Response to RFP BLR-190003 for Education Adequacy Consulting Services

Prepared for the

Bureau of Legislative Research, State of Arkansas

By

Augenblick, Palaich and Associates, WestEd and Partners

Primary Contact:
Justin Silverstein, co-CEO
Augenblick, Palaich and Associates
1547 Gaylord St Denver, CO 80206
720-227-0075
jrs@apaconsulting.net

September 20, 2019

AUGENBLICK, PALAICH AND ASSOCIATES

September 18, 2019

Ms. Jillian Thayer
Director, BLR Legal Counsel
State Capitol Building, Room 315
Little Rock, AR 72201

Dear Ms. Thayer and Committees members,

Augenblick, Palaich and Associates, Inc. (APA) is pleased to respond to Arkansas' Education Adequacy Consulting Services RFP BLR-190003. This response builds on our submission related to the Committees' earlier RFP BLR-190001.

APA is a privately-owned, Denver-based consulting firm with 36 years of experience analyzing education systems and policies. Since its founding, much of the firm's work has been associated with conducting statewide education policy studies on a variety of topics of interest to state legislatures, boards of education, and departments of education. APA is a leading consultant on adequacy studies, having analyzed the resources needed to meet state standards in 23 states.

The study team includes WestEd as a partner, along with other nationally recognized school finance experts. With over 100 years of combined school finance research experience, the study team has the background to examine all the areas of Arkansas' school finance system mentioned in the RFP. The team has also worked with policymakers from across the country implementing finance and adequacy study results to better serve students, teachers, schools, and districts.

The current RFP is similar to the previous RFP and much of APA's response remains the same for those sections that did not change. The study team recognizes the shift in focus in Section 3.0.A from a classic adequacy study (using multiple approaches to identify an adequacy recommendation) to a focus on providing Arkansas with a systematic approach to updating its adequacy figures biennially. Though this shift has happened, a number of the elements often related to adequacy studies have been added to the RFP including the use of case studies and educator panels. The APA team is excited to implement these research approaches while recognizing the study is not intended to produce specific adequacy figures. The RFP also adds a number of other new requirements to the study. The study team will use fiscal and performance data analysis, case studies, literature reviews, stakeholder engagement, a district survey, and additional quantitative and qualitative data to address all sections of the RFP.

The APA team worked to address all feedback it received during its previous interview with the committee, including diversifying the project team, ensuring an understanding of the Lake View decision, and identifying a local partner to work with.

I will lead the study for APA. I have studied school finance across the country for over 20 years and led many statewide school finance studies. WestEd's work will be led by Jason Willis, a leading researcher in cost function analysis. We look forward to working with the Arkansas Legislature. If you have any further questions, please call me at 720-227-0075 or jrs@apaconsulting.net.

Sincerely,

Justin Silverstein
Co-CEO
Augenblick, Palaich and Associates

PROPOSAL SIGNATURE PAGE

Type or Print the following information:

Prospective Contractor Contact Information

Contact Person: Justin Silverstein Title: Co-CEO

Phone: 720-227-0075 Alternate Phone: 303-293-2175

Email: jrs@apaconsulting.net

Confirmation of Redacted Copy

☐ YES, a redacted copy of proposal documents is enclosed.

☒ NO, a redacted copy of submission documents is not enclosed. I understand a full copy of non-redacted submission documents will be released if requested.

Note: If a redacted copy of the proposal documents is not provided with the Vendor's proposal, and neither box is checked a copy of the unredacted documents will be released in response to any request made under the Arkansas Freedom of Information Act (FOIA).

Illegal Immigrant Confirmation

By signing and submitting a response to this RFP and by certifying online at https://www.ark.org/dfa/immigrant/index.php/disclosure/submit/new , the Vendor agrees and certifies that they do not employ or contract with illegal immigrants. If selected, the Vendor certifies that they will not employ or contract with illegal immigrants during the aggregate term of the contract.

Israel Boycott Restriction Confirmation

By checking the box below, the Vendor agrees and certifies that they do not boycott Israel, and if selected, will not boycott Israel during the aggregate term of the contract.

☒ Vendor does not and will not boycott Israel.

An official authorized to bind the Vendor to a resultant contract shall sign below.

The Signature below signifies agreement that any exception that conflicts with the requirements of this RFP will cause the Vendor's proposal to be disqualified.

Authorized Signature: Justin Silverstein **Title:** Co-CEO

Printed/Typed Name: Justin Silverstein **Date:** 9/18/19

Executive Summary

Vendor Qualifications

The study team assembled for this project brings decades of school finance experience, including two leading national school finance organizations, Augenblick, Palaich and Associates (APA) and WestEd, that have worked across the country helping policymakers improve school finance systems. The study team has unparalleled experience in applying nationally recognized adequacy approaches, a deep understanding of the complexities associated with school finance systems, the ability to create digestible and actionable findings for policymakers, and the ability to support the development and implementation of revised or new funding formulas.

The study team partners have conducted numerous school finance studies over the past three years in the following states:

- APA – Maryland (adequacy study, in support of the Kirwan Commission and a special education study with WestEd), Michigan, Nevada, Utah (with WestEd), and Wyoming
- WestEd – California, Kansas, Maryland (special education study with APA), North Carolina, and Utah (with APA)

Since 1983, APA has not only conducted adequacy studies in more than 20 states but has also designed school finance systems that were enacted in New Hampshire, Kentucky, Louisiana, Colorado, Mississippi, Ohio, Maryland, Kansas, New Jersey, and Pennsylvania. In several states, those systems are still operating today. In the current legislative and budget sessions, two additional states are considering revising their funding system's based upon APA's recommendations.

Of APA's recent projects with states on school finance matters, two are particularly relevant: Maryland (2016) and Wyoming (2018). Both were large scale state finance studies that also involved multiple sub-studies and reports, including on matters such as concentrations of poverty, appropriate proxy measures for economically disadvantaged students, case studies of successful schools, and deep reviews of best practices from the literature and national policy scans. Each also involved multi-phase data collection efforts and the coordination of large teams of school finance experts, and the Wyoming study included statewide stakeholder engagement and comparing the recommendations of the state's current resource allocation to both the prior recommended research and current legislation.

In addition to APA and WestEd, the study team includes other national school finance experts including Michael Griffith (independent consultant, formerly at the Education Commission of the States), Dr. William Hartman (Pennsylvania State University) and Robert Schoch (independent consultant).

Proposed Work Plan

The proposed work plan described in this RFP response is intended to "provide to the members of the Arkansas General Assembly detailed and accurate information concerning the current efficacy of the biennial adequacy study and evaluation undertaken by the Committees, and to provide the Committees

with recommendations regarding reform or replacement of the current methods for determining educational adequacy in the State of Arkansas" as required in the RFP.

The description of the proposed work plan is presented according to the sections in the RFP, including Sections 3.0.A, 3.0.B, 3.0.C. and 3.1. The first three sections include tables outlining the various study activities that will be used to answer the research questions, these activities include:

- Fiscal and performance data analysis
- Case studies
- Literature/document reviews
- Educator panels/stakeholder engagement
- District survey
- Additional qualitative and quantitative work

Each activity will be referred to in the appropriate RFP task section or subsection, but the study team offers the following general information about the literature reviews, stakeholder engagement and district survey which are applicable across RFP tasks:

> **Literature/ document reviews:** Each literature review will examine the academic and policy research available on a given topic. In many cases, the study team will examine how states are addressing specific concerns. In each of these cases, all 50 states will be reviewed, with special attention will be paid to the Southern Regional Education Board (SREB) states and a set of leading national states. Each state level review will include an individual table for each highlighted group of states.
>
> **Educator panels/ stakeholder engagement:** The study team proposes three avenues of engagement: 1) four in-person listening sessions with educators in four different locations in the state that will be open to all educators in the region; 2) up to 16 targeted educator panels- four in each region, one for teachers, one for school leaders, one for superintendents and one for CFOs/business managers- with up to 20 Arkansas educators per panel; and 3) an online survey that will be open to both educators and the public, including parents, students, business leaders and community members. This approach will allow the study team to gather feedback in areas such as the college/career readiness definition, attraction and retention of staff, and resources needs not currently met in the state's current funding matrix.
>
> **District survey:** When needed data are not already available, the study team will survey districts through a single district survey that will address information needs in multiple study areas including school/district size issues (existing policies, best practices, and impact), best uses of funding for economically disadvantaged students, and capital needs.

Narratives on how each specific study area will be addressed by RFP section are presented in the full "Proposed Work Plan" section of the study team's RFP response. This Executive Summary provides summary tables of the tasks being used to address the required study components.

Section 3.0.A Adequacy Study

In response to Section 3.0.A, the study team will address a number of areas related to adequacy, including methods for routinely reviewing adequacy (Section 3.0.A.1), addressing concentrations of poverty, achievement gaps, and the correlation between performance and funding (Sections 3.0.A.2-4), reviewing adequacy studies nationally (Section 3.0.A.5), reviewing resources in the state's current funding matrix (Section 3.0.A.6), and helping identify a college and career readiness definition (Section 3.0.A.7).

Section 3.0.A							
	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	District Survey	Additional Quantitative Work	Additional Qualitative Work
1. Recommended Methods for Routinely Reviewing Adequacy			X				
2. Concentrations of Poverty	X		X		X		X
3. Identification of Gaps and Programs to Address	X	X				X	X
4. Correlation Between Performance and Funding	X	X					
5. Review of Adequacy Studies			X				
6. Review of Resources in Matrix	X	X		X	X	X	
7. College/Career Readiness			X	X			X

Section 3.0.B School and District Size

The work in section 3.0.B primarily focuses on issues related to class and school size (Sections 3.0.B.1-5), as well as isolation and remoteness (Sections 3.0.B.6 and 8). Section 3.0.B.7 examines the relationship of class size requirements, student teacher ratios, teacher salaries, and other factors.

Section 3.0.B							
	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	District Survey	Additional Quantitative Work	Additional Qualitative Work
1. Current School Size Policies					X	X	
2. School Size Best Practices			X		X		X
3. Impacts of School/District Size			X		X	X	
4. Recommendations on Ideal Size of Schools			X				
5. Public Input on School Size Standards				X	X		X
6. Addressing Small District Size and Remoteness	X		X				
7. Class Size Requirements, Student/Teacher Ratios and Salary Variations	X		X				
8. Identification and Operation Criteria for Isolated Schools and/or Districts			X				

Section 3.0.C Additional Studies

The last section of the RFP identifies a number of additional studies areas to be addressed on a variety of topics. It also specifically requires the use of case studies (Section 3.0.C.9) and educator panels (3.0.C.16).

Section 3.0.C							
	Fiscal and Performance Data Analysis	Case Studies	Literature/ Document Review	Educator Panels/ Stakeholder Engagement	District Survey	Additional Quantitative Work	Additional Qualitative Work
1. Evaluation of Economically Disadvantaged Student Proxy							
1.a Community Eligibility Provision Evaluation			X			X	
1.b Impact on State Aid Formulas						X	
1.c Alternative Proxies			X			X	
2. Impacts on Equity						X	
3. Impacts of Enrollment Changes			X			X	
4. Attracting and Retaining Administrative and Educational Staff			X	X		X	
5. Attracting and Retaining Nurses			X	X		X	
6. Resources for Student Mental Health Issues			X	X			
7. Capital Needs			X		X	X	
8. Best use of Poverty Funds	X	X	X	X	X		
9. Case Studies of Successful Schools		X					
10. Impact of Vouchers	X		X			X	
11. Impact of Waivers			X			X	
12. Examination of Uniform Tax Rate			X			X	
13. Funding for Concentrations of Poverty	X		X				
14. Professional Development and Extra Duty Time		X	X		X		
15. Comparison of Prior Study Recommendations and Legislation			X				
16. Educator Panels				X			

Section 3.0.D Reporting and Support

The study team understands the requirements for reporting and support as described in the RFP. A final report detailing all activities will be completed in November 2020. The study team will work with the Committees and staff throughout the process to ensure that all required information is included in the report. A draft report will be submitted in September 2020, allowing for up to a month of review by the Committees and staff.

The study team will provide monthly updates to staff and be available at all Committees meetings as requested. Working with the committees and staff, study team members will be available for additional research and data inquiries. As the draft report is completed, study team members will begin work with Committees staff on creating draft legislation, if needed.

Section 3.1 Education Adequacy Consulting

APA and its partners agree to all stated specifications and requirements in the RFP and has outlined its proposed scope of work to address all requirements to provide the requested services to the Committees. As previously noted, the study team is committed to attending meetings of the Committees and other legislative committees of the Arkansas General Assembly. The study team does not anticipate any limitations in its ability to attend meetings or provide any of the services described in Section 3.0.D.

Timeline

The proposed timeline assumes a project start date of mid-October 2019 and a completion date of December 2020. The final report will be delivered by the November 2020, providing time for presentations and other work related to any drafted legislation. Other timeline highlights:

- **Section 3.0.A:** Literature reviews and collection of existing data (fiscal, staffing, student characteristics, performance) will begin immediately, with stakeholder engagement and analysis to occur in the spring of 2020. All work in this section will be completed by June 2020.
- **Section 3.0.B and 3.0.C:** The additional studies will run throughout the study timeframe with many of the literature reviews finished by January 2020.

The timeline, as outlined above and presented in greater detail on the following page, is preliminary and the study team will work with the Committees and staff to finalize the timeline to best meet Arkansas' needs.

Contents

Vendor Profile

Business Name: Augenblick, Palaich and Associates, Inc. (primary vendor for study)

Business Address: 1547 Gaylord St. Denver, CO 80206

Alternate Business Address: N/A

Primary Contact Information:

Name	Justin Silverstein
Organization	Augenblick, Palaich and Associates
Title	CEO
Phone	303-725-6143
Fax	N/A
Email	jrs@apaconsulting.net

Years in Business: 36 years (since 1983)

Proof Vendor is qualified to do business in the State of Arkansas:

APA is qualified to do business in the State of Arkansas and is in good standing under the laws of the state; see Attachment B for related Certificate of Good Standing issued by the Arkansas Secretary of State. Further, APA shall file appropriate tax returns as provided by the laws of this State.

APA currently is, and will at all times remain, lawfully organized and constituted under all federal, state, and local law, ordinances, and other authorities of its domicile and that it currently is, and will at all times remain, in full compliance with all legal requirements of its domicile and the State of Arkansas.

Corporation Information:

Name	Percentage Ownership	Address
Company Officers		
Amanda Brown, Board President	14.0%	2340 Albion St, Denver, CO 80207
Robert Reichardt, Board Secretary	4.7%	6007 S. Lakeview St, Littleton, CO 80120
Additional Shareholders, Greater Than 10 % Ownership		
Dale DeCesare, CEO	23.3%	6210 S Logan St, Centennial, CO 80121
John Augenblick, Retired	11.6%	1106 Race St, Denver, CO 80206
Justin Silverstein, CEO	23.3%	3166 Elmira Ct, Denver, CO 80238
Robert Palaich, Past President	23.3%	5692 Pennsylvania Pl, Boulder, CO 80303

Subcontractors:

Name of Firm/Individual	Address	Description of Firm	Work Description
WestEd (Jason Willis, contact)	730 Harrison Street San Francisco, California 94107	WestEd is a Joint Powers Agency, authorized by a California Joint Powers Agreement and governed by public entities in Arizona, California, Nevada, and Utah, with Board members representing agencies from these states and nationally.	Complete the fiscal and performance data analysis in Sections 3.0.A.2-4, do additional quantitative analysis in Section 3.0.A.6, and support the development of the career/college definition (Section 3.0.A.7)
Michael Griffith	891 14th Street, Unit 3210 Denver, Colorado 80202	Individual Consultant	Assist APA in conducting literature reviews and policy scans (Sections 3.0A, 3.0.C)
William Hartman	534 W. Fairmont Ave State College, PA 16801	Individual Consultant	Lead study efforts related to school and district size (Section 3.0.B)
Robert Schoch	32 Sunset Circle Lititz, PA. 17543	Individual Consultant	Lead study efforts related to school and district size (Section 3.0.B)
Local University Partner	TBD	Local University Partner	Assist APA with stakeholder engagement

States and Jurisdictions where APA works:

APA began working with states to examine school finance issues 36 years ago. In its history, APA has worked in all fifty states. The firm is regularly asked to undertake large scale, multi-year examinations of state's school funding systems, as well as to provide ongoing technical support to state staff and has often done multiple studies for individual states. APA also provides research and technical assistance to seven states through the U.S. Department of Education funded REL Central, the Regional Educational Laboratory for the Central States, through a subcontract with Marzano Research.

States and Jurisdictions where APA is currently providing similar services:

As noted in the upcoming Qualifications section, APA recently completed several large statewide studies providing similar services requested in the RFP. States and jurisdictions where APA is currently providing similar services include:

- Nevada – APA recently completed an adequacy and finance study for the state and continues to supply technical support to the state as it works to implement a new formula.
- Maryland – APA recently completed a finance study for the state and is currently working as a subcontractor to WestEd, providing support in its study of Maryland's special education IEP system and state special education funding.

- Utah – Currently working as a subcontractor to WestEd to complete a state finance study, including reviewing components of the current system and making recommendations for possible changes.
- Hawaii – Currently undertaking a teacher compensation study, including reviewing best practices nationally, comparing Hawaii's salary schedule to other similar districts, and engaging stakeholders though listening sessions throughout the state and an online survey.
- REL Central (federal regional education laboratory) – As a subcontractor to Marzano Research, APA provides research and technical assistance to the seven central states; including assisting a school district with a cost-benefit analysis and modeling a state's teacher shortage areas.
- Austin ISD (Texas) – APA provides consulting services to Austin ISD, including updating a teacher compensation model and providing cost estimates of the district's compensation program.
- Colorado School Finance Project – APA CEO Justin Silverstein serves as Senior Fellow to the Colorado School Finance Project, providing school finance and data analysis expertise to this non-profit whose mission is to compile, collect and distribute research-based, non-partisan information and data on topics related to school finance for state and local policy makers.

Equal Opportunity Policy:

Augenblick, Palaich & Associates, Inc. is an Equal Opportunity Employer that does not discriminate on the basis of actual or perceived race, creed, color, religion, alienage or national origin, ancestry, citizenship status, age, disability or handicap, sex, marital status, veteran status, sexual orientation, genetic information, arrest record, or any other characteristic protected by applicable federal, state or local laws. Our management team is dedicated to this policy with respect to recruitment, hiring, placement, promotion, transfer, training, compensation, benefits, employee activities and general treatment during employment.

APA will endeavor to make a reasonable accommodation to the known physical or mental limitations of qualified employees with disabilities unless the accommodation would impose an undue hardship on the operation of our business.

APA will endeavor to accommodate the sincere religious beliefs of its employees to the extent such accommodation does not pose an undue hardship on APA's operations.

Disclosures and additional warranties:

- APA and none of its key employees have any known felonies or other criminal offenses beyond traffic violations.
- APA has no bankruptcies, insolvencies, reorganizations, or takeovers.
- There are no known conflicts of interest for APA or any of its subcontractors.
- All services provided pursuant to this RFP and the Contract have been and shall be prepared or done in a workman-like manner consistent with the highest standards of the industry in which the services are normally performed. All computer programs implemented for

performance under the Contract shall meet the performance standards required thereunder and shall correctly and accurately perform their intended functions.

Contract Grant and Disclosure and Certification Form:

Included as Appendix A.

Acknowledgements of RFP Requirements

While not specifically addressed later in this proposal, APA acknowledges and agrees with the requirements and terms set forth in each of the following sections:

1.0 Introduction
1.1 Issuing Agency
1.2 Schedule of Events
1.3 Cautions to Vendors
1.4 RFP Format
1.5 Alteration of Original RFP Documents
1.6 Requirement of Amendment
1.7 RFP Questions
1.9 Proprietary Information
1.10 Delivery of Response Documents
1.11 Bid Evaluation
1.12 Oral and/or Written Presentations/Demonstrations
1.13 Intent to Award
1.14 Appeals
1.16 Type of Contract
1.17 Payment and Invoice Provisions
1.18 Prime Contractor Responsibility
1.19 Delegation and/or Assignment
1.20 Conditions of Contract
1.21 Statement of Liability
1.22 Award Responsibility
1.24 Publicity
1.25 Confidentiality
1.26 Proposal Tenure
1.28 Contract Termination
1.30 Negotiations
1.31 Licenses and Permits
1.32 Ownership of Materials & Copyright
3.2 Procurement of Goods and Services
4.0 Compensation
4.1 Payment Schedule
4.2 Travel, Lodging, And Meals
5.0 Comprehensive Vendor Information
5.2 General Information
5.3 Disclosure of Litigation
5.5.1 Background Investigation

6.0 Generally
6.1 Evaluation Criteria

Further, APA acknowledges and agrees with the requirements and terms set forth in each of the following sections, which are also specifically addressed in this RFP response and related materials:

1.8 Sealed Prices/Cost (See separate Official Proposal Price Sheet)
1.15 Past Performance (See "Vendor Qualifications" and Appendix E)
1.23 Independent Price Determination (See Separate Official Proposal Price Sheet)
1.27 Warranties (See "Vendor Profile")
1.29 Vendor Qualifications (See "Vendor Qualifications", Appendices and separate Official Proposal Price Sheet)
2.0 Objectives (See "Proposed Work Plan")
3.0 Scope of Work/Specifications (See "Proposed Work Plan, Sections 3.0.A, 3.0.B, 3.0.C and 3.0.D")
3.1 Education Adequacy Consulting (See "Proposed Work Plan, Section 3.1")
5.1 Vendor Profile (See "Vendor Profile")
5.4 Executive Summary (See "Executive Summary")
5.5 Vendor's Qualifications (See "Vendor Qualifications")

Vendor Qualifications

Professional History

The study team assembled for this project brings together well over 100 combined years of school finance experience. It includes two leading national school finance organizations, Augenblick, Palaich and Associates (APA) and WestEd, along with consultants that have worked across the country helping policymakers improve school finance systems. The study team has unparalleled experience in applying nationally recognized adequacy approaches, a deep understanding of the complexities associated with school finance systems, the ability to create digestible and actionable findings for policymakers, and the ability to support the development and implementation of revised or new funding formulas.

The study team partners have conducted numerous school finance studies over the past three years in the following states:

- APA – Maryland (adequacy study, support of the Kirwan Commission and a special education study in partnership with WestEd), Michigan, Nevada, and Wyoming
- WestEd – California, Kansas, Maryland (special education study in partnership with APA), and North Carolina

Additionally, the collected group of subcontractors have partnered with APA and WestEd on these efforts or led their own studies on finance systems or specific funding elements.

The following sections will provide greater detail about how each organization and subcontractor is uniquely qualified to conduct the studies requested in BLR-190003 for the State of Arkansas.

Augenblick, Palaich and Associates

APA will be the primary vendor and lead organization for the proposed study. With over 35 years of experience conducting school finance studies, APA is a nationally recognized authority on school finance. In its history, APA has conducted studies for states and advocacy organizations in all fifty states. APA has a deep working knowledge of cost-based methodology and modeling, and regularly investigates regional cost differences, labor markets, and compensation systems, as well as funding issues associated with both rural and small schools/districts as important considerations when building a model or funding formula. With its extensive experience, APA understands how to both design a finance study so that the results are most useful in the policymaking arena and to work with policymakers to implement the results. All results presented by the study team will include the context needed for making implementation decisions in the future.

Since 1983, APA has not only conducted adequacy studies in more than 20 states but has also designed school finance systems that were enacted in New Hampshire, Kentucky, Louisiana, Colorado, Mississippi, Ohio, Maryland, Kansas, New Jersey, and Pennsylvania. In several states, those systems are still

operating today. In the current legislative and budget sessions, two additional states are considering revising their funding system's based upon APA's recommendations.

Of APA's recent projects with states on school finance matters, two are particularly relevant: Maryland (2016) and Wyoming (2018). Both were large scale adequacy studies that also involved multiple sub-studies and reports, including on matters such as concentrations of poverty, appropriate proxy measures for economically disadvantaged students, case studies of successful schools, and deep reviews of best practices from the literature and national policy scans. Each also involved multi-phase data collection efforts and the coordination of large teams of school finance experts, and the Wyoming study included statewide stakeholder engagement. and comparing the recommendations of the state's current resource allocation to both the prior recommended research and current legislation. These two projects are described in additional detail under "Recent Comparable Contracts with References" in the "Vendor Qualifications" section and work samples from each are in Appendix E.

Further, APA has the proven capacity to communicate and work effectively with all levels of local, state and national government agencies. APA has also analyzed, or is analyzing, the level of resources school districts need to fulfill state student performance expectations in 23 other states and the District of Columbia: Alabama, Colorado, Connecticut, Delaware, Illinois, Indiana, Kansas, Maryland, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Hampshire, New Jersey, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, and Washington DC. The firm has analyzed the equity of school finance systems in most of the states listed above and others, including Kentucky, Louisiana, and Texas.

APA provides research and technical assistance to states and school districts as a subcontractor with the Regional Education Laboratory (REL) Central through the U.S. Department of Education's Institute of Education Sciences (IES). APA also has extensive experience in evaluating education programs and initiatives, conducting policy scans and reviews, estimating the costs of quality preschool programs, conducting return on investment analyses, and designing and costing educator compensation plans.

Key APA staff members include:

Justin Silverstein will be the overall project lead, primary liaison with BLR and the Committees, and will also lead coordination with WestEd. Silverstein is co-CEO of APA and leads it school finance and cost modeling work. He has led school finance studies for numerous states including Alabama, Colorado, New Jersey, Nevada, and Wyoming. Silverstein has helped create and refine two of the most popular adequacy study methodologies, the successful schools and professional judgment approaches. He prides himself on his ability to work with policymakers to create a transparent and understandable set of recommendations for a state. He believes that the key to project management is communication. This begins by ensuring that APA clearly understands the client's needs and expectations for the project, along with establishing a clear timeline. Throughout the project, frequent check-ins with the client ensure that any concerns that arise can be addressed and adjustments can be made to the scope of

work to best serve the client's needs. Silverstein holds a Bachelor's in Accounting from the University of Colorado, Boulder.

Dr. Mark Fermanich will oversee the equity and tax analyses of the project along with managing the work of project subcontractors. Mark's primary focus is on state and local education issues, including education finance, education reform, educator accountability and compensation, and the return on investment of educational resources. He has worked on school finance equity and adequacy studies in a number of states. Mark's recent projects with APA include state school finance analyses for the states of Nevada, Wyoming, Michigan, and Maryland. Mark served as the national technical assistance advisor for fiscal and programmatic sustainability and performance-based compensation design for the U.S. Department of Education's Teacher Incentive Fund grant program. He has published research articles in the *Journal of Education Finance*, *The Elementary School Journal*, *Peabody Journal of Education*, and other education policy journals.

Prior to joining APA in 2013, Fermanich worked in education policy research for the Center for Education Policy Analysis at the University of Colorado Denver and the Consortium for Policy Research in Education (CPRE) at the University of Wisconsin-Madison, served as a professor of education policy at Oregon State University in Corvallis, Oregon, and Sonoma State University in Rohnert Park, California, and as an education policy analyst for the Minnesota State Senate. He also served as an administrator working on policy and budget initiatives for the Minneapolis and St. Paul school districts. Fermanich received his Ph.D. in Educational Leadership and Policy Analysis from the University of Wisconsin-Madison. He holds a Master's in Public Policy and Administration from the La Follette School of Public Affairs at the University of Wisconsin-Madison and a Bachelor's in Political Science from the University of Wisconsin-Oshkosh.

Amanda Brown will lead stakeholder engagement, including educator panels, for the study. Amanda's primary focus areas are school finance and evaluation, both at the state and local level. Brown has worked at the state level on large-scale adequacy studies; completed evaluations of state funding mechanisms to improve allocation of resources; conducted studies to understand the resource implications of specific education reform legislation and implementation of instructional best practices; and examined the impact of local/state assessment efforts and the Common Core State Standards. She led APA's recent study of Wyoming's education finance system and has contributed to all of APA's state-level school finance studies since 2005. Further, she leads APA's implementation of the professional judgement approach that includes using educator panels to identify resources.

At the local level, Brown has assisted local school districts to develop school-based budgeting formulas; conducted salary competitiveness studies; addressed issues of declining enrollment; and determined the efficiency of facilities usage. Additionally, she has led and participated in program evaluations of early childhood education and literacy for a number of nonprofit organizations. She holds a master's degree in Public Administration from the University of Colorado, Denver.

Jennifer Piscatelli will lead the case studies of successful Arkansas schools. Piscatelli joined APA in 2012 and has over 20 years of education policy experience. Her school finance experience began in the late 1990s, as legislative staff to the New Hampshire State Senate Education Committee and the New Hampshire Adequate Education and Education Finance Commission, tasked with developing the state's new funding formula for K-12 education. As a member of APA's school finance team, she helps lead professional judgment panels and contributes to costing out studies. She has participated in APA school finance projects in Alabama, Alaska, Nevada, Michigan, Maryland and Wyoming.

Prior to joining APA, Jennifer spent over 8 years as a researcher and policy analyst at the Education Commission of the States, staffed New Hampshire Governor Jeanne Shaheen's Kids Cabinet, and served as a Legislative Aide to the New Hampshire State Senate. Jennifer holds a master's degree in Political Science with an emphasis in Public Policy from the University of Colorado, Denver, and bachelor's degrees in Political Science and Women's Studies from the University of New Hampshire.

WestEd

WestEd is a preeminent educational research, development, and service organization with over 700 employees and 14 offices nationwide. WestEd has been a leader in moving research into practice by conducting research and development (R&D) programs, projects, and evaluations; by providing training and technical assistance; and by working with policymakers and practitioners at state and local levels to carry out large-scale school improvement and innovative change efforts. The agency's mission is to promote excellence, achieve equity, and improve learning for children, youth, and adults. In developing and applying the best available resources toward these goals, WestEd has built solid working relationships with education and community organizations at all levels, playing key roles in facilitating the efforts of others and in initiating important new improvement ventures. In 2016, WestEd celebrated a half-century milestone, marking 50 years of improving learning and healthy development for children, youth, and adults from cradle to career.

WestEd offers a number of services to educational agencies across the country. The Performance and Accountability service line helps to build systematic coherence within educational organizations across the U.S. to ensure the opportunity for equitable outcomes for all students. The team specializes in matters of state and school district finance and resource allocation having worked with states such as California, Kansas, Florida, and North Carolina to review and identify appropriate levels of spending to achieve desired student outcomes. Further, the agency has worked with dozens of school districts, both urban and rural, to assess their resource allocation patterns as a means to maximize the effectiveness of those dollars to drive student outcomes.

Key WestEd staff members include:

Jason Willis is the Director of Strategy & Performance for the Comprehensive School Assistance Program (CSAP) at WestEd. Willis will lead WestEd's work on this project and be WestEd's main contact with APA.

In his role at WestEd, he oversees and guides the expansion of CSAP's existing performance and accountability services, which include support to California's state and local education agencies to implement policies and practices to support the Local Control Funding Formula (LCFF) and realization of genuine continuous improvement efforts in school systems. Performance and accountability services provides this support through capacity building, facilitation of professional learning networks, and analysis of financial data including the effective use of resources. He has also worked with weighted student funding systems and identified the weights for additional resources that are allocated to schools for English Learners. Willis also provides visionary and strategic leadership to expand CSAP's project portfolio by working in collaboration with CSAP's Management Team.

Prior to joining WestEd, Willis served as Assistant Superintendent, Engagement and Accountability, for the San Jose Unified School District. He also served as the Chief Financial Officer/Chief Business Official for the Stockton Unified School District and Budget Director and Program Manager for the Oakland Unified School District.

Raifu Durodoye Jr. is a Research Associate at WestEd and an experienced administrative practitioner and researcher. He provides technical assistance to school districts and state education agencies, and designs and conducts experimental and quasi-experimental evaluations of education programs. Dr. Durodoye Jr. supports work affiliated with the REL – Northeast & Islands, REL-Mid-Atlantic, and WestEd's Comprehensive School Assistance Program. His work is focused on the implementation and effectiveness of academic interventions, state education agency strategies to support low-performing schools, and the implications of school funding disparities for at-risk student populations. Previously Dr. Durodoye Jr. was the Title 1 – Part A program manager for the Delaware Department of Education. In that role, he worked to align planning and budgeting processes with school level needs assessment findings, institute internal financial controls, and provide data and policy supports to district administrators. Dr. Durodoye Jr. also served in the Delaware Department of Education as a data strategist with their Educator Support Division, and as a data fellow with the Strategic Data Project at the Center for Education Policy Research. Dr. Durodoye Jr. supported the agency in forming their long-range educator workforce goals under ESSA and generating and disseminating reporting to monitor educator equity gaps within districts and schools.

Lauren Outlaw is a Senior Policy Specialist and a member of the Learning Innovations and Comprehensive School Assistance Program teams at WestEd. Her work includes providing targeted technical assistance to help schools improve program quality, structures, resource allocation and efficiency. In this role, Ms. Outlaw also translates K-12 education laws and regulations into actionable resources for schools, districts, and regional systems, and engages a broad range of stakeholders on service assessment, process design, and leadership development.

Before joining WestEd, Outlaw successfully advocated for increased school-based mental health resources for public school students in the District of Columbia and structured and negotiated the 15-year charter school renewal agreement with the DC Public Charter School Board on behalf of KIPP DC. Her expertise is grounded in federal and local charter school and choice policies; legislative analysis and

legal compliance; business and process improvement strategies; and promoting school safety, positive school climates, and the effective use of restorative practices.

Darius Taylor is a Research Associate with the WestEd. Mr. Taylor historically has concentrated his academic and research experiences within the fields of behavioral health, chronic disease epidemiology and biostatistics. He brings to the JPRC team a sound quantitative background and passion for change within the fields of education, justice, health and social action. While at WestEd, Darius has supported multiple initiatives that have catered to marginalized populations, specifically adolescents and young adults who are low income, homeless, or have behavioral issues. The evaluations of Nebraska's Connected Youth Initiative and Massachusetts' Safe and Successful Youth Initiative are two such projects that support the aforementioned populations by providing various services to aid recovery and life achievement in respect to health and well-being. Mr. Taylor has supported the process and summative evaluation of these programs by providing quantitative (data analysis and reporting) and qualitative (site visits, interviews and observations) support.

He continues to expand the scope of his research and evaluation experience by focusing on the WestEd 2020 goals of serving 'The Whole Child', 'Underserved Populations, Diverse Learners', and developing 'Next-Generation Assessments'. His current scholastic efforts while enrolled in his fourth year as a doctoral student at UMass focus on the social consequences of current testing practices in America and the differential aspirations and achievements of marginalized groups (specifically low socio-economic status black and brown students).

Mari Shikuzawa is a Program Assistant at WestEd. Shikuzawa is responsible for database management and coordinating technology and communication efforts. She has extensive experience in data analysis and managing operational activities including program development and reporting. Shikuzawa previously supported programs for U.S. AID, Medtronic Philanthropy, and New Leaders.

Additional Subcontractors

Michael Griffith is an independent consultant. Griffith's policy expertise is in K-12 and postsecondary school finance. Prior to becoming an independent consultant, Mike worked for the Education Commission of the States, the consulting firm of Augenblick & Myers and the Michigan State Senate. Over the past 20 years, he has worked with policymakers in all fifty states to improve their school funding systems. Mike is an expert resource to national news media and has been quoted more than 200 times by such outlets as CNN, Education Week, The London Times, NBC Nightly News, National Public Radio, The New York Times, The News Hour with Jim Lehrer and USA Today.

Dr. William Hartman is President of Education Finance Decisions and Professor of Education, Emeritus, at Pennsylvania State University's College of Education. His areas of research include public school finance, financial management of schools, school district budgeting practices, and data analysis for student performance improvement and decision making. His recent research focuses on the fiscal impacts on school districts of the current economic crisis. Other areas of interest include school district budgeting models and forecasts, special education finance, charter school funding, resource allocation

at school and district levels, and decision-making models in educational finance. Dr. Hartman has served as a consultant or advisor to state school funding projects in Wyoming, California, Florida, Maryland, North Carolina, Ohio, Pennsylvania, Idaho and Vermont. He obtained a bachelor's degree in mechanical engineering at University of Florida, Master of Business Administration in management control and marketing at Harvard University, and a doctorate in educational finance and administration at Stanford University.

Robert Schoch is the founder and President of School Business Intelligence LLC, which provides school financial analysis and planning, performance measurement and management, and process management. Schoch has decades of experience working directly with school districts on school construction, finance, support service, and transportation issues. Over his career, he has been involved in planning, design, and construction of over $500 million of school construction, frequently making decisions on school size and location. In recent years he has been a state and court appointed Turnaround Specialist in Pennsylvania developing and implementing turnaround plans for Pennsylvania's most challenging school districts. He has also been on a number of expert panels - most recently in a major study of school choice and its financial impact on school systems. He has performed a number of school district boundary studies using Geographic Information Systems and often uses mapping software to display financial, operational, and socioeconomic factors. He has received numerous state and national awards focused on innovative strategies of cost management.

If awarded the study, APA will also contract with a **local university partner** to provide support for stakeholder engagement. The study team has been in contact with a university which is willing to participate if APA is awarded the contract but did not feel it should be part of the direct proposal.

Full resumes for all key staff are including in Appendix C.

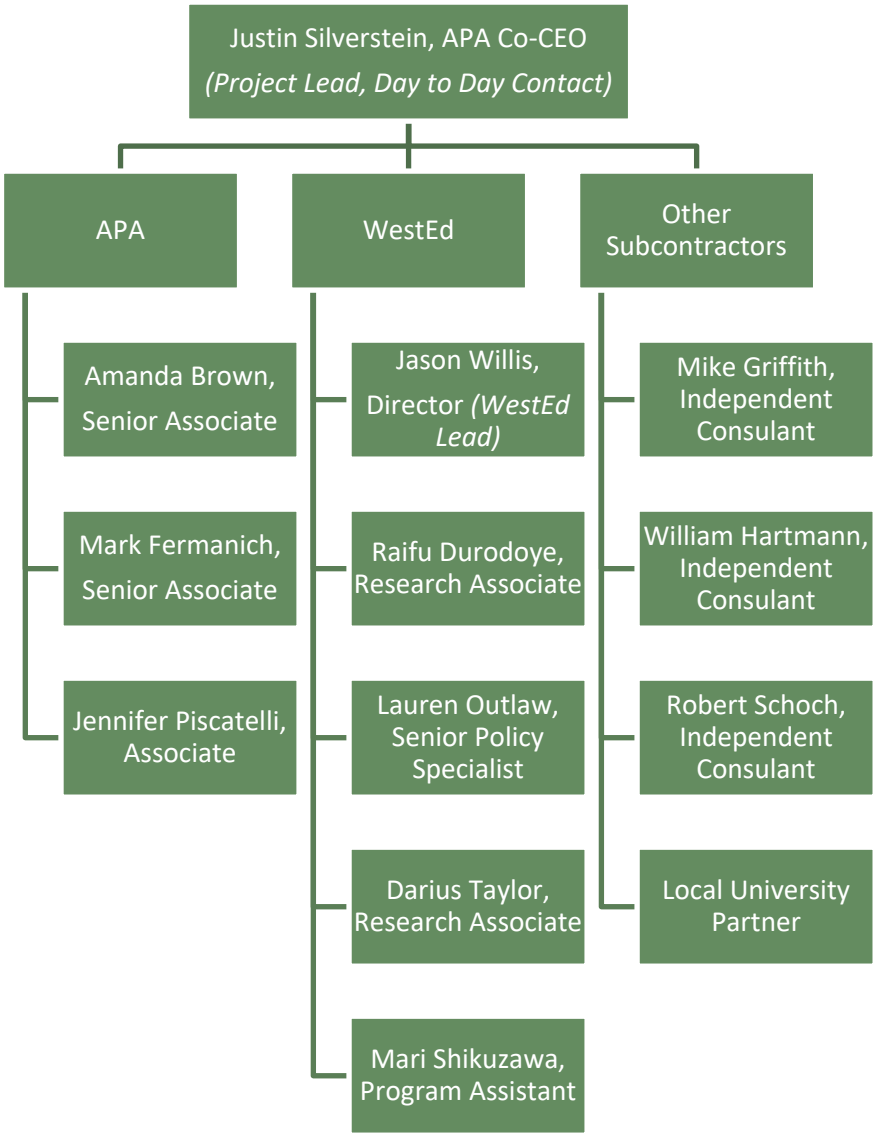
Current Accounts

The following table lists current APA accounts and the longevity of each.

Current Accounts and Longevity

Account/Client	Longevity
Austin Integrated School District Fiscal Analysis	7 years
Boulder County Head Start	3 years
Colorado School Executive Association, Legislative Fiscal Note Analysis	3 years
Colorado School Finance Project Consultation	20 years
Early Childhood Shared Services Evaluation	1 year
Early Intervention (Colorado) Evaluation	1 year
ELPASO Exito Evaluation	2 years
ELPASO Voz Evaluation	1 year
Gates Family Foundation	1 year
Hawaii Department of Education	1 year
Invest in Kids Evaluation	1 year
Jeffco Public Schools (CO) Fiscal Analysis	10 years
Jeffco Summer of Early Literacy Evaluation	4 years
Michigan School Finance Collaborative Finance Study	2 years
National Association of Music Merchants Evaluation	2 years
Nevada State Legislature/ Department of Education Finance Study	2 years
Oakland Health Pathways Cost Study	4 years
REL Central (regional education laboratory), US Department of Education	7 years
SW TURN Facilitation and Evaluation	8 years
Teach for America Evaluation	3 years
Westat Credit Enhancement for Charter School Facilities Program Monitoring	4 years
WestEd/Maryland Department of Education Special Education Study	1 year
WestEd/Utah Department of Education	1 year

Organizational Chart



Three Recent Comparable Contracts with References

APA and WestEd offered the following three recent comparable contracts with references in its response to the prior RFP. Shortened sample work products can be found in Appendix E, "Past Performance Work Samples." A link to the final report of each study is also included. The study team did not include each lengthy full report document as an attachment in order to reduce paper consumption; however, these documents can be made available upon request.

Final Report of the Study of Adequacy of Funding for Education in Maryland
Dates: July 2014 - Present
Client: Maryland Department of Education
Contact: Donna Gunning | Email: donna.gunning@maryland.gov **| Telephone: 410-767-0757**

APA, working with Larry Picus and Michael Griffith, undertook an adequacy study update for the state beginning in 2014, running through 2016. The study encompassed examinations of all aspects of the state's funding system including:

- Examining the adequacy of the system using the evidence-based, professional judgement and successful schools/districts approaches to adequacy. The study team identified base cost figures and adjustments for special education, economically disadvantaged, and ELL students. The student adjustment work included examining the impacts of concentrations of poverty on the resource needs of schools. Analysis of the concentrations of poverty included examining the wrap-around services needed by highly impacted populations, such as social services, and understanding which services would be provided within the school funding system and which services are often provided outside that system.
- Examining the state's use of free and reduced-price meals (FRPM) as its proxy for economically disadvantaged funding and the impact the Community Eligibility Program (CEP) has on the ability to use this measure. Alternatives approaches to FRPM were researched and then modeled for the Maryland system.
- Examining school sizes in the state and the research on best practices for school size. The study team looked at the size and grade structures of the schools in the state and the national literature on school size to help understand the impact school size might have on student success.
- Examining the cost differences faced between school districts in the state to provide a similar education program. The study team conducted a literature review on the various cost of education approaches available to states and modeled the different approaches Maryland could use to differentiate funding due to differences in costs.
- Examining the equity of Maryland's school finance system. This included looking at the impact property and income wealth adjustments have on the distribution of funding in the state. In addition, the study team analyzed the impact of local matching requirements in the formula.

Throughout the process, the study team worked with an advisory group that provided feedback on the process and ensured the Maryland context was present in all work. The study team produced 15 reports during the multi-year study. The Executive Summary of the final report can be found in Appendix E, "Past Performance Work Samples." The full final report can be found at: http://www.marylandpublicschools.org/Documents/adequacystudy/AdequacyStudyReportFinal112016.pdf

Study of the Wyoming Educational Program and Recalibration and Revaluation of the Wyoming Education Resource Block Grant Funding Model
Dates: July 2017 – January 2018
Client: Wyoming Legislature
Contact: Matt Willmarth | Email: matthew.willmarth@wyoleg.gov **| Telephone: 307-777-7881**

APA, along with Michael Griffith, undertook a recalibration study looking at possible updates to Wyoming's school finance system and educational program as defined in the state's constitution. To evaluate the state's school finance system, APA and its partners:

- Conducted a national review of best practices in school finance.
- Examined the equity of Wyoming's school finance system.
- Implemented two additional adequacy approaches, the successful schools and professional judgment approaches, to determine if the finance system, which is based upon a third approach – the evidence-based approach implemented by Picus Odden and Associates– was producing an adequate level of resources and if any modifications needed to be made.
- Closely examined funding issues related to the number of very small, remote, and sparsely populated districts to determine the adjustments necessary for these districts' circumstances.
- Conducted targeted analyses of transportation, special education, and shared services.
- Reviewed the competitiveness of educator salaries and developed a Wyoming Comparable Wage Index (CWI) to address regional cost differences.
- Conducted case studies at successful schools in the state to understand the supports and services they provided students.
- Comparing resource recommendations from all approaches, including Picus Odden and Associates prior study, to current legislation.
- Made recommendations to improve the funding adequacy and equity of the system.

To evaluate the state's required educational program, referred to as the Educational Basket of Goods and Services, the study team:

- Reviewed the education standards (English, math, and science) and graduation requirements in a set of comparison states.
- Reviewed the postsecondary admittance requirements for postsecondary institutions in each of the comparison states.
- Made recommendations for how the state's Basket of Goods and Services could be updated to ensure that students were postsecondary and workforce ready.

For both components of the study, APA engaged stakeholders throughout the process through interviews, regional listening sessions, and statewide online surveys. This allowed educators, state-level representatives, parents, students, business leaders, and community members to have a voice and give feedback on the current educational program and finance system, as well as on the study's recommendations. The study produced a series of reports over the course of a year, including a mid-

study report on the educational program, and eight supplemental reports on targeted funding model elements.

Final presentation materials for this study can be found in Appendix E, "Past Performance Work Samples." The final report can also be found at http://wyoleg.gov/InterimCommittee/2017/SSR-2018012904-01.pdf

Name: State of Kansas Cost Adequacy Study
Dates: December 2017 – March 2018
Client: Legislative Coordinating Council of the Kansas State Legislature | Contact: Thomas Day | Email: tom.day@las.kas.gov **| Telephone: 785.296.2391**
The Kansas State Legislature contracted with WestEd to conduct an adequacy cost study. This study provided evidence of overall funding amounts and allocation of resources that would "produce an education system reasonably calculated to achieving those *Rose* standards" upon which the Kansas's public K-12 educational state standards are based. To conduct this study, the team prepared and analyzed statewide Kansas data files at the student-level, teacher-level, school-level, and district-level, including expenditures (i.e., operating costs), inputs (e.g., teacher compensation), a wide variety of environmental factors (e.g., district size, percent of ELL students, percent of Special Education students), controls for inefficiency, and outputs (i.e., student academic performance measures and graduation rates).

Presentation materials for the final study are available at: https://kasb.org/wp-content/uploads/2018/03/Kansas_Adequacy-Study_Cost-Function_20180315FINAL_02.pdf

Additional References

As APA and WestEd provided the prior three references to the Committees during a prior bid, the study team also offers the following three additional project examples and references.

Nevada School Finance Study and Technical Assistance
Dates: January 2018 - Present
Client: Nevada Department of Education (NDE)
Reference Contact: Megan Peterson, Management Analyst I, (775) 687-9236
In 2018, APA conducted studying the Nevada school funding system. The study included:

- a full examination of the state's funding formula structure;
- implementing the professional judgement approach to identify the resources needed to support at-risk, ELL, and special education students;
- conducting case studies of successful schools;
- a large statewide stakeholder engagement process, which included public meetings across the state, along with targeted focus groups and online surveys;

- incorporating the results of APA's prior 2006 and 2015 adequacy work in Nevada to address base funding and additional adjustments for school and district characteristics to develop a new funding formula; and
- fiscal modeling.

Following the final report, NDE further contracted with APA to provide technical assistance, fiscal modeling and other support during the legislative session. This included meetings with Department staff and district administrators to understand how APA's findings could be incorporated successfully into a new funding model for the state. The legislature passed a bill to update the state's funding formula using recommendations from APA's study and created a Commission to work to finalize the new funding formula. APA will continue to work with the state during the Commission's work.

Dates: September 2016 - Present
Client: General Assembly of Maryland, Department of Legislative Services
Contact: Rachel Hise| Email: rachel.hise@mlis.state.md.us| Telephone: 410-946-5510
Following APA's 2016 Maryland Adequacy study, APA has continued work with the state by providing support to the Department of Legislative Service and the state's Commission on Innovation and Excellence in Education (Kirwan Commission). This includes work includes:

- Working with Commission members and DLS staff to develop recommendations for adjustments for at-risk and EL students along with a concentration of poverty adjustment for schools. This work required a review of the current funding formula, adequacy study results, and best practices nationally.
- Working with Commission members and DLS staff to design an implementation process for universal preschool for four-year-olds and preschool for at-risk three-year-olds. This included estimating the cost of a quality program, estimating the available preschool slots in both public and private settings during phase-in and ramp up, and finalizing a 10-year phase in cost model.
- Working with Commission member, DLS staff, staff from the National Center on Education in the Economy staff built a complex educator compensation model. This model included a multi-year phase in of increased salaries and a career ladder for teachers and administrators.

APA staff continue to provide support to the Commission as it works to finalize its recommendations for the 2020 legislative session. This includes attending Commission meetings and supporting DLS staff with research, cost modeling, and presentations as needed.

State of North Carolina Leandro Plan
Dates: March 2018 – February 2019
Client: Everett Gaskins Hancock, LLP (on behalf of the Supreme Court of North Carolina and the plaintiffs of Leandro v. State)
Contact: Gerry Hancock | Email: gerry@eghlaw.com | Telephone: 919.755.0025
The North Carolina Supreme Court selected WestEd to develop a comprehensive plan, including a cost adequacy study, to ensure that its 1.5 million students attending over 2,500 schools in the state have access to a sound basic education. This plan will include actions and practices that must take place at the

state, district, and school level with regard to school finance, teacher quality, and leadership. The plan will provide the state with a roadmap to address a longstanding court case (*Leandro v. State*).

Clients for Similar Work Over the Past Three Years

The following section provides all additional clients of similar work over the past three years, including dates, client information and a brief narrative of each.

Hawaii Teacher Compensation Study
Dates: June 2019- Present
Client: Hawaii Department of Education
APA is currently working with the Department of Education in Hawaii to examine their teacher salaries and overall salary structure. This includes collecting and analyzing teacher data including salaries, experience and education to understand the flow of teachers through the workforce, reviewing national best practice, comparing Hawaii teacher salaries to similar districts, and engaging stakeholders through listening sessions throughout the state and an online survey. No reports have been produced yet.

Arkansas Teacher Supply and Demand Projections
Dates: January 2015 – August 2018
Client: South Central Comprehensive Center
APA worked with the South Central Comprehensive Center to support the Arkansas Department of Education, Division of Educator Effectiveness, to develop a teacher supply and demand model. APA's supported the development of a model that describes described current and future teacher shortages by region, grade level and subject area. This work included the development of enrollment projections, identification of subject areas and regions facing teacher shortages, and descriptions of the sources of new teacher hires**.**

Costing Out the Resources Needed to Meet Michigan's Standards and Requirements
Dates: July 2017 – January 2018
Client: Michigan School Finance Collaborative
APA, along with Larry Picus and Michael Griffith, undertook an adequacy study in Michigan beginning in 2017, running through 2018. The study looked at all aspects of the state's funding needs, including student and district characteristics. APA implemented both the PJ and EB approaches to adequacy in Michigan. The work was used to supplement the results of APA's 2016 SSD study conducted for the State of Michigan. Resources were examined for the base cost and special needs students. This included looking at the concentrations of poverty in schools, different levels of need for special education students, and varying WIDA levels for ELL students. In addition to the adequacy work, the study examined the differences in cost across the state to provide education and the costs of transportation for students. The study can be found at https://www.fundmischools.org/wp-content/uploads/2018/01/School-Finance-Research-Collaborative-Report.pdf

State of California Local Control Funding Formula Design and Implementation
Dates: July 2013 – November 2017
Client: California Governor's Office of Planning and Research
WestEd provided strategic support to the California State Board of Education to design and oversee the initial implementation of the Local Control Funding Formula, impacting 6.2 million students in over 1,000 school districts and 1,000 charter schools. Major areas of support included organizing, facilitating, and managing statewide stakeholder engagement to inform the design of spending regulations, Local Control and Accountability Template, and California Schools Dashboard; modeling implementation scenarios; and providing project management support to ensure legislative deadlines were met.

Name: Michigan Education Finance Study
Dates: January 2016- December 2016
Client: Michigan State Legislature
This study was completed on behalf of the state legislature to provide an understanding of the resources utilized by its successful school districts. The study expanded the scope of how the SSD approach can be implemented in its addition of comparing successful district spending to non-successful district spending, use of multiple successful district criteria, and its unique focus on school district efficiency. In addition to the SSD work, the study team examined the availability of capital funding in the state.

Failed Projects, Suspensions, Debarments, and Significant Litigation
APA does not have any failed projects, suspensions, debarments or other significant litigation.

Other Information
In addition to the most current studies described above, below is a list of other state level projects in which the key APA personnel have participated over the past ten years.

Alaska (2015): The "Review of Alaska's School Funding Program" report was completed for the state legislature. It examined the structure of Alaska's school funding system and made recommendations on how to change the system to better serve students, schools, and districts. The study included a review of Alaska's current funding structure, a comparison of that structure to other states, stakeholder engagement across the state, and a final set of policy recommendations to adjust the formula to be more student centric and eliminate potential cliffs in the formula (areas were a small change in student demographics could lead to a large change in funding).

Alabama (2015): The **"**Equity and Adequacy in Alabama Schools and Districts" was a full-scale review of Alabama's school finance system, including the implementation of the PJ and SSD approaches to adequacy. The work began with a review of the current system and stakeholder engagement to understand the pros and cons of the current system. The study team then undertook a detailed equity analysis to understand the impacts the current system had on the resources available to students and districts. Next, APA implemented both the PJ and SSD approaches to adequacy to understand the resources needed for student, teachers, schools, and districts to meet state standards. APA used the

results of the study to provide the state with recommendations on how to change its school finance system.

Washington, D.C. (2013): The "Cost of Student Achievement: Report of the D.C. Education Adequacy Study" report implemented both the PJ and SSD studies to examine the resources needed for students to meet standards. The study was unique due to D.C.'s large percentage of charter school students and overall unique governance structure. The study team provided a recommendation that allowed for an adequate and equitable education funding system for both the traditional and charter sectors.

New Jersey (2011): The "Analysis of New Jersey's Census-Based Special Education Funding System" was a review of New Jersey's special education funding system. The review was focused on understanding if the state's census-based system provided an equitable funding system for all districts. The study team examined the percentage of students in various special education categories across all districts. It also looked at the differences between the various types of school districts in the state including elementary and high school districts.

North Carolina (2010): The "Recommendations to Strengthen North Carolina's School Funding System" provided the state with a set of specific recommendations to improve its school funding system. Recommendations were based on an extensive review of the state's current system, stakeholder feedback on the system, analysis of best practices in other states, and detailed quantitative analysis. The study team used the results of the research approaches to identify the recommendations for the legislature.

Proposed Work Plan

The proposed work plan described in this RFP response is intended to "provide to the members of the Arkansas General Assembly detailed and accurate information concerning the current efficacy of the biennial adequacy study and evaluation undertaken by the Committees, and to provide the Committees with recommendations regarding reform or replacement of the current methods for determining educational adequacy in the State of Arkansas" as required in the RFP.

The description of the proposed work plan is presented according to the sections in the RFP, including Sections 3.0.A, 3.0.B, 3.0.C. and 3.1. The first three sections include tables outlining the various study activities that will be used to answer the research questions, these activities include:

- Fiscal and performance data analysis
- Case studies
- Literature/document reviews
- Educator panels/stakeholder engagement
- District survey
- Additional qualitative and quantitative work

Each activity will be referred to in the appropriate RFP task section or subsection, but the study team offers the following general information about the literature reviews, stakeholder engagement and district survey which are applicable across RFP tasks.

Literature/ document reviews: Each literature review will examine the academic and policy research available on a given topic. In many cases, the study team will examine how states are addressing specific concerns. In each of these cases, all 50 states will be reviewed, with special attention will be paid to the Southern Regional Education Board (SREB) states and a set of leading national states. Each state level review will include an individual table for each highlighted group of states.

Educator panels/ stakeholder engagement: The study team proposes three avenues of engagement: 1) four in-person listening sessions with educators in four different locations in the state that will be open to all educators in the region; 2) up to 16 targeted educator panels- four in each region, one for teachers, one for school leaders, one for superintendents and one for CFOs/business managers- with up to 20 Arkansas educators per panel; and 3) an online survey that will be open to both educators and the public, including parents, students, business leaders and community members. This approach will allow the study team to gather feedback in areas such as the college/career readiness definition, attraction and retention of staff, and resources needs not currently met in the state's current funding matrix.

District survey: When needed data are not already available, the study team will survey districts through a single district survey that will address information needs in multiple study areas

including school/district size issues (existing policies, best practices, and impact), best uses of funding for economically disadvantaged students, and capital needs.

Narratives on how each specific study area will be addressed by RFP section.

Section 3.0.A Adequacy Study

In Section 3.0.A the study team will address a number of areas related to adequacy, including methods for routinely reviewing adequacy (Section 3.0.A.1), addressing concentrations of poverty, achievement gaps, and the correlation between performance and funding (Sections 3.0.A.2-4), reviewing adequacy studies nationally (Section 3.0.A.5), reviewing resources in the state's current funding matrix (Section 3.0.A.6), and helping identify a college and career readiness definition (Section 3.0.A.7).

Section 3.0.A							
	Fiscal and Performance Data Analysis	**Case Studies**	**Literature/ Document Review**	**Educator Panels/ Stakeholder Engagement**	**District Survey**	**Additional Quantitative Work**	**Additional Qualitative Work**
1. Recommended Methods for Routinely Reviewing Adequacy			X				
2. Concentrations of Poverty	X		X		X		X
3. Identification of Gaps and Programs to Address	X	X				X	X
4. Correlation Between Performance and Funding	X	X					
5. Review of Adequacy Studies			X				
6. Review of Resources in Matrix	X	X		X	X	X	
7. College and Career Readiness			X	X			X

Recommended Methods for Routinely Reviewing Adequacy (Section 3.0.A.1)

Objective: Recommend methods for routinely (biennially) reviewing education adequacy. The focus will be on a process to follow for determining adequacy rather than a particular dollar amount.

The RFP identifies a clear "education adequacy" standard for the study, as outlined in Section 2.0 and reiterated below:

- The standards included in the state's curriculum frameworks, which define what all Arkansas students are to be taught, including specific grade-level curriculum and a mandatory thirty-eight (38) Carnegie units defined by the Arkansas Standards of Accreditation to be taught at the high school level, and opportunities for students to develop career-readiness skills;
- The standards included in the state's testing system. The goal is to have all, or all but the most severely disabled, students perform at or above proficiency on these tests; and
- Sufficient funding to provide adequate resources as identified by the General Assembly.

The study team recommends that any adequacy review process should always start by determining if there are any changes related to the education adequacy standard described above that would have

resource implications for schools and districts, such as any changes to required curriculum, courses or assessments. Then, there are different approaches and processes the state could undertake to review adequacy biennially.

A number of states undertake periodic reviews of the adequacy levels of their funding systems. These include Wyoming and Maryland. The study team will review these states and review all other states to identify those that routinely review adequacy levels and identify each state's approach to undertaking this review. In addition, the study team will include reviewing literature on available approaches to determining adequacy (also required as part of Section 3.0.A.5). For identified options, the study team will provide pros and cons of each to help the state determine the process that will best fit its needs.

Concentrations of Poverty (Section 3.0.A.2)

Objective: Analysis of the effect of concentrations of poverty on the adequacy targets and whether additional adjustments are necessary to provide adequate funding for local education agencies with high concentrations of poverty.

To understand the effects concentrations of poverty on students in Arkansas, the study team proposes to conduct a series of multivariate regression analyses that assess the correlation between student outcomes and student characteristics that align to greater demonstrated needs based on research. These analyses will provide a basis for establishing the extent to which costs differ depending on the concentrations of poverty in schools. As an example, assume the analyses estimate that schools with larger populations of students in poverty require more per-pupil funding than schools with smaller populations to achieve the same outcomes (presumably because of the additional needs of this population of students). If this difference in relative funding is not sufficiently accounted for in the distribution of education dollars, an inequity is created whereby the school with more students in poverty is therefore unable to provide their students with equivalent opportunities simply because of the make-up of their student population.

Such analyses will also introduce instruments that would control for factors such as endogeneity. Examples would be students with low socio-economic status, students considered at-risk, and ELL student characteristics. These analyses would then examine the associated additional funding in the state's school funding formula, and the distribution of funding primarily using school-level data. This will require the provision of data on student demographics and outcomes, school characteristics, and financial information. The robustness of the analysis will ultimately depend on the data that the study team is able to access. Put simply, the more comprehensive the available data, the stronger the analysis will be.

Identification of Gaps and Programs to Address (Section 3.0.A.3)

Objective: Identification of gaps in growth and achievement among student groups disaggregated by race and income and make recommendations on specific programs to address the gaps in growth or achievement.

To do this, the study team will run a series multivariate regression analyses that examine the relationship between student characteristics, performance, and other school/district characteristics including funding levels. The analyses will identify specific demographic areas that show systemic achievement and growth gaps throughout the state, which could include at-risk students, EL students, or other student or district characteristics.

The study team will review the literature on achievement and growth gaps and the programs that are found to close these gaps at the beginning of the study. Utilizing the information gained through the fiscal and performance analysis, the study team will use the case studies (Sections 3.0.C.9) and educator panels (3.0.C.16) to understand the types of programs and interventions districts and schools in Arkansas currently use, or believe are necessary, to close these gaps. The case study selection will include identifying schools that are currently outperforming expectations with the student populations identified by the gap analysis.

Correlation Between Performance and Funding (Section 3.0.A.4)

Objective: Analyze the correlation between deficits in student performance and deficient in funding.

Cost and performance data will be used to estimate the relationship between expenditures and other dependent and independent variables, including school outcomes such as graduation rates and ELA/math assessment results, resource prices, student needs, district size, and other relevant characteristics of districts. This model will be able to analyze the correlation between deficits in student performance and deficits in funding. The resulting model will then able to show the significance of the relationships between these variables and allow the study team to comment on any correlations observed.

Review of Adequacy Studies (Section 3.0.A.5)

Objective: Review adequacy cost studies completed in other states and provide a report on best practices in those states.

Over the past 15 years, numerous school finance adequacy studies have been conducted for states. All four approaches for estimating adequacy – professional judgment panels, successful schools, education cost function, and evidence-based – have been used. Some states seek adequacy recommendations using all four methods, others select a specific method, while other specify at least two methods be used. APA will focus our review on adequacy studies conducted from 2003 through 2018, as these will provide a comprehensive picture of the current adequacy landscape and will reflect the refinements made in methodology over the past 15 years.

Our review will consist of five parts:

First, we will create a table summarizing adequacy study activity in all 50 states, including those states that have not conducted a study to date. The table will include all studies completed since 2003 and will include the methods and approaches used. The table will indicate the degree to which any specific

method, or combination of methods, has dominated state adequacy analyses during this time period. To the degree possible, the table also will indicate whether the studies were conducted for official state bodies – departments of education, legislative commissions, interim legislative committees, etc. – or conducted outside of official state sanction.

Second, we will create a set of adequacy summary tables that concentrate on the professional judgment and evidence-based methods which both provide detailed resource information (personnel, non-personnel costs, and configurations) and show the recommendations the different studies have made for each state by key programmatic elements. These elements will include the following:

- Core class size;
- Electives class size;
- Ratios of instructional coaches or facilitators to students;
- Funds for instructional materials, technology, formative/short cycle/benchmark assessments;
- Staff for interventions, such as tutoring for struggling students;
- Staff to support English Learners;
- Staff for special education services;
- Prototypical school sizes; and
- Other key factors identified by the Committees.

Where available, we will include recommendations for base cost levels from studies using the successful schools approach, and for base cost levels and funding adjustments for student and district characteristics from studies using the cost function method. However, the findings of cost function studies will have limited applicability to Arkansas because cost functions produce spending level amounts that are specific to each individual state.

Third, we will identify the typical recommendation for each element in the adequacy summary tables. This will provide the Committees with information on how other adequacy studies and other states have addressed some of the key factors involved in determining spending levels (class size, professional development, intervention staffing, etc.). It will also highlight the additional resource studies identified as important for providing adequate resources for economically disadvantaged, English Learners and special education students.

Fourth, to the degree possible, we will assess the key findings from case studies of successful schools completed in a number of adequacy studies across the United States. The goal of this work will be to determine the degree to which the key programmatic elements of states' and districts' overall school improvement strategies are reflected in the adequacy studies' recommendations.

Finally, we will provide an analysis of best practices in adequacy studies as they have evolved over the past 15 years. APA, as one of the principal architects of adequacy studies, is in a unique position to highlight how the methodologies have been refined and how more recent studies (e.g., Maryland, Michigan, Wyoming) have effectively integrated multiple approaches to provide a state-specific context

to the adequacy results. Also, where possible, the study team will indicate whether or not the adequacy study recommendations were adopted by the state.

Review of Resources in Matrix (Section 3.0.A.6)

Objective: Identify any resources that school districts need that are not currently provided through the funding formula and the cost for each; identify the resources that school districts are spending foundation funding on that are not including in the state's funding formula; and assess the need for such spending and recommend solutions to any problems identified.

The study team's approach to this RFP requirement will include: 1) gathering and analyzing current expenditure and staffing data, 2) engaging stakeholders to identify resource areas that are not currently addressed in the funding matrix; and 3) reviewing the best practices of successful schools in Arkansas.

The study team will examine current expenditure data for Arkansas districts to determine if there are certain areas (based upon function and program) that districts are currently spending dollars that are not included in the current funding matrix. Staffing data, based upon availability, will similarly be examined to see if there are any positions that are currently not funded through the matrix being employed in Arkansas schools. Educator panels and the online survey will ask educators to identify any gaps that they have experienced between the resources they believe are needed to serve students, and those that are funded through the matrix. The case studies will also allow the study team to identify if there are any particular staffing strategies, supports or interventions that successful Arkansas schools are currently employing to the benefit of students that they currently do not receive resources for through the funding matrix.

Appendix E, "Past Performance Work Samples," includes a power point presentation from APA's Wyoming study that similarly reviewed the state's allocation resource model. Wyoming's model is similar to the Arkansas funding matrix that specifies the resources (teachers, principals, central office staff, etc.) needed at schools and provides funding for these resources. It was also based upon an adequacy study and recommendations from Picus Odden and Associates. In Wyoming, APA compared the resource recommendations from different sources (staffing/expenditure review, case studies, and educator panels) to the state's current model to highlight differences and gaps.

Once resource gaps are identified, the study team will use available information from the expenditure analysis and case study analysis to determine the costs associated with any resource gaps.

College/Career Readiness Definition (Section 3.0.A.7)

Objective: To recommend a definition of college-readiness and/or career-readiness, including criteria for determining when students have achieved college-readiness and/or career-readiness, as well as standards for determining if school districts are preparing students for college-readiness and/or career-readiness, and address the reason for the continuing need for remediation at the college level. This will also include identification of career and technical (CTE) programs available to students and make

recommendation for funding methods and policies for ensuring students have equitable access to these programs.

The study team's approach to addressing this RFP requirement will be two-pronged: the first will focus on determining a definition of college/career readiness and the second on surveying existing CTE program offerings in the state.

To develop a college/career readiness definition, the study team will first conduct a research literature and evidence scan that is inclusive of existing state practices and information from the literature. The results of this scan will inform the development of initial recommendations for a definition and frameworks for gathering additional qualitative information from stakeholders to inform the proposed definition of college and career readiness.

The study team will then conduct a series of educator listening sessions and panels across the state. This allows educators to give feedback on if the recommended college/career definition reflect the needs of Arkansas and to identify barriers to meeting any of the standards in various settings across the state. In addition to the in-person stakeholder engagement, an online survey will be created to allow for further feedback from educators and the general public.

The study team will also triangulate these data with quantitative analysis of the state's currently identified measures to attain college and career readiness, which includes the current administration and results from standardized assessments in English Language Arts and mathematics. Once this information is collected, the study team will identify measures to determine if districts are meeting those standards for students and examine remediation rates by district against those measures.

The results of the stakeholder engagement and the data analysis will be used to adjust the definition recommendation, which will then be presented to the committees for review and comment. Once the recommendation has been reviewed by the committees, it will be finalized for use during the adequacy study processes.

In conjunction with this work on a college/career readiness definition, the study team will review best practices in other states, as well as survey districts on existing CTE programs to better understand what is presently available to students and how access varies across the state. APA will also examine current district CTE expenditure information.

Section 3.0.B School and District Size

The work in section 3.0.B primarily focuses on issues related to class and school size (Sections 3.0.B.1-5), as well as isolation and remoteness (Sections 3.0.B.6 and 8). Section 3.0.B.7 examines the relationship of class size requirements, student teacher ratios, teacher salaries, and other factors.

Section 3.0.B							
	Fiscal and Performance Data Analysis	**Case Studies**	**Literature/ Document Review**	**Educator Panels/ Stakeholder Engagement**	**District Survey**	**Additional Quantitative Work**	**Additional Qualitative Work**
1. Current School Size Policies					X	X	
2. School Size Best Practices			X		X		X
3. Impacts of School/ District Size			X		X	X	
4. Recommendations on Ideal Size of Schools			X				
5. Public Input on School Size Standards				X	X		X
6. Addressing Small District Size and Remoteness	X		X				
7. Class Size Requirements, Student/Teacher Ratios and Salary Variations	X		X				
8. Identification and Operation Criteria for Isolated Schools and/or Districts			X				

Current School Size Policies (3.0.B.1)

Objective: To understand whether local school systems currently have policies regarding the size of schools, including high schools, middle schools, elementary schools, and alternative schools.

This component will investigate and report on the current status of existing school size policies established by school districts. The analysis and outcomes will be differentiated by school level-- high schools, middle schools, elementary schools, and alternative schools.

The study team believes that this information is not readily available at the state level or obtainable from the existing data files of the Arkansas Department of Education (ADE). As a result, it will be necessary to collect the information from each local school system. Data collection will be done through a specially designed survey that will be developed by the study team. The survey format will be electronic for easy and efficient implementation. The survey will query the districts about whether they have school size policies established by their school board and request that the district provide written or digital copies of these policies. Prior to distributing the survey, it will be provided to the Bureau of Legislative Research (BLR) for review and approval. Once approved, the surveys will be sent to the districts with a requested return date of about two weeks. Follow-up requests will be made to the non-returning districts to increase the response rate.

As the surveys are returned, the responses will be complied. For each school level, the existing policies will be listed, analyzed, and summarized. For example, elementary school results will be tabulated by school sizes or ranges of sizes to show the variety and concentration of existing district policies. Where feasible, correlations will be utilized to examine possible relationships between school size and district

characteristics, such as area in square miles, number of students, geographic location, and other relevant variables and school size policies.

The results will be presented in a report containing a written description of the findings on school size, tables and charts to illustrate the key outcomes, commentary to assist in interpreting the results, and recommendations on how to utilize the results in policy considerations.

School Size Best Practices (3.0.B.2)

Objective: To determine what are the best practices in other states regarding school and district size, and what criteria are used to identify and determine best practices.

This component will begin with a thorough review of recent research findings and practices regarding school and district size. The scope of the review will include practices and policies in other states, published research findings in academic and professional publications and information from the Arkansas Department of Education. The purpose of the review is to identify and collect examples of best practice and to provide the basis for a comparison of practices in Arkansas. Included in the review will be related factors established and required at a state Department of Education level that impact school size, such as school construction regulations or school district consolidation guidelines. To supplement the survey of best practice, selected state and school district administrators will be contacted for a telephone interview to verify that the literature has provided a complete and accurate explanation of the practice.

The survey results will be compiled and analyzed to show the range of practices for different levels of schools, as well as the specific size guidelines and the rationale/criteria for each. The report will also contain comparisons of policy and practice of district and school size in Arkansas with research findings of best practice across the country.

Impacts of School and District Size (3.0.B.3)

Objective: Determine how school and school district size impacts the educational and extracurricular programs and what the impact of school and school district size is on the community.

This component will begin with a review of research findings of the impact on both educational and extracurricular offerings of school and school district size. The review will seek information from research reports and descriptions of practice to consider the research findings on the impact of school district size on the community. The findings will further inform the types of data collection efforts and analysis to be performed to study the effects of school and school district size on educational and extracurricular programs in Arkansas.

As a first step, relevant information available from the Arkansas Department of Education website will be downloaded; this information will include course offerings, Advanced Placement test participation rates, achievement data, and a number of other education and instructional factors. These data will be analyzed and correlated with measures of district and school size. The findings will be reported in tables

and charts and further illustrated using geographic information system (GIS) generated maps to show relationships of school size, program offerings, and socioeconomic data from U.S. Census.

Extracurricular information is not available from the Arkansas Department of Education. Therefore, questions on this topic will be included in the district survey; questions will be submitted for approval to the BLR and the ADE.

The results from the district survey will be summarized in a report to document the relationships, if any, between school and district size and the number of educational and extracurricular programs offered, as well as participation rates where relevant. The results will be reported, including the use of charts, data tables, and maps.

Recommendations on Ideal Size of Schools (3.0.B.4)

Objective: Assess the ideal sizes for high schools, middle schools, elementary schools, and alternative schools in Arkansas.

Based on the review of research, a recommendation for ideal school size will be prepared. However, the multiple factors that influence an appropriate size for a given school insure that "one size will not fit all." To begin, there will be separate recommendations by school level, with different recommendations for high schools, middle schools, elementary schools, and alternative schools. Additionally, the recommendations will likely be in terms of ranges of school sizes by school level, rather than a single number. The ranges will be developed considering demographic, socioeconomic, community, and geographic factors, along with the scarcity or density of enrollment in the catchment areas. An additional consideration will be the various regional education services available to school districts and schools in Arkansas. The influence of each of the primary factors to push the recommendation to the lower or upper end of the range will be specified.

A set of draft recommendations for school size in Arkansas will be prepared that contains ranges of appropriate sizes by school level and key factors influencing the specific size for a given school. The school size report will contain instructions of how to utilize the factors to select a correct size for an individual school and examples to guide implementation. The recommendations will be provided to BLS and ADE for review, prior to being included in the overall adequacy report.

Public Input on School Size Standards (3.0.B.5)

Objective: Understand the current practices regarding public input in decisions on school size and how these current practices in Arkansas compare with best practices.

This component will begin with discussions with ADE officials regarding the standards, guidelines, and existing regulations requiring public input in decisions on school size. This will also review the state's role in the school construction approval processes governing school size decisions and the requirements to obtain public input. Additionally, a review of land use and land development requirements in Arkansas will determine the extent of public input generally required at the municipal and county

government levels, some of which may have special requirements for school construction approval. Several leading architectural firms currently designing school projects will be interviewed, along with several superintendents and school business and facility managers to determine the public input processes they typically use in making design decisions on school size.

A literature review will be conducted to determine common practices in other states and school systems throughout country. Interviews with key officials in other state Departments of Education will be conducted to document the public input requirements either required or generally used by school districts in their state. Based on these findings, a survey will be prepared for approval by the BLR and ADE to obtain information from school districts on the amount of public input they have used when making school size decisions.

The report will compare best practices used in other school systems with current practices in Arkansas school systems and make recommendations for standards, guidelines, and possible regulations at the state level, including changes to the school construction approval process

Addressing Small District Size and Remoteness (3.0.B.6)

Objective: To understand which school district functions have limited operational efficiency because of small size or rural geography, what types of organizational structures are available in Arkansas to increase operational efficiency, and what types of support services are needed to improve operational efficiency in rural or small schools.

Utilizing available staffing and financial data, operational efficiencies and inefficiencies will be analyzed for all Arkansas school systems. This information will be supplemented by other research identifying typical operational efficiencies and inefficiencies related to district or school size.

Through interviews with ADE officials, the regional education service agencies, and other professional associations offering support to rural and small schools, a list of the currently available services will be compiled. The degree of participation and utilization of these support services will also be compiled to the extent possible. In addition, these interviews will identify any joint operating agreements or other intergovernmental relationships that improve efficiencies through shared services.

The report will discuss best practice examples already operating in Arkansas and successful arrangements from other states that improve operational efficiency. The report will also recommend changes to the existing services, including expansion of existing programs or entirely new programs and recommend the organizations to provide the services.

Class Size Requirements, Student/Teacher Ratios, and Teacher Salaries (3.0.B.7)

Objective: Compare Arkansas class size requirements and student/teacher ratios to those in other states. Additionally, assess the variation in class sizes and instructional staffing level in Arkansas and their impact on salaries, including why salary disparities exist.

The study team will conduct a full review of relevant literature to determine what class size and student/teacher ratios are recommended to improve student learning. In addition, the study team will conduct a 50-state analysis of legislation to determine current requirements for class sizes and student/teacher ratios. This review will include details about state mandates or recommendations on class sizes and student-teacher ratios and when possible will provide background on how these decisions were derived. Class size policies are one of the most significant drivers of education costs for states, school districts, and charter schools. This research will aim to provide Arkansas with a set of recommendations on class sizes and student/teacher ratios that will cost-effectively foster improved student learning in the state.

The study team will collect staffing data for all school districts in the state that will allow for an analysis of the class size and instructional staffing levels differences across the state. These figures will then be combined with district and teacher demographic data, revenue, expenditure, and geographic information to allow for analysis of the factors that contribute to disparities in salaries. A regression analysis will be conducted that will determine any specific characteristics can predict the differences in salaries found between districts across the state. Differences might be found by region, for districts with higher or lower levels of teacher experience, district size or levels of instructional staff per student in districts.

Operation or Consolidation Criteria for Isolated Schools and/or Districts (3.0.B.8)

Objective: Understand and recommend criteria for when school or districted would be deemed isolated. Additionally, explore the cost impacts faced in these isolated settings.

A number of states provide funding for isolated schools or districts. This funding is intended to ensure students in these remote setting can receive similar educational opportunities as students in other settings in a state. The study team will examine the criteria used in states to identify schools or districts as being in isolated settings. The various criteria will be presented to the Committee to identify a few possible definitions for Arkansas and the study team will identify the schools or districts that would be identified under each model.

To understand the cost implications of isolation, the study team will review how other states compensate for the cost impacts and conduct a literature review to examine the research associated with isolated settings. This research will include the findings from sections 3.0.B.4 and 3.0.B.6 of this study which examine school size and adjustments for operational efficiencies. Utilizing the research and modeling the study team will provide a recommendation for adjusting for isolated settings in Arkansas, if needed.

Section 3.0.C Additional Studies

The last section of the RFP identifies a number of additional studies areas to be addressed on a variety of topics. It also specifically requires the use of case studies (Section 3.0.C.9) and educator panels (3.0.C.16), both of which are referred to in earlier sections of this proposal.

Section 3.0.C							
	Fiscal and Performance Data Analysis	**Case Studies**	**Literature/ Document Review**	**Educator Panels/ Stakeholder Engagement**	**District Survey**	**Additional Quantitative Work**	**Additional Qualitative Work**
1. Evaluation of Economically Disadvantaged Student Proxy							
1.a Community Eligibility Provision Evaluation			X			X	
1.b Impact on State Aid Formulas						X	
1.c Alternative Proxies			X			X	
2. Impacts on Equity						X	
3. Impacts of Enrollment Changes			X			X	
4. Attracting and Retaining Administrative and Educational Staff			X	X		X	
5. Attracting and Retaining Nurses			X	X		X	
6. Resources for Student Mental Health Issues			X	X			
7. Capital Needs			X		X	X	
8. Best use of Poverty Funds	X	X	X	X	X		
9. Case Studies of Successful Schools		X					
10. Impact of Vouchers	X		X			X	
11. Impact of Waivers			X			X	
12. Examination of Uniform Tax Rate			X			X	
13. Funding for Concentrations of Poverty	X		X				
14. Professional Development and Extra Duty Time		X	X		X		
15. Comparison of Prior Study Recommendations and Legislation			X				
16. Educator Panels				X			

Evaluation of Economically Disadvantaged Student Proxy (3.0.C.1a-c)

Objective: Evaluate whether the number of students eligible for free and reduced-price meal (FRPM) should continue to be used as a proxy for identifying economically disadvantaged students in several state education aid formulas, primarily National School Lunch (NSL) categorical funding.

The study team will review the Community Eligibility Provision, its impact on state aid formulas, and alternative proxies. Each element of this study will be further discussed below.

3.0.C.1a. Community Eligibility Provision

For its evaluation of whether to continue using FRPM counts as a proxy for identifying economically disadvantage students, APA will build upon a similar study it conducted with the Maryland Equity

Project of the University of Maryland for the Maryland State Department of Education.[1] In this study, APA and the Maryland Equity Project undertook a literature review of the research on the viability of using FRPM data as a proxy for disadvantaged students, inventoried the various measures other states use as a proxy, and analyzed how the use of alternative counts may impact the overall number of students identified as disadvantaged in the state, the distribution of counts across school districts, and the costs of program formulas driven by free and reduced-price meal counts.

Under the Healthy, Hunger-Free Kids Act (HHFKA) of 2010, Congress included a Community Eligibility Provision (CEP) that permits all students in high-poverty schools to receive free breakfast and lunch under the School Breakfast Program and the National School Lunch Program in schools with 40 percent or more of students who are directly certified as participating in one or more of the following programs: Supplemental Nutrition Assistance, Temporary Assistance for Needy Families, or the Food Distribution Program on Indian Reservations. In addition to participation in these programs, schools may consider the percent of students who are in foster care, enrolled in Head Start, homeless, runaway or migrant. Because the income eligibility thresholds for these programs tend to be lower than FRPM, direct certification counts in eligible schools tend to be significantly lower than their FRPM counts. Therefore, a multiplier of 1.6 is used to approximate a CEP school's FRPM count. Districts are only required to recertify these counts every four years, although they are encouraged to do so annually to ensure accurate and up to date counts. Any decline in the number of eligible students found during one of these interim counts will not be recognized until the official four-year certification period expires.

Among the intended effects of the Community Eligibility Provision was to increase participation and federal reimbursement for schools providing meals to students and to reduce the administrative costs of providing subsidized meals.[2] Ten states and the District of Columbia piloted implementation of the law and it was implemented nationwide during the 2014-2015 school year.

In updating this study for Arkansas, APA will 1) update its review of the literature on issues concerning the use of FRPM counts in education funding formulas, 2) analyze the impact of increasing CEP participation on state formulas in a set of comparison states with higher rates of CEP participation than Arkansas, 3) use longitudinal data on how counts have changed over time in Arkansas schools and districts that have implemented CEP, 4) analyze the impact of using various alternative counts as proxies for the number of economically disadvantages students, and 5) develop recommendations.

3.0.C.1b. Estimating the potential impact of CEP on state aid formulas using FRPM counts

APA will assess the impact of CEP on state aid formulas that currently use FRPM counts using several different approaches. First, we will review the experiences of a sample of states that piloted CEP or were early adopters – focusing on those most similar to Arkansas – to assess the long-term impact of CEP on the costs and distribution of their state aid programs that relied on FRPM counts. In this review

[1] Croninger, R. G., King Rice, J. & Checovish, L., 2015
[2] Levin & Neuberger, 2013

the study team will examine how, over time, CEP impacted the total cost of state aid programs, the distribution of impacted state aid across school districts, and policy changes adopted by states to address issues identified as a result of CEP.

Next, APA will collect longitudinal data on Arkansas FRPM counts at the district level, dating back to several years prior to CEP implementation through the most recent data available, to examine how counts have changed as CEP participation increased in the state. The first step of this analysis is to assess how counts changed over time in those districts and schools adopting CEP. As of 2018, only about 29 percent of eligible or near eligible schools in Arkansas had enrolled in CEP (Food Research and Action Center, 2019). Based on the findings from this analysis, the study team will project the expected impact on FRPM counts as participation by eligible schools increases, perhaps by increments of 10 percent (e.g. assess the impact when participation of eligible schools increases by 10 percent, 20 percent, etc.). The impact will be evaluated both from a statewide perspective and a district-level perspective.

3.0.C.1c. Examining alternative proxies for identifying economically disadvantaged students

In recent years, and particularly since the creation of CEP, education finance experts have begun to question whether FRPM counts provide the most accurate proxy for the number of disadvantaged students in a school or district. They have identified several concerns. First, some researchers question whether FRPM enrollment counts accurately capture variation between schools in the challenges that educators face in addressing the needs of economically disadvantaged students. Because students who qualify for FRPM fall within a broad range of family incomes (between 130 and 185 percent of the federal poverty level), schools with equal percentages of FRPM enrollments may enroll students from substantially different economic backgrounds. Second, many families do not apply for FRPM services, even though they are eligible, especially in the upper grades where students fear being stigmatized by participating in the program.[3] There is also growing evidence that FRPM enrollments, though a convenient indicator of economic disadvantage, may not capture fully the effects of having concentrated enrollments of low-income students at schools.[4]

As part of the proposed adequacy study for Arkansas, the study team will explore alternative indicators of economic disadvantage that could be used in Arkansas' school funding formulas. For example, in the Maryland study, APA and the Maryland Equity Project examined nine different alternatives ranging from direct certification, to hybrid models using a combination of direct certification and family application, to continuing using a state-administered family application, to direct certification and hybrid models employing different multipliers for better approximating current FRPM counts. In a study of the District of Columbia's school funding formula, APA and The Finance Project explored using indicators

[3] Kurki, Boyle, & Aladjem, 2005
[4] Jargowsky, 2013

associated with CEP under HHFKA for determining additional funding for economically disadvantaged students.[5]

Drawing on APA's extensive experience in evaluating school funding formulas and conducting adequacy studies across the nation, the study team will utilize our database of education formulas used in most states to identify alternative proxies for economically disadvantaged student counts already in use in other states. The team will also conduct a literature review to identify the alternative proxies proposed by research that connects indicators of school and neighborhood disadvantage to education outcomes, such as census data on family households and neighborhoods[6] as well as factors from human services and other sources that could be accessed by the state.[7]

Once the study team has developed a list of potential proxies for economic disadvantage, it will explore the statistical relationship of these indicators with each other and as predictors of education outcomes, primarily achievement. Possible indicators will be assessed in terms of accessibility, accuracy, stability and validity. Using these analyses, the study team will provide recommendations to the state regarding the tradeoffs associated with different indicators of economic disadvantage, including FRPM. The study team will identify an indicator or set of indicators that are readily accessible, accurate in predicting education outcomes, stable over time and have strong face validity.

Impacts on Equity (3.0.C.2)

Objective: Understand the impact of the current finance system on equity between school districts, including how varying levels of property tax assessment and revenue affect the equitability of education resources across the state. Analyze current district revenue and expenditure data in order to understand the equity of the current system as a baseline, then evaluate any alternative tax policies.

In the context of K-12 education finance, the term equity is concerned with how state, local and federal resources are allocated across school districts, and ultimately across schools and students. The most common notion of what equity means assumes that a school finance system that distributes resources *equally* is equitable. However, both research and experience show that students possessing certain characteristics, such as students living in poverty, students with limited English proficiency, or students with disabilities, may face challenges to learning which require additional resources to provide supplemental and specialized learning opportunities. Local school districts also differ in their ability to raise revenues locally due to disparities in local property and income wealth—disparities that can lead to significant variation in spending levels. As a result, a truly equitable system is one that accounts for and accommodates these differences in student need and local revenue-raising capacity.

There are also multiple equity concepts that are typically addressed in school finance equity analyses.[8] The most common equity concepts are horizontal equity, vertical equity and fiscal neutrality. Horizontal

[5] The Finance Project & Augenblick, Palaich, & Associates, 2013
[6] Kingsley & Pitingolo, 2013
[7] Fantuzzo, LeBoeuf, & House, 2014
[8] Berne & Stieffel, 1984

equity is concerned with how equally resources are allocated to similarly situated districts or students. It is sometimes said that horizontal equity addresses the "equal treatment of equals." That is, an equitable school finance system will provide a roughly equal amount of resources to students with similar educational needs. Under a school finance system with high horizontal equity, students with no special needs are funded roughly equally regardless of which school districts they attend. Vertical equity measures how well the school finance system takes into account varying student need. A system with high vertical equity will provide more resources for students with greater educational need to support the programs and interventions that are required for these students to succeed in school. The third equity concept, fiscal neutrality, assesses the link between local wealth and the amount of revenue available to support a school district. A touchstone of school finance theory asserts that there should be little or no relationship between local wealth, such as the local property tax base, and the amount of revenues provided to a local school system. A school finance system with high fiscal neutrality minimizes the relationship between local wealth or capacity and school spending.

The primary purpose of this equity analysis is to analyze the impact of varying levels of local property tax assessments and state aids on the equitable distribution of education funding across the state's school districts. The analysis will employ a particular focus on fiscal neutrality, that is, how changes in the formula's reliance on local property taxes may affect the amount of revenues districts with different levels of property wealth are able to raise.

The methods APA will use to analyze the three principal equity concepts include:

1) **Horizontal equity.** Among the equity statistics APA will use are the coefficient of variation (the standard deviation of a distribution of values divided by the average of the distribution) for measuring the dispersion of an education resource around the mean (for example, how far above or below the mean the distribution of education resources may fall) and the range (the difference between the lowest and highest values in the distribution of an education resource).
2) **Vertical equity.** To examine vertical equity, APA will apply a set of standard student weights it has developed through its experience in conducting equity analyses, to enrollment data to account for variation in the level of student need across districts. The weights will be used to simulate each district's level of need based on the weighted count of economically disadvantaged students, English Learners, and special education students. Once district enrollment figures are adjusted using these weights, APA will run the same set of equity statistics used for measuring horizontal equity to assess how well the state's funding formula adjusts funding for student need.
3) **Fiscal neutrality.** APA will use the correlation coefficient for measuring the degree to which per student revenues and expenditures are linked to local measures of fiscal capacity such as property wealth per student.

APA will begin its analysis by establishing a baseline of how equitable Arkansas' funding system is currently. The study team will examine the distribution of per student revenues and expenditures

across districts, the amount of dispersion in per student revenues and expenditures, how the range and dispersion are affected when student need is taken into consideration, and the degree to which local property wealth is correlated with revenue and spending levels. The study team will then work with Committee members to determine a range of alternative local property tax assessment levels to analyze and assess their impact on equity. Based on the results of these analyses, the study team will make recommendations to the Committee for possible changes in the mix of local and state revenues to improve the equity of the state's school finance formula.

Impacts of Enrollment Changes (3.0.C.3)

Objective: Evaluate the impact of increasing and declining enrollments on local school systems, including transportation costs, particularly for local jurisdictions with large geographic areas but small populations, and provide recommendations that include strategies for addressing any impacts.

Changes in student enrollment play a key role in the fiscal health of any school system. Because most state school funding formulas base funding on some form of student counts, districts with significant increases or decreases in enrollment may experience fiscal stress depending on how a state's funding formula is designed to account for these changes. If the revenues generated by the funding formula fail to adequately account for enrollment increases, then a school system may not be able provide the staff and services necessary to serve its additional students. Alternatively, districts with declining enrollment may be impacted if revenues decrease more quickly than districts are able to make adjustments intended to save money.

Changing enrollments also affect the cost side of the fiscal ledger. In a study of enrollment changes led by APA for the State of Maryland, the study team examined the two types of costs that come into play when attempting to adjust expenditures due to declining enrollment. Variable costs are costs that are more readily varied with the number of students served or programs provided. Examples of variable costs include teaching staff for both regular and special education students, instructional aides, and consumable instructional supplies.

Fixed costs, on the other hand, are independent of enrollment or the level of educational services provided. Examples of fixed costs include one-of-a-kind positions (many central office administrative staff, principals, school building secretaries, school custodians, school nurses, librarians, etc.), library books, computer lab equipment, school building utilities, contracted maintenance services, and grounds keeping. In the study team's experience, about 15 percent of all personnel costs and most non-personnel costs are fixed costs in a typical school.

However, even some variable costs are difficult to adjust over short periods of time. These costs include changes that occur in one-unit increments, such as personnel changes based on caseload regulations or class sizes limits. These may include guidance counselors or specialist teachers (for example art, music, and physical education teachers, who provide classroom coverage according to the instructional schedule for regular teachers during planning and lunch periods). Often, enrollment decreases must reach a critical mass before districts are able to reduce the number of these positions.

Finally, enrollment changes may impact the efficiency of school system services and operations. Districts with growing enrollment may realize efficiency improvements as economies of scale increase and assets such as school facilities reach peak utilization. Alternatively, districts with declining enrollment may experience diminishing economies of scale. Sparsely populated districts that serve large geographic areas may be especially impacted as school buildings become underutilized but cannot be closed due to large distances that would result in unreasonably long bus rides.

Although enrollment changes are rarely extreme during the course of a single year, the effect of changes over time can be substantial. APA's enrollment study will focus on the effects of enrollment changes on local school systems. It will specifically focus on school systems with small enrollments that serve large geographic areas. This analysis will also examine how enrollment changes affect transportation costs, revenues, and efficiency.

The study team will employ four primary analyses for examining the impacts of enrollment change. First, a thorough examination of the state's funding formulas along with an analysis of data for all Arkansas school districts over a period of up to ten years will be conducted. This analysis will rely on data collected from ADE and will include:

- **Local school system characteristics**, including geographic size, wealth, student demographic characteristics, and population density;
- **Student demographics**, including total enrollment, students with special needs, students eligible for transportation, students transported, and school sizes;
- **Transportation variables** such as the number of vehicles, total miles traveled, and transportation expenditures; and
- **Per student revenue and expenditure data** by school district for instruction, operations and maintenance, transportation, and other enrollment-related operating areas.

Using these data, the study team will examine the design of the funding formulas to gain an understanding of how they are intended to respond to changes in enrollment and analyze per student revenue and expenditure data over time to track how these are affected at the district level by changes in enrollment. The study team will pay particular attention to the effects of Growth and Declining Enrollment revenues, Isolation revenue, and local property tax revenues raised in excess of the Uniform Rate of Tax. This analysis of operations costs will include instruction, maintenance and operations, technology, transportation, staffing levels, and facility utilization.

The second analysis of this study will consist of a review of the literature on the effects of enrollment changes on school system operations and costs, effective strategies local school systems may use to respond to enrollment changes, and adjustments to state funding formulas to adequately account for increasing or declining enrollment.

The third analysis of this study will consist of a national scan of how enrollment changes are addressed in the funding formulas in other states. Specifically, this analysis will look at if, and how, other states'

funding formulas are designed to compensate for the effects of enrollment changes on operational costs, including transportation. In addition, the laws and regulations that control certain costs, such as those for charter schools or nonpublic transportation, will be identified and discussed.

Finally, the study team will develop a financial model to contrast the revenue and spending changes possible in a district with growing enrollments and a district with declining enrollments. The examples provided will be based on actual school districts, selected with the assistance of ADE, that experienced rapid enrollment change. An important factor in recent years has been a decline in birth rates in the years following the Great Recession due to job and economic insecurity of young families, causing them to postpone the start or expansion of their families. The birth years now entering school frequently have a 10 percent to 30 percent decline in births during the five years following 2009. It is very difficult for school systems to anticipate these enrollment changes, which has caused many districts to overstaff in recent years, thereby unintentionally reducing class sizes. The assumptions related to the degree of variability or "fixedness" in costs will be reviewed by the district-level educator panels.

Computer mapping from a sophisticated geographic information system will also be used to illustrate many of the findings in the enrollment report, including correlations to U.S. Census data updated annually through the American Community Survey.

As a result of these three analyses, the study team will make recommendations, in consultation with the Committees, on policies to address the impacts of enrollment changes on school systems' operations and transportation. Particular emphasis will be placed on creating recommendations for small local school systems serving large geographic areas. These recommendations will include best practices in shared or regional services including vocational education, online education, and specialized coursework and programs offered remotely. In addition, the study will review the options and methods used by districts in making decisions on whether to use shared services, particularly instructional services, upon declining enrollments reaching minimum thresholds.

Attracting and Retaining Administrative and Educational Staff (3.0.C.4)

Objective: Examine best practices in other states for attracting and retaining high quality educational and administrative staff for schools, including without limitation information regarding salaries and benefits and the funding mechanisms for those items.

Having high-quality educational staff in all schools in the state is necessary to ensure a quality education for all students in Arkansas, so the study team will provide Arkansas with a set of recommendations on how it can most efficiently establish policies to recruit and retain high-quality educational staff in the state. The study team will conduct a full literature review to determine what research has identified as the best practices for recruiting and retaining high-quality teacher and administrators. As part of this review, the study team will conduct a 50-state analysis of legislation to determine state practices for recruiting and retaining quality educational staff. In addition, the study team will attempt to identify quality recruitment and retention programs through a review school and district programs. This review of state and local policies will include strategies dealing with salary and benefits, but also other non-

compensation procedures that have been used to ensure that districts have the high-quality educational staff that they need.

Attracting and Retaining Nurses (3.0.C.5)

Objective: Determine the best practices used in other state and school districts to attract and retain school nurses through compensation systems.

This study will start with obtaining current compensation information for school nurses in Arkansas through information available from the ADE, numerous salary comparisons available online or in current reports, or a survey to school districts. Information on nursing compensation in other sectors throughout Arkansas will be compiled from other sources. With that information, the compensation of school nurses and other similarly qualified nurses will be compared and adjusted for the variation of days worked per year. Information on school nurse qualifications and certifications will be compiled from both the ADE regulations and selected school systems.

The study will also compare the funding mechanisms from other states for nursing services. This information will be compiled from recent research on school funding systems nationally.

The literature on nursing turnover in all sectors and school certificated professional turnover, including nurses, teachers, and other school professionals, will be reviewed to identify causes of turnover other than compensation.

The report will discuss the findings from research that identify the causes of nursing turnover as well as the various best practices used in other states and school systems. These practices can include signing bonuses, loan forgiveness, subsidized housing or mortgage assistance programs, and numerous other approaches. In addition, it will discuss funding mechanisms in other states and compare those with funding mechanisms in Arkansas.

Resources for Student Mental Health Issues (3.0.C.6)

Objective: Identify the resources necessary and available for coping with student mental health issues, including best practices in other states.

The National Alliance on Mental Illness estimates that up to one in five youth lives with a mental health condition. In Arkansas, this means that approximately 95,000 students may be experiencing some form of mental health condition. These students require additional supports to help them cope with their unique needs. The study team will review other states' policies and look at best practices to find recommendations on how the state can improve its schools by supplying students with the mental supports that they need.

The study team will conduct a full literature review to determine what research has identified as the best practices for improving student mental health policies. Part of this review will include a 50-state analysis of legislation to determine state practices staffing schools with mental health professionals

(psychologists, councilors and social workers). In addition, the study team will review other non-staffing policies that have been implemented by states to address the issue of improving student mental health.

Capital Needs (3.0.C.7)

Objective: Study the critical capital needs of public schools in Arkansas in an effort to ensure equitable access to quality school buildings, equipment, and buses. Recommendations should ensure that state funding supports low wealth districts, districts with declining enrollments that nevertheless must replace existing buildings, and growing districts that require frequent new construction.

Examining the capital needs of districts is often done as a separate large-scale study in a state. In this case, Arkansas already tracks the facility condition of each school in the state and a report was delivered by the "Advisory Committee on Public School Academic Facilities" in 2018. Knowing that detailed capital information exists and has been examined recently, the study team will focus its analysis on the equity of the Arkansas' capital funding system utilizing the collected data. The study team's approach will include a literature review of how other states address capital funding and data analysis of the current funding in the state. The analyses will focus on the concept of funding capacity for districts. Low wealth, declining enrollment, and high growth districts all face particular funding capacity constraints. Low wealth districts have little local wealth to tap to build new buildings, while declining enrollment districts have fewer funding-generating students to support new buildings, and growing districts often have to create capacity for students they do not yet enroll. The analysis will not just focus on capital but will also include transportation and capital equipment funding. All mention of capital below assumes inclusion of these other two areas.

The literature review will examine the general structure of capital funding systems in other states. An emphasis of the review will examine how states provide additional capacity for districts in unique circumstances. The review will provide information on the general types of systems used by states for capital funding, specifics for each state, and a comparison table of SREB states' systems.

The data analysis will examine the available facilities information against district characteristics that can help the study team understand the equity of the system. For example, the facilities condition index for buildings will be compared to district demographic information such as wealth, student demographics, density of student population, and growth/decline of the student population. This analysis will provide insights into any gaps in the current funding system related to specific district characteristics. Similar analysis will be done for transportation and capital equipment.

Finally, questions regarding capital needs will be included in the survey of districts.

Using the literature review, data analyses, and survey data, the study team will examine if Arkansas's funding for capital, transportation, and capital equipment purchases can be more equitable.

Best Use of Poverty Funds (3.0.C.8)

Objective: Identify best practices and research-based programs for the best use of poverty funds (NSL), as well as funding methodologies available and necessary for supporting students with additional needs including without limitation physical or mental disabilities, learning disabilities, behavioral issues, economic disadvantages, and English language barriers.

The study team will examine the use of poverty funds in sections 3.0.A.1-6. This includes:

- Understanding how other states have identified the resources for poverty studies through the adequacy study review.
- Conducting research on the types of interventions being identified as making differences for poverty students as part of the evidence-based review for the adequacy studies.
- Providing detailed information on the types of programs and interventions Arkansas schools are using, identified through the case studies. This information will include the resources needed to implement the programs.

All of this information will be compiled to provide a specific set of recommendations for Arkansas on how it can best serve poverty students.

Case Studies of Successful Schools (3.0.C.9)

Objective: Identify and examine the best practices (financial, instructional and otherwise) of successful Arkansas schools, including schools that serve a high proportion of students with additional needs.

Based upon student characteristic and performance data analysis completed in Section 3.0.A, the study team will identify 12-16 successful schools from across the state to visit for case studies. Schools will be chosen that have high concentrations of ELL or economically disadvantaged students, allowing the study team to understand what types of programs and interventions are being used to increase performance for schools with these student populations. In addition to the student demographics, the study team will select schools from different grade spans, size, and geographic area of the state.

The study team will tailor an existing interview protocol and data collection device employed previously by APA in other states in order to gather the following key data and insights during each of the school visits:

- Community and student characteristics and their effect on the school.
- School staffing, including administrators, class sizes by grade, the number of specialist teachers, the number of special needs teachers (e.g. Title I, ELL, and special education), teacher leader roles, and certified and non-certified instructional support staff.
- Spending for instructional materials and technology, including supplemental materials beyond those provided districtwide.
- Use of time at the school, including the school schedule and how collaborative teacher time and individual teacher planning and preparation time are provided and utilized.

- School curriculum and instruction strategy, including a description of any promising instructional strategies that have been developed.
- Specific interventions used for students who are performing below grade-level expectations, including tutoring, extended learning time strategies, and approaches for providing services to students with disabilities and ELL students.
- Formative and teacher developed assessments, districtwide assessments, and state assessments administered at the school and how these data are used to inform and modify instruction.
- Professional development opportunities for the school staff, including the form (e.g. workshops, school and classroom based, summer institutes, etc.), topics covered, and amount of investment in professional development.
- Characteristics of the school culture, including teacher collaboration and the degree to which schools are characterized by ongoing discussions of instruction that are oriented to individual student learning ability.

The site visits will involve one on-site visit to each school. Using the structured case study protocol and data collection device described above, a team of two researchers will visit the school and conduct a series of one-on-one and small group interviews with the principal, classroom and special needs teachers, instructional leaders, and key support staff. Prior to the visit, the researchers will contact each school to request relevant documents, such as school budgets, staff rosters, and school improvement plans to review prior to the site visit.

After the site visits have been completed, the information collected from these schools will be reviewed and categorized. Quantitative data such as budget and staffing data, will be entered into a database. The qualitative data, such as information pertaining to school culture and instructional strategies, will be summarized. Information on commonalities between the programs, interventions, and resources being used for special needs populations will highlighted.

Impact of Vouchers (3.0.C.10)

Objective: Analyze the impact of voucher programs and tax credits on funding for public education in the state and in other states.

Some states have adopted policies that allow for the use of school vouchers and/or tax credits that can be used by parents to send their students to private schools, and some lessons can be learned from states that have implemented these policies. The study team's research review will gather these lessons and analyze the impact of voucher programs and tax credits on funding for public education in these states. To do so, the study team will conduct a full literature review to determine what impact voucher/tax credit policies have had on education systems across the states. As part of this review, the study team will conduct a 50-state analysis to determine which states currently have voucher/tax credit policies and how those policies function. Through this review, the study team will determine how those policies have impacted the state's public education system.

Impact of Waivers (3.0.C.11)

Objective: Assess the impact of waivers granted to schools and districts on the quality and cost of education in the state, and to use the results of this analysis to develop policy recommendations as warranted.

The state began allowing for waivers from certain state regulations and statutes beginning with the establishment of conversion charter schools in 1995. Since then, eligibility for waivers has been expanded to include open-enrollment charter schools, innovation schools and districts, and with Act 1240, traditional school districts from which open-enrollment charter schools draw enrollment. To date, the State Board of Education has granted a total of nearly 4,000 waivers.

The study team will begin this analysis by inventorying all current waivers by collecting the following information:

- The total number of waivers;
- The number of waivers by topic area; and
- The number of waivers by type of school or district receiving the waiver (e.g. open-enrollment or conversion charter, innovation school or district, or Act 1240 district).

Cost Impact

The cost to the state of waivers will be estimated by estimating the total number of items funded through the state funding matrix subject to waivers and multiplying by the funding matrix allowance for that item. For example, the cost of waivers related to librarian/media specialists will be estimated by multiplying the number of waivers relieving schools or districts from this requirement, times the staffing standard presented in the funding matrix, times its funding matrix allocation. This estimation process will be applied to all funding matrix items impacted by waivers and then summed to a statewide estimate of the total cost of waivers.

Performance Impact

The study team will estimate the impact of waivers on school and district performance by using a regression analysis to compare performance on state assessments between schools or districts with a larger number of waivers to those with few or no waivers. This analysis will focus on waivers most directly impacting a school or district's instructional program, such as waivers regarding teacher licensure, curriculum, librarian/media specialist, class size and teaching load, principals, etc. We will control for other factors potentially affecting performance such as the number of special needs students, enrollment size, student mobility, and student attendance. As part of the stakeholder engagement process, the study team can also gather feedback on perceived impacts of waivers on performance.

The study team will then develop a set of recommendations for addressing any issues emerging from these analyses.

Examination of Uniform Tax Rate (3.0.C.12)

Objective: Analyze the Uniform Rate of Tax (URT) funding method to assess how well it meets the revenue needs of districts, how it affects equity across districts, the amount debt service millage exceeds current debt service payments and how districts use these excess funds, and what the impact of increasing the URT millage.

Similar to a majority of other states, Arkansas employs a foundation school finance formula. Under a foundation formula, the state establishes a minimum per student allocation of revenue. For the 2018-19 school year Arkansas's per student foundation amount is $6,781. Foundation formulas also attempt to "equalize" revenue raising capacity across districts by establishing a uniform millage or tax rate that is applied to the local tax base of all districts in the state. This equalization attempts to sever the relationship between local district revenue raising capacity and per student revenues by using state aids to fill the gap between the foundation revenue amount and the amount raised by the uniform millage rate. This uniform millage or tax rate is known in Arkansas as the Uniform Rate of Tax and is set at 25 mills.

APA's analysis of the Uniform Rate of Tax (URT) will be in the following three areas: how well the URT meets the revenue and equity needs of school districts, impacts of different URT increases, and changes over time related to debt service.

Meeting the Revenue and Equity Needs of School Districts

APA will assess how well the URT meets the revenue needs of school districts through several steps. First, we will identify the number of districts that have increased their URT beyond the minimum 25 mills. If a significant number, or a majority, of districts have asked their voters for a higher URT, this suggests that the foundation amount is not currently meeting districts revenue needs. If the data are available, we will also review local election information from the past five to ten years to identify how many districts without a voter approved URT held an election to increase their URT but failed to gain voter approval. Finally, we will examine the relationship, or correlation, between the URT millage and local wealth to assess the degree to which those districts with the capacity to raise additional revenues through a higher URT tend to do so. Using revenue data provided by the state, we will examine how much additional revenue, on average, these districts are raising on an annual basis.

Our analysis of the URT will be informed by the equity analysis required in Section 3.0.C.2. Our equity analysis will include the disaggregation of local millage revenues to isolate the impact of the URT on equity. The study team will compare the equity statistics generated in this analysis to generally accepted benchmark statistics to assess how equitable the formula is compared to recommendations from the school finance literature.

Finally, the study team will gather input for the Committees and stakeholders about their concerns about the URT or other issues they have experienced under the current URT.

Increasing the URT
The study team will consult with Bureau of Legislative Research staff to identify a reasonable range of alternate URT millage rates. The study team will then develop a model used to estimate the district and state level impacts of the different millage rates on local property tax levels and state aid amounts. The study team will also use the equity model developed in 3.0.C.2 to run equity statistics on the different URT millage rates to assess their impact on the system's fiscal equity.

Debt Service Millage
The study team will collect district level data for the past 10 years on the amount of revenue raised through districts' debt service millage and their actual debt service payments to identify the change over time in the amount debt service revenues exceed debt service costs. Excess revenue trends will be developed by district and as a state total.

We will use this analysis to identify a representative sample of districts with excess debt service revenues to interview regarding how they use their excess revenues, for example, if they set aside for anticipated future capital projects.

The findings from these analyses will be used to guide the development of a set of recommendations for the Committees' consideration.

Funding for Concentrations of Poverty (3.0.C.13)

Objective: Examine funding levels to support districts or schools with high concentrations of poverty and recommend a formula that provides increasing funding rates for districts and schools with higher proportions of economically disadvantaged students that attempts to avoid significant increases or decreases in funding for minor changes in concentrations of poverty.

Building off the work related to concentrations of poverty in Section 3.0.A.2, the study team will address funding for concentrations of poverty through the following study activities:

- Reviewing how other states address funding for concentrations of poverty.
- Updating its review of the literature around how best to serve students in high poverty areas. This includes a scan of the additional wrap-around services needed for students.

Detailed information on the types of programs and interventions Arkansas high poverty schools are using will be identified through the case studies (Section 3.0.C.9). This information will include the resources needed to implement the programs.

All of this information will be compiled to provide a specific set of recommendations for Arkansas on how to best address concentrations of poverty.

Professional Development and Extra Duty Time (3.0.C.14)

Objective: Examine professional development and teachers' extra duty time.

The study team will examine professional development and teachers' extra duty time through conducting a literature review, discussing the resource needs and implementation approaches for each as a part of the case studies in Section 3.0.C.9 and educator panels in Section 3.0.C.16 and by asking districts about their policies for each as part of the larger district survey. The research design will provide the study team with information on the variation in delivery of professional development across districts. It will also highlight differences in expectations for extra duty time.

Comparison of Prior Study Recommendations and Legislation (3.0.C.15)

Objective: Provide a comparison of the recommendations previously provided to the Committees by Lawrence O. Picus and Associates and the policy and funding decisions implemented by the Arkansas General Assembly.

The study team will review the following three Lawrence O. Picus and Associates reports, including the report of the original evidence-based adequacy study and the subsequent recalibration and desk audit reports, and develop a matrix chart of the original report's adequacy recommendations and estimated costs, and any changes recommended by the subsequent reports.

1. Lawrence O. Picus and Associates. (2003, September 1). *An Evidence-Based Approach to School Finance Adequacy in Arkansas*.
2. Lawrence O. Picus and Associates. (2006, August 30). *Recalibrating the Arkansas School Funding Structure*.
3. Lawrence O. Picus and Associates. (2014, September 5). *Desk Audit of the Arkansas School Funding Matrix and Developing an Understanding of the Potential Costs of Broadband Access for All Schools*.

The study team will then review session laws, Bureau of Legislative Research documents, and other relevant sources to compile the actions taken by the Legislature in response to the Picus and Associates' recommendations and add these to the matrix chart along with estimated costs and cost differences between the Picus and Associates recommendations and the implementation actions taken by the Legislature. In addition to the matrix chart, the study team will provide a summary highlighting the major policy and cost differences between the adequacy recommendations and actual implementation.

As noted previously, Appendix E, "Past Performance Work Samples," includes a power point presentation from APA's Wyoming study that similarly reviewed the state's allocation resource model. Wyoming's model is similar to Arkansas funding matrix that specifies the resources (teachers, principals, central office staff, etc.) needed at schools and provided funding for these resources. It was also based upon recommendations from Picus Odden and Associates. In this example, APA compared the resource recommendations from their study to current law.

Educator Panels (3.0.C.16)

Objective: Convene panels of educators in a variety of locations throughout the state and seek input on the needs of schools and potential solutions.

Incorporating the voice of educators is a crucial component of any state finance study. The study team proposes: 1) four in-person listening sessions with educators in four different locations in the state that will be open to all educators in the region; and 2) up to 16 targeted educator panels – four in each region, one for teachers, one for school leaders, one for superintendents and one for CFOs/business managers – with up to 20 educators per panel. These panel participants could be identified by educator associations or through a nomination process. Each educator panel will be staffed by at least two study team members, including one person from APA and one person from our local university partner. These opportunities to hear from educators will allow the study team to gather feedback in areas such as the college/career readiness definition, attraction and retention of staff, and resources needs not currently addressed in the state's funding matrix.

In the targeted educator panels, the study team can also leverage its decades of experience interviewing school and district staff regarding resource use to help panel participants identify gaps in the current funding matrix and the costs associated with those gaps (Section 3.0.A.6). For example, if student mental health services appeared to be a gap in the current funding matrix, the study team could probe panel participants to identify the specific resources needed (Are more counselors or psychologists needed? What would be an appropriate caseload?? Do teachers need more professional development in this area?). Focusing on specific tangible items allows panelists to focus better on how resources specifically will be utilized to meet resource needs.

The study team also recommends that an online survey be open to both educators and the public, including parents, students, business leaders and community members to gather further feedback in each of these areas.

Section 3.0.D Reporting and Support

The study team understands the requirements for reporting and support as described in the RFP. A final report detailing all activities will be completed in November 2020. The study team will work with the Committees and staff throughout the process to ensure that all required information is included in the report. A draft report will be submitted in September 2020, allowing for up to a month of review by the Committees and staff.

The study team will provide monthly updates to staff and be available at all Committees meetings as requested. Working with the committees and staff, study team members will be available for additional research and data inquiries. As the draft report is completed, study team members will begin work with committee staff on creating draft legislation if needed.

Section 3.1 Education Adequacy Consulting

APA and its partners agree to all stated specifications and requirements in the RFP and has outlined its proposed scope of work to address all requirements to provide the requested services to the Committees. As previously noted, the study team is committed to attending meetings of the Committees and other legislative committees of the Arkansas General Assembly. The study team does

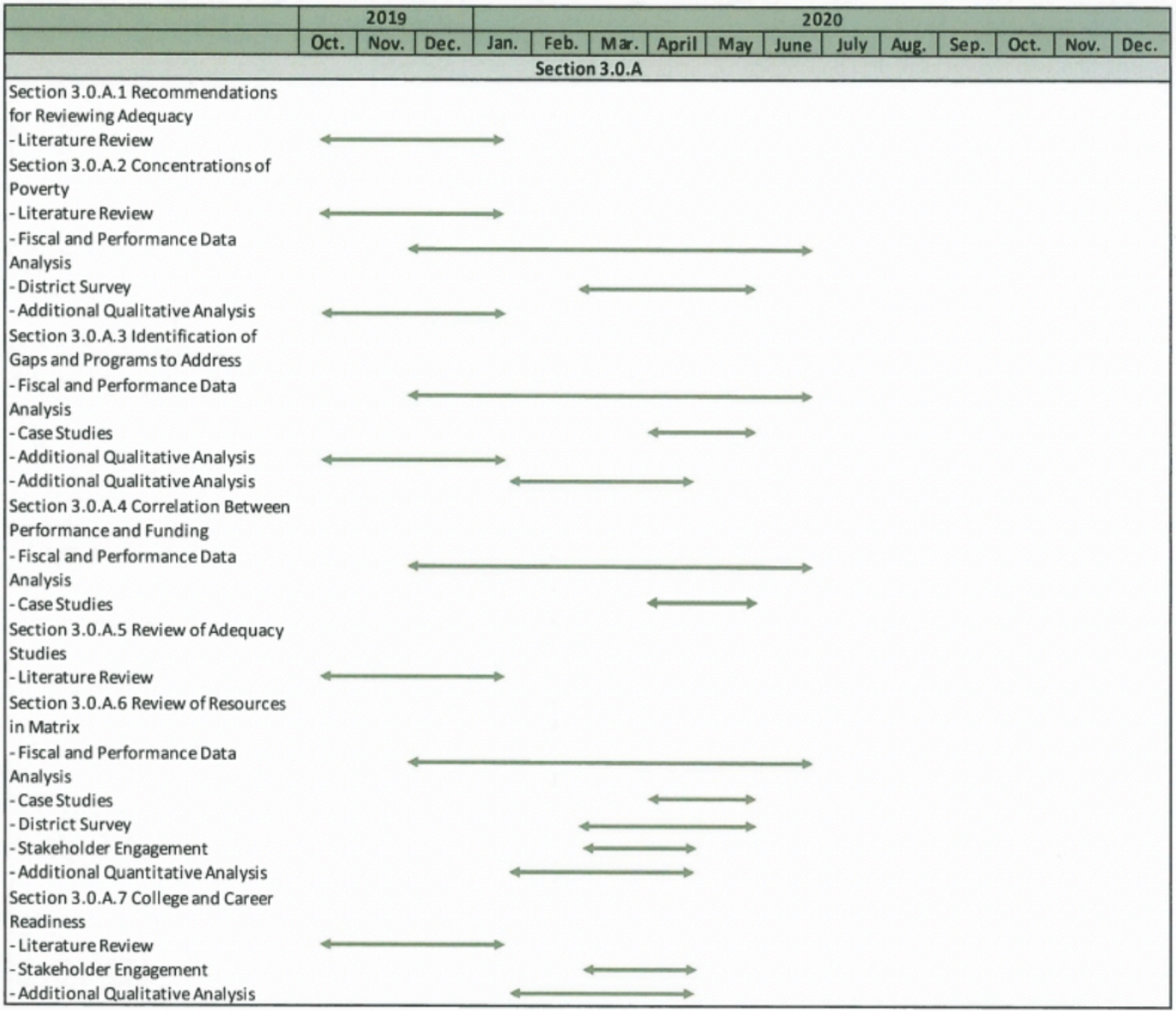
not anticipate any limitations in its ability to attend meetings or provide any of the services described in Section 3.0.D.

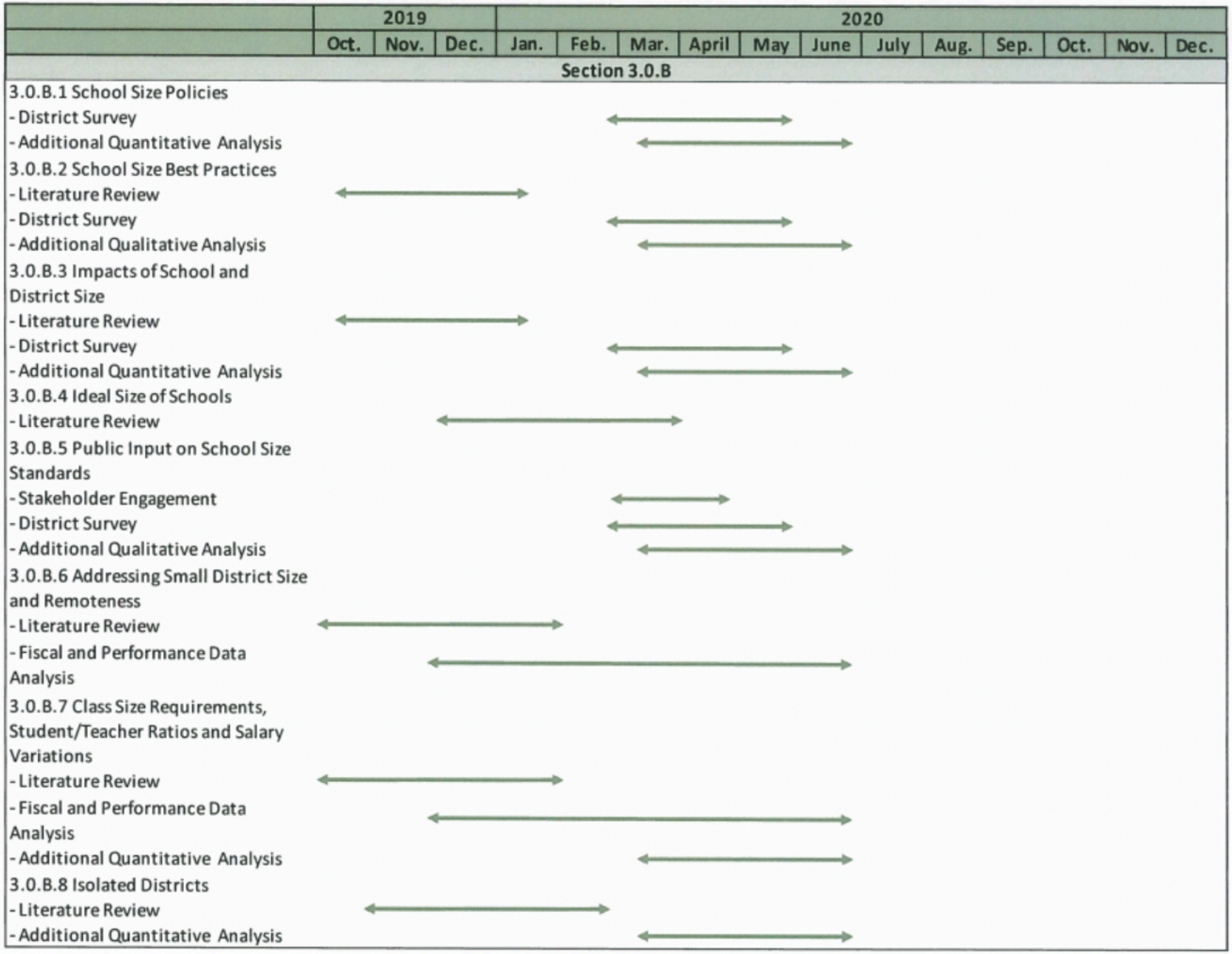
Timeline

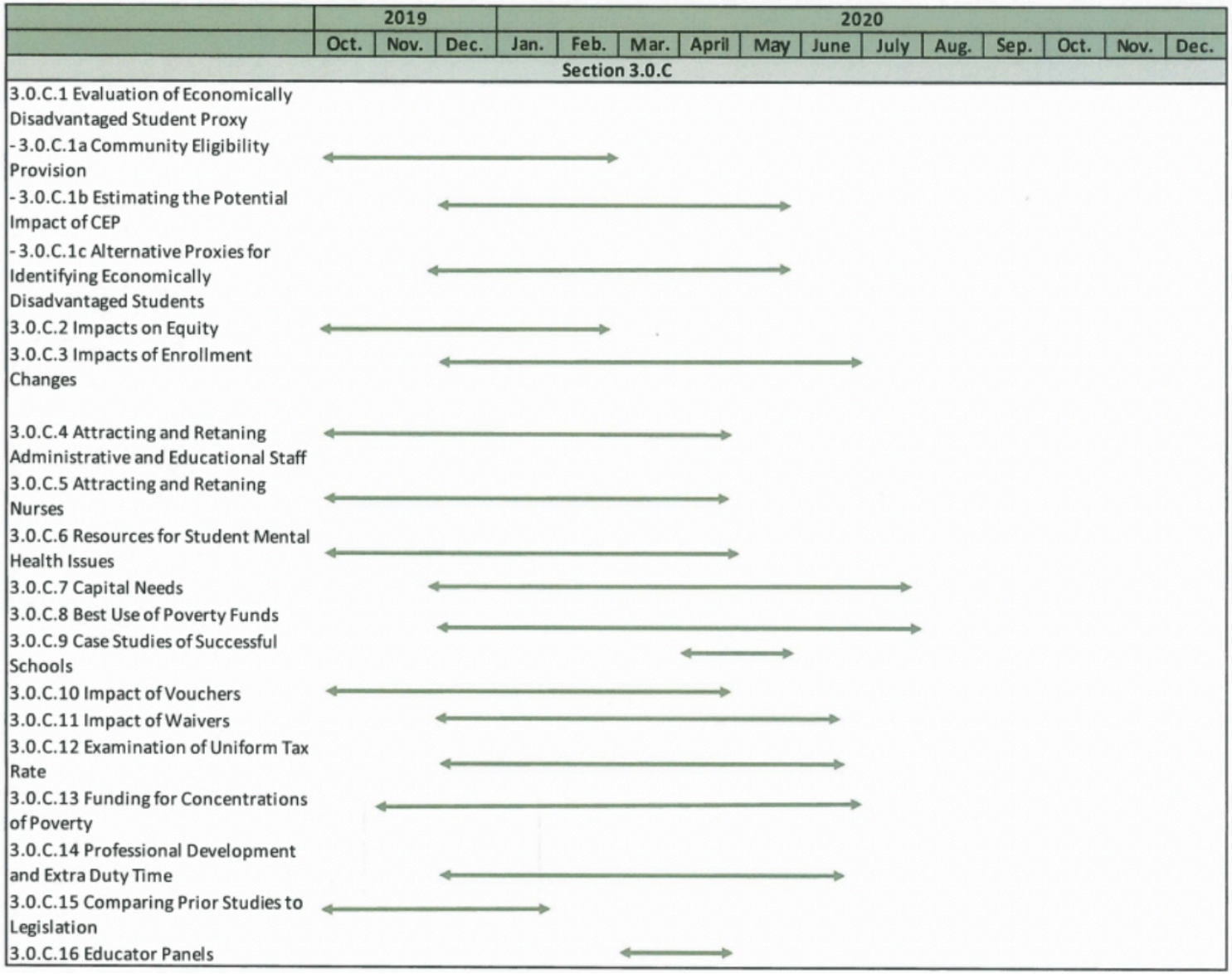
The proposed timeline assumes a project start date of mid-October 2019 and a completion date of December 2020. The final report will be delivered in November 2020, providing time for presentations and other work related to any drafted legislation. Other timeline highlights:

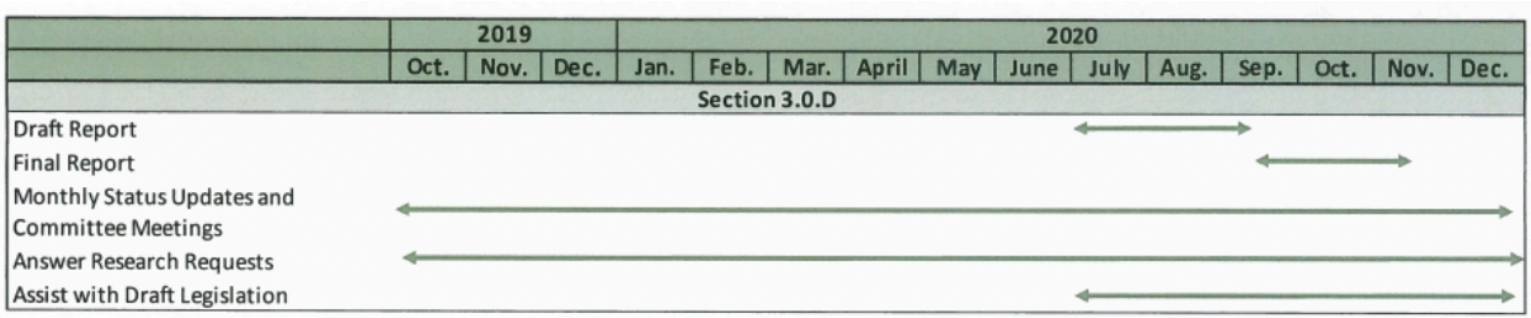
- **Section 3.0.A:** Literature reviews and collection of existing data (fiscal, staffing, student characteristics, performance) will begin immediately, with stakeholder engagement and analysis to occur in the spring of 2020. All work in this section will be completed by June 2020.
- **Section 3.0.B and 3.0.C:** The additional studies will run throughout the study timeframe with many of the literature reviews finished by January 2020.

The timeline, as outlined above and presented in greater detail on the following page, is preliminary and the study team will work with the Committees and staff to finalize the timeline to best meet Arkansas' needs.


2019
2020
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
April
May
June
July
Aug.
Sep.
Oct.
Nov.
Dec.
Section 3.0.A
Section 3.0.A.1 Recommendations for Reviewing Adequacy
- Literature Review
Section 3.0.A.2 Concentrations of Poverty
- Literature Review
- Fiscal and Performance Data Analysis
- District Survey
- Additional Qualitative Analysis
Section 3.0.A.3 Identification of Gaps and Programs to Address
- Fiscal and Performance Data Analysis
- Case Studies
- Additional Qualitative Analysis
- Additional Qualitative Analysis
Section 3.0.A.4 Correlation Between Performance and Funding
- Fiscal and Performance Data Analysis
- Case Studies
Section 3.0.A.5 Review of Adequacy Studies
- Literature Review
Section 3.0.A.6 Review of Resources in Matrix
- Fiscal and Performance Data Analysis
- Case Studies
- District Survey
- Stakeholder Engagement
- Additional Quantitative Analysis
Section 3.0.A.7 College and Career Readiness
- Literature Review
- Stakeholder Engagement
- Additional Qualitative Analysis


2019
2020
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
April
May
June
July
Aug.
Sep.
Oct.
Nov.
Dec.
Section 3.0.B
3.0.B.1 School Size Policies
- District Survey
- Additional Quantitative Analysis
3.0.B.2 School Size Best Practices
- Literature Review
- District Survey
- Additional Qualitative Analysis
3.0.B.3 Impacts of School and District Size
- Literature Review
- District Survey
- Additional Quantitative Analysis
3.0.B.4 Ideal Size of Schools
- Literature Review
3.0.B.5 Public Input on School Size Standards
- Stakeholder Engagement
- District Survey
- Additional Qualitative Analysis
3.0.B.6 Addressing Small District Size and Remoteness
- Literature Review
- Fiscal and Performance Data Analysis
3.0.B.7 Class Size Requirements, Student/Teacher Ratios and Salary Variations
- Literature Review
- Fiscal and Performance Data Analysis
- Additional Quantitative Analysis
3.0.B.8 Isolated Districts
- Literature Review
- Additional Quantitative Analysis


2019
2020
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
April
May
June
July
Aug.
Sep.
Oct.
Nov.
Dec.
Section 3.0.C
3.0.C.1 Evaluation of Economically Disadvantaged Student Proxy
- 3.0.C.1a Community Eligibility Provision
- 3.0.C.1b Estimating the Potential Impact of CEP
- 3.0.C.1c Alternative Proxies for Identifying Economically Disadvantaged Students
3.0.C.2 Impacts on Equity
3.0.C.3 Impacts of Enrollment Changes
3.0.C.4 Attracting and Retaning Administrative and Educational Staff
3.0.C.5 Attracting and Retaning Nurses
3.0.C.6 Resources for Student Mental Health Issues
3.0.C.7 Capital Needs
3.0.C.8 Best Use of Poverty Funds
3.0.C.9 Case Studies of Successful Schools
3.0.C.10 Impact of Vouchers
3.0.C.11 Impact of Waivers
3.0.C.12 Examination of Uniform Tax Rate
3.0.C.13 Funding for Concentrations of Poverty
3.0.C.14 Professional Development and Extra Duty Time
3.0.C.15 Comparing Prior Studies to Legislation
3.0.C.16 Educator Panels


2019
2020
Oct.
Nov.
Dec.
Jan.
Feb.
Mar.
April
May
June
July
Aug.
Sep.
Oct.
Nov.
Dec.
Section 3.0.D
Draft Report
Final Report
Monthly Status Updates and Committee Meetings
Answer Research Requests
Assist with Draft Legislation

Appendix A: Contract and Grant Disclosure and Certification Form

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency.

SUBCONTRACTOR: ☐ Yes ☒ No SUBCONTRACTOR NAME:

TAXPAYER ID NAME: Augenblick, Palaich and Associates, I IS THIS FOR: ☐ Goods? ☒ Services? ☐ Both?

YOUR LAST NAME: Silverstein FIRST NAME: Justin M.I.:

ADDRESS: 1547 Gaylord St

CITY: Denver STATE: CO ZIP CODE: 80206 COUNTRY: USA

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED:

FOR INDIVIDUALS*

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse *is* a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (√)		Name of Position of Job Held [senator, representative, name of board/ commission, data entry, etc.]	For How Long?		What is the person(s) name and how are they related to you? [i.e., Jane Q. Public, spouse, John Q. Public, Jr., child, etc.]	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

☐ **None of the above applies**

FOR AN ENTITY (BUSINESS)*

Indicate below if any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (√)		Name of Position of Job Held [senator, representative, name of board/commission, data entry, etc.]	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership Interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

☒ **None of the above applies**

Contract and Grant Disclosure and Certification Form

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a *state agency* I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM.** Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.

2. I will include the following language as a part of any agreement with a subcontractor:

   Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.

3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

I certify under penalty of perjury, to the best of my knowledge and belief, all of the above information is true and correct and that I agree to the subcontractor disclosure conditions stated herein.

Signature Just Silverstein Title Co-CEO Date 9/17/19

Vendor Contact Person Justin Silverstein Title Co-CEO Phone No. 303-725-6143

Agency use only

Agency Number_____ Agency Name_____ Agency Contact Person_____ Contact Phone No._____ Contract or Grant No._____

Appendix B: Certificate of Good Standing

Arkansas Secretary of State
John Thurston

State Capitol Building ♦ Little Rock, Arkansas 72201-1094 ♦ 501-682-3409

Certificate of Good Standing

I, John Thurston, Secretary of State of the State of Arkansas, and as such, keeper of the records of domestic and foreign corporations, do hereby certify that the records of this office show

AUGENBLICK, PALAICH AND ASSOCIATES, INC.

formed under the laws of the state of Colorado, and authorized to transact business in the State of Arkansas as a Foreign For Profit Corporation, was granted a Application for Certificate of Authority by this office April 4, 2019.

Our records reflect that said entity, having complied with all statutory requirements in the State of Arkansas, is qualified to transact business in this State.

In Testimony Whereof, I have hereunto set my hand and affixed my official Seal. Done at my office in the City of Little Rock, this 11th day of April 2019.

John Thurston
Secretary of State

Online Certificate Authorization Code: 9fdf0170167636c
To verify the Authorization Code, visit sos.arkansas.gov

Appendix C: Resumes for Key Project Staff

Justin Silverstein
Co-CEO
720.227.0075 | jrs@apaconsulting.net

Summary of Related Experience

Justin Silverstein joined APA in 1998. He is currently co-CEO and leads APA's school finance and cost modeling work. He has worked with over 25 states to help them understand the costs associated with meeting state educational standards. This included helping to develop and refine two of the nationally recognized adequacy approaches. Additionally, he has helped states identify the costs of specific programs and legislation, such as Colorado's Achievement Plan for Kids (CAP4K). Through his work with states, Mr. Silverstein understands how to work with policymakers to design and implement projects that are digestible to the general public and create actionable next steps.

Mr. Silverstein's cost modeling work includes models for policymakers in Idaho, Michigan, the District of Columbia and other states. His cost models are dynamic providing the user with the ability to understand the consequences of changes in specific parameters of programs. The models have been developed in excel and in online formats.

Areas of Expertise

- Project leadership/management
- K-12 school finance
- Determining the costs of programs, legislation and initiatives
- Stakeholder engagement
- Fiscal modeling
- Cost effectiveness, return on investment
- Technical assistance

Education

B.S., Business Administration (Accounting) **1998**
University of Colorado, Boulder, CO

Professional Experience

Augenblick, Palaich & Associates (APA), Denver, CO **2017-**
Co-CEO **Present**

- Oversees the school finance and cost modeling areas for the firm.
- Has provided project management on multiple large-scale projects.
- Oversees finance and operations for APA.
- Has organized and conducted school finance studies in over 25 states over the past 20 years.
- Leads the continued refinement and implementation of nationally recognized school finance research strategies, including professional judgment and successful district schools approaches.
- Project lead on numerous state level school finance studies including:
    - Reviewing Alaska's current funding formula and suggesting changes to the formula to better serve students,
    - Conducting an equity and adequacy study for the state of Alabama,

    - Conducting an update of the Nevada Adequacy study,
    - An analysis of New Jersey's census-based funding approach for special education.
- Conducted analysis of educator compensation systems including:
    - A study of Hawaii's current teacher compensation system including the structure and pay levels of the system.
    - Ongoing support of Jefferson County Public Schools staff compensation system including: yearly analysis of pay levels, support in designing the district's TIF application, and analyzing and modeling the costs of alternative pay structures for the district.
- Researched student assessment practices in both Illinois and Colorado by designing, implementing, and analyzing data generated through statewide surveys of assessment practices.
- Provides facilitation and support to district committees in Jefferson County Public Schools and Littleton Public Schools examining the districts' facility usage.

Augenblick, Palaich & Associates (APA), Denver, CO **2009-**
Vice President **2016**

- Organizational lead in the area of school finance.
- Organized and conducted school finance studies nationally.

Augenblick, Palaich & Associates (APA), Denver, CO **2003-**
Senior Associate **2008**

- Conducted multiple adequacy studies across the country including statewide studies for Colorado, Pennsylvania, Montana, Nevada, and others.
- Provided facilitation and support to a district committee in the Littleton Public schools examining the district's facility usage. The work resulted in the repurposing of two district buildings.
- Provided support to the Poudre Public Schools staff in the design of a student-based budgeting formula.

Augenblick, Palaich & Associates (APA), Denver, CO **1998-**
Associate **2002**

- Conducted school funding adequacy analyses in multiple states, including work for the Thornton Commission in Maryland which established a state school aid formula designed to ensure that school systems have the resources needed to provide every student with an adequate and equitable education.
- Participated in the development and refinement of the Professional Judgment and Successful School District approaches to study adequacy, which have become nationally recognized models for conducting school finance research.

Selected Reports and Other Publications

"Alternative Approaches to Recalibration and Reconciliation of Study Results to Provide Final Recommendations" for the Wyoming Select Committee on School Finance Recalibration (2018).

"Costing Out the Resources Needed to Meet Michigan's Standards and Requirements" for the Michigan School Finance Collaborative (2018).

"Michigan Education Finance Study" for the State of Michigan (2016).

"Final Report of the Study of Adequacy of Funding for Education in Maryland" for the Maryland State Department of Education (2016).

"Review of Alaska's School Funding Program," Silverstein, J., Brown, A., Fermanich, M. Denver, CO. Augenblick, Palaich, and Associates (2015).

"Equity and Adequacy in Alabama Schools and Districts" for the Alabama State Department of Education (2015)

"Equity Analysis of Colorado's Education Funding System." Prepared for the Colorado School Finance Project, August 2015.

"Professional Judgment Study Report," with APA staff. Prepared for Lincy Institute at the University of Nevada, Las Vegas, January 2015.

"Study of Hawaii's Compensation System," by Augenblick, Palaich and Associates with Chris Stoddard, November 2014.

"Study of Assessment Use in Colorado Districts and Schools," with APA staff. Prepared for the HB14 - 1202 Standards and Assessment Task Force, November 2014.

"Analysis of the Impact of Colorado's Achievement Plan for Kids (CAP4K): Postsecondary and Workforce Readiness, Final Report", Prepared for Colorado Department of Education, October 2014.

"Overview of the Structure of the Illinois School Finance System," with APA staff. Prepared for the Illinois State Board of Education, September 2013.

"Study of Assessment Use and Need in Illinois Race to the Top Districts," with APA staff. Prepared for Illinois State Board of Education, May 2013.

"Cost of Student Achievement: Report of the DC Education Adequacy Study," with The Finance Project and APA staff. Prepared for D.C. Deputy Mayor for Education, December, 2013.

"Salary Schedule Comparison." Prepared for Jefferson County Public Schools, April 2012

"Analysis of New Jersey's Census-Based Special Education Funding System," with APA staff. Prepared for the New Jersey Department of Education, October 2011.

"Costing Out the Resources Needed to Meet Colorado Education Standards and Requirements," with APA staff. Prepared for Children's Voices, March 2011.

"Colorado Average Daily Membership Study: A Feasibility Study of Alternatives to the October 1 Student Count Method," with Mark Fermanich and Tracie Rainey. Prepared for the Colorado Department of Education, January 2011.

"Recommendations to Strengthen North Carolina's School Funding System," with APA staff. Prepared for the North Carolina General Assembly, September 2010.

"Final Report: Jeffco Facilities Usage Committee," with committee staff. Prepared for the Jefferson County Public Schools, December 2009.

"Facility Use Task Force Final Report," with committee staff. Prepared for the Littleton Public Schools, October 2008.

"Costing Out the Resources Needed to Meet Pennsylvania's Public Education Goals," with APA staff. Prepared for the Pennsylvania State Board of Education, November 2007.

AUGENBLICK, PALAICH AND ASSOCIATES

Amanda Brown
Senior Associate
720.227.0088 | arb@apaconsulting.net

Summary of Related Experience

Amanda Brown's primary focus areas are school finance and evaluation, both at the state and local level. Since joining APA nearly 15 years ago, she has worked at the state level on large-scale adequacy studies; completed evaluations of state funding mechanisms to improve allocation of resources; conducted studies to understand the resource implications of specific education reform legislation and implementation of instructional best practices; and led stakeholder engagements efforts including in-person listening sessions, interviews and statewide surveys. She led APA's recent study of Wyoming's education finance system and has contributed to all of APA's state-level school finance studies since 2005. At the local level, Brown has assisted local school districts to develop school-based budgeting formulas; conducted salary competitiveness studies; addressed issues of declining enrollment; determined the efficiency of facilities usage; and evaluated the implementation costs and return on investment of programs.

Areas of Expertise

- Project leadership/management
- K-12 school finance
- Determining the costs of programs, legislation and initiatives
- Stakeholder engagement
- Fiscal modeling
- Cost effectiveness, return on investment
- Technical assistance
- Program evaluation
- Qualitative research methods

Education

M.P.A., Public Administration **2009**
University of Colorado, Denver, CO

B.A., Sociology, and **B.S.**, Advertising **2005**
University of Colorado, Boulder, CO

Professional Experience

Augenblick, Palaich & Associates (APA), Denver, CO **Jan. 2005-**
Senior Associate **Present**

Senior Associate Policy Analyst (08/11- present) in a firm that conducts studies on education policy issues for state and local policymakers. Previous positions: Associate; Intern.

- Recent projects: Implementation and impact evaluations of early literacy and early childhood professional development programs; conducting adequacy studies at the state and district across the country to determine the resources needed to effectively meet federal and state

standards; evaluating the cost implications of education programs and policies; and working with local school districts and community groups to address declining enrollment, the use of student-based budgeting, and the implementation of best practice standards.

- Recent clients: Nevada Department of Education; Wyoming State Legislature; Maryland State Department of Education; State of Michigan; Alaska State Legislature; Alabama Board of Education; Deputy Mayor of Education's Office, District of Columbia; Colorado Department of Education; New Jersey Department of Education; North Carolina General Assembly; Pennsylvania State Board of Education; Nevada State Legislature; Louisiana State Board of Elementary and Secondary Education; Virginia Department of Education; Jeffco Public Schools; Littleton Public Schools; Poudre School District; Denver Public Schools; Colorado Governor's State Council on Educator Effectiveness; Lincy Institute at the University of Las Vegas; Colorado Legacy Foundation; Colorado School Finance Project; Denver Preschool Program; Donnell-Kay Foundation; Piton Foundation; Children's Voices; Reach Out and Read Colorado; and Providers Advancing School Outcomes (PASO), funded through Mile High United Way.
- Duties: project management; program evaluation; research; data collection and analysis; observation; conducting interviews; focus groups, and surveys; meeting facilitation; writing and presenting reports; accounting and office management.

P.S.1 Charter School Denver, CO **May 2009-**
Member of the Board of Directors, served as Accountability Committee Chair **June 2011**

Selected Reports and Other Publications

In collaboration with other Augenblick, Palaich, and Associates staff:

- "Nevada School Finance Study" for the Nevada Department of Education, October 2018.
- "Evaluation of ELPASO Program, 2017-18" for the ELPASO Movement, July 2018.
- "Evaluation of Providers Advancing School Outcomes: Years 1-5; for PASO and Mile High United Way, 2012-2018.
- "Alternative Approaches to Recalibration and Reconciliation of Study Results to Provide Final Recommendations" for the Select Committee on School Finance Recalibration, WY Legislature, January 2018.
- "Final Report of the Study of Adequacy of Funding for Education in Maryland" for the Maryland State Department of Education, November 2016.
- "Michigan Education Finance Study" for the State of Michigan, June 2016.
- "Review of Alaska's School Funding Program" for the Alaska State Legislature, July 2015.
- "Equity and Adequacy in Alabama Schools and Districts" for the Alabama State Department of Education, March 2015.
- "Professional Judgment Study Report" for the Lincy Institute at the University of Nevada, Las Vegas, January 2015.
- "Study of Assessment Use in Colorado Districts and Schools" for Prepared the HB14- 1202 Standards and Assessment Task Force, November 2014
- "Cost of Student Achievement: Final Report of the DC Education Adequacy Study" for the Deputy Mayor of Education, District of Columbia, December 2013.
- "Costing out the Resources Needed to Meet Colorado Education Standards and Requirements:

Final Report," for Children's Voices, March 2011, and "Update Report," for the Colorado School Finance Project, February 2013.

- "Analysis of the Costs of Colorado's Achievement Plan for Kids (CAP4K): First Interim Report," "Second Interim Report" and "Final Report", for the Colorado Department of Education, March 2010, October 2011, November 2014.
- "Analysis of New Jersey's Census-Based Special Education Funding System," for the New Jersey Department of Education, October 2011.
- "An Evaluation of the Denver Preschool Program 2008-09; 2009-10; 2010-11," for the Denver Preschool Program, June 2009, September 2010, September 2011.
- "Costing Out the Resource Implications of SB 10-191 in Colorado School Districts," for the State Council for Educator Effectiveness, March 2011.
- "Recommendations to Strengthen North Carolina's Funding System," for North Carolina General Assembly, November 2010.
- "Participant Perceptive of Reach Out and Read Colorado," for Reach Out and Read Colorado, August 2010.
- "Final Report: Jeffco Facilities Usage Committee," for Jefferson County Public Schools, December 2009.
- "Assessment of Denver Public Schools Student-Based Budgeting System," for Metro Organizations for People, December 2008.
- "Facilities Usage Analysis," for Facility Use Task Force, for Littleton Public Schools, October 2008
- "Costing Out the Resources Needed to Meet Pennsylvania's Public School Education Goals," for the Pennsylvania State Board of Education, December 2007.
- "State and Local Costs of the No Child Left Behind Act in West Virginia," for the West Virginia Dept. of Education, May 2007.
- "Estimating the Cost of an Adequate Education in Nevada," for the Nevada State Legislature, August 2006.
- "The Cost of Fulfilling the Approved Procedural Requirements of the No Child Left Behind Act in New Mexico," for the New Mexico Public Education Department, May 2005.

AUGENBLICK, PALAICH AND ASSOCIATES

Dr. Mark Fermanich
Senior Associate
720.227.0101 | mlf@apaconsulting.net

Summary of Related Experience

Dr. Mark Fermanich joined APA in 2013, bringing nearly 30 years of experience working in the fields of education policy, research and administration. He has worked at the state policy level as a legislative education policy analyst; at the LEA level as a policy analyst and administrator for two large, urban school districts; and as a researcher in higher education settings. He also has nearly 10 years of experience teaching adult learners working toward graduate degrees or certification as K-12 or post-secondary administrators. For six years Dr. Fermanich served as a national technical assistance provider for grantees of the federal Teacher Incentive Fund Grant program. He has extensive experience in helping education organizations design, implement and estimate the costs of state or local school financing systems, alternative educator compensation plans, and in identifying and assessing the costs and effectiveness of educational strategies and interventions.

Areas of Expertise

- Project leadership/management
- Technical assistance
- K-12 school finance
- Cost benefit, cost effectiveness, and return on investment analysis
- Teacher recruitment, retention, mentoring, and quality
- Teacher compensation
- Fiscal modeling

Education

Ph.D., Educational Leadership and Policy Analysis — **2003**
University of Wisconsin Madison, Madison, WI

M.A., Public Administration — **1982**
University of Wisconsin Madison, Madison, WI

B.A., Political Science — **1979**
University of Wisconsin Oshkosh, Oshkosh, WI

Professional Experience

Augenblick, Palaich & Associates (APA), Denver, CO — **2013-Present**
Senior Associate

Serve as principal investigator on small- to large-scale research and evaluation projects. Conduct policy research, evaluation, and cost-effectiveness analyses in the areas of education policy, finance, and reform; teacher compensation and effectiveness; and early childhood education. Prepare and present reports, both technical and academic for clients, policymakers and academic journals. Advise and provide technical assistance to state and local education policymakers.

Oregon State University, Corvallis, OR **2011-**
Assistant Professor **2013**

Taught courses, both campus-based and online, in the areas of education policy, finance and politics for K-12 and higher education leadership graduate programs in the College of Education. Maintained active research agenda, served on Master's and Doctoral committees and engaged in service activities.

University of Colorado Denver, Center for Education Policy Analysis, Denver, CO **2009-**
Research Faculty **2011**

Served as principal investigator and researcher on small- to large-scale research and evaluation projects. Conducted policy research and evaluation in areas of education policy, finance and reform; and state fiscal policy. Advised and provided technical assistance to state and local education policymakers. Taught core graduate classes in the School of Public Affairs.

Colorado Children's Campaign, Denver, CO **2007-**
Research Director **2009**

Directed policy research and analysis on education, health care and early childhood issues for nonprofit policy research and advocacy organization. Directed the use of data and research to shape and guide the organization's policy agenda and proposals within the Colorado state context. Worked collaboratively with policy actors including state and local policymakers, foundations and higher education institutions.

Sonoma State University, Rohnert Park, CA **2004-**
Associate Professor **2007**

Taught graduate courses in the areas of education policy, finance, politics, and leadership for the Department of Educational Leadership and Special Education in the School of Education and for the Capital Area North Doctorate in Educational Leadership Program at the University of California Davis. Other responsibilities included supervising educational administration interns in school placements, serving on masters and doctoral committees, and engaging in scholarship and service activities.

University of Wisconsin Madison, Consortium for Policy Research in Education, Madison, WI **1998-**
Assistant Researcher **2003**

Conducted policy research in areas of education finance and reform with a focus on spending for school and instructional improvement, professional development, resource reallocation, school-based budgeting, decentralization, and education finance equity and adequacy.

St. Paul Public Schools, St. Paul, MN **1997-**
Compensatory Education Coordinator **1998**

Coordinated all activities pertaining to district and site-based compensatory education programs for disadvantaged and at-risk students. Responsibilities included reviewing and approving expenditures for $40 million compensatory education program and assisting school sites with budget, administration, best practice, and program implementation issues. Also assumed a leadership role in the district's site-based management initiative and provided troubleshooting in areas of budget and state policy.

Minneapolis Public Schools, Minneapolis, MN **1995-**
Manager, Intergovernmental Relations **1997**

Managed the district's intergovernmental relations efforts in support of its policies and strategic direction. Served as the district's liaison with the legislature, state executive branch, and other state and local government agencies. Responsibilities included identifying and analyzing key district policy issues and assisting the district in formulating solutions and initiatives; developing and nurturing collaborative efforts with state, county and city governments; and providing the Board of Education and district administration with interpretation and analysis of local, state and federal legislation.

Senate Counsel and Research, St. Paul, MN **1990-**
Legislative Analyst **1995**

Served as nonpartisan staff for State Senate K-12 Education Committee, providing analytical, technical and legal staff support. Responsibilities included researching salient policy issues, formulating proposals, drafting legislation, conducting fiscal analyses of legislative proposals, and projecting state and local costs. Extensive work in areas of education finance, special education, early childhood education, teacher preparation, and school-social services collaboration.

American International School of Rotterdam, Rotterdam, The Netherlands **1989-**
Finance Manager **1990**

Managed all business affairs for this K-8 elementary school with a budget of $1.5 million.

State of Minnesota, Intertechnologies Group, St. Paul, MN **1988-**
Information Center Analyst **1989**

Primary support person within state government for SAS statistical software.

Minnesota State Department of Revenue, St. Paul, MN **1983-**
Research Analyst **1988**

Served as lead researcher on large-scale research projects in the areas of state and local tax policy and finance. Responsibilities included programming and maintaining a statewide property tax model for projecting state-paid aids and credits.

Selected Reports and Other Publications

Refereed Publications

Ely, T. & Fermanich, M. L. (2018). *Building blocks: Financing charter school facilities*. Manuscript submitted for publication.

Fermanich, M. L. (2017). *Interactions between tax and expenditure limits and school finance equity: An analysis of Colorado's TABOR*. Manuscript in preparation.

Ely, T. & Fermanich, M. L. (2013). *Learning to count: School finance formula count methods and attendance-related student outcomes*. *Journal of Education Finance, 38*(4), 343.

Fermanich, M. L. (2011). Money for music education: A district analysis of the how, what and where of spending for music education. *Journal of Education Finance, 37*(2), 130-149.

Odden, A. R., Borman, G. & Fermanich, M. L. (2004). A framework for assessing teacher, classroom and school effects, including fiscal effects. *Peabody Journal of Education*, *79*(4), 4-32.

Miles, K. H., Odden, A. R, Fermanich, M. L., & Archibald, S. (2004). Inside the black box of school district spending on professional development: Lessons from five urban districts. *Journal of Education Finance*, *30*(1), 1-26.

Picus, L.O., Odden, A. R. & Fermanich, M. L. (2004). Assessing the equity of Kentucky's SEEK formula: A ten-year analysis. *Journal of Education Finance*, *29*(4), 315-336.

Odden, A. R., Archibald, S., Fermanich, M. L., & Gross, B. (2003). Defining school-level expenditure structures that reflect educational strategies. *Journal of Education Finance*, *28*(3), 323-356.

Fermanich, M. L. (2002). School spending for professional development: A cross-case analysis of seven schools in one urban district. *The Elementary School Journal*, *103*(1), 27-50.

Fermanich, M. L. & Kimball, S. M. (2002). You can get there from here: How three urban schools could use existing resources to afford comprehensive school reform. *Journal of Education Finance*, *28*(1), 75-96.

Odden, A. R., Archibald, S., Fermanich, M. L., & Gallagher, H. A. (2002). A cost framework for professional development. *Journal of Education Finance*, *28*(1), 51-74.

Odden, A. R., Archibald, S., Fermanich, M. L., & Gallagher, H. A. (2002). How to figure the cost of professional development. *Journal of Staff Development*, *23*(2), 53-58.

Book Chapters

Odden, A. R., Archibald, S. & Fermanich, M. L. (2003). Rethinking the finance system for improved student achievement. In W. L. Boyd & D. Miretzky (Eds.), *American educational governance on trial: Change and challenge (102nd Yearbook of the National Society for the Study of Education)*. Chicago: The University of Chicago Press.

Research Reports and Other Publications

APA Consulting. (2016). *Final Report of the Study of Adequacy of Funding for Education in Maryland*. Denver, CO: Author.

APA Consulting. (2016). *A Return on Investment Analysis of Aurora Public Schools' Retired Mentors for New Teachers Program*. Denver, CO: Author.

APA Consulting. (2015). *Equity and Adequacy in Alabama Schools and Districts*. Denver, CO: Author.

Fermanich, M. L., Carl, B., & Finster, M. (2015). *Development and Implementation Costs of Student Learning Objectives: Considerations for TIF Grantees*. Washington, D.C.: U.S. Department of Education, Office of Innovation and Improvement.

Fermanich, M. L. & Picus, L. O. (2015). *Adequacy Cost Study: An Interim Report on Methodology and Progress*. Denver, CO: Augenblick, Palaich & Associates.

Humann, C., Palaich, R., Fermanich, M. and Griffin, S. (2015). Final School Size Study Report: Impact of Smaller Schools. Denver, CO: APA Consulting.

Silverstein, J., Brown, A., & Fermanich, M. L. (2015). *Review of Alaska's School Funding Program*. Denver, CO: Augenblick, Palaich & Associates.

Wool, S., Fermanich, M., & Reichardt, R. (2015). *A Review of the Literature on the Effects of Concentrations of Poverty on School Performance and School Resource Needs*. Denver, CO: APA Consulting.

Aportela, A., Picus, L., Odden, A. & Fermanich, M. (2014). *A Comprehensive Review of State Adequacy Studies Since 2003*. Denver, CO: Augenblick, Palaich & Associates

Fermanich, M., Picus, L. O. & Odden, A. (2014). *Proposed Methodology for Establishing Adequate Funding Levels in the State of Maryland*. Denver, CO: Augenblick, Palaich & Associates.

Germeroth, C., Day-Hess, C. & Fermanich, M. (2013). *Evaluation study of early childhood workforce professional development strategies*. Denver, CO: McREL.

Fermanich, M. L. (2011). *Colorado's fiscal future: We'll get what we pay for* (White Paper). Denver, CO: University of Colorado Denver, School of Public Affairs, Buechner Institute for Governance.

Fermanich, M. L. (2010, September). *An analysis of decentralized funding plans for DPS innovation schools.* Denver, CO: University of Colorado Denver, School of Public Affairs, Buechner Institute for Governance.

Fermanich, M. L. (2010). *Money for music: Exploring the costs and benefits of music programs in Mountain View School District*. Carlsbad, CA: NAMM Foundation.

Fermanich, M. L. & Hupfeld, K. (2009). *Student-centered funding and its implications for Colorado: A primer for policy makers*. Denver, CO: Donnell-Kay Foundation and University of Colorado Denver, Center for Education Policy Analysis.

Harris, C., Clemons, T., Williams, J., & Fermanich, M. (2009). *Greater Louisville Education Project Report*. Denver, CO: McREL.

Fermanich, M. L. (2007). *They are all our kids: Examining resources for supporting CALSTAT leadership site models*. Rohnert Park, CA: California Institute on Human Services.

Fermanich, M. L. (2006). Is the 65% solution THE solution? *School Business Affairs*, *72*(2), 29.

Fermanich, M., Picus, L. O. & Odden, A. (2006). *Washington Learns: Successful district study final report*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Picus, L. O., Goetz, M., & Fermanich, M. (2006). *An evidence-based approach to school finance adequacy in Washington*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Picus, L. O., Goetz, M., Fermanich, M., Seder, R. C., Glenn, W., & Nelli, R. (2006). *An evidence-based approach to recalibrating Wyoming's block grant school funding formula*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Picus, L. O., Fermanich, M., & Goetz, M. (2004). *An evidence-based approach to school finance adequacy in Arizona*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Picus, L. O. & Fermanich, M. (2003). *An evidence-based approach to school finance adequacy in Arkansas*. North Hollywood, CA: Lawrence O. Picus and Associates.

Odden, A., Fermanich, M. & Picus, L. O. (2003). *A state-of-the-art approach to school finance adequacy in Kentucky*. North Hollywood, CA: Lawrence O. Picus and Associates.

Picus, L. O., Odden, A. & Fermanich, M. (2003). *A professional judgment approach to school finance adequacy in Kentucky*. North Hollywood, CA: Lawrence O. Picus and Associates.

Miles, K. H., Hornbeck, M. & Fermanich, M. L. (2002). *Chicago Public Schools: Professional development project*. Chicago, IL: The Chicago Public Education Fund.

Picus, L. O., Odden, A. & Fermanich, M. (2001). *Assessing the equity of Kentucky's SEEK formula: A ten-year analysis*. North Hollywood, CA: Lawrence O. Picus and Associates.

AUGENBLICK, PALAICH AND ASSOCIATES

Jennifer Piscatelli
Associate
720.227.0090 | jhp@apaconsulting.net

Summary of Related Experience

Jennifer Piscatelli joined APA in 2012 and brings over 20 years of education policy experience to the Comprehensive Center proposal. She has contributed to APA's role in REL Central for the past 7 years, contributing to the development of REL Central's research alliances and managing APA's regional educational laboratory subcontract. She regularly works with policymakers through her roles in APA school finance, evaluation, and assessment projects. Prior to joining APA, Jennifer spent over 8 years as a researcher and policy analyst at the Education Commission of the States, staffed New Hampshire Governor Jeanne Shaheen's Kids Cabinet, and served as a Legislative Aide to the New Hampshire State Senate Education Committee.

Areas of Expertise

- Program/project administration
- School finance
- Education policy development and implementation
- Meeting facilitation
- Survey development and analysis
- Qualitative data analysis
- Focus group and Interview development and facilitation

Education

M.A., Political Science (Emphasis: Public Policy) **2006**
University of Colorado at Denver, Denver, CO

B.A., Political Science and Women's Studies (Magna Cum Laude) **1998**
University of New Hampshire, Durham, NH

Professional Experience

Augenblick, Palaich & Associates (APA), Denver, CO **Feb. 2012-**
Associate **Present**

- Member of APA's school finance team. Contribute to school finance adequacy and costing out projects and Professional Judgment Group panels in multiple states, including Alabama, Alaska, Maryland, Michigan, and Nevada.
- Provide analysis, support and facilitation for a variety of APA projects, including educator evaluation systems, student assessment, teacher compensation, and early childhood education. Lead focus groups, conduct interviews and surveys and facilitate meetings.
- Serve as administrator of APA's subcontract as a partner providing services as the Regional Educational Laboratory Central (REL Central). Conduct research as part of REL Central. Research projects have included educator effectiveness, teacher mentoring, competency-based education, and cost-benefit analysis.

Independent Consultant, Castle Rock, CO **Aug. 2010-**
Self-employed **Feb. 2012**

- Managed multiple clients and projects while delivering high-quality work. Developed a "case statement" and accompanying funding scout report for a Washington, D.C.-based non-profit organization.
- Designed and facilitated a session on service-learning policy for the Wisconsin Department of Public Instruction.
- Provided support to the Executive Director of an education professional association. Responsible for managing and executing all communication with association members and coordinating the association's annual conference.

Education Commission of the States (ECS), Denver, CO **Feb. 2002-**
Policy Analyst; Assistant Policy Analyst; Researcher; Special Projects Associate **Aug. 2010**

- Supported ECS' vision to serve state policymakers across the country as they develop education policy through multiple roles over 8+ years:
    - Supported the ECS National Center for Learning and Citizenship's (NCLC) national initiatives on state and school district policy to sustain high-quality citizenship education and service-learning. Authored and co-authored grant proposals to fund and sustain the Center's work. Supervised the creation and updating of web-based state policy databases. Presented findings at state and national conferences.
    - Contributed to ECS' Postsecondary and Workforce Development Institute; conducted state policy research on postsecondary remedial education. Managed the institute's database and generated reports, and facilitated discussions of experts and policymakers.
    - Served as an ECS State Liaison, regularly connecting with up to 28 ECS Commissioners in 4 states and conducting needs assessments.
    - Coordinated the ECS President's "Distinguished Senior Fellows" program.
    - Served as the ECS liaison for the Pathways to College Network policy; Coordinated and participated in interviews of 35 national education experts on school accountability; represented ECS at state meetings.

Office of the Governor, Concord, NH **Feb. 2001-**
Program Specialist **Sept. 2001**

- Staff to New Hampshire Governor Jeanne Shaheen, the Governor's Kids Cabinet and three Cabinet Subcommittees. Prepared the Governor's briefing materials and served as liaison between the Governor's Office and the thirteen Cabinet members (state agency heads).
- Coordinated monthly Cabinet and subcommittee meetings, developed meeting agendas consistent with Cabinet priorities, provided research and administrative support for Cabinet and Subcommittee members and meetings. Secured private grant funding for the KIDS Cabinet School Age Care Outreach Project.

New Hampshire State Senate, Concord, NH **Jan. 1999-**
Legislative Aide **Feb. 2001**

- Served as legislative aide to the New Hampshire Senate Education Committee and all education-related study committees and commissions. Attended committee hearings and meetings, prepared meeting/hearing reports, reviewed committee amendments for accuracy, researched bills and issues, drafted interim and final study committee reports.

- Drafted Senators' floor statements outlining committee recommendations for Senate floor debate. Responded to information requests and inquiries from legislators, members of the public, state agency personnel, lobbyists and other interested parties in a timely manner.

Selected Reports and Other Publications

"Costing Out the Resources Needed to Meet Michigan's Standards and Requirements," with APA staff and Picus, Odden and Associates. Denver, CO. Augenblick, Palaich and Associates, 2018.

"Overview of selected state policies and supports related to K–12 competency-based education" (REL 2017–249). Brodersen, R. M., Yanoski, D., Mason, K., Apthorp, H., and Piscatelli, J. (2016). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Central.

"A Review of Teacher and Principal Input Regarding The 27J Teacher Evaluation System," with APA staff. Prepared for School District 27J, Colorado, June 2015.

"Review of Alaska's School Funding Program." Silverstein, J., Brown, A., Fermanich, M. Denver, CO. Augenblick, Palaich and Associates, 2015.

"Professional Judgment Study Report," with APA staff. Prepared for Lincy Institute at the University of Nevada, Las Vegas, January 2015.

"A Review of Teacher Survey Data Regarding The 27J Teacher Evaluation System," with APA staff. Prepared School District 27J, Colorado, August 2013.

"Study of Assessment Use and Need in Illinois Race to the Top Districts," with APA staff. Prepared for Illinois State Board of Education, May 2013.

"State Policies on School Climate and Bully Prevention Efforts: Challenges and Opportunities for Deepening State Policy Support for Safe and Civil Schools," with Chiqueena Lee. National School Climate Center, July 2011.

Jason Willis

730 Harrison Street, San Francisco, CA 94107

SUMMARY OF EXPERIENCE

Jason Willis is the Director of Strategy & Performance at WestEd. In this role, he oversees and guides the expansion of the agencies performance and accountability services, which include support to state and local education agencies to implement policies and financial infrastructure to support school system reform. Performance and accountability services provides this support through capacity building, facilitation, and analysis of financial data including the effective use of resources. He has also worked with numerous states and urban school systems to reimagine their funding distribution and regulatory systems to increase the effective use of resources.

Prior to joining WestEd, Willis served as Assistant Superintendent for the San Jose Unified School District. He also served as the Chief Financial Officer/Chief Business Official for the Stockton Unified School District and Budget Director for the Oakland Unified School District. Willis began his career as an Assistant Product Manager with Standard & Poor's analyzing the debt and financial profile of public institutions.

EDUCATION

2005	MAEd, Policy & Finance, Teachers College, Columbia University, New York, NY
2003	BA, Educational Studies & Psychology, The Catholic University of America, Washington, DC

PROFESSIONAL EXPERIENCE

2016–Present *Strategy and Performance Director*, Comprehensive School Assistance Program
WestEd, Washington, DC

Oversee and guide the expansion of CSAP's existing performance and accountability services, which include support to California's state and local education agencies to implement policies and practices to support the Local Control Funding Formula (LCFF) and realization of genuine continuous improvement efforts in school systems. Performance and accountability services provides this support through capacity building, facilitation of professional learning networks, and analysis of financial data including the effective use of resources.

2011–2016 *Assistant Superintendent, Engagement & Accountability*, San Jose Unified School District, San Jose, California

Guided the design, development, and implementation of the school district's strategic plan for 2012-2017, including significant reforms such as teacher evaluation and

compensation, transformational school redesign, and school performance management systems. In addition, oversaw departments within the school district, including technology and information services; data, research, and accountability; strategic planning/implementation; student services; charter schools; public/media relations; and alternative programs.

2009–2011 *Chief Financial Officer/Chief Business Official,* Stockton Unified School District, Stockton, California

Led and oversaw all non-instructional operations for the school district including finance, facilities, information technology, transportation, food services, and procurement. Balanced the SUSD district budget totaling approximately $475 million. Managed approximately 600 staff, providing daily support for the instruction and education of students.

2007–2009 *Budget Director and Program Manager*, Oakland Unified School District Oakland, California

Supervised and managed the overall OUSD budget functions. Develop annual budget that aligned strategy with resource allocations. Managed the school district's annual $710 million budget, which included operating, facilities, food service, early childhood, and adult education funds. Supervised nine staff members in the budget department who were responsible for assisting and communicating with school sites and central office departments. Provided support and training on budget management and strategic planning to school district principals.

2003–2006 *Assistant Product Manager, Senior Research Assistant, and Research Assistant,* School Evaluation Services, Standard & Poor's
New York, New York

Helped to lead efforts to implement the Resource Management Service (RMS) for education leaders. Provided tools, analysis, and training to improve the management of school districts through a data-driven decision-making framework. Led efforts to design and implement the Municipal Analytical Platform, a web-based platform aimed to allow data comparisons of public entities for use in the S&P Public Finance department. Provided analytical and research support for the 'Resource Adequacy Study' for the New York State Commission on Education Reform.

SELECTED PUBLICATIONS AND PRESENTATIONS

Willis, J., Krausen, K., Nakamatsu, E., & Caparas, R. (September 2018). Leading in the Local Control Funding Formula Era: The Shifting Role of California's Chief Business Officers. Getting Down to Facts II: Technical Report. Palo Alto, CA.

Grunow, A., Hough, H., Park, S., Willis, J., & Krausen, K. (September 2018). Towards a Common Vision of Continuous Improvement in California. Getting Down to Facts II: Technical Report. Palo Alto, CA.

Krausen, K. & Willis, J. (April 2018). Silent Recession: Why California School Districts Are Underwater Despite Increases in Funding. WestEd. San Francisco, CA.

Taylor, L., Willis, J., Berg-Jacobson, A., Jaquet, K., & Caparas, R. (March 2018). Estimating the Costs Associated with Reaching Student Achievement Expectations for Kansas Public Education Students: A Cost Function Approach. Prepared for the Kansas Legislature. WestEd. San Francisco, CA.

Taylor, L., Berg-Jacobson, A., Atchison, D., Willis, J. & Levin, J. (March 2018). Cost Differentials Across School Districts in Florida: Initial Report. WestEd. San Francisco, CA.

Baumgardner, C., Frank, S., Willis, J., & Berg-Jacobson, A. (February 2018). Finding a Path Toward Equity: What States Can Learn from the Transformation of California's School Funding Model. WestEd. San Francisco, CA.

Hough, H., Willis, J. Grunow, A., Krausen, K., Kwon, S., Mulfinger, L., & Park, S. (October 2017). Continuous Improvement in Practice. Policy Analysis for California Education (PACE). Palo Alto, CA.

Willis, J. & Hill, M. (November 2010). Budgeting to Support Student Achievement: New Strategies for Central Office. *Voices in Urban Education.* Annenberg Institute for School Reform. Providence, RI.

Willis, J., Gazzerro, P., Durante, R. (May 2006). Towards Effective Resource Use: The Case for the Resource Management Service. Prepared for the National Working Group on Funding School Success. A project of the School Finance Redesign Project. University of Washington.

Durante, R. & Willis, J. (November 2005). The benefits dilemma: Rising healthcare and pension costs are squeezing education resources. *School Business Affairs.* Association for School Business Officials International: Reston, VA.

Cox, W., Durante, R., Stewart, M., Gazzerro, P., Hampel, M., Willis, J., Sharp, A., Skuthan, N. (March 2004). *Resource Adequacy Study for the New York State Commission on Education Reform.* School Evaluation Services Reports & Findings, Standard & Poor's: New York, NY.

SELECTED PROFESSIONAL ACTIVITIES

- Urban Institute. School Funding Reform – Stories from the States. Washington, DC, 2018
- National Conference of State Legislatures. The Cost of Addressing Barriers to Learning. Baltimore, MD, 2018
- National Conference of State Legislatures. Costing Out in Action – Experiences, Challenges and Successes in Costing Out Educational Adequacy. Baltimore, MD, 2018
- Board Member. Alder Graduate School of Education. Palo Alto, CA, 2017-2020
- Public Financing Equity and Excellence in Schooling. Haas School of Business: University of California – Berkeley. Berkeley, CA, 2017

- Advisory Board Member. California Office for Reforming Education (CORE). Sacramento, CA, 2017-2019
- Technical Working Group Member. National Study on the Impact of Weighted Student Funding Systems. Institute for Educational Studies (IES). U.S. Department of Education, 2016-2018
- School-level Per Pupil Allocations: Political and Technical Implications. Association for Education Finance Professionals Annual Gathering. Washington, DC, 2017
- Implications for Weighted Student Funding Systems in our Public School Systems. Future of Education Finance Summit. Baltimore, MD, 2016
- Implementing College Readiness Indicator Systems: Linking Data and Design in District Settings Panelist, Education Northwest, Portland, OR, 2015
- Data Quality Campaign, District Data Use Working Group Advisory Committee Member, 2013-2015
- National Governor's Association (NGA) Resource Reallocation Policy Academy Presenter, "Using Data to Inform Strategic Decision-Making," 2012
- Testimony before the National Equity and Excellence Commission, U.S. Department of Education, on Effects of Implementing the Results-Based Budgeting System in an Oakland Unified School District, San Jose, CA, 2011
- Haas Education Leadership Case Competition, UC Berkeley. Judge, "Los Angeles Unified: Budgeting for Student Achievement" Case, 2011
- Turning Around the Nation's Lowest-Performing Schools: Steps to Success Panelist, Center for American Progress, Washington, DC, 2011
- School Site Finance and Resources, Principal Leadership Institute Adjunct Professor, Graduate School of Education, UC Berkeley, 2009, 2011
- The Broad Center Academy & The Broad Center Residency Presenter, "Effective Resource Allocation and Budgeting in Urban School Districts, 2009, 2010, 2011
- Testimony before the Student-Based Budget Task Force, Louisiana Board of Elementary and Secondary Education, on Effective Practices of Student-Based Budgeting Systems on Urban Schools, 2010
- Deregulating School Aid in California: How Local Educators Allocate Flexible Dollars and Stimulus Funds, RAND Corporation and Policy Analysis for CA Education Advisory Committee Member, Sacramento, CA, 2009-2011

Raifu O. Durodoye Jr., Ph.D.

300 Unicorn Park Drive, 5th floor, Woburn, MA 01801

SUMMARY OF RELATED EXPERIENCE

WestEd research associate Raifu Durodoye Jr. is an experienced administrative practitioner and researcher. He provides technical assistance to school districts and state education agencies, and designs and conducts experimental and quasi-experimental evaluations of education programs. Dr. Durodoye Jr. supports work affiliated with the REL – Northeast & Islands, REL-Mid-Atlantic, and WestEd's Comprehensive School Assistance Program. His work is focused on the implementation and effectiveness of academic interventions, state education agency strategies to support low-performing schools, and the implications of school funding disparities for at-risk student populations.

Previously Dr. Durodoye Jr. was the Title 1 – Part A program manager for the Delaware Department of Education. In that role, he worked to align planning and budgeting processes with school level needs assessment findings, institute internal financial controls, and provide data and policy supports to district administrators. Dr. Durodoye Jr. also served in the Delaware Department of Education as a data strategist with their Educator Support Division, and as a data fellow with the Strategic Data Project at the Center for Education Policy Research. Dr. Durodoye Jr. supported the agency in forming their long-range educator workforce goals under ESSA, and generating and disseminating reporting to monitor educator equity gaps within districts and schools.

Prior to joining a state education agency, Dr. Durodoye Jr. worked in higher education as an analyst, and senior analyst in offices of institutional research, evaluation, and assessment. In those roles, Dr. Durodoye Jr. oversaw the development of university-wide early alert systems, evaluated student support initiatives, and communicated research findings to executive officers. Dr. Durodoye Jr. has managed portions of university accreditation processes, developed performance budgeting tools, and led racial and gender equity investigations within the Office of the Provost. He received his undergraduate degree, and master's in public administration from the University of North Texas. He received his PhD in public administration and policy from Virginia Polytechnic Institute & State University.

EDUCATION

2015	PhD in Public Administration & Policy, Virginia Polytechnic Institute
2008	Master of Public Administration, University of North Texas
2006	Bachelor of Arts & Sciences

PROFESSIONAL EXPERIENCE

2018 - 2019 *Education Associate, Title I - Part A*
Delaware Department of Education, Dover, DE
Student Support Division

- Steer district budgeting, programmatic, and monitoring practices to meet policy objectives
- Steward over $46 million in federal funds
- Create systems of technical assistance and programmatic oversight
- Streamline budgeting, management, and financial practices for stakeholders
- Evaluate program performance and efficacy
- Liaison to the U.S. Department of Education

2016 - 2018 *Strategic Data Project Fellow*
Harvard Graduate School of Education, Cambridge, MA
Center for Education Policy Research

- Embedded in the Delaware Dept. of Education, Dover, DE
- Formulated educator equity goals for Delaware's ESSA plan
- Data analyses and briefings for executive cabinet, and district chiefs
- Outreach to union leadership, advisory board members, and district superintendents
- Team lead on standardized assessment metrics
- Offered professional development for teachers and school leaders

2014 – 2016 *Research Analyst*
Virginia Polytechnic Institute, Blacksburg, VA
Office of Institutional Research & Effectiveness

- Conducted institutional efficiency and benefit-cost analyses
- Authored the Office of the Provost's institutional salary equity study
- Managed sections of SACSCOC accreditation report submission
- Data analysis and advanced statistical modeling in SAS
- Instituted automated reporting and data quality scans

2013 – 2014 *Assistant Editor for Administration & Society*
Virginia Polytechnic Instituted, Blacksburg, VA
Center for Public Administration & Policy

- Administration of peer review process
- Initial review of manuscripts
- Author and reviewer point of contact

2011 – 2013 *Graduate Assistant*
Virginia Polytechnic Institute, Blacksburg, VA
Office of Institutional Research & Effectiveness

- Data analysis and ad hoc reporting in SAS & SQL
- Data curation and quality control responsibilities
- Annual internal and federal reporting

2011–2010 *Institutional Research Analyst III*
University of North Texas, Denton, TX
Office of Institutional Research & Effectiveness

- Developed an early alert process to increase first year student retention
- Statistical identification of at-risk students for program identification
- Data analysis and statistical modeling in SAS & STATA
- Presentation of findings to academic administrators and constituents
- Supervision of graduate assistants

SELECTED PUBLICATIONS AND PRESENTATIONS

PUBLICATIONS

Gumpertz, M., Durodoye, R., Wilson, A., & Griffith, E. (2017, October). Retention and promotion of women and underrepresented minority faculty in science and engineering at four large land grant institutions. *PLOS ONE*.

Tampke, D. R., & Durodoye, R. O. (2013). Improving Academic Success for Undecided Students: A First-Year Seminar/Learning Community Approach. *Learning Communities Research & Practice, 1*(2).

Durodoye, R., Gumpertz, M., Wilson, A., Griffith, E., Ahmad, S. (*forthcoming*). Tenure and Promotion Outcomes at Four Large Land Grant Universities: Examining the Role of Gender, Race, and Academic Discipline. *Research in Higher Education*.

UNDER CONTRACT

Ahmad, S., & Durodoye, R. (2019). Dig the Well Before You're Thirsty: Long-Term Strategies to Strategically Cultivate the Teacher Workforce. In B. A. Durodoye, & R. Bryant (Eds.), *From Disagreement to Discourse: A Chronicle of Controversies in Schooling and Education*. Charlotte, NC: IAP.

SELECTED PROFESSIONAL ACTIVITIES

- St. Anne's Episcopal School Trustee 2018
- DDOE Equity Council Co-Chair 2018
- Family Services Cabinet Council - Integrated Data Systems Committee 2017
- Comprehensive Tableau Training 2017
- TeenSHARP Volunteer & Mentor 2017
- Commission on Equal Opportunity and Diversity Vice Chair 2016
- Commission on Equal Opportunity and Diversity Workgroup Chair 2016
- Commission on Equal Opportunity and Diversity Member / University Council Representative 2015(16)
- IPEDS Data & Benchmarking Workshop 2014
- HopeTree Family Services Volunteer 2013(14)(15)(16)
- Association for Institutional Research Member 2012(13)(15)

- IR LEADERSHIP AWARD IN STUDENT RETENTION AWARD RECIPIENT (CSRDE) 2010
- Retention and Graduation Committee Member 2010(11)
- Soaring Eagle Award Recipient 2010
- Texas Association for Institutional Research Member 2010
- AIR Forum IPEDS Workshop 2010
- North Texas Council for International Visitors Volunteer 2010
- North Texas Athletics Academic Coach 2008-2011
- MPA Alumni Scholarship Award Recipient 2008
- Mediation Certification 2008

Lauren R. Outlaw

1140 Third Street NE, Washington, DC 20002

Summary of Related Experience and Areas of Expertise

Lauren Outlaw is a Senior Policy Specialist and a member of the Learning Innovations and Comprehensive School Assistance Program teams at WestEd. Her work includes providing targeted technical assistance to help schools improve program quality, structures, and resource allocation and efficiency; and, using her extensive background in charter school administration and strategic risk management to provide high-value implementation support of WestEd's Charter Schools Program Grant Monitoring project and the National Charter Schools Resource Center. In this role, Ms. Outlaw also translates K-12 education laws and regulations into actionable resources for schools, districts, and regional systems, and engages a broad range of stakeholders on service assessment, process design, and leadership development.

Before joining WestEd, Ms. Outlaw successfully advocated for increased school-based mental health resources for public school students in the District of Columbia and structured and negotiated the 15-year charter school renewal agreement with the DC Public Charter School Board on behalf of KIPP DC. Her expertise is grounded in federal and local charter school and choice policies; legislative analysis and legal compliance; business and process improvement strategies; and promoting school safety, positive school climates, and the effective use of restorative practices.

Education

2011	Doctor of Jurisprudence, Indiana University Maurer School of Law, Bloomington, IN
2007	Bachelor of Arts in Political Science, Columbia College, Columbia University, New York, NY

Professional Experience

2019-Present *Senior Policy Specialist*
WestEd, Washington, DC

Assists state and local agencies with planning, implementing, and managing resources and evidence-based practices to grow high-quality education opportunities and improve outcomes for students. Recommends individualized adjustments to state school finance, accountability, and support systems consistent with the Every Student Succeeds Act (ESSA) and other state laws. Contributes to the CSP monitoring project.

2015-2019 *Director of Policy*
KIPP DC, Washington, DC

Designed and implemented robust infrastructures founded on equitable, evidence-based policies, and best practices to promote consistency and legal compliance across 16 schools with approximately 6,400 students (e.g., student property searches, school visitors, and field trip protocols; discipline and due process procedures). Provided daily school-based support grounded in restorative practices, including risk assessment; conflict resolution; and, liaising with families, school leaders, executive staff, and third-party agencies. Mitigated potential liability through over 20-30 confidential employee,

parent/guardian, and student investigations per year. Served as Title IX Coordinator and central point of contact for 50+ formal complaints annually on school-based issues such as sexual harassment, bullying, student safety and discipline, grade retention, and special education. Compiled myriad legally-mandated performance and data submissions (e.g., annual reports, student handbooks, discipline reporting to the Board of Trustees, responses to special education and other external audits, and residency verification documentation). Conducted detailed analyses of local budgets to determine annual appropriations to schools and education agencies and identify critical shortages (e.g., funding for school-based mental health personnel, social emotional learning practices, special education investments that are more aligned with students' needs, and health and sex education curricula). Collaborated with the District's state education agency, government officials, and a diverse group of local education stakeholders to implement ESSA's new achievement targets and accountability system. Leveraged collaborative partnerships with 150+ families, elected and appointed city officials, state and city education agencies, and community members to: meaningfully inform pending legislation, rule-making, and policy initiatives by (i) delivering and/or training staff members to provide testimony before the DC Council, and (ii) preparing written public comments.

2014-2015 *Judicial Law Clerk*
The Honorable Robert R. Rigsby, Associate Judge, District of Columbia Superior Court

Supervised a domestic relations docket of 100+ cases, including litigant mediation; researching and writing bench memoranda on nuanced legal issues involving families and children. Managed 15-20 legal interns by delegating assignments, delivering constructive feedback, and facilitating high-quality final work product. Administered the Law and Government Explorers' Program (Law Camp) for 30-45 local high school students and professional mentor partners to expose DC high school students to various career opportunities while also helping them navigate the complex challenges impacting today's youth.

2012-2014 *Policy and Advocacy Associate*
Friends of Choice in Urban Schools (FOCUS), Washington, DC

Collaborated with the DC Public Charter School Board to modify local charter school renewal guidelines to ensure consistency with the DC School Reform Act (local charter law) and facilitated workshops on the revised guidelines for school leaders. Advanced pro-charter legislation and policy priorities to defend charter school autonomy, advocate for the equitable distribution of local funds and use of surplus public school buildings, and prevent the enactment of overly burdensome and/or duplicative federal and local monitoring requirements. Mobilized and trained a coalition of 75 parents and community member activists to advocate for their school-specific needs at the annual *Charter School DC Council Day*.

Spring 2011 *Policy Intern*
Early Childhood Development Policy Department, Children's Defense Fund (CDF), Washington, DC

Created a database with state-by-state analyses of school attendance requirements, Head Start and pre-kindergarten enrollment figures, early learning and kindergarten standards, and full-day kindergarten (FDK) programs, and then used this research to shape CDF's FDK campaign and prepare related materials. Evaluated national child welfare and education statistical data for CDF's *State of America's Children* publications. Analyzed President Barack Obama's FY 2012 budget proposal and the implications on early childhood education initiatives.

SELECTED PRESENTATIONS

B22-950. Students in the Care of DC Coordinating Committee Act. (2018, October.) Testimony before the DC Council, Committee on Education, Washington, DC.

Recommendations for the Department of Behavioral Health. (2018, April.) Testimony at the DC Council, Committee on Health, Budget Oversight Hearing, Washington, DC.

B22-023. School Innovations Grant Act of 2017. (2017, May.) Testimony before the DC Council, Committee on Health, Washington, DC.

Overview of KIPP DC's Restorative Practices at the FY 2017 Budget Oversight Hearing for the DC Office of the State Superintendent of Education. (2017, April.) Testimony before the DC Council, Committee on Education, Washington, DC.

B21-140. School Attendance Clarification Amendment Act of 2015. (2016, January.) Testimony before the DC Council, Committee on Education and Committee of the Whole, Washington, DC.

DC Municipal Regulations, Chapter 5A-21, The DC Office of the State Superintendent of Education Compulsory Education and School Attendance Rulemaking. (2013, May.) Testimony before the DC State Board of Education, Washington, DC.

Darius Taylor

101 Ferry St., Apt. 1, Easthampton, MA 01027

SUMMARY OF RELATED EXPERIENCE

Darius D. Taylor is a Research Associate with the WestEd Justice & Prevention Research Center. Mr. Taylor historically has concentrated his academic and research experiences within the fields of behavioral health, chronic disease epidemiology and biostatistics. He brings to the JPRC team a sound quantitative background and passion for change within the fields of education, justice, health and social action.

While at WestEd, Darius has supported multiple initiatives that have catered to marginalized populations, specifically adolescents and young adults who are low income, homeless, or have behavioral issues. The evaluations of Nebraska's *Connected Youth Initiative* and Massachusetts' *Safe and Successful Youth Initiative* are two such projects that support the aforementioned populations by providing various services to aid recovery and life achievement in respect to health and well-being. Mr. Taylor has supported the process and summative evaluation of these programs by providing quantitative (data analysis and reporting) and qualitative (site visits, interviews and observations) support.

He continues to expand the scope of his research and evaluation experience by focusing on the WestEd 2020 goals of serving 'The Whole Child', 'Underserved Populations, Diverse Learners', and developing 'Next-Generation Assessments'. His current scholastic efforts while enrolled in his fourth year as a doctoral student at UMass focus on the social consequences of current testing practices in America and the differential aspirations and achievements of marginalized groups (specifically low socio-economic status black and brown students).

EDUCATION

2016-2020 *(anticipated)*	Ph.D. Candidate, Research, Educational Measurement, Psychometrics, UMASS-Amherst College of Education, Amherst, MA
2014	M.P.H. Epidemiology, UNTHSC – School of Public Health, Fort Worth, TX
2012	B.S. Health Science, Truman State University, Kirksville, MO

PROFESSIONAL EXPERIENCE

5/2019-Current *Research Associate,* WestEd Justice & Prevention Research Center
WestEd, Easthampton, MA (home office)

Assist in the development of research and evaluation projects related to justice, education and health. Duties include: survey of literature, academic writing, survey coordination, survey validation, statistical and measurement consulting, data collection, management and statistical analysis.

3/2016-5/2019 *Research Assistant*, WestEd Justice & Prevention Research Center
WestEd, Woburn, MA

Assist in the development of research and evaluation projects related to justice, education and health. Duties include: survey of literature, academic writing, survey coordination, data collection, management and statistical analysis.

9/2016-5/2019 *Research Assistant,* Research, Educational Measurement & Pscyhometrics Program, University of Massachusetts, Amherst, MA

Serve as a student resource for the college of education. Assist in the development of research and evaluation projects related to: professional growth and development of graduate programs within the College of Education under the supervision of Dr. Jennifer Randall; educational measurement and psychometrics for Pearson & ETS contracts under the supervision of Drs. Steve Sireci, Lisa Keller & Craig Wells. Duties currently include literature review, proposal development, survey development, score report design, standard setting, statistical workshop facilitation, statistical consulting, data collection, management, analysis and dissemination.

06/2018-09/2018 *Summer Fellow,* Data Strategy, Education Analytics, Inc., Madison, WI

Experience the duties of the multi-faceted Data Strategy team by supporting research and analytic projects in production, attending business development meetings with partners, and serving as a resource for statistical and psychometric methods. Duties included literature review, proposal development, data analysis and dissemination.

2015-2016 *Analyst*, Health Services and Outcomes Research
Walgreen Co., Deerfield, IL

Assisted in the development of research and evaluation projects related to Medication Adherence, Pharmacy Retail, Digital Health and Health Outcomes. Duties included systematic surveys of literature, data mining and querying using SAS/SQL, Unix & Teradata, data management and statistical data analysis

2014-2016 *Private Tutor*, Algebra, Pre-Calc, Statistics, ACT, GRE
Lake and Cook County, IL

Academically assisted students upon request in the subject areas of pre-algebra, algebra 1&2, statistics, quantitative reasoning for ACT and GRE preparation. Duties included working through theory and homework, assigning additional practice and serving as a resource for knowledge specific to subject areas.

2014 *Evaluation Support Analyst*, Chronic Disease Prevention
Tarrant County Public Health Department, Fort Worth, TX

Served as a resource for the evaluation of two 1115 Waiver DSRIP Programs at Tarrant County Public Health Department: Chronic Disease Self-Management Program and Freedom From Smoking Tobacco Cessation Program. Duties included the preliminary analysis of program data, providing SPSS workshops to program leads and serving as a

resource for the proper use of evaluation metrics. Workshops and tutorials focused on teaching program leads how to clean, manage and analyze data respective to their program according to the metrics and measures needed for reporting using SPSS and Excel.

2014 *Data Manager*, Behavioral and Community Health Department
UNT Health Science Center – School of Public Health, Fort Worth, TX

Assisted in the evaluation of various community and locally funded programs under the leadership of Dr. Emily Spence-Almaguer in the Behavior and Community Health Department. Duties included data management, analysis and assisting with the development of evaluation reports (using SPSS and SAS). Acted as a data manager for several (at most times co-occurring) evaluation projects. Responsibilities included cleaning, managing, manipulating and analyzing data. Also reported queries and outcomes in graphical, tabular and narrative form as requested by lead evaluator.

2014 *BEST Scholar*, Behavioral and Community Health Department
UNT Health Science Center – School of Public Health, Fort Worth, TX

Received a scholarship award from the Biostatistics and Evaluations Services and Training Team to complete a specific project for Dr. Emily Spence-Almaguer. Duties included a survey of literature and data collection via telephone interviews and e-mail to create a compendium of Best Practices Related to Asthma Prevention and Control in Texas for the Texas Department of State Health Services.

2013-2014 *Graduate Research Assistant*, Obstetrics and Gynecology Department
UNT Health Science Center – Texas Col. of Osteopathic Medicine, Fort Worth, TX

Assisted in the development of various research projects related to cancer epidemiology under the mentorship of Dr. Martha Felini and Dr. Raquel Qualls-Hampton in the Obstetrics and Gynecology Department of the Texas College of Osteopathic Medicine. Duties included data management, analysis, evaluation reporting, publication development and conference presentations. Managed data for multiple projects (at times co-occurring), created and validated survey tools, managed both physical and electronic data files, performed weighted hierarchal regression analysis of national survey data and presented research and evaluation to lay audiences.

2013 *Data Collector*, Alcohol Study – Behavioral and Community Health Department
UNT Health Science Center – School of Public Health, Fort Worth, TX
Assisted in data collection for the dissertation study of doctoral student, Matthew Rossheim in the Behavioral and Community Health Department. Duties entailed recruiting and surveying undergraduate students from local bar scene on their perceptions of driving under the influence in Denton, TX.

2011 *Research Intern*, Ronald E. McNair Post Baccalaureate Achievement Program
Truman State University, Kirksville, MO

Conducted Research under the mentorship of Dr. Jerry Mayhew entitled "Alcohol Protective Factors of Truman Students: A Logistic Regression Analysis" funded by the Ronald E. McNair Post-Baccalaureate Achievement Program. Self-taught the essentials of logistic regression analysis to obtain estimates for the association between Truman Student's alcohol protective factors and attitudes using the 2010 Missouri College Health Behavior Survey data in SPSS. Manuscript accepted for publication in 18th Vol. of the McNair Scholarly Review.

2010-2011 *Program Developer*, Health and Exercise Sciences Department
Truman State University, Kirksville, MO

Attended the Institution of Higher Learning Bystander Intervention Conference (Boston, Massachusetts; July 12-17, 2010). Conducted research on how the bystander intervention program effected the knowledge, attitudes, and behaviors of selected Truman students. Co-developed, implemented and evaluated (using SPSS) an individualized bystander intervention program to various Truman student audiences; findings presented at annual student research conference.

2009-2010 *Student Liaison*, Missouri Partners in Prevention
Truman State University, Kirksville, MO

Promoted the "CHEERS to Designated Drivers" program to health classes and various student organizations. CHEERS is a designated driver program funded by Missouri Partners in Prevention that allows designated drivers to drink free non-alcoholic beverages at participating establishments around Kirksville, MO.

SELECTED PUBLICATIONS AND PRESENTATIONS

Taylor, D. & Keller, L. (2018) *Using differential option functioning to examine trends of differential post-secondary aspirations across demographics groups* presented at the Northeastern Educational Research Association 2018 Annual Conference in Trumbull, CT.

Padellaro, F., Taylor, D., Keller, L. (2018) *Improving validity in image-based assessment using simplified line drawings* co-presented at the National Council on Measurement in Education 2018 Annual Conference in New York, NY.

Fronius, T., Guckenburg, S., Taylor, D., Persson, H., & Petrosino, A. *Keeping Kids in School Initiative: Final Evaluation Report,* WestEd (JPRC), Dec. 2017.

Taylor, D., Keller, L. (2017) *Using differential item functioning to examine differential goals for college and career across demographic groups* presented at the Northeastern Educational Research Associations 2017 Annual Conference in Trumbull, CT.

Taylor, D. (2017) *UMass teacher candidate performance on the new state practicum assessment* presented as part of a symposium *Implementing the new Massachusetts candidate assessment of performance at the university of Massachusetts Amherst* at the

Northeastern Educational Research Associations 2017 Annual Conference in Trumbull, CT.

Sireci, S. G., Randall, J., Zenisky, A., Keller, L., Diao, H., Banda, E., Taylor, D., Rick, F., Park, Y., Botha, S., Lewis, J., Ezzelle, C., & Kirkpatrick, R. (2017). Setting the Accomplished Teaching Standard on the Selected-Response Sections of the National Board Certification Exams. Center for Educational Research Report No. 955. Amherst, MA: Center for Educational Assessment.

Keller, L., Keller R., Nering, M. Taylor, D. (2017) *Comparing circle arc and nominal weights mean equating with small samples* presented at the 2017 National Council on Measurement in Education Annual Meeting in San Antonio, TX.

Taylor, D., Rodriguez, G. (2016) *Rater training in educator preparation assessments* presented as part of a symposium *Riding uphill: Addressing issues in teacher preparation programs* at the Northeastern Educational Research Associations 2016 Annual Conference in Trumbull, CT.

Fronius, T., Guckenburg, S., Petrosino, A., Taylor, D., Persson, H., MacDougall, P., Fuxman, S., O'Donnell. *More than dream: Mas que un sueno – Final Evaluation Report,* WestEd (JPRC) and Educational Learning Center, Sept. 2016.

Spence-Almaguer EE, Ghanta G, Chhetri S, Taylor DD. *Quarterly Evaluation Reports: United Way of Tarrant County Earn Well Initiative*, Department of Behavioral and Community Health, Sch. of Public Health – UNTHSC, Feb - Aug 2014.

Qualls-Hampton RY, Shuler M, Taylor DD. *CPRIT Evaluation Reports: ALIVE! Intervention*, Department of Obstetrics and Gynecology, TCOM – UNTHSC, May 2013-2014.

Qualls-Hampton, R., Taylor D., Shuler, M., Flynt-Wallington, S. (2014) *"Whatever ya say doc": A legislative approach to HPV vaccine acceptance among adolescents using the National Immunization Survey - Teen, 2010 - 2012"* presented at the 142nd APHA Annual Meeting and Exposition, New Orleans, LA.

Qualls-Hampton, R., Taylor D., Shuler, M., Flynt-Wallington, S. (2014) *"Parental perceptions and HPV vaccine initiation and completion: A gender comparison using the National Immunization Survey - Teen, 2010 - 2012"* presented at the 142nd APHA Annual Meeting and Exposition, New Orleans, LA.

Qualls-Hampton, R., Taylor D., Shuler, M. (2014) *"Evaluation of an interactive, web-based nutrition intervention in African-American church members"* presented at the Texas Public Health Association 90th Annual Education Conference, Omni Hotel, Corpus Christi, TX.

Donahue, R. & Taylor, D. (2012) *"Autogenic Training break out session"* presented at the University Conference Day, Truman State University, Kirksville, MO.

Donahue, R., Sexton, C., Taylor, D. (2011) *"Bystander Intervention"* research presented at the Student Research Conference, Truman State University, Kirksville, MO.

Taylor DD. *Analysis of Alcohol Protective Factors and Attitudes of Truman State University Students*. McNair Scholarly Review: Truman State University. Spring 2012; (18): 91-97

Taylor, D. (2011) *"Alcohol Protective Factors of Truman Students: A Logistic Regression Analysis"* research presented at The 15th Annual MKN McNair Heartland Research Conference, Marriot Hotel, Kansas City, MO.

PROFESSIONAL AFFILIATIONS

- American Educational Research Association
- American Evaluation Association
- Northeastern Educational Research Association
- National Council on Measurement in Education

Mari Shikuzawa

1000 G Street, Suite 500, Sacramento, CA 95814

SUMMARY OF RELATED EXPERIENCE

As a Program Assistant for the Center for IDEA Fiscal Reporting (CIFR), Mari Shikuzawa is responsible for database management and coordinating technology and communication efforts. She has extensive experience in data analysis and managing operational activities including program development and reporting. Ms. Shikuzawa previously supported programs for U.S. AID, Medtronic Philanthropy, and New Leaders.

EDUCATION

2017 Master of science, International Business, Economics and Management, University of Leuven, Brussels, Belgium

2010 Bachelor of arts, International Studies and Global Relations, Minor, Anthropology, University of the Pacific, Stockton, CA

PROFESSIONAL EXPERIENCE

2017–Present *Program Assistant, Center for IDEA Fiscal Reporting*
WestEd Center for Prevention & Early Intervention, Sacramento, CA

- Manage technical assistance database and ensure data quality.
- Analyze program data to inform internal practices and reporting to funders.
- Use data visualizations and dashboard to share project metrics across a range of audiences.
- Coordinate with technology lead around new features development and bug fixes for a Salesforce technical assistance management system, improving functionality and efficiency.
- Track state education fiscal news.
- Support external communication through social media, external newsletter, success stories.
- Provide logistics support for conferences.
- Provide administrative support to technical assistance providers as needed.

2016–2018 *Market Development and Instagram Growth Manager,* Business Development
Kickstagram, San Diego, CA

- Coordinated with chief officers to analyze potential markets and implement market development strategies including marketing funnel initiatives.
- Developed metrics and data dashboards to analyze ROI, target clientele, and lead generation methods.
- Developed recruitment materials and managed interview processes to successfully recruit for account management, sales, and software developer positions.
- Organized and facilitated social media webinars for 75-plus attendees.
- Increased customer base and monthly revenue by 27 percent as a result of direct sales.

2013–2015 *Program Support*
Public Health Institute

- Collaborated with executive directors in program design and strategic development for Medtronic Philanthropy Global Health Leaders. Key outputs included program framework, outcomes framework, professional development framework and administrative processes.
- Worked with executive directors to design and complete international recruitment of program directors and on boarding including advertisements, screening, and interview processes.
- Facilitated work groups and meetings with partner and affiliate staff.

- Monitored and analyzed program results and progress for reporting.
- Directly managed budgets and contracts relating to offices in India and South Africa.
- Served as program liaison to U.S. AID security officials in Washington, D.C. and overseas missions.
- Coordinated successful strategic planning for intern cohort. Key outputs included development of Security and Overseas Dependent Orientation and online community.

2012–2013 *Special Assistant*, Programs and Cities
New Leaders

- Managed and maintained national and regional program data dashboards for senior management. Contents of information included program consistency across cities, effectiveness of programs, satisfaction, and recruitment.
- Managed and maintained national and regional development dashboard for senior management containing grant proposals and cash flow.
- Organized and facilitated management training on company's intranet (WIKI).
- Developed presentations and talking points for chief program officer.

2008–2010 *Intake Coordinator*
Safe Place

- Managed intake process and reporting to meet regulatory standards.
- Managed and developed financial statements including income statement, balance sheet, and tax forms.
- Organized and conducted certification trainings for foster family continuing education for CPR and first aid.

SELECTED PROFESSIONAL ACTIVITIES

Completed Soft Stack Coding Academy. The course focused on learning a complete technology stack and best practices regarding technology and corporate etiquette. Used HTML, CSS, Javascript, MongoDB, Express, Angular, Node, and Ionic to develop several web and mobile applications during the course.

MICHAEL GRIFFITH

891 14th Street, Unit 3210
Denver, Colorado 80202
(720) 272-1826
griff103@hotmail.com

EMPLOYMENT HISTORY

Independent School Finance Consultant 2012 - Present

Working with clients on a variety of education policy topics including: Early learning funding, the current condition of state education budgets and the adequacy and equity of school funding in states. Current and former clients include: Augenblick, Palaich and Associates, Education Commission of the States, Illinois State Board of Education, Kentucky Council for Better Education, Pew Charitable Trusts - Philadelphia Research Initiative, Picus Odden & Associates, Research for Action (Pennsylvania), Research on Social and Educational Change (RSEC) and state legislatures in Colorado, Delaware, Idaho, Maine, Maryland, Michigan, Nevada, Pennsylvania, Rhode Island, Vermont and Wyoming.

Senior School Finance Analyst, Education Commission of the States 2008 - 2012
Policy Analyst, Education Commission of the States 2000 - 2008

- Managed ECS's education finance efforts, produced policy briefs, reports, presentations and other documents that are published to the ECS website and distributed to educators and legislators nationwide
- Oversaw project and proposal budgets ranging from $15,000 to over $1 million. Worked directly with stakeholders including the National Center on Time and Learning, Pearson Publishing, Pew Center on the States and multiple state government clients.
- Worked as part of a team on school funding adequacy and equity studies in Connecticut, Kansas, Maine, Maryland, Missouri, Montana, South Dakota, and Vermont
- Conducted research on various education topics, including: the condition of state budgets, the adequacy and equity of state finance formulas, state funding of early-learning programs and promising practices in funding programs for high-need students
- Assisted in acquiring financial support from private funders, including: Ford Foundation, Foundation for Child Development, Bill and Melinda Gates Foundation, GE Foundation, Pre-K Now and the Pew Charitable Trusts
- Worked with state policy makers, and their staff, to shape early learning, K-12 and higher education funding policy in all fifty states
- Testified to state legislatures or governors' commissions in twenty-five states on educational issues, including: charter schools, education funding, school choice, virtual learning and vouchers
- Quoted over 300 times by numerous national media outlets, including: CNN, Education Week, NBC Nightly News, National Public Radio and The New York Times
- Presented on various education policy issues to numerous local, state and national organizations, including: Council of State Governments, Education Writers Association, League of Women Voters, National Association of Latino Elected & Appointed Officials, National Conference of State Legislatures and National School Boards Association

Policy Analyst, Consulting Firm of Augenblick & Myers 1999 – 2000

- Worked on research projects in areas that included adequacy in school funding, school district consolidation and special education funding reform in order to assist policymakers in Kansas, Minnesota and South Carolina

Finance/Tax Policy Analyst, Michigan State Senate 1995 – 1999

- Staffed the Michigan Senate Taxation/Finance and Capital Construction committees.
- Drafted legislation dealing with taxation, K-12 and higher education funding, bonding and capital construction
- Helped design Request for Proposals and Request for Qualifications for state projects.
- Monitored the K-12, higher education and capital construction budgets
- Worked with state and national groups to draft or amend legislation. Groups included: AFL-CIO, American Association of School Administrators, Michigan Chamber of Commerce, National Association of State Boards of Education, National Education Association and state universities and community colleges

EDUCATION

M.Ed. (Education Management) - Trinity College, University of Dublin
M.P.A (Government Finance) - The Ohio State University
B.A. (Political Philosophy) - James Madison College at Michigan State University

RECENT PUBLICATIONS

2018 Costing Out the Resources Needed to Meet Michigan's Standards and Requirements. Augenblick, Palaich and Associates.

2018 Alternative Approaches to Recalibration and Reconciliation of Study Results to Provide Final Recommendations, Prepared for the Wyoming Select Committee on School Finance. Aguenblick, Palaich and Associates

2016 Using the Evidence-Based Method to Identify Adequate Spending Levels for Vermont Schools. Picus Odden & Associates. With Allan Odden and Lawrence O. Picus.

2016 State Teacher Salary Schedules. Education Commission of the States

2015 Local Wealth Measures in Maryland. APA Consulting and Picus Odden & Associates. With William Glenn, Lawrence O. Picus, and Allan Odden.

2015 Progress of Education Reform: A Look at Funding Students with Disabilities. Education Commission of the States.

2015 A School Funding Formula for Philadelphia. The Pew Charitable Trusts. With Maria Millard.

2014 Adequacy for Excellence in Kentucky. Picus Odden & Associates. With Michael Goetz, Allan Odden, Lawrence O. Picus, Anabel Aportela and Adriane Williams.

2014 What State Policymakers Need to Know about Funding Virtual Charter Schools. Education Commission of the States

2013 An Independent Review of Maine's Essential Programs and Services Funding Act. Picus Odden & Associates. With Lawrence O. Picus, Allan Odden, Michael Goetz, William Glenn, Diane Hirshberg and Anabel Aportela.

2012 Understanding State School Funding. Education Commission of the States.

2012 An Evaluation of Vermont's Education Finance Systems. Picus Odden & Associates. With Lawrence O. Picus, Allan Odden, William Glenn and Michael Wolkoff.

WILLIAM T. HARTMAN
Education Finance Decisions, President
Professor of Education. Emeritus
The Pennsylvania State University

EDUCATION

Ph.D. Stanford University, Educational Administration and Policy Analysis, March 1979
M.B.A. Harvard University, 1967 (J. Spencer Love Fellowship)
B.M.E. University of Florida, 1965, Mechanical Engineering (high honors, Tau Beta Pi)

AREAS OF SPECIALIZATION AND INTEREST

Resource Allocation in Education
Education Finance and Equity
Special Education Funding
New Fiscal Reality for Education

EXPERIENCE

The Pennsylvania State University, College of Education, Emeritus: (2016-current), Educational Leadership Program 1986 – 2016 (Professor in Charge 1991-93, 2008-2010)
Center for Total Quality Schools: Executive Director (1992-95, 1998-2016), Director of Research (1995-98)
University of Oregon, College of Education, (1981–1986)
Stanford University, School of Education (1979–1981. Institute for Research on Educational Finance and Governance (1979–1980).

Management Analysis Center, Inc., Palo Alto, CA, 1969 - 1978: Vice President.
Major areas of activity included special education, organizational studies, marketing strategy and organization, and sales force management. Within special education, assignments included: development of planning process and computerized projection models; comprehensive organizational reviews; conceptual and implementation planning for state educational agencies; resource allocation and financial projections; comprehensive review of special education finance theory and practice; cost effectiveness analysis; organizational evaluation; evaluation design; program review and evaluation; policy analysis; and case writing and teaching. Principal author of various reports.

Additional assignments were performed for private sector firms in the areas of organizational design, financial and economic analyses, development of management control systems, marketing strategy, market research, industry analysis and evaluation, sales force management, distribution cost studies, and compensation.

Institute Centroamericano de Administracion de Empresas, Managua, Nicaragua, 1968:
Instructor.
INCAE was the graduate business school for Central America and was sponsored by the Harvard Business School and USAID. Designed and taught the Advanced Control course to second-year students.

Banco Central de Nicaragua, Managua, Nicaragua, 1967 - 1968: Management Consultant.

Other Consulting Activities, 2000 - present:

Pennsylvania State Senate: study of the use of federal funds for special education in Pennsylvania, 2001-02.

Center for Special Education Finance, American Institutes for Research: Cost-effectiveness analysis of PA prereferral system for special education; consultant on various reports, 1993-98; member, Technical Advisory Group for National Special Education Expenditure Project, 1999-00.

Ad Hoc Subsidy Group, a group of the litigants and interveners in the Pennsylvania Association of Rural and Small Schools lawsuit (challenging the constitutionality of Pennsylvania's current system of funding schools): development of alternative subsidy funding formula and creation of microcomputer simulation models for policy analysis, 1997-99.

National Center for Educational Statistics: Principal author of paper analyzing multiple approaches for school-level financial reporting, 1999-2001.

Foundation for American Communications: Seminar on school finance for selected members of Pennsylvania Newspaper Association, 2005.

Community Justice Project: Financial analysis of special education funding in Pennsylvania, 2006-2008.

Augenblick, Palaich, & Associates: Transportation Analysis for the Pennsylvania Costing Out Study, 2007.

Appleseed Foundation: Development of a national Resource Equity Assessment template to track and compare non-monetary resources across neighborhoods of differential affluence, 2010.

Augenblick, Palaich, & Associates: Analysis of North Carolina's Public Education Student Transportation System, 2010.

Augenblick, Palaich, & Associates: Consultant to Study of New Jersey's Special Education Funding System, 2010.

Ministry of Justice, Province of British Columbia. Victoria, BC. Analysis of Resource Allocation Patterns. 2012

RECENT PUBLICATIONS

Books:

Hartman, W. (1999). School district budgeting, 2nd ed. Reston, VA: Association of School Business Officials. (1st. ed. (1988). Englewood Cliffs, NJ: Prentice-Hall)

Books - Co-Authored

Hartman, W. & Boyd, W. (Eds.) (1998). Resource allocation and productivity in education. White Plains, NY: Greenwood.

Hartman, W. & Stefkovich, J. (2004). Ethics for School Business Officials. Lanham, MD: ScareCrow Education.

Chapters and Articles

Stoicescu, C. & Hartman, W. (2004). Funding elementary and secondary education in Pennsylvania: Trends in state and local funding in the 1990s. Journal of Education Finance , *29(4)*, 337-357.

Denison, D., Hartman, W., Stiefel, L., & Deegan, M. M. (2011). A Model for School-level Resource Reporting Benefits and Challenges. Public Performance & Management Review, 35(1), 29-53.

Shrom, T. & Hartman, W. (forthcoming 2014). "Property Tax Restrictions on School Board Fiscal Authority." Educational Considerations.

Papers

Schoch, R. & Hartman, W. (2010). "School Energy Management Programs." Paper presented at the American Education Finance Association Annual Meeting. Richmond, VA.

Shrom, T. & Hartman, W. (2010) "Object Lessons: Examination of Spending Patterns over Time." Paper presented at the American Education Finance Association Annual Meeting. Richmond, VA.

Hartman, W. (2010) "Data Systems to Support Instruction." Paper presented at the British Educational Leadership, Management, and Administration Society. Reading, UK.

Shrom, T. & Hartman, W. (2014). "Property Tax Restrictions on School Board Fiscal Authority." Educational Considerations.

Frankenberg, E., Fuller, E., Hartman, W., Kotok, S., and Schafft, K... (2014). Assessing the Enrollment Trends and Financial Impact of Charter Schools on Rural and Non-Rural School Districts in Pennsylvania. A report for the Center for Rural Pennsylvania.

Hartman, W. (2015). Analysis of Special Education Enrollments and Funding in Rural and Urban School Districts in Pennsylvania. Harrisburg, PA: Center for Rural Pennsylvania.

Hartman, W. (2016). "Special Education Funding in Pennsylvania: The Effects of a Policy of Neglect." Commonwealth Journal of PA Politics and Policy. Temple University Press. Forthcoming

Other Recent Publications

Hartman, W., Stiefel, L. Dennison, D., Shaffer, G., Zelanko, E., Shrom, T. Potter, L., & Deegan, M. (2009). Linking School Resources to Student Outcomes. Final Report to Institute of Education Sciences. Award # R305E050089. Cost Accounting for Student Level Resources.

2014). Charter Schools and School District Spending: Observations of Spending Share by Function. PASBO Report. 34(8), pp. 20, 17.

OTHER SELECTED PROFESSIONAL ACTIVITIES

Program Chair, Leadership Workshops for School Business Officials of Lancaster-Lebanon Intermediate Unit 13. 1987-current.

School Executive Development Institute, Penn State University. 1990. Member of Planning Committee; developed and presented a day-long workshop on microcomputer models for long range planning in school districts.

Pennsylvania Educational Policy Consortium. 1990-91.
Penn State representative to Consortium
Presenter, seminar for educational policy makers in Pennsylvania, Harrisburg, PA. 1991.

Pennsylvania School Study Council
Executive Committee. 1991-93, 2008-2010

UCEA Center for the Study of Educational Finance
National Advisory Board. 1990-91.

Visiting Fellow in Education, University of Sussex, Falmer, UK. 1994.

Educational Considerations. Editorial Advisory Board, 1994-current.

Sponsor for visiting scholars: Brazil (1994) and Hong Kong (1995) studying total quality management in education; Egypt (2010-12) studying educational leadership preparation programs in the US.

Co-director: Brazilian Educational Study Missions for advanced training in quality management in education. University Park, PA. 1994, 1995.

Director, Benchmarking in School Business Management Project. 1995-2002.

Advisory board member, Pennsylvania Education Policy Center, 1998-current.

Advisory committee member, New Ohio Institute. 1998-2000.

Member, Technical Work Group, an advisory committee to the Special Education Expenditure Project, Center for Special Education Finance, Washington, DC. 2000-2002.

Invited Participant, Educational Equity Forum, Harrisburg, PA. 2001.

American Journal of Education. Consulting Editor, 2004-current

Editorial Board. Education Finance and Policy. 2005-current

Director, visit from UK Bursars to Lancaster County, PA. 2008. Sponsored by National Bursars Association.

Director, study tour for US Business Managers to visit UK, 2009. Sponsored by National Bursars Association.

Steering Committee Member. 2008-10. Children Youth & Families Consortium/Social Science Research Institute.

Editorial Advisory Board. Journal of Education Finance. 2013-current.

PROFESSIONAL ORGANIZATIONS

National Education Finance Conference
- Member, 2011-current
- Chair, Board of Advisors
- Chair, Journal of Education Outstanding Award Selection Committee
- Chair, Lifetime Achievement Award Committee
- Chair, State of the States program sessions
- Chair, Interim Task Force to Create a Membership-based Organization for Educational Finance
- Member, Legal Advisory Council Group

American Education Finance Association
- Member, 1983-2012
- Board of Directors, 1988-91
- Dissertation Awards Committee, 1988-89
- Conference Evaluation Chairperson, 1989
- Nominations Committee, 1989-90
- Distinguished Service Award, 1991

American Education Research Association
- Division A: Administration; Division L: Educational Policy and Politics
- Proposal Reviewer for annual meetings
- Fiscal Issues, Policy, and Education Finance Special Interest Group
  - Proposal Reviewer for annual meetings

Association of School Business Officials International
- Member, Ethics Subcommittee, 2005-06

Pennsylvania Association of School Business Officials
- Benchmarking Committee, Founding member and University Liaison,1998-current

University Council for Educational Administration
- Treasurer, 1991

ROBERT A. SCHOCH

32 Sunset Circle
Lititz, PA. 17543

717-519-7532
bobschoch@comcast.net

EDUCATION:

Bachelor of Arts, Economics and History, Bard College, Annandale, New York, 1976
Masters Program, Planning and Public Administration, Cornell University, 1979-81
Masters Degree, Educational Administration, Pennsylvania State University, 2007
Thesis-Baldrige Quality Management Program in Public Education
Doctoral Program, Educational Leadership, Pennsylvania State University, 2004-Present,
Dissertation in progress-school energy management program effectiveness
Coursework and comprehensive examination completed
Auditor/Lead Auditor, Quality Management Systems
Baldrige Quality Management Program Examiner Training, Keystone Alliance for Performance Excellence

PROFESSIONAL EXPERIENCE:

School District Business Administrator

1984-1996 Penn Manor School District, Millersville, PA (4,800 students)

- Administered construction of ten new and renovated schools
- Negotiated a number of difficult collective bargaining agreements
- Restructured compensation system for support staff
- Attended Institutional Energy Efficiency Partnership Project
- Coordinated reengineering study of school support services with consulting service from major accounting firm
- Wrote grant to acquire land adjacent to new middle school for an environmental education center

1996-2003 School District of Lancaster, Lancaster, PA (11,500 students)

- Implemented ISO 9001 quality management system and led initiative to develop flowcharted procedure manuals for support service functions
- Coordinated litigation necessary to reconstruct structurally unsound five year old school requiring relocation of entire school for one year
- Developed Special Education Case Study and presented twice to Legislature
- Strategic planning team
- Led technology planning and implementation of new student, financial, and curriculum management software
- Empowerment (academic distress) district improvement planning team
- Initiated the Institute for Development of Educational Alliances
- Implemented Coopers & Lybrand In$ite Financial Analysis Software
- Wrote and implemented grants for Technology Literacy Challenge Fund, Intergovernmental Cooperation for Nonpublic Transportation, and Administrative Consolidation for Special Education Process Redesign
- Participated in grant writing program resulting in over $30 million in competitive grants in three years

2003-2005 Reading School District, Reading, PA (17,500 students)

- Led effort to increase state support to balance budget (See case study by Education Commission of the States)
- Led team to develop Financial Recovery Plan assisted by PSBA research director, several consultants, and PDE liaison
- Planned construction program and site selection for new high school
- Negotiation team for five labor agreements

2005-2009 Council Rock School District, Newtown, PA (12,500 students)

- Initiated energy management program resulting in 49% reduction in energy use recognized by Energy Star Partner of the Year awards for 2007 and 2008
- Reduced copier cost by 40% through better procurement methods
- Initiated transportation efficiency study and transportation contract bidding
- Implemented Support Function Improvement Plans for facilities management and purchasing departments
- Recommended consultant for strategic planning effort and participated in development and implementation of the strategic plan
- Implemented collaborative budget process for difficult financial challenges that resulted in eight benchmarking studies and 50 One Page Analysis studies of options to increase revenues and reduce expenditures
- Selected and implemented new financial software
- Received $35,000 grant to implement LEED-EB (operating procedures for energy management for existing buildings) as one of 12 pilot schools nationwide
- Negotiation team for salary concessions and contract extension

2010-2014 North Penn School District, Lansdale, PA (12,800 students)

- Negotiated five year teachers' contract during strike in fourth month in position
- Participated in successful application for recognition by Keystone Alliance for Performance Excellence (state equivalent of Baldrige Performance Excellence Program), served as Examiner for site evaluations of KAPE program applications from other organizations
- President, Montgomery County Transportation Consortium-regional transportation system for nonpublic and special education transportation
- Initiated Innovation Celebration to develop and receive input on innovative ways to balance difficult budgets, over 170 presentations developed by staff, resulted in ASBO Pinnacle Award in 2012
- Initiated energy management program resulting in 37% reduction in energy use, recognized by Energy Star Partner of the Year award for 2013 and 2014
- Implemented budget balancing initiatives worth over $20 million in three years of very difficult budgets during the Great Recession, extensive communication and workforce engagement efforts, proposed several positive and proactive approaches that protected instructional programs
- Initiated Investment in Productivity and Innovation Revolving Fund to stimulate creative problem solving

2014-present

- Subcontractor to Public Financial Management-distressed school district financial analysis and planning
- School Management Consultant
  - Quakertown Area School District-transportation and redistricting
  - Cheltenham School District-transportation efficiency
  - Stroudsburg Area School District-collective bargaining analysis and financial forecasting
  - Wallingford-Swarthmore School District-collective bargaining analysis as Certified Analytics Partner, Forecast5Analytics performance benchmarking software
  - Methacton School District-transportation efficiency analysis
- Subcontractor to Augenblich Pailich Associates, Denver, Colorado-Enrollment change and transportation funding formula research for Maryland Department of Education and Wyoming Department of Education
- Subcontractor to Pennsylvania Economy League-geographic information systems for municipal consolidation and tax analysis
- Subcontractor to Research for Action, Charter school fiscal impact study

January 2016

- Founder and President, School Business Intelligence LLC-business established for school financial analysis and planning, performance measurement and management, and process management
- Appointed Turnaround Specialist, Chester Upland School District, by Pennsylvania Department of Education and Court

Instructor, Course on New Fiscal Reality, Graduate School in Educational Leadership, Pennsylvania State University, 2011-2016

Consultant

Flowcharted procedure manuals

- Online financial procedures-Texas statewide
- Regional education services agency procedures-Berks County Intermediate Unit, Pennsylvania
- Municipal government procedures-Pottstown Borough, Pennsylvania

Budget analysis-Cheltenham School District, Pennsylvania

Revenue Consultant for Pennsylvania-Edison Schools (2001-2004)

PROFESSIONAL ASSOCIATION LEADERSHIP ROLES:

Pennsylvania Association of School Business Officials

Founding Member, Benchmarking Committee, 1996 to present

Founding Chairman, Green Committee, 2008 to present

- Developed 25 mini-case studies demonstrating cost savings from school green initiatives

Member, Cost Reduction Task Force, 2011 to present

Member, Mandate Waiver Task Force

American Society for Quality

Baldrige in Education, Web Forum Moderator, 2008-09
Education Division Committee, 2008-09

AWARDS:

Pennsylvania Association of School Business Officials, Awards of Achievement
1995 Utilizing Local Construction Professionals in School Design
1999 Financial Procedures Manual, a Foundation for Continuous Improvement
2000 Documenting Procedures to the ISO 9001 Standard
2007 Benchmarking Toward Energy Efficiency
Pennsylvania School Public Relations Association
1999 Special Education Funding: The Lancaster Case Study
1999 Financial Challenges Facing The School District of Lancaster
Association of School Business Officials International, Pinnacle Achievement Award 2007
Energy Management Program
2012 Innovation Celebration
Energy Star Partner of the Year-2007 and 2008 for Council Rock School District
Energy Star Sustained Excellence Award-2009 for Council Rock School District
Energy Star Partner of the Year-2013 and 2014 for North Penn School District
Juran Fellowship Finalist-May 2009-support doctoral dissertation in quality management
National Education Finance Association, Research Fellow

PUBLICATIONS:

Articles Published in the *PASBO Report* of the PA Association of School Business Officials
Using Benchmarking Effectively, November 2010
Setting Green Policies District-Wide, August 2010
Keeping Busy by Going Green, June 2009
Maintaining Balance in Unprecedented Times, March 2009
More About LEED, January 2009
A Busy Year Ahead for the Green Committee, October 2008
Joining Forces to Reduce Copying and Printing Expenses, September 2008
Benchmarking Resources of Energy Star, May 2008
Benchmarking Copying and Printing Costs, August 2007
Benchmarking Towards Energy Efficiency, January 2007
How Cost Effective is Your District, March 2003
The Electronic Resource Center-A Timely Tool to Assist with Financial Comparisons, February 2002
Leading the Way Through Financial Comparisons, April 2001
The ISO 9001 Quality Management Program In the School District of Lancaster, April 1997
Pay Attention to Land Use Controls, April 1993

Articles Published in *School Business Affairs*
Developing Flowcharted Procedure Manuals for School District Administration Within the ISO 9000 Context, *School Business Affairs*, January 2002
Understanding, Detecting, and Preventing Fraud, *School Business Affairs*, August 2008
Creating a Culture of Innovation, November 2013

Appendix D: References

Croninger, R. G., King Rice, J. & Checovish, L. (2015). Evaluation of the Use of Free- and Reduced-Price Meal Eligibility as a Proxy for Identifying Economically Disadvantaged Students: Alternative Measures and Recommendations. Denver, CO: Augenblick, Palaich & Associates.

Fantuzzo. J., LeBoeuf, W., & Rouse, H. (2014). An investigation of the relations between school concentrations of student risk factors and student education well-being. Educational Researcher, 43(1), 25-36.

Jargowsky, P. (December 2013). Concentration of poverty in the new millennium. Change in prevalence, composition and location of high poverty neighborhoods. New York: Century Foundation and Rutgers Center for Urban Research and Education.

Kingsley, G., & Pitingolo, R. (April 2013). Concentrations of poverty and regional equity. Findings from the National Neighborhood Indicators Partnership's shared indicators initiative. Washington, DC: Urban Institute.

Kurki, Anja, Andrea Boyle, and Daniel K. Aladjem. (2005). Beyond Free Lunch – Alternative Poverty Measures in Educational Research and Program Evaluation. Paper presented at the Annual Meetings of the American Educational Research Association. Montreal, Canada.

Levin, M., & Neuberger, Z. (October 2013). Community eligibility. Making high poverty schools hunger free. Washington DC: Center for Budget and Policy Priorities and Food Research and Action Center.

The Finance Project, & Augenblick, Palaich, & Associates. (December 2013). Cost of student achievement: Report of the DC Education Adequacy Study. Washington, DC & Denver, CO: Authors.

.

Appendix E: Past Performance Samples

Executive Summary, Maryland Adequacy Study

Final Presentation Materials, Wyoming Adequacy Study

Final Report of the Study of Adequacy of Funding for Education in Maryland

Prepared for

Maryland State Department of Education

By

APA Consulting

November 30, 2016

In 2002, the Maryland General Assembly enacted Chapter 288, the Bridge to Excellence in Public Schools Act. The Act established new primary state education aid formulas based on adequacy cost studies. These adequacy cost studies, conducted in 2000 and 2001 under the purview of the Commission on Education Finance, Equity, and Excellence, employed the professional judgment and successful schools methods and other education finance analytical tools. State funding to implement the Bridge to Excellence in Public Schools Act was phased-in over six years, reaching full implementation in fiscal year 2008. Chapter 288 requires that a follow-up study of the adequacy of education funding in the State be undertaken approximately 10 years after the enactment of the Bridge to Excellence in Public Schools Act. The study must include, at a minimum, (1) adequacy cost studies that identify (a) a base funding level for students without special needs and (b) per pupil weights for students with special needs, where weights can be applied to the base funding level, and (2) an analysis of the effects of concentrations of poverty on adequacy targets. The adequacy cost study must be based on Maryland's College and Career Ready Standards (MCCRS) adopted by the State Board of Education, and include two years of results from the new state assessments aligned with the standards. These assessments were first administered statewide in the 2014-2015 school year.

There are several additional components that are mandated for inclusion in the study. These components include evaluations of (1) the impact of school size, (2) the Supplemental Grants program, (3) the use of Free and Reduced Price Meals eligibility as the proxy for identifying economic disadvantage, (4) the federal Community Eligibility Provision in Maryland, (5) prekindergarten services and the funding of such services, (6) equity and the current wealth calculation, and (7) the impact of increasing and decreasing enrollments on local school systems. The study must also include an update of the Maryland Geographic Cost of Education Index.

APA Consulting, in partnership with Picus Odden & Associates and the Maryland Equity Project at the University of Maryland, must submit a final report to the State no later than November 30, 2016.

This final report presents the findings of Augenblick, Palaich and Associates' (APA) adequacy analysis for the State of Maryland. The APA study team's estimate of the cost of an adequate education in Maryland used three approaches for estimating adequacy, the results of which were crafted into a single adequacy recommendation for the State. The study team also developed recommendations for a new funding formula incorporating its adequacy recommendation and a model to analyze the impacts of the proposed school funding formula on the State and on individual school districts.

Suggested Citation: Augenblick, Palaich & Associates. (2016). *Final Report of the Study of Adequacy of Funding for Education in Maryland*. Denver, CO: Author.

Executive Summary

The *Final Report of the Study of Adequacy of Funding for Education in Maryland* presents the findings of Augenblick, Palaich and Associates' (APA) adequacy analysis for the State of Maryland. The APA study team's estimate of the cost of an adequate education in Maryland used three approaches for estimating adequacy, the results of which were crafted into a single adequacy recommendation for the State. The study team also developed recommendations for a new funding formula incorporating its adequacy recommendation and a model to analyze the impacts of the proposed school funding formula on the State and on individual school districts.

This report is the culmination of two years of work by the study team to estimate the cost of an adequate education in Maryland and to conduct a number of related analyses required in the State's Request for Proposals (RFP).

State Context

There are 879,601 students in grades prekindergarten through 12 enrolled in 24 school districts in the State of Maryland.[1] Sixty-one percent of all students are racial or ethnic minorities. The proportion of students receiving specialized services includes 44.6 percent who are low income as measured by eligibility for the federal free and reduced-price lunch program, 7.9 percent who receive limited English proficiency services, and 11.3 percent who receive special education services.

Of the State's 24 school districts, 23 are county-based and the remaining district serves Baltimore City. There is a wide range in district enrollment, ranging from 2,029 students in Kent County to 156,380 in Montgomery County. Six districts enroll more than 50,000 students and three districts enroll more than 100,000 students. All of the districts are fiscally dependent, meaning that they do not have to raise their own tax revenues but rely on local appropriations from the county or city in which they are located.

In 2010, Maryland adopted new Common Core-based State standards, the Maryland College and Career Ready Standards, and in the 2014-15 school year, they began administering the Partnership for Assessment of Readiness for College and Careers (PARCC) assessments statewide.

In fiscal year 2015, Maryland spent more than $5.8 billion on its major state education aid programs,[2] while local jurisdictions contributed another $5.7 billion in local appropriations for education, totaling $11.5 billion in State and local support for prekindergarten through grade 12 education.

[1] Enrollment and demographic information are taken from the 2016 Maryland State Report Card found at: http://reportcard.msde.maryland.gov

[2] Total State spending includes the foundation, compensatory education, limited English proficiency, and special education programs; student transportation; guaranteed tax base; net taxable income grants; supplemental grants; declining enrollment grants; and the State share of teachers' retirement costs.

Study Context

APA carried out a similar adequacy study for the State in 2000 and 2001 under the direction of the Commission on Education Finance, Equity, and Excellence, also known as the Thornton Commission. The 2002 legislation resulting from that study, the Bridge to Excellence in Public Schools Act, significantly increased state support for education and established the school finance formulas that are still used to allocate resources to county boards of education and the Baltimore City Public Schools today. The state aid distributed through these formulas is primarily based on differences in student enrollment, student need, and local wealth. The 2002 Act also required a follow-up study of the adequacy of education funding in the State to be undertaken approximately 10 years after its enactment.

Current School Finance System

The new school funding formula established by the Bridge to Excellence in Public Schools Act retained the foundation style funding formula previously used by the State but set a level of funding based on adequacy. Foundation formulas set a minimum per student amount of funding, known as the foundation amount, which is multiplied by the count of eligible students to generate a total foundation program funding amount. The foundation amount set by the Act was based on the adequacy recommendations from the Thornton Commission study. The adequacy of the foundation amount was to be maintained by adjusting it for inflation annually. However, recent state budget shortfalls have curtailed the inflationary increases. In fiscal year 2015 the foundation level was set at $6,860 per student. In addition to an inflation adjustment, the Act also called for the development of a Maryland specific geographic cost of education index (GCEI) for adjusting the foundation total program amount to account for regional cost differences. The GCEI adopted by the State in 2005 takes into account regional cost differences in professional district salaries, non-professional district salaries, energy, and other instructional costs. As implemented, the index is truncated at 1.0, or the statewide average cost, which provides additional funding for districts in high-cost regions but does not make corresponding reductions for districts in low-cost regions. The additional funding generated by the GCEI consists entirely of state aid.

Like other foundation funding formulas, Maryland's formula attempts to reduce the amount of disparities in education funding due to differences in local wealth through "wealth equalization." To accomplish wealth equalization, Maryland's foundation formula specifies a uniform local contribution rate that is multiplied by a jurisdiction's local wealth to determine its local share of total program. Jurisdictions with less local wealth generate a smaller local share and receive a larger share of total program funding in aid provided by the State. Conversely, jurisdictions with greater wealth generate a larger local share and receive a smaller share of state aid. The local contribution rate is designed so that, on average across all local jurisdictions, state aid comprises half of the total program funding amount. The measure of local wealth that the local contribution rate is applied to consist of the real and personal property assessable value in the jurisdiction plus its total net taxable income (NTI).

Maryland uses a similar formula for calculating total program funding for three state aid programs used to support students with special needs: 1) the compensatory education program for serving at risk

students, 2) the limited English proficiency (LEP) program,[3] and 3) the special education program. The per student program funding amount for these three programs is determined by multiplying the per student foundation amount by a weight to account for the additional costs of educating these students. The program amounts for these three funding programs are also wealth equalized to account for differences in local wealth. Unlike the foundation program, local jurisdictions are not required to appropriate a local share for these three programs.

Table 1 shows the student count, special needs program weights, and per pupil total program amounts for the foundation, compensatory education, LEP, and special education funding formulas. On average across all districts, the State funds 50 percent of these total program amounts, although the percentage in any given district will vary based on the jurisdiction's local wealth. Local jurisdictions are required to provide a local appropriation for the foundation total program but not for the other total program amounts.

Table 1
FY 2015 Formula Components

Program	Student Count	Weight	Per Pupil Total Program Amount
Foundation	FTE* Enrollment Grades K-12	N/A	$6,860
Compensatory Education	Eligible for Federal Free and Reduced-Price Lunch	0.97	$6,654
Limited English Proficient	Eligible for Program Services	0.99	$6,791
Special Education	Eligible for Program Services	0.74	$5,076

*Full-Time Equivalent

A minimum amount of state aid is also guaranteed for each of these programs. The minimum state aid guarantee for the foundation program is 15 percent of total program funding. The minimum state aid guarantee for each of the three special needs programs is 40 percent of the state share of funding.

Maryland's funding system includes several other major funding programs, each of which is listed below:

- **Guaranteed tax base (GTB)**: the GTB provides a financial incentive for jurisdictions with less than 80 percent of the statewide average local wealth per pupil to increase their local education appropriation. These jurisdictions may receive up to 20 percent of the per pupil foundation amount in additional state aid;

[3] Limited English proficiency (LEP) students are also commonly referred to as English language learners (ELL). Maryland's funding system refers to these students as LEP students. For the sake of consistency in this report, they will be referred to as LEP students throughout.

- **net taxable income education grants**: when the federal government changed the federal income tax extension filing deadline from August to October, the State conformed to this schedule for state income tax purposes. Beginning in fiscal year 2014, the State began calculating state aid using both the September and November net taxable income totals for local jurisdictions. The State then uses the NTI which produces the largest state aid amount. If the November NTI-based aid amount is larger, districts receive the difference in additional state aid. This increase in state aid was to be phased-in over a five-year period;
- **grants to counties with declining enrollment**: assists smaller districts with declining enrollment by providing a state grant equal to 50 percent of the decrease in state education aid from the prior year. Only two districts meet the grant program's eligibility criteria;
- **supplemental grants**: beginning in fiscal year 2009 supplemental grants were paid to ensure that all districts received at least a one percent annual increase in state funding following a freeze of the per pupil foundation in fiscal years 2009 and 2010. The grant amounts paid to nine districts were frozen beginning in fiscal year 2011; and
- **student transportation**: state aid for student transportation is based on a district's prior year grant with adjustments for inflation and increases in enrollment. Districts are guaranteed a minimum annual increase of one percent.

New Adequacy and Related Studies

In March 2014, the Maryland State Department of Education (MSDE) issued an RFP for the follow-up adequacy study required by the Bridge to Excellence in Public Schools Act. The study was to include, at a minimum, adequacy cost studies that identified a base funding level for students without special needs, per pupil weights for students with special needs to be applied to the base funding level, and an analysis of the effects of concentrations of poverty on adequacy targets. The adequacy cost study was to be based on the requirements of the Maryland College and Career Ready Standards adopted by the State Board of Education.

Augenblick, Palaich and Associates (APA), in partnership with Picus, Odden and Associates (POA) and the Maryland Equity Project (MEP) at the University of Maryland, were selected to conduct the study. The RFP required the consultants to undertake a broad analysis including the following tasks:

- Conduct an adequacy study using at least two approaches;
- calibrate the study to identify the funding required to implement the Maryland College and Career Ready Standards;
- identify a per pupil base level of funding and per pupil weights for students with special needs, such as economically disadvantaged students eligible for the federal free and reduced-price lunch program (FRPM), students with limited English proficiency (LEP), and students eligible for special education services;
- analyze the effects of concentrations of poverty on the adequacy estimates;
- identify gaps in growth and achievement among student groups and make recommendations of programs that might address these gaps;
- find possible relationships between student performance and funding deficits;

- assess the impact of quality prekindergarten on school readiness as a factor in the adequacy estimates;
- make recommendations on any other factors to be included as part of the adequacy study; and
- conduct a review of adequacy studies carried out in other states and report on best practices and recommendations for the Maryland study.

Approaches to Adequacy

The concept of adequacy as it relates to education funding grew out of the standards based reform movement. As states implemented specific learning standards and performance expectations for what students should know, along with consequences for districts and schools failing to meet these expectations (and, eventually, federal expectations imposed through No Child Left Behind and continued by the Every Student Succeeds Act), the focus of school finance shifted to an examination of the resources necessary to provide districts, schools, and students with reasonable opportunities to achieve state standards. Over the past two decades, researchers have developed four approaches to creating estimates for the level of funding necessary to provide all students with the opportunity to receive an adequate education. APA and its partners employed the first three approaches to estimate adequacy in Maryland:

1. The **evidence-based (EB)** approach was developed by Picus, Odden, and Associates. The EB approach assumes that information from research can be used to define the resource needs of a prototypical school or district to ensure that the school or district can meet state standards. The approach not only estimates resource levels but also specifies the programs and strategies by which such resources could be used efficiently. The costs are then estimated using a model of prototypical schools and a district central office. The EB approach conducts case studies of existing high-performing schools in the State and convenes multiple panels of state educators to review the EB model to ensure that it is consistent with the State's context. The EB approach is used to identify a base cost figure and adjustments for special needs students. In Maryland, the study team conducted case studies of 12 high-performing schools and convened four educator panels across the State.

2. The **professional judgment (PJ)** approach was first used in Wyoming in the mid-1990s and has since become one of the most widely used adequacy approaches. The PJ approach begins with evidence-based research but relies on and defers to the experience and expertise of educators in the State to identify the resources needed to ensure that all districts, schools, and students can meet state standards and requirements. Resources include school-level personnel, non-personnel costs, additional supports and services, technology, and district-level resources. The costs of these resources are then estimated via a cost model based on schools and district central offices representative of school and district sizes in the State. The PJ approach identifies both a base cost and adjustments for special needs students. Nine panels of Maryland educators were convened, ranging from school-level to state-level perspectives, to develop the PJ model.

3. The **successful schools/school district (SSD)** approach was developed by APA. The SSD approach determines an adequate per pupil base cost amount by using the actual expenditure levels of schools or school districts that are currently outperforming other schools on state performance objectives. This approach assumes that every school and school district, in order to be successful, needs the same level of base funding that is available to the most successful schools and districts. However, the SSD approach does not necessarily indicate what it would take for a school and its students to meet all state requirements. The SSD approach is only able to look at the base spending amount for a student with no additional needs, due to limitations on collecting expenditure data on special needs students. Finally, the SSD approach does not provide the study team with detailed information on the types of programs or interventions being employed by the schools. SSD studies are typically conducted at the district-level, but because Maryland has only 24 districts, this study examined school-level expenditures. Seventy-two schools representing 10 districts were selected for the study.

4. The fourth approach, the **cost function or statistical (CF)** approach, is an econometric method that estimates the level of funding needed to achieve a given level of student achievement as measured on assessments while controlling for student and district characteristics. The cost function approach was not used because it consists of a district-level statistical model that requires a much larger number of districts than the 24 districts in Maryland to produce reliable results. Also, due to its complexity and use of econometric modeling techniques, this approach has proven difficult to explain in situations other than academic forums.

Table 2 summarizes the three approaches APA used for developing its adequacy estimates for Maryland.

Table 2
Summary of Three Approaches to Adequacy Used by APA

	Evidence-Based	Professional Judgment	Successful Schools/Districts
Benchmark of Success	Ensuring students can meet all State standards	Ensuring students can meet all state standards	Currently outperforming other Maryland schools
Data Source	Best practice research, reviewed by Maryland educators; when conflict arises in resource recommendations, the EB approach defers to the research	Expertise of Maryland educators serving on PJ panels; uses research as a starting point but defers to educators when conflict arises in resource recommendations	2014-15 expenditure data from selected successful schools
Available Data Points			
Base	Yes	Yes	Yes
Student Adjustments (Weights)	Yes	Yes	No

Reconciling Adequacy Approaches

The different perspectives of the three approaches used by the study team to estimate an adequate education in Maryland led to differing results. Table 3 shows the estimated base cost and weights for students with special needs for each of the three approaches and compares them to current funding.

Table 3
Base and Weights by Different Study Approach

	2014-15 Maryland	Evidence-Based	Professional Judgment	Successful Schools
Base Cost	$6,860	$10,551	$11,607	$8,716
Weights				
Compensatory Education (At risk)	0.97	0.30	0.36	N/A
Limited English Proficient	0.99	0.38	0.61	N/A
Special Education	0.74	0.70	1.18	N/A
Prekindergarten		0.40	0.26	

The study team felt that the best benchmark of success for developing a single adequacy figure in Maryland was to identify the resources needed not just to outperform other districts today but to reach the higher benchmark of ensuring all students have the opportunity to achieve all state standards.

Therefore, the study team recommends that an adequacy base cost figure be derived from the EB and PJ approaches. While the study team does not believe the SSD figure fully represents the cost of adequacy, it does present an important reference point for phasing in a new funding system, if necessary.

The EB and PJ approaches produced relatively similar base cost figures: the EB base is $10,514 and the PJ base is $11,607. However, larger differences existed in the weights for special needs students. In reviewing the EB and PJ resource models, the study team identified five important resource areas driving the differences in the estimates generated by the two approaches:

- Elementary school teacher-to-student ratios;
- middle school teacher preparation time;
- school administration staffing, specifically assistant principals;
- school-level student support services; and
- inclusion of CTE resources in the models.

The study team reviewed the resource differences and made a recommendation in each area to create an adjusted model for each approach. It is important to note that the study team was not attempting to create a specific model for implementation but instead was reconciling the largest resource differences in order to create a single cost estimate. The study team also examined differences in the resources included in each model for determining special needs weights, particularly for the LEP and special education weights, which differed the most, and used professional judgment panel and school case study information to determine new, blended weights.

This analysis resulted in a single estimate of an adequate per pupil base cost and weights. These figures were further adjusted to account for federal education funds and a net base cost and weights were calculated. Table 4 presents the study team's final estimate of an adequate base cost and weights.

Table 4
Final Adequacy Base and Weights

	Final Estimates
Base Cost	$10,880
Weights	
Compensatory Education	0.35
Limited English Proficient	0.35
Special Education	0.91
Prekindergarten	0.29

These estimates represent a significant shift from the current funding model used in Maryland. The per pupil base cost presented here is much higher than the current Maryland base of $6,860 for fiscal year 2015 and includes a significantly higher level of supports and services for all students, which was a recurring theme voiced by the PJ panels in discussions of specific resources. Conversely, the estimated weights for students with special needs are considerably lower than current weights, with the exception of the weight for special education. This change is a result of the much higher base cost and the expectation that a higher level of services will be provided through the base cost allocation. Both the EB

and PJ approaches, and thus the resulting blended base figure, represent an important shift toward allocating more resources through the base cost to provide a higher level of services to all students regardless of need.

Recommendations

The study teams' recommendations result in a significant increase in the state's investment in prekindergarten through grade 12 education. However, they also change the way in which funding is allocated through the funding formulas and the distribution of state and local shares across districts. Although implementing these recommendations will present some challenges, the recommendations reflect the professional judgment of educators across the State, the findings of a wide range of research literature, and are consistent with the results of numerous adequacy studies conducted across the country over the past decade. The study team believes these changes are necessary for Maryland's students to significantly increase their performance on the new state standards and assessments. In the first year of statewide administration of the PARCC assessments, an average of 57 percent of students met or exceeded proficiency in math and 65 percent of students met or exceeded proficiency in reading. The changes to the formula recommended here are geared toward increasing the number of students meeting these new, higher standards. Other factors also drive the need for these changes, such as the increased costs of the State's new educator evaluation system, the need for more extensive student supports for all students, and improved funding equity.

The study team thinks of the recommended formula in two parts. The first part is the calculation of district adequacy targets. This includes determining: (1) the student counts that are used, (2) the base amount of funding per pupil, (3) the adjustments for special needs students (including special education, compensatory education, and LEP students), and (4) any adjustment for regional cost of living differences. The calculation of an adequacy target is done outside any considerations of the state and local responsibilities to pay for the adequacy target.

The second part of the formula revision focuses on the state and local shares for paying for the adequacy target. Recommendations include: (5) how to measure each district's capacity to pay for the adequacy target, and (6) if any minimum state aid guarantees should be included and whether local jurisdictions should be required to appropriate the local share of special needs programs. Combining the adequacy targets with the calculation of funding sources allows the study team to compare the current funding system to the recommended system.

Calculating District Adequacy Targets

To calculate a district's total adequacy target, regardless of the state or local share, student counts are multiplied by the base cost and special needs adjustments and then adjusted for regional cost differences. The decisions for each of these key components of calculating adequacy targets are described below.

Student Counts

The study team recommends changes to current student count methods for: (1) addressing declining enrollments for general education formulas, (2) counting low-income students for compensatory total program, and (3) including prekindergarten students in the State's full-time equivalent enrollment counts to provide universal prekindergarten services.

The study team recommends retaining the same general student count methods used for the current formulas, including total FTE enrollment, compensatory education students, LEP students, special education students, and prekindergarten students. Our recommendations for addressing declining enrollment, counting compensatory education students, and counting prekindergarten students are presented below.

Declining Enrollment

The study team recommends including a declining enrollment calculation when calculating total enrollment for each district. Currently, total enrollment is based on the September 30 FTE enrollment count for the prior school year. The November 2015 *Final Report of the Study of Increasing and Declining Enrollment in Maryland schools* discusses the reasoning for a declining enrollment adjustment. Generally speaking, as a district loses enrollment, it cannot necessarily reduce costs in a fashion that is proportional to the loss of students. The proposed methodology would use three years of enrollment information in the calculation of the total enrollment figure, allowing districts to absorb the loss of funding related to the loss of students over time. A district would receive the greater of two counts — the prior year's enrollment count or the average of the three prior years' counts. The calculation ensures that districts with growing enrollments receive funding based on the most recent enrollment count. Table D.1 in Appendix D shows the effect on enrollment numbers and funding by using the greater of a single year or a three-year rolling average or just implementing a single year count. The recommended method increases student enrollment in 10 of the 24 districts. Also, the proposed enrollment count results in higher total funding by $11,468,199 compared to using the single year enrollment count

Counting Low-Income Students

The issue of how to best count low-income students was raised as a result of the growing use of the Community Eligibility Provision (CEP) included in the 2010 Healthy, Hunger-Free Kids Act (HHFKA), which allows eligible[4] participating schools to serve free meals to all of its students. In a move to reduce reporting burdens on schools, the law prohibits participating schools from collecting application forms for the federal free and reduced-price lunch program during the four-year CEP eligibility period, which results in incomplete district and statewide FRPM counts.

[4] Schools are eligible for CEP if 40 percent or more of its students have been identified as being vulnerable to hunger during the spring of the prior school year. Among the factors that may be used to identify children are homelessness, placement in foster care, participation in Head Start, migrant status, and living in households receiving services from the SNAP, FDPIR, or TANF programs.

In July 2015 the study team released the report entitled *Evaluation of the Use of Free and Reduced-Price Meal Eligibility as a Proxy for Identifying Economically Disadvantaged Students: Alternative Measures and Recommendations*. The report examined the various options for identifying students for compensatory education funding. It attempted to identify the best count for compensatory education generally and with a focus on the potential impact of CEP program, which would suspend FRPM counts in eligible schools for up to four years. The implication of CEP is that students no longer need to complete the federal form required to qualify for FRPM in these schools, creating an undercount of FRPM students and, in turn, an undercount of low-income students.

The report discusses the impact of this provision on student counts. The study team recommended using either of two alternatives from the various approaches examined in the report. The first alternative, which is the preferred approach, is to continue to use FRPM eligibility to identify students for compensatory education funding but use an alternative state-developed form for collecting FRPM eligibility information. The second of the two alternative recommendations relies on direct certification of students eligible for programs such as the Supplemental Nutritional Assistance Program (SNAP), Transitional Assistance for Needy Families (TANF), or Medicaid using existing administrative data from state and local social services agencies.[5] However, the statewide direct certification count is much lower than the current FRPM count, about 56 percent of the FRPM count, and would result in significantly less compensatory education funding. An adjustment factor could be applied to the direct certification count to generate a statewide eligibility count comparable to the current FRPM count, but counts at the district-level would still vary significantly from current counts. Due to this redistribution in the compensatory education eligibility counts, any implementation of direct certification should be phased-in over time. The study team recommends using the first alternative, in which the State creates an alternative form for collecting FRPL eligibility information because this approach will continue to provide a comprehensive count while minimizing the redistribution of counts across districts.

Counting Prekindergarten Students

Maryland currently provides funding for prekindergarten students who meet specific qualifying criteria related to the income of the child's family. In the January 2016 report entitled *A Comprehensive Analysis of Prekindergarten in Maryland,* the study team identified the need to expand the coverage and the quality of prekindergarten services in the state to ensure students would be prepared to meet the MCCRS. The report recommends a goal of providing high-quality prekindergarten for all four-year-old children. Though offered to all families, it is expected that no more than 80 percent of families with four-year-old children will participate. To be eligible for state funding, four-year-old prekindergarten students must be enrolled in a "quality" program, which is defined as a program that is six and a half hours long and located in a public or private setting that: 1) has earned an EXCELS[6] rating of level 5, 2) has earned state or national accreditation (for example, accreditation through the National Association

[5] The recommendation suggests including eligibility for Medicaid or the Children's Health Insurance Program among the criteria used for determining eligibility if the direct certification method is chosen.

[6] Maryland uses a Quality Rating and Improvement System (QRIS) called EXCELS to accredit prekindergarten providers.

for the Education of Young Children), or 3) is a public school program which must, at a minimum, meet EXCELS level 5 standards.

In September 2013, the total public prekindergarten enrollment reported by local school districts was 29,724. After adjusting the school district figures to convert half-day programs to their full-day equivalent, the number of full-day public program spaces available in the State is 26,631. In addition, most, though not all, districts have private EXCELS Level 5 and accredited programs within their boundaries. This adds 1,607 EXCELS Level 5 full-time slots and 4,413 accredited full-time slots that are eligible for funding. This approach would recognize 32,651 prekindergarten slots as being eligible for funding through the foundation formula, which is the funding method recommended by the study team. This represents an increase of 2,927 eligible prekindergarten students in the State from the September 2013 enrollment count, or approximately 60 percent of all four-year-olds. In the modeling below, the study team uses the 32,651 count of "high-quality" slots for use in the foundation formula. This count is expected to grow over time up to 80 percent of all four-year-old children as more Level 5 slots become available.[7]

Base Cost

The base cost figure of a formula should be designed to represent the resources that a student with no special needs, in a district with no special circumstances, needs to meet state standards. The base cost includes resources for instructional, administrative, and other costs associated with meeting student needs. Maryland's standards and requirements have changed over time, and the base cost needs to keep up with these changes to ensure all students, schools, and districts have the resources needed to meet the new standards. As will be mentioned in Chapters II-IV, the study team identified three base cost figures from the various adequacy approaches. The base cost figures from the evidence-based approach (EB) and professional judgment approach (PJ) were determined to best estimate the resources needed for all students to meet the MCCRS. The three adequacy study approaches are reconciled in Chapter V to create a final base cost recommendation based upon blending the EB and PJ approaches. This new base cost, once federal dollars were considered, was $10,880. For comparison, the current base cost used for the 2014-15 foundation program was $6,860.

This difference between the recommended base cost ($10,880) and the current base cost ($6,860) is substantial and represents a greater focus on providing resources at the base level to all students (instead of through adjustments tied to student need) than in the previous adequacy work done for the Thornton Commission, from which the current base figure is derived. The professional judgment panelists and the extensive research reviews of the EB and PJ approaches strongly argued for a larger base amount for several reasons. First, the new College and Career Ready state standards and other

[7] The rate at which existing slots for prekindergarten students are converted to EXCELS Level 5 or its equivalent is limited by the number of prekindergarten programs that earn and move to EXCELS Level 5. To meet the goal of 80 percent of Maryland four-year-olds being served in a Level 5 program, the objective would be to have the capacity to serve approximately 60,300 four-year-olds in high-quality programs. This figure is approximately 27,650 higher than the 32,651 slots that are available today. The study team included the 32,651 figure in the recommendation estimate. The study team elected to use the lower count in recognition that it will take several more years before the number of "high quality" EXCELS Level 5 slots become available to accommodate 80 percent of four-year-olds.

state requirements are more rigorous than those in place at the time of the first study. Stronger accountability systems at both the state and federal levels also place higher stakes on adequately supporting students to meet these standards. The professional judgment panelists and research literature also indicated that most, if not all, students are coming to school with greater needs, requiring more support services even if they have not been formally identified as at risk, LEP, or special education. Further, since 2002 there are additional requirements for schools and districts, such as educator evaluations that require additional resources to accomplish.

While the study team does not intend to be prescriptive in how resources should be used, the base figure reflects the resource level needed to enable schools to provide the following key resources to meet the higher state standards and requirements, shown in Table 5.

Table 5

Base Cost Components

Key Resources in the Development of the Base Figure
Small class sizes
Staffing to support (but not limited to) the following areas: art, music, PE, world languages, technology, CTE, and advanced courses
Significant time for teacher planning, collaboration, and imbedded professional development
Additional instructional staff, including instructional coaches, and librarian/media specialists
High level of student support, such as counselors, nurses, behavior specialists, or social workers, for all students
Administrative staff to allow for instructional leadership, data-based decision making, and evaluation
Technology rich learning environments, resourced at a level that would allow for one-to-one student devices
Resources for instructional supplies and materials, assessment, textbooks, and student activities
District-level personnel and other resources to support schools

Weights

Student adjustments, or weights, are designed to provide the additional resources these students need above the base cost to ensure they can meet state standards. The study team is recommending the

following student need adjustments for special education, compensatory education, LEP, and prekindergarten students as shown in Table 6:

Table 6
Recommended Weights

Student Category	Weight
Compensatory Education	0.35
LEP	0.35
Special Education	0.91
Prekindergarten	0.29

The recommended compensatory education and LEP weights, both 0.35, are lower than the current weights. This is reflective of the shift to providing additional resources in the base instead of through adjustments tied to student need as discussed above. These weights were set at the level needed to raise sufficient funding when applied to the higher base to fund the additional staff and non-staff resources identified in the PJ and EB studies as necessary to adequately serve these students. The lower weights also reflect that all students, including students at risk of academic failure and students with limited English proficiency, will receive a higher level of services through the general education program due to the higher base amount. Further, both weights are recommended to be linear, that is, the weights remain constant regardless of the concentration of these students. In this final chapter of this report addressing additional studies, a discussion on funding for higher concentrations of low-income students is included. This section goes into detail on the research related to funding for concentrations of poverty and the basis for the study team's recommendation of funding compensatory education on a linear basis. It builds on the December 2015 report *The Effects of Concentrations of Poverty on School Performance and School Resource Needs: A Literature Review* (APA, 2015). The study team recommends that regardless of a district's percentage of compensatory education students, all eligible students receive the 0.35 weight. Districts with higher concentrations would receive more funding overall, but not more on a per student basis.

The study team concludes that at this time the evidence is not compelling to justify nonlinear funding mechanisms,[8] even though the challenges that high-poverty schools face are readily observed. Neither the research literature nor the results from the PJ and EB studies indicate a need for a nonlinear approach. The research team believes that given the level of funding recommended by this study, Maryland's schools would have the necessary resources for services to meet state standards, such as the supplemental strategies highlighted in the *Concentrations of Poverty* report and those highlighted in the EB and PJ approach sections of this report such as prekindergarten, summer school, after-school

[8] Under a nonlinear weighting approach, a higher weight would be applied to districts (or schools) with higher concentrations of students in poverty. Under this approach, districts with higher concentrations of students in poverty would receive more funding per eligible student than districts with lower concentrations. Under a linear weighting approach, all students receive the same weighting (and amount of additional funding) regardless of poverty concentrations.

programs, arts education, and the coordination of wrap-around services through the use of school-based community liaisons to address the needs of these students.

Second, the study team recommends that the State continue to use a single weight for special education students. The recommended weight is 0.91, which is higher than the current weight of 0.74. The proposed weight both reflects the level of services identified by the PJ and EB studies and is in-line with recommendations made in recent adequacy studies for other states as presented in the *A Comprehensive Review of State Adequacy Studies Since 2003* report.[9]

Finally, the study team proposes a prekindergarten weight of 0.29 to fund quality prekindergarten programs for four-year-olds. The 0.29 weighting is needed to pay for the additional costs of high-quality programs. The primary cost drivers are related to staff, including higher total compensation packages required to attract and retain early childhood education certified teachers and credentialed program administrators, a small instructor-to-student ratio of one certified teacher and assistant (or two certified teachers) per 15 students, a 6.5 hour program day, planning time and ongoing professional development for staff, and time to conduct routine child screenings and assessments.

At a participation rate of 80 percent of all four-year-olds, the study team estimated a total cost of $439.6 million with state aid accounting for 51 percent of total costs on average and local appropriations accounting for the remaining 49 percent of costs. Contributions from families based on their income is an option for offsetting part of these costs. However, the study team estimated that the State would accrue a return on investment of $5.54 for each dollar spent through reduced special education and remedial program spending in grades kindergarten through 12 and lower criminal justice and child welfare system costs.[10]

Though the recommended weights may be lower than the current weights in some cases, it does not necessarily mean special needs students would receive fewer resources for two reasons. One reason is that the weights are applied to a higher recommended base. Another reason is that current weights may not be fully funded at present, as only the state share of funding for these weights is guaranteed. The study team recommends that the recommended weights from this study be fully funded. A detailed comparison of per student amounts generated under both current and recommended bases and weights will be provided later in this chapter.

As one final recommendation regarding weights, the study team recommends a student receive all weights for which they are eligible, with the exception of LEP weights for prekindergarten students.

Regional Cost Adjustment

Regional cost adjustments are applied to funding targets to account for geographical differences in the costs faced by districts across the State. There are few states that take a similar approach to Maryland's

[9] See Aportela, A., Picus, L., Odden, A. & Fermanich, M. (2014). *A Comprehensive Review of State Adequacy Studies Since 2003*. Denver, CO: Augenblick, Palaich & Associates.

[10] For more information on prekindergarten costs and return on investment, see Workman, S., Palaich, R., & Wool, S. (2016, January). *A Comprehensive Analysis of Prekindergarten in Maryland*. Denver, CO: APA Consulting.

current GCEI, Alaska and Wyoming being two examples, while most states with cost of living indices, such as Massachusetts, Missouri, New York, Virginia, and Florida, use wage indices[11]. For example, the school funding formula in Missouri includes a Dollar Value Modifier (DVM), which is an index of the relative purchasing power of a district in order to provide additional funds to districts with higher costs of living. Missouri's DVM is calculated based upon the ratio of a regional average wage per job in relation to the state's median wage per job, and it is applied to a district's weighted average daily attendance multiplied by the state adequacy target[12]. Similarly, New York uses a Regional Cost Index (RCI) to reflect regional variations in purchasing power around the state, based on wages of non-school professionals.[13] New York's RCI is applied to a district's foundation funding amount.

Two reports were produced examining regional cost adjustments for the Maryland school funding model. In November 2015, the *Geographic Cost of Education Adjustment for Maryland* report examined the current approach used by the State, the GCEI, and the alternative approaches available for adjusting for regional cost differences. The report recommended switching from the GCEI to a Comparable Wage Index (CWI) approach for regional cost adjustments to better account for the differences in costs faced by districts in Maryland. The June 2016 report *A Comparable Wage Index for Maryland* calculated the CWI figure for each school district in the State.

As a result, the study team is recommending using the CWI figure to adjust for regional cost differences. The study team recommends all formula funds be adjusted by the CWI, which is a further change from the current funding system. Currently, only foundation funding is adjusted by the GCEI. However, regional differences in costs impact all program areas, not only programs supported by foundation funding. Additionally, the study team also recommends that adjustments be made for districts with CWI figures above and below the statewide average. Currently, adjustments are made only for those districts with GCEI figures above the state average, providing for additional funding for districts in regions with higher than average costs. By not applying GCEI figures below the state average, funding for districts in lower cost regions is not reduced, resulting in a financial advantage for these districts in the competition for attracting and retaining qualify staff. Finally, the study team recommends that the CWI adjustment be applied prior to determining the state and local shares. Currently, the GCEI adjustment is made after the local share has been calculated and the entire cost of the GCEI adjustment is included in state foundation aid. However, under this recommendation the full range of the CWI will be applied (both above and below the state average), therefore local jurisdictions should share in any savings as well as extra costs resulting from the application of the CWI.

Determining State and Local Funding

Equalized state funding systems determine state and local funding based on the wealth of each district, the required local share, any additional adjustments such as minimum aid guarantees or guaranteed tax

[11] Silverstein, J., Brown, A., Fermanich, M. (2015). Review of Alaska's School Funding Program. Denver, CO. Augenblick, Palaich, and Associates.
[12] *id.*
[13] *id.*

bases, and the ability of districts to raise dollars above the foundation formula. This section examines each of the study team's recommendations for these components.

Local Wealth

The study team examined three issues related to determining the local wealth of districts: 1) the choice of using September or November Net Taxable Income (NTI), whichever provided the largest amount of state aid, when determining local wealth; 2) the method for combining local, assessed property values and NTI; and 3) whether all or a portion of the tax increment of tax increment financing (TIF) districts should be exempted from the local property wealth portion of a district's wealth for school aid formula purposes. All three of these issues are presented in more detail in APA's December 2015 report *Analysis of School Finance Equity and Local Wealth Measures in Maryland.* The study team provided recommendation on the issues of NTI and the method used for combining assessed property values and NTI but did not make a specific recommendation related to tax increment financing.

Net Taxable Income

Currently, MSDE calculates each funding formula impacted by local wealth using both the September and November NTI. Districts receive the calculation that results in the largest amount of state aid. The study team believes that the November NTI provides the more accurate measure of NTI, and hence the fiscal capacity of each district, because it includes a larger proportion of a county's income tax returns – including those filed closer to the extension deadline of October 15. Thus, the study team recommends using only the November NTI data for determining local wealth.

Combining Assessed Property Values and NTI

Maryland, along with five other states (Connecticut, Massachusetts, New Jersey, New York, and Virginia), includes both property and income wealth in its measure of local wealth to reflect the fact that the State's local jurisdictions raise revenues through both property and income taxes. Including a measure of income when determining local wealth also enables the State to more directly account for taxpayers' ability to pay — an important factor in local tax and spending decisions (Mankiw, 1998) and improving the funding system's equity. The study team's earlier equity analysis[14] showed that although Maryland's school finance system is quite equitable, high-wealth jurisdictions still generally spend more per pupil than lower-wealth jurisdictions, an indication that the finance system is not entirely fiscally neutral.[15]

The State's current method of combining assessable property values and NTI, the measure of income used in determining local wealth, is to add the two components together. However, adding NTI to assessable property values may not fully account for the effects of differences in NTI across jurisdictions. For example, the effect of the income measure could be overwhelmed by a much larger property wealth amount. To help ensure that the effect of variation in NTI across jurisdictions is fully accounted for, the

[14] See Glenn, W. J., Griffith, M., Picus, L.O., & Odden, A. (2015). *Analysis of School Finance Equity and Local Wealth Measures in Maryland*. Denver, CO: APA Consulting.

[15] In a fiscally neutral finance system there is no relationship between a jurisdiction's wealth and per pupil spending.

study team recommends that the State consider using a multiplicative approach instead of the current additive approach for combining the two measures of wealth. Under the multiplicative approach, each county's assessed property wealth is adjusted by multiplying it by the ratio of the jurisdiction's NTI to the state average NTI. In essence, under this approach, assessed property wealth is adjusted by an income index to account for differences in jurisdictions' NTI.

Moving to the multiplicative approach helps to increase the equity and fairness of the State's school finance system by ensuring the use of NTI in the local wealth calculation works to the benefit of lower wealth jurisdictions. One of the basic tenets of a fair taxation system is the ability to afford the tax (Institute on Taxation and Economic Policy, 2011, Oates & Schwab, 2004). Under the current additive approach, the real and personal property assessable value component comprises between 60 percent and 90 percent of total local wealth. However, possessing high assessable property wealth does not necessarily mean a jurisdiction also has high taxable incomes. In Maryland, there is only a moderate correlation between the two (0.58).[16] Studies also show that the property tax is regressive, with low-income families paying 3.6 percent of income in property taxes compared to 0.7 percent of income for high-income families (ITEP, 2015). The ability to pay property taxes may also change over time. For example, seniors may find it difficult to pay the property taxes on their home once retired and living on a fixed income (Oates & Schwab, 2004). Some states, including Maryland, have attempted to address this by providing some property tax relief through an income-based circuit breaker (Lyons, Farkas, & Johnson, 2007).

The examples of Calvert and Montgomery Counties help to illustrate how the multiplicative approach would change local wealth amounts. Calvert County's average assessable property wealth per student is almost equal to the state average at just over 100.0 percent. However, the county's November NTI per student is only 85.2 percent of the state average. Using the State's current additive method, the county's total November wealth measure is 94.9 percent of the state average. Using the multiplicative approach, Calvert County's November wealth measure would fall to 85.3 percent of the state average, resulting in an increase in its state share of funding. Under the current additive approach In Montgomery County, its wealth measure using November NTI is 42.5 percent above the state average. If the State adopted the multiplicative method, Montgomery County's total wealth measure would rise from 144.3 percent of the state average to 197.3 percent of the state average. This change would result in a significant decrease in state aid to Montgomery County and other districts that have incomes above the state average.

Table 7 compares measures of two important equity concepts for the proposed formula if wealth is determined using the multiplicative approach or if it is determined using the additive approach. The first is fiscal neutrality, the measure of the relationship between local wealth and education funding. Ideally, there should be little or no relationship between how wealthy a community is and the amount of money available to fund its schools. The second concept is equity, or how much variation in spending exists

[16] The correlation between per pupil assessable property values and NTI is 0.58. On a per capita basis the correlation is 0.50.

across local jurisdictions. An equitable school finance system should show minimal variation except for spending differences driven by student need.[17]

Each of the equity statistics is calculated using two different student counts to examine two different ways of looking at equity. The first, labeled "Unweighted Enrollment," uses the September 30th enrollment counts. The equity statistics using this count provide a measure of horizontal equity, or how equitable the finance system is without taking student need into account. The second, labeled "Weighted Enrollment" uses the enrollment counts adjusted by the proposed weights for special need students. These statistics provide a measure of vertical equity, or how equitable the system is when accounting for differences in student need.

The table also includes benchmarks, or the generally accepted maximum value for each equity measure. The benchmark for fiscal neutrality should be no more than 0.50. This represents a moderate or lower positive relationship. The benchmark for equity should not exceed 0.10, a fairly low level of variation.

Table 7
Equity Statistics for Multiplicative and Additive Approaches to Combining Assessed Property Value and NTI

	Benchmark	Multiplicative	Additive
Fiscal Neutrality			
Unweighted Enrollment	0.50	(0.32)	(0.20)
Weighted Enrollment	0.50	(0.19)	0.02
Equity			
Unweighted Enrollment	0.10	0.10	0.09
Weighted Enrollment	0.10	0.10	0.10

The table shows that for all measures both the multiplicative and additive approaches meet or exceed all benchmarks. There is essentially no difference in the equity measure whether using unweighted or weighted enrollment counts. The measure for fiscal neutrality, which would be expected to be impacted the most by a change in the way wealth is calculated, shows that both the additive and multiplicative approaches favor lower wealth jurisdictions (as demonstrated by a negative correlation between wealth and spending in both cases) when using unweighted enrollment counts. This means that the formula provides a somewhat larger state share to lower wealth jurisdictions than a perfectly neutral system. When weighted enrollment is used, the correlation of the additive approach becomes slightly positive (indicating a very small positive relationship between wealth and spending) while the correlation for the

[17] Fiscal neutrality is measured by the correlation coefficient, a statistical measure of the relationship between per student local wealth and per student funding. The correlation coefficient may range from -1.0 (a perfect negative relationship) to 1.0 (a perfect positive relationship). Equity is measured by the coefficient of variation, a statistic that measures the amount of variation around the average for a set of values. The coefficient of variation typically ranges from 0.0 (no variation) to 1.0 (very high variation). An equitable school finance system should show minimal variation except for spending differences driven by student need.

multiplicative approach remains negative. In sum, the multiplicative approach remains somewhat more favorable for lower wealth jurisdictions whether using unweighted or weighted enrollment.

Adopting the multiplicative approach would also result in an increase in the range between the lowest and highest wealth jurisdictions. Under the current additive approach, the range in per pupil wealth between the lowest wealth jurisdiction and highest wealth jurisdiction is $830,870 per pupil. Under the multiplicative approach this range increases to just over $1.1 million per pupil.

Adopting a multiplicative approach to combining measures of property wealth and income is not the only way to increase the effect differences in income have on total local wealth. Another alternative is to change the relative weight of the income measure to property wealth. Under the current additive approach in Maryland, NTI comprises 35 percent of total wealth on average. Three of the five other states that incorporate income in their local wealth measure (Massachusetts, New Jersey, and New York) weight income and property wealth so that each comprises 50 percent to the total wealth calculation. The remaining two states, Connecticut and Virginia, place less weight on income. Connecticut weights income as only 10 percent of total local wealth and Virginia weights income as 40 percent of the total. None of these states use the multiplicative approach to combine income and property wealth.

Minimum State Aid Guarantees and Local Shares of Special Needs Programs

Maryland's current funding programs provide minimum state funding guarantees in two ways. First, each district is guaranteed to receive at least 15 percent of its total foundation total program as state aid. Under the minimum foundation aid guarantee, a district with high local wealth may generate the full foundation total program through its local share, but still receive at least 15 percent of the foundation total program in state aid, thus generating additional funding for the district or enabling the jurisdiction to reduce its local share in other program areas.

The second way in which state aid is guaranteed is by guaranteeing that all districts receive at least 40 percent of their special needs total program (compensatory education, LEP, and special education) as state aid. Further, districts are not required to provide a local share for any of these special needs program formulas. Again, under this minimum state aid guarantee, wealthier districts may reduce their local share amounts due to the guaranteed state aid, thereby increasing the cost of the program to the state and reducing or even eliminating any local effort. Further, providing the state aid minimums to wealthier districts and not requiring local shares of the special needs programs may be contributing to inequities identified in the formula in the study team's earlier school funding equity analysis.[18]

The study team makes two recommendations concerning these issues. First, the minimum state aid guarantees should be eliminated for foundation and special needs funding programs. Eliminating the state aid minimums will free-up state funding dollars which could be used to provide additional support to those districts with lower local wealth and higher needs. Other states, including Colorado and

[18] See Glenn, W. J., Griffith, M., Picus, L.O., & Odden, A. (2015). *Analysis of School Finance Equity and Local Wealth Measures in Maryland*. Denver, CO: APA Consulting.

Wyoming, take a similar approach. As of fiscal year 2009-10, Colorado eliminated its guarantee for minimum state aid with passage of House Bill 09-1318. Colorado's districts are no longer guaranteed to receive a minimum amount of aid from the state.[19] Wyoming takes a step further than the study team's recommendation; the state does not provide a minimum funding amount, and, when local resources exceed the Foundation Guarantee amount, the excess is recaptured by the state from other aid programs.[20]

Second, the study team recommends that all districts should be required to appropriate the full local share for all of the special needs funding programs. This change would both improve equity and ensure that districts are receiving the full funding amount identified by the adequacy study.

Under the study team's recommendation, a required local share would be calculated for each special needs (compensatory education, LEP, and special education) program using the same method as the foundation calculation. A total program amount, adjusted by the CWI, would be determined; an equalized local share determined; and a state share equaling the difference between the total program amount and the local share. The local share is equalized using the same method used for calculating the foundation local share; that is, by determining a statewide local contribution rate assuming the state average state and local shares are equal to 50 percent each.[21] The study team recognizes that this approach differs from the current method of equalization used with the special needs programs, but it elected to use the foundation program's method for two reasons. First, the study team's rationale for requiring a full local share for the special needs funding programs is to ensure that the full adequacy level of funding is provided to all students in every district — students with and without special needs. Second, by making the calculations for the foundation and special needs programs the same, the State could potentially streamline the formula by calculating the total program and state and local shares all within the foundation formula by using weighted student counts, i.e. taking the FTE enrollment count, calculating a weighted count by adjusting for the student need weights, and then multiplying by the foundation amount. A single local contribution rate could then be used to determine the state and local shares.

Under the proposed method of determining state and local shares, the State should also revise its maintenance of effort requirement, which requires each jurisdiction to appropriate the greater of its total foundation local share or its prior year per pupil total local appropriation. Because the proposed total required local share would consist of the foundation, compensatory education, LEP, and special education local shares, the maintenance of effort should be changed to the greater of the proposed total required local share or its prior year per pupil total local appropriation to make it consistent with the changes to the required local share.

[19] See Colorado Department of Education. *Understanding Colorado School Finance and Categorical Funding.* July 2016. https://www.cde.state.co.us/cdefinance/fy2015-16brochure

[20] See State of Wyoming School Foundation Block Grant Flow Chart. March 2016. http://legisweb.state.wy.us/InterimCommittee/2016/SchoolFoundationBlockGrantFlowChart.pdf

[21] The formula for determining the local contribution rate is: (total program X 0.50)/total statewide local wealth.

Other State Funding Programs and Tax Increment Financing

There are several issues that the study team explored but for which specific recommendations were not provided. These consist of transportation aid, the guaranteed tax base (GTB) state aid program, and tax increment financing. In all three cases, the study team determined there were insufficient research findings or examples of best practices from other states in the literature to support making a recommendation. However, the research team recognizes that these issues should be explored and recommends that the State continue to study these issues and develop recommendations in the future.

Transportation Aid

Transportation aid provides funding for the transportation of general education and disabled students to and from school. The current formula begins with a base amount equal to a district's prior year grant and is then adjusted for inflation and enrollment growth. The study team's recommendations would potentially impact the amount of transportation aid in two ways. First, the study team's recommendation to use the greater of the prior year's FTE enrollment or the average of the three prior years' FTE enrollment will result in higher enrollments in declining enrollment districts, thus providing more aid for these districts and increasing state costs. Second, the State must determine whether prekindergarten students will be transported via district transportation services, and if so, should prekindergarten counts be included in the enrollment counts used to adjust districts' base grant amount. It should be noted that the research team recommended that the transportation aid formula should be thoroughly studied to determine if an updated formula is warranted.[22]

Guaranteed Tax Base

The current GTB program was established to incentivize districts with less than 80 percent of the statewide average per pupil wealth to provide a larger local education appropriation. The GTB provides additional state aid for these districts based on two factors: 1) the amount of their local education appropriation in excess of their local foundation share; and 2) the ratio of their wealth per pupil to 80 percent of the statewide average wealth per pupil. Under the current system, the GTB program is an important incentive for jurisdictions to provide a local appropriation for the special needs funding programs. Also, given the current low base funding amount, it aids lower wealth jurisdictions to provide an additional local appropriation to supplement their foundation total program funding. However, under the study team's recommendation that all jurisdictions provide a full local share of the special needs total program amounts, and with a new, adequate base funding amount, the State should examine whether the GTB should be continued in its present form and purpose.

Statutory Inflation Adjustment

In the current education funding formula the per pupil foundation amount is adjusted annually for inflation using the lesser of the Consumer Price Index for the Baltimore-Washington region, the implicit

[22] See Hartman, W. & Schoch, R. (2015). *Final Report of the Study of Increasing and Declining Enrollment in Maryland Public Schools*. Denver, CO: APA Consulting.

price deflator for state and local governments, or 5 percent. The study team did not make any specific recommendations for changing or eliminating the current inflation adjustment.

Tax Increment Financing

Tax increment financing (TIF) is an economic development tool that uses the growth in property values in a designated area to pay for some of the costs of redevelopment. For example, the principle and interest of municipal bonds issued to pay for new infrastructure. Because the tax assessments on these properties are used for other purposes, they are not available to support the general operations of local jurisdictions. In Maryland, the growth in property values in designated TIF areas are included in the calculation of property wealth for counties and the City of Baltimore, but these jurisdictions are not able to use the local tax revenues generated by these properties for education funding purposes. In several counties and the City of Baltimore this results in either a loss of education funding or higher tax assessments on other properties. The study team's analysis of the calculation of local wealth examined this issue and presented an example of how another state has dealt with this issue. [23] However, the study team does not offer a specific recommendation but instead suggests that the State continue to study this issue.

Tables 8 presents a summary of the study team's recommendations compared to current practice in Maryland.

Table 8
Summary of Recommendations

Key Components of Formula	Currently Done in Maryland	Recommendation to Maryland
Student Counts		
Declining Enrollment	Total enrollment is based on the September 30th FTE enrollment count for the prior school year.	A district would receive the greater of two counts — the prior year's September 30th enrollment count or the average of three prior years' counts.
Counting Low-Income Students	Uses the FRPM eligibility form created by the federal government	Use a FRPM eligibility form that is created by the State and returned to the State
Counting Prekindergarten Students	Prekindergarten students who meet specific qualifying criteria related to the income of a child's family.	Provide high-quality prekindergarten for up to 80 percent of eligible programs for four-year-old students. In order to receive funding a student must be enrolled in a program that has earned a Level 5 EXCELS rating, has earned state or national accreditation, or is a public school program that reaches EXCELS level 4 standards.
Base Cost	**$6,860**	**$10,880 -** The recommended base has a greater focus on providing more resources at the base level to all students to meet higher state standards and requirements.
Weights		

[23] See Glenn, W. J., Griffith, M., Picus, L.O., & Odden, A. (2015). *Analysis of School Finance Equity and Local Wealth Measures in Maryland*. Denver, CO: APA Consulting.

Key Components of Formula	Currently Done in Maryland	Recommendation to Maryland
Special Education	0.74	0.91
LEP	0.99	0.35
Compensatory	0.97	0.35
Prekindergarten	N/A	0.29
Regional Cost Adjustment	Uses the GCEI applied only to the foundation amount.	Uses the CWI, includes indices less than 1.0, and is applied to the foundation and all special needs total programs.
Local Wealth		
Net Taxable Income (NTI)	Districts receive the largest amount of state aid that results from using either the September or November NTI.	Recommends that the State only uses the November NTI data for determining local wealth.
Combining Assessed Property Values and NTI	Uses the additive approach by adding together both property and income wealth in its measure of a district's local wealth.	Uses the multiplicative approach. Each district's assessed property wealth is adjusted by multiplying it by the ratio of the district's NTI to that the state average NTI.
Tax Incremental Financing (TIF)	The full value of designated TIF areas is included in the calculation of property wealth of local jurisdictions, but these jurisdictions are not able to use local tax revenue generated by these properties for education funding purposes.	No recommendation
Minimum State Aid Guarantees		
Foundation	Districts are guaranteed to receive at least 15 percent of the foundation total program in state aid.	Should be eliminated
Special Needs Programs	Districts are guaranteed to receive at least 40 percent of their special needs total program as state aid	Should be eliminated
Transportation Aid	Has a base amount equal to a district's prior year grant and is then adjusted for inflation and enrollment growth.	No recommendation
Guaranteed Tax Base	Provides additional state aid for districts based on the amount of their local education appropriation in excess of local foundation share and the ratio of their wealth per pupil to 80 percent of the statewide average wealth per pupil.	No recommendation

Table 9 compares the total of the proposed state and local shares for the foundation, compensatory education, LEP, and special education programs, to the total of the current state share for these programs and jurisdictions' total local appropriation. This is not a perfect apples-to-apples comparison because the proposed local shares do not include any additional local appropriation that jurisdictions may elect to contribute. This comparison shows that total state shares plus local appropriations statewide would increase by 29 percent. Potentially, this increase could be larger if jurisdictions make additional local appropriations above the proposed required local share. The difference between proposed and current ranges from increases of 40 percent or greater in Harford, Prince George's, and St. Mary's counties. Worcester County is the only jurisdiction that would experience a decrease. However, Worcester County currently appropriates a significant amount of additional local funding in addition to

what is required for the foundation local share. If the county continued providing additional local support above the proposed required local share the decrease would be reduced or eliminated.

Table 9
Comparison of Proposed State and Local Shares and the Sum of
Current State Share for Major State Aid Programs and Current Total Local Appropriations
Fiscal Year 2015

Local Unit	Proposed State and Local Shares	Current State Share and Total Local Appropriations[1]	Change	Percent Change
Allegany	$106,193,944	$97,205,705	$8,988,240	9%
Anne Arundel	$1,161,936,991	$872,262,781	$289,674,210	33%
Baltimore City	$1,449,109,710	$1,091,079,255	$358,030,454	33%
Baltimore	$1,636,358,800	$1,245,979,562	$390,379,238	31%
Calvert	$225,294,976	$181,704,584	$43,590,392	24%
Caroline	$73,873,587	$57,008,563	$16,865,024	30%
Carroll	$338,196,159	$280,777,814	$57,418,345	20%
Cecil	$220,398,254	$164,695,494	$55,702,760	34%
Charles	$370,978,635	$296,167,005	$74,811,631	25%
Dorchester	$63,156,163	$51,155,643	$12,000,520	23%
Frederick	$560,038,906	$440,349,772	$119,689,134	27%
Garrett	$45,089,530	$42,020,842	$3,068,687	7%
Harford	$550,008,571	$389,381,412	$160,627,158	41%
Howard	$766,474,431	$710,431,292	$56,043,139	8%
Kent	$28,665,436	$24,122,223	$4,543,213	19%
Montgomery	$2,467,169,557	$1,979,122,636	$488,046,921	25%
Prince George's	$2,110,671,451	$1,510,255,217	$600,416,234	40%
Queen Anne's	$95,172,967	$77,598,633	$17,574,334	23%
St. Mary's	$252,865,758	$175,201,983	$77,663,775	44%
Somerset	$43,559,075	$33,971,997	$9,587,078	28%
Talbot	$58,485,958	$45,203,937	$13,282,021	29%
Washington	$300,346,598	$245,648,490	$54,698,108	22%
Wicomico	$203,312,762	$159,344,270	$43,968,491	28%
Worcester	$89,045,641	$89,985,968	($940,327)	(1%)
Total State	**$13,216,403,859**	**$10,260,675,080**	**$2,955,728,780**	**29%**

[1]Current state share includes the foundation, compensatory education, LEP, special education, GCEI, guaranteed tax base, supplemental grant, NTI adjustment, and declining enrollment state aid programs. It excludes student transportation grants and the State share of teachers' retirement costs. The current total local appropriation excludes the local appropriation for student transportation.

Table 10 shows the same information as Table 9 but on a per pupil basis. The statewide average increase would be 24 percent on a per pupil basis. The per pupil increase is less than the total dollar increase because the proposed student counts, which now include four-year-olds in the prekindergarten program, are larger. The per pupil differences range from increases of 38 percent in Harford and St. Mary's counties to a decrease of eight percent in Worcester County.

Table 10
Comparison of Proposed Per Pupil State and Local Shares and the Sum of
Current Per Pupil State Share for Major State Aid Programs and Current Total Local Appropriations
Fiscal Year 2015

Local Unit	Proposed	Current[1]	Change	Percent Change
Allegany	$12,000	$11,693	$307	3%
Anne Arundel	$14,789	$11,450	$3,339	29%
Baltimore City	$17,165	$13,750	$3,416	25%
Baltimore	$15,115	$11,940	$3,175	27%
Calvert	$13,873	$11,484	$2,389	21%
Caroline	$13,339	$10,890	$2,450	22%
Carroll	$12,801	$10,821	$1,981	18%
Cecil	$14,003	$10,907	$3,096	28%
Charles	$14,049	$11,604	$2,446	21%
Dorchester	$13,395	$11,355	$2,039	18%
Frederick	$13,757	$11,156	$2,601	23%
Garrett	$11,434	$11,100	$333	3%
Harford	$14,477	$10,508	$3,969	38%
Howard	$14,397	$13,760	$637	5%
Kent	$13,327	$12,091	$1,235	10%
Montgomery	$16,197	$13,421	$2,776	21%
Prince George's	$16,959	$12,661	$4,298	34%
Queen Anne's	$12,313	$10,386	$1,927	19%
St. Mary's	$14,269	$10,373	$3,896	38%
Somerset	$14,588	$12,458	$2,130	17%
Talbot	$12,650	$10,516	$2,134	20%
Washington	$13,261	$11,197	$2,064	18%
Wicomico	$13,765	$11,439	$2,325	20%
Worcester	$13,239	$14,400	($1,161)	(8%)
Total State	**$15,241**	**$12,295**	**$2,946**	**24%**

[1]Current state share includes the foundation, compensatory education, LEP, special education, GCEI, guaranteed tax base, supplemental grant, NTI adjustment, and declining enrollment state aid programs. It excludes student transportation grants and the State share of teachers' retirement costs. The current total local appropriation excludes the local appropriation for student transportation.

Total Cost of the Recommendations

The study team's adequacy recommendations would result in a significant additional investment in education by the State and some local jurisdictions. The recommendations would also result in some redistribution of resources across districts, even though all districts would experience an increase in funding.

The total state share for major state aid programs, excluding transportation, would increase from $4.9 billion to $6.8 billion, an increase of $1.9 billion or 39 percent over current fiscal year 2015 state aid.[24] It is impossible to make an apples-to-apples comparison of current and proposed local shares, since local jurisdictions are not currently required to provide a local share for the special needs aid programs, and many jurisdictions make additional local appropriations beyond what would be required to fund the local share of all of the major aid programs. However, a comparison of the proposed local share for the foundation and special needs programs to the current fiscal year 2015 total local appropriation (excluding transportation) provides a reasonable estimate of the local impact of these recommendations. Using this comparison, the local share would increase from $5.4 billion to $6.4 billion, an increase of $1.0 billion or 19 percent.

Together, again estimating the local share using the local share for all major state aid programs as the proposed local appropriation and the actual current total local appropriation, total funding for all major state aid programs, excluding transportation, would increase from $10.3 billion currently to $13.2 billion, an increase of $2.9 billion or 29 percent.

Comparison to Prior Adequacy Study

Since Maryland conducted a prior adequacy study, the study team has the unique opportunity to be able to compare the total adequacy recommendation not just to current funding but also to the estimates from the earlier work conducted on behalf of the Thornton Commission.

It is important to note what this comparison represents and what it does not represent. The comparison offered here simply examines the total adequacy need level(s) identified in the original work to that of the current study. Comparisons are only of the identified adequacy amounts and do not take into account the actual implementation of the original work. They are meant to examine what the results of the original work would be if adjusted to 2014-15 dollars. To make the base cost figures comparable, the original study figures were adjusted for inflation. The study team used a 1.40 factor to adjust the 2002 report figures to 2014-15 dollars based on the Bureau of Labor Statistics Consumer Price Index for Washington-Baltimore, DC-MD-VA-WV[25]. The inflation figures used here differ from the method used by the State for the purposes of school funding formulas.[26] Total figures used in this section will vary from

[24] Fiscal year 2015 is the latest year for which all of the data necessary for making these estimates were available.
[25] http://www.bls.gov/regions/mid-atlantic/data/consumerpriceindexhistorical_washingtondc_table.htm
[26] The inflation adjustment used by the State in the funding formula is the lesser of the Consumer Price Index for the Baltimore-Washington region, the implicit price deflator for state and local governments, or 5 percent.

those in the previous section as the computations are made at the state level and are not district specific.

The original study used the SSD and PJ approaches to determine adequacy, both of which have been used in the current study. The current work also includes a third approach to determining adequacy: the EB approach. With that in mind, the study team compared the prior study's SSD results to the current SSD results and the prior study's PJ results to the current study's final adequacy recommendations, the blended results of the EB and PJ approaches.

To make this comparison as directly as possible, two assumptions were made. First, for both the original and current study results, the figures used are prior to the federal funds adjustments as the study team feels this is the most direct comparison of the full cost of adequacy from each study. Second, because the SSD approach does not itself generate weights, weights were imputed for the current SSD estimate so that it could be compared to the base and weights of the other approaches. Weights for the current SSD column were calculated by dividing the SSD base into the per pupil resources identified for each special needs category from the current recommendation.

Table 11 below shows the results from this comparison. Again, these figures are the estimates prior to any adjustments for federal funding and are limited to costs generated from applying the base costs and weights to current student counts, so differ from full recommended system estimates in the prior section.

Table 11
Base Costs and Weights for Original and Current Adequacy Studies*

	Original SSD	Current SSD	Original PJ	Current Recommended**
Base Cost	$5,969	$8,716	$6,612	$10,970
Base Cost Adjusted for Inflation	$8,362	$8,716	$9,263	$10,970
Compensatory Education Weight	1.10	0.50	1.10	0.40
LEP Weight	1.00	0.50	1.00	0.40
Special Education Weight	1.17	1.39	1.17	1.10

*All base costs and weights are the amounts prior to the adjustments for federal funding.
**The current recommendation is a blended figure from PJ and EB results.

As shown in Table 11 when adjusted for inflation, the original SSD base cost figure is only about $350 below the SSD base cost figure from the current study. The original PJ base cost figure is more than $1,700 below the current study's recommended base cost figure, representing the shift toward more resources at the base level for all students. The weights for the original SSD and PJ studies are much higher than those produced by the current study, with the original compensatory and LEP weights being at least double that of the current weights. Special education weights are more similar between the original studies and current studies.

While the base and weights from the two studies varied, it is also important to consider the overall total costs. Therefore, the study team calculated total cost figures utilizing the inflation adjusted bases and the 2014-15 FTE, compensatory education, LEP, and special education student counts for Maryland. The student counts do not include the increased prekindergarten enrollment discussed in the recommendation section to create a more straightforward comparison. The figures are also prior to any adjustments for regional cost differences such as the GCEI or the CWI that are included as part of the full system comparison in the preceding section.

Table 12 shows the total adequacy cost estimates from the prior adequacy study compared to the current.

Table 12
Total Adequacy Cost Estimates for Original and Current Adequacy Studies (in Millions)

	Original SSD	Current SSD	Original PJ	Current Recommended*
Total Adequacy Cost Estimate	$11,974.3	$10,473.8	$13,264.2	$12,380.1

*The current recommendation is a blended figure from PJ and EB results.

Overall, the comparison shows that though the results differ between the original and current studies in where resources are focused, low base and high weights versus high base and lower weights, the overall scale of adequacy need is within a comparable range across all four estimates when adjusted for inflation. The original PJ figures provide the highest total adequacy estimate, and the current SSD identifies the lowest total adequacy estimate. Using the original SSD figures and then adjusted annually for inflation from 2002, the target adequacy cost estimate from the prior study in today's dollars would be very similar to the current recommended total cost of adequacy, about $400 million apart.[27]

Summary of Previously Released Reports

The adequacy recommendations detailed above were informed by 13 studies conducted prior to this draft final report. These reports range from research summaries to final impact analyses and provide detailed research methodologies, findings, and recommendations. Specifically, three of the reports focus on school size and two center on enrollment trends and prekindergarten. The remaining studies involve aspects of school finance equity, such as concentrations of poverty and the geographic cost of education. Abstracts and links to PDFs of these reports are provided in Appendix A of *Appendices A-E: Final Report of the Study of Adequacy of funding for Education in Maryland*, a supplemental document to this report. The reports are also available on the Maryland State Department of Education's adequacy study website at the following link: http://marylandpublicschools.org/Pages/adequacystudy/index.aspx.

[27] It is interesting to note that the results of the current PJ approach (prior to blending with the EB approach to create the final adequacy study recommendation) would be nearly identical to the original PJ estimate, about $100 million lower at $13,152.1 million.

AUGENBLICK, PALAICH AND ASSOCIATES

Study of the Wyoming Educational Program and Recalibration and Reevaluation of the Wyoming Education Resource Block Grant Funding Model

Task 1A: Educational Program Comparison

Justin Silverstein, Amanda Brown and Mark Fermanich, APA

Presentation to the Select Committee on School Finance Recalibration
Casper, WY
October 12, 2017

1

Presentation Topics

- Review of educational program
- Brief overview of comparison tasks and benchmark states selected
- Initial cross-state comparison findings

2

What is the Educational Program?

- By law, the Legislature has "established a basket of educational goods and services constituting the proper education to which Wyoming students are entitled, including a common core of knowledge and skills."
  - Implemented through content standards by grade level developed by the State Board of Education in consultation and coordination with local school districts.
- The basket is by law also required to include programs designed to address the special needs of identified student populations, including:
  - students with disabilities (special education programs);
  - economically disadvantaged students;
  - students with limited English proficiency: and
  - gifted and talented students.

Source: Legislative Service Office

3

What is the Educational Program?

Common Core of Knowledge

- Reading/language arts
- Social Studies
- Mathematics
- Science
- Fine arts/performing arts
- Physical education
- Health and safety
- Humanities
- Career/vocational education
- Foreign cultures & languages
- Applied technology
- Government and civics including state and federal constitutions

Common Core of Skills

- Problem solving
- Interpersonal communications
- Keyboarding and computer applications
- Critical thinking
- Creativity
- Life skills, including personal financial management skills

Source: Legislative Service Office

4

What is the Educational Program?

- Successful completion of content standards is measured through performance on state and district assessments and mandatory graduation requirements, as defined by statute:
  - Four school years of English;
  - Three school years of mathematics;
  - Three school years of science;
  - Three school years of social studies, including history, American government, and economic systems and institutions.
- All basket components are "implemented and enforced by rule and regulation of the State Board of Education, to be of sufficient quality to prepare students for future post-secondary education or employment opportunities and participation as citizens."

Source: Legislative Service Office

5

What is the Educational Program?

- The study's RFP also includes the opportunity for students to meet the requirements of the Hathaway Scholarship program as a component of the educational program.
  - Awards Wyoming students that meet eligibility requirements a scholarship for up to eight semesters at a Wyoming community college or the University of Wyoming.
- The Hathaway Scholarship program has four levels with different course , ACT and GPA requirements, achievement benchmarks, and award amounts, lengths and requirements:
  - Provisional Opportunity
  - Opportunity
  - Performance
  - Honors

6

What is the Educational Program?

- Hathaway Scholarship program levels:
  - Provisional Opportunity
    - Course Requirements: Meeting current graduation requirements in Language Arts, Math, Science, and Social Studies, and 2 years of either fine arts, CTE, or two years of foreign language
    - Achievement Benchmarks: 2.5 GPA and 17 on ACT
  - Opportunity
    - Course Requirements: 4 years of Language Arts, Math, and Science, 3 years of Social Studies, and 2 years of either fine arts, CTE, or additional foreign language
    - Achievement Benchmarks: 2.5 GPA and 19 on ACT
  - Performance
    - Course Requirements: same requirements as Opportunity, plus 2 years of foreign language
    - Achievement Benchmarks: 3.0 GPA and 21 on ACT
  - Honors
    - Course Requirements: same requirements as Performance
    - Achievement Benchmarks: 3.5 GPA and 25 on ACT

7

Task 1A. Research and Cross-State Comparison of the Educational Program, including Hathaway Scholarship Program Requirements

Comparison included:

- Overview of content areas each state has standards in
- In-depth comparison of English Language Arts, Mathematics and Science standards in terms of breadth, depth and rigor
- Hathaway Scholarship requirements against each state's graduation and university entrance requirements
- Requirements for the following special needs populations:
  - Special Education
  - English Language Learners
  - Gifted and Talented

8

Benchmark States

- Two sets of benchmark states selected and approved, regional and high performing:
  - Regional
    - Colorado, Montana, Idaho, North Dakota, South Dakota, Nebraska, and Utah.
  - High Performing
    - Massachusetts, New Hampshire, New Jersey, Indiana, Vermont, and Virginia.
      - Selected based upon K-12 achievement and PWR indicators

9

Cross-State Comparison of Standard Content Areas

- Compared against the 13 benchmark states, Wyoming has standards in similar content areas.
- While terminology differed, all states have content standards in: English Language Arts, Mathematics, Science, Social Studies, Fine and Performing Arts, Foreign Language, and Health Education/Physical Education.
- Standards related to Career and Vocational Training, or CTE, vary and most frequently are specific to a given career course area.
  - New Hampshire and New Jersey are similar to Wyoming, in that they have related CTE standards that apply to all K-12 students.
- Ten of the states have separate technology and/or computer science content standards.
- Other content areas included separately by more than one state in their standards include: Library (4 states), Financial Literacy (3 states) and Driver's Education (2 states).

10

In-Depth Review of English Language Arts Standards

	Identical to Wyoming	Similar to Wyoming	Different from Wyoming
Regional States	South Dakota (K-12) and Utah (6-12)	Idaho, Montana, North Dakota, and Utah (K-5)	Colorado and Nebraska
High Performing States	New Hampshire and Vermont	Indiana and New Jersey	Massachusetts and Virginia

11

In-Depth Review of English Language Arts Standards

- Wyoming's standards were similar or identical to the standards in nine of the comparison states
- Wyoming's standards varied significantly from the standards in Colorado, Nebraska, Massachusetts, and Virginia
  - Colorado has more content standards while also excluding a few of the content standards in Wyoming
  - Nebraska's standards are not based on the Common Core State Standards (CCSS) and varied both in terms of specificity and expanding upon many of Wyoming's standards

12

In-Depth Review of English Language Arts Standards

- Massachusetts standards are based on the CCSS but vary in many ways including, but not limited to, the following key differences:
  - Addition of Pre-K standards and other standards at earlier grade levels.
  - Explicitly linking their ELA and mathematics standards at the K-5 level.
  - Additional content area ELA standards such as differentiated reading standards for History/Social Studies and Science and Career and Technical Subjects, and Speaking and Listening standards for content areas.
- Virginia's standards vary greatly from those of Wyoming and are not directly comparable to the CCSS.
  - Some of the areas addressed in Virginia's content standards that are not included in the Wyoming ELA standards include: strategy usage, handwriting, research, and ethical and safe usage of the Internet and technology.

13

In-Depth Review of Mathematics Standards

	Identical to Wyoming	Similar to Wyoming	Different from Wyoming
Regional States	Idaho and South Dakota	Colorado, Montana, North Dakota, Utah	Nebraska
High Performing States	Vermont and New Hampshire	Massachusetts and New Jersey	Indiana and Virginia

14

In-Depth Review of Mathematics Standards

- Wyoming's math standards were similar or identical to the standards in ten of the comparison states.
- Wyoming's math standards varied significantly from the standards in Nebraska, Indiana, and Virginia.
  - Nebraska's mathematics standards do not align to the CCSS and are less comprehensive than Wyoming's standards.
  - Indiana's standards are substantially different than those of Wyoming. There are different sets of standards, and many standards are either more condensed or alternately more expansive than those of Wyoming. Some standards have higher rigor.
  - Virginia's standards are fewer in number and generally less comprehensive than those of Wyoming.

15

In-Depth Review of Science Standards

	Identical to Wyoming	Similar to Wyoming	Different from Wyoming
Regional States	None	Colorado, Idaho, Montana, Nebraska, and South Dakota	Utah
High Performing States	New Hampshire (K-5), New Jersey (K-5), and Vermont	Indiana (K-5), New Hampshire (6-12), New Jersey (6-12), Massachusetts, and Vermont (6-12)	Indiana (6-12) and Virginia

16

In-Depth Review of Science Standards

- Wyoming's science standards are similar or identical to the standards in ten of the comparison states, as well as similar to the K-5 standards in another state (Indiana).
- Wyoming's science standards vary significantly from the standards in Utah, Virginia, and the 6-12 standards in Indiana.
  - Utah's standards cover the same areas (earth and space science, life science, and physical science), but the standards are structured differently with fewer objectives and are located at different grade levels; also less rigorous in some areas.

17

In-Depth Review of Science Standards

- Indiana's high school science standards are organized by course and go into much greater depth than Wyoming's standards.
  - Additional standards were also added at the middle school level which is organized into discrete grade levels.
- Virginia's Science Standards of Learning were adopted in 2010, prior to the release of the National Research Council's (NRC) 2011 framework and the NGSS.
  - Wyoming's standards are more focused on precursors for scientific method and show greater alignment to NGSS and NRC than Virginia's.
  - Overall, Wyoming's standards are more rigorous and more specific than Virginia, and involve more investigation and problem solving.

18

Comparison of Hathaway Scholarship Program Requirements

- The Hathaway Program was first compared against Wyoming's graduation requirements.
  - The Provisional Opportunity level most closely aligns to the state's graduation requirements.
    - Provisional requires additional coursework in career/technical education (CTE), fine arts, and foreign languages (two years total).
  - The other three scholarship levels are more rigorous, requiring an additional year of math, while the Performance and Honors also require two years of foreign language.

19

Comparison of Hathaway Scholarship Program Requirements

- It can be difficult to compare graduation requirements across states due to the way courses/credits are accumulated.
  - Two of the states focus on competency-based outcomes, Colorado and Massachusetts.
- All states that identify course requirements require English and mathematics:
  - Most states require 4 years of English and three years of math.
  - States with tiered diplomas required a 4th year of math for the advanced diploma.

20

Comparison of Hathaway Scholarship Program Requirements

- On average, states with course requirements included three years of social studies and three years of science.
- Foreign language requirements varied, tending to be either included in a broad category where students could elect to take the courses (such as world language, arts, or CTE) or not required.
- CTE requirements varied with about half including in some capacity
  - most frequently as an option from a category of electives
  - New Jersey and Montana required a year for all students and Indiana encouraged elective choices to be college and career course options
- Other requirements can include fine arts, humanities, physical education, health, and personal finance and economics.

21

Comparison of Hathaway Scholarship Program Requirements

- Hathaway requirements are aligned to the University of Wyoming's admission requirements at the Honors and Performance level.
- Comparable universities in the benchmark states had similar coursework requirements.
- GPA and ACT/SAT score minimums or the range for the middle 50 percent of entering students were comparable to the requirements of the Performance or Honors Level.
- South Dakota and Utah have similar scholarship programs that are merit-based and with eligibility requirements that are somewhat similar to those of the Hathaway Scholarship.

22

Comparison of Special Education Requirements

- Individuals with Disabilities Education Act (IDEA) requires all states to provide a free appropriate public education (FAPE) to all students with disabilities in the least restrictive environment (LRE) possible.
  - Generally, there is minimal variation from state to state in their requirements for special education students.
  - The study team examined a number of areas where there could be variation: whether states had optional alternate achievement standards, and their age ranges for eligibility and transition services

23

Comparison of Special Education Requirements

- Similar to Wyoming, all regional and selected high performing states have alternate achievement standards in ELA, mathematics, and science.
- Colorado, Indiana, Massachusetts, and Virginia have alternate standards in social studies and/or history, although students may not be tested in these areas.
- Except for two states (Nebraska which starts at birth and Virginia which starts at age 2), all states have an age range for eligibility for services similar to that of Wyoming which is ages 3-21.
- In most cases, the age range for delivery of transition services is like that of Wyoming, which is ages 16-21.

24

Comparison of English Language Learner Requirements

- Most comparison states identify ELL students through performance on the ACCESS for ELLs assessment.
- Wyoming and all but one state- Nebraska- use the WIDA English Development Standards for their ELL students.
- No states have set program models for serving ELL students and instead follow the federal requirement that any program of service or curriculum provided to ELLs must be research or evidence-based.
  - The types of programs that meet this requirement and are noted in Wyoming and the comparison states include: two-way immersion/dual language, transitional bilingual education, ESL pullout, content-based ESL, sheltered English instruction, structured English immersion, heritage language, specially designed academic instruction in English, and native language literacy.

25

Comparison of Gifted and Talented Requirements

- Definitions for gifted and talented (GT) students vary state to state.
  - Most define as high performing or high ability students that need additional supports and services
  - Typically specific to academic or intellectual capability, some states have broader definitions that also includes high performance capability in creative or artistic areas, leadership, or particular fields.
- While Wyoming requires that programs are provided for gifted students as part of the basket of goods and services, it does not specifically mandate the services or supports that need to be provided.
  - Less than half of states have state mandates about how to serve GT students
    - If mandated, differentiated instruction is most frequently noted.

26

AUGENBLICK, PALAICH AND ASSOCIATES

Wyoming School Funding Model Recalibration: Implementing Alternative Approaches to Recalibration

Justin Silverstein, Amanda Brown and Mark Fermanich, APA

Presentation to the Select Committee
Casper, WY
November 2017

1

Presentation Topics

- Implementing Three Alternative Approaches:
  - Professional Judgment Study
  - Modified Successful Schools Study
  - Statistical Study
- Comparison of Resources Across Approaches

2

Alternative Approaches

- Employed three approaches to determine what resources were needed to provide the required basket of goods and services:
  - Professional Judgement
  - Modified Successful Schools
  - Statistical
- The resources identified in the professional judgment and successful schools approach will be compared against the current legislative model and the 2015 Evidence-based Study recommendations.

3

Professional Judgment (PJ) Study

- Relies on the experience and expertise of Wyoming educators to identify the resources needed to ensure all students can meet state standards (in Wyoming, the basket of goods and services)
- Convened 8 PJ panels between September and November
  - 3 School-Level Panels: Elementary, Middle, and High School
  - 3 Special Needs Panels: At-risk/ELL Panel, Special Education Panel, CTE Panel
  - 1 K-12 School/District Panel
  - 1 Statewide Review Panel
- Panelists included teachers, principals, superintendents, CFOs, technology specialists, Special Education administrators, and ELL/Student Services administrators
  - Worked with professional associations to identify participants for all PJ panels

4

Professional Judgment (PJ) Study

- Resources (personnel, non-personnel costs, technology and additional programs) were identified for a series of representative schools and districts based upon average schools and districts in Wyoming:
  - 3 elementary schools: 150, 210 and 300 students
  - 3 middle schools: 150, 300, and 525 students
  - 3 high schools: 200, 400 and 1,000 students
  - 1 K-12 school/district of 104 students
  - 4 districts of 500, 1,200, 3,025, and 10,700 students
- Resources were identified for all students (base), as well as the additional resources needed for at-risk, ELL and special education students
  - Resources for gifted and talented, and CTE included in base resources
- Resources can be examined as a specific set of resources, similar to the current model to generate funding, or can be converted to a base cost and adjustments for student needs, and school and district characteristics

5

Professional Judgment (PJ) Study

- **Key Resources Identified**:
  - Teachers
    - Class sizes of 16:1 in grades K-2, 18:1 in grade 3, and 22/23:1 in grades 4-12.
      - Lower in K-12 school (1 teacher per grade)
    - Specials/elective teachers staffed at 20% of core teachers in elementary, and 33% of core teachers at the secondary level
  - Instructional Support
    - Instructional Facilitators and Technology Specialists to provide coaching to teachers
    - Library/Media Specialists and Paraprofessionals to provide a 1.0 combined position at each school
  - Student Support
    - Student support position (could include counselor, social worker, behavior specialist) at a ratio of 200:1
    - 1.0 nurse per campus

6

Professional Judgment (PJ) Study

- **Key Resources Identified (continued)**:
  - Administration
    - Assistant principals at secondary level (1 per 350 students)
  - Support for At-Risk Students
    - Teacher Tutor/Interventionists and Instructional Aides
    - Student Support staff
    - Extended day/extended year opportunities
  - Support for ELL students
    - ELL teachers and instructional aides, interpreter support
  - Support for Special Education students
    - Discussed resources for three levels of need: mild, moderate, severe
      - Special Education teachers and instructional aides at low student ratios
      - Related services
    - However, strong emphasis on not changing from the 100% reimbursement model that panelists feel best meets the needs of students

7

Professional Judgment (PJ) Study

- **Key Resources Identified (continued)**:
  - CTE programs
    - Provide CTE opportunities to 100% of middle and high school students, by providing CTE teachers to lower class sizes in CTE courses at high school; supplies and materials at both middle and high school
  - Preschool
    - Voluntary half-day preschool for all four year olds
  - Technology
    - One to one student devices
  - Other costs, such as supplies and materials, student activities, and professional development based upon actual district expenditures for past three years
  - Salaries and benefits: use actual district salaries, which are higher than current funded in the model

8

Professional Judgment (PJ) Study

- **Key Resources Identified (continued)**:
  - Size adjustment
    - Based upon the different representative schools created, APA was able to determine the impact of school and district size on resource needs and develop a size adjustment for elementary, middle, and high school grade bands as well as an adjustment for district size
      - Size adjustment formulas used as an alternative to creating funding "cliffs" within a model by differentiating resources above and below a certain threshold
      - Addresses diseconomies due to size, such as the need for smaller class sizes or more teachers to provide the same basket, higher non-personnel costs such as supplies and materials, student activities, and fixed positions needed such as principal and clerical staff

9

Modified Successful Schools Study

- The Successful Schools approach examines the resources employed by schools that are performing better than their peers
- In Wyoming, successful schools were identified based on performance on the state's accountability system over three years
  - Schools were determined to be successful if they received the designation of "Exceeding Expectations" in two out of three years, and at least "Meeting Expectations" in the other year
  - 56 schools identified as successful based upon this criteria
- Study team conducted 12 school site visits
- The study team also analyzed staffing and expenditure data provided by WDE for all 56 successful schools

10

Successful Schools

- The 56 successful schools examined during the data analysis are included as a separate document.
- The following 12 successful schools were also visited to gather additional qualitative detail:
  - Albin Elementary, Laramie 2
  - Big Horn High School, Sheridan 1
  - Big Piney Middle School, Sublette 9
  - Douglas Middle School, Converse 1
  - Evansville Elementary, Natrona 1
  - Gilchrist Elementary, Laramie 1
  - Glenn Livingston Elementary, Park 6
  - Jackson Hole High School, Teton 1
  - Meeteetse School, Park 16
  - Paintbrush Elementary, Campbell 1
  - Snowy Range Academy, Albany 1
  - Truman Elementary, Sweetwater 2

11

Modified Successful Schools Study

- **Common Themes from Site Visits**
  1. A strong, collaborative culture across teachers. Schools developed this by:
     a. Providing professional development support and coaching
     b. Creating blocks of common time for teachers to meet, plan, and collaborate together with the support of their instructional facilitator
     c. Ensuring that data plays a central role in all decision making, and that training and regular coaching is provided on the use of formative and summative assessments and the use of resulting data to inform instruction
  2. Added student support outside regular school time
     a. Most held after school programs to provide extended learning time for struggling students
     b. Several schools operated before school tutoring and summer school programs

12

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  3. Small Class Sizes
     - Class size ratios varied from 8-25 students per teacher in the schools APA visited (varying by school size and school level)
     - In the cases where schools had higher ratios, principals expressed concern over the impacts that higher numbers of students have on both teacher instructional capacity and student performance
     - Small class sizes were cited by school leaders as critical to preserving their ability to tailor instruction to each student's needs
  4. Instructional Interventions
     - Currently, each school visited placed an emphasis on providing students with tailored interventions. Examples included:
       - Tutors/interventionists to pull students into small groups based on ability

13

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  4. Instructional Interventions (continued):
     - In a few instances, schools utilized high performing students in later grades to tutor and create role models for students in earlier grades
     - Other schools created blocks within their schedule where teachers could pull certain students back into their classroom for extended teaching periods, or could send students to other classrooms and teachers for additional support
  5. Support for Special Education and ELL students
     - For special education students, the successful schools focused on delivering instruction in the regular classroom rather than pulling these students out into separate classrooms of their own
       - Principals at most schools strongly believed in prioritizing "push-in" services over "pull-out programs"
       - 100 percent reimbursement was essential to providing needed staffing and services

14

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  5. Support for Special Education and ELL students (continued):
     - English Language Learner (ELL) population levels varied at the schools visited
     - Many schools had very few students requiring ELL supports. In schools were ELL populations were low, the school (or in some cases district) employed a para-professional or support staff to support the students
     - At schools with larger ELL populations, ELL classroom teachers offered both push-in and pull-out services. Schools also placed an emphasis on intervening in earlier grades to try to prevent falling behind in later years

15

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  6. Added support to address student emotional and health needs and family/parent outreach
     - Strong relationships between the school, teachers, students and parents
       - Culture of high expectations for all students and assure their students that the schools' teachers and staff care about them
       - Examples of programs to build student and family relationships:
         - » Home rooms
         - » Family liaisons
         - » "Parent Academies"
     - Full time counselors to support student social-emotional needs and maintain strong relationships with parents, especially those whose children have specific behavioral or emotional needs that must be addressed.
       - Reducing behavior issues to lower classroom interruptions so that teachers can focus their efforts on instruction
       - At the secondary level, support students to identify career interests and to help tailor education plans for students to prepare them for postsecondary and workforce success

16

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  6. Added support to address student emotional and health needs and family/parent outreach (continued)
     - Many of the schools have also implemented positive behavior intervention and support (PBIS) and anti-bullying programs to address behavior problems while minimizing suspending or expelling students.
  7. Salaries and Benefits
     - School leaders indicated a key to the success of schools is the talent of the staff, and the ability to attract and retain teachers
       - Competitive salaries essential
         - » Compared to highest performing districts in neighboring states, not just the state averages there
         - » Compared to other professions

17

Modified Successful Schools Study

- **Common Themes from Site Visits (continued)**
  8. Technology
     - Technology use varied, some using one-to-one devices, such as Chromebooks, others using mobile carts and labs
     - Leaders in a number of the schools APA interviewed, however, believe that technology plays a critical role in their success
       - In particular, where schools utilize one-to-one devices for students, the technology plays an important role in providing teachers with nearly instant access to data regarding student understanding of academic material

18

Statistical Approach

- Regression-based statistical techniques to estimate an equation that best fits the available data:

$$S_{it} = \alpha + \beta_1 T_{it} + \beta_2 T_{it-1} + \beta_3 P_{it} + \beta_4 Z_{it} + \beta_4 F_{it} + \varepsilon_{it} + u_{it}$$

S_{it} : Per-pupil expenditures in district *i* in year *t*
T_{it} : Public school performance (and lagged performance, T_{it-1})
P_{it} : vector of input prices
Z_{it} : characteristics of the student body
F_{it} : other characteristics of the school district such as its size
E_{it} : vector of unobserved characteristics of the school district
u_{it} : random error term
β's : marginal impact on expenditures from one-unit change in associated variable

19

Statistical Approach

- Regression-based statistical techniques to estimate an equation that best fits the available data:

$$S_{it} = \alpha + \beta_1 T_{it} + \beta_2 T_{it-1} + \beta_3 P_{it} + \beta_4 Z_{it} + \beta_4 F_{it} + \varepsilon_{it} + u_{it}$$

→ If T_{it} = percent of students achieving at a proficient level on state tests, then for two *identical* schools, a one-unit difference in the percent proficient would be associated with a β_1 difference in per-pupil expenditures

- Can use results to predict the minimum amount of money necessary to achieve various educational performance goals for districts with various characteristics
- Base costs = minimum costs predicted for a district with low or average values of all the included cost factors
- Marginal costs for specific cost factors determined by β_4 coefficients

20

Strengths and Weaknesses

Strengths

- Directly quantifies relationship between outcomes and costs for districts with variety of characteristics
- Provides straightforward estimate of base and marginal costs

Weaknesses

- Cost function is a 'black box' approach → does not provide information on *how* money is spent
- Based on observed data → not appropriate to extrapolate to different context
- Underlying theory makes strong assumptions about district behavior (maximizing included outcomes, efficient use of resources)
- Statistical reliability requires adequate data

21

Statistical Challenges for Wyoming

- With no district-level outcomes in the accountability system, the analysis had to be conducted at the school level. Requires deciding what to do with district-level expenditures
  - Used different models: one with school expenditures only; one with district expenditures allocated equally across schools
- Cost function should be estimated for schools with similar cost structures (elementary, high school)
  - To do this in Wyoming, schools with different cost structures (such as K-12 schools) were excluded
  - Middle schools were also excluded because of the variation in grade configurations

22

Statistical Challenges for Wyoming

- Small sample size reduces statistical reliability
  - 175 elementary schools and 59 high schools with valid data
- Cannot include all relevant outcome measures
  - More variables increases problems with statistical reliability, so want to include smallest set of variables possible
  - Accountability system includes many different measures; excluding some may mean that full costs are not estimated accurately

23

Data: Elementary Schools

Variable	Mean	Std Dev	Minimum	Maximum
Per-Pupil School Expenditures, All	$13,628	$6,643	$3,318	$59,068
Per-Pupil School Expenditures, Operating	$13,003	$5,630	$3,318	$59,068
Per-Pupil School + District Expenditures, All	$22,276	$10,747	$13,768	$122,941
Per-Pupil School + District Expenditures, Operating	$19,420	$6,073	$13,521	$64,132
Achievement 2016-17	59.5%	12.7%	13.0%	91.0%
Achievement 2015-16	59.6%	12.8%	7.0%	96.0%
Growth 2016-17	51.6	10.0	28.0	82.5
Growth 2015-16	52.0	10.5	23.0	85.5
Equity 2016-17	53.9	12.8	26.0	94.0
Equity 2015-16	53.4	13.0	18.0	92.0
Teacher Cost Index	1.364	0.061	1.303	1.453
Enrollment	253.45	138.63	6	822
Percent At-Risk	42.6%	18.1%	0.0%	100.0%
Percent ELL	4.1%	6.5%	0.0%	36.9%
Percent Special Education	14.5%	4.7%	0.0%	28.0%
Percent High-Cost Disabilities	1.3%	1.1%	0.0%	5.7%

24

Data: High Schools

Variable	Mean	Std Dev	Minimum	Maximum
Per-Pupil School Expenditures, All	$18,216	$8,539	$8,164	$63,663
Per-Pupil School Expenditures, Operating	$15,911	$5,693	$8,164	$37,974
Per-Pupil School + District Expenditures, All	$29,769	$16,924	$16,785	$131,060
Per-Pupil School + District Expenditures, Operating	$23,663	$7,134	$15,284	$44,997
Achievement 2016-17	34.1%	10.5%	5.0%	57.0%
Achievement 2015-16	36.3%	12.2%	4.0%	61.0%
Growth 2016-17	49.5	6.4	32.0	63.5
Growth 2015-16	48.8	6.2	28.0	62.0
Equity 2016-17	50.3	10.5	26.0	76.0
Equity 2015-16	50.8	7.9	35.5	65.0
Graduation Rate 2016-17	84.6%	11.8%	48.5%	100.0%
Graduation Rate 2015-16	83.9%	12.9%	36.4%	100.0%
Teacher Cost Index	1.36	0.06	1.30	1.45
Enrollment	425.49	448.22	15	1790
Percent At-Risk	31.8%	17.0%	4.8%	100.0%
Percent ELL	2.0%	3.3%	0.0%	21.5%
Percent Special Education	12.2%	4.3%	6.2%	33.3%
Percent High-Cost Disabilities	1.7%	1.2%	0.0%	6.7%

25

Results: Elementary Schools

	School-only operating expenditures	District + School operating expenditures
Achievement 2016-17	-0.616*	-0.213
	[0.300]	[0.176]
Achievement 2015-16	0.454	-0.085
	[0.305]	[0.179]
Teacher Cost Index	-0.620*	0.129
	[0.312]	[0.183]
Enrollment (log)	-0.592**	-0.335**
	[0.166]	[0.097]
Enrollment-squared	0.040*	0.014
	[0.018]	[0.011]
Percent At-Risk	0.226+	0.137+
	[0.119]	[0.070]
Percent ELL	0.700*	0.362*
	[0.301]	[0.177]
Percent Special Education	0.085	0.619*
	[0.457]	[0.268]
Percent High-Cost Disabilities	-0.229	0.412
	[1.879]	[1.101]
Constant	12.201**	11.040**
	[0.588]	[0.345]

26

Results: High Schools

	School-only operating expenditures	District + School operating expenditures
Achievement 2016-17	0.185	0.188
	[0.430]	[0.213]
Achievement 2015-16	-0.005	-0.134
	[0.356]	[0.177]
Teacher Cost Index	-0.571	0.217
	[0.512]	[0.254]
Enrollment (log)	-0.777**	-0.407**
	[0.264]	[0.131]
Enrollment-squared	0.051*	0.018
	[0.023]	[0.012]
Percent At-Risk	0.178	0.386**
	[0.254]	[0.126]
Percent ELL	0.839	0.323
	[1.150]	[0.571]
Percent Special Education	-0.395	0.017
	[1.132]	[0.562]
Percent High-Cost Disabilities	1.937	1.699
	[3.535]	[1.754]
Constant	0.185	0.188
	[0.430]	[0.213]

27

Results

- Coefficients on outcome variables are not statistically significant (high school model) or negative (elementary)
  - → Any resulting cost estimates would not be useful or reliable
  - → A "power analysis" found that the sample size, particularly for high schools, was too small to reliably distinguish whether results were due to actual differences in schools or to random chance
- Coefficients on school (student) characteristics are sometimes statistically significant, magnitudes are generally consistent with literature
  - → Could use these to support weights of 0.17-0.23 for at-risk and 0.35-0.70 for ELL in elementary schools

28

Comparison of Resources Across Approaches

The following slides compare the resources identified in key resource areas in the current legislative model as well as from:

1. 2015 Evidence-Based Study
2. Professional Judgement Approach Study
   - Note that identified resources presented will be for the largest representative school of each grade configuration, representing the "base," which would then be adjusted for a school's size using a size adjustment formula
3. Successful Schools Study

Note: statistical approach not included

29

Teachers

Model Element	Legislative Model	2015 Evidence-Based Recommendation	Professional Judgment Panel Recommendations	Successful Schools
Core and Elective Teachers				
Overall Teacher Staffing	*Across all grades, an average student to teacher ratio of 15:1*	*Across all grades, an average student to teacher ratio of 18:1*	*Across all grades, an average student to teacher ratio of 16:1*	*Across all grades, an average student to teacher ratio of 16:1. Successful school site visits highlighted the importance of small class sizes to support positive relationships and differentiated instruction*
Full-Day Kindergarten	Full-day kindergarten provided. At least one school in each district must have a full-day kindergarten program	Full-day kindergarten provided	Full-day kindergarten provided	Full-day kindergarten provided
Elementary Core Teachers/ Class Size	Grades K-5/6: 16. *Average class size of 16.*	Grades K-3: 15; Grades 4-5: 25 *Average class size of 18.3.*	Grades K-2: 16; 3: 18; 4-5: 22 *Average class size of 18.3.*	Elementary Schools: Average class size overall was 17.1 for schools ranging from 10 to 560 students. For elementary schools at or above 288 ADM, the average class size was 18.4.
Secondary Core Teachers/ Class Size	Grades 6-12: 21	Grades 6-12: 25	Grades 6-8: 23 Grades 9-12: 22	Secondary Schools: Average class size overall was 19.3 for middle and high schools between 47 and 765 students. For middle and high schools over 300 students, the average class size was 21.3.
Elective/ Specialist Teachers	Elementary Schools: 20% of core elementary school teachers	Elementary Schools: 20% of core elementary school teachers	Elementary Schools: 20% of core elementary school teachers	Elementary Schools: On average, specials are staffed at about 16% of core teachers
	Middle Schools: 33% of core middle school teachers	Middle Schools: 20% of core middle school teachers	Middle Schools: 33% of core middle school teachers	Middle Schools: On average, specials/electives are staffed at about 38% of core teachers
	High Schools: 33% of core high school teachers	High Schools: 33% of core high school teachers	High Schools: 33% of core high school teachers	High Schools: On average, specials/electives are staffed at about 51% of core teachers. *Note, only one high school was over 150 students, so variation is likely due to size and minimum staffing.*
Additional CTE Teachers	Apply an additional weighting factor of 29% to vocational education (CTE) student FTEs. Based upon weighted student count, provide an additional teacher for every 21 students.	No additional vocational education teachers resourced	1.0 additional CTE teacher per 400 high school ADM to reduce class sizes in CTE courses	Included above

30

Teachers

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Core and Elective Teachers				
6. Minimum Teachers and Staff Resources	Minimum Teachers Elementary Schools: a minimum of 6.0 teachers provided for elementary school grade bands with ADM greater than 49 Middle Schools: a minimum of 8.0 teachers provided for middle school grade bands with ADM greater than 49 High Schools: a minimum of 10.0 teachers provided for high school grade bands with ADM greater than 49 For school grade bands of 49 and below, minimum teacher resources are provided on a prorated basis at 1.0 teacher for every 7 students with a minimum of 1.0 teacher. Additionally, there is a "Small District Adjustment," which provides districts with 243 or fewer ADM a minimum of one teacher at each school for every grade level ADM exists Minimum Staff (Small School Adjustment) For elementary, middle and high schools of 49 ADM & below, minimum staff resources are provided on the basis 1.0 assistant principal and 1.0 teacher for every 7.0 ADM, with a minimum of 1.0 teacher	Minimum Teachers Elementary Schools: a minimum of 7.0 teachers provided for elementary school grade bands with ADM greater than 49 Middle Schools: a minimum of 7.0 teachers provided for middle school grade bands with ADM greater than 49 High Schools: a minimum of 7.0 teachers provided for high school grade bands with ADM greater than 49 For school grade bands of 49 and below, minimum teacher resources are provided on a prorated basis at 1.0 teacher for every 7 students, with a minimum of 1.0 teacher Non-Teacher Staff Resources for schools with ADM less than the highest grade band's one-section school (96 elementary, 105 middle and high school): 1.0 assistant principal position is provided and other non-teacher staff elements are resourced based on total school ADM at the highest grade band and prorated down from a one-section school for all schools, where identified. Additionally, resources generated by the at-risk and ELL student counts are provided for all schools	For smallest elementary schools, recommend 1.0 per grade at 50 students, with a minimum of 1.0 teacher for a school. At secondary schools of similar size, a minimum of 8.0 teachers was discussed. Recommend school size adjustment (formula) to adjust base resources	For elementary schools of less than 100, on average 1.0 teacher per grade. Only two middles and high schools less than 100, so no average minimums reported. For K-12 schools, about 16 teachers total (11 core, 5 elective)

31

Instructional and Student Support

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Instructional and Student Support				
Instructional Facilitators/ Coaches	Resourced equal to 54% of the 2015 Evidence-Based recommendation for 2017-18 and 30% for 2018-19. Included in the block grant.	Provide 1.5 instructional facilitator/coaches for prototypical elementary (288 ADM) and secondary (315 ADM) schools at the highest grade band level, with a minimum of 1.0 FTE for each school districts; Fund as a categorical grant.	Provide 1.0 instructional facilitator/coach per 15 teachers	Most successful schools had instructional facilitators at 1.0 per 80 ADM, or 1.0 per every 25 teachers
Tutors/Tier 2 Interventionists	Provide a minimum of 1.0 tutor position for each prototypical school, resourced at the highest grade band level, less tutor positions provided on basis of at- risk student count (1.0 tutor position for every 100 at-risk students)	Provide 1.0 tutor position for each prototypical school (288 ADM elementary school and 315 ADM middle or high school), resourced at the highest grade-band level	Provide 1.0 Tutor/Interventionist per 300 Elementary and Middle School ADM, 1.0 per 400 High School ADM	Elementary: over half had a tutor position at 1.0 per 230 ADM on average. Middle and High School: only ¾ schools had a tutor position with a high variation in staffing ratio
Student Support Staff	Core Pupil Support Staff: A minimum of 1.0 pupil support staff position is provided for each prototypical school, resourced at the highest grade band level, less pupil support staff positions provided on basis of at-risk student count (1.0 pupil support staff position for every 100 at-risk students)	Core Pupil Support Staff: Only provided on the basis of at- risk student counts	Provide 1.0 Student Support position (could include counselors, social workers, behavior specialists) per 200 ADM	Successful schools visited noted the importance of social emotional support staff to meet student needs and ensure teachers could focus on instruction in the classroom. Elementary: Not every school had a student support position less than 288 ADM. Above that threshold, most had counselors at a ratio of 380:1. Middle: all schools had student support staffed on average at 250:1. High Schools: all schools had student support staff at an average ratio of 170:1
	Core Guidance Counselors: Provide 1.0 guidance counselor position for every 250 middle and high school students	Core Guidance Counselors: Provide 1.0 guidance counselor position for each prototypical elementary school (288 ADM) and 1.0 guidance counselor position for every 250 middle and high school ADM		
Nurses	No nurses resourced directly, but can utilize minimum pupil support resources as nurse positions	Provide 1.0 nurse position for every 750 ADM	Provide 1.0 nurse position for each campus	On average, successful schools had a 0.5 nurse, with larger schools more likely to have a 1.0 nurse

32

Instructional and Student Support

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Instructional and Student Support				
Supervisory and Instructional Aides	Provide funding at an amount equal to 2.0 supervisory aide positions for each prototypical elementary school (288 ADM); 2.0 supervisory aide positions for each prototypical middle school (315 ADM); 5.0 supervisory aide positions each prototypical high school (630 ADM); resourced at the highest-grade prototype using total school ADM	Provide funding at an amount equal to 2.0 supervisory aide positions for each prototypical elementary school (288 ADM); 2.0 supervisory aide positions for each prototypical middle school (315 ADM); 3.0 supervisory aide positions each prototypical high school (630 ADM); resourced at the highest-grade prototype using total school ADM	Paraprofessionals: Provide 1.0 per 100 Elementary ADM or 300 Middle School ADM or 400 High School ADM. Supervisory Aides: Provide 1.0 per 150 Elementary and Middle ADM or 200 High School ADM. Floor of 1.0 per campus	Instructional Aides: On average, 1.0 FTE per 175 Elementary ADM and 1.0 FTE per 350 middle school ADM. Used in half of the successful high schools, at a similar ratio to middle school. Most schools did not have supervisory aides
Librarians and Librarian Media Technicians	Librarian Positions: Provide 1.0 librarian position for prototypical elementary schools (288 ADM) prorate up and down, below and above 288 ADM. For middle or high schools with ADM between 105 and 630 ADM, 1.0 librarian position. Below 105 ADM prorate down and above 630 ADM prorate up Library Media/Computer Technician Position: Provide 1.0 library media/computer technician position for every 315 middle and high school ADM, prorated up and down	Librarian Positions: For elementary schools, provide librarian resources at the following levels: for elementary schools with ADM less than 96 ADM, prorate a 0.50 librarian position down; for elementary schools with ADM between 96 and 143, provide a 0.50 librarian position; for elementary schools with ADM between 143 and 288, provide a 1.0 librarian position prorated down to 143 ADM. For middle and high schools, provide librarian resources at the following levels: for middle and high schools with ADM less than 105 ADM, prorate a 0.50 librarian position down; for middle and high schools with ADM between 105 and 157.5, provide a 0.50 librarian position; for middle and high schools with ADM between 157.5 and 315, provide a 1.0 librarian position prorated down to 157.5 ADM. For all school districts, provide a minimum of 1.0 librarian position Library Aide Positions: For elementary schools, provide library aide resources at the following levels: for elementary schools with ADM greater than 288, prorate a 1.0 library aide position between 288 and 576 ADM; for elementary schools with more than 576 ADM, provide an additional library aide position for every 630 ADM. For middle and high schools, prorate up 1.0 library aide from 315 to 630 ADM; above 630 ADM prorate up 1.0 library aide for every additional 630 ADM. School Computer Technician Position: Provide 1.0 school computer technician position for every 630 elementary, middle and high school ADM, prorated up and down, with a minimum of a 0.5 position for each district	Provide librarian/media specialists at a ratio of 300:1 up to 1.0 FTE. If less than 1.0 FTE, provide library/media paraprofessional to make up difference School Computer Technician Position: Provide 1.0 computer technician per 250 ADM	Librarian Positions: Elementary: about 50% successful schools did not have certified librarian, 30% had a full-time librarian, and 35% had a partial librarian FTE (0.3 on average). Middle and High School: about 25% had a full-time librarian, 50% had a partial librarian FTE (0.3 on average), and 35% did not have a certified librarian. All schools over 300 ADM had a combined 1.0 FTE position between the librarian FTE noted, and library/media aides. Below 300 ADM, most schools had a partial library/media aide if they did not have a librarian, or had a combination of the two

33

Administration

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Administration and Clerical Staff				
Principals and Assistant Principals	Provide 1.0 principal position for all schools down to 96 ADM for elementary schools and 105 ADM for middle and high schools, prorated by ADM below 105 ADM down to 49 ADM Provide 1.0 assistant principal position for every 288 elementary ADM beginning at 289 ADM; 1.0 assistant principal for every 315 ADM middle and high school beginning at 316 ADM Resourced at the highest grade band level	Provide 1.0 principal position for all schools down to 96 ADM for elementary schools and 105 ADM for middle and high schools Provide 1.0 assistant principal position for every 288 elementary ADM beginning at 289 ADM and for elementary schools below 96 ADM; 1.0 assistant principal for every 315 ADM middle and high school beginning at 316 ADM, and for middle and high schools below 105 ADM Resourced at the highest grade band level	Provide 1.0 principal for every campus. Above 350 ADM, assistant principals provide at a ratio of 1.0 per 350 ADM at secondary level	Across grade configurations, schools less than 125 students had a partial principal position (ranging from a 0.2 to a 0.9, with a 0.5 FTE average). Middle and High Schools over 315 ADM had an assistant principal
School Site Secretarial and Clerical Staff	Secretarial Staff: Provide 1.0 secretary position for all schools down to 96 elementary ADM and 105 middle and high school ADM, prorated by ADM below these ADM levels. Provide an additional 1.0 secretary position for every 288 elementary ADM starting at 289 ADM and every 315 middle and high school ADM starting at 315 ADM Clerical Staff: Provide 1.0 clerical position for every 288 elementary ADM and 315 middle school ADM, prorated above and below 288 elementary ADM and 315 middle school ADM. Provide 4.0 clerical positions for every 630 high school ADM, prorated above and below 630 ADM All FTE positions prorated up or down from prototypical level and resourced at the highest-grade prototype using total school ADM	Secretarial Staff: Provide 1.0 secretary position for all schools down to 96 elementary ADM and 105 middle and high school ADM, prorated by ADM below these ADM levels. Provide an additional 1.0 secretary position for every 288 elementary ADM starting at 289 ADM and every 315 middle and high school ADM starting at 315 ADM Clerical Staff: Provide 1.0 clerical position for every 288 elementary ADM and 315 middle school ADM, prorated above and below 288 elementary ADM and 315 middle school ADM. Provide 2.0 clerical positions for every 630 high school ADM, prorated above and below 630 ADM All FTE positions prorated up or down from prototypical level and resourced at the highest grade prototype using total school ADM	Elementary: provide 1.0 Office Manager and 1.5 clerical positions in base school of 300 Middle: provide 1.0 Office Manager and 3.0 clerical in base school of 525 High: provide 1.0 Office Manager and 6.0 clerical positions in base school of 1000	For schools over 300, clerical staff at 1.0 FTE per 250 students (1.0 FTE per 175 ADM overall)
Substitute Teachers	Provide for 5% (8.75 days) of core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily salary equal to $102.97 plus 7.65% for social security and Medicare benefits ($110.85). Substitute resources provided for small schools	Provide for 5.715% (10 days) of core teachers, elective teachers, minimum teacher positions, tutors, ELL teachers, instructional coaches and teacher positions for summer school and extended day. Resourced at a daily salary equal to $102.97 plus 7.65% for social security and Medicare benefits ($110.85). Daily salary adjusted by regional cost adjustment	$270 per ADM for substitutes	District resources not addressed in Successful Schools

34

Non-Personnel Costs

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Model	Successful Schools
Non-Personnel Costs				
Gifted and Talented Students	Provide an amount equal to $40.29 per ADM	Provide an amount equal to $40.00 per ADM	Provide an amount equal to $40.00 per ADM *1.0 FTE Gifted and Talented Teacher per 420 elementary ADM* ***included in prior*** *Specials/Electives Staffing*	Elementary: 25% had a partial FTE (0.2 on average), and 10% had a 1.0 FTE (all 3 schools over 350). Two middle schools and one K-12 also had a partial GT teacher FTE, all remaining schools did not have an identified GT teacher
Intensive Professional Development	Provide 10 days of student free time for training in salary levels; $125.90 per ADM for trainers	Provide 10 days of student free time for training in salary levels; $125.00 per ADM for trainers	10 days of professional development included in current contract amount; $150 per ADM for trainers, stipends, materials, etc.	Collaboration and professional learning communities stressed as critical. District resources not addressed
Instructional Materials	Provide $191.37 per ADM.	Provide $190.00 per ADM for elementary, middle and high schools	Provide $250 per elementary ADM, $312 per middle ADM, and $472 per high school ADM	On average, about $250 per ADM.
Short Cycle/ Formative Assessments	Provide $25 per ADM; not subject to an ECA	Provide $25.00 per ADM; not subject to an ECA	Provide $30 per ADM.	Not addressed
Technology and Equipment	Provide an amount equal to $250 per ADM	Provide an amount equal to $250.00 per ADM; not subject to an ECA	*Provide an amount equal to $260 per ADM for annual technology hardware. Technology licensing/software and supplies in supplies and materials amount above. (Finalizing technology prices)*	Specific cost not addressed. Successful schools visited varied on if they had 1 to 1, or mobile labs
CTE Equipment/ Materials	Provide an amount equal to $9,428.77 per CTE teacher.	Provide an amount equal to $9,361.46 per vocational education teacher FTE	$25 per middle school ADM and $100 per high school ADM.	Not addressed
Extra Duty Funds/Student Activities	Funded at grade-band level, by school. For grades K-5, provide an amount equal to $23.79 per student. For grades 6-12, use inverse sliding scales based on student enrollment for grades 6-8 and grades 9-12. Grades 6-8 school funding levels range from $782.54 for 1 ADM and $202.18 per ADM for a school of 1,260 ADM. Grades 9-12 funding levels range from $2,017.22 for 1 ADM and $594.63 per ADM for a school of 1,260 ADM. Fund alternative schools as any other school.	Provide a total level of funding equal to $314.66 per ADM, but utilize a per ADM amount for elementary schools and sliding scale amounts for middle and high schools, at reduced levels. For elementary grades, provide an amount equal to $23.62 per ADM. For middle and high schools, use inverse sliding scales based on ADM. Middle school funding levels range from $776.95 for 1 ADM and $200.74 per ADM for a school of 1,260 ADM. High school funding levels range from $2,002.82 for 1 ADM and $590.39 per ADM for a school of 1,260 ADM. For alternative schools, fund as any other school. Sixth grade elementary students funded using the elementary per ADM amount and ninth grade students included in the high school ADM for the schools they would attend	$60 per Elementary ADM, $300 per middle school ADM, $720 per high school ADM.	$60 per Elementary ADM, about $350 per middle school ADM, about $650 per high school ADM

35

At-Risk

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Additional Supports for Special Needs Students				
At-Risk Tutors	Provide 1.0 tutor position for every 100 at-risk students. Not provided for small or alternative schools	Provide 1.0 tutor position for every 125 at-risk students	Panelists identified the following resources: Elementary: tutors/interventionists at 1.0 FTE per 80 at-risk students, 1.0 FTE instructional aide per 40 at-risk students, and 1.0 FTE student support position for every 225 students. Middle: tutors/interventionists at 1.0 FTE per 60 at-risk students, 1.0 FTE instructional aide per 50 at-risk students, and 1.0 FTE student support position and 1.0 FTE family liaison for every 225 students High school: tutors/interventionists at 1.0 FTE per 50 at-risk students, and 1.0 FTE student support position and 1.0 FTE family liaison for every 300 students. For supplies and materials, $100 per at-risk student. For all grades, extended day and extended year to 50% of at-risk students at a teacher ratio of 10:1 at elementary grades and 15:1 at secondary grades ***To allow for differing service models, provide a 0.30 weight for each at-risk ADM***	Tutors noted above, but difficult to disaggregate into at-risk vs. base. One school staffed an additional 1.0 FTE per 70 at-risk students (Title school)
At-Risk Pupil Support Staff	Provide 1.0 at-risk pupil support position for every 100 at-risk students. Not provided for small or alternative	Provide 1.0 at-risk pupil support position for every 125 at-risk students		Counselors noted above, who were cited as critical to success. Additional Title teachers at about 1.0 FTE per 100 at-risk students in qualifying schools
Extended Day Program Funding	For both extended-day and summer school programs, funding is provided outside of block grant and as a categorical grant at an amount equal to a 0.15 teacher FTE for every 30 at-risk students. Not provided for small or alternative schools. A minimum 0.50 FTE is provided for school districts that do not generate that amount based upon the district's at-risk count	Provide 1.0 teacher position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant		Most successful schools interviewed offered extended learning opportunities before or after school and during the summer to support struggling students
Summer School Funding	For both extended-day and summer school programs, funding is provided outside of block grant and as a categorical grant at an amount equal to a 0.15 teacher FTE for every 30 at-risk students. Not provided for small or alternative schools. A minimum 0.50 FTE is provided for school districts that do not generate that amount based upon the district's at-risk count	Provide 1.0 at-risk position for every 120 at-risk students. Provide resources outside the block grant as a categorical grant		
Alternative Schools	Provide funding for all staff at a ratio of 1.0 assistant principal and 1.0 teacher position for every 7 ADM	No separate formula; Fund as any other school	Identified resources to provide approved alternative programs or schools. For a program for 150 students: 18.2 teacher FTE (class size half that of a traditional high school), 1 instructional aide, support staff at a ratio of 100:1, a nurse at 375:1, 1.0 principal FTE, and 2.0 clerical FTE	Not addressed

36

ELL

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Additional Supports for Special Needs Students				
English Language Learner (ELL) Students	Provide 1.0 ELL teacher position for every 100 ELL students; Not provided for small or alternative schools	Provide 1.0 ELL teacher position for every 100 ELL students	Panelists identified the following resources: 1.0 ELL teachers per 45 elementary ELL students, or per 35 middle school ELL students, or per 25 high school ELL students, due to the increasing intensity of support needed for language acquisition in later grades. 1.0 ELL instructional aide per 15 ELL students and 1.0 FTE interpreter per 100 ELL students in all grades. To provide noted services, ***assign a 0.60 weight to each ELL student***	About half of the successful schools had an ELL population and of schools that did, a third did not provide ELL staffing. Another third provided ELL teachers, staffed on average at 1.0 FTE per 20 ELL students, and another third of schools with an ELL population provided 1.0 FTE ELL aide per every 30 students on average

37

Special Education

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Additional Supports for Special Needs Students				
Special Education	100% reimbursement of approved expenditures	100% reimbursement of approved expenditures	*Panelists strongly encouraged keeping the 100% reimbursement.* Needed resources were identified for three levels of special education - mild, moderate, and severe: Mild: 1.0 teacher and 1.0 instructional aide FTE per 14 mild special education students Moderate: 1.0 teacher FTE per 12 moderate special education students and 1.0 instructional aide FTE per every 2 moderate special education students Severe: 1.0 teacher FTE per 3 severe special education students, and 1.0 instructional aide FTE per 2 severe special education students Additional related service staff (Speech Pathologist, OT/PT Therapist, Case Manager, Assistive Technology Specialist, Psychologist, Transitions Coordinator, Community Living/Job Coordinator, Transition/Job Paraprofessional) were also identified at about 1.0 FTE Related Service Professional per 25 special education students (mild, moderate and severe) Additional dollars were identified for supplies and materials, adaptive equipment and technology, as well as dollars for Extended School Year (ESY), out of district placement and administration personnel at the district-level	Interviewed schools also indicated how important the 100% reimbursement model was to serving their students. Current special education staffing on average in successful schools was 1.0 special education teacher per 16 special education students, 1.0 instructional aide per 8 special education students, and 1.0 related service professional per 27 special education students

38

District Staff

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
District Resources				
Central Office Personnel/ Non-Personnel Resources	Central Office Personnel: 500 or fewer ADM: 3.0 administrative and 3.0 classified positions 1,000 ADM: 4.0 administrative and 4.0 classified positions. Position counts prorated down linearly between 1,000 to 501 ADM 3,500 ADM: 8.0 administrative and 10.0 classified positions. Position counts prorated down linearly between 3,500 to 1,000 ADM; Position counts prorated up linearly above 3,500 ADM Non-Personnel Resources: Provide an amount equal to $365.86 per ADM for non- personnel resources	Central Office Personnel: 500 or fewer ADM: 3.0 administrative and 3.0 classified positions 1,000 ADM: 4.0 administrative and 6.5 classified positions. Position counts prorated down linearly between 1,000 to 501 ADM 2,000 ADM: 5.5 administrative and 9.0 classified positions. Position counts prorated down linearly between 2,000 to 1,000 ADM 4,000 ADM: 8.0 administrative and 16.0 classified positions. Position counts prorated down linearly between 4,000 to 2,000 ADM 12,000 ADM: 24.0 administrative and 39.0 classified positions. Position counts prorated down linearly from 12,000 to 4,000 ADM. Position counts prorated up linearly above 12,000 ADM Non-Personnel Resources: Provide an amount equal to $363.25 per ADM for non-personnel resources	Central Office Personnel: At base district of 10,700 ADM: 17 administrators, 20 professionals, and 24 classified positions Non-Personnel Resources: provide $203 per ADM District-level size adjustment (formula) to account for diseconomies of scale due to district size, such as higher supplies and materials costs and minimum position needs	District resources not addressed

39

Parameters and Adjustments

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Student Counts/Definitions				
ADM	ADM used to generate resources is the greater of the prior year or the three-year average for each school.	ADM used to generate resources is the greater of the prior year or the three-year average for each school.	Not addressed.	Not addressed
At-Risk	At-risk students are defined as the unduplicated count of ELL students in grades K-12, free and reduced lunch eligible students in grades K-12, and mobile students in grades 6-12.	Same as legislative model definition.	Not addressed.	Not addressed
ELL	The definition of an Active EL student is a student who: is newly enrolled in the district or enrolled in the district after the state annual ELP assessment, ACCESS for ELLs™ was given in the prior school year; and has been identified and evaluated by the district as being an Active EL through the use of an ELP screening assessment; or o Is returning to the district from the previous school year; and o Took the state's annual ELP assessment in the prior school year and has not yet achieved the "proficiency" level. The state also includes students that have exited the EL program but are in the first two years of monitoring.	Same as legislative model definition.	Not addressed.	Not addressed.

40

Parameters and Adjustments

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Salary and Benefits				
Salary Levels	Superintendent: Base salary $77,260; Bachelor's premium $18,613; Master's premium $24,654; Doctorate's premium $29,678; State experience per year premium $208; District per ADM premium $4.13 Assistant Superintendent: 80% of Superintendent. Business Manager: Base salary $42,446; Bachelor's premium $18,613; Master's premium $24,654; Doctorate's premium $29,678; State experience per year premium $208; District per ADM premium $4.13 Principal: Base salary $71,645; Doctorate's premium $8,282; State experience per year premium $622; School per ADM premium $14.15 Assistant Principal: Base salary $58,275; Doctorate's premium $8,282; State experience per year premium $622; School per ADM premium $14.15 Teacher: Base salary $37,017; Master's premium $6,164; Doctorate's premium $13,449; Experience per year premium for 20 years or below $822; Experience per year premium for above 20 years $219 School Computer Technician: Base salary $38,432; Bachelor's or above premium $13,261; State experience per year premium $641 Supervisory Aide: Base salary $16,980; Bachelor's or above premium $1,977; State experience per year premium $273 School Secretary: Base salary $28,793; State experience per year premium $397 School Clerical: Base salary $22,152; State experience per year premium $305 Central Office Classified: Base salary $31,269; State experience per year premium $397 Central Office Maintenance and Operations: Base salary $31,526; State experience per year premium $467 Custodian: Base salary $25,593; State experience per year premium $467	Accept Legislative Model salaries as cost-based and used in the 2015 EB Model. Additionally, continue the labor market monitoring process currently in place	Use actual district salaries in model	Not specifically examined; Successful schools visited believed competitive salaries were essential to attracting and retaining the best staff

41

Parameters and Adjustments

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Salary and Benefits				
Health Insurance	Compute a health insurance composite amount for each generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year.	Compute a health insurance composite amount for each generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year.	Current approach recommended.	Not addressed
Benefits	Worker's Compensation: 0.70% of salary Unemployment Insurance: 0.06% of salary Retirement: 12.69% of salary within the block grant (7.12% employer share and 5.57% employee share) and reimburse actual expenditures as required by current law Social Security and Medicare: 7.65% (6.20% for Social Security and 1.45% for Medicare)	Worker's Compensation: 0.70% of salary Unemployment Insurance: 0.06% of salary Retirement: 12.69% of salary within the block grant (7.12% employer share and 5.57% employee share) and reimburse actual expenditures as required by current law Social Security and Medicare: 7.65% (6.20% for Social Security and 1.45% for Medicare)	Current benefit rates recommended.	Not addressed

42

Parameters and Adjustments

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Adjustments				
Size Adjustment (new element)	Currently minimum staffing is recommended at the school and district-level, with additional prorating of most but not all, positions.	Currently minimum staffing is recommended at the school and district-level, with additional prorating of most but not all , positions.	Recommend a school-level and a district-level size adjustment (formula) to base resources.	Not addressed
Regional Cost Adjustment	Provide the greater of the 2005 Hedonic Wage Index (HWI) or the average of the last six Wyoming Cost of Living Indices (WCLI), with a minimum of 1.0 (statewide average)	Adjust salaries by the 2015 OES CWI as calculated in Dr. Lori Taylor's report to the Select Committee	Not addressed as part of PJ approach; addressed in separate analysis	Not addressed
37. External Cost Adjustment	Monitoring process established by W.S. 21-13-309(u). Recommended cost indices include: • Professional staff – use a Wyoming specific Comparable Wage Index; • Non-professional staff – use a Wyoming specific High School Comparable Wage Index; • Supplies and Materials – use the Producer Price Index for Office Supplies and Accessories; and • Energy – use the Producer Price Index (PPI) for Commercial Electric Power (weighted at 44.1%) and the PPI for Commercial Natural Gas (weighted at 55.9%) *Not currently funded*	Monitoring process established by W.S. 21-13-309(u). Recommended cost indices include: • Professional staff – use a Wyoming specific Comparable Wage Index; • Non-professional staff – use a Wyoming specific High School Comparable Wage Index; • Supplies and Materials – use the Producer Price Index for Office Supplies and Accessories; and • Energy – use the Producer Price Index (PPI) for Commercial Electric Power (weighted at 28.12%), the PPI for Commercial Natural Gas (weighted at 59.41%) and PPI for Gasoline (weighted at 11.83%)	Not addressed as part of PJ approach; addressed in separate analysis	Not addressed

43

Additional Resources Not Currently in Model

Model Element	Legislative Model	2015 Evidence-Based Recommendation	PJ Panel Recommendations	Successful Schools
Other Areas				
Preschool/Early Childhood Education Programs	Not part of the educational basket of goods and services or the Legislative Model	Provide a voluntary, full-day Preschool program for all children aged 3 and 4 as a categorical program outside the block grant, funded at the rate of $14,271 for every 1.0 full day preschool student	Provide a voluntary, half-day Preschool program for all 4 year-olds, funded at the rate of $12,510 for every 1.0 full day preschool student (adjusted for school size)	Not addressed
School Resource Officers (SROs)/School Security	Not part of the educational basket of goods and services or the Legislative Model	Do not recommend funding SROs, but if the Legislature elects to do so, it should be funded through a categorical grant program that reimburses the portion of time SROs actually spend in school (175 school days times 6.5 hours) and assumes that local government agencies remain the employers of SROs for insurance and equipment purposes A comprehensive school safety and security program should include additional mechanisms, such as climate surveys and coordination of local law enforcement, emergency responders and public schools	Recommend 1.0 SRO per campus	Not addressed
Food Service Programs	Not part of the Legislative Model; Assumed to be self-supporting	Not part of the Evidence-Based Model; Assumed to be self- supporting	According to panelists, food service is not self sustaining and supplemental funding should be available	Not addressed

44

AUGENBLICK, PALAICH AND ASSOCIATES

Wyoming School Funding Model Recalibration: Reconciling Results and Recommendations

Justin Silverstein, Amanda Brown and Mark Fermanich, APA

Presentation to the Select Committee
Casper, WY
November 2017

1

Reconciling Results to Develop Draft Recommendations

- The three adequacy approaches each provide valid, cost-based estimates on the resources needed to provide the basket of goods and services
  - As noted previously, Wyoming's current funding model is generally comparable to recommendations in other adequacy studies nationally
  - Data points from each approach were used to triangulate a single reconciled set of resources
    - Recommendations based upon providing resources in an effective and efficient manner within the range of data from the three approaches
  - Current legislative model also included for comparison

2

Reconciling Results to Develop Draft Recommendations

- All recommendations presented are draft recommendations and subject to revision prior to final report
  - Will be collecting stakeholder feedback prior to finalizing recommendations
  - Have not identified cost implications of any recommendations
  - An equity analysis will be conducted to ensure any changes improve equity

3

Teachers

Model Element	APA Draft Recommendation	Rationale
Overall Teacher Staffing	Across all grades, an average student to teacher ratio of 17:1	*Range between 16:1 (PJ and Successful Schools and 18:1 (EB) across all approach models. Comparable to national adequacy recommendations. Current legislative model is 15:1.*
Full-Day Kindergarten	Full-day kindergarten provided	*Recommended across all models*
Elementary Core Teachers/Class Size	Grades K-3: 16 Grades 4-5: 23 *Average class size of 18.3.*	*Average class size is the same for the EB and PJ models, as well as the average class size seen in Successful Schools of similar size.*
Secondary Core Teachers/Class Size	Grades 6-12: 23	*Within range of 21-25 for all models. Note, facility capacity should be considered with any change to class size. Current legislative model is 21:1.*
Elective/Specialist Teachers	Elementary Schools: 20% of core elementary school teachers	*Elementary and High School elective staffing level recommended by EB and PJ model (also the same as the legislative model). Middle School staffing level recommended by PJ and supported by Successful Schools. Comparable to national adequacy recommendations.*
	Middle Schools: 33% of core middle school teachers	
	High Schools: 33% of core high school teachers	
Additional CTE Teachers	1.0 additional CTE teacher per 400 high school ADM to reduce class sizes in CTE courses	*Recommended in PJ model. Legislative model currently provides resources for a more limited number of students, but at a higher level.*

4

Teachers

Model Element	APA Draft Recommendation	Rationale
Core and Elective Teachers		
Minimum Teachers and Staff Resources	APA recommends applying a size adjustment at the school and district level, as opposed to creating specific break points based on representative schools/districts. APA may include an approach similar to the current adjustment for schools below 49 students if it provides the best resource fit, depending on the final determination of resources	*The school and district size adjustments are derived from the representative school and district models built through the PJ approach. Current funding model includes a number of cliffs where an increase or decrease of one student can significantly change the amount of resources a school receives. Applying a smooth size adjustment to the system addresses economies of scale issues while also eliminating any cliffs in funding.*

5

Instructional and Student Support

Model Element	APA Draft Recommendation	Rationale
Instructional and Student Support		
Instructional Facilitators/Coaches	Provide 1.0 instructional facilitator/coach per 15 teachers	*Recommended by PJ approach. Similar to legislative model.*
Tutors/Tier 2 Interventionists	Provide 1.0 Tutor/Interventionist per 300 Elementary and Middle School ADM, and 1.0 per 400 High School ADM	*Recommended by PJ approach.*
Student Support Staff	Provide 1.0 Student Support position (could include counselors, social workers, behavior specialists) per 200 ADM	*Recommended by PJ approach. EB provides counselors for secondary at a ratio of 250:1 (as does the legislative model), and EB also provides a counselor for a prototype elementary, but do not provide additional student support without at-risk. PJ panels strongly encouraged social-emotional supports be a part of the base resources for all students. National adequacy comparisons suggest that the current model is lower in this area*
Nurses	Provide 1.0 nurse position for every 750 ADM. Consider adjustment for remoteness to address response time issue.	*EB recommendation. PJ panels also thought nurse positions were important, up to 1.0 per campus/area depending in part on response time, so remoteness should be considered and adjusted for. Not currently in legislative model.*

6

Instructional and Student Support

Model Element	APA Draft Recommendation	Rationale
Instructional and Student Support		
Supervisory and Instructional Aides	Provide 1.0 per 150 Elementary ADM or 350 Secondary ADM. *(Note, does not include special education or transportation aides)*	*Within range of all models.*
Librarian/Media Specialists	Provide a certified librarian/media specialist at a ratio of 300:1 up to 1.0 FTE.	*Recommended by PJ model.*
IT Technicians	Provide 1.0 computer technician per 250 ADM.	*Recommended by PJ model.*

7

Administration

Model Element	APA Draft Recommendation	Rationale
Administration and Clerical Staff		
Principals and Assistant Principals	Provide 1.0 principal for every campus; Provide assistant principals at a ratio of 1.0 per 350 ADM at secondary level.	*PJ recommendation. Provides Assistant Principal positions without cliffs.*
School Site Secretarial and Clerical Staff	Provide 1.0 Secretarial/Office Manager FTE per campus. Provide 1.0 clerical FTE per 200 ADM.	*Blended recommendation of all models.*
Substitute Teachers	Provide 15 days per core and elective teacher; Resourced at a daily salary equal to $106.84 including benefits. Daily salary adjusted by regional cost adjustment.	*Similar allocation approach to EB model (and current legislative model) but increasing to 15 days to reflect educator feedback that 10 days was not sufficient.*

8

Other Costs

Model Element	APA Draft Recommendation	Rationale
Other Costs		
Gifted and Talented Students	1.0 FTE Gifted and Talented Teacher per 420 elementary ADM included in prior Specials/Electives Staffing; Provide $40.00 per ADM/	*PJ recommendation. Per ADM figure from both PJ/EB.*
Intensive Professional Development	Provide 10 days of student free time for training in salary levels; $125.00 per ADM for associated costs	*EB recommendation.*
Instructional Materials	Provide $250 per elementary ADM, $312 per middle ADM, and $472 per high school ADM.	*PJ recommendation, based upon three-year average for actual district expenditures. National adequacy recommendations suggested the current model was higher in this area.*
Short Cycle/ Formative Assessments	Provider $25 per ADM over a three-year phase out as state-provided interim assessments begin to provide longitudinal data.	*EB/PJ recommendation.*
Technology and Equipment	Provide an amount equal to $250 per ADM.	*EB recommendation. Draft PJ recommendation similar.*
CTE Equipment/ Materials	$25 per middle school ADM and $100 per high school ADM; Includes computer science as part of CTE. Could be provided as a categorical grant	*PJ recommendation. Stakeholder feedback indicated the need for increased emphasis on CTE; Could address computer science as part of CTE.*
Extra Duty Funds/Student Activities	$60 per Elementary ADM, $300 per middle school ADM, $720 per high school ADM.	*PJ recommendation, based upon three-year average for actual district expenditures.*

Note: Variations in Other Costs is a key driver of size adjustment, so figures represent base unadjusted for smaller size.

9

Special Needs

Model Element	APA Draft Recommendation	Rationale
Additional Resources for Special Needs Students		
At-Risk Tutors At-Risk Pupil Support Staff Extended Day Program Funding Summer School Funding	Provide a 0.30 weight for every at-risk student to provide interventionists, student support and extended learning opportunities	*Weight developed through PJ approach. National comparison suggested that the current model was lower in this area. The identified resources and weight of 0.30 is aligned with adequacy recommendations for at-risk nationally*
English Language Learner (ELL) Students	Provide a 0.30 weight to every ELL student, assuming they will also receive the at-risk weight	*Weight developed through PJ approach. National comparison suggested that the current model was lower in this area. While national adequacy recommendations for ELL vary, the identified resources and combined weight is within the observed range, and also within range identified by statistical approach*
Alternative Schools	For separate alternative schools, fund as any other school, but ensure all students receive the at-risk weight.	*High school amount generated and additional weight produce the same level of resources (as a dollar figure) as identified by PJ panel.*
Special Education	Continue 100% reimbursement of approved expenditures. Consider incentivizing increased efficiencies through shared services (such as through BOCES) and Medicaid billing for school-based services and developing/adopting best practices for staffing ratios. Focus on reducing incidence rates through offering interventions prior to identification, as well as addressing any special education over-identification prior to entering the K-12 system.	*Supported by EB, PJ, Successful Schools and all stakeholder feedback. Given federal restrictions, it is difficult to recommend immediate changes to the current model.*

10

District Resources

Model Element	APA Recommendation	Rationale
District Resources		
Central Office Personnel/Non-Personnel Resources *(excludes special education and transportation)*	Central Office Personnel: At base district of 10,700 ADM: 17 administrators, 20 professionals, and 24 classified positions Non-personnel resources: provide $240 per ADM; District-level size adjustment (formula) to account for diseconomies of scale due to district size, such as higher supplies and materials costs and minimum position needs	*Resources identified by the PJ panel are similar to current resource levels, with a higher emphasis on professional staff*
Operations and Maintenance	Recommend reconsidering definition of allowable square footage. Consider: increasing allowable square footage to account for actual square footage for buildings built after 2002 to the state's specifications (excluding district-elected enhancements). Also consider revisiting allowable square footage for declining enrollment districts. Restricting allowable definition for non-instructional district acreage. For utilities, funding on basis of prior three-year average for actual utilities expenditures. Otherwise, use existing calculations	*APA believes the current M&O calculations are rational and cost-based. Suggest consideration of modifications to better reflect the needs of districts. Would like Select Committee direction.*
Transportation	Promote efficiencies through greater WDE oversight of rules pertaining to reimbursable costs, shared services, and increased use of technology for bus capacity and routing decisions. Explore transitioning to a density formula for funding transportation operations	*The number of daily and fleet miles and the cost per mile transported have risen steadily since 1999-2000. Further, the number of buses has increased while bus utilization appears to be well below national benchmarks. Meaningful savings could be realized through improving operating efficiencies*

11

Parameters and Adjustments

Model Element	APA Recommendation	Rationale
Student Counts/Definitions		
ADM	Use the best of prior year ADM or three-year average ADM at the district-level.	*APA believes funding at the district-level is most appropriate method to addressing declining enrollment.*
At-risk	Continue to use current approach to identifying at-risk students.	*APA believes the current approach is rational and in line with national methods.*
ELL	Continue to include ELL students in at-risk count and as well as separate ELL count.	*APA believes that by counting ELL students in each category ensures both their social-emotional and instructional intervention support needs (related to being at-risk) as well as their language acquisition needs can be met. If ELL was not included in at-risk count, ELL weight would need to be adjusted to combined weight level.*

12

Parameters and Adjustments

Model Element	APA Recommendation	Rationale
Salaries and Benefits		
Salaries	The study is still finalizing salary analysis. Preliminarily, APA is considering applying current actual salaries to recommended resource levels (staffing ratios).	*Preliminary data suggests actual salary growth have outpaced model salaries. Districts currently staff at higher ratios than the funding model allocates in order to attract and retain staff by offering higher salaries.*
Health Insurance	Compute a health insurance composite amount for each generated FTE based upon prior year statewide average district weighted actual participation in district health insurance plans as to the proportion of employee only, split contract, employee plus spouse or children and family coverage for the State's health insurance contribution amounts paid on behalf of State employees as of January 1 of the preceding school year.	*APA believes the current approach is rational and cost-based. Note, adjusting staffing ratios while raising salaries would lower health insurance costs by applying amount to more accurate FTE employed in districts.*
Benefits	• Worker's Compensation: 0.70% of salary • Unemployment Insurance: 0.06% of salary • Retirement: 12.69% of salary within the block grant (7.12% employer share and 5.57% employee share) and reimburse actual expenditures as required by current law (1.25% employer share) • Social Security and Medicare: 7.65% (6.20% for Social Security and 1.45% for Medicare)	*APA believes the current approach is rational and cost-based.*

13

Parameters and Adjustments

Model Element	APA Recommendation	Rationale
Adjustments		
Size Adjustment	APA recommends applying a size adjustment at the school and district level, as opposed to creating specific break points based on representative schools/districts. The size adjustments are derived from the representative school and district models built through the professional judgment approach. Applying a smooth size adjustment to the system addresses economies of scale issues, while also eliminating any cliffs in funding. APA may include an approach similar to the current adjustment for schools below 49 students if it provides the best resource fit, depending on the final determination of resources.	*The school and district size adjustment are derived from the representative school and district models built through the PJ approach. Current funding model includes a number of cliffs where an increase or decrease of one student can significantly change the amount of resources a school receives. Applying a smooth size adjustment to the system addresses economies of scale issues, while also eliminating any cliffs in funding*
Regional Cost Adjustment	Adjust salaries by the 2015 OES CWI as calculated in Dr. Lori Taylor's report to the Select Committee	*The CWI is the most commonly used regional cost adjustment in other states; It accounts for differences in both cost of living and local amenities, is not influenced by local district decisions, and is easily updated*
External Cost Adjustment (ECA)	Monitoring process established by W.S. 21-13-309(u). Recommended cost indices include: • Professional staff: use a Wyoming specific Comparable Wage Index; • Non-professional staff: use a Wyoming specific High School Comparable Wage Index; • Supplies and Materials: use the Producer Price Index for Office Supplies and Accessories; and • Energy: use the Producer Price Index (PPI) for Commercial Electric Power (weighted at 44.1%) and the PPI for Commercial Natural Gas (weighted at 55.9%)	*A consistent method for estimating the ECA will help to provide stability and predictability of funding model resources between recalibrations. The four-part approach recommended by Taylor specifically addresses price increases in each of the four major cost areas impacting districts. Use of the CWI for the two staff salary adjustments incorporates the advantages described above*

14

Additional Resources Not Currently in Model

Model Element	APA Draft Recommendation	Rationale
Additional Resources		
Preschool/Early Childhood Education Programs	Provide a voluntary, half-day Preschool program for all 4 year olds, funded at the rate of $12,510 for every 1.0 full day preschool student (adjusted for school size) when resources allow. Consider housing ECE entirely under the Department of Education to increase possibility for shared service and potentially reduce identification rates of special education students (particularly speech)	*Recommended by both EB and PJ models and well supported by research. While an initial investment, could reduce K-12 resource needs in the long run*
School Resource Officers (SROs)/School Security	Consider adding resources for SROs when resources allow	*Recommended by PJ panels at a rate of 1.0 per campus; Regional variation in police response time that creates security issues.*
Food Service Programs	Consider adding resources for food service when resources allow	*Not currently self-sustaining, according to district staff and expenditure data.*

15

Questions?

16