services or activities should be required by the state or paid by the state (see the discussion below for more discussion about the issue of suitability). A vast majority of participants believed that school libraries, school nurses, an technology training should be required in schools while a majority thought that early childhood programs and alternative schools should be required. A large majority of people felt that a longer school day for students should not be required by the state. A slight majority of respondents thought that extra-curricular activities and a longer school year for students should be required by the state. People from districts with more than 1,000 students and school administrators tended to support these activities while people from districts with fewer than 1,000 pupils and teachers tended not to support such activities (also, school board members tended not to support a longer school year).

A vast majority of participants believed that the state should provide support for early childhood programs, school libraries, school nurses, technology training, and alternative schools while a large majority of people felt the state should provide support for a longer school year and a majority thought the state should provide support fro extra-curricular activities and a longer school day fro students.

### Summary of Discussions

While each discussion proceeded somewhat differently, depending upon whether the person from A&M focused on the list of issues or whether a participant identified a different issue as the starting point, all discussions covered most of the issues on the list. The easiest way to summarize the discussions is to proceed through the list of issues in the order they are listed.



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### *Defining a Suitable Education*

We asked participants to examine the definition of a suitable education that was developed to guide our work, including certain course requirements, optional programs and services, and student performance expectations (see Appendix F). We heard numerous comments about the definition, many of which suggested that the state should focus almost all of its attention on student performance while reducing the emphasis on specific courses, programs, and services. This view was bolstered by two underlying attitudes: (1) that many of the courses listed in the definition were “old fashioned” (such as “arithmetic” or “algebra I”) and no longer considered to be appropriate and (2) that if the state is going to hold teachers, schools, and/or school districts accountable for student performance, educators should have wide latitude in organizing the way education programs and services are delivered.

Participants also spent time discussing vocational education, which appeared to be relatively unimportant in the definition of a suitable education. People from the business community were very vocal about the need to expand the practical knowledge of high school graduates and education providers were concerned about the apparent emphasis on college preparation which, in their view, disenfranchised a large number of high school students.

The discussion of a suitable education also raised questions about statewide testing and the need to both develop authentic assessments of student knowledge/skills based on procedures other than statewide tests and create a set of expectations that are consistent over time.

Participants found it difficult to answer the questions A&M raised about the issue of suitability because they disagreed with the definition being used in the study. Almost every participant identified some program or service that schools might initiate or expand in order to improve the performance of some, or all, students and most people suggested that teacher salaries needed to rise in order to attract and retain in the future the kinds of personnel the state currently employs.

### *The Variety of Factors that Affect the Revenue Needs of School Districts*

Most participants were familiar with the fact that the state uses several procedures to identify those student-related and district-related factors that have a fiscal impact on school districts. While they addressed most of their concerns in the questionnaire, described above, they reiterated in discussion that the revenue needs of many school districts were not adequately reflected in the pupil weights, or other procedures, the state uses to quantify fiscal impact. In fact, most people saw the problem as one that combined the adjustments, such as pupil weights, with the foundation level in producing lower than needed revenue. In addition, there was discussion of the fact that the use of the count of pupils eligible for free/reduced price lunch as a proxy for the number of at-risk pupils was too narrow, resulting in an underestimation of the number of students for whom special services were needed.

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### *The Foundation Program Concept*

Most participants understood the concept of the foundation program approach and agreed with its philosophical objectives. As reflected in the questionnaire, many people felt that the foundation level is too low and/or that the local contribution expected by the system is too low, which undermines the ability of the program to provide an adequate level of support to “regular” students (those with no special needs) attending schools in districts with average characteristics. People understood and agreed with the concept of wealth “equalization” that the foundation program is designed specifically to accomplish.

### *Capping Local Revenue*

Most people, but not all, agreed with the concept of a revenue cap on school districts that absolutely limits their ability to generate revenue beyond a specified amount. There were a number of people who disagreed with the cap and wondered why school districts should be limited in raising revenue if the voters in a community are willing to approve higher tax effort. Many of those who would like there to be no cap, or a higher cap than exists now, would be more supportive if other parameters used in the foundation program, such as the foundation level or the pupil weights, were set sufficiently high to provide adequate revenue.

### *Generating Local Revenue Above the Foundation Program*

All participants were familiar with the concept of local option budgets and many agreed with the concept as it was implemented almost a decade ago. That is, they felt that school districts should have the ability to generate some funds above the amount thought to provide an adequate basic level of support. But most commented that, over time, the system had deteriorated to the extent that the LOB provided funds that were an essential component of basic support, which meant that communities unwilling to support the full local option budget might not be able to provide basic services.

Many participants were also aware that the state equalizes the ability of school districts with below average wealth to generate similar amounts per pupil when districts make the same property tax effort above the level required in the foundation program. Most of them thought that the approach should be expanded so that most districts have that ability. Participants felt that the availability of state aid was an important determinant of voter approval of higher tax effort and that the more state aid was available for that purpose, the greater the likelihood that local funds would also be provided.

### *The Efficient Use of Resources by School Districts*

Almost no participant in our discussions felt that school districts used the funds available to them inefficiently. However, several people cited specific examples of inefficiency associated with the purchase of equipment that goes unused or caused by state requirements that may have been in conflict with district wishes.

## Appendix D

### *Incentives*

Participants had mixed feelings about the use of incentives to accomplish state objectives. While some believed that the state should provide fiscal rewards to stimulate improved student performance, others were concerned that it was inappropriate to distribute supplemental support until basic needs, as expressed through the foundation level and pupil weights, had been met. Most people were concerned about the use of rewards for individual teachers, suggesting that schools or school districts be the recipients of any funds that are provided in recognition of improvement (which would be more consistent with the QPA). No one suggested that funds be taken away from schools that did not meet state expectations; rather, most people felt that such schools should receive added support, either in the form of funding or services, at least for a period of time.

### *Professional Development*

All of the discussion participants believed that professional development was a key element in improving schools and that much more of it should be a routine part of every teacher's experience. While some could identify specific needs for professional development (for example, related to inclusion, technology, at-risk pupils, etc.), most felt that paid time should be available and that such time should be used at the discretion of each school. It is unclear how much professional development time people had in mind, particularly in light of the questionnaire responses, which suggested that there already was sufficient time available.

### *Assuring that Particular Services are Provided*

There was some discussion of the programs and services listed in the questionnaire, some of which are among the optional services referred to in the definition of a suitable education. Most people believe that early childhood services are essential, particularly to pupils from low income families, and that the state should pay a fair share of the costs of such services. There was far less support for extending the school day or the school year, except for students with special needs.

### *Teacher Qualifications*

Participants felt that teachers were well qualified and competent. No one expressed any reservations about teacher qualifications other than the difficulty in recruiting teachers in certain subject areas or specialties and the increasing problem of retaining highly qualified people. Most people saw this as an issue related to salary and benefits.

### *Teacher Compensation*

Most people made comments about the need to improve teacher salary and benefits in Kansas. In some cases, the view was a general one – that salary and benefits need to rise for all teachers in order to be competitive with other states and with other jobs for which

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teachers are qualified. But in many cases, the comments were focused on specific subject areas, such as special education, music, foreign language, mathematics, science, and technology, where in recent years it has proven very difficult to attract new teachers. Some suggested that signing bonuses, including indirect benefits associated with housing, needed to be offered to remain competitive. Too, people mentioned what they perceived to be comparatively low benefits for teachers, which further complicated the ability to attract and retain highly qualified personnel.

### *Other Issues*

A wide range of other issues were raised in the discussions, most of which were only tangentially related to the school finance system. For example, there was a lot of discussion of accountability and the role of the state in testing students and publishing data about student, school, or school district performance. There was some discussion of taxation and the need to improve assessment practices or alternative ways for the state or local communities to obtain funding. There was a lot of discussion about teachers and approaches districts might use to attract new teachers, particularly where shortages exist. Often, these discussions were stimulated by one person and there was no apparent consensus among participants about a state role in addressing an issue.

## Appendix D-1 Opinion Meeting Participants

<u>Name</u>	<u>Title/Position</u>	<u>City</u>
Donna Bysfield	School Board	Shawnee Mission
Sara Johnston	School Board	El Dorado
Dennis Dowell	School Board	Dighton
Jim Mengarelli	School Board	Girard
Jim Edwards	Business Leader	Topeka
Frank Meyer	Business Leader	Herington
Bill Quattlebaum	Business Leader	Wichita
Kathi Flexman	Teacher	Leawood
Kent Hurn	Superintendent	Topeka
Beverly Mortimer	Principal	Concordia
John Harris	Asst. Superintendent	Great Bend
Terry Somers	Site Council	Mt. Hope
Melanie Kennedy	Site Council	Hill City
Mark Braun	School Board	Topeka
Mark Hannah	Attorney	Spring Hill
Ron Stiles	Business Leader	Spring Hill
Ed O'Malley	Business Leader	Overland Park
Jan Long	KSPTA	Salina
Patti Ingraham	Parent/Community Leader	Shawnee Mission
Marvin Selby	Superintendent	Goodland
Kirk Nielsen	Superintendent	Colby
Jim Barrett	Superintendent	Scott City
Nancy Harman	Principal	Hays
Kelly Arnberger	Principal	Beloit
Gail Kuehl	Restaurateur	Hays
Mark Rondeau	Attorney	Great Bend
Greg Willis	Site Council	Hoisington
Twyla Ricke	Site Council	Hays
Darlene Jones	School Board	Plainville
Dave Brownback	School Board	Ellsworth
Mike Cook	Education Professional	Hutchinson
Steve Wycoff	Education Professional	Hutchinson
Juliann Bliese	Teacher	Hays
Gary Pinkall	Teacher	Great Bend
Hildie Brooks	Teacher	Manhattan
Keith Hall	Teacher	Stockton
Emory Hart	Superintendent	Moreland (?)
Tom Bishard	Superintendent	Halstead
Flora Bishop	Teacher	Valley Center
Barb Burns	Teacher	Newton

## Appendix D-1 Opinion Meeting Participants

Barbara Cole	Teacher	McPherson
Nancy Craig	School Bd.	Newton
Barbara Firestone	Retired Teacher	Wichita
Willis Heck	Retired Supt.	Newton
Velma Honer	Teacher	Goddard
Linda Jones	Financial Ofcr.	Wichita
Janet Jump	Principal	Wichita
William Kruse	Teacher	Maize
Jackie Minor	Curriculum Dir.	Newton
Vern Minor	Superintendent	Hesston
John Morton	Superintendent	Newton
Dana Selzer	Curriculum Dir.	Hesston
Doris Whillock	Teacher	Newton
Mark Hauptman	SpEd Director	Hays
George Tignor	Principal	Goddard
Charlotte Schartz	Teacher	Kingman
Bernadine Samson	Teacher	Colby
Randy Watson	Asst. Supt. For Inst.	McPherson
Robert Horton	Principal	Topeka

## Appendix D-2

### AGENDA

#### DISCUSSION OF SCHOOL FUNDING IN KANSAS

Augenblick & Myers, Inc.  
Denver, CO

December 4, 2001

10:00am - 10:20am	Introductions and background of study
10:20am - 10:45am	Complete written survey
10:45am - 11:45am	Discussion of specific issues
11:45am - 12:15pm	Break
12:15pm - 2:00pm	Continued discussion of specific issues

## Appendix D-3

# KANSAS SCHOOL FINANCE QUESTIONNAIRE

### Overview

Thank you for your willingness to participate in this discussion group. You are one of 60 people selected to provide opinions about how public schools are funded in Kansas. Prior to holding the discussion, we request that you respond to the attached questionnaire.

This activity is sponsored by the Legislative Coordinating Council, which is reviewing the state's school finance system. In order to facilitate its work, the Council is employing a contractor, Augenblick & Myers, Inc. (A&M), which prepared the questionnaire and whose representatives will meet with you to discuss some of the questions. A&M is working in conjunction with the National Conference of State Legislatures (NCSL) and the Education Commission of the States (ECS).

A&M is a Denver-based consulting firm that has worked with state policy makers on education funding issues since 1983. NCSL, located in Denver, works with the legislatures of all 50 states and focuses on school finance issues through its National Center on Education Finance. ECS, also in Denver, works with governors, legislators, and educators and has focused attention on school finance issues since 1975.

The questionnaire seeks your views about the procedures used to generate and allocate state and local revenue for public elementary and secondary schools in the state. Some questions may use terminology unfamiliar to you or seek your views concerning topics about which you have no opinion. Simply answer such questions using the "have no opinion" option. We will be discussing some of the questions later in more detail and we can address questions you might have about terminology then.

All responses to this questionnaire are confidential. A&M will identify the names of everyone who participated in these discussions and will summarize its findings in part based on characteristics of respondents. No individual response will ever be released or discussed.

### Characteristics of Respondents

In order to help A&M and the Council evaluate responses to the questions, please indicate which of the following best describes you.

- A. Which job classification best describes your current position as an educator or as a citizen with an interest in education (check one)?
1. Member of a school district board of education \_\_\_\_\_
  2. School district superintendent, central



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office manager, principal, or other person whose primary responsibility is school or district management \_\_\_\_\_

3. Teacher or other professional educator employed in a school district whose primary responsibility *does not include* school or district management \_\_\_\_\_

4. Citizen with little or no professional role in public schools \_\_\_\_\_

5. Other (please describe) \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Please indicate the region of the state in which you live (see attached map and then check one)

1. Central - South central (map region 1) \_\_\_\_\_

2. Northeast (map region 2) \_\_\_\_\_

3. Southeast (map region 3) \_\_\_\_\_

4. Southwest (map region 4) \_\_\_\_\_

5. Northwest - North Central (map region 5) \_\_\_\_\_

C. Please indicate your estimate of the enrollment of the school district you work in (if employed by a school district) or live in (if not employed by a school district). Please circle one answer.

1. Less than 200 students \_\_\_\_\_

2. 200-499 students \_\_\_\_\_

3. 500-999 students \_\_\_\_\_

4. 1,000-4,999 students \_\_\_\_\_

5. 5,000-14,999 students \_\_\_\_\_

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6. Over 14,999 students \_\_\_\_\_

### Questions

The following questions refer to particular components of the Kansas school finance system. For most questions, you will need to circle an answer (typically Y for yes or N for no). Some questions ask you to fill in a number. Every set of questions includes one or more opportunities to indicate that you have no opinion about a topic (which you should check [U] if appropriate). We will discuss some of these questions later.

1. The Kansas school finance formula uses pupil counts as a primary factor in calculating state aid. Pupils are counted twice each year, on September 20 and on February 20.

Is that appropriate in your opinion? Y N (01)

If it is not appropriate, should pupils be counted more frequently? Y N (02)

**If pupils should be counted more frequently, how many times a year should they be counted?** \_\_\_\_\_ times (03)

*I have no opinion concerning this issue.* \_\_\_\_\_ (04)

2. The Kansas school finance formula uses a base level of funding (\$3,870 in 2001-02) as another primary factor in calculating state aid. In effect, that amount represents a suitable spending level for regular pupils (those without special needs) enrolled in school districts with average characteristics.

Is that level of funding appropriate in your opinion? Y N (05)

**If the amount is inappropriate, what would a more appropriate level be?** \$\_\_\_\_\_ (06)

*I have no opinion concerning this issue.* \_\_\_\_\_ (07)

3. The Kansas school finance formula uses pupil weights to reflect the added costs of several programs. The use of a weight means that a district will obtain an amount of revenue equal to the weight times the base level (\$3,870) times the number of students being weighted. For those

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programs listed below, are the weights appropriate and, if not, what would be a more appropriate level in your opinion?

*Bilingual education* (weight = .20)

Is the weight appropriate? Y    N    (08)

**If not, more appropriate level** \_\_\_\_\_ (09)

*I have no opinion about this weight.* \_\_\_\_\_ (10)

*Vocational education* (weight = .50)

Is the weight appropriate? Y    N    (11)

**If not, more appropriate level** \_\_\_\_\_ (12)

*I have no opinion about this weight.* \_\_\_\_\_ (13)

*Student at risk of failure* (weight = .10)

Is the weight appropriate? Y    N    (14)

**If not, more appropriate level** \_\_\_\_\_ (15)

*I have no opinion about this weight.* \_\_\_\_\_ (16)

4. The Kansas school finance system provides added revenue to districts that are small (through the low enrollment weighting) and to districts that are large (through correlational weighting).

In your opinion, do small districts receive sufficient added revenue to meet their special needs? Y    N    (17)

Do small districts receive too much or too little added revenue? Too Much\_\_\_\_ Too Little\_\_\_\_ (18)

*I have no opinion about the revenue needs of small districts.* \_\_\_\_\_ (19)

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Do large districts receive sufficient added revenue to meet their needs? **Y N** (20)

Do large districts receive too much or too little added revenue? **Too Much \_\_\_ Too Little \_\_\_** (21)

*I have no opinion about the revenue needs of large districts.* \_\_\_\_\_ (22)

5. School districts in Kansas are expected to contribute toward paying for school costs based on their property wealth. Currently, the local contribution is calculated as 20 mills (a mill = \$.001) of property tax.

In your opinion, is that an appropriate amount of local revenue? **Y N** (23)

If the amount is inappropriate, should the local contribution be higher or lower than it is? **Higher \_\_\_ Lower \_\_\_** (24)

*I have no opinion about this issue.* \_\_\_\_\_ (25)

6. School districts in Kansas are limited in how much local supplemental revenue they can provide beyond the amount generated by a 20 mill property tax through a local option budget (LOB). The limit is 25 percent of the amount guaranteed by the state using the factors discussed above (and a few others).

In your opinion, is a revenue limit appropriate? **Y N** (26)

If a revenue limit is appropriate, should it be the same as, higher than, or lower than it is now? **Same \_\_\_ Higher \_\_\_ Lower \_\_\_** (27)

*I have no opinion about this issue.* \_\_\_\_\_ (28)

7. The state currently provides some aid to pay for school facilities.

Should state aid be used to pay a portion of the cost of school facilities? **Y N** (29)

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*I have no opinion about this issue.* \_\_\_\_\_ (30)

8. The state assures that districts have added revenue when a school building opens based on using a pupil weight of .25 for all students attending school in the building.

Should the state provide aid when a school building opens? **Y** **N** (31)

Is the weight appropriate? **Y** **N** (32)

If the weight is inappropriate, should it be higher or lower? **Higher**\_\_\_\_\_ **Lower**\_\_\_\_\_ (33)

*I have no opinion about this issue.* \_\_\_\_\_ (34)

9. The state currently uses a complex procedure to provide aid to school districts to reflect the cost of transporting students who live at least 2.5 miles from school.

Is 2.5 miles the appropriate distance on which to base transportation aid? **Y** **N** (35)

If 2.5 miles is an inappropriate distance, should transportation aid be based on a longer or shorter distance? **Longer**\_\_\_\_\_ **Shorter**\_\_\_\_\_ (36)

*I have no opinion about this issue.* \_\_\_\_\_ (37)

10. Currently, the state provides support for the costs associated with special education on the basis of several factors, including the number of teachers employed by districts.

Is this approach an appropriate way to determine state aid? **Y** **N** (38)

If it is not an appropriate way to determine state aid, would any of the following approaches be more appropriate:

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**Use pupil weights (in conjunction with the numbers of pupils with special education needs).** \_\_\_\_\_ (39)

**Use a “census” approach (which provides a fixed amount per pupil and assumes a constant proportion of pupils with special education needs in every district).** \_\_\_\_\_ (40)

**Reimburse districts for proportion of the actual costs they incur in delivering special education services.** \_\_\_\_\_ (41)

*I have no opinion about this issue.* \_\_\_\_\_ (42)

11. Should the state require school districts to set aside days for the purpose of providing professional development opportunities for professional staff? Y N (43)

How many days of professional development are provided in your district? \_\_\_\_\_ days (44)

*I do not know how many days of professional development are provided* \_\_\_\_\_ (45)

If the state should require days for professional development, how many days should be required?

**Less than 5 days per year** \_\_\_\_\_ (46)

**5-9 days per year** \_\_\_\_\_ (47)

**10 days or more per year** \_\_\_\_\_ (48)

*I have no opinion about this issue.* \_\_\_\_\_ (49)

12. How long is the school year in your district (in days)?

For teachers \_\_\_\_\_ days (50)

For students \_\_\_\_\_ days (51)

*I do not know the length of the school year*

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	<i>in my district.</i>	_____	(52)
13.	Should the state require that school districts provide any of the following services/activities?		
	Early childhood programs (for children less than 5 years old)	Y    N	(53)
	School libraries	Y    N	(54)
	School nurses	Y    N	(55)
	Extra-curricular activities	Y    N	(56)
	Technology training	Y    N	(57)
	Longer school day for students	Y    N	(58)
	Longer school year for students	Y    N	(59)
	Alternative schools	Y    N	(60)
	<i>I have no opinion about this issue.</i>	_____	(61)
14.	Regardless of whether the state should require that school districts provide any of the above activities, <i>should the state allocate aid for any of those activities?</i>		
	Early childhood programs (for children less than 5 years old)	Y    N	(62)
	School libraries	Y    N	(63)
	School nurses	Y    N	(64)
	Extra-curricular activities	Y    N	(65)
	Technology training	Y    N	(66)
	Longer school day for students	Y    N	(67)
	Longer school year for students	Y    N	(68)
	Alternative schools	Y    N	(69)

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*I have no opinion about this issue.* \_\_\_\_\_ (70)

15. Some other states use a factor to reflect cost differences that are thought to exist across school districts. These are sometimes referred to as geographic price indices or cost-of-education indices.

Should Kansas create such indices to reflect cost differences around the state and use them to adjust the amount of state aid allocated to each school district?

Y N (71)

*I have no opinion about this issue.* \_\_\_\_\_ (72)

16. Do you feel that the classroom teachers who work in Kansas are qualified to teach the grade and/or subject areas to which they are assigned?

On the following scale, how qualified are teachers (check one)?

**Highly qualified** \_\_\_\_\_ (73)

**Mostly qualified** \_\_\_\_\_ (74)

**Somewhat qualified** \_\_\_\_\_ (75)

**Not very qualified** \_\_\_\_\_ (76)

*I have no opinion on this issue.* \_\_\_\_\_ (77)



## Appendix D-4

### KANSAS SCHOOL FINANCE DISCUSSION QUESTIONS

1. Kansas defines a “suitable” education in a way that focuses on education opportunities and services as well as student performance. Please take a look at the definition of suitability. On the basis of this definition:
  - A. Does your school district, or the school districts with which you are familiar, fulfill state expectations? Do any districts you know not fulfill these expectations?
  - B. If any of the school districts you know do not meet the state’s expectations, in what ways do they not meet the state’s expectations?
  - C. What role, if any, does funding play in causing any deficiencies?
  - D. How much more would be needed to eliminate the deficiencies?
  - E. Is that beyond the ability of districts to provide through a local option budget?
  
2. The state uses a variety of approaches to specify the revenue needs of school districts, including pupil weights (for example, for pupils at-risk of failure in school), statistical analysis (for example, for transportation), and personnel costs (for example, for special education). Does the state appropriately take into consideration the fiscal impacts of varying needs of different school districts in its allocation of state support?
  - A. Special education?
  - B. At-risk pupils (based on low income families)?
  - C. Size of districts?
  - D. Transportation?
  
3. The state uses the “foundation program” concept in determining state aid. Under this approach, districts are expected to make a contribution based on a uniform property tax rate and state aid is the difference between the revenue needs of districts and the expected local contribution. Does the state appropriately take into consideration the fact that some districts are wealthier than others in the distribution of state aid?
  
4. Under the school finance system, there is a cap on the amount school districts can

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generate. The cap assures that no district has per student revenues that exceed another district with similar needs by more than 25 percent.

- A. Do you agree with the concept of a cap?
  - B. Is the level of the cap (25 percent) about right?
5. The ability of districts to generate funds under the Local Option Budget (LOB) depends on their wealth and the willingness of voters to approve increased property taxes. Should all districts have the same ability to raise funds under the LOB?
6. Do you think that school districts use their resources efficiently? Do you know of any examples of resources being used inefficiently?
7. Does the school finance system provide appropriate incentives to school districts?
- A. Should some state aid be allocated on the basis of student performance, including improvements in student performance?
  - B. Are there any circumstances that would justify reducing state aid to school districts?
8. Should the state require school districts to set aside days for the purpose of providing professional development opportunities for professional staff? If so, how many days should be required?
9. Should the state require that school districts provide any of the following services/activities? Regardless of whether the state requires that services be provided, should the state pay for any of the following services?
- Early childhood programs (for children less than 5 years old)
  - School libraries
  - School nurses
  - Extra-curricular activities
  - Technology training
  - Longer school day for students

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- Longer school year for students
  - Alternative schools
10. Do you feel that the classroom teachers who work in Kansas are qualified to teach the grade and/or subject areas to which they are assigned?
- A. Is there a particular subject area (for example, math) or specialty (for example, special education or music) where teachers are less likely to be qualified?
  - B. Do teachers have the knowledge and skills they need to teach beyond subject area expertise?
11. Do you feel that teachers are paid at an appropriate level?
- A. Is the starting salary sufficiently high to attract qualified personnel?
  - B. Are salaries sufficiently high to retain qualified personnel?
  - C. Are appropriate benefits provided to teachers? If not, what benefits need to be modified or added?
  - D. Are salaries reasonable in some districts but not in others? If so, do the districts with low salaries share certain characteristics (for example, geographic location or size)?

## Appendix D-5

### SUMMARY OF RESPONSES TO KANSAS SCHOOL FINANCE QUESTIONNAIRE

1. *Number of participants: 59*

2. *Classifications of participants:*

A. By position

-	school board:	7
-	school/district administrator	21
-	teacher	12
-	business, parent, other	19

B. By location (see map)

-	Central	26
-	Northeast	11
-	Southeast	2
-	Southwest	7
-	Northwest	13

C. By size of district (work/live in)

			<u>Actual Distribution of All Pupils</u>
-	Less than 200	1 (1.7%)	1.1%
-	200-499	5 (8.5%)	7.8%
-	500-999	5 (8.5%)	12.4%
-	1,000-4,999	32 (54.2%)	34.4%
-	5,000-14,999	5 (8.5%)	14.9%
-	Over 14,999	11 (18.6%)	29.4%

3. *Foundation level (\$3,870 now)*

A. *Appropriate:* 56 said "no", 2 said "yes", 1 had no opinion

B. *Alternative level:* \$4,950 (average of 48 responses)

4. *Pupil weights*

A. Bilingual (now .20)

- *Appropriate:* 19 said "yes", 26 said "no", 14 had no opinion

- *Alternative level:* .53 (average of 23 responses)

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### *Analysis of appropriateness by district size*

	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Yes	1	3	13	2
No	1	1	15	9

### *Analysis of appropriateness by job classification*

	<u>"Yes"</u>	<u>"No"</u>
School board member	1	4
School or district administrator	8	12
Teacher	4	4
Business, parent, other	6	6

#### B. Vocational education (now .50)

- Appropriate: 30 said "yes", 13 said "no", 16 had no opinion
- Alternative level: .89 (average of 11 responses)

#### C. At-risk (now .10)

- Appropriate: 46 said "no", 9 said "yes", 1 had no opinion
- Alternative level: .39 (average of 41 responses)

### 5. *Size adjustment*

#### A. Small district

- High or low? 24 said "too low" while 15 said "too high" (20 said it was "sufficient")

### *Analysis of small district size adjustment by district size*

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	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Too low	6	3	10	5
Too high			11	4

***Analysis of small district size adjustment by job classification***

	<u>Too High</u>	<u>Too Low</u>
School board member	1	5
School or district administration	5	8
Teacher	3	5
Business, parent, other	6	6

B. Large district

- High or Low? 35 said "too low" while 2 said "too high" (22 said it was "sufficient")

6. *Local contribution of 20 mills*

A. Appropriate level: 43 said "no" while 7 said "yes"

B. Higher or lower? 39 said "higher" while 4 said "lower"

7. *Local option budget (limit of 25% with some state aid)*

A. Concept appropriate: 32 said "yes" while 25 said "no"

***Analysis of appropriateness of the LOB concept by district size***

	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Yes	3	4	19	6
No	3	1	12	9

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### *Analysis of appropriateness of the LOB concept by job classification*

	<u>Yes</u>	<u>No</u>
School board member	4	3
School or district administrator	13	7
Teacher	6	6
Business, parent, other	9	9

C. Limit appropriate?                      20 said “yes”, 21 said “higher”, 4 said “lower”

### *Analysis of the appropriateness of the LOB limit by district size*

	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Appropriate	2	3	10	5
Higher	3		9	9
Lower	1	1	2	

### *Analysis of the appropriateness of the LOB limit by job classification*

	<u>Appropriate</u>	<u>Higher</u>	<u>Lower</u>
School board member	5	1	
School or district administrator	9	7	3
Teacher	2	4	
Business, parent, other	4	9	1

8. *State aid for facilities*

A. Appropriate:                      53 said “yes”, 3 said “no”, 3 had no opinion

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9. *State aid when a school opens (weight now = .25)*
- A. Appropriate: 25 said “yes”, 11 said “no”
- B. Weight: 7 said “higher”, 7 said “lower”, 12 had no opinion
10. *Transportation*
- A. Is 2.5 mile distance appropriate? 14 said “yes”, 41 said “no”, 3 had no opinion
- B. Longer or shorter? 34 said “shorter” while 8 said “longer”
11. *Special education funding*
- A. Is current approach appropriate? 52 said “no”, 6 said “yes”, 1 had no opinion
- B. Alternative approach 18 liked “pupil weights”, 27 liked “state reimbursement of actual costs”, 7 liked either of those approaches, and 1 liked the “census” approach
12. *Professional development*
- A. Should state require districts to set aside time for professional development? 47 said “yes” while 11 said “no”
- B. Length of school year now: 188.7 days (average of 40 responses)
- C. Student days now: 180.7 days (average of 41 responses)
- D. Number of days needed for professional development: 17 said less than 5, 28 said 5-9, and 10 said over 10 days
13. *Should state require that school districts provide the following?*



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A.	Early childhood programs	38 said “yes” while 19 said “no”
B.	School libraries	52 said “yes” while 6 said “no”
C.	School nurses	51 said “yes” while 8 said “no”
D.	Extra-curricular activities	32 said “yes” while 26 said “no”

### *Analysis of extra-curricular activities by district size*

	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Yes	2	1	18	11
No	3	4	14	5

### *Analysis of extra-curricular activities by job classification*

	<u>Yes</u>	<u>No</u>
School board member	3	3
School or district administrator	14	7
Teacher	4	8
Business, parent, other	11	8

E.	Technology training	52 said “yes” while 6 said “no”
F.	Longer school day for students	16 said “yes” while 42 said “no”
G.	Longer school year for students	31 said “yes” while 27 said “no”

### *Analysis of longer school year for students by district size*

	<u>#500</u>	<u>500-999</u>	<u>1,000-4,999</u>	<u>\$5,000</u>
Yes	3	2	17	9
No	3	2	15	7

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### *Analysis of longer school year for students by job classification*

	<u>Yes</u>	<u>No</u>
School board member	2	5
School or district administrator	14	6
Teacher	5	7
Business, parent, other	10	9

H. Alternative schools 37 said "yes" while 19 said "no"

14. *Should the state allocate support for the following?*

- A. Early childhood programs 53 said "yes" while 6 said "no"
- B. School libraries 54 said "yes" while 5 said "no"
- C. School nurses 53 said "yes" while 6 said "no"
- D. Extra-curricular activities 30 said "yes" while 27 said "no"
- E. Technology training 55 said "yes" while 4 said "no"
- F. Longer school day for students 33 said "yes" while 21 said "no"
- G. Longer school year for students 45 said "yes" while 13 said "no"
- H. Alternative schools 52 said "yes" while 6 said "no"

# Appendix E

## Cost Adjustments in Education

Prepared by The National Conference of State Legislatures

### I. Introduction

One of the problems facing states is the notion of how to adjust educational costs to account for geographic differences and changes to prices over time. For example, is the cost of education the same in rural and urban settings? Should teacher salaries rise at the rate of inflation, or are there any characteristics in the education profession that call for a different adjustment method? The idea behind making cost adjustments in education is to provide funding that compensates for changing variables, but the actual task of making adjustments is not nearly as straightforward. This paper is a study of two primary areas in which scholars have developed methodologies to adjust for changing cost variables in an educational setting.

Education cost adjustments over time are designed to compensate for increases in costs that arise from factors such as inflation or changes to the quality of a product over time. Some of the variables that affect these adjustments in education have to do with the type of expenses found in educational settings as opposed to other professions, problems in adjusting for differences in the quality of teaching or educational supplies, and changing teaching staff characteristics. This section will explore some of the methodologies that have been developed to deal with these problems, as well as the pros and cons of the approaches.

Geographic cost adjustments are focused on the different characteristics that are found between different regions in a given state. Geographic cost adjustments are often applied to teacher salaries to determine how much it would cost to attract and retain teachers to a given geographic area. These costs may be lower in places that are scenic, or may be higher in poorer, less desirable areas. While the models that have been developed to measure these cost differences vary, there is similarity in that all models attempt to identify the relevant geographic amenities that have an impact on education, and primarily teacher, costs.

Several states have utilized methodologies that have been used for making cost adjustments over time, but almost no states have made extensive attempts to adjust for

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geographic cost variations. Perhaps this is because the models that have been developed for making geographic adjustments tend to be complex and currently have not been refined to the point that legislators can have confidence in the findings. Regardless of this, the models outlined below are useful for understanding why cost differences exist, and some of the ways that they may be addressed.

### II. Cost Adjustments over Time

The Consumer Price Index (CPI) is the most common price deflator used to measure the effects of inflation on prices over time. The CPI is based on information that pertains to approximately 80% of the population in the U.S., utilizing what is known as a market-basket methodology to make adjustments. Under the market-basket approach, price data from some eighty-five urban areas are collected. These measures include information from about 1,000 retail establishments, 40,000 landlords and tenants, and 20,000 owner occupants. The change in the measured prices from the preceding year is used to construct the CPI for that given year. While the CPI is the most common price deflator used, applying it in an educational context is somewhat problematic. Specifically, there are three main areas that cause difficulties in applying the CPI for education costs:

1) *Controlling For Changes in the Quality of Products Over Time* - The slogan "this isn't your father's Oldsmobile," nicely illustrates this problem. Forty years ago, automobiles were much simpler and did not have airbags, antilock brakes, traction control, or a host of other features that we find standard on our cars today. Because of this there are problems associated with measuring cost changes to these products. For example of the price of cars has increased by three hundred percent in the last twenty years, what is that 300% a measure of? Inflation? Value-added from additional features? There are many products that create the same type of problems when trying to measure the effects of inflation. Computers are a good example of this type of product; where ten years ago you would have paid twice as much for a machine that half the processing power as a modern machine.

The same problem applies to educational costs, as the quality of the product has changed over time. In general classes are smaller, teachers are more educated and

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experienced, and equipment is better than it was ten or twenty years ago. The CPI is limited in its ability to measure the impact of these changes on price, particularly in education.

2) *Item Substitution* - Often a product will experience a change in price as a result of what is known as the substitution effect. For example if a certain type of popular soda became very expensive, many consumers would switch to a lower priced alternative. If the CPI is only looking at the price of the former soda, the effects of inflation may be overstated. This has been one of the main criticisms of the index, until recently the CPI did not adjust for the item substitution effect. Once it was adjusted, the CPI rate has been reduced by approximated 0.2% in each year since 1996.

3) *Differential Growth in Market Basket Components* - Another problem that has been raised with the CPI is that different sectors or geographic regions experience different rates of price changes. For example the health industry has experienced a high rate of price increases in recent years, while other sectors of the economy have not. As a result the CPI is an index that is not market specific. In much the same way, the CPI reflects average price increases across all geographic regions in the country, but we all know that the increase in costs associated with living in San Francisco will be much different than the same rate in North Dakota. Thus the CPI is limited in its ability to make adjustments for specific industries and geographic areas.

Some of the characteristics that are unique to education make the application of the CPI of questionable use in the field. One of the largest factors that make the CPI problematic in its application is the fact that roughly 50% of all educational expenditures are devoted to personnel costs. While it is relatively easy to make adjustments for supply costs (the difference in the price of paper between 1990 and 2000), personnel costs are much harder to adjust for. In personnel selections, districts may choose between a wide variety of educational education and experience. Additionally, the amount of time as far as the number of days in the school year and the length of the school day varies from district to district. For these reasons, people have questioned the use of the CPI for making cost adjustments in education.

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Despite these criticisms, the CPI is used by the National Center for Education Statistics (NCES) to make education cost adjustments in their Digest of Education and Condition of Education publications. The fact that the NCES uses the CPI is not so much of an endorsement of the index as it is an indicator of the lack of viable alternatives. There have been, however, several attempts to address this problem. These approaches include the following:

- 1) *The School Price Index (SPI)* - This price deflator was developed by Dr. Kent Halsted, and utilizes price data from seventy various items that schools purchase. These expenditures are then given weights, for example, since teacher salaries typically comprise about 50% of educational budgets, the teacher salary component of the index is weighted at 50%. The remainder of the index is constructed using sampling data from across the country<sup>1</sup>.

One of the positive aspects of this index is the fact that it uses education data, making it more accurate for estimating changes in education prices. Some of the problems associated with the index are, 1) the samples used to develop part of the index may not be indicative of national trends, and may not be sensitive to geographic differences, 2) the index has difficulty in measuring changes to personnel variables (education or experience) over time, and 3) the index has difficulties in measuring the changes in staff responsibilities over time.

- 2) *The Net Services Index (NSI)* - This index was developed by Richard Rothstien and Hawley Miles by looking at the spending patterns of nine school districts over a period of twenty-five years. Underlying this index is the assumption that teaching (unlike other sectors) does not see increased productivity over time, as it is so labor intensive. Known as the "Baumol" effect, this philosophy is defended by the fact that the manufacturing industry experienced a 40% increase in productivity between 1967 and 1991, and to match this pupil to teacher ratios would have had to increase from 20:1 to

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<sup>1</sup> Halstead, D. Kent. 1993 and 1998. *Inflation Measures for Schools, Colleges and Libraries*. Washington, DC: Research Associates of Washington.

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28:1. Thus the NSI uses data from labor intensive sectors of the economy to measure inflation in education. These sectors include entertainment services, personal care services, educational services, public transportation, housekeeping services, utilities and other public services<sup>2</sup>.

One of the advantages of this index is that it can easily be used to produce regional indices. The nine districts that researchers used data from represent a mix of urban, suburban and rural school districts. Out of this, nine different indices were created to measure the effects of time on costs in nine different geographical areas of the U.S. Some of the problems associated with the index are that; 1) The NSI is based on industries that see low increases in productivity, and as such "endorses" the idea of low productivity, and 2) The market baskets used to create the index are geographically distinct and as such present the problem of comparing different measures.

- 3) *The Inflationary Cost-of-Education Index (ICEI)* - This index is a refined version of the Teacher Cost Index which was originally developed by Jay Chambers in 1997. The model utilizes information from the Schools and Staffing Survey (SASS) over a period of six years, which provides information on teachers, administrators and other non-certified staff. The model is designed to control for factors such as the desirability of teaching in a certain area (The Hedonic Model), as well as discretionary actions taken by school districts<sup>3</sup>.

One of the positive aspects of the index is that it uses prices that are tied directly to the costs of hiring and retaining education personnel. Additionally, the index lends itself to comparison against the CPI and NSI, as well as being easily adjusted for geographic differences. One of the main problems with the index is that it is based on only six years worth of data, as well as having

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<sup>2</sup> Rothstein, Richard and Miles, Karen Hawley. 1995. *Where's the Money Gone? Changes in the Level of Composition of Education Spending*. Washington, DC: The Economic Policy Institute.

<sup>3</sup> Chambers, Jay G. 1997. *Measuring Inflation in Public School Costs*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Working Paper No. 98-04.

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difficulty in measuring the actual educational needs of students in relation to school expenditures.

- 4) *The Employment Cost Index (ECI)* - This model has been used extensively in the formulation of macroeconomic policy by the Federal Reserve Board. The index measures the change in the rate of employee compensation over time, including wages, salaries, and employer cost for staff benefits. Sample data is collected from all non-farm private sectors and the public sector<sup>4</sup>.

One of the advantages of this index is that it is able to capture costs related to education in its measure of "local government employees." It is also constructed over a 15-year time span and includes employee benefits and regional indices, lending credibility to the measure. One of the drawbacks is that it does not control for discretionary expense choices by districts (length of school year, teacher experience, class-size, etc.), nor can it compensate for the "substitution effect" (see above).

In conclusion it seems that the measures that have been developed for making adjustments to education over time are in many ways capable of measuring differences in costs over time, but no one method has emerged as the best way to conduct the adjustments. In choosing an index to apply data constraints such as the indices available, as well as the expenditure measures available. There should also be consideration of whether regional indices or school specific deflators are needed.

### III. Geographic Cost Adjustments

In many ways, geographic cost adjustments in education are similar to adjustments over time, as many of the price deflators used have adjustments for geographic differences. But there have also been considerable attempts made to adjust for only geographic differences. The most visible of these attempts is currently utilized

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<sup>4</sup> U.S. Senate, Committee on Finance. 1996. *Final Report of the Advisory Commission to Study the CPI*. Print 104-72, 104 Cong., 2 sess., Washington, DC: Government Printing Office.



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by the NCES and is known as the Geographically Based Teacher Price Index<sup>5</sup>. The components of this index include:

- 1) Teacher, administrator, and other personnel characteristics, including experience level, training, minority status and gender.
- 2) Cost-of-living adjustments.
- 3) Regional amenities.
- 4) Employment amenities.
- 5) Non-teaching wages and employment opportunities in the region.
- 6) Union and collective bargaining characteristics.
- 7) Demand for teacher quality.

Several models have been incorporated in the creation of this index, each indicating different measures that should be included in the index. These preliminary models are:

- 1) *The Teacher Attribute Model* - This model was originally developed in 1994 by Stephen Barro, and is focused primarily on interstate comparisons of teacher hiring practices. The method estimates what each state's average starting teacher salary would be if the state employed teachers with the average level of experience and training in the nation as a whole<sup>6</sup>.
- 2) *The "Market-Basket" Approach* - Developed by Walter and McMahon in 1996, this approach does not address school level personnel, but focuses instead on the factors that are outside of the control of the school district. These factors include wages in other sectors of the economy and geographically based differences in the cost-of-living. Basic factors in the measurement of these categories include the value of housing, per capita income, the percent change in population from the last decade, and variables

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<sup>5</sup> U.S. Department of Education, National Center For Education Statistics, *A Primer For Making Cost Adjustments in Education*, NCES 2001-323, by William J. Fowler, Jr. and David H. Monk, Washington, DC: 2001.

<sup>6</sup> Barro, Stephen M. 1994. *Cost-of-Education Differentials Across the States*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Working Paper No. 94-05.

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representing regions of the country. This model can predict cost-of-living indices at several levels of aggregation<sup>7</sup>.

- 3) *The Hedonic Model* - This model, created by Jay Chambers in 1998 attempts to deal with all of the factors outlined by the Geographically Based Teacher Price Index through the use of hedonics, or the degree to which teachers are attracted to a given career opportunity<sup>8</sup>. Two methods to this approach are:
  - a) The Teacher Cost Index, which uses the Schools and Staffing Survey (SASS) to determine teacher characteristics (ethnicity, gender, education and experience); working conditions and class size, and; salary information. Other data sources are used to determine the level of regional amenities. Cost influences are controlled for at the school level, and external cost influences are allowed to vary.
  - b) The Geographic Cost-of-Education Index, in which other inputs are included, including school administrators, non-certified school personnel, non-personnel, as well as a wider range of data sources.
  
- 4) *Production Function Models* - focuses on the costs of actually increasing educational performance. While it appears that there is not enough data to adequately use this model, Duncombe and Yinger have applied the model in New York<sup>9</sup>, and other variations have been used in Wisconsin and Texas. This method is based on studies of manufacturing processes and attempts to determine student performance outcomes through an analysis of inputs. The analysis reveals how much of each input under various conditions is needed to reach a given level of achievement. Other factors included in the analysis

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<sup>7</sup> McMahon, Walter W. 1996. "Intrastate Cost Adjustments." In William J. Fowler, Jr. (ed.), *Selected Papers in School Finance 1994*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, NCE 96-068.

<sup>8</sup> Chambers, Jay G. 1998. *Geographic Variations in the Prices of Public School Inputs*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Working Paper No. 98-04.

<sup>9</sup> Duncombe, William, John Ruggiero, and John Yinger. 1996. "Alternative Approaches to Measuring the Cost of Education." In Helen F. Ladd (ed.),  *Holding Schools Accountable*. Washington, DC: The Brookings Institution.

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include implications of constraints, such as large or small scales of operation. While this is a promising model, more data is needed for it to be effective.

These models were combined in the Geographically Based Teacher Price Index, largely because of the high degree of correlation between the first three models. Aspects of the Production Function Model were included as well. While the Geographically Based Teacher Price Index does not represent the perfect geographic cost adjuster, it is notable for its comprehensiveness and accuracy as far as geographic cost adjustments go. In the future the model will no doubt be refined and improved upon, but in the meantime it appears to be a robust model for adjusting for geographic cost differences.

### Appendix - What States are Doing to Adjust Educational Costs<sup>10</sup>

**Alaska** - Alaska uses two different types of cost adjustments in its formula. The first of these is a Cost-of-Living Index, which is computed for each of the fifty-four school districts in the state. There is also an adjustment made for "instructional units" that is used to determine the differences of scale economies found in districts of differing sizes. The Alaska system adjusts for the differences in costs of inputs as well as the costs of combining different inputs into educational services.

**Colorado** - There is a Cost-of-Living factor that is a part of the funding formula in Colorado. The adjustment compensates for differences in the costs of housing, goods and services in different parts of the state. The Legislative Council calculates the adjustment every two years and is applied to the portion of the finance formula that related to personnel costs. There is also a cost-of-personnel factor in the Colorado finance formula that addresses economies of scale and adjusts accordingly for them.

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<sup>10</sup> Source for state information: *Public School Finance Programs in the United States and Canada*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, NCES 2001-309.

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**Florida** - Florida utilizes the market-basket approach for making cost adjustments. Known as the Florida Price Level Index, it is calculated by the Governor's office annually, based on a three year moving average. The formula adjustment is made in a manner that does not reduce base funding for any district, only increasing funding under the adjustment.

**Massachusetts** - The foundation formula in Massachusetts uses what is called a "wage adjustment," which is calculated for twenty-five different regions in the state. Unlike Florida, the adjustment can be used to reduce the base funding of a district. A stipulation attached to the adjustment is that no district with a high poverty rate may have its base allocation reduced as a result of the calculation.

**Ohio** - There is a Cost of Government Services adjustment that is used in Ohio. The adjustment makes differences based on the prevailing wages in government sector jobs. Critics of this method say that the adjustment places high significance on salary differences for low skill workers, but educational services rely on highly skilled workers. The adjustment is entered directly into the foundation formula using what is called a "cost of doing business" factor, and is based on wage data for all of the workers in the state. The data used weekly wage amounts from the county in which a district is located, as well as wages from contiguous counties. Like Florida, the adjustment in Ohio does not reduce any district's base funding allocation.

**Texas** - Texas uses a hedonic style education cost adjustment that accounts for input price differences as well as differences in economies of scale. The index distinguishes between controllable and uncontrollable influences on teacher salaries. To perform the calculations, the state is divided into several categories, including; region, size, area, density, educational characteristics, enrollment growth, economic conditions, and other factors that affect the costs of educational services.

**Virginia** - The cost adjustment used in Virginia is primarily in place to offset the high standard of living found in areas close to Washington D.C. There are nine regions used

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in the calculation; seven counties and two cities. All of the regions are located in the northern section of the state, near Washington D.C.

## **Appendix F**

### **An Analysis of Transportation Funding in Kansas**

**Prepared by The National Conference of State Legislatures**

Ensuring that students are provided with transportation to schools is a responsibility that states meet in a variety of ways. All but two states provide funding for student transportation, however no two states have identical funding mechanisms. The following section of our report in defining an adequate level of funding for K-12 education in Kansas will provide an overview of the transportation funding program used in Kansas and will then compare the system to those used in other states.

#### **Kansas Funding for Student Transportation**

Kansas provides funding for student transportation through its foundation program, with each district receiving supplements to its base funding for transportation costs. There are two funding supplements provided to each district, one for regular routes and one for the transportation of special education students.

#### **Regular Routes:**

Each district receives funding for students that reside at least 2.5 miles from the school that they attend. The methodology to determine each districts funding level is as follows:

1. Each district's expenditures for regular student transportation routes (excluding special education transportation expenditures) from the prior year are divided by the districts prior year enrollment level. The result is a per-pupil transportation expenditure level.
2. The number of students transported who reside within 2.5 miles from their school is then multiplied by .5 of the per-pupil expenditure level.
3. The total dollar amount that is produced by students residing within 2.5 miles of their schools is subtracted from the districts total transportation expenditures.

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4. The remaining expenditure level is then divided by the number of resident students residing at least 2.5 miles from their school, resulting in a new per-pupil expenditure level.
5. The new per-pupil expenditure level is then provided to the state along with information on the number of students residing at least 2.5 miles from their school, and the total number of square miles in the district.
6. The state then determines a ratio for number of students per square mile for each district.
7. The expenditure level for each district is then plotted on a graph and compared with other districts that have the same ratio of students per square mile.
8. The median expenditure level for each group of districts that have similar ratios of students per-square mile is then identified. The result is the transportation funding level that is added to each districts foundation base.

Example:

District A:

- Total student transportation expenditures from the previous year are \$500,000, and total student enrollment was 500. The result is a \$1,000 per pupil transportation expenditure.
- 250 of the students live within 2.5 miles from school. 250 is multiplied by .5 of the \$1,000 per pupil expenditure level.  $(.5 \times \$1,000) \times 250 = \$125,000$
- Total expenditure level (\$500,000) is subtracted by \$125,000 = \$375,000.
- \$375,000 is divided by 250 students resides more than 2.5 miles from school = \$1,500 per pupil.
- The 250 students are divided by total square miles of the district (50 miles) resulting in a ratio of 5 students per square mile.
- The state plots the district expenditure level on a graph with other districts that have approximately 5 students per square mile.
- The median expenditure level for all districts with 5 students per square mile then becomes the transportation funding supplement.

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The computer program that allows state personnel to input expenditure levels and student per square mile ratios is called the "Line of Best Fit" program, and has been used in the state for over twenty years. The program allows for district comparisons ranging from one-tenth of a student per square mile to over 20 students per square mile. The state does not adjust transportation funding levels based on district wealth or any other factors.

### **Special Education Transportation:**

Districts are required to keep records on costs associated with the transportation of special education students, and these costs are submitted to the Department of Education at the end of each year. The state then reimburses each district for 80% of these costs.

### **How Other States Fund Student Transportation**

As previously stated, no two states provide funding for student transportation is exactly the same way, although all states except Rhode Island and South Dakota either make adjustments to their foundation level or provide categorical funding to districts for student transportation. In the following pages, we will provide overviews on the different approaches that states use in providing student transportation funding and discuss their strengths and weaknesses.

### **Categorical vs. Foundation Funding**

Nationwide, of the forty-eight (48) states that provide some specific funding for student transportation, thirty-two (32) provide funding through categorical programs, and sixteen (16) provide funding through their state's foundation program. Overall, providing funding through categorical programs as compared to including funding within foundation programs does not have a significant impact on the actual criteria that are used to determine funding levels. States may provide funding through categorical programs



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because they are interested in defining costs associated with instruction, and view transportation as a separate endeavor. On the other hand, some states may want to identify the total costs of providing a "thorough and efficient" education, and may provide transportation funding within the foundation program in order to provide a larger "block grant" to districts. Issues surrounding state accounting systems, historical practices, and political decisions also influence the choice of states.

### **Mileage, Reimbursement, and Density**

States may incorporate more than one of these approaches to funding transportation, with funding for the transportation of special education students in many states differing from the funding for regular students. Overall, there are three main funding methodologies that states use for funding transportation: Mileage, Reimbursement, and Density.

#### **Mileage:**

Some states such as Colorado provide funding to school districts based on a dollar per rout mile basis. For example, in Colorado districts receive 37.87 cents for each mile buses drive in the transportation of their students. In addition, the state provides 33.87% of approved costs that exceed the funding level provided by the state. These approved costs include fuel and oil, maintenance and repair of vehicles, equipment, facilities, costs of employment for drivers, supervisor, support services, insurance, contract services, reimbursements to students who use public transportation, and transportation for special education and vocational programs. Non-approved costs are purchase or lease of vehicles or other capital outlay. The state share of funding may not exceed 90% of a district's operating expenditures for transportation regardless of the formula.

The strengths of the mileage system include ensuring that a specific dollar amount is provided for each mile driven by the district. Proponents of this system believe that providing a specific funding level for each mile is a fair and accurate way of providing funding, and the system does not result in districts having to use instructional funding for

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transportation. In addition, the system is easy to administer and does not require any computer program or data entry. The weakness of the system is that it does not provide any incentive for districts to maximize the utility of the routes they choose and may in fact promote inefficiencies.

### **Reimbursement:**

Many states reimburse school districts for transportation expenditures, Idaho reimburses districts at a 85% level, and North Dakota reimburses at a 90% level. The strengths and weaknesses of the reimbursement system are similar to the Mileage approach. On the one hand, the system is easy to administer and districts do not have to worry about paying for increasing transportation costs. On the other hand, there is no incentive for efficiencies.

### **Density:**

There are a number of states that are similar to Kansas and provide funding for transportation using a density model. These density models take into account the number of students per square mile in a district that require transportation services, and make adjustments to the funding levels. The major benefit to the approach is that it encourages districts to be efficient in their transportation services because there is only a set dollar amount that is given. Many states have also incorporated additional criteria to be calculated in their density models:

- Delaware takes into account the age of the bus, the cost of gasoline and insurance in each of its districts.
- Georgia takes into account bus driver salary and benefits in its density model.

By incorporating additional criteria into their density models, these states believe they are providing a more accurate and fair level of funding for student transportation.

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### **Taking Wealth into Account in Transportation Funding:**

States such as Connecticut and Illinois take into account the wealth of the district when determining the state level of funding for transportation. In Connecticut, all districts receive at least \$1,000 for student transportation, however 14 of the wealthiest districts in the state receive no additional funding beyond this amount. In Illinois, reimbursements are adjusted based on a school districts equalized assessed value.

### **Innovative Strategies:**

In 1992-93 North Carolina created an efficiency formula for funding transportation costs. The state created the Transportation Information Management System (TIMS) that calculates the most efficient bus routes for districts across the state. Local districts are required to use these routes and maintain a "100% efficiency rating" or suffer decreased funding for the next school year.

### **State Imposed Mileage Requirements:**

From our research, we identified eight states that require students to live a specified distance from their school in order for the district to receive state transportation funding. Of these eight states, Kansas has the greatest mileage requirement at 2.5 miles. Two other states required students to live 2 miles from their school, five states had 1 or 1 1/2 mile requirements, and one state required students in grades K-6 to live at least 1.5 miles from school, and students in grades 7-12 to live at least 2 miles from school. Although we could only identify 8 states with state specific requirements, it should be noted that many states allow districts to set their own standards. From speaking with staff and national organizations dealing with student transportation, most of these local requirements were less than the 2.5 mile standard currently present in Kansas.

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### **Privatizing School Transportation Services:**

There are numerous states that allow for transportation services to be contracted out at the district level. In fact studies have shown that approximately one-third of all buses used in education transportation are owned by private companies. School districts may contract for all of their transportation services, or some of their services such as contracting out for school buses or drivers and maintenance. Studies have shown that districts can receive benefits from contracting out transportation services including cost savings, improved quality of services, and reduced administrative burden. However, not all districts have had positive experiences. Unfortunately, some districts that contracted out their services went with companies who initially low-balled their price, and then increased prices dramatically in future years. After a district has disbanded its transportation program it would be very difficult to create a new program, and these districts are vulnerable to private firms who will keep increasing prices. In order to avoid the negative aspects of privatization, it is important for school districts to consider the following:

- Determine if local market is competitive: If a district has more than one company bidding for transportation services districts will benefit and can avoid every increasing prices.
- Have a strong RFP and contract: If there is only one provider in an area this is especially important. Ensure that the RFP has clear and concise language on performance expectations, and allowable cost increases.

### **Recommendations**

The current transportation program in Kansas has many strengths, but could also be improved upon. The major benefit of the current system is that it promotes efficiencies by providing a set dollar amount per pupil to districts instead of providing funding through

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cost reimbursements or on a per mile basis. In addition, the current system also recognizes that transportation costs will vary between districts due to the sparsity of students, and ensures those districts with higher transportation costs are provided with additional state funding through the "Line of Best Fit".

In order to improve the transportation program in Kansas we recommend the following initiatives:

### *Increase the number of variables for consideration in the "Line of Best Fit System"*

In addition to considering the number of students per-square mile when determining a districts allocation, the state should also take into account operational cost differences that exist between districts. Specifically, costs associated with gas, insurance, salaries, maintenance etc. will vary between districts, and the state's funding system should take these differences into account. One way of accounting for these differences would be to undertake a multiple regression analysis, however implementing such a system may require a significant overhaul of the software program currently used. However, the state could apply a cost index to districts to make adjustments for transportation funding once the "Line of Best Fit" dollar amount has been determined. There are a variety of cost indexes the state could use including cost of living indexes, or national education cost indexes. For information on national education cost indexes please see <http://nces.ed.gov/edfin/prodsurv/data.asp>

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### *Decrease the mileage limit for the transportation of students*

The current system establishes funding for transportation based on the number of students residing at least 2.5 miles from their school. Based on our research, Kansas currently has the highest mileage limit of any state in the country. In addition, in those states that allow districts to set the mileage limit we could not find any limit above 2.0, with many requiring students to reside only 1 or 1 1/2 miles from their respective school.

### *Investigate contracted services for student transportation*

From talking with personnel within the Kansas Department of Education, we were informed that some of the larger districts in the state contract out for transportation services. We recommend studying how well these systems have worked, and informing districts of the strengths and weaknesses of the options that are available.