

A Proposal for Determining Adequate Resources for New York Public Schools

Submitted by:

Dr. Jay G. Chambers
Dr. Thomas B. Parrish
American Institutes for Research

Dr. James R. Smith
Dr. James W. Guthrie
Management Analysis and Planning, Inc.

November 27, 2002



AMERICAN INSTITUTES FOR RESEARCH



Management Analysis and Planning, Inc.

A Proposal for Determining Adequate Resources for New York Public Schools

Submitted by:

Dr. Jay G. Chambers
Dr. Thomas B. Parrish
American Institutes for Research

Dr. James R. Smith
Dr. James W. Guthrie
Management Analysis and Planning, Inc.

November 27, 2002

Executive Summary

The objective of this project is to estimate the costs of providing the opportunity for an adequate education to all public school students in New York State. In the simplest of terms, this project will take a significant step toward answering the question, “*What does it actually cost to provide the resources that each school needs to allow its students to meet the achievement levels specified in the Regents Learning Standards?*” Ultimately, applying such a cost figure to each school district will serve as a basis for the development of a state funding formula for educational services in local communities.

This proposal is being submitted by the American Institutes for Research (AIR) and Management Analysis & Planning (MAP), Inc. The research team for this study includes Drs. Jay G. Chambers and Thomas B. Parrish of AIR and Drs. James R. Smith and James W. Guthrie of MAP. Drs. Chambers and Smith will serve as Co-Project Directors for this study, and Drs. Parrish and Guthrie will serve as Principal Task Leaders; however, all members of this team will have input into every component of this project, and this project will truly be a collaborative effort involving contributions from each of these four individuals.

Adequacy in the New York State Context

The concept of education finance adequacy was first raised in New York State by the Court of Appeals, which noted in its 1982 decision in *Levittown v. Nyquist* that the state’s constitution guaranteed all children in the state the opportunity for a “sound basic education.” The Court did not, however, attempt at that time to define a “sound basic education.” In response to *Levittown*, the State Education Department convened a task force to attempt to define this critical term. That group decided that “sound basic education” could best be defined in operational terms, a decision which led to the extensive research and public engagement process that culminated in 1996 in the issuance of the Regents Learning Standards.

The Regents Learning Standards set forth a detailed series of expectations for student achievement in seven academic content areas; in order to obtain a high school diploma, students in the state must pass a series of Regents examinations based on these standards. Implementation of the Regents Learning Standards has led to extensive reforms in areas such as school curricula, teacher certification requirements, and professional development practices. There has not, however, been a systematic attempt to determine the amount of funding that is necessary to implement these reforms and to ensure that all schools have in place the resources they need to provide their students an opportunity to meet the state’s challenging new standards. The project described in this proposal seeks to remedy that gap.

In 1993, the Campaign for Fiscal Equity (CFE) challenged the state’s school financing system on the grounds that the system failed to provide all students the opportunity for a sound basic education. CFE prevailed at the trial level. In 2001, State Supreme Court

Justice Leland DeGrasse declared New York State's school finance unconstitutional. In June of 2002, however, the state's intermediate appellate court, the Appellate Division, First Department, reversed that decision. The New York Court of Appeals, the state's highest court, has now accepted jurisdiction of the case, and its final decision is expected to be issued sometime in 2003. The analytic efforts described in this proposal will be informed by the issues raised in the CFE case; however, these analyses are not contingent upon the outcome of that case.

Using Standards to Determine Adequate Resources

The definition of the concept of adequacy requires the setting of a specific goal. That is, adequate to accomplish what? In the case of New York State, the availability of academic standards promulgated by the Board of Regents makes it possible to estimate the dollar levels necessary to provide a student an adequate opportunity to learn what is expected.

This proposed study, therefore, will use the Regents Learning Standards as the baseline against which to judge adequacy. The challenge here is to determine resource levels necessary to provide a reasonable opportunity for all students to meet the academic expectations of the Regents Learning Standards and to obtain a high school diploma.

Conceptual Framework

To achieve the objective of this study, AIR/MAP will identify and measure the impact of the major, systematic factors that underlie the variations in costs of achieving a specific set of outcome standards across the schools in New York State. The rationale behind this approach is based on the notion that the state aid that districts receive should be sufficient to provide an opportunity for all of its students to meet the Regents Learning Standards and should be adjusted for variations in educational costs that are essentially beyond the control of local school districts.

The conceptual framework that underlies the analysis is the Resource Cost Model (RCM). The RCM is based on a process that relies heavily on a Professional Judgment Model (PJM) for describing the educational resources required to provide the educational programs and services necessary to meet the needs of a diversity of student populations served by the public schools within a state. The "total cost of education" for a given school or district can then be determined on the basis of local enrollment of various student populations and variations in the cost of procuring comparable educational resources in each location. The result of this process is the cost, by school, of providing an adequate level of educational services across the state.

There are four analytic strategies for approaching this problem: the statistical approach, the successful schools approach, the research-based models, and the Professional

Judgment Model. This study proposes to rely upon a combination of the best features of all four strategies, with the Professional Judgment Model playing a central role.

Statistical Approach

The availability of large-scale databases, as maintained by New York State’s Education Department, renders it possible to undertake sophisticated econometric analyses of education-related costs. We will rely upon this approach specifically to ascertain the differences in the costs of comparable school personnel (teachers and administrators) from one geographic area to another within the state of New York. Statistical analysis will also be utilized to determine current spending ratios for central office administration.

Successful Schools Approach and Links to Staffing and Resource Availability

The AIR/MAP team will construct various indices of student performance for New York schools (e.g., the percentage of students meeting the Regents Learning Standards or on track to meet them, attendance rates, behavior in school, and graduation rates) and then identify individual schools that are unusually “successful” in producing high outcomes. Standards for what constitutes success will be determined statistically and through discussions in the public engagement portions of this project. The staffing and resource patterns of these “successful” schools will be analyzed for information regarding likely ingredients and costs of an adequate education.

Research-Based Models

There exist empirical studies of educational settings and instructional strategies and conditions with reliable findings. These include conditions such as elementary school class size effects, school size effects, and teacher training or professional development conditions. We will distill and synthesize these data and use them to inform our recommendations and to provide background for the Professional Judgment Panels (PJPs) upon which the adequacy study will also rely.

Professional Judgment Model

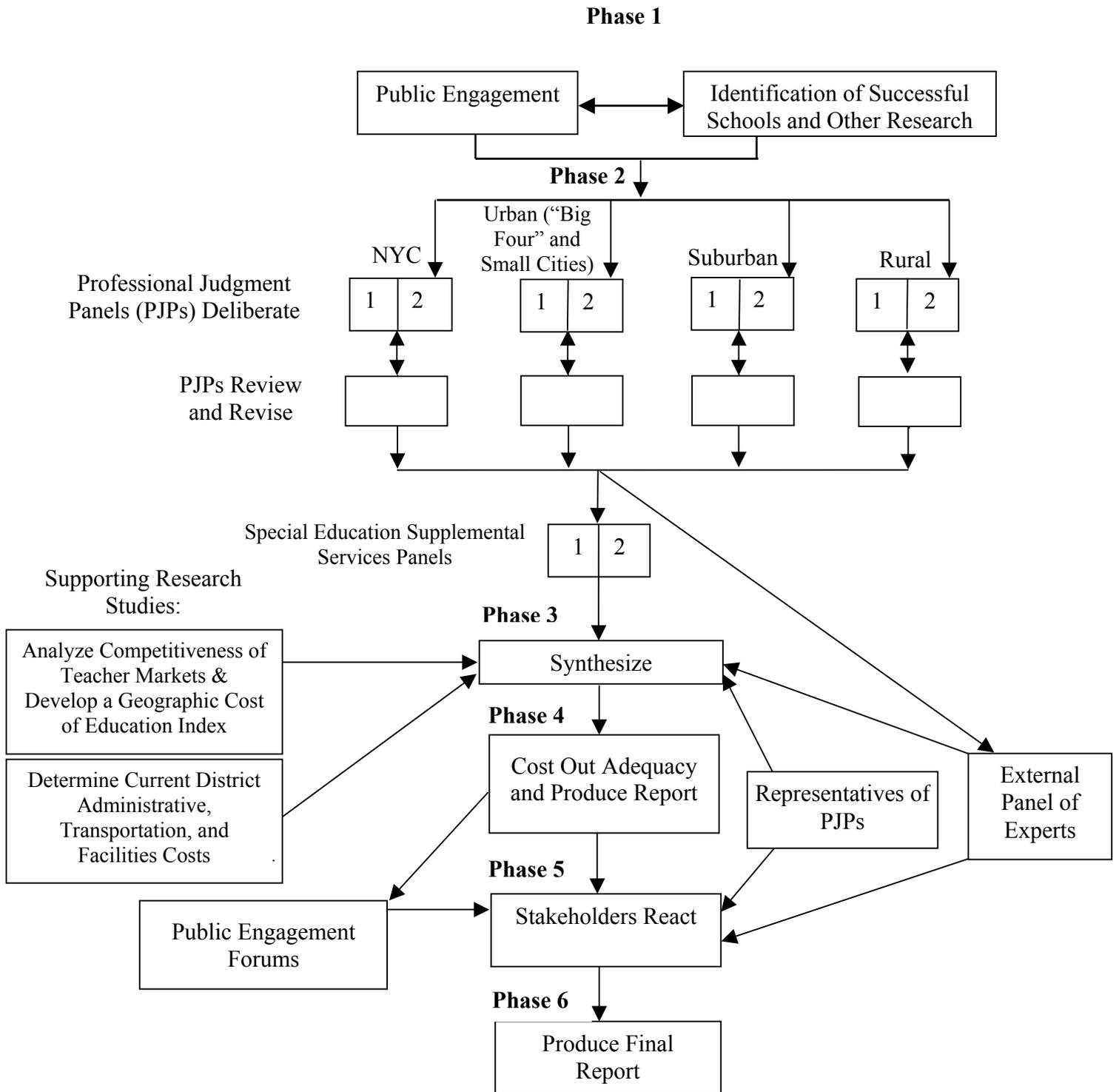
The AIR principal investigators involved with the proposed study have pioneered means for involving informed educators (who serve on PJPs) in the process of designing the educational delivery system models that may be used to cost out an adequate education for students attending public schools. The initial work in this area was conducted in Illinois and Alaska (see Chambers and Parrish, 1982 and 1984). MAP principals have more recently capitalized upon these prior developments to construct a series of simulation exercises that take advantage of the professional knowledge and expertise of outstanding teachers, principals, business managers, superintendents, and other experts to construct instructional programs capable of achieving specified learning objectives. AIR/MAP experts can then use these program specifications to determine the cost of an

adequate education as designed by the PJPs. The resulting programs and their costs provide a reasoned estimate of what is necessary to achieve specified goals

Professional Judgment Process

Exhibit 1 on the following page provides an overview of how the various components of this project fit together. A general description of the process follows. The proposal provides further details on each of the phases and dimensions of the project.

Exhibit 1: Overview of Project Components



Phase 1: Public Engagement and Preparation for Panels

The AIR/MAP team will be working initially with the Campaign for Fiscal Equity (CFE), the New York State School Boards Association (NYSSBA), and a number of other education, civic, and business groups (the “Council on Costing-Out” or CCO) on a public engagement campaign that will call upon teachers, administrators, school board members, parents, business leaders, policy makers, and other members of the community to help establish the goals for the educational funding system and assist us in setting the standards (i.e., outcomes) against which the system will be built and judged. The Regents Learning Standards will be the ultimate benchmark for defining the concept of adequacy in the funding of education.

Phase 2: Convene Professional Judgment Panels (PJPs)

The AIR/MAP team will select a series of ten Professional Judgment Panels (PJPs), each of which will include representatives of professional educators, including superintendents, school principals, school business officials, teachers, and special educators. Members of the PJPs will be selected from the identified successful schools and districts and through other nomination processes. The PJPs will be given the charge of designing instructional programs and specifying the resource inputs necessary to deliver these programs in order to meet the outcome standards for students that will be determined in Phase 1. The results of this work will be presented and rationalized by selected representatives of the PJPs and evaluated by a combined team of their peers as well as school board members, parents, business leaders, policy makers, and other members of the community. Knowing that their work will be scrutinized through a broad-based evaluation process will help to maintain a realistic perspective among the PJPs.

Two panels each will be selected to specify resource inputs in each of four categories of school districts, including one for New York City, one for urban districts (the “Big Four” districts and small cities),¹ one for suburban districts, and one for rural districts and communities. Two additional panels will be selected from members of the other eight panels to focus on special education.

Phase 3: Synthesize Panels’ Work and Experts’ Reactions, and Complete Supporting Research Studies of Current District Administrative Costs and Geographic Cost of Education Index

During this phase, the AIR/MAP team will review and synthesize the work of the PJPs, the statistical analysis of successful schools and other research carried out during Phase 1 of this project, and the reactions to the work of the PJPs obtained from an external panel of experts. The purpose of the synthesis is to develop the final model to be used to cost out an adequate education. We will also complete the work on supporting research studies (described below) to develop procedures for estimating the current costs of central district administration, home-to-school transportation, and school facilities; and for estimating a geographic cost of education index (GCEI) for New York State.

¹ The “Big Four” districts are Buffalo, Rochester, Syracuse, and Yonkers.

Phase 4: Cost Out Adequacy and Produce Report

In the fourth phase the AIR/MAP team will use the work of the PJPs (from Phase 2), the synthesis completed during Phase 3, the supporting studies of district administrative costs and the GCEI completed during Phase 3, and enrollment data for schools and districts in New York State to estimate the costs to achieve the adequacy standards established during Phase 1. Simulations will be performed to explore variations in the costs of adequacy based on alternatives specified by the various PJPs participating in the process. During this phase a draft report will be produced, which will be widely disseminated and reviewed during Phase 5. This report will include estimates of costs for various categories of schools and districts (e.g., for urban, suburban, and rural schools).

Phase 5: Stakeholders React

The CCO will arrange a series of public engagement forums for AIR/MAP to present the preliminary report and to solicit feedback on the report. The CCO will synthesize the various reactions. In addition to the public engagement forums, a Stakeholders' Committee will be convened, which will be comprised of educators and other stakeholders, such as school board members, parents, business leaders, policy makers, representatives from the State legislature, and representatives from the Governor's staff. A representative from each of the PJPs will serve as a member of the Committee. This committee will consider the advice emanating from the public engagement forums and react to the AIR/MAP preliminary report.

Phase 6: Produce Final Report

Final decisions will be made by the broad-based panel of stakeholders about the adoption of the appropriate programs and specifications that should be used for funding schools in the State of New York. In the final report, AIR/MAP will specifically respond to the Committee's concerns and comments, as well as to the major themes arising from the public engagement forums. This final report will provide a cost estimate for adequate education in each district in New York State.

Supporting Research Studies

The Costs of District Administration, Home-to-School Transportation, and Capital Facilities

Because of the special complexities involved in determining the costs of district administration, home-to-school transportation services, and capital facilities, the present study will not attempt to determine how to define adequacy for these components of educational expenditure. Rather, the study will utilize extant fiscal data provided by the NYSED to determine current allocations for these three components for each district in order to permit comparisons of total expenditures estimated from the AIR/MAP models. The AIR/MAP models of adequacy will focus on allocations at the school level for instruction, support, and administration of these programs. The analysis of how adequacy can be defined for central administration, home-to-school transportation, and capital facilities will be left to a future research project.

Geographic Cost of Education Index

It is the purpose of this component of the project to conduct a comprehensive analysis to address the various factors that affect the ability of districts in New York to access comparable school resources in the different regions of the state. The result of this work will be the development of a geographic cost of education index. The personnel component of the geographic cost of education index (GCEI) addresses the following question:

How much more or less does it cost to recruit and employ comparable school personnel in different geographic locations around the state?

The GCEI is a cost-adjustment index that permits translation of nominal dollar values into *real* dollars of purchasing power for school personnel. Such an index can be used to provide equal purchasing power for educational dollars made available to local school districts by the state department of education.

We propose to utilize the *hedonic wage model* to examine the overall patterns of variation in the salaries and wages of certified and non-certified personnel. This model provides a comprehensive framework for understanding the various factors that underlie variations in the patterns of employee compensation. It is well suited as a tool to isolate the impact of regional amenities and costs of living on the salaries of school personnel, while controlling for various personal and job characteristics. It is currently the most widely used method for estimating the patterns of variation in the costs of school personnel.

Analysis of the Competitiveness of Teacher Labor Markets in New York State

As part of our analysis to develop the GCEI, we will conduct a study to determine whether the teacher wage levels in New York State are adequate to attract a qualified teacher work force. New York's ability to hire and retain competent teachers depends on how the available supply of labor responds to the compensation system in place, as well as how the compensation system compares to other neighboring regions. In this analysis, we will assess how teacher wages compare to other occupations within the state, explore the patterns of turnover and retention across districts in different regions of the state, and gather information about the difficulties districts face in attracting qualified teachers. For this analysis, AIR/MAP will attempt to estimate the impact on salaries that may result from the new provisions under the No Child Left Behind Act, which call for all states to ensure that by the 2005-06 school year all teachers teaching in core subject areas are "highly qualified."

Major Deliverables

Several significant reporting tasks will be completed during this study. These activities include preparation of a PJP summary report, preliminary report, final report, and documentation of the PJP-specified resources. The final report will provide a detailed description of the methodology used to estimate the cost of an adequate education, a cost estimate for adequate education in each district in New York State, and a discussion of how to adjust the cost estimate for adequate education over time.

It should be noted that the cost estimates that will be provided in this final report represent what is *currently* needed to provide an adequate education to all students in New York State. Similar studies should be conducted every three to five years to maintain and update these estimates. The methodology proposed for this study can serve as a basis for these future studies. At the same time, once having the analytical framework and data needed for the present study, subsequent studies of this kind should be somewhat less costly to conduct.

Schedule of Tasks

The exact dates of submission for the major deliverables will be contingent on the start date of the project. AIR/MAP will set the submission dates for the major deliverables in consultation with CFE at that time. The task schedule below provides an estimated time line for the six major phases of the study and major deliverables, assuming a start date of January, 2003.

Task Schedule

	2003												2004					
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A		
Phases																		
(1) Public Engagement, Identification of Successful Schools, and Other Research	●	—	—	—	●													
(2) Convene PJPs			●	—	—	●												
(3) Synthesize Panels' Work and Experts' Reactions; Complete Supporting Studies					●	—	—	●										
(4) Cost Out Adequacy and Produce Report								●	—	●								
(5) Stakeholders react									●	—	—	●						
(6) Produce Final Report											●	—	—	●				
Reports																		
Summary of PJPs						●												
Preliminary Report										●								
Final Report													●					
Resource Documentation													●					

Staff and Project Organization

This project will involve collaboration between the American Institutes for Research (AIR) and Management, Analysis, & Planning (MAP), Inc. AIR/MAP has assembled a highly skilled and nationally recognized team of researchers to direct this project. The following summaries highlight the relevant experience and expertise of the project management team and principal consultants.

Project Management Team

Dr. Jay G. Chambers, who is currently a Senior Research Fellow and Director of the Business Development Committee in Economic Indicators and Education Finance at AIR, will serve as Co-Project Director. Dr. Chambers is a nationally recognized scholar in the economics of education and school finance. He has conducted numerous large-scale studies focused on the estimation of educational cost differences across public schools in the U.S. He has published numerous papers in books and professional journals on variations in the prices of school inputs and the development and implementation of the Resource Cost Model (RCM). He designed the original software supporting the use of the RCM in school finance and expenditure studies. Dr. Chambers has also directed a number of large-scale studies on resource allocation in Title I and special education programs for the U.S. Department of Education. Dr. Chambers is currently the President of the American Education Finance Association and is serving on President Bush's Commission on Excellence in Special Education.

Dr. James R. Smith, President and Chief Executive Officer of MAP, holds an MBA and Ph.D. Dr. Smith will serve as a Co-Project Director. He has been a public school teacher and high-level executive in both public and private sectors. He has served as Deputy Superintendent of the California Department of Education and Senior Vice President of the National Board of Professional Teaching Standards. Dr. Smith specializes in school finance, governance, organizational dynamics, teacher and student assessment, and curriculum and instructional policy. He has directed MAP projects for state agencies and school districts in no fewer than 15 states and has served as an expert witness and provided litigation support in school finance cases in Arkansas, Colorado, Minnesota, New York and Wyoming.

Dr. Thomas B. Parrish, the Deputy Director of the Education Program at AIR, began his career as an elementary school teacher. Dr. Parrish will serve as a Principal Task Leader for this project. As a researcher, his major area of expertise is fiscal policy in public education, with an emphasis on special education. He has directed and participated in numerous cost analysis, education policy, and evaluation projects for federal, state, and local agencies over the past 25 years. He has addressed numerous committees, conferences, and legislative bodies on education finance policy, and has written extensively on these issues. He also directs the Center for Special Education Finance (CSEF), which is funded by the U.S. Department of Education, at AIR. In addition, he has directed numerous projects in the areas of education reform, evaluation, cost analysis,

and finance. Recently, he co-edited and contributed several chapters to *Funding Special Education*, a book recently released by Corwin Press. In addition, Drs. Parrish and Chambers have jointly published a number of papers on the application and use of professional judgment and cost analyses to address questions of education adequacy.

Dr. James W. Guthrie, who founded MAP as a sole proprietorship in 1985, will serve as a Principal Task Leader for this project. He has been a public school teacher, state education department official, federal government cabinet special assistant, education specialist for the United States Senate, and an elected local school board member. He has been a professor for the past 27 years and is the founding director of the Peabody Center for Education Policy at Vanderbilt University. He has published ten books, hundreds of professional and scholarly articles, and has garnered numerous academic distinctions. He specializes in school finance, education administration and leadership, policy analysis, and education and government. Dr. Guthrie has personally served as a consultant to the governments of Armenia, Chile, Hong Kong, Pakistan, Romania, and South Africa, as well as international organizations such as AID, The World Bank, OECD, and OAS.

Principal Consultants

AIR/MAP has assembled a group of consultants who will provide expertise that complement the project management group. This highly experienced and nationally recognized selection of consultants will serve in varying capacities as described below, including participating on the external panel of experts, providing expertise for the supporting studies in this project, and serving as PJP Facilitators. All consultants have accepted AIR/MAP's invitation to participate in this project.

Dr. Kenji Hakuta will also serve on the external panel of experts, providing extensive knowledge and experience with the education of English language learners. Dr. Hakuta has been a Professor of Education at Stanford University since 1989, and is an expert in the politics of language acquisition and education policy. His research interests are in developmental psycholinguistic issues as they occur in diverse sociocultural and K-12 educational settings. Dr. Hakuta regularly serves as an expert on the topics of bilingualism and limited-English-proficient students for local, state and federal policymakers. Dr. Hakuta holds a Ph.D. in Experimental Psychology from Harvard University, and was elected to the National Academy of Education in 1996. He is currently the chair of the Board of Trustees of the Center for Applied Linguistics, and a member of the committee on English as a New Language for the National Board for Professional Teaching Standards. He is also serving as a member of the Commission on Learning in the Elementary Grades for the Carnegie Corporation of New York.

Dr. Henry M. Levin will serve on the external panel of experts, providing expertise in the cost effectiveness of education and programs for at-risk youth. Dr. Levin is currently a William Heard Kilpatrick Professor of Economics and Education at Teachers College, Columbia University, and the director of the National Center for the Study of Privatization in Education. He specializes in the areas of the economics of education,

urban economics, public finance, and education policy. Among his many honors and professional activities, Dr. Levin has served as an elected member of the National Collegiate Athletic Association Research Committee from 1993-1999 and was named in 1991 as one of nine national leaders in educational innovation by the *New York Times*. In the New York area, he sits on the Governing Board of the Institute on Education and Government at Teachers College, Columbia University, and the Board of Directors of the Salvatori Project in New York City.

Dr. Margaret McLaughlin will serve on the external panel of experts, providing expertise in special education. Dr. McLaughlin has been involved in special education all of her professional career, beginning as a teacher of students with serious emotional and behavior disorders. She is the Associate Director of the Institute for the Study of Exceptional Children, a research institute within the College of Education, University of Maryland, and directs several national projects investigating educational reform and students with disabilities. Dr. McLaughlin co-chaired the National Academy of Sciences Committee on Goals 2000 and Students with Disabilities, which resulted in the report *Educating One and All*. She is also a member of the NAS Committee on the disproportionate representation of minority students in special education.

Dr. Leanna Stiefel will provide guidance during various statistical analyses that will be conducted for this study, including the identification of successful schools and districts in New York state, analyses to address the question of whether teacher salaries are sufficient to attract highly qualified teachers to New York schools, and the production of a geographic cost of education index. She is currently a Professor of Economics at the Robert F. Wagner Graduate School of Public Service at New York University, where she teaches courses in financial management and multivariate statistics. Her research focuses on public sector economics, including the assessment of equity in school finance, the distributional impact of government in-kind programs, and applied statistical analysis.

Dr. Lori Taylor will provide guidance and expertise and will conduct analyses as necessary in conjunction with the development of the geographic cost of education index for New York State. Dr. Taylor is a Senior Economist and Policy Advisor at the Federal Reserve Bank of Dallas. Dr. Taylor is currently collaborating with Dr. Chambers on the development of the Alaska Geographic Cost of Education Study. Dr. Taylor also recently served as Principal Researcher on the Texas Cost-of-Education Project for the University of Texas. The Texas CEI project, conducted at the request of the 76th Texas Legislature, developed a number of strategies for adjusting the Texas school finance formula to reflect variations in the cost of education. Dr. Taylor was closely involved in all aspects of the analysis, but particularly emphasized the development of a teacher salary index, an administrator salary index and a wage-based cost-of-living index for Texas counties.

Dr. Michael Wolkoff will provide expertise during the analysis of data to explore the competitiveness of school personnel labor markets in New York. Dr. Wolkoff is currently the Deputy Chairman and a Senior Lecturer in Economics and Public Policy in the Department of Economics at the University of Rochester. He brings to the project

extensive experience in public policy analysis and evaluation, public finance, and school finance. He recently collaborated with MAP in their application of the Professional Judgment Model to Wyoming, publishing two reports to the Wyoming State Legislature: “Wyoming School District Compensation Report” (January, 2002) and “Regional Price Adjustment”(January, 2002). Dr. Wolkoff earned his Ph.D. in Public Policy Studies from the University of Michigan in 1981.

Dr. Jacob Adams will serve as one of the PJP Facilitators for the project. Dr. Adams is currently a Research Associate Professor of Public Affairs at the University of Washington, a Senior Research Fellow at the Center on Reinventing Public Education, and a member of the Editorial Board for *Leadership and Policy in Schools*. His current research focus includes the policy context of K-12 education, with particular attention to ways in which governance and finance policies and implementation practices influence school capacity. Prior to the University of Washington, Dr. Adams was an Associate Professor of Education and Public Policy at Peabody College, Vanderbilt University. He has previously collaborated with MAP in their application of the Professional Judgment Model.

Dr. Ellen Goldring will serve as one of the PJP Facilitators for the project. Dr. Goldring is currently a Professor of Education Policy and Leadership at Peabody College, Vanderbilt University. She serves on the editorial boards of *Educational Evaluation and Policy Analysis*, *Journal of Educational Research* and *Peabody Journal of Education*. She is also a member of the Task Force on Developing Research to Improve Educational Leadership, co-sponsored by the American Education Research Association, The Laboratory of Student Success, and University Council for Educational Administration. Her research focuses on understanding school reform that connects families, communities, and schools. She emphasizes the changing role of school leaders in complex community and organizational contexts.

This project is being conducted and managed by the four members of the AIR/MAP research team listed above. CFE and NYSSBA have helped organize the project and, together with the other education, civic and business groups that will comprise the Council on Costing-Out, will organize public engagement forums to allow the public to provide input to the consultants and the panels.

The final report, and the judgments and recommendations contained therein, will be based on the independent judgment of the consultants, informed by the recommendations of the panels, the expert advisers, and public input through the various public engagement processes, and they will not be governed by the litigation or policy positions of CFE, NYSSBA, or any of the other participating groups or individuals.