Review of Alaska's School Funding Program

Prepared for the

Alaska State Legislature

By

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Augenblick, Palaich and Associates (APA) is an education policy consulting firm, founded in 1983 and located in Denver, Colorado. The firm has extensive experience advising policymakers in all 50 states and the District of Columbia on education policy issues, particularly school finance. APA has worked with numerous states to examine statewide school finance systems, to evaluate the equity and adequacy of such systems, and/or to propose significant structural changes to those systems. Legislatures in several states, including Louisiana, Maryland, and Mississippi, have enacted APA recommendations as the basis of their school funding systems.

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Executive Summary

In early 2015, following a competitive request for proposals (RFP) process, the Alaska State Legislature hired Augenblick, Palaich and Associates (APA) to undertake a review of Alaska's School Funding Program. APA has extensive experience advising policymakers in all 50 states and the District of Columbia on education policy issues, particularly school finance. Legislatures in several states, including Louisiana, Maryland, and Mississippi, have enacted APA recommendations as the basis of their school funding systems.

It is important to understand that this study was focused on reviewing the structure of the current funding system. APA was not tasked with examining the adequacy of the state's funding formula, meaning the levels of funding deemed necessary to ensure that all students could meet state standards. The study team was only asked to examine the current structure of the formula, considering both funding practices in other states and Alaska's unique state context. APA was not asked to evaluate, or make recommendations regarding, the specific figures used in the formula, such as the School Size Adjustment (SSA) or the District Cost Factor (DCF). Instead, the study team was tasked with evaluating, more broadly, whether it makes sense to use a size adjustment or a district cost adjustment within Alaska's system. This report does not assess whether the actual adjustment figures are correct.

Key Highlights from Each Report Chapter

II. Study Approach

Basics of a Strong Funding System

A strong education funding system is: (1) equitable, (2) responsive, (3) adequate, (4) efficient, and (5) flexible. These objectives serve as a reasonable starting point in examining the strengths and weaknesses of any state's school finance system. While adequacy is a key component of a strong education funding system, it was not the focus of this work, and is not a consideration of this study.

Methodology

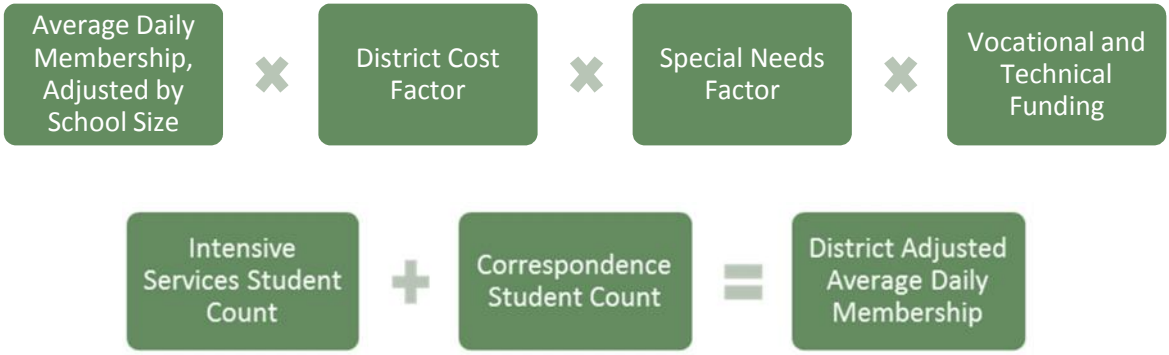
APA conducted this study between late February and July 2015. During this time period, the study team:

1. reviewed the structure of Alaska's current funding structure;
2. conducted interviews with district stakeholders to understand how the current school finance structure affects individual districts;
3. examined other states' approaches to school funding;
4. examined the equity of the current system, looking at both district and taxpayer equity;
5. analyzed student performance across Alaska, including the relationship between need, funding, and performance;
6. examined the state's sources of revenues; and
7. developed recommendations for the state to consider moving forward.

School district leaders from 31 districts across the state participated in interviews, either by phone or in person. Alaska's Department of Education & Early Development (DEED) provided all performance, expenditure, enrollment, and demographic data analyzed for this report. The state-level revenue data analyzed for this report came from the U.S. Census Bureau.

III. Overview of Alaska's School Funding Program

Under Alaska's foundation formula, a district's funding (Basic Need) is determined by multiplying the Base Student Allocation (BSA), as defined by the legislature, by the District Adjusted Average Daily Membership (DAADM). A district's DAADM is determined using the following calculation:



Outside of this funding formula, the state also provides funding for transportation and capital.

Overall, interviewees tended to feel that the state's current funding system works well. Interviewees understood that Alaska has a unique distribution of districts, and that the state's funding system is challenged to adjust for all the relevant differences in student need and district characteristics. In terms of the foundation formula, most respondents felt that the formula generally included the right type of adjustments. There were concerns about how these adjustments were being implemented, how they affected different districts, and how each adjustment interacted with other adjustments.

One theme that came up regularly during the interviews was a lack of understanding of what the Base Student Allocation is designed to provide for all students across the state. Interviewees felt that the funding system resulted in different districts being able to provide very different educational programs for students. These differences in district capabilities were especially evident in smaller communities, which often struggle to offer robust programs.

IV. Review of Components in Detail

Each component of Alaska's funding system was examined based on: (1) feedback from interviewees, (2) comparing the component to funding approaches used in other states, and (3) analysis of any relevant data.

School Size Adjustment

Alaska's current School Size Adjustment (SSA) weights a district's Average Daily Membership (ADM) based on the size of the schools within that district. In this way, the SSA recognizes that smaller schools may incur higher costs than larger schools to offer the same types of education programs. Currently, the SSA depends on both the size of the community a school resides in and the size of the school. The size adjustment increases as the size of a school decreases.

Interviewees felt that the SSA was needed, and that the SSA generally met the needs of schools across the state. Some interviewees noted that the smallest schools in the state struggled to provide programs that went beyond the core program. The SSA includes a number of "cliff" points where the loss of a few students can lead to large changes in funding. A number of interviewees mentioned the large impacts that these cliffs can have on funding. Also, in the current system, when a school is under 10 students it is not funded as a separate site and loses funding. Interviewees from all different sizes of districts expressed that this loss of funding has a significant impact on the school's local community. It was also mentioned that applying the SSA to all districts, regardless of size, might not make sense. Though no district would like to see a decrease in SSA funding, there was concern that providing more dollars for smaller schools, in settings where those dollars may not be necessary, could influence districts to design schools to maximize funding versus maximizing efficiency and effectiveness.

Often, other states fund for size differences at the district level. Only a handful of states provide education funding based on school size. Adjustments in other states differ from adjustments in Alaska, then, because the size adjustments are limited to small schools that have been defined as necessarily small – usually due to isolation. In Alaska, every school is adjusted based on size, regardless of the size of the district it is located in, and regardless of the remoteness of its location.

Data modeling illustrated that the community size thresholds, or cliffs, within the formula do create some funding issues for districts. Data showed that the loss of just a few students – or even just one student – can have a disproportionately large impact on a district's total funding, and can create significant hardships for districts.

Hold Harmless

Alaska's current Hold Harmless provision addresses declines in a district's size-adjusted ADM. For a district that has lost five or more percent of its size-adjusted ADM, Alaska's Hold Harmless provision effectively increases a district's size-adjusted ADM for three years (at a reduced rate each year) to cushion districts against the financial impacts of lost enrollment. In this regard, the provision operates most similarly to what traditional school finance terms would classify as a Declining Enrollment adjustment.

Few of the interviewees had actually worked in districts that had qualified for the Hold Harmless provision. Many interviewees felt that the large five percent threshold (losing five percent or more of total size-adjusted ADM since the prior year) was hard to meet, especially for larger districts. Interviewees felt that an approach that took into account lesser, but still impactful, year-to-year declines

would be more beneficial for districts. The Hold Harmless conversation often brought up more general district budgeting concerns. Interviewees tended to feel that the current confluence of budget timing, contract renewals, the legislative process, and October pupil counts makes for a very tenuous budgeting situation. Interviewees expressed an interest in creating a system that would give districts more certainty in funding in the fall.

Alaska's approach is similar to the approaches used in many of the more than 20 states with Declining Enrollment adjustments. In some of these other states, Declining Enrollment adjustments are applied to all districts with declining enrollment, not just to those districts with declines past a certain threshold. This universal approach provides more consistency for districts with fluctuating enrollment, and could alleviate some of the problems districts face as they try to plan for budgeting, staffing, and facilities prior to receiving exact enrollment numbers. If Alaska instead had a traditional Hold Harmless provision, like a dozen other states, this would mean keeping funding at the same level from school year to school year for smaller or smaller-growth districts, instead of cushioning for enrollment changes in such districts.

Data modeling illustrated that the current Hold Harmless provision creates funding issues for districts due to the five percent threshold. Under the current provision, a district could experience significant loses in ADM but still not reach the threshold. As a result, two districts might lose very similar percentages of students, and face similar hardships, but if one district qualifies for the Hold Harmless provision and the other district does not, then there can be significant differences in the levels of funding each district will receive.

Further, the timing of enrollment calculations can be an issue for districts: By October of any given school year, staffing contracts are already in place and budgets – including school, city, and borough budgets – have already been finalized. Without receiving the Hold Harmless provision, districts may have little funding stability from year to year.

District Cost Factors

Alaska currently includes a District Cost Factor (DCF) in its funding formula to represent the geographic cost differences between any given district in the state and Anchorage. Each DCF is based on the position of 12 sub-components of overall costs[1], relative to Anchorage. These sub-components include: (1) administrator compensation, (2) certified teacher compensation, (3) classified employee compensation, (4) travel of teachers from schools to district offices, (5) travel of teachers from district offices to Anchorage, (6) travel of school administrators from schools to district offices, (7) travel of superintendents from district offices to Anchorage, (8) travel of district administrators to schools, (9) travel of maintenance staff from district office or center of commerce, (10) energy costs, (11) goods – costs of instructional and office supplies, including shipping costs, and (12) goods – costs of maintenance supplies, including shipping costs. DCFs range from 1.000 to 2.116 (with Anchorage set at 1.000).

[1] Institute for Social and Economic Research, 2005.

Interviewees made it clear that the DCF is an important adjustment for the state. Interviewees generally felt that structure of the adjustment was working well, but some interviewees expressed concern that it may not be accurately reflecting current rising operational costs and all cost areas (such as the costs of running student activities and/or the costs of bringing in specialists to work with certain populations of students). Thus, many interviewees felt that the DCF should be revisited.

A number of other states use a Cost of Living approach to adjust for cost differences. Such an approach is more limited in regards to cost differentials considered than Alaska's current approach. Cost of Living adjustments are focused on cost variations related to staff wages. These adjustments exclude district cost variances due to operational expenses, such as energy costs and shipping costs. Alaska's DCF would instead be considered a Cost of Education adjustment. A Cost of Education adjustment more broadly captures district cost differentials, including operational expenses. This type of adjustment is only used in three other states. Given the unique circumstances of districts in Alaska, it is more appropriate that Alaska's DCF address differences in costs for wages, travel, energy, goods, and shipping.

Special Needs Funding

Alaska currently uses a block grant approach to provide districts with funding (as generated by a higher ADM due to the Special Needs adjustment) for multiple special needs populations. This block grant increases ADM by 20 percent after the SSA and DCF have been applied. The block grant is designed to provide funding for four categories of special instruction: vocational education, non-intensive special education (since intensive special education is funded separately), gifted/talented education, and bilingual/bicultural education.

When considering the Special Needs adjustment, interviewees generally felt that the adjustment allows most districts to adequately serve students with special needs. However, interviewees indicated that they often had to prioritize using these dollars to meet the needs of non-intensive special education students first. Depending on the number of non-intensive special education students a district needed to serve, interviewees often mentioned having difficulty addressing the needs of vocational, gifted/talented, and bilingual/bicultural students with the remaining dollars. Therefore, interviewees from the highest-need districts expressed that their districts needed additional funds to be able to serve all students well. Interviewees liked the block grant model approach, as this model reduced paperwork, reduced the labeling of students, and provided districts with flexibility.

Most states provide funding for the populations and programs covered by Alaska's Special Needs adjustment through separate adjustments in their foundation formulas or categorical funding streams. Populations often adjusted for include: special education, at-risk (low-income), and Limited English Proficiency (LEP) students. States vary in how they determine which students qualify for the adjustments and if single or multiple weights are needed to address differences in costs between special needs populations. Alaska's current adjustment is not student-specific because it does not vary by the demographics of a district, or by the levels of student need.

The data show large variations in the concentrations of students in the various special needs populations across Alaska districts. For example, over the 2012-13, 2013-14, and 2014-15 school years, the average LEP percentage is about 12 percent. However, this average represents a broad range of LEP populations across districts, from a low of zero percent LEP to a high of nearly 80 percent LEP. High variation is seen in all of the special needs populations.

Vocational/Career and Technical Education Funding

Alaska currently funds Career and Technical Education (CTE) both through the Special Needs adjustment and through a separate CTE adjustment that multiplies a district's size-, DCF- and Special Needs-adjusted ADM by 1.015 to generate additional ADM for funding.

Interviewees expressed that the funding generated from the CTE adjustment had helped their districts expand CTE programs. Larger districts seemed to have been able to leverage this funding more effectively than smaller districts, using the funding to provide more students with opportunities, often in centralized locations. Smaller districts struggle to provide similar programs at smaller, separate sites.

For other states that fund CTE, there are three main approaches to funding: (1) funding separate CTE centers, (2) providing funding through foundation formulas, and (3) providing direct cost reimbursement. Alaska's approach is similar to approaches seen in other states that fund CTE through their funding formulas. One difference, though, is that Alaska uses a CTE weight that is applied to all students, instead of the weight being applied to actual CTE student counts (as it is in other states).

Intensive Services

Currently, school districts in Alaska receive a weight of 13 for each intensive student. Thus, instead of being counted as one student, an intensive special education student will be counted as 13 students. To qualify as an intensive student, a student must meet certain requirements set by the state. This weighting of intensive students has shifted over time: In 2006, the weight was 5. The weight increased to 11 in 2010, and to 13 (its current weight) in 2011.

Interviewees were very supportive of the state's approach to Intensive Services funding. All interviewees expressed just how costly serving intensive students can be. Interviewees felt that the 13 weight was very helpful in meeting these students' needs. There was concern that movement of these students into a district after the October pupil count can be tough to handle, especially smaller and/or more remote districts. Having an intensive needs student move in after the October pupil count can lead to high, unfunded costs for the remainder of the school year. Even if the total number of intensive needs students in a district does not change, the unique needs of such students may be different; it may be difficult for the district to eliminate now-unnecessary contracted services and their related costs for the student that left, while needing to purchase new contracted services for the incoming student.

Other states use two main approaches to funding the highest-need special education students: (1) providing higher funding weights for specific disability categories and (2) providing supplementary aid, often referred to as extraordinary aid, for very high-cost students. Alaska's approach is similar to the

approaches used in other states that have higher weights for high-need students. However, Alaska's approach does not differentiate weights by student disability category.

Correspondence Programs

Alaska currently provides a publicly-funded homeschool option through its correspondence programs. Using correspondence programs, families have a means of educating their children at home while still accessing state-approved curriculum, certified teachers, and funding for materials. The study focuses on publicly-funded homeschool policies. The study does not address non-publicly funded homeschool. While an important component of the education landscape in Alaska, non-publicly funded homeschool is outside the scope of this school finance study. Using Alaska's current funding approach, each correspondence student is counted as .90 (Previously, each correspondence student was counted as .80.)

The recent shift in the correspondence adjustment, from counting each correspondence student as .80 to counting each correspondence student as .90, has been received well throughout the state. Interviewees expressed some concern that, as some districts move towards blended learning models, the .90 may not cover the full cost of serving students if the students are only counted in the correspondence student category. There was also concern that, while students served as correspondence students are eligible for special needs services, they are not part of the funding calculation for special needs students.

Based on a review of homeschool policies across all 50 states, the study team determined that Alaska's policy of providing funding for homeschool through correspondence programs is unique within the U.S. Most state education formulas do not provide any funding for homeschools, but may allow homeschoolers to access materials or to participate in student activities. The few states that have publicly-funded homeschool provide funding by: (1) offering tax credits to families or (2) classifying homeschools as private schools so that qualifying students can receive Individuals with Disabilities Act (IDEA) funding.

Transportation

Alaska currently provides funding for transportation on a per-pupil basis, to districts eligible to receive funds. For the 2013-14 school year, 48 school districts received a combined $74.7 million in funding from the state for transportation costs. The per-pupil amount ranged from low of $2 to a high of $2,819, calculated based on actual district transportation expenditures.[2]

Interviewees generally felt that transportation funding was working well, though some interviewees had concerns that the per-pupil funding approach did not fully account for all district transportation costs. Interviewees were also concerned over the shift in accounting for transportation, which will now include a more detailed accounting of transportation expenses. Interviewees in larger districts felt the shift

[2] Alaska Department of Education & Early Development, data on transportation funding.

might be an effort to eliminate funding for intra-district transportation, often used to provide opportunities for students. These interviewees felt that the elimination of this funding would hurt districts' abilities to use their economies of scale successfully. Finally, interviewees in multiple districts mentioned how the lack of competition in transportation providers affected their abilities to negotiate advantageous contracts for transportation.

States generally use one of three approaches for funding transportation: (1) funding mechanisms, (2) cost reimbursement, and (3) blended models. Funding mechanisms focus on state-implemented formulas for determining the amount of district transportation funding. Cost reimbursement provides funding to districts based on the actual costs faced in the districts. Blended approaches mix the formulaic functions of funding mechanisms and the actual cost data of the cost reimbursement approach.

Capital

Alaska provides three sources of funding to districts for capital projects[3]. These sources include: (1) the School Construction and Major Maintenance Grant Program, (2) State Aid for School Construction in Regional Educational Attendance Areas (REAAs) and in the Small Municipal School District Grant Program, and (3) the Debt Reimbursement Program (however, Senate Bill 64, Chapter 3 SLA 15, passed during the 2015 legislative session, put a moratorium on the Debt Reimbursement Program until July 1, 2020). Each of these three programs functions differently and provides different levels of support to districts.

Interviewees from across the state felt that capital was a current concern that may become a greater concern in the near future. Interviewees had various concerns about capital. Growing districts face the challenge of keeping up existing facilities while also needing to build new schools. Districts with declining enrollments have capital maintenance costs that demand growing percentages of their budgets. Older buildings, often built for higher enrollment numbers, are aging, and districts must find ways to maintain the buildings using budgets generated on lower student counts. Interviewees were very concerned with the state moratorium on Debt Reimbursement. Interviewees in City and Borough (C&B) districts felt that the state's contribution for capital makes it much more likely that bond elections will pass. REAAs are in a difficult position in that they have no ability to raise sufficient funds locally for capital, and are instead reliant on state funding programs and state-specified building requirements. Without sustained capital investment, interviewees fear a decline in the condition of facilities across the state.

Other states may have multiple types of funding streams for capital projects. The two most common types of funding are (1) equalized project grants and (2) approved project grants. Though states may use similar structures for funding programs, the percentage of funding picked up by the state can vary. A 2010 report by the 21st Century School Fund examined the percent of capital funding each state

[3] Alaska Department of Education & Early Development, February 2015. (School Capital Project Funding under SB237: A Report to the Legislature.)

provides.[4] The report found that, from 2005 to 2008, 11 states contributed *no* funding to districts for capital projects; fourteen states provided less than 20 percent of the capital funding for districts; twelve states provided between 20 and 50 percent of capital funding; and 12 states provided over 50 percent. While these figures are somewhat outdated, they provide a good example of the variation between states in terms of state shares of capital projects.

Local Effort[5]

Interviewees generally recognized the difficulties in measuring wealth and taxing wealth in Alaska. There were varying opinions on Alaska's current approach to local effort, especially around the different approaches in C&B districts and REAA districts. A few interviewees expressed concern with the lack of contribution by REAA districts; especially those REAA districts the interviewees felt have taxable property. Most interviewees, however, felt that REAA districts were making large contributions through the Federal Impact Aid being used to offset local share. REAA districts felt that they were in a difficult position; most of these districts have no ability to generate funds locally, and feel entirely dependent on the state, without control over their revenues. Interviewees from C&B districts indicated that meeting required local contribution levels can be a challenge for their communities. Interviewees also mentioned the varied approaches to raising the 2.65 mill match. This match comes directly from property taxes in some districts, while others raise the dollars in other ways, often limiting, or even totally offsetting, the amounts raised through property taxes. Some interviewees questioned the use of in-kind contributions in some C&B districts. Interviewees felt that sometimes the value of the services provided is overstated, reducing the local contribution funds that need to be raised. Finally, interviewees in a number of C&B districts further described that their local governments set very specific limits on the amounts of money they were willing to provide (often at the required minimum), and that there was little the interviewees could do to influence the local government decisions. This is a product of districts being "dependent," meaning that they do not have independent taxing authority. While addressing the governance structure of districts being dependent is outside of the scope of this study, it did present challenges in several districts.

V. Equity Analysis

APA's equity analysis examined district-level enrollment and fiscal data for three school years: 2005-06, 2009-10, and 2013-14. By including the earlier fiscal years, 2005-06 and 2009-10, the study team was able to look for longer-term trends within Alaska's school finance system. For all three years, the study team examined 53 districts. In addition to examining all the 53 districts together, APA examined the C&B districts and REAA districts separately. APA chose to do this in part because of the differences in property taxes between the two groups of districts. The study team focused on three equity measures: (1) horizontal equity, (2) vertical equity, and (3) fiscal neutrality:

[4] Filardo et al., 2010.

[5] APA recognizes that there is ongoing litigation through the Ketchikan lawsuit regarding the constitutionality of the required local contribution for schools. This study examined the current structure of the finance formula. The ramifications of the constitutional challenge are outside the scope of the study.

1. **Horizontal equity** is concerned with how equally resources are allocated to districts or students in similar situations. 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 the school districts where they attend school.
2. **Vertical equity** measures how well the school finance system takes into account varying student needs. A system with high vertical equity will provide more resources for students with greater educational needs. In this way, a system with high vertical equity supports the programs and interventions that are required for students with greater educational needs to succeed in school.
3. **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 district. A school finance system with high fiscal neutrality minimizes the relationship between local wealth, or capacity, and district spending.

Alaska's funding system appears to meet the standard for fiscal neutrality, with an acceptable relationship between wealth and per-student spending, one of the key traditional measures of equity. Fiscal neutrality was measured for all districts, whether C&B or REAA, using an APA-developed wealth proxy.

The coefficient of variation of per-student funding, another key school finance equity measure, exceeds the generally accepted criteria of .10 or less. Alaska's higher coefficient of variation of per-student funding implies that the school finance system is not allocating resources across school districts equitably, i.e. there is wide variation in funding across districts. The coefficient of variation for all districts in 2014 was .38, and was at or near .40 in the other two years examined. However, the coefficient of variation looks specifically at horizontal equity; that is, it looks at similar funding for students with similar needs in similar locations. It does not take into consideration differing levels of need in districts, either for students (those with special needs such as special education students, LEP students, and at-risk students) or for districts (small districts, remote districts, and/or districts with high costs of living).

The study team also considered the vertical equity of the system. After accounting for student need characteristics based on the APA student weights, the coefficient of variation was reduced to .32 in 2014 - which is still well over the standard. Using weights derived from the various Alaska funding adjustments – which take into consideration not only student need but also district circumstances – the coefficient of variation falls to .19. However, even this measure is higher than the benchmark of .10 or less. This suggests that, even with the considerable adjustments available in the current formula, the variations in spending between districts are not entirely due to variations in student and district needs. Instead, the differences are most likely associated with dollars districts have access to outside of Basic Need.

Access to funding beyond the Basic Need amount varies significantly across districts. APA's analysis of excess revenues shows that some districts are generating much higher local contributions than others – in a few cases, several times higher. While it is unknown whether this is a result of intentional local policies, lack of local fiscal capacity, or both, this is a source of inequality of funding.

VI. Relationships Between performance, Expenditures, and Need

As part of APA's analysis, the study team undertook a series of statistical analyses, focusing on the relationships between student performance, student need, and spending. DEED provided all necessary data to the study team. The study team first created a district-level database of performance data from the Alaska Standards Based Assessment (SBA). The database covered SBA results from the 2004-05 school year through the 2013-14 school year. The database also tracked demographic data for all district students from the 2008-09 to 2014-15, and tracked district expenditure data for the 2012-13 and 2013-14 school years. Once the database was complete, the team examined: (1) the relationship between district demographics and student SBA performance, (2) the relationship between district expenditures and student SBA performance, and (3) the relationship between district-level student need and the funding adjustments in the formula.

Relationship between District Demographics and Student Performance

Using a linear regression model, APA was able to determine if a district's demographics had a significant or meaningful relationship with overall district performance. Based on the analysis, APA determined that the demographic variables of district size, students with disabilities, LEP students, and Alaska Native students were all significantly related to a district's overall proficiency scores in SBA reading and math. This means that districts that varied on any of those demographic characteristics had proficiency scores that were significantly higher, or significantly lower, than proficiency scores in other districts. It also means that knowing a district's size and its proportions of disabled students, LEP students, and Alaska Native students would be sufficient information to closely predict that district's SBA proficiency scores.

Relationship between Performance and Expenditures

APA's regression analysis examining the relationship between instructional expenditures and district proficiency levels shows a positive relationship between spending and performance in both reading and math. The amount of change in performance is small, but it is still significant when controlling for all other demographic and teacher characteristics. For every $1,000 increase in instructional expenditures[6] per pupil, there is an increase of two percentage points in reading proficiency and an increase of one percentage point in math proficiency. For example, for a district with 50 percent of students proficient in reading and math, if the district spends an additional $1,000 on instruction, 52 percent of their students would be proficient in reading and 51 percent would be proficient in math.

Contrasted to instructional expenditure per pupil, the analysis indicated that there is no significant relationship between total district expenditure per pupil and district proficiency levels. This is likely

[6] Instructional expenditures based upon the "Instructional Services" category of expenditures reported by districts to DEED.

attributable to high-cost areas included in the DCF (for example energy, maintenance, shipping, staff travel) that are operational, and not specific to instruction.

In summary, the analysis shows that, when controlling for other factors, increases in instructional expenditures are associated with positive changes in district proficiency levels. This is important to note as Alaska examines its funding formula. As APA's analysis shows, ensuring that districts can put dollars into instruction can help student performance. This does not mean that other areas of expenditure (outside of instruction) should be ignored. Rather, it highlights a concern that many interviewees expressed: As districts face higher non-instructional costs, resources could be lost in instructional areas – a loss that could negatively impact student proficiency levels.

Relationship between Student Need and Formula Adjustments

APA's analysis demonstrates that there is great variation across districts in terms of percentages of students in various special needs categories (e.g. special education, LEP, low-income, and Alaska Native). With that in mind, APA examined the relationship between current formula adjustments and student need to understand if the current system is responsive to student need.

Given that the current Special Needs adjustment is multiplied against both the SSA and DCF, it creates a unique weight for each district. A district will receive a higher "imputed" weight[7] if they have smaller schools and a higher DCF. To understand the relationship between student need and imputed weight, the study team examined the correlations between the district need factors[8] and the imputed weight each district is receiving. The study team theorized that even though Alaska does not have a student-specific Special Needs adjustment, the compounding effect of the SSA and the DCF may serve to address differences in student needs

Though the correlations between the imputed factors and the special needs populations in districts are somewhat strong, they are not a high correlation. This indicates that there is not a significant relationship between student need and imputed weights. Put differently, the variance in student need between districts is not being fully accounted for, even with the multiplier effects of the SSA, the DCF, and the Special Needs Adjustment. Therefore, there are some districts that receive higher imputed weights even though they serve fewer special needs students, and there are some districts that receive lower imputed weights, even though they are serving more special needs students.

VII. Fiscal Sustainability

The sustainability of education funding in Alaska is dependent on several factors. These include changes in cost drivers such as enrollment and numbers of students with special needs; changes in state, local, and federal revenue; the funding demands of other state services (health care, for example) competing for state dollars; and other state policy decisions. Alaska is unique among the states in that it is highly

[7] The imputed weight is calculated by dividing the additional ADM generated in a district after the Special Needs adjustment is applied, divided by a district's unadjusted ADM.

[8] Calculated by weighted a district's demographics by commonly used special needs weights for each student population.

dependent upon a single source of revenue – oil production – to fund state government programs. This state revenue strategy has been very beneficial when oil prices are high. But, when oil prices fall, the state has little capacity in place to backfill the lost revenues, resulting in severe budget challenges such as those it is currently experiencing. Current projections for oil prices suggest that even though it appears oil prices are beginning to rebound, they will continue to be lower than previous projections throughout the next decade. Several analysts have noted that even with the expected oil price increases, revenues may not be sufficient to fully fund Alaska's state government services, including K-12 education, at current levels. While politically difficult, the state should consider exploring other revenue streams to both increase state revenues overall and to improve stability so that the state's fiscal position is less susceptible to large swings in the price of oil. The following provides several key findings stemming from this analysis. Specific recommendations are provided in the Recommendations section of this report.

Over the long term, it is in the state's best interest to begin moving toward reducing its reliance on oil revenues. The state should begin now to put a fiscal foundation in place to diversify its revenue sources. This will require putting new revenue streams in place that will eventually be able to reduce the 80 percent to 90 percent reliance on oil revenues. Increases in minor taxes, such as liquor, tobacco, or other targeted taxes will not be sufficient. Instead, the state should explore adopting broader-based taxes such as the individual income tax, the general sales tax, or both. The state could gradually phase one or both in over time as oil revenues wane. As noted earlier, Alaska's residents are among the least taxed in the country. This low rate of individual taxation has been made possible by the substantial oil revenues enjoyed by the state over the past several decades. These revenues may not continue to be sufficient going forward.

In terms of fiscal capacity, Alaska is a relatively wealthy state in terms of its annual personal income earnings. Adjusted for geographical cost of living differences, Alaskan's average annual personal income in 2012[9] was $43,677, 23 percent higher than the national average of $42,693. Among the nine comparison states, only North Dakota ($57,404), South Dakota ($49,500), and Wyoming ($50,488) had higher average per capita incomes. This suggests that at this time, Alaska possesses a higher than average fiscal capacity, but has not been utilizing it due to its oil wealth. As a result, the state possesses the second lowest percentage of state and local taxes as a percent of personal income in the country.

The state has two potential sources of revenue to help stabilize funding until additional revenue sources are available: the Constitutional Budget Reserve Fund, estimated at $10.1 billion at the beginning of FY2016, and the Permanent Fund Earnings Reserve Account, with a balance of $6.9 billion at the beginning of FY2016. The state's Statutory Budget Reserve Fund has already been exhausted. Finally, as noted in the equity study chapter, it is difficult to determine whether the current state and local funding shares for K-12 education are appropriate and equitable. Currently, the state lacks a comprehensive and consistent measure of local wealth that can be applied across all district types. The state could use a

[9] Bureau of Economic Analysis figures.

formal definition and measure of local fiscal capacity to provide a better understanding of local districts' ability to contribute to K-12 education and to establish a more equitable and balanced local contribution.

VIII. Recommendations

Framing the Conversation

APA's intent for all recommendations is to strengthen the current funding system and to ensure that the system becomes more responsive to student needs. The study team does not recommend specific funding levels, since that would be outside the scope of this study.

It was clear to the study team that Alaska's current fiscal reality influenced APA's interview conversations with school district leaders. Interviewees expressed strong concerns about making any changes to the system while the state was considering budget reductions. Given the absence of new state revenue dollars, there was an understandable fear that any change to the funding system would be a "zero sum game," meaning that any positive funding change for one district would, by definition, lead to a negative funding change for another district. The study team kept this underlying theme in mind when analyzing the information from the interviews and when creating the recommendations in this section.

A number of the recommendations made below could, or will, have cost impacts for the state. APA's work on school finance issues around the country makes the study team keenly aware of how difficult it can be to implement changes in tough fiscal environments. At the same time, the study team thinks it is important for Alaska to understand the impacts its funding system has on districts, schools, students, and taxpayers and to work to eliminate any possible issues when possible. The study team understands that, in the near term, it may not be possible for Alaska to make of the changes described below. Nonetheless, these recommendations provide a roadmap for the state to make changes in the future. Where possible, APA attempts to estimate the impact of the recommendations.

Overall Impressions

Overall, the study team believes Alaska's current funding system has the right elements in place to address the variations described above. The formula adjusts for variations in needs across the state through the School Size Adjustment (SSA), District Cost Factor (DCF), Hold Harmless, Special Needs Funding, Vocational Career and Technical Education (CTE) Funding, Intensive Services Funding, and Correspondence Program funding. Interviewees were generally happy with how the system works. Further, the system is understandable and transparent to educators. Interviewees enjoyed that the formula offered local districts the flexibility to make the financial decisions that would best fit their communities. The system also limits reporting burdens on districts, freeing up districts to focus on student education.

Additionally, the data show a system where increases in instructional expenditures are tied to increases in student performance on the Alaska Standards Based Assessments (SBAs). The equity analysis shows

that spending levels are not highly correlated with district wealth. Alaska has had robust revenues from oil revenues and has been able to sustain itself with no statewide income or sales taxes while maintaining low local tax levels.

At the same time, the current formula has several cliff points, e.g. where small changes in school- and district-level student enrollments may lead to large changes in funding. The SBA performance data shows that a district's student characteristics, including its percentage of special education, LEP, and Alaska Native students, provides a good indicator of that district's SBA proficiency levels. Still, the funding system does little to differentiate funding based on actual student characteristics. Some of the formula's existing adjustments for student characteristics have not been addressed in many years. Equity concerns arise around the difficulty in comparing wealth across districts and a lack of correlation between a district's student needs and spending. Finally, revenues from oil taxes have declined and are predicted to remain lower than previous projections. A lack of a fuller state tax portfolio may make sustaining current spending levels difficult.

Recommendations for Each Funding System Component

The key recommendations for each component are offered below. Context, rationale and supporting data are provided in Chapter VIII, so the study team highly recommends reviewing that chapter to fully understand the suggestions given here.

1. **School Size Adjustment**
    a. Alaska should consider not using the SSA in larger districts that can leverage economies of scale and centralized services to maximize resources. (Alaska should also consider holding districts harmless so they are not negatively impacted by this change).
    b. Districts should be allowed to pick which school the students in a community under 10 are applied to.
    c. Alaska should create an average formula for schools affected by the community size cliffs at 100 and 425 students. These cliffs can create significant losses in funding due to the loss of only one or two students.
    d. The SSA was first created in 1998, so it may be time to update the adjustment by determining what resources are required to offer an essential education program at different school size points efficiently.
2. **Hold Harmless**
    a. Alaska should create a true Declining Enrollment adjustment to replace the current Hold Harmless provision. APA recommends that Alaska use the Best of Three-Year Averaging approach, acknowledging that the net increase in ADM will cost additional dollars and may not be able to be implemented immediately due to budget constraints. *APA discusses alternatives in Chapter VIII and full model details in Appendix D.*
3. **District Cost Factor**
    a. The study team believes Alaska's DCF is strong. The current DCF is also the most appropriate approach for the state, since the DCF accounts for the specific cost

pressures Alaska's districts face beyond staff wages. These additional cost pressures include the costs of travel, energy, goods, and shipping.

b. Given that it has been 10 years since the last update of the DCF (the 2005 study by the Institute of Social and Economic Research (ISER), at the University of Alaska Anchorage), it may be time to update the information in the DCF study to ensure it is responsive to current district needs.

4. **Special Needs Funding**
    a. The state should move towards a series of adjustments for special needs that are student population-specific and need-differentiated. The state should also consider providing an adjustment for at-risk students. *APA discusses alternatives in Chapter VIII and full model details in Appendix E.*
5. **Vocational/Career and Technology Education Funding**
    a. Alaska should leave the CTE adjustment in place. When funding is available, the state should consider if it is possible to increase the level of funding and fund actual CTE student counts.
6. **Intensive Services Funding (Intensive Special Education)**
    a. Alaska should not make any major changes to the Intensive Services adjustment.
    b. If the state reexamines the DCF, the study team suggests examining the additional costs of related services for intensive special education students in remote and/or isolated areas.
    c. Alaska should collect data on the movement of intensive special education students into and out of districts throughout the year to understand the potential cost impact for districts due to this mobility.
7. **Correspondence Programs**
    a. If a new system is put in place to fund for actual counts of special needs students, then Alaska could consider adjusting for the special needs of correspondence students.
    b. If blended learning programs grow, then as they grow, Alaska should examine: (1) the costs of the programs and (2) the methods for counting blended learning students.
8. **Transportation**
    a. The study team does not recommend changes to the current transportation funding system, and suggests that districts continue to be allowed to use transportation funding for intra-district transportation to maximize instructional resources.

Equity Study Recommendations

1. The study team recommends that Alaska revisit its Special Needs adjustment to ensure that it accounts for differences in concentrations of special needs students, especially at-risk students, across districts.
2. The state should conduct further analysis of the differences in the amount of local revenues contributed to districts and explore approaches for either: (1) equalizing access to additional revenues beyond state foundation funding for low wealth districts or (2) further limiting the amount of additional local funding that may be contributed to districts.

3. Additionally, the state should consider creating a consistent measure of local capacity for supporting districts that may be used across all district types.

Recommendations for Fiscal Sustainability for Funding K-12 Education

1. Over the long term, it may be in the state's best interest to begin moving toward reducing its reliance on oil revenues. In the long term, both demand and production will likely begin a permanent downward trend. The state should consider putting a fiscal foundation in place now to diversify its revenue sources. This would require putting new revenue streams in place that will eventually be able to reduce the 80 percent to 90 percent reliance on oil revenues.
2. During the transition away from the current reliance on oil revenues, the state should explore using other available resources to temporarily help stabilize education funding. For example, the state should explore using the annual earnings on the Permanent Fund.
3. Alaska pays for a relatively high state share of K-12 funding; the state should explore equitable approaches to adjusting the local share of K-12 funding.[10]
4. The state could also consider creating a floor for the Impact Aid Percent applied to C&B districts making effort above the required level. This would lower the amount of state aid provided to these districts.
5. As noted in the *Equity Study Recommendations* above, the state should also consider formally defining and measuring the local fiscal capacity of all districts.

Other Recommendations

1. Alaska should undertake an examination of the state's current school district governance structure to ensure it is the most efficient and effective approach to serving students.
2. Alaska should examine student enrollment trends through the year to determine if the October count is the most accurate count method.

[10] APA recognizes that there is ongoing litigation through the Ketchikan lawsuit regarding the constitutionality of the required local contribution for schools. This study examined the current structure of the finance formula. The ramifications of the constitutional challenge are outside the scope of the study.

Contents

I. Introduction

In early 2015, following a competitive request for proposals (RFP) process, the Alaska State Legislature hired Augenblick, Palaich and Associates (APA) to undertake a review of Alaska's funding of public schools.

The RFP tasked the contractor with examining all areas of the state's school funding structure. To do this, APA completed a number of specific tasks:

1. reviewed the structure of Alaska's current funding structure;
2. conducted interviews with district stakeholders to understand how the current school finance structure affects individual districts;
3. examined other states' approaches to school funding;
4. examined the equity of the current system, looking at both district and taxpayer equity;
5. analyzed student performance across Alaska, including the relationship between need, funding, and performance;
6. examined the state's sources of revenues; and
7. developed recommendations for the state to consider moving forward.

It is also important to remember what is *not* included in this study. APA was not tasked with examining the adequacy of the state's funding formula. That is, APA was not asked to calculate the levels of funding deemed necessary to ensure that all students could meet state standards. The study team was only asked to examine the current structure of the formula, considering both funding practices in other states and Alaska's unique state context. APA was not asked to evaluate, or make recommendations regarding, the specific figures used within the formula, such as for the School Size Adjustment or District Cost Factor. Instead, the study team was tasked with evaluating whether it makes sense to use a size adjustment or a district cost adjustment within Alaska's system. This report does not assess whether the actual adjustment figures are correct.

The report is structured as follows:

1. **Chapter I: Introduction** provides an overview of the study background, objectives, and tasks.
2. **Chapter II: Study Approach** reviews how the study was conducted, and lays out guiding principles for a strong school finance system.
3. **Chapter III: Overview of Alaska's Current Funding Program** discusses Alaska's current system and describes overall themes from district interviews.
4. **Chapter IV: Examination of Funding Program Components in Detail** offers a closer examination of each of the components of the funding system, comparing each component to national funding practices and listing some more specific feedback from district interviews. This includes a discussion of transportation and capital, which are funded separately.
5. **Chapter V: Equity Analysis** examines the horizontal equity, vertical equity, and fiscal neutrality of the current system.

6. **Chapter VI: Analysis of Relationships between Performance, Need and Expenditures** considers how student performance, need and expenditures are related to each other.
7. **Chapter VII: Funding Sustainability and Sources** evaluates the revenue sources Alaska employs to fund education and how sustainable those sources have been over time.
8. **Chapter VIII: Recommendations** presents a number of recommendations for next steps to improve the strength of the current funding system**,** based on APA's review of the current system, research on national funding practices, feedback from districts, and data analysis.

II. Study Approach

This chapter will outline the basics of a strong school funding system that provide the foundation of any funding system evaluation and the study team's methodology for data collection.

Basics of a Strong Funding System

Based on extensive school finance experience over the past 30 years, APA has developed a set of characteristics associated with a strong school finance system. A strong statewide system will consider:

- the uncontrollable differences that exist across school districts in any state;
- the state requirements that define how education must be organized and delivered;
- the state expectations for student performance, where consequences might exist if these expectations are not met; and
- the constitutional requirements of the state.

These considerations help to generate a set of school finance system objectives. These objectives, listed below, serve as a reasonable starting point in examining the strengths and weaknesses of any state's school finance system.

In APA's expert opinion, a strong education funding system is one that is equitable, responsive, adequate, efficient, and flexible. Within each of these broader descriptors, there are a number of specific tenets for consideration:

A strong education funding system is equitable.

1. Variation in spending between school districts can be explained primarily by differences in district needs and district tax efforts. Variation in spending cannot be solely attributed to differences in wealth between districts.
2. Allocation of state support is inversely related to school district wealth, where wealth reflects a school district's ability to generate revenue for elementary and secondary education.
3. Each district has a similar opportunity to generate revenue above the base funding levels of the state.
4. State aid that is *not* sensitive to the needs of school districts and that is *not* wealth-equalized, such as incentive grants or hold harmless funds, will be limited relative to state support that *is* need-based and *is* wealth-equalized.
5. The state has procedures to define and measure school finance equity for students and taxpayers, and to periodically assess the equity of the school funding system.

A strong education funding system is responsive.

1. Allocation of state support is positively related to the needs of school districts, where needs reflect the uncontrollable demographic characteristics of students and school districts.
2. Allocation of state support is sensitive to the school district tax efforts to support elementary and secondary education.

A strong education funding system is adequate.

1. Allocation of state support reflects the costs that school districts are likely to incur as they strive to meet state education standards and student academic performance expectations.
2. The school finance system covers current operating expenditures as well as capital outlay and debt service expenditures.
3. The state has a procedure to define and measure the adequacy of the revenues school districts obtain for elementary and secondary education. The state has a procedure to periodically determine whether adequate revenues are available in all school districts.

A strong education funding system is efficient.

1. School finance systems should focus on resource efficiency where possible.
2. Funding formulas should not provide incentives that require districts to create inefficiencies in order to obtain additional funding.

A strong education funding system is flexible.

1. School districts have a reasonable amount of flexibility to determine how much they want to spend on education.
2. School districts have a reasonable amount of flexibility to spend the revenues they obtain as they wish, provided that they are meeting, or making acceptable progress toward meeting, state education standards and student academic performance expectations.

APA used these criteria as general guidance during the review of the funding system. Not all of the specific tenets were applicable to this study. For example, APA was not tasked with examining adequacy as part of this study, and did not analyze adequacy-specific characteristics for this report. The study team considered the equity, responsiveness, efficiency, and flexibility of the current system and each of its key components.

Methodology

APA conducted this study between late February and July 2015. During this time period, the study team:

8. Reviewed the structure of Alaska's current funding structure.
9. Conducted interviews with district stakeholders to understand how the current school finance structure affects individual districts.
10. Examined other states' approaches to school funding.
11. Examined the equity of the current system, looking at both district and taxpayer equity.
12. Analyzed student performance across Alaska, including the relationship between need, funding, and performance.
13. Examined the state's sources of revenues.
14. Developed recommendations for the state to consider moving forward.

Each of these activities is detailed below:

Review of Alaska's Current Funding Structure

To begin this study, APA reviewed available documentation of, and past studies on, Alaska's current funding system. The reviewed items included annual overview summaries from the Department of Education & Early Development (DEED) and relevant external studies, including: the 1998 McDowell Group study, "Alaska Cost Study;" the 2003 American Institutes for Research (AIR) study, "Alaska School District Cost Study;" and the 2005 University of Alaska Anchorage Institute of Social and Economic Research (ISER) study, "Alaska School District Cost Study Update." APA then conducted a number of interviews – both in person and by phone – with current and past staff members from DEED. Taken together, the document reviews and the interview data allowed APA staff to understand both the historical context of the funding formula and the mechanics of its current operation. The information on the current system from this review is a part of Chapters III and IV.

Interviews with School District Leaders

Alaska has a unique set of district, student, and geographic characteristics. To better understand how the state's current funding formula affects districts, APA conducted a number of interviews with school district leadership – including group phone interviews and in-person interviews – from around the state. During all of these interviews, APA asked the participant(s) to reflect on each individual component of the funding system and then to reflect on the system overall. For all interviews, participants were told that their comments would remain anonymous, and that the report would present aggregate themes rather than specific or identifiable information.

On March 10, 2015, APA was able to listen in on an Education Task Force facilitated comment session. During this session, educators from around the state were invited to provide comments on the state's funding system as part of APA's study.

APA then undertook a formal interview process. First, APA divided the state's districts into five different groups and invited staff from the representative district groups to join phone conversations. The five districts groups were: Large Area Rural; Greater than 50 Percent Correspondence; Single School Site; Rural; and Regional Educational Attendance Areas (REAAs). The group interviews were structured to allow each participant an opportunity to respond to all the questions. The group interview protocol can be viewed in full in Appendix A.

In late April, APA held on-site interviews throughout the state, utilizing information gained from the group phone interviews to help further guide discussion. Four APA staff members traveled to Alaska and, in two-person interviewer teams, met with leadership staff from 11 different districts. APA held phone interviews with staff from two additional districts that were unable to meet during the firm's trip. The district interview questions were similar to the group interview questions, but explored the district contexts, including geography and student populations, and the impacts of the funding system components in greater detail. School district leaders interviewed for this report primarily included

superintendents, budget officials, instructional leaders, and operations leaders. The district one-on-one interview protocol can be viewed in full in Appendix B.

After returning from the on-site interviews, APA identified a number of additional districts the study team wished to interview. The focus was on identifying districts with very small enrollments and/or districts with high amounts of student need. Of the identified districts, APA was able to conduct an additional interview with one district.

Not including the Task Force comment session, the study team spoke to a total of 31 districts over the course of the individual and group interviews. Appendix C includes the list of participating districts.

Feedback from district interviews is shared in both Chapters III and IV.

Review of Other States' Approaches to School Funding

APA conducted a review of the approaches other states use to fund schools. No state is a perfect comparison to Alaska, but the study team attempted to examine states with traits similar to Alaska in one or more way. For example, the study team looked at states with large variation in sizes of districts, with both urban settings and very remote settings, and with substantial Native American populations. APA's initial list of states for comparison included Colorado, Hawaii, Idaho, Maine, Montana, North Dakota, South Dakota, Vermont, and Wyoming. For each component of the funding formula – such as the School Size Adjustment (SSA), the District Cost Factor (DCF), and additional weights for special needs students – APA reviewed how these initial comparison states addressed the component. After this preliminary comparison state review, the study team conducted a broader review of other states that also have funding adjustments similar to Alaska's. Chapter IV of this report presents the results of these comparisons, including some data modeling of how different states' approaches would function if used in Alaska. Comparison information is shared in Chapter IV.

Equity Analysis

APA's equity analysis examined school district level enrollment and fiscal data for three years: 2005-06, 2009-10 and 2013-14. By including the earlier fiscal years, 2005-06 and 2009-10, the research team was able to look for longer- term trends taking place within Alaska's school finance system. Fifty-three districts were examined for all three years. In addition to examining all the districts together, APA examined the City and Borough (C&B) districts separately from the REAAs. This was in part done due to the differences in property tax treatment of the two groups of districts. As noted above, APA's focus was on three equity measures: (1) horizontal equity, (2) vertical equity, and (3) fiscal neutrality. The variables considered were: (1) enrollment, (2) district need, (3) wealth proxy[11], (4) local tax effort, (5) current spending per pupil, and (6) instructional services per pupil. The equity analysis is presented in Chapter V.

[11] As only the 34 City and Borough (C&B) districts have reported property wealth, APA developed a "wealth proxy" for all districts that included both actual property assessed values, plus a Federal Impact Aid proxy value for C&B districts, and a Federal Impact Aid proxy value for REAA districts. The Federal Impact Aid proxy amount was calculated by taking the total

Analysis of Relationships between Performance, Need and Expenditures

As part of APA's analysis the APA study team undertook a series of statistical analyses focusing on student need, student performance, and spending. The study team first created a district-level database that included performance data for the Alaska Standards Based Assessment (SBA) and demographic data of the participants taking the assessments from 2004-05 to 2013-14, demographic data for all district students from 2008-09 to 2014-15, and expenditure data for 2012-13 and 2013-14. All data were provided to the data team by DEED. APA then examined the relationships between: (1) district demographics and student performance on the SBA, (2) expenditures and student performance on the SBA, and (3) district level student need and the funding adjustments in the foundation formula. This analysis can be found in Chapter VI.

Examination of the State's Sources of Revenue

APA examined Alaska's ability to fund K-12 education in a sustainable manner. This assessment of fiscal sustainability for K-12 education consists of the following analyses: (1) current sources of state revenues, (2) current sources of state tax revenues, (3) tax incidence and stability, (4) a comparison of state and local revenue shares, and (5) the effects of the Federal Impact Aid deduction from state aid. The comparison focuses on nine comparison states: Colorado, Hawaii, Idaho, Maine, Montana, North Dakota, South Dakota, Vermont, and Wyoming. Three of these states, Colorado, North Dakota, and Wyoming are top oil producing states like Alaska. This examination of revenue sources and a discussion of sustainability are included in Chapter VII.

Development of Recommendations for the State to Consider

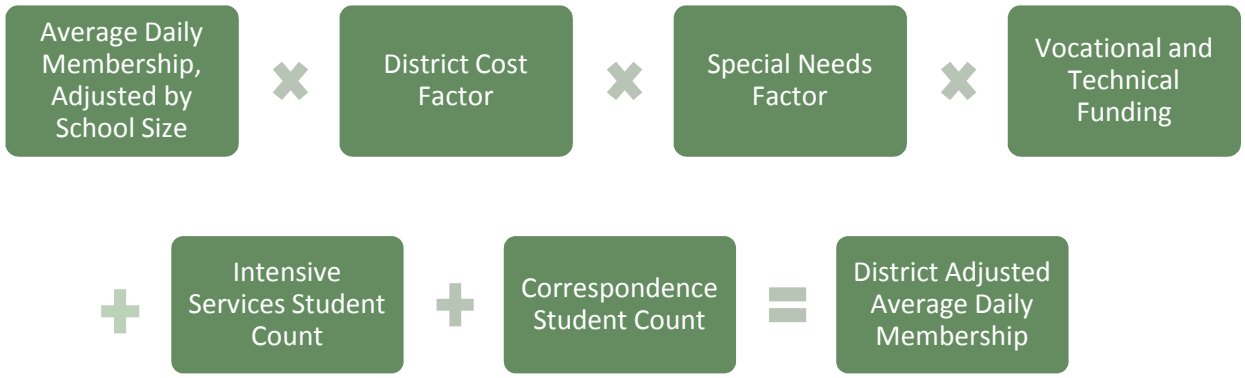
Based upon findings from interviews, national comparisons, and data analysis, APA developed a series of recommendations for the Legislature to consider, both related to Alaska's School Funding Program, and for the sources of revenue that fund education. These recommendations can be found in Chapter VIII.

Federal Impact Aid amount, deducting amounts for specific student-related services (e.g. services for students on Indian Lands, services for students with disabilities, and services for exempt three- and four-year-olds), and then dividing by the minimum local contribution tax rate of 2.65.

III. Overview of Alaska's Current Funding System

The primary method Alaska uses to distribute state funds to school districts is a foundation program. The foundation program concept was developed more than a century ago, and is currently the most popular formulaic procedure states use to distribute aid to school districts. Under a foundation program, a state sets a total target level of funding that is unique to each school district, and defines state aid as the difference between that amount and the yield of a local contribution, the rate of which is common constant across all school districts. Using this approach, a state simultaneously: (1) recognizes a variety of different circumstances across school districts that can affect the cost of providing education services, and (2) equalizes state support relative to the variation in wealth that exists across all districts.

Under Alaska's foundation formula, a district's funding is determined by multiplying the Base Student Allocation (BSA), as defined by the legislature, by the District Adjusted Average Daily Membership (DAADM). A district's DAADM is determined using the following calculation:



Each of the components of this calculation is discussed briefly below, with subsequent chapters detailing each component in greater depth.

Components of the Alaska School Funding Program

Average Daily Membership

Average Daily Membership (ADM) is determined by average number of students physically attending schools across a 20-day count period in October. This count is then used as the starting point for DAADM calculations.

School Size Adjustment

The School Size Adjustment (SSA) is an adjustment focused on accounting for the cost differences schools face based on school size. The SSA provides higher ADM adjustments for the smallest schools in the state. At the same time, the largest schools in the state have their ADMs adjusted down as part of

the SSA. A district's size-adjusted total ADM is the sum of each of its schools' student counts after the adjustment to each of their schools.

Hold Harmless

The district's size-adjusted ADM is evaluated to determine if it qualifies for the Hold Harmless provision. A district qualifies for this provision if it has lost five percent or more of its total size-adjusted ADM in one year (i.e. from one October pupil count to the next October pupil count). The Hold Harmless provision effectively increases a district's size-adjusted ADM for three years:

1. In the first year that a district receives the Hold Harmless provision, Alaska's formula takes the difference between the district's current size-adjusted ADM and its prior year size-adjusted ADM (base year). The district is provided an additional ADM amount equal to 75 percent of the difference between current year and prior year size-adjusted ADM.
2. In the second year, the additional ADM is equal to 50 percent of the difference between the current year size-adjusted ADM and the base year.
3. In the third year, the additional ADM is equal to 25 percent of the difference between current year size adjusted and base year.

In this way, the Hold Harmless provision cushions the impact of declining student numbers on a district's funding.

District Cost Factor

The District Cost Factor (DCF) is then applied to the size-adjusted ADM and/or the Hold Harmless-adjusted ADM for each district. The DCF was designed to address differences in incurred costs between districts due to geographic location and/or isolation. The DCF considers district differences in the costs of staff, staff travel, energy, instructional supplies/materials, maintenance supplies, and shipping (of supplies, materials, etc.). DCF adjustments are unique to each district, and range from 1.000 to 2.116[12].

Special Needs Funding

Next, all districts receive an adjustment to fund Special Needs students, which includes: vocational education, non-intensive special education (intensive special education is funded separately), gifted/talented education, and bilingual/bicultural education. This adjustment provides an additional 20 percent above the district's ADM after it has been adjusted through the SSA, Hold Harmless provision (if applicable), and the DCF.

Vocational/ Career and Technical Education Funding

The final adjustment provides an additional 1.5 percent above a district's ADM (after it has been adjusted by the SSA, Hold Harmless (if applicable), DCF, and Special Needs adjustment) for Vocational/Career and Technical Education (which this study will refer to as CTE).

[12] Alaska Department of Education & Early Development, FY2015 Foundation Closeout.

Intensive Services Funding

Alaska makes two student-specific additions to its formula, separate from the multiplicative adjustments described above (where one adjustment is applied to the result of previous adjustments). The first of these additions is for intensive special education students. Each intensive special education student is counted as 13. To qualify for intensive services, students must meet a specific set of criteria set forth by the state related to the services required in a student's IEP.[13]

Correspondence Programs

The second student-specific addition – and the final step of calculating a district's DAADM – is the addition of correspondence students. Each eligible correspondence student is counted as .90.

After the correspondence students are added, the result is the district's total DAADM. This total DAADM figure is then multiplied by the BSA to determine each district's total Basic Need.

Local Effort[14]

Once total Basic Need is calculated, Alaska then determines the amount of local funding each district must provide. Requirements differ for City and Borough (C&B) districts, and for Regional Educational Attendance Areas (REAAs).

Thirty-four districts in the state are designated as C&B districts, and as such are required to provide a local match equal to the lesser of: (1) the equivalent of 2.65 mills on taxable real and personal property, or (2) 45 percent of the district's total Basic Need. Districts are also allowed to generate the greater of: (1) 0.2 mills or (2) 23 percent of Basic Need above the minimum local contribution.

Nineteen districts are REAAs, and as such are not required to provide local dollars, as they are deemed to have no taxable real or personal property tax base.

Alaska also deducts a proportion of Federal Impact Aid dollars from state aid for all districts that receive eligible Federal Impact Aid. The amount deducted in Alaska equals:

Total Impact Aid – Deductions[15] X state Impact Aid percentage X 90 percent

The state Impact Aid percentage is an adjustment that allows districts that make more than the required local contribution to keep a percentage of their Impact Aid equal to the amount their local contribution exceed the required contribution. The 90 percent factor is the amount of the final, adjusted Impact Aid that is deducted from a district's state basic aid.

[13] Alaska Department of Education & Early Development, 2008.
[14] APA recognizes that there is ongoing litigation through the Ketchikan lawsuit regarding the constitutionality of the required local contribution for schools. This study examined the current structure of the finance formula. The ramifications of the constitutional challenge are outside the scope of the study.
[15] These include dedicated amounts of Federal Impact Aid for 25 percent of Indian Lands, for Special Education, for construction, and for exempt 3- and 4-year-olds.

Non-Foundation Formula Funds

Outside of the foundation program, Alaska also provides funds for transportation and capital.

Transportation

Alaska provides funding for transportation on a per-pupil basis, to districts eligible to receive funds. For the 2013-14 school year, 48 school districts received a combined $74.7 million in funding from the state for transportation costs. The per-pupil amount ranged from a low of $2 to a high of $2,819[16] calculated upon actual district expenditures.

Capital

Alaska provides three sources of funding to districts for capital projects[17]. They include the School Construction and Major Maintenance Grant Program (Grant); State aid for School Construction in Regional Educational Attendance Areas and Small Municipal School District Grant Program Results (REAA); and Debt Reimbursement Program (Debt). Each of the three programs functions differently and provides different levels of support to districts.

Greater detail will be provided on each component of Alaska's Funding School Program, as well as transportation and capital, in Chapter IV.

General Themes from District Focus Groups and Interviews

This section reports on themes noted in multiple interviews and in multiple districts. The subsequent chapters on individual funding system components will provide more specific information from the interviews on each area of school funding in Chapter IV.

Overall, the interviews ran smoothly, and participants were open and honest. It is, however, important to consider the timing of the interviews during March and April 2015, when state budget negotiations were underway. Respondents tended to believe that new dollars were not likely to be available for K-12 education in the foreseeable future. APA feels that the timing, or context, of the interviews may have had an impact on the responses, especially for group interviews. A recurring theme of the interviews was the idea that there is a fixed pot of funding, so any changes to funding procedures would inevitably lead to "winners" and "losers." Many interviewees were concerned that their district would be harmed by any changes and would receive less funding. As a result, responses may have been constrained because of the uncertainty of district funding at the time of the conversations.

Overall, interviewees tended to feel that the state's current funding system works well. Interviewees understood that Alaska has a unique distribution of districts, and that the state's funding system is challenged to adjust for all the relevant differences in student and district characteristics. In terms of the foundation formula, most respondents felt the formula generally included the right type of adjustments.

[16] Alaska Department of Education & Early Development, data on transportation funding.
[17] Alaska Department of Education & Early Development, School Capital Project Funding under SB237: A Report to the Legislature. February 28, 2015.

There were concerns about how these adjustments were implemented, how they affected different districts, and how they interacted with other adjustments.

The following general feedback themes were heard for each of the funding system components:

Base Student Allocation (BSA): One theme that came up regularly during the interviews was a lack of understanding of what the Base Student Allocation is designed to provide for all students across the state. Interviewees felt that the funding system resulted in different districts being able to provide very different educational programs for students. These differences in district capabilities were especially evident in smaller communities, which were often struggling to offer robust programs. Districts struggle in both core academic areas (e.g. providing a robust high school curriculum) and elective academic areas (e.g. providing art, music, and/or P.E.). These struggles were most pronounced in the smallest, most remote areas. Generally interviewees understood that programming would never be equal across very diverse education settings. Nonetheless, it would be helpful for districts to have a clear understanding of what a minimum or essential program should be able to provide.

School Size Adjustment (SSA): Interviewees felt that the SSA was needed, and that the SSA generally met the needs of schools across the state. Some interviewees noted that the smallest schools in the state struggled to provide programs that went beyond the core program. These schools had limited course offerings and few electives. The SSA includes a number of "cliff" points where the loss of a few students can lead to large changes in funding. A number of interviewees mentioned the large impacts that these cliffs can have on funding. In the current system, when a school is under 10 students it loses funding. Interviewees from all different sizes of districts expressed that this loss of funding has a devastating impact on the school's local community. Interviewees often expressed that the loss of the school often led to the loss of the community as families move away.

It was also mentioned that applying the SSA to all districts, regardless of size, might not make sense. Though no district would like to see a decrease in SSA funding, there was concern that providing more dollars for smaller schools, in settings where those dollars may not be necessary, could influence districts to design schools to maximize funding versus maximizing efficiency and effectiveness. A number of interviewees believed that the largest districts do not need to be included in the SSA.

Hold Harmless: Few of the interviewees had actually worked in districts that had qualified for the Hold Harmless provision. Still, the consensus was that Hold Harmless is very important as many, if not most, districts are experiencing declining enrollment. Interviewees were very concerned that, as districts experience declining enrollment, those districts' fixed costs will become a much higher percentage of district total costs. This is especially true for districts with building capacities that far exceed enrollment numbers. Many interviewees felt that the large five percent marker (losing five percent or more of total size-adjusted ADM from year to the next) was hard to meet, especially for larger districts. Interviewees felt that an approach that took into account year-to-year declines would be more beneficial for districts.

The Hold Harmless conversation often brought up more general district budgeting concerns. Interviewees tended to feel that the current confluence of budget timing, contract renewals, the

legislative process, and October pupil counts makes for a very tenuous budgeting situation. Interviewees expressed an interest in creating a system that would give districts more certainty in funding in the fall. One option offered was having a system that would address declining enrollment before the five percent threshold, or even using prior year student counts for current year funding.

District Cost Factors: Interviewees made it clear that the District Cost Factors is an important adjustment for the state. Interviewees generally felt that structure of the adjustment was working well, but expressed that some costs were rising very quickly. These fast-rising costs included fuel prices and the per-pupil operations costs in smaller and/or remote districts. Districts also mentioned concerns over teacher housing and transportation of staff to and from trainings. The study team saw a similar theme in discussions of student activities, including sports and other student activities. It is clear that many districts struggle, generally, to provide opportunities for students to be well-rounded and to participate in such activities. Specifically, for high schools in smaller and/or remote communities, districts face very high costs for students to participate against other teams. Currently, districts rely a lot on local fundraising for student activities, which raises concerns that only those districts that can afford it will be able to offer these sorts of opportunities to students.

Special Needs Funding: When considering the Special Needs adjustment (for non-intensive special education, bilingual/bicultural, vocational, and gifted education), generally, interviewees felt that Special Needs adjustment allow districts to serve their students. However, interviewees indicated that they often had to prioritize serving non-intensive special education students with these dollars first. Depending on the number of non-intensive special education students they needed to serve, interviewees often mentioned having difficulty addressing the needs of vocational, gifted/talented, and bilingual/bicultural students with the remaining dollars. Therefore, participants from the highest-need districts did express a need for additional funds to be able to serve all students well. Interviewees liked the block grant model approach, as this model reduced paperwork, reduced the labeling of students, and provided districts with flexibility.

Vocational/Career and Technical Education (CTE) funding: Districts expressed that the generated funding from the CTE adjustment had helped them expand their CTE programs. Larger districts seemed to have been able to leverage this funding more effectively to provide more students with opportunities, often in centralized locations. Smaller districts were, once again, struggling to provide similar programs at smaller, separate sites.

Intensive Services: Interviewees were very supportive of the state's approach to Intensive Services funding. All interviewees expressed just how costly students who need intensive services can be, and they felt the 13 weight was very helpful in meeting these students' needs. There was concern that movement of these students into a district can be tough, especially smaller and/or remote districts, to handle. Having an intensive needs student move in after the count can lead to high, unfunded costs for the remainder of the school year. Even if the total number of intensive needs students in a district doesn't change, the unique needs of such students can leave a district with contract services that are no longer needed and/or no contract for needed services.

Correspondence: The recent shift in the Correspondence adjustment from counting each correspondence student as .80 to .90 has been well received throughout the state. There was some concern that, as some districts move towards blended learning models, the .90 may not cover the full cost of serving students being served by the approach if the students are only counted in the correspondence student category. There was also concern that, while students being served as correspondence students were eligible for special needs services, they were not part of the funding calculation for special needs students.

Transportation: Interviewees generally felt that transportation funding was working well. Some districts had concern that the per-pupil funding approach did not account for their transportation costs. This was especially true of districts covering larger geographic areas. Interviewees were also concerned over the shift in accounting for transportation, which will include a more detailed accounting of transportation expenses. Larger districts felt the shift might be an effort to eliminate funding for intra-district transportation often used to provide opportunities for students. They felt the elimination of this funding would hurt the districts' ability to utilize their economies of scale successfully. Finally, multiple districts mentioned the lack of competition in providers affected their ability to negotiate advantageous contracts for transportation.

Capital: Interviewees from across the state felt capital was a current concern that may be growing in the near future. Districts had various concerns on capital. Growing districts face keeping up existing facilities while needing to build new schools. Declining enrollment districts have capital maintenance costs that are a growing as a percentage of budgets. Older buildings, often built for higher enrollment numbers, are aging and districts must find ways to maintain the buildings budgets generated on lower student counts. Interviewees were very concerned with the state moratorium on Debt Reimbursement (one of three state programs for capital). C&B districts feel that the state's match makes it much more likely that bond elections will pass. REAAs are in a hard position where they have no ability to raise sufficient funds locally for capital, and are reliant on state funding programs and building requirements. Without sustained capital investment interviewees fear a decline in the condition of facilities across the state.

Local Effort: Interviewees generally recognized the difficulties in measuring wealth and taxing wealth in Alaska. There were broad opinions on the current approach to local effort in the state, especially around the different approaches in City and Borough (C&B) districts and REAA districts. A few interviewees expressed concern with the lack of contribution by REAA districts; especially those REAA districts the interviewees felt have taxable property. Most interviewees, however, felt that REAA districts were making large contributions through the Federal Impact Aid being used to offset local share. REAA districts felt that they were in a difficult position; most of these districts have no ability to generate funds locally, and feel entirely dependent on the state and without control over their revenues. Interviewees from C&B districts indicated that meeting required local contribution levels can be a challenge for their communities. Interviewees also mentioned the varied approaches to raising the 2.65 mill match. This match comes directly from property taxes in some districts, while others raise the dollars in other ways, often limiting, or even totally offsetting, the amounts raised through property taxes. Some interviewees questioned the use of in-kind contributions in some C&B districts. It was felt

that sometimes the value of the services provided is overstated, lowering the funds that need to be raised. Finally, a number of C&B districts further described that their local governments set very specific limits on the amounts of money they were willing to provide (often at the required minimum), and that there was little they could do to influence that decision. This is a product of districts being "dependent," meaning they do not have independent taxing authority. While addressing the governance structure of districts being dependent is outside of the scope of this study, it did present challenges in several districts.

The next chapter examines all aspects of Alaska's foundation formula in more detail. Responses from the interviews will be reiterated in each section, and will go into further detail in some cases.

IV. Reviewing Funding Formula Components in Detail

This chapter will review each of the components of the funding formula in detail. For each component, the study team will: (1) discuss feedback from interviewees, (2) compare the component to funding approaches used in other state, and (3) analyze any relevant data.

School Size Adjustment

One of the main characteristics of a strong school finance system is that state support is responsive to the needs of school districts, where needs reflect the uncontrollable characteristics of students, schools, districts. School and district size can be an uncontrollable factor, particularly in remote and rural locations; thus, it is not uncommon for state funding systems to fund schools and districts differently based upon their size. This funding differentiation recognizes that small schools and districts may require more resources to provide the same education as larger settings. Smaller schools or districts lack the economies of scale seen in their larger counterparts and often have fixed administration, maintenance, and operations costs that are higher, on a per-pupil level.

Further, research has shown that the largest schools, in addition to the smallest schools, can be higher-cost settings. However, there is not conclusive research about the limits of cost efficiency associated with the exact size of a school. This is because other factors, such as quality of staffing and school geographic setting, also affect cost efficiency.

Alaska's Approach

In the 2014-15 school year, of almost 500 total schools in Alaska, about 36 percent of schools had enrollments under 100 students, while only 14 schools had enrollments over 1,000 students, or less than three percent.[18] Not only does the state have a high number of small schools, but it also has a wide range of school sizes to accommodate, with school sizes ranging from fewer than 10 students to 2,161 students.

Alaska's current school funding formula weights a district's ADM based upon the size of its schools, with schools receiving a higher weighted ADM as their size decreases. Alaska moved to this school-centered focus based on the McDowell Group's (1998) recommendations.

The first step in using the School Size Adjustment (SSA) to adjust a district's Average Daily Membership (ADM) is to identify how each individual school[19] in a district[20] will be treated based on the size of its community[21]:

[18] Alaska Department of Education & Early Development, School Enrollment by Grade as of October 1, 2014: FY2015. February 10, 2015.

[19] "School" means a program of instruction which complies with all statutes, regulations and requirements applicable to the operation of public schools in the state. (4 AAC 05.900).

[20] The "districts" of the state public school system are as follows: (1) each home rule and first class city in the unorganized borough is a city school district; (2) each organized borough is a borough school district; and (3) the area outside organized

- For communities with under 10 students, the school is not funded, instead the school's ADM are added to the next smallest school;
- For communities with between 10 and 100 students, all K-12 ADM are adjusted as one school;
- For communities between 101 and 425 students, ADM is disaggregated into two schools to be adjusted separately, one for K-6 enrollment and one for 7-12 enrollment; and
- For communities over 425 students, all schools are adjusted for individually.

The criteria used for charter and alternative schools to determine whether they are counted as independent schools varies from the community size criteria for traditional schools.

For alternative schools, a school with an ADM of 175 or greater that is administered as a separate facility will have its ADM adjusted separately, unless: (1) it is new and the first year of service with ADM between 120 to 175, then it will receive an adjustment of 1.33; or (2) it had an ADM of 175 or greater in the prior year but drops below 175 in the current fiscal year, then it will receive an adjustment of 1.33; or (3) it has an ADM of less than 175, then it shall be counted as a part of the school in the district with the highest ADM. For charter schools, a school with an ADM of 150 or greater is adjusted as a separate facility unless: (1) it is new and in its first year of service with ADM between 75 to 150, will receive an adjustment of 1.45; or (2) it had an ADM of at least 75 in the year prior to the current fiscal year, will receive an adjustment of 1.45; or (3) it continues to stay below 75 ADM, then it will receive an adjustment of 1.18.

Once it is determined if each school will be treated independently or added to another school based on community size criteria (or based on separate criteria for charter and alternative schools), each school's ADM is adjusted based on the formulas shown in Table 4.1, below:

Table 4.1: Alaska's School Size Formula

School Size	Formula
10-19.99	39.60
20-29.99	39.60 + (1.62 * (ADM - 20))
30-74.99	55.80 + (1.49 * (ADM - 30))
75-149.99	122.85 + (1.27 * (ADM - 75))
150-249.99	218.10 + (1.08 * (ADM - 150))
250-399.99	326.10 + (.97 * (ADM - 250))
400-749.99	471.60 + (.92 * (ADM - 400))
Over 750	793.60 + (.84 * (ADM - 750))

Source: Alaska Department of Education & Early Development, based on the 1998 McDowell Study

boroughs and outside home rule and first class cities is divided into regional educational attendance areas. (AK Stat § 14.12.010 (through 27th Leg Sess 2012)

[21] "Community" means a home-rule city, a city of any class, an incorporated village, or an unincorporated village. (4 AAC 05.900)

The SSA is applied in all districts, regardless of the districts size. The results for each school (either treated independently or added to another school) are added together to generate a total size-adjusted ADM for the district.

District Perspectives

Interviewees agreed that it makes sense to adjust for school size so that smaller schools can receive more funding. However, there are instances when the size adjustment's structure creates funding issues for schools. Under the current formula, there are schools that would experience a dramatic drop in funding compared to schools of the next smallest size, essentially experiencing a funding "cliff." For districts near the cliff drop-off points, losing just a few students can have a significant impact on funding. Many of the districts that the study team spoke with indicated that they faced budgeting and staffing issues when they were uncertain of their enrollments for the upcoming year, particularly for districts that are near these funding cliffs.

> *One district expressed that it has to strike a balance in projecting staff needs and signing contracts before the state budget is done. This creates a timing issue between the October student count date, the district budgeting process, and the state budgeting process. It is a challenge for the district to project what their funding will be and to plan accordingly.*

In some situations, the formula may incentivize districts to build smaller schools so that they will receive higher funding, instead of building the most efficient size of school, or the best school size for their students or community. Similarly, the requirements around size for charter and alternative schools often dictate the size of these schools, and whether they are a viable option for communities, instead of community need. Additionally, several districts indicated that larger districts may not need the SSA for their schools since they can leverage economies of scale, and provide consolidated services when need to maximize resources.

Further, it is difficult for small districts to staff all of their small schools according to student needs using the current SSA because it is not based upon being able to provide a set minimum, or essential, program.

> *One small district discussed the challenges it faces to staff even a "bare bones" instructional program in its smallest village schools. Often, a K-12 program is being staffed by only a few teachers and it is impossible to have teachers that are highly qualified in each subject area, and grade. Content is focused on the core subjects, and few specials or electives can be offered. The district was disheartened that they could not provide a program more comparable to a larger district and wanted nothing more than equal opportunities for their students.*

> *Another district noted that with many rural schools, it is difficult to supplement that core instructional program, even with online learning. Due to the high cost of internet bandwidth in remote areas, it can be cost prohibitive, especially as the district does not feel it can offer the online opportunities to all of their schools.*

The size threshold of 10 ADM is also important to small districts because it affects their decisions to close schools. Any school that enrolls less than 10 students is counted with the smallest school in the district above 10 students, so it often unsustainable to keep the school open at that level of funding and the district is forced to close the school. School closures are particularly impactful in small communities, where closing a school essentially dismantles the community. Not only do families tend to move away once the school is gone, but often the school is the largest employer in a community and the center of utility services, so the rest of the community may leave as well.

> *When asked what the impact of a school closure is to a community, an interviewee succinctly responded, "what community?" In their district's experience, once a school closes the community ceases to exist.*

Another interviewee from a district that had closed schools over the years indicated that students either moved out of the village or into a correspondence program. The interviewee expressed concern for the students who were left with the correspondence option, because that option only works well for students if the family is prepared and equipped to support the child's educational experience; often they are not, if they began homeschooling due to lack of other options. Many districts expressed strong concerns that a threshold higher than 10 would devastate their village communities.

Finally, most districts were pleased with the ability to distribute funds to individual schools themselves, rather than the state dictating how much money each school should get based on size. This allows the districts to have flexibility and discretion over how money can be spent to accommodate different needs across schools.

Other States' Approaches

Of the states that adjust for school size and district size, they differ in their approaches to adjusting for school size and their definitions of what size of school qualifies for an adjustment.

Size Adjustments for All Small Schools and Districts

A state may adjust within the funding formula for all schools or districts that meet specific size thresholds, which vary from state to state. Generally, state formulas tend to be district-based and fewer states perform school size-based adjustments. An example of a district-based size adjustment is in Colorado, which has both very small rural districts of ten students and large urban districts of over 90,000 students. Colorado districts a size adjustment factor from 1.0297 to 2.3958 in FY2014 to recognize the higher costs of smaller settings. Wyoming provides a school-based adjustment by providing additional staff to small schools; schools with ADM of 49 or under with one assistant principal position plus one full-time equivalent (FTE) teacher position for every seven students. Further, Wyoming schools within districts that have under 243 total K-12 ADM are resourced a minimum of one core

teacher at every grade with reported ADM, plus 20 percent of core teachers for elementary specialist teachers and 33 percent of core teachers for middle and high school specialist teachers.[22]

A few other states like, Vermont, use categorical programs or grants to specifically target small school and district needs. States such as Arkansas, New York, and Oklahoma acknowledge the impacts of school and district size in their transportation funding, which is typically funded outside the formula. Virginia guarantees all districts funding for a minimum number of instructional positions, thus ensuring that small districts will have their essential needs met, regardless of district size.

Limited Adjustments for "Necessarily Small" or Isolated Schools

A state can also use geographic isolation, or population sparsity, as a factor to adjust for school needs, either separately or in conjunction with school size. States may also use a "necessarily small" criterion to acknowledge schools that, though small, must exist to serve students in certain communities. For example, Utah is one state that uses a necessarily small criterion. Utah provides additional weighted pupil units for elementary schools below 160 ADM, one- or two-year secondary schools below 300 ADM, three-year secondary schools below 450 ADM, four-year secondary schools below 550 ADM, and/or six-year secondary schools below 600 ADM.[23] Maine provides additional funding subsidies to geographically isolated schools and island schools. Maine's formula takes into account enrollment per grade and per school, availability of other school options, and distance to nearest school, with different thresholds for different grade configurations of schools.[24] In Minnesota, the general education formula awards sparsity revenue to districts located in isolated areas that have less than 400 pupils in grades 7-12, or under 140 pupils in grades K-6. The amount of revenue Minnesota awards to secondary pupils varies depending on the number of pupils, the distance to the nearest high school, and the attendance area. The amount of revenue Minnesota awards to elementary pupils varies depending on the number of pupils enrolled in schools located 19 or more miles from the nearest elementary school.[25] In Oregon, students in a qualified small school receive a higher weight based on grade level, average grade size, and distance to the nearest school. The weight is based on the size of each school, not the size of the district.[26] As a final example, in North Dakota, a weighting factor of 0.1 is applied for school districts greater than 275 square miles in size with under 100 ADM. In addition, school districts greater than 600 square miles with fewer than 50 ADM are guaranteed funding at 50 ADM.

These adjustments differ from Alaska's because they are limited to small schools that have been defined as necessarily small – usually due to isolation. In Alaska, every school is adjusted based on size, regardless of the size of the district it is in, or the remoteness of its location.

[22] Verstegen, D. A Quick Glance at School Finance: Density and Sparsity of Small Schools. 2015.
[23] Utah Administrative Code, Rule R277-445. Classifying Small Schools as Necessarily Existent. June 1, 2015.
[24] Maine Department of Education. Draft: Essential Programs & Services Cost Component Calculations (ED279).
[25] Verstegen, D. A Quick Glance at School Finance: Density and Sparsity of Small Schools. 2015.
[26] Verstegen, D. A Quick Glance at School Finance: Density and Sparsity of Small Schools. 2015.

Effects of Size Factor in Alaska School Districts

Alaska's current SSA treats all schools of the same size equally, regardless of district setting. However, the community size thresholds, or cliffs, within the formula do create some funding issues for districts. This section describes the possible effects that the loss of a few students – or even just one student – can have on a district's total funding. The Hold Harmless provision, discussed later in this chapter, may help to cushion the impact of student losses on a district. However, this provision will only come into effect if a district has more than a five percent decline in its total, size-adjusted ADM.

Under the current SSA, if a school's total student attendance drops below 10, then that school is no longer funded as an independent school and its ADM is assigned to the next smallest school in the district. Since the SSA provides a lower weighting as school size increases, the effect means each school receives a lower weighted ADM than from the previous year. An example of this is offered below:

> **In Year 1,** there is a district with two different schools in different communities – School A with an enrollment of 10 and School B with an enrollment of 30. These are the two smallest schools in the district. They are considered independently, meaning that they are size-adjusted separately. The total size-adjusted ADM for each school would be 39.60 and 55.80, respectively, resulting in a combined ADM of 95.40.
>
> **In Year 2,** School A's ADM decreased to nine students while School B's ADM remained at 30, then the combined ADM would fall to 69.21. School A would no longer be adjusted as a separate school; instead, School A's ADM would be added to that of School B. Before undergoing the size adjustment, School B's ADM would increase by the nine students from School A. Thus, School B would fall into a larger school size category and, consequently, a lower per-student weighting level.
>
> Based on the SSA, the net loss of ADM for School A and School B is 26.19. Using the state's FY2015 Base Student Allocation (BSA) of $5,830, the total dollar loss to a district for one student is $152,688. The choice to create a funding cutoff at 10 students was a state policy decision. Through the study team's interviews with interviewees, it became clear that most districts do close schools under 10 ADM once funding is lost, as funding the smaller school becomes extremely costly and therefore unsustainable.

The next example relates to another cliff discussed in APA's interviews with districts – the community size threshold of 100 students that indicates whether a district's ADM is counted as one or two schools- a cliff that most likely does not result in immediate changes for how a school is staffed:

> **In Year 1,** a district has two schools – School C, grades K-6 with 61 ADM, and School D, grades 7-12 with 40 ADM. Combined, School C and School D have a total of 101 students. The district would receive funding of 101.99 size-adjusted ADM for School C and 70.70 size-adjusted ADM for School D, for size-adjusted ADM of 172.69.

In Year 2, enrollment in School C slips by one student (leaving ADM at 60) while enrollment in School D stays flat at 40 ADM, then the community will be funded as just one school. The district will be funded for 154.60 ADM, representing a loss of 18.09 ADM or $105,465.

Similar impacts can be seen at the 425-student community size benchmark. Upon meeting this benchmark, instead of a district's ADM being counted as two schools (K-6, and 7-12), the ADM would adjust each elementary, middle and high school individually.

It is important to note that the impact for a district in each of these examples goes beyond the impact of the size-adjusted ADM. The District Cost Factor (DCF), Special Needs Adjustment, and Career and Technical Education (CTE) Adjustment are all multipliers on previous ADM figures, meaning that the loss of ADM is compounded throughout the rest of the formula. Take the previous example of the district with School C and School D. In this example, the district ADM dropped from 101 to 100. After applying the SSA, the district's size-adjusted ADM for the community is 154.60 – a loss of 18.09 ADM after a decline of just one student. This lost ADM is compounded once the DCF, Special Needs Adjustment and CTE Adjustment are applied. Using the FY2015 median DCF of 1.44, the Special Needs Adjustment of 1.20, and the CTE Adjustment of 1.015, the total lost ADM in this example can be calculated as follows:

- 18.09 size-adjusted ADM x 1.44 DCF = 26.05 ADM
- 26.05 ADM x 1.20 Special Needs Adjustment = 31.26 ADM
- 31.26 ADM x 1.015 CTE Adjustment = 31.73 ADM

In the example of School C and School D, the total loss of ADM is 31.73, for a total dollar loss of $184,985.90. This dollar loss is the theoretical cost of losing just one student for a district with the median DCF. For a district with a much higher DCF (2.0 compared to 1.44), the loss would be nearly 13 ADM higher, for a total dollar loss of $256,912.

Given the difference that just one student can have on funding, losing students can be a significant hardship for districts. Further, the timing of enrollment calculations can be an issue for districts: by October of a given school year, staffing contracts are already in place and budgets – including school, and city and borough– have already been finalized. Thus, a dramatic change in funding can result in districts needing to pay for things (e.g. staff positions) they can no longer afford. Districts, particularly Regional Education Attendance Areas (REAAs), may have limited reserve funds available to cover these types of funding gaps.

Hold Harmless

When considering Alaska's current Hold Harmless provision for enrollment changes, there are two relevant school finance concepts to consider: Hold Harmless and Declining Enrollment. Hold Harmless provisions guarantee that a district will receive no less funding than it received the previous year, regardless of any changes to funding approaches or circumstances. Declining Enrollment provisions specifically address student enrollment changes, and attempt to lessen the impact of enrollment declines on district funding. This can be done through a number of methods, including the application of an adjustment at a "trigger" or benchmark decline, or at the onset of any decline in student count. Such

adjustments are intended to be responsive to changing district need, making it easier for districts to keep up with cost pressures as student numbers decline, since the district may have fixed operational or staff costs that cannot be immediately reduced.

Alaska's Approach

In 1998, Alaska switched from a community-centered funding approach for schools to a school-centric funding approach. During this transition between approaches, many smaller school districts lost money. However, smaller districts found some protection against these financial losses through the state's Hold Harmless provision, in place for districts that saw an enrollment drop of 10 or more percent between school years. In 2001, Alaska dropped this Hold Harmless provision. The provision was re-enacted in 2008 (HB273), but with more leniency: This time, districts that see an enrollment drop of *five* or more percent between school years qualify for the Hold Harmless provision. Specifically, the current Hold Harmless provision is based on changes to size-adjusted ADMs, calculated as described in the previous section. For a district that has lost five or more percent of its size-adjusted ADM, the Hold Harmless provision effectively increases a district's size-adjusted ADM for three years:

1. In the first year that a district receives the Hold Harmless provision, the district is provided an additional ADM amount equal to 75 percent of the difference between current year and prior year size-adjusted ADM.
2. In the second year, the additional ADM is equal to 50 percent of the difference between the current year size-adjusted ADM and the base year.
3. In the third year, the additional ADM is equal to 25 percent of the difference between current year size adjusted and base year.

In this way, the Hold Harmless provision cushions districts against the impact of lost enrollment.

Using common school finance terminology, Alaska's Hold Harmless provision is actually most similar to a Declining Enrollment provision. Hold Harmless provisions typically provide protection against changes in funding dollars, and typically are not specific to enrollment. Alaska's Hold Harmless provision is atypical in that it protects districts from declines in size-adjusted student counts above a set threshold, but does not guarantee maintenance of a certain level of funding. For example, under the current Hold Harmless provision, a district would have the decline in its student counts cushioned if it lost more than five percent of students in a year. However, that same district would not be held harmless against an overall reduction in funding.

District Perspectives

All the interviewees involved in this study indicated that the Hold Harmless provision is a good idea, though not many of the interviewees had had direct experience with the provision. Because districts must reach a five percent threshold to trigger the Hold Harmless provision, districts may be facing challenging enrollment declines, but not at a level sufficient to reach the threshold. Interviewees explained that, while districts that meet the threshold of five percent decline appreciate receiving the Hold Harmless provision, districts that miss the threshold tend to be left with stressful cost burdens.

> *One district interviewed has faced gradual declining enrollment for a number of years. However, due to its size, the district has not reached the five percent threshold. As a result, they have had to make significant cuts, particularly at the administrative level, since the district still has to fund the same number of classroom and teachers, but serves fewer students. The district is concerned that if enrollment declines continue as they anticipate, that it will impact instruction, such as having to cut teachers or support services, as they are running as "lean" in other areas as possible.*

Most interviewees felt that more certainty throughout the funding process would be preferable for districts with fluctuating enrollments. Districts in flux can face major uncertainties in their funding from school year to school year. These districts face difficult decisions as they try to hire staff, set contracts, and plan budgets in spring, based on projections (subject to change) of what their enrollments will be when the school year begins in the fall. If a district undergoes enrollment changes after it has made the sorts of operational decisions mentioned above, then that district can face major financial concerns. For example, a district may end up with much larger buildings than it needs for its student population, but still incur the same facilities and maintenance costs, regardless of the fact that fewer students are being housed in the building. Or, since districts are not permitted to shed staff after hiring and budgeting decisions are made in the spring, a district could end up with a cost burden of excess staff.

> *Another district has many small communities, which makes it difficult to predict changes in student populations. The district found that the Hold Harmless provision has helped stabilize the district's budgeting decisions. The district has qualified for, and used, the Hold Harmless adjustment twice, and foresees qualifying for it again in the future. By cushioning the enrollment decline, the district has been able to reduce resources gradually. Given the timing of final enrollment counts, when staffing contracts are already in place, and budgeting decisions have already been made; having the additional funding through Hold Harmless has been essential to stabilize their district.*

Several districts suggested that they would like to be funded on prior year count, or an averaged count over a period of time, so that they could have greater certainty in funding and so that they could address enrollment declines under five percent.

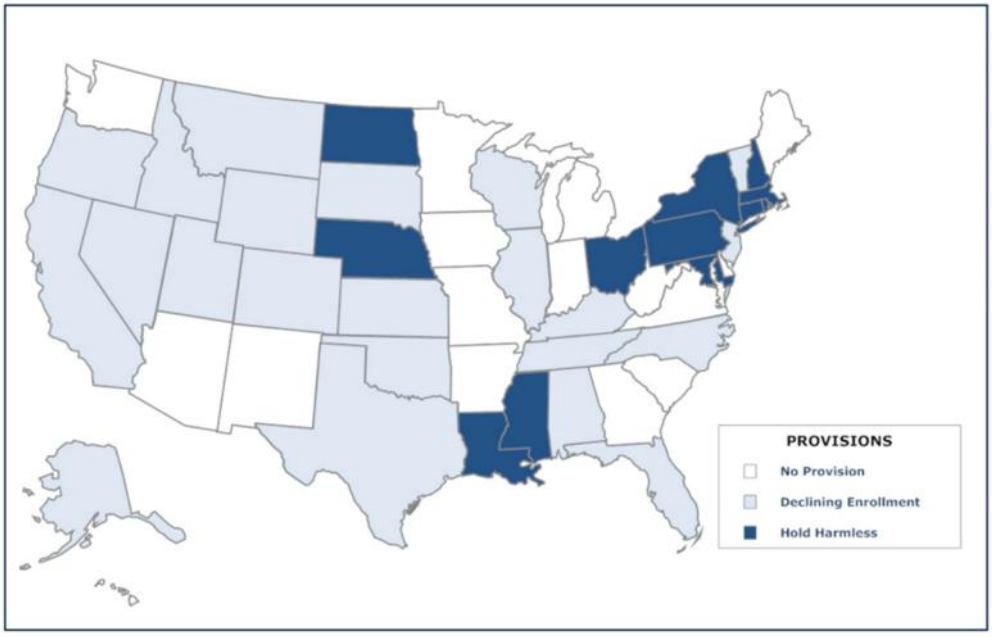
Other States' Approaches

According to a 2014 report by the Temple University Center on Regional Politics, that reviewed Hold Harmless and Declining Enrollment provisions across the county:

- 12 states have Hold Harmless provisions to guarantee a certain level of funding from year to year without consideration for enrollment;
- 22 states have Declining Enrollment provisions that cushion the level of funding a state receives based upon a drop in the number of students; and
- 16 states have no provisions.

The following map (Graphic 4.1) illustrates which states have these provisions, though it is important to realize that the map may lack some detail and not include any states that have added adjustments over the past year.[27]

Graphic 4.1
Hold Harmless and Declining Enrollment Provisions Nationally



Source: Temple University, Center on Regional Politics,
December 2014 Policy Brief: Hold Harmless Education Finance Policies in the U.S.

Notably, the report classifies Alaska as a state with a Declining Enrollment provision, even though Alaska refers to its own adjustment as a Hold Harmless Provision. This underscores the study team's argument that, using common school finance terminology, Alaska's Hold Harmless provision is actually most similar to a Declining Enrollment provision.

Hold Harmless Provisions

As noted, 12 states have Hold Harmless provisions, which guarantee that a district will receive no less funding than it received in the previous year. For example, Missouri uses a foundation formula to allocate education funding, and also has a Hold Harmless provision. In 2015, Missouri guaranteed its existing 193 Hold Harmless districts a 3.2 percent funding increase. Thirty-two more districts are in line to become Hold Harmless districts, eligible to receive that same 3.2 percent funding increase. At the same time, Missouri's non-Hold Harmless districts (approximately 295 districts) could lose up to 10 percent in state funding. In Vermont, district per-pupil spending is legally limited so that there can be no more than a 3.5 percent reduction in funding in any given year. In North Dakota, no district can receive

[27] For example, Missouri is coded on this map as a state without Hold Harmless provisions. However, as of 2015, the Missouri Department of Education reports that a number of Missouri districts have either "Small School Hold Harmless" or "Large School Hold Harmless" status. HB1689, an early childhood education bill, established 193 Hold Harmless districts in Missouri.

less than the baseline funding it received in the prior school year. Finally, in Connecticut, overall funding is guaranteed to be at least equal to the prior year's funding level.

As noted, Alaska's Hold Harmless provision is much closer to a declining enrollment provision than the Hold Harmless provisions in other states. If Alaska were to take on a traditional Hold Harmless provision, this would mean keeping funding at the same level from school year to school year for smaller or smaller-growth districts, instead of cushioning enrollment changes.

Declining Enrollment Provision: Limiting Reductions to Current Year's Enrollment

Of the 22 districts that have Declining Enrollment provisions, one approach is to limit the amount of reduction in support that is possible in any given year, thereby avoiding specific thresholds at which enrollment adjustments are enacted or revoked. For example, Idaho provides Declining Enrollment provisions for districts with a three or more percent decreases in average daily attendance (ADA). For these districts, Idaho maintains their ADA at the district's prior year's less three percent, capping their enrollment loss. Florida uses a Declining Enrollment supplement that is based upon the difference of the current year's unweighted enrollment compared to the prior year. For a district, with declining, unweighted enrollment, 25 percent of the difference in student count is multiplied by the prior-year base funding to act as a supplement to the current year's funding.

Alaska's current Hold Harmless provision applies to districts that have greater than a five percent decrease. In some other states, like Florida, the Declining Enrollment adjustments are applied to all districts with declining enrollment, not just those with declines greater than a certain threshold. This universal approach provides more consistency for districts with fluctuating enrollment, and could alleviate some of the problems districts face as they try to plan for budgeting, staffing, and facilities prior to receiving exact enrollment numbers.

Declining Enrollment Provision: Using Average Enrollment Levels to Determine Funding

States can also determine the level of financial support they will provide to school districts by taking an average of enrollment levels across several years. These can be specified calculations (e.g. ADM over the last two years) or "best of" averages (e.g. the highest ADM over the last three years, meaning the ADM that will justify the most funding). Colorado, Montana, Wyoming, and South Dakota all take approaches based on enrollment averages. In Colorado, districts with fluctuating enrollment can get funding based on an average of up to four prior years of October pupil counts as well as the current year's October pupil count. In Montana, district funding is based on either: (1) a district's prior year enrollment, or (2) that district's average enrollment over the prior three years – whichever count is highest (i.e. whichever count produces the greatest amount of financial support). In Wyoming, schools qualifying for the Declining Enrollment provision use a three-year ADM to get optimal amounts of funding, while schools with growing enrollments use their previous year ADM. In South Dakota, districts can use a student count of either: (1) the average state aid fall enrollment for the previous two school years, or (2) the state aid fall enrollment count of the current school year – whichever count is highest (i.e. whichever count produces the greatest amount of financial support).

Alaska currently bases its enrollment adjustments on the current year October count, not on multi-year averages.

Effect of Hold Harmless/Declining Enrollment Provisions in Alaska

The National Center for Education Statistics (2014) reported that Alaska's overall student enrollment numbers are growing, and that public school enrollment is expected to increase by more than 15 percent between the 2011-12 school year and the 2023-24 school year. However, while overall statewide growth may be occurring, APA's research and interview data indicate that many districts are shrinking. Between the 2009-10 school year and 2014-15 school year, 26 districts (or about half of all Alaska districts) saw a decrease in K-12 enrollment. Interviewees explained that the state's Hold Harmless thresholds can be a major stressor within districts on the edge of meeting the threshold (and receiving the Hold Harmless provision) or not (and taking on the burden of lost enrollment without receiving any additional funding).

To show how the current Hold Harmless provision's five percent threshold can create an issue for districts, take the example of a 4.9 percent decline in enrollment versus a five percent decline over one year. Assume that, in Year 1, there are two districts, each with size-adjusted ADMs of 1,000. In Year 2, District A loses 49 students while District B loses 50 students. The current Hold Harmless provision would fund District A at 951 ADM and would fund District B at 987.5 ADM – the difference being that District B met the five percent threshold, triggering the Hold Harmless provision. Applying the multipliers described above in the School Size adjustment chapter[28], District B would receive a total additional of 64.01 ADM, or $373,327, based on that one-student difference between 49 and 50 students.

As another example, consider two different districts, District C and District D, each with size-adjusted ADMs of 1,000 in Year 1 both lose a total of nine percent of their size-adjusted ADMs from Year 1 to Year 4. However, the two districts lose the nine percent of students at a different rate: District C loses five percent between Year 1 and Year 2, and then lower amounts the next two years; and District D loses the same percentage each year, never losing more than five percent. By Year 4, both districts have 910 students. Table 4.2 that follows shows the size-adjusted ADM and Hold Harmless-adjusted ADM for each district for Years 1, 2, 3, and 4.

[28] 1.44 average DCF, 1.2 Special Needs Adjustment, and 1.015 CTE Adjustment.

Table 4.2
Impact of Hold Harmless on Two Districts with Nine Percent Reduction over Three Years in Size-Adjusted ADM

	Year 1	Year 2	Year 3	Year 4	Total
District C					
Size-adjusted ADM	1,000.0	950.0	929.8	910.0	**3,789.7**
Hold Harmless-adjusted ADM	1,000.0	987.5	964.9	947.3	**3,899.7**
District D					
Size-adjusted ADM	1,000.0	969.1	939.1	910.0	**3,818.1**
Hold Harmless-adjusted ADM	1,000.0	969.1	939.1	910.0	**3,818.1**

As shown in Table 4.2, District C has lower, or equal, size-adjusted ADMs in Years 2 through 4 than District D, but because it received the Hold Harmless adjustment in Year 2, District C still receives higher funding in each year than District D. Over the three years of the application of the Hold Harmless provision, District C receives funding for an additional 81.6 ADM. Applying the additional formula multipliers,[29] the total ADM difference is 143.1 ADM, or $834,273 (at the FY2015 BSA rate of $5,830), over three years.

Under its current design, Alaska's Hold Harmless provision provides relief for districts that experience large decreases in size-adjusted ADM in one year. The study team understands this to be the design of the provision. The examples above illustrate how small differences in district circumstances can create large differences in funding, due to current Hold Harmless provision's five percent threshold and its focus on single-year change.

District Cost Factors

Districts across a state may face very different costs to provide educational services. The costs of educational resources are often out of a district's control. These costs might include:

- Higher personnel costs, due to the higher costs of living in certain areas (as is often the case in urban/suburban settings).
- Higher fixed costs for more rural or remote communities, such as energy costs, shipping costs, and the costs of maintaining and operating facilities.

A strong school finance system will be responsive to these uncontrollable district cost differences. Currently, only a handful of states currently have any sort of adjustment for the different costs of educational resources and services between districts. In the states that *do* adjust for such differences, the approaches to adjustments vary. Such adjustments include: Wage Indexes, Geographic Cost of Living adjustments, or Cost of Education (or "doing business") factors.

[29] 1.44 average DCF, 1.2 Special Needs, and 1.015 CTE.

Alaska's Approach

In 2002, the state hired American Institutes for Research (AIR) to develop a set of geographic cost differentials to replace the ones that had been in use since 1998. Reactions to AIR's produced differentials were critical, and there were concerns that the new differentials did not accurately reflect cost differences between districts in Alaska.[30] In response, the Legislative Budget and Audit Committee hired the Institute of Social and Economic Research (ISER), at the University of Alaska Anchorage, to review and revise AIR's cost index. ISER produced updated Geographic Cost Differentials in 2005, and these factors are still used in the current system as the District Cost Factors. Alaska's District Cost Factors represents the geographic cost differences between any given district in the state and Anchorage. Each district's DCF is based on the position of 12 sub-components of overall costs[31], relative to Anchorage.

The sub-components of ISER's District Cost Differentials include the following:

1. Administrator compensation
2. Certified teacher compensation
3. Classified employee compensation
4. Travel – teacher from school to district office
5. Travel – teacher from district office to Anchorage
6. Travel – school administrator from schools to district office
7. Travel – superintendent from district office to Anchorage
8. Travel – district administrator to schools
9. Travel – maintenance staff from district office or center of commerce
10. Energy costs
11. Goods – cost of instructional and office supplies, including shipping
12. Goods – cost of maintenance supplies, including shipping

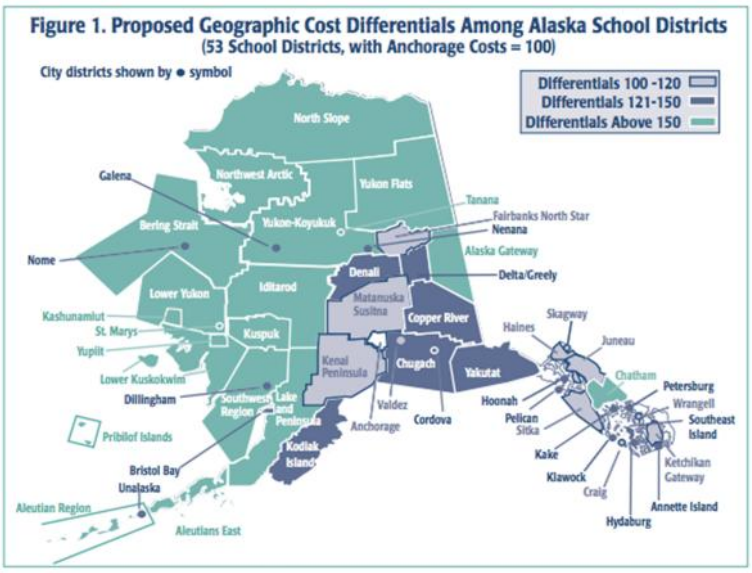
These sub-components are each "cost relative," and are exponentially weighted based on the average of budget shares for Anchorage and the given district. This means that a sub-component will have more weight if it has a larger relative proportion of the budget share. An overall cost differential is then developed for each district based on the combined sub-component calculations.

Graphic 4.2 that follows comes from ISER's 2005 summary report. The figure visually illustrates the geographic cost differentials based on the sub-components listed above.

[30] Institute for Social and Economic Research, 2005.
[31] Institute for Social and Economic Research, 2005.

Graphic 4.2

ISER's District Cost Differentials



Source: ISER Research Summary, February 2005

As shown in the illustration, the districts surrounding Anchorage have lower cost differentials, with the differentials increasing for more outlying districts. Dividing these cost differentials by the Anchorage cost differential of 100, produces DCFs specific to each school district. These DCFs range from 1.000 to 2.116 (with Anchorage set at 1.000). As of 2001, the Department of Education monitors the DCFs and submits a report to the legislature every other fiscal year.[32]

District Perspectives

During conversations and focus groups with interviewees, it was very apparent that there were differences in district circumstances based on location, remoteness, and transportation options (e.g. on the road system, direct flight-accessible). These differences in circumstances created real variation in district costs. Districts experienced different levels of challenges related to the costs of: attracting and retaining teachers, bringing in staff to serve students, providing professional development, and/or maintenance and operations. For example, teacher recruitment and retention were challenges for multiple districts in the conversations about district costs. Several districts reported recruiting teachers is more difficult than it used to be due to the changes in retirement benefits. One district traveled as far as Philadelphia to recruit new teachers. Once teachers are hired, there are high costs to retain them with housing subsidies, utilities subsidies, and attractive compensation packages. Shipping costs can be huge burdens on remote districts.

> *One district has double the costs of securing basic goods for their students such as curriculum supplies and building materials. Because of high fuel costs, shipping costs almost as much as the*

[32] Alaska Department of Education & Early Development, 2015.

supplies and materials themselves. Then shipping from the district central office to remote villages further increases the costs.

All interviewees were in full agreement that a DCF was an integral component of the funding formula in terms of addressing these relative cost differences. Further, interviewees were in agreement that for the most part, the DCF considered the right subcategories of costs, including the costs of staff, energy, and goods. Some additional suggestions for consideration include variations in costs of: facilities and maintenance services, student activities, and bringing in specialists (not just the travel costs of bringing in these specialists, but also the additional days paid for specialists' travel time to get to remote areas).

One district noted the high cost and difficulty they experience to bring in professionals, particularly for special education. The district not only pays for the time they are serving students, but also for the travel time to get there, which involved more than one flight, and the cost of hosting visiting staff overnight while they are there. The district also noted that there have been times when already limited flights are canceled, and a visiting professional could be stranded for days- at the district's expense, sometimes without ever serving students, if the stranding occurred en route to the school site.

Many interviewees were very concerned about re-addressing the DCF during tight economic times. These interviewees expressed fears that, without additional dollars, changing the DCF would only hurt districts, since existing funds would be redistributed between districts and therefore, any district's gain would be at the expense of another district. Still, other interviewees believed that the DCF *was* out of date and *should* be revisited, particularly as a means of addressing rising operations costs in remote areas. These interviewees felt that such costs were hindering some districts' abilities to offer the instructional programs and services needed to serve all students. One interviewee even suggested that such operational costs should be funded outside the formula.

One district provided an illustrative example of the high operational costs incurred by serving village schools, when discussing if a boiler failed at a school. In this example, the district would have to bring in a professional immediately to resolve the emergency, which could entail chartering a flight (if the emergency occurred outside of an available commercial flight) and paying the professional for travel time. If the equipment had to be replaced, the costs of getting the item in would be even higher, and that would be only if there was a freight option available to get it there in the first place- which is not always the case.

A remote district shared that as the villages run their own power utilities and they can suffer outages, the district has provided village schools with back-up generator systems so the schools can run, even if local power is cut off. The district does not feel this type of operational expense is adequately covered by the DCF.

Student activities are an important service schools provide to students and small remote communities often struggle to provide that service. A lot of them have to fundraise to ensure students can travel to

participate with other districts or host other districts in their communities for activities. One district reported their students had to fundraise $800,000 one year to support their own travel.

Other States' Approaches

A number of states attempt to address district cost differences as part of their school funding formulas, though no other state considers as many cost components as Alaska.

Generally, states use one of two types of approaches: a Cost of Living adjustment or a Cost of Education adjustment[33]. Alaska's approach would be considered a Cost of Education adjustment.

Cost of Living Adjustments

Of states with Cost of Living indices, Massachusetts, Missouri, New York, Virginia, and Florida use wage indices, while Colorado uses a market-basket price index[34]. Massachusetts, Missouri, and New York base their indices on the ratio of regional wages to state wages. In Massachusetts, a "wage adjustment factor" gives a district credit for having higher school costs if that district is located in a geographic area where average wages are higher than in other areas of the state, due to higher costs of living.[35] The wage factor is calculated using the latest available average wage data supplied by Maryland's Department of Employment, and is applied to the salary-related functional categories in their foundation formula.[36] The school funding formula in Missouri includes as 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 is applied to a districts weighted average daily attendance multiplied by the state adequacy target[37]. 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.[38] New York's RCI is applied to a district's foundation funding amount.

Virginia's Cost of Competing Adjustment (COCA) aims to recognize the additional costs incurred by districts in northern Virginia. In this way, the COCA works to attract and retain instructional staff in the competitive market of the Washington D.C. area, where cost of living is considerably higher than in the rest of the state. The COCA is based on salary differentials of state employees between northern Virginia and the rest of the state. Florida has a District Cost Differential (DCD), which is calculated annually based on a three-year average of a district's Florida Price Level, representing the relative cost of goods and services in an area. The DCD is set at 80 percent of the index to represent the approximate percentage of district salary costs to total operating costs. Colorado implemented its Cost of Living Factor in 1994 to indicate the cost of living in a district relative to the cost of living in other districts in the state. Cost-of-Living factors are certified to the Colorado Department of Education by the Legislative Council Staff

[33] Lofgren, J., 2007.
[34] Colorado Department of Education, 2014.
[35] Massachusetts Department of Elementary and Secondary Education, 2015.
[36] Massachusetts Department of Elementary and Secondary Education, 2015.
[37] Missouri Department of Education, 2015.
[38] New York State Education Department, 2014.

every two years, following a study that measures the cost in each district of an identical set of items, such as housing, goods and services, transportation, and taxes.[39]

Each of these Cost of Living approaches is more limited than Alaska's current approach. These adjustments are focused on cost variations related to staff and exclude district cost variances due to operational expenses, such as energy costs and shipping costs.

Cost of Education Adjustments

Cost of Education adjustments more broadly capture district cost variations. States using this category of adjustments include Alaska and three other states: Maryland, Texas, and Wyoming. [40] All use different techniques to create their models.

Maryland's formula employs a Geographic Cost of Education Index (GCEI), to address the variations in county costs of providing education. Maryland's GCEI is composed of a personnel cost index (PCI) and a non-wage index (NWI) that assign dollar "weights" to teacher-specific and location-specific factors to account for differences in the costs of procuring non-personnel supplies, other than capital expenditures, such as paper products and energy.[41] The GCEI is applied to the foundation funding amount for districts. Texas has a Cost of Education Index (CEI), which includes 1) a price component that attempts to compensate for regional variations in resource costs and the costs of education and 2) a scale component, which addresses higher costs associated with providing educational services in districts with student populations between 1,600 and 2,000.[42] The calculation of the price component is based on the average beginning salary of teachers in contiguous districts, the percent of economically disadvantaged (low-income) students in the district, the size of the district, and whether or not the district is located in a rural county.[43] Wyoming's school funding formula includes a Regional Cost Adjustment (RCA), which is applied, by district, to all FTE positions. The RCA is the greater of two different approaches to calculating regional cost variance – either the Wyoming Cost of Living Index (WCLI) or a broader cost index, the Hedonic Wage Index (HWI). The HWI attempts to compensate for working conditions in districts that affect where teachers choose to work, including student population characteristics, job characteristics, facility condition, remoteness, rural and urban amenities, and local environmental considerations. All of these conditions can affect quality and affordability of living. The HWI uses actual competitive wage data to measure compensation based on working conditions.[44] The WCLI is similar to the Cost-of-Living adjustments discussed in the preceding section.

As noted, Alaska's DCF would be considered a Cost of Education adjustment and broadly captures cost variations across its districts. Given the unique circumstances of districts in Alaska, it is more appropriate that its DCF addresses differences in costs for wages, travel, energy, goods, and shipping.

[39] Colorado Department of Education, 2014.
[40] Lofgren, J., 2007.
[41] Maryland Association of Boards of Education, 2015.
[42] Alexander et al., 2001.
[43] Texas Taxpayers and Research Association, Jan 2012.
[44] Godby, R. 2010.

Special Needs Funding

In school finance policy, it is readily accepted by both researchers and policymakers that different students require different levels of resources to meet state standards and requirements. As noted, a strong school finance system will be responsive to student needs, so most states include additional funding for certain student populations. Students that are generally identified as needing additional resources (for supports, services and interventions) include special education students, Limited English Proficiency (LEP) students, gifted/talented students, and students at-risk of academic failure (often identified using eligibility for free and/or reduced-price lunch as a proxy for at-risk status). Additional funding is also often provided for programs such as Career and Technical Education (CTE).

States typically provide different levels of funding for different special needs student populations, with special education students typically receiving the highest levels of additional funding. While states use different methods to identify which students to fund differentially, most states have moved towards a student- funding approach. In a student-specific approach, actual student counts in each district are used in the funding process. This additional funding is often allotted via weights – additional funding amounts, above the base funding amount, per special needs student. Generally, special needs students are weighted at a certain percent above base funding, such as 50 percent above base funding. For example, a state may fund LEP students with a .50 weight which means the student additional funding would be 50 percent above base funding. States may also provide additional funding for special needs populations through categorical funding – dollars that go directly to districts, based on a calculation outside the foundation formula.

Alaska's Approach

Alaska currently uses a block grant to provide districts with funding (as generated by a higher ADM due to the adjustment) for multiple special needs populations. This block grant increases ADM by 20 percent after the School Size Adjustment (SSA) and the District Cost Factor (DCF) have been applied. The block grant is designed to provide funding for four categories of special instruction: vocational education, non-intensive special education (intensive special education is funded separately), gifted/talented education, and bilingual/bicultural education. The adjustment does not account for the specific numbers of students in each of the categories. Districts file plans with the Department of Education & Early Development (DEED) indicating how they will spend the funds for special needs services, but they are not required to specifically track spending of these dollars.

The block grant for special needs is estimated to generate around an additional 34,500 ADM for districts in the FY2015 foundation formula calculation. This is 30 percent more ADM than base ADM (students physically enrolled in schools on the October count). The Special Needs Adjustment is not applied to correspondence students.

District Perspectives

During APA's conversations with interviewees, the Special Needs Adjustment was generally viewed in a positive light. It was clear that the student populations and programs receiving Special Needs

Adjustment funding require additional resources to meet the student needs. The 20 percent block grant helps districts afford these additional resources. Interviewees appreciated the fact that they did not have to track specific dollars to specific programs, but instead had the flexibility to serve students in the manner that best fit their district. A number of interviewees also mentioned that the Special Needs Adjustment approach aligns well with the Response to Intervention (RTI) model used in schools, as both the approach and the model are less focused on specific labels and more focused on providing needed services.

> *One district, however, felt that the block grant mechanism stifled its ability to innovate in programs for students with special needs. There is also a capacity issue between the larger districts and smaller districts in serving special needs populations through the block grant. Larger districts often have greater capacity than smaller districts to address special needs in terms of staff contracts when there are fluctuations in special needs populations.*

It was also clear from the interviews that the Special Needs Adjustment is not being responsive to the specific needs of districts based upon their actual demographics. Interviewees felt that districts with high concentrations of one or more special needs populations might be underfunded to serve those populations.

> *One district indicated that they tend to have a much higher than average special education population due to children being sent to live with relatives in their community, or through the foster system. As a result they are using the Special Needs funds to serve much larger proportion of special education students, which means the district struggles to meet the needs of all the students and there is little funding left over to serve other student populations.*

Under the current funding approach, all districts are funded the same; no consideration is made for districts with higher concentrations of special needs students who incur higher costs. Interviewees indicated that they often had to prioritize serving non-intensive special education students with these dollars first. Depending on the number of non-intensive special education students they needed to serve, interviewees often mentioned having difficulty addressing the needs of vocational, gifted/talented, and bilingual/bicultural students with the remaining dollars, which may mean that the adjustment has less impact on the other student populations and programs identified for funding through the Special Needs adjustment. This is especially in districts with high concentrations of special education students, where students have very specific service requirements in their IEPs.

> *Several districts noted, depending on student need in a given year, providing all required services to special education students leaves insufficient funding for the districts to provide as robust programming as they would like to the other intended populations, such as ELL and gifted and talented programs.*

Finally, several districts that served a high percentage of low-income students indicated that an adjustment for these students would be beneficial recognizing that these students struggle academically and require additional resources to serve.

One district thought that additional funding for low-income students in their community would be particularly impactful. If given additional funding to serve these students, the district would expand their preschool program and make sure all their students received a third meal of the day; full bellies are essential to students being able to focus on learning.

Other States' Approaches

Most states provide funding for the populations and programs covered by Alaska's Special Needs through separate adjustments in their foundation formulas or categorical funding streams. With this in mind, this section examines how other states fund special needs, looking at each special needs population and program separately.

Special Education Students

Alaska funds special education through two different adjustments. Non-intensive special education students are funded through the Special Needs Adjustment block funding, while the Intensive Services adjustment provides funding for high-cost, high-need special education students. A later section of this chapter will focus on Alaska's Intensive Services adjustment. Many other states do not have such a clear divide between types of special education students, so there will be some overlap in the description of other states' approaches in this section. States provide funding for special education through a number of different approaches. Three key considerations of special education funding are: (1) how funding flows to a district, either through the formula or through categorical funding, (2) how students are counted, and (3) whether different disabilities or need levels are funded differently.

States can provide funding for special education through existing state funding formulas or through categorical payments to districts. When funds are provided through a state's equalized funding formula, the dollars generated for special education students are included in calculations of state and local shares. In this way, states ensure equalization of these special education dollars based on district wealth calculations. Categorical dollars are fully state-funded, are paid directly to districts, and are not part of the equalization process. Maryland includes special education funding in its formula. Conversely, Colorado has a foundation formula, but provides special education funding outside this formula.

Many states fund actual student counts when funding special education populations, regardless of if funds are provided through a funding formula or categorical funding. The funding is student-based, and students are identified through a student count process during the school year. Concerns have been voiced around over-identification of students using actual counts, as higher number of students in special education will lead to higher funding needs. However, unless a state, in conjunction with available federal funds, is fully funding special education costs, districts may lose dollars for over-identifying special education students. This is because identified special education students have Individualized Education Plans (IEPs) with specific, mandated service requirements. These requirements usually require specialized staff, and are often very costly.

An alternative to funding for each special education student is to use a census-based approach for special education funding. A census-based approach assumes that the percentages and need

distributions of special education students are similar across all districts in a state. Under a census-based approach, districts are funded for the same percentage of special education students, regardless of actual special education student counts. However, the census-based approach raises several concerns, including:

- Districts will be incentivized to *not* identify all special education students so that they will not have to provide as many special education services.
- There will be no additional state funding for new special education students that come into a district.
- The approach is flawed, as districts may not actually have similar percentages and distributions of special education students need across a state.

An APA study in New Jersey, "Analysis of New Jersey's Census-Based Special Education Funding System," in 2011 – a state that uses a census-based approach – examined the actual incidences of students in various special education disabilities and the levels of need across the state. The study found notable variations in special education populations across the state.[45] Anecdotally, in New Jersey, interviewees talked about a special education Catch-22: districts strive to create strong programs for specific types of special education students; however, if and when districts succeed in creating such programs, families may enter the district, seeking out services for their own special education children. Similarly, districts in areas with strong hospital systems report having higher concentrations of very high-need and/or high-cost students.

States must also decide if they will fund differently depending on type of disabilities or on level of student need. Many states, such as Maryland, Florida, and Arizona use student weights to fund special education[46]. Some states use one weight for all special education students, while other states use various weights, depending on disability type and/or level of student need. For example, Arizona uses 10 different weights to fund special education. The weights range from a low of .003 for disability categories such as learning disabilities to a high of 7.947 for multiple disabilities severe sensory impairment.[47] Again, concerns have been expressed over incentivizing districts to miss-classify students to gain additional dollars. At the same time, a funding system that does not differentiate between types or levels of special education needs may underfund a district that attracts a large concentration of high-cost students.

Alaska's current system provides funding for non-intensive special education as part of its Special Needs adjustment. However, the block grant funding generated by the adjustment is not based on actual student counts. There is no specific weight for non-intensive special education, and there is no differentiated funding by disability category; instead, the 20 percent block grant is applied evenly to all students in the district.

[45] Augenblick, Palaich & Associates, 2011
[46] Alaska uses weights in its formula for adjustments like the Special Needs Adjustment and the CTE Adjustment.
[47] Awwad, Y., 2010.

At-Risk Students

Similar to special education funding, most states provide additional dollars for students at-risk of academic failure. Also similar to special education funding, states differ in terms of: (1) whether they fund for at-risk students inside their funding formulas or outside their funding formulas, and (2) how they define which students will qualify for the at-risk adjustment. Additionally, states have to determine if they will use a single amount of at-risk funding or if such funding will be adjusted depending on the concentration of at-risk students in a district.

Many states that fund for at-risk students do so as part of a state foundation formula instead of providing targeted funding directly to districts. Maryland, for example, formerly targeted at-risk populations with numerous funding streams outside of its funding formula. In the early 2000s, Maryland consolidated these various funding streams and created a single weight in the state's funding formula to address at-risk students. Other states that weight at-risk students in their ADM counts include Missouri, Kentucky, and Georgia. States currently using a weight for at-risk students have weights ranging from .05 to .97, with an average of around .25.[48]

The most common way for states to measure the number of students eligible for at-risk funding is to use the number of students eligible for the federal lunch program (in Alaska these students are categorized as low-income). Free and reduced-price lunch eligibility is often used as a proxy for at-risk status (and, by extension, at-risk funding). Recently, states have begun to explore alternative proxies for at-risk status, including poor performance on state assessments. (South Carolina is currently using this measure as a proxy for at-risk status.) Regardless of the metric used, states are trying to identify the best ways to get resources to students who need additional interventions to meet state academic standards.

Once a funding stream and student count are established, states must decide how to implement at-risk funding. Often, an at-risk weight is applied evenly to each at-risk student, regardless of the concentration of at-risk students in a school district. Some states adjust funding based on the concentration of at-risk students, increasing the funding per at-risk student as concentrations of these students increase. This means a district will not just receive more total dollars as its concentration of at-risk of students rises, but that the total funding per student will be higher. States with this type of concentration factor include Colorado, Arkansas, and New Hampshire.

Alaska does not currently have any adjustments for at-risk or low-income students. This is atypical compared to most other states with student-centered formulas.

Bilingual/Bicultural Students

There are many terms used to identify students with Limited English Proficiency (LEP): bilingual students, English Language Learner (ELL) students, and English as a Second Language (ESL) students. This section uses the term LEP to talk about these students, as this term is frequently used across the country. States differ in terms of: (1) whether they fund LEP students within their formulas or outside of

[48] Augenblick, Palaich & Associates, 2015.

their formulas, and (2) how they identify LEP students. On average, weights for LEP students tend to be higher than weights for at-risk students, but lower than weights for special education students. Weights for LEP students are, on average, a little over .30, but range from.10 to .99.[49] Arizona, Florida, and Iowa are on the lower end of the weights, with weights of .115, .147, and .220, respectively. Maryland has the highest weight for LEP students, at .99.

States must also decide which students to fund as part of the LEP funding streams. The process of identifying students includes both an initial assessment of how many students qualify, as well as an assessment of how long students will be able to be counted for participation in LEP funding streams. For students, initial qualification is often based on some sort of testing. For example, Colorado uses the WIDA: ACCESS for ELLs test to identify LEP students. Once LEP students are identified, they can get funding for just two years. Missouri takes a different approach, funding a district only if its concentration of LEP students is greater than the statewide average. Any good funding system should provide incentives for districts to move students out of the LEP category but there should also be consideration consider what a quick loss of funding may mean for a district's ability to provide sustaining services to the students.

Alaska's funding for LEP students falls into the bilingual/bicultural category within the Special Needs adjustment. Since the funding is part of a block grant it is difficult to understand exactly how districts are using funds to help LEP students.

Gifted/Talented Students

Funding for gifted/talented education is more varied across the country than any of the other categories of funding discussed so far. A report by the National Association for Gifted Children, "State of the States in gifted Education: 2012-13," examined 2012-13 gifted/talented funding in all fifty states. The data in the report showed that at least 12 states provide no funding for gifted/talented students. Those states that do provide funding often provide it outside of the state funding formula, or provide extremely varied per-pupil amounts. Wyoming provides gifted/talented funding to districts as part of its block grant model, but it does not have specific gifted/talented identification criteria.[50] Colorado provides a small dollar amount per identified gifted/talented student, around $140 per school year in 2013.[51] Montana's funding formula includes grants to schools with qualified gifted/talented programs. Schools apply for dollars, and the state funds approved programs.[52]

Alaska's funding for gifted/talented students is encompassed within the Special Needs adjustment.

[49] Augenblick, Palaich & Associates, 2015.
[50] Wyoming Department of Education, 2013.
[51] Colorado Department of Education, 2015.
[52] Montana Department of Education, 2015.

Vocational/ Career and Technical Education

Though CTE is a part of the Special Needs adjustment, it is also separately funded in Alaska's formula. As such, a separate, CTE-specific section (Vocational/Career and Technical Education Funding) follows in this chapter of the report.

Variation in Special Needs Populations across Alaska Districts

APA reviewed how other states provide funding for the student populations and programs that Alaska funds through its Special Needs adjustment. Many states use, or are moving to, a more student-specific approach to funding for special needs. That is, districts providing funding based on the actual numbers of students in each special needs category and they are providing separate funding for each category. The main reason for a state to fund actual student counts is to account for different concentrations of students in these categories between districts.

To better understand the variation in special needs populations across Alaska's districts, the study team examined demographic data for all districts, using the most recent three years of data. Tables 4.3, 4.4, 4.5, and 4.6, below show the range of percentages (minimum, average, and maximum percentages) of students in four different categories – special education (which includes intensive special education students), LEP, Alaska Native and low-income – for the three most recent school years – 2012-13, 2013-14, and 2014-15. The tables also show the standard deviation and the coefficient of variation for the percentages for each category, in each year. The coefficient of variation is a measure of variation across the districts. A coefficient above .100, a common benchmark in school finance, shows high variation across districts. Though Alaska does not currently have a specific adjustment for at-risk students, most other states do make adjustments for such students. Thus, the study team felt it was still important to examine the differences in at-risk populations across Alaska districts by looking at the low-income figures.

Table 4.3

Percentages of Special Education Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
Special Education			
Minimum	1.5%	1.7%	1.4%
Maximum	29.2%	28.6%	33.3%
Average	12.8%	13.3%	13.4%
Standard Deviation	0.051	0.056	0.058
Coefficient of Variation	0.174	0.197	0.174

As Table 4.3, above, shows, the range of special education populations is relatively consistent across the three school years represented in the table, with a minimum percentage around 1.5 percent and a maximum percentage around 30 percent. The statewide average has grown slightly over the past three years to 13.4 percent. The coefficient of variation is above .100 in all three years, indicating large variations across districts in terms of the percentages of special education students.

Tables 4.4 and 4.5, below, look at variations in percentages of LEP students (Table 4.4) and Alaska Native students (Table 4.5). Both of these student populations are covered under the bilingual/bicultural category in the Special Needs adjustment. Table 4.4 provides the trend information for LEP populations across the state.

Table 4.4

Percentages of Limited English Proficiency Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
LEP			
Minimum	0.0%	0.0%	0.0%
Maximum	79.8%	79.8%	77.0%
Average	12.2%	12.1%	11.8%
Standard Deviation	0.211	0.214	0.201
Coefficient of Variation	0.265	0.268	0.261

Over the three school years represented in Table 4.4, above, the average LEP percentage is about 12 percent. However, this average represents a broad range of LEP populations across districts, from a low of zero percent LEP to a high of nearly 80 percent LEP. These dramatic ranges of LEP percentages could be seen in each of the examined school years. The high variations in LEP percentages are also seen in the coefficients of variation – over .260 in every year studied.

Table 4.5, below, shows that the range of Alaska Native populations is even broader than the range of LEP populations.

Table 4.5

Percentages of Alaska Native Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
Alaska Native			
Minimum	0.0%	0.0%	2.3%
Maximum	100.0%	99.1%	100.0%
Average	51.9%	51.5%	50.8%
Standard Deviation	0.356	0.358	0.347
Coefficient of Variation	0.356	0.361	0.347

Districts average about 50 percent identified Alaska Native students in each of the three years studied, with minimum populations at or close to zero percent and maximum populations close to 100 percent. The variations in populations of Alaska Native students are also high, with each year's coefficient of variation near or above .350.

Table 4.6 that follows shows the information for low-income students.

Table 4.6
Percentages of Low-Income Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
Low Income			
Minimum	4.2%	0.3%	4.9%
Maximum	100.0%	100.0%	100.0%
Average	57.4%	56.1%	58.8%
Standard Deviation	0.250	0.246	0.254
Coefficient of Variation	0.250	0.246	0.254

The range in percentages of low-income students is similar to that of Alaska Native students, with maximums at 100 percent and minimums as low as 0.3 percent (2013-14). The average is slightly higher than for Alaska Native students, at about 60 percent in each year studied. The variation among districts is lower than it was for Alaska Native, but is still far above the .150 standard that indicates significant variation.

The study team did not look at distributions of gifted/talented students or CTE students, as the team did not have data on these populations.

The data shown in the Tables 4.3 through 4.6 make it clear that there is large variation in individual student needs across districts. As previously noted, Alaska's Special Needs adjustment covers special needs populations using a block grant approach that is the same for all districts regardless of student needs. The current formula also excludes any funding specific to low-income students. Though percentages of students in the special needs categories differ across districts, it is possible that in combination, the overall proportion of students with special needs may not differ dramatically between districts. The study team looked at this in two ways. First, the study team calculated the total percentage of special needs students across categories. Second, the team examined the need level of students, where need represents the estimated amount of additional resources students from different categories require to meet similar standards. APA's calculations of need are explained in further detail below.

Table 4.7 that follows shows the range of district percentages of special needs students when combining special education, LEP, and Alaska Native populations – the populations targeted by Alaska's Special Needs adjustment. It is important to note that students in multiple categories are counted more than once; thus, many districts have percentages above 100 within K-12 enrollments.

Table 4.7
Combined Percentages of Special Education, Limited English Proficiency, and Alaska Native Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
Special Education, LEP, and Alaska Native Combined			
Minimum	7.3%	7.7%	12.4%
Maximum	193.6%	193.7%	190.3%
Average	76.9%	76.9%	75.9%
Standard Deviation	0.504	0.503	0.481
Coefficient of Variation	0.260	0.260	0.253

The data suggest that the variations seen when looking at the differences in individual need categories are not negated when the special needs populations are combined. The minimum and maximum figures vary dramatically. The coefficients of variation are over .250 in each year, representing high variation.

The following table, Table 4.8, shows the same data, this time including low-income students.

Table 4.8
Combined Percentages of Special Education, Limited English Proficiency, Alaska Native, and Low-Income Students in 2012-13, 2013-14, and 2014-15

	2012-13	2013-14	2014-15
Special Education, LEP, Alaska Native and Low Income Combined			
Minimum	11.5%	8.0%	17.2%
Maximum	285.9%	285.8%	286.2%
Average	134.3%	133.0%	134.7%
Standard Deviation	0.693	0.681	0.692
Coefficient of Variation	0.242	0.238	0.242

Though the variation decreases slightly across the three years, as shown by a lower coefficient of variation, overall variation is still very high.

The raw percentages show very high variation across districts in terms of percentages of students in special needs populations. Another way to measure this variation is to examine the differences in need levels between districts. It is widely understood that different special needs populations require different levels of resources. Based on APA's school finance work across the U.S., the study team identified commonly-used weights for each special needs need category. When looking only at special education, LEP, and low-income students – populations that states frequently adjust for using weights – the weights used by the study team are 1.0 for special education, .50 for LEP, and .40 for low-income (often referred to as at-risk).

Table 4.9 and 4.10, below, show the distribution of, and variance between, need factors for Alaska districts for the 2012-13 school year through the 2014-15 school year. Table 4.9 first looks at need, as measured when including special education, LEP, and low-income students- the most frequent adjustments used in states around the country.

Table 4.9
Need Factors for All Districts Using Special Education, LEP, and Low-Income Populations

	2012-13	2013-14	2014-15
Need Factors for Special Education, LEP, and Low Income Combined			
Minimum	1.07	1.05	1.08
Maximum	1.90	1.90	1.89
Average	1.42	1.42	1.43
Standard Deviation	0.18	0.18	0.19
Coefficient of Variation	0.096	0.097	0.099

A need factor of 1.30 means that the average student in the district has 30 percent more need than a student with no additional needs (a student at "base need"). Districts across the state had an average need of around 42 percent above base need in all three years. This ranges from lows of five to eight percent additional need to highs of around 90 percent additional need. Variation, as measured by the coefficient of variation, was high – nearly meeting the 0.100 benchmark to indicate significant variation.

Table 4.10, below, shows the same information, this time including Alaska Native students. Given there is a large overlap between Alaska Native and low-income students, APA reduced the low-income weight to .25 and also set the Alaska Native weight at .25. A weight of .25, while on the lower end, is still within the range of weights used nationally.

Table 4.10
Need Factors for All Districts, Using Special Education, LEP, Low-Income and Alaska Native

	2012-13	2013-14	2014-15
Need Factors for Special Education, LEP, Low Income, and Alaska Native Combined			
Minimum	1.07	1.06	1.09
Maximum	2.00	2.00	1.99
Average	1.46	1.46	1.47
Standard Deviation	0.22	0.22	0.22
Coefficient of Variation	0.111	0.111	0.111

As show in Table 4.10, above, average need increases by .05 in all three years. The minimum numbers were similar in all three years, but maximum figures increase by about .10 in each year. The variation between districts is also higher once Alaska Native students are considered, as seen by the increase in

the coefficient of variation from the figures presented in the previous table, Table 4.9. The coefficient of variation is above the .100 benchmark in all years.

Overall, the data show that there is large variation across districts in terms of both the percentage of students being served in various need categories, and in terms of the combined percentages of students in all need categories. Once the level of need is applied to each category, the degree of variation decreases, though large variations still exist. This suggests that since Alaska does not differentiate funding based upon the specific district demographics, there is significant variation in district need that may not be properly accounted for in the funding formula.

Vocational/Career and Technical Education Funding[53]

In today's education system, it is still essential to ensure that students have the skills necessary to gain employment and grow the economy. Such programs are referred to as Career and Technical Education (CTE). The term "CTE" recognizes that traditional vocational programming has expanded to include not only traditional trade and industrial areas, but also other career areas, such as healthcare, engineering and technology. CTE programming often is believed to have a higher cost than typical education programming due to the fact that CTE requires additional equipment and materials and, for some courses, smaller class sizes. Federal support for CTE is available through the Perkins Act (2006), but many state formulas provide schools and districts with additional funding, recognizing that CTE programming has higher associated costs than typical education programming.

Alaska's Approach

Alaska funds CTE through the Special Needs Adjustment and the Vocational/Career and Technical funding provisions of the school finance formula. This section is specific to the separate Vocational/Career and Technical Funding provision. This adjustment provides a 1.5 percent increase applied to all students in the district funding formula after all other multiplicative adjustments (School Size Adjustment (SSA), District Cost Factor (DCF), and Special Needs Adjustment). Funds can only be used for students in grades seven through 12.

District Perspectives

Interviewees consistently stated that CTE is a vital part of serving students today and that CTE-specific funding has aided the expansion of CTE opportunities. Interviewees felt that CTE instruction was particularly important in Alaska, where there are more high paying jobs in local industries that do not require a college education. Interviewees from larger districts reported utilizing mid-day transportation so that they could offer CTE programming in centralized locations to maximize resources and provide robust CTE programs to their students.

[53] U.S. Department of Education, October 2014; U.S. Department of Education Funds for State Formula-Allocated and Selected Student Aid Programs, by Program (2014; Financing Vocational Education: A State Policymaker's Guide (2001); Career/Technical Education: Funding Mechanisms (2008); ACTE and NASDCTEC State Policies Impacting CTE 2013 Year in Review; ACTE and NASDCTEC State Policies Impacting CTE 2014 Year in Review

One interviewee described the CTE center they have created in their district. By consolidating their program in a specific location they are able to maximize resources to afford the expensive equipment required for many of their career offerings, such as large welding labs. Midday busing was essential to allow them to efficiently consolidate resources.

Interviewees from smaller districts discussed their struggle to provide robust CTE opportunities to all students, especially those students in the most remote locations. Most of these interviewees from smaller districts noted that the 1.5 percent adjustment was not sufficient to allow them to offer even minimal CTE programs.

One interviewee from a smaller district discussed how the CTE adjustment generated only several thousand dollars for their district, not nearly enough to afford a CTE teacher, materials or equipment. Another noted that while they are able to offer limited CTE at the district's high school, they are not able to offer CTE to their middle school students.

All interviewees felt that expanding and improving CTE opportunities is key to student success. Several interviewees from smaller districts specifically stated this is one area where the resources are not meeting its needs.

Other States' Approaches

For states that fund CTE, there are three main approaches to funding: (1) funding separate CTE centers, (2) providing funding through foundation formulas, and (3) providing direct cost reimbursement. The three subsections below describe each of these main approaches.

Funding CTE Centers

Stand-alone CTE centers may draw students from multiple schools and/or districts. In CTE centers, students can participate in CTE programming while still completing the majority of their education coursework at their home (i.e. traditional, local) schools and/or districts. In fact, funding for CTE centers often comes from these students' home districts. Some states dictate the proportion of foundation funding that a CTE student's home district must distribute to the CTE centers. New Jersey sets its foundation share at 31 percent of foundation funding and Vermont sets an equivalent 22 percent of foundation funding as home district contributions to fund the CTE centers.

New York differs from New Jersey and Vermont in terms of the proportional funding it requires from districts. New York's formula accounts for services, administration, and facilities costs. It also weights CTE students based on their CTE program type. For example, students in grades 10 through 12 who are enrolled in healthcare- or trade-focused CTE programs are weighted at 36 percent, while students in business-focused CTE programs are weighted at 16 percent. In 2013, New York also developed regional partnerships consisting of public school districts or consortiums of districts; businesses or groups of businesses; and higher education (two- or four-year) institutions. These partnerships will provide for CTE programming in specific industries, like clean technology, manufacturing, and healthcare.

Providing Funding through Foundation Formulas

Funding students through a foundation formula is the most common approach to funding CTE. The formula calculation tends to be based on the number of students actually enrolled in CTE programs and can entail one weight or multiple weights. For example, Florida, Georgia, Kansas, Pennsylvania, Texas, and Wyoming all have single CTE weights. For example, Florida's weight is 1.004, and a few states, Texas, Wyoming, and Pennsylvania have weights around .35.

Some states, including Arizona, Indiana and Ohio, use multiple weights to fund CTE. The funding is dependent on the CTE classes and/or programs in which the students are enrolled. Using multiple weights allows states to provide different levels of funding depending on the type of CTE programing (e.g. high-cost programming, high-demand programming, where costs and demands are based on class sizes or workforce development projections). For example, Indiana uses labor market projects and wage data to classify CTE programs based on projected labor demands. Based on these classifications, Indiana differentiates funding. The highest-classified programs receive the highest funding per enrolled CTE student ($450 per credit hour versus $225 to $370 per credit hour for CTE programs of lower classifications).

Alaska's approach is similar to the approaches seen in other states in that Alaska uses a single weight for CTE students, but instead of being tied directly to CTE students it is applied to all students.

Providing Direct Cost Reimbursement

States that use a cost reimbursement approach typically provide a proportional reimbursement of CTE costs based on prior year expenditures for approved costs (e.g. equipment, materials, salaries, transportation, student support services, etc.) Funding is generally tied to availability of funds, and therefore may be less stable from year to year than other approaches. Some states provide differentiated reimbursement based on the type of CTE programming. States that use differentiated reimbursement use similar considerations as states that use differential weighting.

North Dakota reimburses its Local Education Agencies (LEAs) for CTE programs that meet state-approved criteria for course credits; class size; teacher certification; state- and industry-aligned curriculum; equipment and facility quality; and advisory committee oversight. In North Dakota, CTE programs receive differentiated reimbursements, depending on program type. For example, a secondary occupational program receives 27 percent reimbursement for the costs of instructional salaries and contracts, 30 percent reimbursement for the costs of approved travel, and 40 percent reimbursement for approved costs when offered at an area CTE Center (no reimbursement for equipment). In 2013, through SB2019, North Dakota allocated $32.2 million for CTE programs, including virtual and distance-based CTE.

Intensive Services (Intensive Special Education)[54]

There is a large range of disabilities and service levels needed in special education. Using Alaska's term, intensive special education students represent the highest need, and highest cost special education students. These students may require (but not limited to): (1) a full-time staff person with them all day, every day, (2) significant support services from specialists, (3) expensive equipment, (4) transportation, or (5) a residential placement.

According to a report by the Education Commission of the States (ECS), According to the Education Commission of the State's StateNotes & Policy Briefs: 2008 Collection, "high cost" students (referred to as intensive special education students here) account for roughly the five percent of the special education students who cost the most to serve. The ECS brief (2008) estimates that, in 2008, the range of costs required to educate this five percent of students was between $44,035 and $70,028 per student – 5.5 to 8.7 times greater than the average cost of education for a general education student. The report notes that the distribution of high-cost special education students is not even throughout states, so certain districts will face disproportionally higher cost pressures.

Alaska's Approach

Currently, school districts in Alaska receive an extra weight of 13 for each intensive student per district. To qualify as an intensive student, a student's IEP must require:

1. Direct daily instruction by a teacher endorsed in special education.
2. Provision of multiple services including related services.
3. Services not provided by a certified special education teacher must supervised by at least one certified special education teacher or related service provider.
4. Continuous special education programming.
5. Assistance and training in two or more self-help, daily living, or adaptive skills.
6. A special education aide or other supplemental support personnel is assigned to provide individual care to the student for the student's entire school day.
7. Daily special transportation. The transportation requirement does not apply in the case of a child who has who has received daily special transportation for at least a year and no longer needs it. [55]

Otherwise, a student must be a child:

1. Who is blind or deaf-blind and must read Braille.
2. Who needs and receives full-time services of a deaf education interpreter or tutor.
3. Whose IEP Team determines that out-of-state residential placement is necessary.

[54] 2008 ECS StateNotes and Policy Briefs, "State Funding Programs for High-Cost Special Education Students," Michael Griffith; inForum NASDSE Financing Special Education: State Funding Formulas (2010); WestLaw Database search of state statutes and regulations;
[55] Alaska Department of Education & Early Development, 2008.

4. Who has a disability that prevents him or her from attending a regular or special education program even with the aid of special transportation, and the IEP Team's evaluation and the IEP indicate that a home-based or healthcare facility-based instructional program is appropriate to meet the child's needs.[56]

This weighting of intensive students has shifted over time: In 2006, the weight was five. It increased to 11 in 2010, and to 13 (its current weight) in 2011. Table 4.11, below, shows the changes in the weight for intensive special education students over the past ten years.

Table 4.11
Alaska's Intensive Services Weights Over Time

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Intensive Student Weight	5	5	5	5	11	13	13	13	13	13

The weight of 13 is applied to each district's count of intensive special education students. The weight is not adjusted based on a districts' SSA or DCF. The intensive special education student count is then added to a district's adjusted ADM.

Districts Perspectives

Interviewees generally felt that the funding for intensive students was sufficiently meeting the needs of those students, and meeting the needs of school districts. Though the 13 weight was not enough to cover the expenses associated with the highest-cost students, the weight could typically cover the cost of serving high-cost students, on average.

> *One district felt the 13 weight is absolutely necessary. Once identified as having an intensive need, a student needs one on one attention from a full time specialized trained adult, usually in places where there are no other special education students. So a whole staff person needs to be hired just for that student.*

Generally, districts also felt that the right students were being identified to receive the Intensive Services funding. Several districts did note that it can be difficult to qualify students with behavior or emotional disturbance disorders as intensive need students, and they often require one-on-one aides during the school day as well.

Interviewees also expressed concerns about intensive special education students who arrive in districts after the October pupil count date, therefore missing the date that would allow districts to count them for Intensive Services funding. When students miss the count, districts become responsible for covering the costs of providing services to those students. This can create a financial hardship in some districts. Even if one intensive student (Student A) leaves and another intensive student (Student B) arrives, the cost of Student B is not necessarily taken care of, since Student A and Student B may require very

[56] Alaska Department of Education & Early Development, 2008.

different levels and type of services. Furthermore, if Student A required specific contracted services (e.g. an audiologist), it may now be difficult for the district to eliminate those now-unnecessary services and their related costs. Meanwhile, Student B may require the district to purchase new contracted services (e.g. a behavior specialist).

Interviewees in very isolated areas also raised concerns about the fact that the Intensive Services adjustment is not adjusted for DCFs. These interviewees questioned whether their districts (in remote settings) would be able to provide similar levels of support services as districts in more urban settings. For these smaller districts, the costs of bringing in specialists are very high. These districts have to pay for a specialist's transportation to their district, which can be highly expensive. Because transporting a specialist is so expensive, these districts may not be able to afford specialist visits as often as is needed.

Overall, districts serve the needs of these students regardless of funding tied to the services. The paperwork associated with intensive needs is extensive. One district felt it took away from instructional time and suggested additional funding was needed to offset these administrative burdens.

Others States' Approaches

The chapter on the Special Needs adjustment also discussed general special education funding. This section focuses exclusively on the costs of educating the highest-need special education students. There are two main approaches to funding the highest-need special education students: (1) providing higher funding weights for specific disability categories, and (2) providing supplementary aid, often referred to as extraordinary aid, for very high-cost students.

Higher Funding Weights for Specific Disability Categories

As was mentioned in the chapter on special needs, many states fund special education student populations differently based on disability or need level. States can provide funding for high-need special education students either through categorical programs or through differentiated weights. For example, Ohio has weights as high as 3.80 for students who are deaf and blind. South Carolina provides a 2.57 weight for students with autism. When considering these higher weights, it is important to remember that the weights in each state are multiplied by different base costs amounts. Thus, similar weights may actually produce different dollar amounts for students in different states.

Alaska's approach is similar to that of Ohio or South Carolina in that it has a very high weight for a limited group of students who qualify for intensive services.

Extraordinary Aid

Some states directly fund the highest-cost students, which can even occur in states that already provide differentiated funding for the highest-need special education students. This aid, often referred to as extraordinary aid, is meant to provide districts with support in educating extremely high-cost students. For example, Montana's education funding formula covers 40 percent special education costs for the highest-need student populations. New Hampshire pays 100 percent of costs that are 10 times the state

average cost per pupil. It pays 80 percent of costs that are 3.5 percent to 10 percent of the state average cost per pupil.

Outside of the weight for intensive services (while applies to high cost, high need special education students), Alaska does not provide any additional funding to districts for extraordinary costs.

Correspondence Students

Correspondence programs can refer to a broad range of programs, depending on the state. Correspondence programs can include distance learning options, which deliver instruction to students who are not physically present in a traditional education setting, like a classroom.[57] Many states have made state- or district-run distance learning an education option for students, separate from non-publicly funded homeschool. Often, distance learning programs are offered online, or as blended learning options, where students can access coursework either remotely or at a physical education setting.

DEED staff indicated that correspondence programs in Alaska have traditionally existed as regulated, publicly-funded homeschool options. Using correspondence programs, families have a means of educating their children at home while still accessing state-approved curriculum, certified teachers, and funding for materials. As such, this section focuses on publically-funded homeschool policies.

This section does not address non-publically funded homeschool. While an important component of the education landscape in Alaska, it is outside the scope of this school finance study.

Alaska's Approach

Alaska's correspondence statute exempts students from compulsory public school attendance if those students participate in a full-time correspondence study program that has been approved by the Alaska Department of Education & Early Development (DEED).[58] To be DEED-approved, correspondence programs must include an approved course of study, a learning plan, a regular assessment schedule, and regular contact with a certificated teacher (Alaska Department of Education & Early Development, 2015). Again, these correspondence programs are distinguished from non-publicly funded homeschool, which is also allowed under Alaska' homeschool statute.

School districts that offer correspondence programs receive funding from the state. The state funding level is calculated by multiplying the correspondence student count by .90.[59] The resulting figure is then added to the District-Adjusted Average Daily Membership (DAADM). Under the correspondence school regulations, a correspondence program then provides funding to a correspondence student's parents to

[57] Honeyman, M., & Miller, G., 1993.
[58] Alaska Statute 14.30.010(b)(10).
[59] Alaska Department of Education & Early Development, 2014.

cover instructional expenses. All expenses must be approved, either by the district or the managing correspondence program.[60]

During the 2014-15 school year, 26 out of Alaska's 53 school districts enrolled at least one correspondence student. Across the state, there were 11,114 enrolled correspondence students, representing 8.7 percent of the state's total student enrollment. These students are heavily concentrated in seven districts that enroll 9,636 correspondence students, or 86.7 percent of all correspondence students in the state. Five districts (Denali, Nenana, Yukon/Koyukuk, Chugach, and Galena) report that more than half of their students are correspondence students.

Districts' Perspectives

Interviewees generally felt that the funding for correspondence students sufficiently covered the costs of serving students in correspondence programs, especially after the recent increase in how correspondence students are counted, moving from counting each student as .80 to .90 for the FY2015 school year.

Some interviewees were concerned that new models – outside of the traditional model of homeschool-based correspondence programs – also have new and different cost structures. Interviewees were concerned, then, that the current system of funding for correspondence students would not cover the full costs of these new programs. This was particular concern over blended learning models, which require students to come into brick and mortar facilities for part of their instructional day. Additional consideration about how these students should be counted and funded may be needed.

Interviewees also mentioned that students in correspondence programs may have special needs that require support services. For example, correspondence programs may have special education or Limited English Proficiency (LEP) students. Currently, the funding system does not provide additional dollars for student need for the correspondence students in a district's enrollment, as these students are subtracted from a district's ADM prior to adjustments for School Size, District Cost Factors, or the Special Needs adjustment. Even though the Special Needs adjustment is not applied to correspondence student counts, they still have needs that must be met. Lack of funding could be especially difficult for those districts with very high percentages of correspondence students. Alternatively, one district also noted that they are required to provide services (special education, sports and activities, etc.) for students enrolled in another district's correspondence school if the parents request it, so they are providing services for students that are not a part of their funding DAADM.

Finally, there was some underlying tension regarding correspondence programs in several interviews. While districts operating large correspondence programs felt their programs were a means to help students unsuccessful in their home districts to have a chance at completing their education, several districts shared a belief that correspondence schools are taking advantage of the correspondence school

[60] Alaska Department of Education & Early Development, 2015.

funding to supplement their district budgets. At least one interview suggested that correspondence schools should be for those students in truly remote places through the traditional state-run program.

Other States' Approaches

As noted earlier, for the purposes of comparison, this report focuses on homeschool policies in other states instead of correspondence school policies. APA believes this provides a more accurate comparison to Alaska's system. The sections below list two typical approaches states can take to homeschool: (1) provide no funding, or (2) provide funding through IDEA and tax credits.

Homeschool: Provide No Funding

Based on a review of homeschool policies across all 50 states, the study team determined that Alaska's policy of providing funding for correspondence schools is unique within the U.S. Most state education formulas do not provide any funding for homeschools; in fact, a few states specifically prohibit homeschools from receiving funding. For example, Arkansas Statute 6-15-507 (2012) states that home schools "are not entitled to local, state, or federal funds allocated to a public school district."[61] However, states often allow homeschool families to borrow, or loan, materials from their local districts. In New York, for example, districts are not obligated to provide homeschools with materials, but they can provide materials if they wish. According to the New York State Education Department, "A student instructed at home is not enrolled in a nonpublic school and, therefore, the district is not obligated to loan those items which a district is required to provide, by statute, to children attending nonpublic schools. Although not required, a school district may offer such loans to the extent available." [62]

While it is rare for states to provide funding for homeschool students, it is much more common for states to allow homeschool students to participate in some public school activities. The Home School Legal Defense Association reports that, as of 2011, 22 states required public schools to provide homeschool students with some access to classes or activities. In other states, access policies are left to the discretion of districts or schools.[63]

Homeschool: Provide Funding through IDEA and Tax Credits

Many states classify homeschools as private schools based on certain requirements. Students with disabilities who attend homeschools classified as private schools may be eligible for federal funding through the Individuals with Disabilities Act (IDEA). IDEA provides funding to special education students who attend private school. A number of states classify homeschool students as private school students solely for the purpose of providing those students with IDEA funding.

In addition to IDEA funding, there are other ways for states to provide more direct funding for homeschool students. In Illinois, homeschooling is considered private education "if the teacher is competent, the required subjects are taught, and the student receives an education at least equivalent

[61] Arkansas General Assembly, 2012.
[62] Arkansas General Assembly, 2012.
[63] Home School Legal Defense Association, 2011.

to public schooling"[64]. If these conditions are met, parents can receive a tax credit for educational expenses such as books, curriculum rentals, and lab fees. The tax credit is for up to 25 percent of the amount expended above $250, up to an annual maximum credit of $500.[65]

Minnesota residents are eligible for the K-12 Education Subtraction, and the K-12 Education Credit, provide tax reductions to families, including (but not limited to) those that homeschool their children, under particular conditions. Parents qualify for the credit if they paid taxes for homeschooling a K-12 child and purchased supplies and materials for non-religious subjects taught during the school day.[66] The credit lowers state taxes for Minnesota taxpayers who have spent money on qualifying educational expenses for their homeschool.[67]

The South Carolina legislature is currently considering a similar bill. The bill under consideration would offer parents who homeschool a qualifying student a tax deduction of $2,000 per homeschooled student for instruction-related expenditures.[68]

Alaska's approach to correspondence program funding provides families with direct funding for materials and provides families with access to a state-approved curriculum and certified teachers.

Non-Formula Funding: Transportation[69]

The transportation of students varies greatly across districts and states. Some districts are spread out geographically and have low student populations, requiring significant hours and mileage to bus students to centralized school locations, other districts are in urban or condensed settings were most students live close to their schools so minimal transportation is needed.

Providing students with transportation to schools is an increasingly challenging and expensive endeavor for school districts. According to a 2014 report by the Center for Cities and schools, at the University of California Berkeley, more than 25 million children, or 55.3 percent of the U.S. public K–12 student population, ride one of 475,000 school buses each day, totaling more than a billion student trips per year.[70] Running a transportation system is like running separate enterprise for many districts and large districts often have a full time position directing their transportation program. Most states require that school districts provide some busing service for students, especially for special education students, and typically states will provide funding for transportation.

[64] U.S. Department of Eduation, December 2014.
[65] Illinois Department of Revenue, 2015.
[66] Minnesota Department of Revenue, 2012.
[67] Minnesota Department of Revenue, 2014.
[68] South Carolina General Assembly, 2015.
[69] Center for Cities and Schools, University of California Berkeley, 2014; Public School Transportation National and Regional Perspectives, an Update (2009); Verstegen, D., 2015.
[70] Center for Cities and Schools, University of California Berkeley, 2014.

Alaska's Approach

Alaska provides funding for transportation on a per-pupil basis, to districts eligible to receive funds. For the 2013-14 school year, 48 school districts received a combined $74.7 million in funding from the state for transportation costs. The per-pupil amount ranged from low of $2 to a high of $2,819, calculated on actual district transportation expenditures.[71]

Districts' Perspectives

Interviewees were generally happy with the transportation funding and felt that the funding covered most district transportation costs. Interviewees did raise a few concerns about the funding, with the most frequent concern being the lack of competition among transportation contractors within districts. Often, there was only one contractor in a district, so interviewees from those districts felt that their hands were tied; they had no real choice in which contractor to use. Interviewees mentioned that if some capital funds were made available to certain districts for things such as bus barns, then it might help to create competition, or at least allow districts to provide their own transportation without relying on external contracting.

A few interviewees mentioned that they use state transportation funds to cover more than just the costs of busing general population students and special education students to and from school. Interviewees explained that some districts continue using transportation routes throughout the day, while school is in session. In this way, these districts can increase their economies of scale around programs such as CTE. These districts fear that Alaska's new accounting structure, which looks at increased reporting of transportation, might lead to funding cuts for this within-school-day transportation. Interviewees expressed that, if districts lose resources for this school day transportation, then they will need to find other sources of funding or risk loss of programming.

District also shared that there are busing and transportation needs associated with student activities, particularly for remote districts. Engaging in sports and scholastic competitions is extremely cost prohibitive for districts off the road system. Student activities transportation is not currently included in transportation funding.

Other States' Approaches

Districts within in a state can face significantly different transportation costs, depending on various factors. These factors include district population density, fuel costs, and other logistical concerns. States address transportation funding in a number of ways. Key approaches include: (1) funding mechanisms, (2) cost reimbursement, and (3) blended models.

Funding Mechanisms

A number of states use funding mechanisms to provide districts with transportation funding. These funding mechanisms can be based on formula calculations or on per-student amounts. One mechanism

[71] Alaska Department of Education & Early Development, data on transportation funding.

for calculating funding is an area density model. An area density model examines the size of a district in relationship to the number of students being transported in that district. The theory is that less densely populated districts face higher costs, per-pupil, for transporting students. Another mechanism for calculating funding is a linear density approach. A linear density approach focuses on the number of bus miles driven in relationship to the number of students transported. Maine is an example of a state that uses a linear density approach.

Per-pupil funding approaches provide a standard per-student amount for all students in districts that receive transportation funding. States that this sort of per-pupil approach include Delaware, Florida, and Oklahoma. The per-pupil funding approach can be expressed as a weighted formula. In Oklahoma, for example, students who are transported receive an additional funding weight of .39.

Cost Reimbursement

Many states reimburse districts for a portion of, or for all of, the actual costs of transportation. States that provide these sorts of cost reimbursements include California, Georgia, and South Carolina. In South Carolina, the state funds and monitors the entire pupil transportation system, including training and salaries for bus drivers. Local districts still have the power to hire bus drivers, and these drivers are required to hold state certification. One concern about direct reimbursement programs is that many interviewees feel that such programs decrease the incentive for districts to keep their transportation spending in check.

Blended Models

Some states use a blended approach to funding for transportation. States using a blended approach can reimburse school districts for pupil transportation costs based on number of pupils transported, prior year transportation costs, square mile area covered, and/or density of transported pupils per square mile area covered. Ohio has a base calculation for each school district that uses the greater of either the cost per mile or the cost per rider. The calculation makes subsequent adjustments to enhance efficiency and quality of service. Tennessee uses a multiple linear regression formula, taking an average of expenditures from the three previous Basic Education Program (BEP) funding years. Tennessee's multiple linear regression formula focuses on the following four factors: students transported per ADM; special education students transported per ADM; miles driven per ADM; and whether the district is a county, city, or special school district. Tennessee's model estimates the average, statewide effects of these factors on transportation expenditures, and multiplies those estimated effects by each LEA's respective factors to calculate the estimated cost to the district for providing past transportation services. The BEP then adjusts these amounts by an inflation measure to calculate the actual dollar amount of transportation spending generated for each LEA.

Non-Formula Funding: Capital

Districts across the country face building and long-term maintenance issues. Research shows that the quality of facilities can have an impact on student performance. Research results predict an increase in

NAEP scores of .236 points per additional dollar/pupil invested in infrastructure (based on a .236 structural coefficient across three years of NAEP scores).[72]

States vary greatly in the levels of support provided to districts for the construction and maintenance of facilities. Some states provide most of the funding, while others leave nearly the full responsibility to the districts. In states where districts take on funding the majority share of capital projects, differences in funding capacity become a large issue. Some districts have robust tax bases that allow the district to tap large funding amounts, generally through bonds, at relatively low tax effort. Other districts may have such limited fiscal capacity, so that even at high tax rates, the amount that can be raised would not meet the capital needs of the districts. These issues can be compounded in states where districts are dependent. In these cases the districts lack taxing authority and must work with municipalities to get funding passed.

Alaska's Approach

Alaska provides three sources of funding to districts for capital projects[73]. These sources include: (1) the School Construction and Major Maintenance Grant Program, (2) State Aid for School Construction in Regional Educational Attendance Areas and Small Municipal School District Grant Program, and (3) the Debt Reimbursement Program. Each of the three programs functions differently and provides different levels of support to districts.

The School Construction and Major Maintenance Grant funding is run by DEED and provides funding to districts based on an application and prioritization process. Districts must complete an application for a school construction or major maintenance project over $25,000. Routine maintenance cannot be funded. DEED examines the two groups of projects separately and then scores and prioritizes the projects. Since FY2011, $91.6 million has been funded for 49 major maintenance projects and $356.8 million for thirteen construction projects.

State Aide for REAAs and Small Municipal Schools Grant funding is available for all REAA districts and for five "small municipal school districts." The five small municipal districts have ADM below 300 and low taxable real and personal property levels per ADM. The funding stream was set up July 1, 2012 and helps to fund projects for districts that either lack local capacity at all or in the case of the small municipal districts have very low capacity.

Debt Reimbursement Program funding is provided to city and borough districts that can provide matching dollars for capital projects. A total of $711.3 million has been allocated through FY2015 as part of the program with about $288.9 million for maintenance and $422.4 million for construction. Districts must get local voter approval and then can get reimbursement from the state based on available funding. Projects are subject to one of two reimbursement levels. Those projects that meet all DEED

[72] Crampton, F. E., 2009.
[73] Alaska Department of Education & Early Development, February 2015. (School Capital Project Funding under SB237: A Report to the Legislature.)

space eligibility requirements receive 70 percent reimbursement. Those that exceed the DEED requirements receive 60 percent reimbursement. Senate Bill 64 (Chapter 3 SLA 15), passed during the 2015 legislative session, put a moratorium on the Debt Reimbursement Program until July 1, 2020."

District Perspectives

Interviewees had mixed feelings about the various funding sources for capital projects in the state. All interviewees were appreciative that the state provided funding for such projects. Those districts that depended on the School Construction and Major Maintenance Grant funding did have concerns that having a prioritization process meant that it could be difficult to get a project funded that did not clearly rise to the top of the system. These districts generally felt they did not have local fiscal capacity to fund the projects through the Debt Reimbursement program but also felt their projects would not reach a high enough priority level to be funded through the School Construction and Major Maintenance Grant funding program.

Interviewees were very concerned with the moratorium on the Debt Reimbursement program. Many felt that districts were able to pass bonds when voters understood that local support would be matched by state dollars. The ability to pass bonds helps ensure new buildings for growing communities or those with obsolete buildings and helped districts cover the cost of major capital repairs. Districts fear that the loss of state funding puts two pressures on districts. First, it will become harder generally to pass bonds without state dollars. Second, this will be compounded as districts will need to tap more local dollars since 60 percent to 70 percent of dollars previously available are lost without state match. It was expressed that without state match, the inequities around capital may be compounded as only the wealthiest districts will be able to afford to take on debt.

> *One district discussed the need to continue to go to voters to issue bonds for capital. The district has been generally successful in the past but it is unknown how a lack of state matching dollars will affect voters.*

Districts also indicated that to participate in state capital programs, the district had to follow specific state guidelines for improvements. In one district that meant they could not build the gym that their community wanted (as basketball is a community priority), because it was too large according to state guidelines for their size of school. Another could not make improvements to their school because there current facilities were deemed in excess of the needs of their enrollment size- a product of declining enrollment.

Interviewees indicated REAAs are in a particularly hard position. In absence of state support, REAAS lack the ability to go to their communities to raise dollars for necessary capital improvements.

Other States' Approaches

A 2014 policy brief by Deborah Verstegen describes the following nine types of state funding for capital:

- Funding is an item in the funding formula
- State bond guarantee
- Equalized grants
- Debt service grants
- Approved project grants
- Loans
- Equalized project grants
- Aging facilities funding
- Providing no funding[74]

States may have multiple types of funding streams for capital projects. The two most common types of funding are equalized project grants and approved project grants. Though states may use similar structures for funding programs, the percentage of funding picked up by the state can vary. A 2010 report by the 21st Century School Fund examined the percent of capital funding provided by each state.[75] It reported that from 2005-2008 11 states contributed no funding to districts for capital projects, 14 provided less than 20 percent of the capital funding, 12 states provided between 20 and 50 percent of capital funding, and 12 states provided over 50 percent. While these figures are older, they show the variation in state share of capital projects.

Colorado is an example of a state where the vast majority of capital funding is raised individually, by districts. The state does have a small capital funding program called B.E.S.T. that was the result of a court decision. This program has a limited scope. It focuses on high-need projects and has limited dollars to support needs. The majority of capital dollars raised are through voter-supported district bonds for which the state provides no matching dollars. Wyoming addresses capital needs through the School Facilities Department. The state keeps an inventory of building needs across the state and approves the building of facilities that meet specific state facilities standards. Districts can pass bonds to allow them to build to specifications beyond the Wyoming's standards.

Overall, states must first decide if they will help provide funding for school capital projects. If they do fund, states must examine if they will help control the type of facility built or allow districts to determine the facility specifications. States also determine the level of support they will provide the districts. Some states fund the full project, some fund a flat percentage, and others equalize funding based on the wealth of the community.

Specific recommendations regarding the funding components described in this chapter will be presented in Chapter VIII. The following Chapter V will review the equity of the School Funding Program.

[74] Vergsten, D. 2014.
[75] Filardo et al., 2010.

V. Equity Study

This chapter summarizes the equity study APA completed as part of the review of Alaska's School Funding Program. As a school finance term, "equity" is concerned with how resources are allocated across school districts, and ultimately across schools and students. The most common notion of equity assumes that a school finance system that distributes resources *equally* is equitable. However, both research and APA's experience working in other states show that a number of special needs student populations (e.g. low-income students, students with disabilities, etc.) require higher levels of resources to achieve the same, or similar outcomes, as general population students. Thus, to achieve equitable, or comparable, outcomes, these different student populations require different resources. Local school districts also differ in their abilities to raise revenues locally. Disparities in local property and income wealth mean that some school districts will be able to raise significantly higher local revenues than other districts. A strong finance system that is truly equitable will accommodate these differences in: (1) student resource needs, and (2) district revenue-raising abilities.

For the equity study, APA examined the fiscal equity of Alaska's School funding program for the 2005-06, 2009-10, and 2013-14 school years. The study team recognizes that it is difficult to measure equity in Alaska. In the vast majority of states, the local shares of education funding come primarily from local property taxes. Thus, districts with higher property values often have the opportunity to raise more revenues than poorer districts, or districts with lower property values. Traditionally, then, equity in school finance is examined through the lens of property wealth. However, in Alaska, only City and borough districts (C&B), have their property wealth factored into state funding formula calculations. Further, apples-to-apples comparisons of student revenues become difficult when differences in district property wealth are considered alongside: (1) the extreme variation in the size, remoteness, and local costs among districts, and (2) the significant funding adjustments, based on these factors, in the funding formula. One prominent assessment of state by state school funding systems, the Education Law Center's (2015) "Is School Funding Fair? A National Report Card," excludes Alaska from its analysis because "the state's unique geography and sparse population, being so highly correlated with poverty, result in inconsistent estimates of within-state resource distribution.[76]" However, the *Education Week's* (2015) *Quality Counts* does include Alaska in its equity rankings.

APA has worked to overcome some of the difficulties in examining equity in Alaska by taking several careful steps in the analysis:

1. To acknowledge that the needs of some students (e.g. Limited English Proficiency (LEP) students or students with disabilities) and some districts (e.g. very small and/or remote districts) require higher levels of funding, the study team used two different weighted student counts in an attempt to account for these differences. The first weighted student count weights special needs students using APA-developed weights. APA developed these weights based on years of

[76] Baker, B., Sciarra, D., & Farrie, D., 2015.

work analyzing the costs of serving special needs students. These weights serve to adjust per-student expenditures in a way that accounts for the higher spending needed to serve these students. The second set of student weights are derived from Alaska's own adjustments for school size, District Cost Factors (DCF), and student need to more fully adjust for the particular and more extreme district cost differentials in Alaska.

2. APA also attempted to provide for a more representative and consistent district wealth measure by adding a proxy wealth component to the assessed valuation in city and borough districts. APA used this proxy measure as the sole indicator of local wealth in Regional Educational Attendance Area (REAA) districts. This proxy wealth component is not perfect, but it does attempt to account for the value of Federal Impact Aid in a local district's wealth calculation.

Neither of these steps fully accounts for the difficulties of assessing funding equity in Alaska, but they do allow for a more comprehensive and fair assessment of equity.

Defining Equity

School finance equity has been discussed and analyzed both in terms of 1) the focus on whom or what is being treated equitably and 2) the particular type of equity of concern. Most often, equity studies focus on the distribution of resources to school districts, since nearly every state calculates its state school finance formula at the school district level. However, it is also reasonable to be concerned about how equitably resources are ultimately directed toward individual students. Are resources being allocated fairly to schools within districts? Are more resources being targeted toward students with greater educational needs? Taxpayers comprise another legitimate focus of equity. Are some taxpayers subject to much higher tax rates (or lower levels of state-provided resources) solely because they live in a city or county with little wealth? Do other taxpayers enjoy the ability to raise much higher levels of revenues at lower tax efforts because they live in wealthier communities?

There are also multiple equity concepts that are typically addressed in school finance equity analyses. The most common of these are horizontal equity, vertical equity and fiscal neutrality. These concepts are described in detail below.

Horizontal equity is concerned with how equally resources are allocated to districts or students in similar situations. 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 the school districts where they attend school.

Vertical equity measures how well the school finance system takes into account varying student needs. A system with high vertical equity will provide more resources for students with greater educational needs. In this way, a system with high vertical equity supports the programs and interventions that are required for students with greater educational needs to succeed in school.

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 district. A school finance system with high fiscal neutrality minimizes the relationship between local wealth, or capacity, and district spending.

These three dimensions of school finance will form the bases of APA's analysis of school finance equity in Alaska.

Analysis

APA's equity analysis examined district-level enrollment and fiscal data for three school years: 2005-06, 2009-10, and 2013-14. By including the earlier fiscal years, 2005-06 and 2009-10, the study team was able to look for longer-term trends within Alaska's school finance system. For all three years, the study team examined 53 districts. In addition to examining all the 53 districts together, APA examined the C&B districts and REAA districts separately. APA chose to do this in part because of the differences in property taxes between the two groups of districts. As noted above, the study team focused on three equity measures: 1) horizontal equity, 2) vertical equity, and 3) fiscal neutrality.

While there are a number of generally accepted statistical methods used to analyze equity, the study team has found that there are generally three measures that are most useful for policymakers trying to understand the equity of a school finance system. These three measures are as follows:

1. **Horizontal equity:** To measure horizontal equity, APA used a range and a coefficient of variation. *Range* describes the difference between the smallest and largest values of any given variable, e.g. per-student spending. The greater the range, the more likely it is that a system has lower horizontal equity. *Coefficient of variation* is a measure of how much items vary around an average. In statistical terms, coefficient of variation is the standard deviation divided by the mean (average). If per-student expenditures do not very greatly across districts (low variation), then all of the items will be tightly packed around the average. If expenditures *do* vary greatly across districts (high variation), then the items will be widely dispersed from the average. The value of the coefficient of variation, in percentage terms, typically varies from zero to 100, although its value can go higher than 100. In this report, the CV is presented in decimal form, with a value between zero and one. A lower number (closer to zero) indicates less variation and a higher number indicates more variation, with a number over .100 showing high variation.

2. **Vertical equity:** To measure the vertical equity of a school finance system, the study team uses most of the same measures as for horizontal equity. The only difference is that weighted students counts are used instead of standard counts. By using weighted student counts, which provide a measure of student need, the study team was able to assess whether spending varies with student need. The study team's expectation was that higher spending would be associated with higher levels of student need.

3. **Fiscal neutrality:** The most common method used to measure fiscal neutrality is to find the correlation between per-student property wealth and per-student spending. A high-quality school finance system will exhibit little relationship between the two, since local property wealth should not determine how much money a school system has available to spend. The correlation between per-student property wealth and per-student spending ranges from -1 to 1, where -1 represents a perfect negative relationship and 1 represents a perfect positive relationship. In a perfect negative relationship, a one-unit *increase* in one item – such as a one-unit increase in per-student property wealth – results in a one-unit *decrease* in another item (e.g. per-student spending). In a perfect positive relationship, a one-unit *increase* in one item results in a one-unit *increase* in the other item. A correlation of zero means there is no relationship between two items.

The study team first examined district characteristics across the years, broken down by C&B and REAA districts. The team then examined horizontal equity, vertical equity, and fiscal neutrality by examining the relationships between district characteristics, district spending, and district local tax effort.

District Characteristics

Table 5.1 that follows shows the number of districts included in the analysis for each year. For each year, Table 5.1 also shows the unweighted enrollment, the weighted enrollment, and the ratio between weighted and unweighted enrollment for all districts. The table shows the information for all districts, for C&B districts, and for REAA districts. The weighted student figure is based on the special needs adjustments first described in Chapter IV. For this equity section, APA chose to use weights of 1.00 for special education students, .50 for LEP students, .25 for Alaska Native students, and .25 for low-income students. These weights estimate the additional resources needed to serve special needs students, and are based upon weights commonly found in school finance research and national practice. For Alaska Native students, the weight for low-income was used since there is high correlation between the two categories of students in Alaska, and race-specific weights are not common. Using these weights allowed the study team to measure the impact of both Alaska Native and low-income student populations.

Table 5.1
District Characteristics for FY2006, FY2010 and FY2014

All Districts	Year 2005-06	Year 2009-10	Year 2013-14	Change 2006-2010	Change 2010-2014	Nine Year Change
District Characteristics						
Number of Systems	53	53	53	0.0%	0.0%	0.0%
Number of Students PK-12	132,893	131,313	131,169	-1.2%	-0.1%	-1.3%
Number of Weighted Students PK-12	182,106	179,031	179,054	-1.7%	0.0%	-1.7%
Ratio of Weighted to Unweighted Students	1.37	1.36	1.37			
City and Borough Districts	**Year 2005-06**	**Year 2009-10**	**Year 2013-14**	**Change 2006-2010**	**Change 2010-2014**	**Nine Year Change**
District Characteristics						
Number of Systems	34	34	34	0.0%	0.0%	0.0%
Number of Students PK-12	117,377	116,852	116,386	-0.4%	-0.4%	-0.8%
Number of Weighted Students PK-12	155,659	154,322	153,998	-0.9%	-0.2%	-1.1%
Ratio of Weighted to Unweighted Students	1.33	1.32	1.32			
REAA Districts	**Year 2005-06**	**Year 2009-10**	**Year 2013-14**	**Change 2006-2010**	**Change 2010-2014**	**Nine Year Change**
District Characteristics						
Number of Systems	19	19	19	0.0%	0.0%	0.0%
Number of Students PK-12	15,516	14,461	14,783	-6.8%	2.2%	-4.7%
Number of Weighted Students PK-12	26,447	24,709	25,056	-6.6%	1.4%	-5.3%
Ratio of Weighted to Unweighted Students	1.70	1.71	1.69			

Statewide enrollment in 2013-14 is about one percent lower than in 2005-06, and is basically the same as statewide enrollment in 2009-10. Since 2005-06, C&B districts have seen their enrollments decline at a slower rate than statewide enrollments. Meanwhile, REAA districts have seen about a five percent drop in enrollments between 2005-06 and 2013-14. REAA districts have seen around a two percent increase in students since 2009-10. The ratio of weighted to unweighted students was fairly consistent across years and across district groupings. C&B districts had a need ratio of around 1.32 in each year, lower than the average of 1.70 need ratio in REAA districts.

Horizontal Equity, Vertical Equity and Fiscal Neutrality

This section examines horizontal equity, vertical equity, and fiscal neutrality. Horizontal equity is concerned with how equally situated students are funded across schools districts. Vertical equity assumes that a greater amount of resources is needed to effectively educate special needs students, such as special educations students, LEP students, and those students at risk of academic failure. Fiscal neutrality examines the relationship between the wealth of a district and the amount of money they spends on education.

Coefficients of Variation and Correlations between Variables

The study team first examined the coefficient of variation for a number of variables and examined the correlation between variables to understand the equity and fiscal neutrality across districts.

As noted earlier in this section, the Coefficient of Variation (CV) is the standard deviation divided by the mean. In school finance research, a coefficient over .100 indicates very high variation. Variation is not always a bad thing when evaluating equity. However, when variation does exist, it should exist because of recognized differences in district characteristics. For example, if a state appropriately adjusts for student needs within districts, then one could expect to see variation in that state's raw, per-student expenditure figures. That variation would decrease once expenditures were shown in weighted student terms, the amount of spending once student count is adjusted for student need.

Correlations can be either positive or negative. A positive correlation between two variables means that as one variable increases, the other variable also increases. A negative correlation between two variables means that as one variable increases, the other variable decreases. A correlation of either 1.0 or -1.0 means there is a perfect correlation between two variables. A correlation of zero means there is no correlation between two variables. Correlations at .70 or above are generally considered highly correlated.

APA completed correlation analyses for all districts, for C&B districts separately, and for REAA districts separately. During these analyses, the study team looked at six variables: 1) enrollment, 2) district need, 3) wealth proxy, 4) local tax effort, 5) current per-pupil spending, and 6) instructional services per pupil. The study team created a set of three tables for each analysis. Each table shows statistical data for two variables and correlations between those two variables and all six variables. District need is based on the APA weights described above. District need is presented as a ratio. Local tax effort is only calculated for the C&B districts; as such, the local tax effort columns are only shown in the tables for C&B districts. Negative correlations are shown in parenthesis, for example a negative .20 correlation will be shown as (.20).

All Districts

To run correlations for all districts together, the study team attempted to generate a proxy wealth value for all districts. Only the 34 C&B districts have reported property wealth used in the state funding formula. However, the majority of districts also receive Federal Impact Aid to account for the loss of local property tax base due to federal ownership of land. Federal Impact Aid also takes into account other factors related to "federal students" residing on or affected by federal lands, so the aid amount is not an exact proxy for the value of the federally held lands. However, for this analysis, Federal Impact Aid is the closest available proxy for local wealth in REAA districts. To create a proxy local wealth measure (called the "wealth proxy" in tables below), APA took the total Federal Impact Aid amount, made deductions for specific student-related services (e.g. services for students on Indian Lands, services for students with disabilities, and services for exempt three- and four-year-olds), and then divided by the minimum local contribution tax rate of 2.65. The wealth proxies used for the following correlations consist of actual property assessed values, plus the Federal Impact Aid proxy value for C&B districts, and the Federal Impact Aid proxy value for REAA districts.

Table 5.2, below, shows the enrollment and district need figures for all districts.

Table 5.2
Coefficients of Variation and Correlations for All Districts: Enrollment and Need

	Enrollment			Need*		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	2,507	2,478	2,475	1.48	1.48	1.48
Minimum	14	13	13	1.09	1.11	1.06
Maximum	49,714	49,640	48,211	2.03	2.03	2.01
Coefficient of Var.	2.89	2.94	2.88	0.15	0.15	0.15
Correlations						
Enrollment	1.00	1.00	1.00	(0.18)	(0.18)	(0.16)
*District Need**	(0.18)	(0.18)	(0.16)	1.00	1.00	1.00
*Wealth Proxy***	(0.11)	(0.09)	(0.07)	0.37	0.27	0.24
*Local Tax Effort****						
Current Operating Spending per Student	(0.27)	(0.28)	(0.28)	0.51	0.55	0.59
Instructional Services per Student	(0.27)	(0.24)	(0.21)	0.53	0.45	0.46

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

As shown in Table 5.2, above, the average district size has remained relatively constant over the nine-year period. The range of district sizes has also stayed consistent, ranging from about 13 students to about 50,000 students. District need averaged 1.48 across all three years. Variation was high, with a coefficient of variation of .15 in each year, ranging from a low of just about 1.10 to a high of 2.0 in each year.

The enrollment correlations are relatively low. Not surprisingly, based on the size adjustments in the formula, there is a low negative correlation between size and spending. Spending is positively correlated with need, both for current operating spending per student and instructional services per student. The correlations are moderately high and growing for current expenditures. This means that spending has a moderate positive correlation with district need.

Table 5.3 that follows shows the wealth proxy information for all districts. Note that local tax effort data is not available for all districts, so it is not included on this table.

Table 5.3
Coefficients of Variation and Correlations for All Districts: Wealth Proxy

	Wealth Proxy**		
	2006	**2010**	**2014**
Statistics			
Average	$986,392	$1,283,690	$1,340,942
Minimum	$9,007	$27,504	$306
Maximum	$6,220,456	$8,375,879	$9,571,923
Coefficient of Var.	0.96	1.01	1.09
Correlations			
Enrollment	(0.11)	(0.09)	(0.07)
*District Need**	0.37	0.27	0.24
*Wealth Proxy***	1.00	1.00	1.00
*Local Tax Effort****			
Current Operating Spending per Student	0.51	0.40	0.30
Instructional Services per Student	0.59	0.52	0.25

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Looking at Table 5.3, above, there is a very wide range of wealth when wealth is measured using the proxy described previously. The range in 2014 went from a minimum of $306 per student to a maximum of $9.6 million per student. There were similar, albeit somewhat smaller ranges, in the prior two years. The correlation between the wealth proxy and spending was .51 in 2006, .40 in 2010, and .30 in 2014. A generally accepted standard for this measure is a correlation of .50 or less.[77] Based on this standard, the current operating spending in Alaska's districts is not, on average, highly related to local revenue-raising capacity. The relationship has, in fact, become weaker over time. As a measure of fiscal neutrality, a weak relationship between local wealth and spending is a desirable characteristic of a state school finance system. This relationship between local wealth and spending is also partly driven by the large portion of state-provided education funding. In 2012, the state provided nearly 65 percent of education funding. The national average percentage of state-provided education funding is 45.

Table 5.4 that follows shows the current spending and instructional services per student for all districts.

[77] Berne, R. & Stiefel, L., 1984.

Table 5.4

Coefficents of Variation and Correlations for All Districts: Current Operating Spending per Student and Instructional Services per Student

	Current Operating Spending per Student			Instructional Services per Student		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	$13,539	$19,543	$22,771	$7,421	$9,939	$11,563
Minimum	$4,628	$5,912	$5,489	$2,549	$2,884	$3,025
Maximum	$32,074	$43,765	$46,565	$13,793	$19,327	$25,231
Coefficient of Var.	0.40	0.39	0.38	0.32	0.32	0.34
Correlations						
Enrollment	(0.27)	(0.28)	(0.28)	(0.27)	(0.24)	(0.21)
*District Need**	0.51	0.55	0.59	0.53	0.45	0.46
*Wealth Proxy***	0.51	0.40	0.30	0.59	0.52	0.25
*Local Tax Effort****						
Current Operating Spending per Student	1.00	1.00	1.00	0.91	0.90	0.89
Instructional Services per Student	0.91	0.90	0.89	1.00	1.00	1.00

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Table 5.4, above, examines spending for student need, before any adjustments have been applied. Current per-student operating expenditures have grown by more than $9,000 per student since 2005-06. During the 2013-14 school year, expenditures ranged from a low of $5,489 per student to a high of more than $46,565 per student. The coefficient of variation has stayed relatively steady over the three years, with a high of .40 in 2005-06 and a low of .38 in 2013-14. Though there is high variation in spending, as measured by the coefficient of variation, such variation is to be expected when looking at expenditures before any adjustment for student or district needs. (Alaska's funding system has a number of adjustments for student and district needs.)

After noting the high level of variation shown in Table 5.4, above, APA more closely examined the spending for all districts. To do this, the study team weighted students, using both APA's weights for special needs and Alaska's current total ADM adjustments. Weighting students like this allowed APA to take a closer look at vertical equity in the state – to consider the amount of variation that could be attributed to differing student needs. If funding is related to need, then the expectation is that the coefficients of variation should be reduced when looking at spending per weighted student.

Table 5.5, below, uses APA's student weights (not Alaska's current adjustments) to examine the differences in coefficients of variation for operating expenditures and instructional services.

Table 5.5
Expenditures per APA Weighted Student

	2005-06	2009-10	2013-14
Current Operating Expenditures per APA Weighted Student			
Average	$9,043	$13,035	$22,771
Minimum	$3,875	$4,904	$5,489
Maximum	$20,035	$26,158	$46,565
Ratio of Maximum to Minimum	5.17	5.33	8.48
Coefficient of Variation	0.35	0.34	0.38
Instructional Services per APA Weighted Student			
Average	$4,983	$6,701	$7,867
Minimum	$2,134	$2,310	$2,518
Maximum	$9,197	$12,565	$15,291
Ratio of Maximum to Minimum	4.31	5.44	6.07
Coefficient of Variation	0.28	0.29	0.29

Compared to the coefficients of variation in Table 5.4, the coefficients of variation in Table 5.5 (which take student need into account) are slightly lower in all years, but still show large variations between districts – well above the benchmark of .100.

APA also examined the amount of variation present between districts when student need is taken into account, this time using Alaska's current adjustments (not APA's weights). To do this, the study team created an imputed Alaska need figure by dividing the District-Adjusted Average Daily Membership (DAADM) by the total Average Daily Membership (ADM). Creating an imputed Alaska need figure helped capture the total need factor for a district, based upon its School Size Adjustment, DCF, Special Needs Adjustment, and Career and Technical Education adjustments.

Table 5.6 that follows looks at the coefficients of variation when student need is taken into account. Table 5.6 uses Alaska's current adjustments (not APA's weights). Again, if funding is related to need, the expectation is that the coefficients of variation should be reduced when looking at spending per weighted student.

Table 5.6
Expenditures per Alaska Weighted Student

	2005-06	2009-10	2013-14
Current Operating Expenditures per APA Weighted Student			
Average	$5,980	$7,120	$7,547
Minimum	$4,201	$4,478	$5,499
Maximum	$8,732	$10,465	$10,400
Ratio of Maximum to Minimum	2.08	2.34	1.89
Coefficient of Variation	0.14	0.17	0.13
Instructional Services per APA Weighted Student			
Average	$3,369	$3,736	$3,975
Minimum	$1,942	$1,330	$1,668
Maximum	$5,556	$5,741	$6,419
Ratio of Maximum to Minimum	2.86	4.32	3.85
Coefficient of Variation	0.19	0.21	0.22

Table 5.6, above, shows that total current spending per weighted student in Alaska is much closer to the Base Student Allocation (BSA) amounts for each year than non-adjusted or APA adjusted figures. This is expected, since the figures are being adjusted by the District Adjusted Average Daily Membership (DAADM) figures in the Alaska formula which is multiplied by the BSA. Differences between districts, then, depend on the number of dollars raised above Basic Need. These dollars include additional local contributions and any other dollars outside the formula (e.g. federal funding). Looking at current expenditures per weighted student in Alaska, the coefficients of variation for all years are much lower. The coefficients of variation for instructional services are reduced to a lesser degree than the current spending coefficients of variation. In all instances, even after accounting for need using Alaska's current adjustment, the variation is still above the .100 benchmark for high variation.

The analysis using APA's weights shows that Alaska's funding system is not highly based on student need. Instead, the system contains large adjustments for DCFs and for school sizes. These adjustments are expected, due to the large variations in district characteristics across the Alaska. Interestingly, even when spending is examined after applying Alaska's current adjustments (which take these district differences into account), variation in spending between districts is still very high. This means that a large amount of dollars are coming into the system from outside of the funding program, creating large differences in the resources available to students. These additional funds are examined later in the chapter. APA's overall analysis suggests that the total funding differences between districts are not highly related to student need differences.

The final table for all districts, Table 5.7, below, examines the number teachers per 1,000 students and per 1,000 weighted students, based on the APA student need weights. One way to examine the equity

of a system, beyond just looking at expenditures, is to examine the resources allocated to serving students in the classroom. The number of teachers per 1,000 students is a measure of the number of teachers available to serve students. The higher this number, the more teaching staff in a district.

Table 5.7
Teachers per 1,000 Students and Teachers per 1,000 APA Weighted Students

	2005-06	2009-10	2013-14
Teachers per 1,000 Students			
Average	70.5	73.8	66.3
Coefficient of Variation	0.37	0.39	0.41
Teachers per 1,000 APA Weighted Students			
Average	46.6	49.6	45.0
Coefficient of Variation	0.35	0.36	0.39

As shown in Table 5.7, above, the average number of teachers per 1,000 students increased from the 2005-06 school year to the 2009-10 school year. However, since the 2009-10 school year, this ratio has declined; during the 2013-14 school year, the average number of teachers per 1,000 students was lower than in 2005-06. The coefficient of variation shows that, across the state, there is high variation in all years in terms of the numbers of teachers per 1,000 students. Again, variation in a figure that is unadjusted for student need would be expected. The expectation is that the variation would decrease once the needs of students is taken into account. Table 5.7 shows that the variation between districts decreases when examining teachers per 1,000 weighted students but the coefficients of variation only decrease slightly. The variation in the number of teachers available to serve students is not reduced significantly by adjusted for student need.

City and Borough Districts

APA then looked at just the C&B districts, analyzing the correlations and coefficients of variation for the same variables: 1) enrollment, 2) district need, 3) wealth proxy, 4) local tax effort, 5) current spending per pupil, and 6) instructional services per pupil.

Table 5.8 that follows looks at enrollment and need for C&B districts.

Table 5.8
Coefficients of Variation and Correlations for C&B Districts: Enrollment and Need

	Enrollment			District Need*		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	3,452	3,437	3,423	1.40	1.40	1.39
Minimum	14	13	13	1.09	1.11	1.06
Maximum	49,714	49,640	48,211	1.68	1.70	1.67
Coefficient of Var.	2.57	2.60	2.55	0.11	0.11	0.12
Correlations						
Enrollment	1.00	1.00	1.00	(0.18)	(0.20)	(0.16)
*District Need**	(0.18)	(0.20)	(0.16)	1.00	1.00	1.00
*Wealth Proxy***	(0.12)	(0.11)	(0.09)	0.30	0.16	0.16
*Local Tax Effort****	(0.02)	(0.07)	0.09	(0.08)	0.22	0.17
Current Operating Spending per Student	(0.29)	(0.29)	(0.32)	0.62	0.65	0.71
Instructional Services per Student	(0.29)	(0.26)	(0.25)	0.60	0.46	0.60

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

As Table 5.8 illustrates, there is an exceptionally wide range in enrollment across C&B districts. In 2014, district sizes ranged from a low of 13 students to a high of 48,211 students, with an extremely high coefficient of variation. The average district size for C&B districts was just under 3,500 students in all years – nearly 1,000 students larger than the average across all districts shown in Table 5.2. The level of need is lower than for all districts – 1.39 for C&B compared to 1.48 for all districts in 2014. Furthermore, there is lower variation – .120 for C&B districts compared to .150 for all districts in 2014.

Using APA's weights, the correlation between current total expenditures and student need increased across the three years (2006, 2010, and 2014), with correlations of .62 in 2006, .65 in 2010, and .71 in 2014. A correlation above a .70 is considered high. The correlation between current total expenditures and instructional services decreased across the three years. , (similar in 2006 and 2014, but lower in 2010) but still demonstrate a moderate correlation. The lower correlation with overall per student spending suggests that other factors than student need are more related to revenues and spending – again, likely district size and cost of living.

Table 5.9 then considers wealth and local effort for C&B districts.

Table 5.9
Coefficients of Variation and Correlations for C&B Districts: Wealth Proxy and Local Tax Effort

	Wealth Proxy**			Local Tax Effort***		
	2006	2010	2014	2006	2010	2014
Statistics						
Average	$958,237	$1,289,688	$1,386,630	3.46	3.10	2.42
Minimum	$23,780	$27,504	$21,585	-	-	-
Maximum	$6,220,456	$8,375,879	$9,571,923	4.00	4.00	2.65
Coefficient of Var.	1.11	1.12	1.17	0.32	0.33	0.32
Correlations						
Enrollment	(0.12)	(0.11)	(0.09)	(0.02)	(0.07)	0.09
*District Need**	0.30	0.16	0.16	(0.08)	0.22	0.17
*Wealth Proxy***	1.00	1.00	1.00	(0.65)	(0.67)	(0.79)
*Local Tax Effort****	(0.65)	(0.67)	(0.79)	1.00	1.00	1.00
Current Operating Spending per Student	0.51	0.43	0.45	(0.16)	0.06	0.05
Instructional Services per Student	0.62	0.59	0.41	(0.14)	(0.08)	(0.13)

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Table 5.9 shows there is a large variation in the per student wealth proxy among C&B districts, with a minimum of $21,585 per student and maximum of $9.6 million per student in 2014. Ranges of per student wealth proxy are similar in 2006 and 2010, though the highest wealth per student has increased by over $3 million per student between 2006 and 2010. The correlation between the wealth proxy and current operating spending per student is relatively flat across the three years and is very close to the standard of .50, with .51 in 2006, .43 in 2010, and .45 in 2014. There is a higher correlation between wealth and instructional services spending, with correlations of .62 in 2006, .59 in 2010, and .41 in 2012.

The last table for C&B districts, Table 5.10, looks at current expenditures and instructional services.

Table 5.10
Coefficents of Variation and Correlations for C&B Districts: Current Operating Spending per Student and Instructional Services per Student

	Current Operating Spending per Student			Instructional Services per Student		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	$12,669	$18,618	$21,273	$6,982	$9,535	$11,146
Minimum	$4,628	$5,912	$5,489	$2,549	$2,884	$3,025
Maximum	$32,074	$43,765	$37,403	$11,496	$16,159	$17,550
Coefficient of Var.	0.41	0.43	0.38	0.31	0.33	0.32
Correlations						
Enrollment	(0.29)	(0.29)	(0.32)	(0.29)	(0.26)	(0.25)
*District Need**	0.62	0.65	0.71	0.60	0.46	0.60
*Wealth Proxy***	0.51	0.43	0.45	0.62	0.59	0.41
*Local Tax Effort****	(0.16)	0.06	0.05	(0.14)	(0.08)	(0.13)
Current Operating Spending per Student	1.00	1.00	1.00	0.91	0.89	0.87
Instructional Services per Student	0.91	0.89	0.87	1.00	1.00	1.00

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Table 5.10 shows that the coefficients of variation for current spending per pupil and instructional services per student are very high. The coefficients of variation for current expenditures and instructional services are similar to the coefficients of variation for all districts.

Though not shown in these tables, the study team examined the correlation between current operating expenditures and assessed value per student for the C&B districts, since all C&B districts have assessed value data. The correlations are lower than for the wealth proxy correlation and show a similar trend, with correlations of.30 in 2006, .21 in 2010, and .25 in 2014. All three years are below the .50 standard for correlation between wealth and spending, indicating that the system is fiscally neutral when wealth is measured by property values.

REAA Districts

Lastly, the study team looked at correlations and coefficients of variation for the six variables within REAA districts only.

Table 5.11 shows enrollment and need for the REAAs.

Table 5.11
Coefficients of Variation and Correlations for REAA Districts: Enrollment and Need

	Enrollment			District Need*		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	817	761	778	1.63	1.63	1.60
Minimum	45	37	35	1.25	1.26	1.19
Maximum	4,139	4,097	4,296	2.03	2.03	2.01
Coefficient of Var.	1.19	1.25	1.32	0.15	0.15	0.15
Correlations						
Enrollment	1.00	1.00	1.00	0.26	0.27	0.31
*District Need**	0.26	0.27	0.31	1.00	1.00	1.00
*Wealth Proxy***	(0.05)	0.05	0.14	0.70	0.62	0.60
*Local Tax Effort****						
Current Operating Spending per Student	(0.33)	(0.22)	(0.15)	0.33	0.45	0.41
Instructional Services per Student	(0.26)	(0.18)	(0.14)	0.37	0.40	0.29

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Table 5.11 shows that the REAA districts have a range of enrollment that is large, from 35 students to 4,296 students. This enrollment range is still much smaller than the range for the C&B districts. Similarly, the average REAA district size is much smaller, at about 800 students for all three years. The REAA districts have much higher and slightly more varied district need levels than the C&B districts, with an average of 1.60 in 2014 (compared to 1.39 for C&B districts). The minimum was 1.19 and maximum of 2.01 in 2014. These figures have been fairly consistent since 2006.

The correlation between need and spending is not as high for REAA districts as it was for C&B districts when looking at either total current expenditures per student or instructional services expenditures per student. The correlation for total current expenditures ranges from a low of .33 in 2006 to a high of .45 in 2010, with 2014 in the middle at .41. The correlation with instructional services per student is generally lower at just .29 in 2014.

Table 5.12 looks at the wealth proxy for REAAs. Under the state's funding formula, REAAs do not have any property wealth used for determining their local contribution. However, as described above, the study team imputed a wealth proxy using Impact Aid amounts.

Table 5.12

Coefficients of Variation and Correlations for All Districts: Wealth Proxy

	Wealth Proxy**		
	2006	**2010**	**2014**
Statistics			
Average	$1,036,774	$1,272,957	$1,259,186
Minimum	$9,007	$56,509	$306
Maximum	$1,931,513	$3,844,926	$3,686,870
Coefficient of Var.	0.67	0.77	0.86
Correlations			
Enrollment	(0.05)	0.05	0.14
*District Need**	0.70	0.62	0.60
*Wealth Proxy***	1.00	1.00	1.00
*Local Tax Effort****			
Current Operating Spending per Student	0.59	0.35	0.04
Instructional Services per Student	0.61	0.38	0.02

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Using this wealth proxy measure, the wealth base varied from a minimum of $306 per student to a maximum of $3.7 million per student in 2014. These amounts shifted over the other two years, although the magnitude of the range was similar. The minimums and maximums for 2006 and 2010, respectively, were $9,007/ $1.9 million per student, and $56,509/ $3.8 million student. The correlation between the proxy measure of wealth and per student spending was .59 in 2006, .35 in 2010, and .04 in 2014. The large differences in correlations may highlight the fact that an important element of the REAA districts' funding mix, the Impact Aid, varies significantly over time and leads to fluctuations from year to year.

Finally, Table 5.13 looks at current expenditures and instructional services for the REAAs.

Table 5.13
Coefficents of Variation and Correlations for REAA Districts: Current Operating Spending per Student and Instructional Services per Student

	Current Operating Spending per Student			Instructional Services per Student		
	2006	**2010**	**2014**	**2006**	**2010**	**2014**
Statistics						
Average	$15,096	$21,198	$25,452	$8,206	$10,663	$12,310
Minimum	$6,063	$9,594	$9,551	$3,814	$5,050	$6,049
Maximum	$30,049	$34,984	$46,565	$13,793	$19,327	$25,231
Coefficient of Var.	0.35	0.31	0.36	0.30	0.30	0.35
Correlations						
Enrollment	(0.33)	(0.22)	(0.15)	(0.26)	(0.18)	(0.14)
*District Need**	0.33	0.45	0.41	0.37	0.40	0.29
*Wealth Proxy***	0.59	0.35	0.04	0.61	0.38	0.02
*Local Tax Effort****						
Current Operating Spending per Student	1.00	1.00	1.00	0.92	0.92	0.92
Instructional Services per Student	0.92	0.92	0.92	1.00	1.00	1.00

* District Need is the ratio of weighted to unweighted students.

** Wealth Proxy is the imputed property value per student including Impact Aid.

*** Local Tax effort is local current revenue divided by wealth, it only applies to C&B districts.

Looking at Table 5.13, the coefficient of variation for current spending per student for REAA districts is slightly lower than that for C&B districts (.36 compared to .38). At .35 in 2014, the coefficient of variation for Instructional services per student is very close to that of the C&B districts.

Excess Revenues

To examine the revenues available to districts above the Basic Need amount, the study team calculated "excess" revenues for each district for the 2013-14 school year. Excess revenues are defined as local revenue contributions to the school district above the Required Local Contribution. To calculate excess revenues, the Required Local Contribution was compared to City/Borough appropriations, in-kind services, earnings on investments and other local revenues, plus Impact Aid net of student specific deductions (students on Indian lands, special education and exempt three- and four-year-olds).

Table 5.14 shows the excess revenues for districts in 2014.

Table 5.14
Excess Revenues in 2014

	All Districts	C&B	REAA
Statistics			
Average	$3,560	$3,576	$3,532
Minimum	$300	$337	$300
Maximum	$13,110	$13,110	$9,843
Coefficient of Var.	0.76	0.72	0.82

Excess revenues for 2014 ranged from $300 per student in an REAA district to $13,110 per student in a C&B district. The average for all districts was $3,560 per student. The excess revenue numbers were similar for both C&B and REAA districts. The range for C&B districts was $337 to $13,110, with an average of $3,576. For REAA districts, the range was $300 to $9,843 with an average of $3,532 per student. The measure of variation is significant, with a coefficient of variation of .70 for all districts, .72 for C&B districts, and .82 for REAA districts.

It is not possible to identify the reasons for the variation from the available data. The amount of excess revenue was moderately correlated with need, with a correlation for all districts of .41. The relationship was higher in REAA districts, with a correlation of .61, compared to .33 in C&B districts. While the average amount of excess revenue is similar for both C&B and REAA districts, there are several districts generating significantly higher excess local revenues than the norm and others generating very little. Whether this is a result of intentional decision making or differences in local fiscal capacity cannot be determined from the available data. There are 11 C&B districts with greater than $4,000 per pupil in excess revenue, one with more than $13,000, and four with less than $1,000. For REAA districts, there are nine districts with more than $4,000 per pupil and six with less than $1,000.

Conclusions

As was mentioned in the introduction, Alaska's unique funding structure makes it difficult to accurately and comprehensively measure equity in the Alaska school funding system. The funding system appears to meet the standard for fiscal neutrality, with little relationship between wealth and per student spending, one of the key traditional measures of equity. This was measured for all districts, whether C&B or REAA, using a wealth proxy developed by APA.

The coefficient of variation of per student funding, another key school finance equity measure, exceeds the generally accepted criteria of .10 or less. Alaska's higher coefficient of variation of per student funding implies that the school finance system is not allocating resources across school districts equitably, e.g. there is wide variation in funding across districts. The coefficient of variation for all districts in 2014 was .38, and was at or near .40 in the other two years examined. However, this measure looks specifically at horizontal equity, that is, similar funding for students with similar needs in similar locations. It does not take into consideration differing levels of need in districts, both for students (those with special needs such as special education, LEP, and at-risk students) and for districts (small districts, remote districts, and districts with a high cost of living).

Adjusting for student need characteristics based on the APA student weights to look at vertical equity lowered the coefficient of variation to .32 in 2014 - which is still well over the standard. Using weights derived from the various Alaska funding adjustments, which also take into consideration not only student need but district circumstances, the coefficient of variation falls to .19. However, even this measure is higher than the benchmark of .10 or less. This suggests that even with the considerable adjustments available in the current formula, the variation in spending is not entirely due to variation in student and district need. Instead, the differences are most likely associated with dollars districts have access to outside of Basic Need.

Access to funding beyond the Basic Need amount varies significantly across districts. The analysis of excess revenues shows that some districts are generating much higher local contributions than others, in a few cases several times higher. While it is unknown whether this is a result of intentional local policies, lack of local fiscal capacity, or both, this is a source of inequality of funding.

VI. Relationships between Performance, Need, and Expenditures

As part of APA's analysis, the study team undertook a series of statistical analyses, focusing on the relationships between, student performance, student need, and spending. The Alaska Department of Education & Early Development (DEED) provided all necessary data to the study team. The study team first created a district-level database of performance data from the Alaska Standards Based Assessment (SBA). The database covered SBA results from the 2004-05 school year through the 2013-14 school year. The database also tracked demographic data for all district students from the 2008-09 to 2014-15, and tracked district expenditure data for the 2012-13 and 2013-14 school years. Once the database was complete, the team examined: (1) the relationship between district demographics and student SBA performance, (2) the relationship between district expenditures and student SBA performance, and (3) the relationship between district-level student need and the funding adjustments in the formula.

Relationship between District Demographics and Student Performance

As described in the prior chapter, funding formulas across the country often differentially fund for different groups of special needs students. These groups of special needs students include special education students, limited English proficiency (LEP) students, and students at-risk of academic failure (often measured using eligibility for free or reduced-price lunch as a proxy for at-risk status). Additional funding streams for special needs students are in place to ensure that the districts and schools serving these students have access to the additional resources necessary to help such students achieve state academic standards. Underlying this type of increased funding is the assumption that student demographics are meaningfully associated with student performance on standards-based tests like the SBA. APA examined this assumption in Alaska by analyzing the relationship between district student demographics and student SBA performances.

For this analysis, the study team examined SBA performance data for grades three through nine, for the 2004-05 school year through the 2014-15 school year. Reading and math results were examined separately. Chart 6.1, below, shows the distribution of SBA proficiency levels across Alaska districts, by test type, for all the school years included in the range.

Chart 6.1 that follows is a box plot, where each box shows the distribution of student SBA proficiency levels in all Alaska districts for a specific year and test subject.

To interpret Chart 6.1 and other box plots in this section: The top and bottom of each box, respectively, indicate the 75th and 25th percentiles of the distribution, and the line in the middle of each box indicates the 50th percentile of the distribution, or the median. The lines extending from the top and bottom of the box define the overall range of the proficiency levels, with dots outside those lines representing extreme outliers. For example, the box for reading proficiency in 2004 indicates that 25 percent of districts had proficiency levels under 60 percent, with the bottom range extending to about 30 percent. One outlier district had proficiency levels of about 20 percent.

Chart 6.1

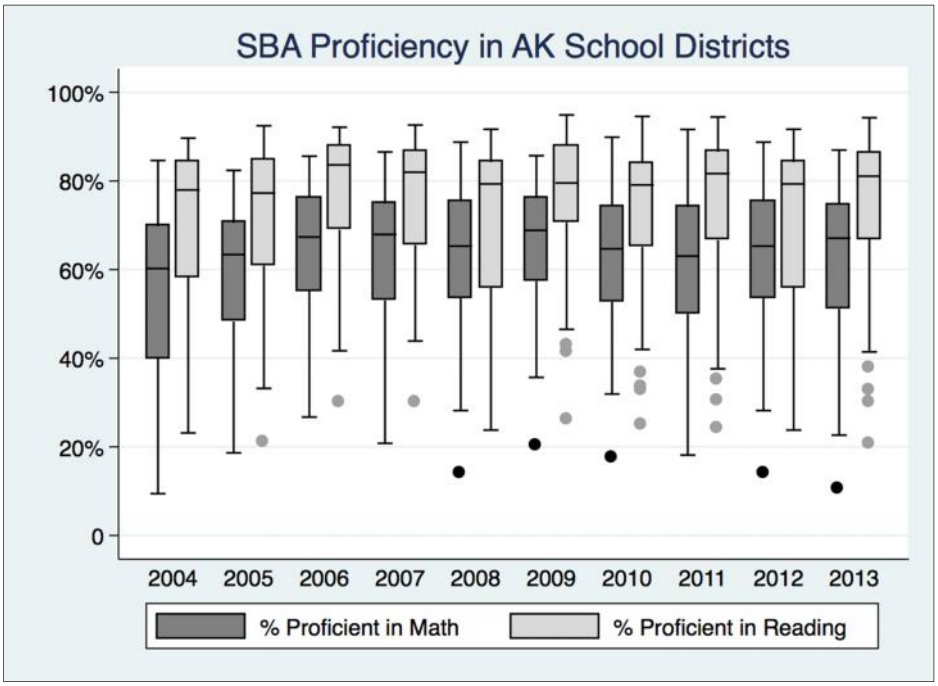


Chart 6.1, above, indicates that proficiency levels were relatively stable over the years examined, with the proportion of students proficient in reading remaining consistently higher than the proportion of students proficient in math. Overall, averaging across all districts and all school years analyzed, 73 percent of students were proficient in reading and 62 percent were percent proficient in math.

The study team also examined which district demographic characteristics were significantly associated with overall proficiency levels on SBA reading and math. The demographic characteristics examined included:

- District size[78] (based only on students in grades that take the SBA)
- Percentage of special education students
- Percentage of low-income students
- Percentage of LEP students
- Racial and ethnic categories
    - Percentage Alaska Native students
    - Percentage of white students
    - Percentage of students of other races, including black students, Latino students, Asian students, and students of two or more races
- Percent of students who are migrants

[78] Districts in Alaska vary dramatically in size, with many more small districts than large ones. However, the linear regression model APA used to examine the relationship between demographics and student performance assumes that variables are not highly skewed. In order to transform district size to be less skewed, APA performed a log transformation of this variable.

The demographic data used for the analysis came from the SBA data files. It does not include all students in a district, just those students in grades that take the SBA. Chart 6.2, below, shows the distribution of percentages of disabled, LEP, and migrant students, by district, across all years of the analysis (2004-05 through 2014-15).

Chart 6.2

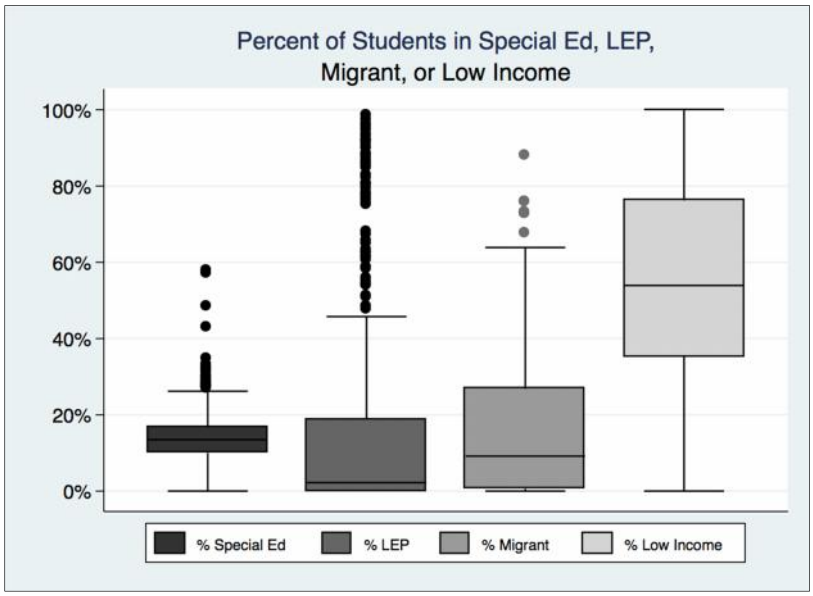
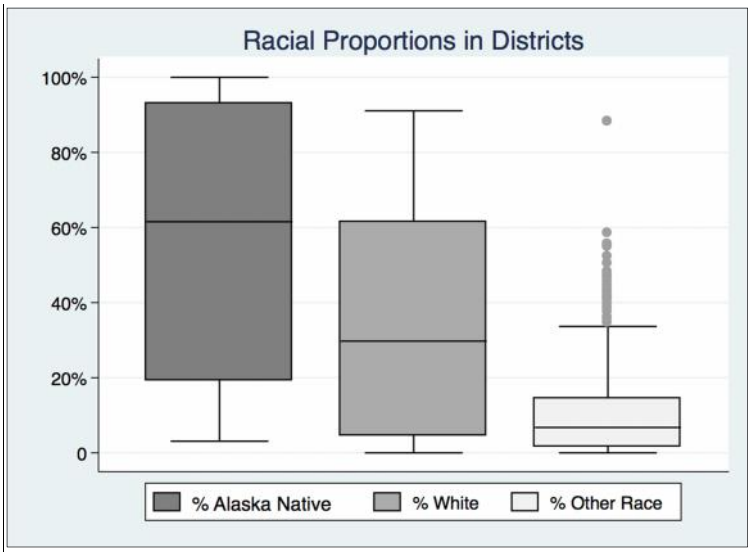


Chart 6.2, above, shows that the average percentage of Special Education students was around 13 percent, with most districts clustered between 10 and 17 percent. The distribution of percentages of LEP students is different. Across all of the years examined, about 25 percent of districts had no LEP students, but a number of districts had more than 45 percent LEP students. The average district had about three percent LEP students. The average percentage of migrant students in a district was nine, though about 25 percent of districts had no migrant students and about 10 percent of districts had over 40 percent migrant students. In the average district, 54 percent of students are low-income. Concentrations of low-income students range from almost no low-income students to nearly 100 percent low-income students.

The racial demographics of the districts are shown in Chart 6.3 that follows. The study team created three different racial and ethnic groups: Alaska Native; white; and other races, a category that includes black students, Latino students, Asian students, and students of two or more races.

Chart 6.3



Of these racial and ethnic groups, Alaska Native is the largest: in an average district, 55 percent of students are Native/American Indian, 35 percent are white, and about 10 percent are other races. The balance of racial and ethnic groups varies significantly across districts, with some districts that are almost exclusively Native/American Indian and some districts that have much higher proportions of white students and students of other races.

To examine the relationship between these district demographic variables and student SBA performances, APA ran a linear regression analysis. This regression analysis provided information on the overall impact of these demographic characteristics on district SBA performances. The analysis also provided information on the impact of each individual demographic variable on district SBA performances. Overall, the demographic variables described above explained 79 percent of the variance in students who scored proficient in reading and 66 percent of the variance in students who scored proficient in math. This means that, when looking at two districts with different proportions of proficient students, about 79 percent of the difference in the two districts' reading performances can be explained by the different demographic composition of the students.

APA's analysis also indicated whether each individual demographic variable had a significant or meaningful relationship with overall district performance. The linear regression allowed the study team to determine whether an individual variable was related to overall district performance by holding all other variables in the model constant. For example, the model allowed APA to compare proficiency levels between two districts that have different proportions of special education students, but are identical with respect to all other demographic characteristics. In that analysis, APA determined that the demographic variables of district size, students with disabilities, LEP students, and Alaska Native students were all significantly related to a district's overall proficiency scores in SBA reading and math. This means that districts that varied on any of those demographic characteristics had proficiency scores that were significantly higher, or significantly lower, than proficiency scores in other districts. It also

means that knowing a district's size and its proportions of disabled students, LEP students, and Alaska Native students would be sufficient information to closely predict that district's SBA proficiency scores.

Individual variables were associated with overall district proficiencies as follows:

- A 10 percent increase in the number of Special Education students decreased the proportion of students scoring proficient by 4.1 percentage points in reading and 4.0 percentage points in math, with change in proficiency points being the difference in a district's total percentage of student who are proficient. For example, for a hypothetical district that had 50 percent of students proficient in reading and math, if their percentage of students in Special Education was 20 percent instead of 10 percent, the model would predict that the district would now have 45.9 percent of their students proficient in reading, and 46 percent proficient in math.
- A 10 percent increase in the number of LEP students decreased the proportion of students scoring proficient by 2.8 percentage points in reading and 3.5 percentage points in math.
- A 10 percent increase in the number of Native students decreased the proportion of students scoring proficient by 2.8 percentage points in both reading and math.
- Increased district size was associated with relatively small decreases in overall district proficiencies in both reading and math. A 10 percent increase in a district's enrollment of students in SBA-tested grades was associated with a one percent decrease in the proportion of students scoring proficient in both reading and math.

The other demographic variables did not have a significant impact on district proficiency levels. The study team understands that, other than district size, the other three demographic variables shown to have an impact are subgroups that the state of Alaska also examines as part of its accountability system, as described by DEED staff.

Relationship between Performance and Expenditures

APA's next analysis examined the relationship between expenditures and student SBA proficiencies for the most recent two years for which data is available: 2012-13 and 2013-14. Similar to the above analyses of the relationships between demographics and student proficiencies, these analyses predict the proportion of district students who scored proficient on the SBA in either math or reading. However, instead of predicting district proficiency levels based on demographic characteristics, these analyses predict proficiency levels based on either district instructional expenditures per pupil or district total expenditures per pupil. The performance data and expenditure data come from datasets that DEED provided to the study team.

The analysis looks at instructional and total expenditures separately. Alaska's funding structure uses the District Cost Factor (DCF) to provide additional funding for district characteristics that are not necessarily related to instructional costs. The DCF is designed to adjust for the Cost of Education in different communities based on staff costs, staff travel costs, shipping, energy costs, and costs associated with operating and maintaining facilities. Understanding these cost differentials will greatly influence total expenditures, the study team thought it would be best to look separately at: (1) instructional

expenditures, to understand how the level of day-to-day instructional expenditures relate to SBA proficiencies, and (2) total expenditures, to understand how a district's total spending relates to SBA proficiencies.

The analyses used the following variables used as control variables to isolate the effect of district expenditures on SBA proficiency rates:

- District size (based only on students in grades that take the SBA)
- Percentage of students with disabilities (special education students)
- Percentage of low-income students
- Percent of LEP students
- Percent of Alaska Native students
- Percent of students who are migrants
- Average number of years of teaching experience for district teachers
- Teacher to student ratio

When including the above variables as controls, the model indicates the relationship between a district's expenditures and its student proficiency levels, holding all other demographic and teaching characteristics constant. In other words, the model shows the relationship between per-pupil expenditures and proficiency levels for districts with identical student-teacher ratios, identical average years of teaching experience, and identical numbers of students with disabilities, low-income students, LEP students, Alaska Native students, and/or migrant students.

APA's regression analysis examining the relationship between instructional expenditures and district proficiency levels shows a positive relationship between spending and performance in both reading and math. The amount of change in performance is small, but it is still significant when controlling for all other demographic and teacher characteristics. For every $1,000 increase in instructional expenditure[79] per pupil, there is an increase of two percentage points in reading proficiency and an increase of one percentage point in math proficiency. For example, for a district with 50 percent of students proficient in reading and math, if they spent an additional $1,000 on instruction, 52 percent of their students would be proficient in reading and 51 percent would be proficient in math.

Contrasted to instructional expenditure per pupil, the analysis indicated that there is no significant relationship between total district expenditure per pupil and district proficiency levels. This is likely attributable to high-cost areas included in the DCF (for example energy, maintenance, shipping, staff travel) that are operational, and not specific to instruction.

In summary, the analysis shows that, when controlling for other factors, increases in instructional expenditures are associated with positive changes in district proficiency levels. This is important to note as Alaska examines its funding formula. As APA's analysis shows, ensuring that districts can put dollars

[79] Instructional expenditures based upon the "Instructional Services" category of expenditures reported by districts to DEED.

into instruction can help student performance. This does not mean that other areas of expenditure (outside of instruction) should be ignored. Rather, it highlights a concern that many interviewees expressed: As districts face higher non-instructional costs, resources could be lost in instructional areas – a loss that could negatively impact student proficiency levels.

Relationship between Student Need and Formula Adjustments

The analyses of performance, above, show that: (1) a district's demographics can have a negative impact on its student proficiency levels, and that (2) a district's additional instructional spending can have a positive impact on its student proficiency levels. The positive impact of additional instructional spending on performance occurs even when districts have demographics associated with lower performance; essentially, additional instructional spending has the power to cancel out the effects of the demographic characteristics. With this in mind, the study team examined the relationship between Alaska's Special Needs adjustment – which provides funding for non-intensive needs special education, Career and Technical Education (CTE), gifted/talented education, and bilingual/bicultural education – and district need levels. While Chapter V, which describes the study team's equity analysis, takes a broader look at the relationships between expenditures, revenues, and need, this section more closely examines the relationship between the Special Needs Adjustment and district needs.

Chapter IV describes how the study team examined Alaska's funding formula and describes how other states provide funding for special needs populations. The research was clear that most other states fund for special needs populations based on the actual numbers of students in each category (e.g. LEP). Most other states also use specific, additional per-pupil funding for special needs students, either through weights or additional dollar amounts. These adjustments are most often unrelated to other pieces of a state's funding formula. Alaska's formula does not fund specific student counts for each district, but instead provides 20 percent additional funding for all size-adjusted, DCF-adjusted ADMs. This unique structure – wherein the Special Needs adjustment is the third multiplier in the formula and its impact is compounded by the earlier School Size adjustment (SSA) and DCF – creates a specific special needs weight for each district.

To better understand the effects of this unique structure, consider the following example of a district of 1,000 students, under three different scenarios:

- If the district was in another state that provides a 20 percent adjustment for students in a given special needs category (e.g. LEP) that is a standalone adjustment, then final adjustment for those students remains at 20 percent.
- If the district is in Alaska, then same 20 percent weight is a multiplier on top of the previously size-adjusted and DCF-adjusted ADM. Therefore, if this district has an SSA equivalent to 1.10 after all its schools are size-adjusted (calculated by dividing a district's size-adjusted ADM, by its

original ADM), and if this district has a DCF of 1.44, then its resulting ADM[80] after the three multipliers would generate an imputed Special Needs weight of 31.7 percent.

- If the district is still in Alaska, but this time has an SSA equivalent of 1.20 and a DCF of 1.80, then the imputed Special Needs adjustment after the three multipliers would instead be 43.2 percent.[81]

The multiplier effect results in very different weights, even though the district started each scenario with a 20 percent adjustment for special needs.

This analysis demonstrates that there is great variation across districts in terms of percentages of students in various special needs categories (e.g. special education, LEP, low-income, and Alaska/Native). The current chapter and the preceding chapter, Chapter IV, both provide evidence to demonstrate this variation between districts. In Chapter IV, Tables 4.9 and 4.10 demonstrated that there was significant variation in student need in Alaska, as shown by the dramatic ranges of calculated need factors between districts.[82]

To better understand the relationship between need and imputed weight, the study team examined the correlations between the need factors calculated in Chapter IV and the imputed weight each district is receiving.

The study team theorizes that even though Alaska does not have a student-specific Special Needs adjustment, the compounding effect of the SSA and the DCF may serve to address differences in student needs. Before conducting the analysis, the study team determined that a high correlation (at least 0.70) would be necessary (based upon accepted correlation standards in research), both: (1) for the existing cost factors to sufficiently address student need, and (2) for the existing cost factors to provide districts with the resources to ensure that special needs students can achieve state standards.

Table 6.1 that follows shows the results of the correlation analysis. The first column identifies the correlation between need and imputed weights without Alaska Native students included in the need factors and weights (so only special education, LEP and low income), the second column then including Alaska Native students in the calculations.

[80] ADM would be 1,000 Projected ADM, 100 additional ADM attributable to the School Size factor, 484 additional ADM attributable to the DCF, and 317 ADM attributable to Special Needs adjustment.
[81] ADM would be 1,000 Projected ADM, 100 additional ADM attributable to the School Size factor, 484 additional ADM attributable to the DCF, and 317 ADM attributable to Special Needs adjustment.
[82] See page 44 of this report.

Table 6.1
Correlation of Need Factors with Imputed Special Needs Weight

Year	Correlation Between Need and Imputed Weights, without Alaska Native	Correlation Between Need and Imputed Weights, with Alaska Native
2014-15	0.49	0.40
2013-14	0.47	0.49
2012-13	0.44	0.44
2011-12	0.42	0.37
2010-11	0.44	0.42

Though the correlations between the imputed factors and the special needs populations in districts are somewhat strong, they do not come close to meeting the 0.70 standard for high correlation. The relationship between the imputed factors and a district's special needs population is generally stronger when looking at the group of special education, LEP, and low-income students, without Alaska Native students, than when looking at all four need populations collectively. This indicates that there is not a significant relationship between student need and imputed weights. Put differently, the variance in student need between districts is not being fully accounted for, even with the multiplier effects of the SSA, the DCF, and the Special Needs Adjustment. Therefore, there are some districts that receive higher imputed weights even though they serve fewer special needs students, and there are some districts that receive lower imputed weights, even though they are serving more special needs students.

The final chapter of this report, Chapter VIII, will offer recommendations to address this discrepancy, and will also review potential considerations noted throughout the report.

VII. Examining State Funding Sources and Sustainability

This chapter assesses Alaska's ability to fund K-12 education in a sustainable manner. The downturn in the price of oil over the past year has had a significant negative impact on state revenues. With almost 90 percent of Alaska's state general fund revenues coming from oil production,[83] changes in world oil prices have a major impact on the state's fiscal condition and its ability to fund its K-12 education system. Further, in its *Revenue Sources Book: 2015 Spring*, the Alaska Department of Revenue forecasts lower oil prices through fiscal year (FY) 2024.

Falling oil revenues are expected to reduce the share of total general revenues from oil to about 75 percent of total revenues in FY 2015 and FY 2016 from the near 90 percent share in recent years.

This assessment of fiscal sustainability for K-12 education consists of the following analyses:

- current sources of state revenues;
- current sources of state tax revenues;
- tax incidence and stability;
- a comparison of state and local revenue shares; and
- the effects of the Federal Impact Aid deduction from state aid.

To provide context and perspective, the research team compares Alaska's state fiscal data against the national average and nine comparison states discussed earlier in Chapter IV: Colorado, Hawaii, Idaho, Maine, Montana, North Dakota, South Dakota, Vermont, and Wyoming. Three of these states, along with Alaska, are ranked among the top oil producing states in the country[84] (North Dakota 2nd, Alaska 3rd, Wyoming 7th, and Colorado 8th) to provide comparison to other states with significant energy resources income. All data in the chapter is from the U.S. Census, Census of Governments: State & Local Finances. While this source may not provide the same level of detail on Alaska as state sources, it allows for apples-to-apples comparisons with the other states.

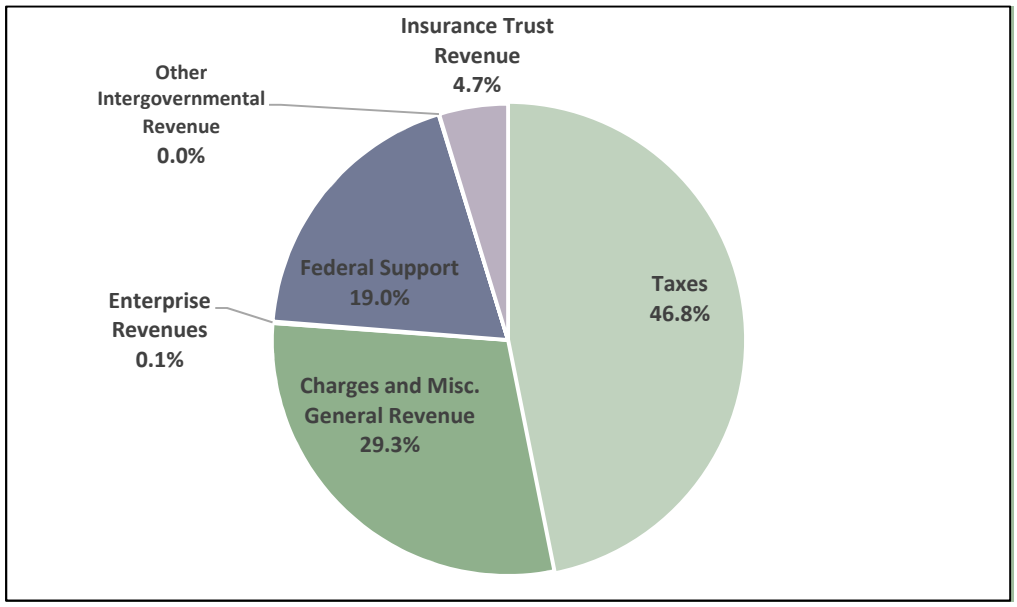
State Revenue Sources

Due to its tremendous oil wealth, the State of Alaska has opted out of including the most common sources of state revenue, the state income tax and general sales tax, from its state revenue mix. Alaska is one of only seven states nationally with no state income tax and one of only five states with no state general sales tax. Local governments in Alaska do have the option of levying a local sales tax. The rates for these local sales taxes averaged 1.3 percent in 2015.[85] In 2012, the most recent year for which U.S. Census, Census of Governments data are available, Alaska's total state revenues totaled just more than $15 billion (the Alaska Department of Revenue reported FY 2014 revenues of $17.2 billion).[86]

[83] State of Alaska House Special Committee on Fiscal Policy, 2015.
[84] U.S. Energy Information Administration, 2012.
[85] Institute on Taxation and Economic Policy, 2015.
[86] Alaska Department of Revenue, 2015.

Figure 7.1 below shows the makeup of Alaska's state revenues for FY 2012. Nearly half of all state revenues came from taxes, with the largest share of taxes coming from taxes on oil production. The next largest source of state revenue, Charges and Miscellaneous General Revenue, comprises just over 29 percent of state revenues. This category of revenues consists of fees and other payments for state services, including such things as public university tuition, natural resources-related fees, interest earnings, and sale of state property. The third largest share of state revenues, 19 percent, comes from payments from the U.S. federal government.

Figure 7.1
Alaska Sources of State Revenues FY 2012



Source: U.S. Census, Census of Governments: State & Local Finances

Comparing Alaska's Mix of State Revenues to Other States?

Tables 7.1 and 7.2 that follow show, respectively, total state revenues by type and share of total state revenues by type. Table 7.1 shows Alaska's state revenue sources compared to that of the nine comparison states and the nation as a whole; as the table shows, Alaska, at 46.8 percent, has a somewhat higher proportion of total revenue from taxes than the nation as a whole. Alaska falls roughly in the middle of the comparison states, in which taxes average 43 percent of total revenue. In North Dakota and Hawaii, at 60.8 percent and 52 percent respectively, taxes make up the highest proportion of total revenue for the comparison states. At 29.3 percent, Alaska has a higher proportion of total revenue coming from charges and miscellaneous revenue than both the nation and comparison states. Somewhat surprisingly given the amount of federal land in the state, Alaska's percentage of revenue from federal support, 19 percent, is lower than both the national average and the average among comparison states, both of which are roughly 27 percent.

Table 7.1

Comparison of 2012 Sources of State Revenues: Alaska to Comparison States and the U.S. (In Millions of Dollars)

Revenue Category	Alaska	Colorado	Hawaii	Idaho	Maine	Montana	North Dakota	South Dakota	Vermont	Wyoming	United States
Taxes	7,049.4	10,263.0	5,516.1	3,374.3	3,777.1	2,459.3	5,620.0	1,521.5	2,757.4	2,551.0	799,350.4
Charges and Misc. General Revenue	4,408.6	5,224.6	2,114.7	1,232.2	1,304.9	985.5	1,124.1	812.1	808.3	1,154.1	297,026.7
Enterprise Revenues	16.4	-	-	127.6	-	78.4	-	-	49.0	93.2	20,740.7
Federal Support	2,860.5	6,310.5	2,352.1	2,479.1	2,883.5	2,202.4	1,750.1	1,630.2	1,904.4	2,213.2	514,139.1
Other Intergovernmental Revenue	5.9	85.5	5.6	18.4	10.3	4.2	47.0	27.3	4.0	228.9	19,518.5
Insurance Trust Revenue	709.6	3,804.3	612.1	1,076.4	442.2	1,923.2	705.2	360.0	825.8	605.1	256,251.5
Total Revenues	15,050.4	25,687.9	10,600.6	8,308.1	8,418.0	7,653.1	9,246.5	4,351.2	6,348.9	6,845.5	1,907,026.8

Source: U.S. Census, Census of Governments: State & Local Finances

Table 7.2

Comparison of Sources of 2012 State Revenues by Share of Total: Alaska to Comparison States and the U.S.

Revenue Category	Alaska	Colorado	Hawaii	Idaho	Maine	Montana	North Dakota	South Dakota	Vermont	Wyoming	United States
Taxes	46.8%	40.0%	52.0%	40.6%	44.9%	32.1%	60.8%	35.0%	43.4%	37.3%	41.9%
Charges and Misc. General Revenue	29.3%	20.3%	19.9%	14.8%	15.5%	12.9%	12.2%	18.7%	12.7%	16.9%	15.6%
Enterprise Revenues	0.1%	0.0%	0.0%	1.5%	0.0%	1.0%	0.0%	0.0%	0.8%	1.4%	1.1%
Federal Support	19.0%	24.6%	22.2%	29.8%	34.3%	28.8%	18.9%	37.5%	30.0%	32.3%	27.0%
Other Intergovernmental Revenue	0.0%	0.3%	0.1%	0.2%	0.1%	0.1%	0.5%	0.6%	0.1%	3.3%	1.0%
Insurance Trust Revenue	4.7%	14.8%	5.8%	13.0%	5.3%	25.1%	7.6%	8.3%	13.0%	8.8%	13.4%

Source: U.S. Census, Census of Governments: State & Local Finances

Table 7.2 highlights that, with a few exceptions (Montana, South Dakota, and Wyoming), states depend primarily on various taxes for the bulk of their revenues. However, the blend of taxes making up total tax revenues in any given state varies considerably. As noted previously, seven states do not levy a state income tax, which is second only to the general sales tax as the largest source of state tax revenues, and only five states do not levy a general sales tax. Alaska is unique in being the only state that does not levy either of these large revenue generating taxes. The following section describes how Alaska compares to the nine comparison states and the nation in the mix of taxes it levies.

The four high oil producing comparison states (Alaska, Colorado, North Dakota, and Wyoming) do not stand out in terms of differences in the share of revenues raised by revenue category. This is because most of the oil-related revenues raised in these states are collected through some form of severance tax, which is reported in the tax revenue category. The revenue differences resulting from high levels of oil production show up more clearly in the analysis of tax revenue sources in the next section.

The Impact of Oil Revenues on State Revenue Collections

Table 7.3 below shows 2012 per capita revenues for Alaska, the nine comparison states, the U.S., the average of the four oil producing states, and the average for the remaining comparison states. The amounts have been adjusted for differences in regional costs.[87]

Table 7.3
2012 Per Capita State Revenues (Adjusted for Regional Cost Differences)

State	Adjusted Per Capita Revenues
Alaska	$19,212
Colorado	$4,874
Hawaii	$6,496
Idaho	$5,562
Maine	$6,443
Montana	$8,083
North Dakota	$14,620
South Dakota	$5,920
Vermont	$10,051
Wyoming	$12,320
U.S.	$6,075
Average of Oil Producing States	$12,756
Average of Non-Oil Producing States	$7,093

Source: APA

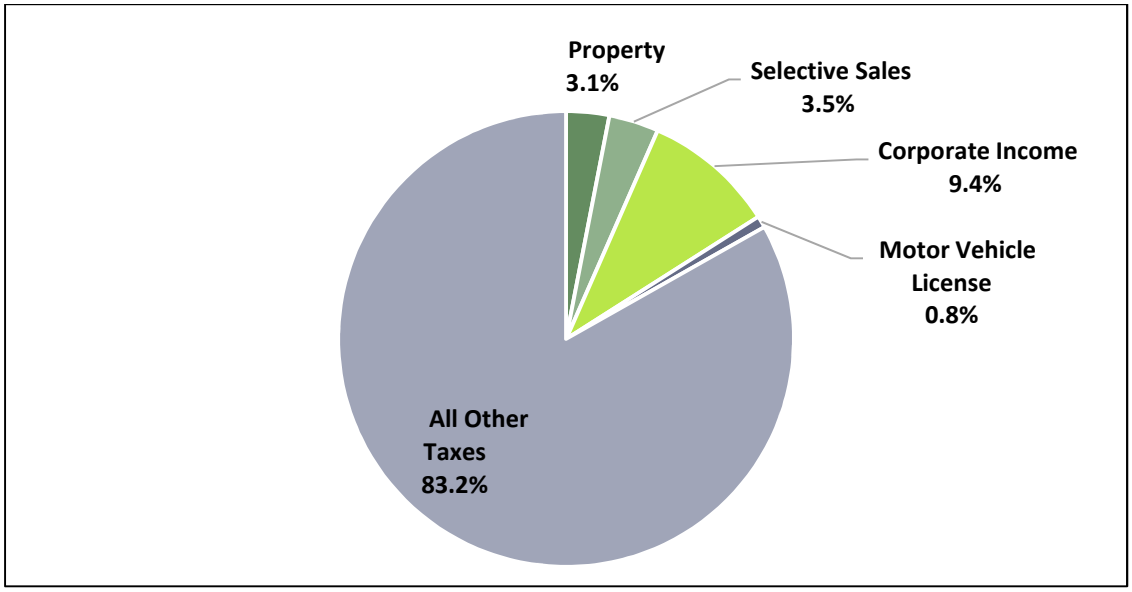
[87] All regional cost adjustments made throughout this analysis use the State Regional Price Parities (RPP) for 2012 developed by the Bureau of Economic Analysis.

This data show that the per capita state revenues for the four oil producing states are, on average, nearly 80 percent higher than the six other comparison states, and slightly more than double the national average. There are significant differences among the states, however. Alaska has the highest per capita state revenue among the comparison states. Another oil producing comparison state, Colorado, is only about 45 percent of the national average. However, the three states with the highest per capita revenues among the comparison states, Alaska, North Dakota, and Wyoming, are all oil producing states.

State Tax Revenues

In 2012, 46.8 percent of Alaska's state revenue, more than $7.0 billion, was raised through state taxes. Figure 7.2 below shows Alaska's state taxes as a percent of total state tax revenue. By far the largest share of taxes collected, 83.2 percent, is the "All other taxes" category. This is the tax category where the bulk of Alaska's state oil taxes are reported. However, the majority of revenue from property and corporate income taxes is also derived from oil and gas companies. Figure 7.2 clearly illustrates how highly dependent Alaska is on tax revenues from the production of oil. Further, of the total receipts for the second largest source of state taxes, the corporate income tax, more than three-quarters is raised from the oil and gas industry.[88]

Figure 7.2
Alaska State Tax Revenues for FY 2012



Source: U.S. Census, Census of Governments: State & Local Finances

None of the nine comparison states, even the major oil producing states, is nearly as reliant on oil tax revenues as Alaska. Tables 7.4 and 7.5 that follow show total state tax revenues and the share of total state tax revenues by tax type.

[88] Alaska Department of Revenue, 2014.

Table 7.4

Comparison of 2012 State Taxes by Type: Alaska to Comparison States and the U.S. (Millions of Dollars)

Tax Type	Alaska	Colorado	Hawaii	Idaho	Maine	Montana	North Dakota	South Dakota	Vermont	Wyoming	United States
Property	215.4	-	-	-	38.4	257.2	2.4	-	948.7	316.7	13,110.7
General sales	-	2,302.3	2,698.0	1,224.7	1,064.3	-	1,122.8	838.2	342.1	994.2	245,445.7
Selective sales	248.4	1,788.3	883.7	440.0	684.5	544.7	471.7	358.9	626.2	126.0	133,098.5
Individual income	-	4,875.6	1,540.7	1,213.3	1,441.9	900.2	432.5	-	598.5	-	280,693.2
Corporate income	663.1	492.2	80.3	188.6	232.1	132.4	215.6	59.8	96.6	-	41,821.3
Motor vehicle license	58.2	455.7	206.2	127.8	99.1	142.9	105.5	64.7	64.3	65.7	22,631.2
All other taxes	5,864.2	348.7	107.3	180.0	216.8	482.0	3,269.5	199.8	81.0	1,048.3	62,549.9
Total State Taxes	7,049.4	10,263.0	5,516.1	3,374.3	3,777.1	2,459.3	5,620.0	1,521.5	2,757.4	2,551.0	799,350.4

Source: U.S. Census, Census of Governments: State & Local Finances

Table 7.5

Comparison of 2012 State Taxes by Share of Total: Alaska to Comparison States and the U.S.

Tax Type	Alaska	Colorado	Hawaii	Idaho	Maine	Montana	North Dakota	South Dakota	Vermont	Wyoming	United States
Property	3.1%	0.0%	0.0%	0.0%	1.0%	10.5%	0.0%	0.0%	34.4%	12.4%	1.6%
General sales	0.0%	22.4%	48.9%	36.3%	28.2%	0.0%	20.0%	55.1%	12.4%	39.0%	30.7%
Selective sales	3.5%	17.4%	16.0%	13.0%	18.1%	22.1%	8.4%	23.6%	22.7%	4.9%	16.7%
Individual income	0.0%	47.5%	27.9%	36.0%	38.2%	36.6%	7.7%	0.0%	21.7%	0.0%	35.1%
Corporate income	9.4%	4.8%	1.5%	5.6%	6.1%	5.4%	3.8%	3.9%	3.5%	0.0%	5.2%
Motor vehicle license	0.8%	4.4%	3.7%	3.8%	2.6%	5.8%	1.9%	4.3%	2.3%	2.6%	2.8%
All other taxes	83.2%	3.4%	1.9%	5.3%	5.7%	19.6%	58.2%	13.1%	2.9%	41.1%	7.8%

Source: U.S. Census, Census of Governments: State & Local Finances

Table 7.5 illustrates that three of the four major oil producing states (Alaska, North Dakota, and Wyoming) collect a significant percentage of their total state tax revenues from the "All other taxes" category," the tax category in which oil taxes are reported. Only Alaska (83.2 percent) and North Dakota (58.2 percent) collect more than half of all tax revenues through this tax, with Wyoming collecting 41.1 percent of taxes through this category. This compares to an average of 7.4 percent for the other seven states, and 7.8 percent for the nation.

Table 7.5 also shows the mix of state taxes collected by each state. Of the four oil producing states, only Alaska does not levy a general state sales tax. The other three oil producing states generate a sizable portion of total state tax revenues through this tax, with Colorado generating 22.4 percent of total taxes, South Dakota 55.1 percent, and Wyoming 39.0 percent. Nationally, states generate an average of 30.7 percent of total state tax revenues through the general sales tax. At 29.1 percent, the nine comparison states collect, on average, slightly less from this tax than the national average.

Alaska is one of three states in this comparison group that does not levy an individual income tax. It is also the only state among the group that does not levy either a general sales or individual income tax. South Dakota and Wyoming are the only other states in this comparison group that do not levy an individual income tax. Nationally, states collect more than a third of total state taxes, 35.1 percent, from the income tax. Among the comparison states with an individual income tax, the average percentage of total taxes collected from this tax is 26.9 percent. Colorado, at 47.5 percent, has the highest share of total taxes collected through the individual income tax, while North Dakota, at only 7.7 percent, has the lowest share among the states with an individual income tax.

Tax Incidence

In addition to the amount of taxes collected by the state and the types of taxes levied, tax incidence is an important consideration in the analysis of Alaska's state fiscal position. Tax incidence refers to the individuals or organizations that ultimately pay a tax. In this case the two groups of interest are individuals and businesses. So far, this analysis has shown that Alaska collects more state revenues per capita than the national average and, as show in Figure 7.1, just under half of those revenues come from taxes – overwhelmingly taxes on oil production. However, because the vast majority of taxes are paid by businesses, in particular by the oil industry, Alaska's residents pay less in taxes than residents of almost any other state.

The Tax Foundation produces an annual report on state and local tax payments as a percentage of personal income of residents by state. The Tax Foundation's most recent report, from 2011, shows Alaska with the second lowest state and local tax payments, ahead of only Wyoming. Table 7.6 that follows shows the state-local tax payment percentage and ranking for Alaska, the nine comparison states, the three highest percentage states, the three lowest tax percentage states, and the national average.

Table 7.6
State-Local Taxes as Percentage of Personal Income, 2011

State	State-Local Tax Percentage	Ranking
New York	12.6	1
New Jersey	12.3	2
Connecticut	11.9	3
Vermont	10.5	9
Maine	10.2	14
Hawaii	9.6	20
Idaho	9.5	24
Colorado	9.0	32
North Dakota	8.8	36
Montana	8.6	38
South Dakota	7.1	48
Alaska	7.0	49
Wyoming	6.9	50
U.S.	9.8	-

Source: Tax Foundation[89]

The three states with the lowest state-local taxes as a percentage of personal income are all comparison states in this analysis – South Dakota, Alaska, and Wyoming. Alaska residents pay approximately 7 percent of their personal income to state and local taxes. This percentage of state-local taxes to personal income is about 71 percent of the national average of 9.8 percent and 55 percent of New York's, the highest percentage at 12.6 percent. Alaska's low ranking for total state and local taxes on residents is another byproduct of the state's heavy reliance on oil industry taxes at the state level.

Table 7.7 that follows shows that Alaska is among the lowest of the comparison states in local taxes. Only North Dakota and Vermont are lower. Alaska's local share of total state and local taxes, with a local share of 22.1 percent, is less than half of the national average of 47.2 percent. Colorado and South Dakota are the most reliant on local taxes among the comparison states at 59.1 percent and 53.3 percent respectively.

[89] Tax Foundation, 2011.

Table 7.7
2012 Local Taxes as Share of Total State and Local Taxes

State	State Taxes	Local Taxes	Local as % of Total
Alaska	$9,638	$2,729	22.1%
Colorado	$1,978	$2,856	59.1%
Hawaii	$3,962	$1,789	31.1%
Idaho	$2,115	$958	31.2%
Maine	$2,842	$1,786	38.6%
Montana	$2,447	$1,173	32.4%
North Dakota	$8,033	$1,729	17.7%
South Dakota	$1,826	$2,082	53.3%
Vermont	$4,405	$773	14.9%
Wyoming	$4,426	$2,732	38.2%
U.S.	$2,546	$2,279	47.2%

Source: U.S. Census, Census of Governments: State & Local Finances

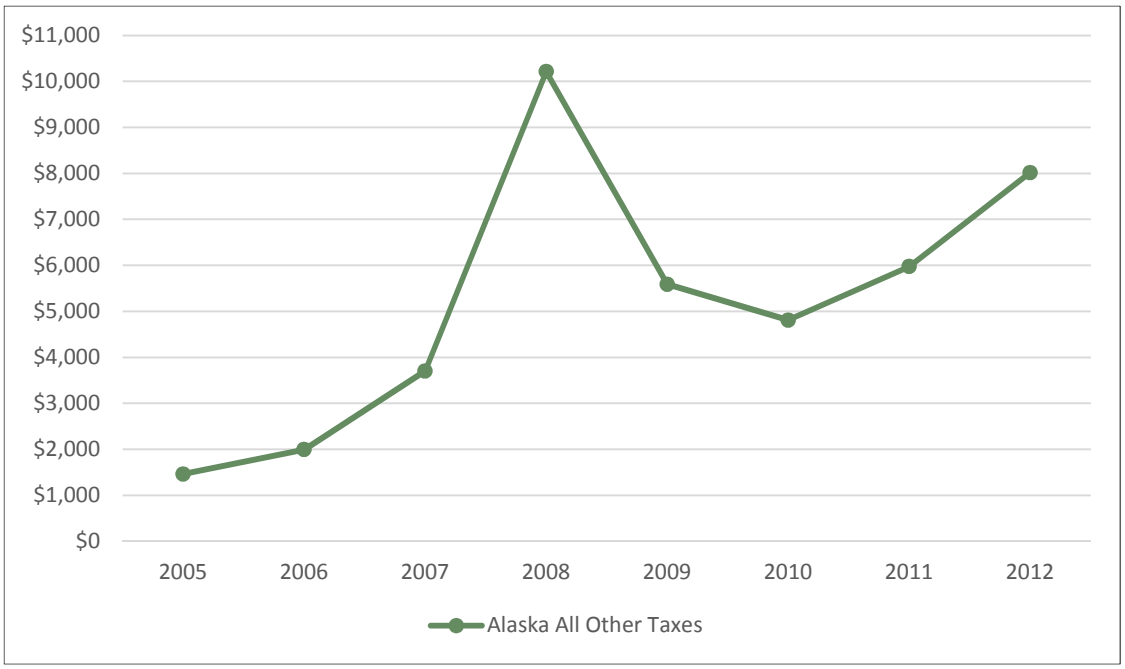
State Tax Stability

Alaska's current budget challenges are a result of a substantial drop in oil prices. Over the past year, per barrel oil prices have decreased by more than half and the state's oil revenues have dropped by roughly 80 percent.[90] While business cycle short-term fluctuations are to be expected with any source of revenue, more broad-based revenue sources, such as the individual income and general sales tax, are likely to be more stable than taxes based on oil production.

Figures 7.3 and 7.4 below show the trend in revenue collections between FY 2005 and FY 2012 for Alaska's "All Other Taxes" tax category (mainly oil tax revenues) and average state individual income and general sales taxes for all U.S. states. The two figures show that Alaska's oil-based state revenues have been more volatile over time than the national average of state revenues from individual income and general sales taxes. The coefficient of variation,[91] a statistical measure of variation in a range of numbers, is .527 for Alaska's "all other taxes" category and .067 and .035, respectively for the individual income tax and general sales tax. This shows that, for the period 2005 through 2012, the national average of states' individual income and general sales tax revenues have provided a much more stable stream of revenues than Alaska's oil-based revenues.

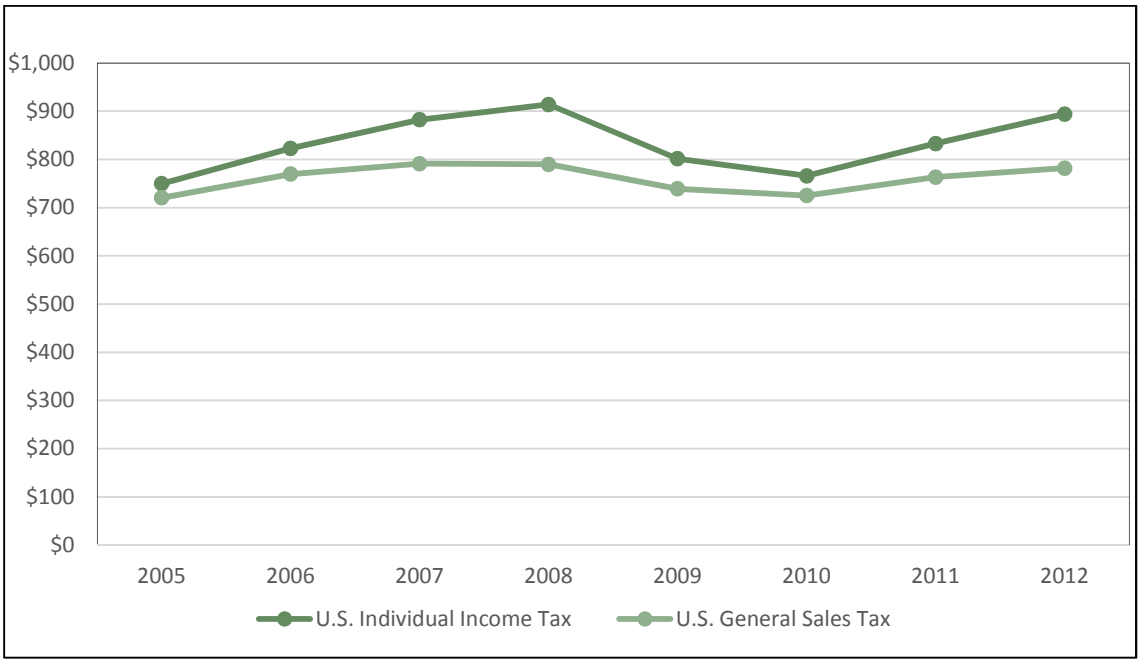
[90] Tully, A., 2015.
[91] The coefficient of variation is calculated by dividing the standard deviation of a range of numbers by the mean.

Figure 7.3
Stability of Alaska's State "All Other Taxes (Oil) Revenues for FY 2005-2012



Source: U.S. Census, Census of Governments: State & Local Finances

Figure 7.4
Stability of U.S. State Individual Income and General Sales Tax Revenues for FY 2005-2012



Source: U.S. Census, Census of Governments: State & Local Finances

Local Funding of Alaska's School Districts

According to local revenue data provided by the Department of Education & Early Development, local revenue for school districts in FY 2014, excluding tuition from other districts and federal E-Rate funds, totaled $468.9 million. The total increases to $523.0 million if Federal Impact Aid is included as a local revenue source. The sources of local revenue consist of local appropriations, which include local property taxes (for C&B districts) and other local tax revenues; in-kind services; and other local revenue. Table 7.8 below shows FY2014 local revenues plus Federal Impact Aid by revenue category for all districts, C&B districts, and REAA districts.

Table 7.8

Sources of Local Revenue: FY 2014 (Thousands of Dollars*)

District Type	Local Appropriations	In-Kind Services	Investment Earnings	Other Local Revenue	Federal Impact Aid	Total Local Revenue	Per Pupil Local Revenue
All	$437,082.1	$14,649.1	$3,012.9	$14,186.6	$131,255.9	$600,186.5	$4,576
C&B	$437,082.1	$14,649.1	$2,243.1	$11,847.5	$57,156.5	$522,978.2	$4,493
REAA	$0.0	$0.0	$769.8	$2,339.1	$74,099.4	$77,208.3	$5,223

Source: Alaska Department of Education & Early Development

*Except for the Per Pupil Local Revenue column, which shows actual per pupil amounts.

Table 7.8 shows that the largest source of local revenue is local appropriations. However, only the jurisdictions in C&B districts contribute local appropriations, so this revenue source is not available to REAA districts. Federal Impact aid is the largest source of local revenues for REAA districts, comprising 96 percent of the total. Local revenue per pupil for all districts is $4,576. In C&B districts it totals $4,493 per pupil and in REAA districts $5,223 per pupil.

While the average per pupil local revenue numbers are similar for the two types of districts, the values range widely for both types. In C&B districts, per pupil local revenue ranges from a maximum of $20,547 per pupil to a minimum of just $60 per pupil. In REAA districts the maximum and minimum amounts are $11,433 per pupil and $353 per pupil respectively. The large range of per pupil revenue is confirmed by a coefficient of variation of .84, an indicator of very high variation.

Federal Impact Aid

For FY2015, Alaska's school districts received a total of $145.0 million in Federal Impact Aid payments (excluding Edgecumbe High School). Of this total, $62.5 million was paid to C&B districts and $82.6 million to REAA districts. Under Federal Impact Aid law, as long as Alaska meets federal equalization criteria, it may deduct district Federal Impact Aid from its state aid payments to districts.[92]

[92] Alaska prioritizes an equalized funding program overall. To meet the federal standard, revenue per pupil disparities must be below 25 percent. Alaska sets the additional local at 23 percent to ensure compliance as stated in AS 14.17.402 (c) (2).

The amount deducted in Alaska equals:

Total Impact Aid – Deductions[93] X state Impact Aid percentage X 90 percent

The state Impact Aid percentage is an adjustment that allows districts that make more than the required contribution to keep a percentage of their Impact Aid equal to the amount actual local contributions exceed the required contribution. The 90 percent factor is the amount of the final, adjusted Impact Aid that is deducted from a district's state basic aid.

For FY2015 the total amount of Impact Aid deducted from district basic aid payments was $67.6 million.[94] This represents a direct savings to the state due to the reduced basic aid payments to districts. If the state did not allow for the deduction of additional local contributions by C&B districts, an additional amount equal to about 25 percent of total eligible Impact Aid could be deducted from state aid, representing additional savings for the state.

There is an equity concern regarding allowing this deduction, as it applies only to C&B districts, because REAA districts are not required to make a local contribution. As a result, C&B districts with sufficient local fiscal capacity, e.g. ability to pay, benefit from both additional local revenues and additional Impact Aid.

As noted earlier in the chapter on equity, data are not available to allow for an analysis of how equitable local contributions are in terms of local fiscal capacity or ability to pay. For example, are local policy decisions driving the large variation in local revenues (excluding Impact Aid) or is the primary factor lack of sufficient ability to pay? If it is the latter, then the state should consider examining approaches to equalizing access to local revenues across all districts.

The equity of Alaska's local revenue system is discussed further in the chapter on equity in this report.

Funding K-12 Education

In all 50 states, K-12 education is funded by some combination of the following three sources: (1) state provided funding, (2) local funding, and (3) federal support. At the state level, education is funded from the same general revenue sources as other governmental functions. These typically consist of state individual income taxes, sales taxes, other general fund taxes, and in some cases other sources, such as lottery and gaming funds. In the oil producing states, oil revenues paid into the general fund are also used to support general government functions, including education. In Alaska the primary source of K-12 education funding is oil revenue. In other states this funding comes largely from state individual income and/or general sales taxes.

[93] These include dedicated amounts of Impact Aid for 25 percent of Indian Lands, Special Education, Construction, and exempt 3- and 4-year-olds.
[94] Alaska Department of Education & Early Development FY2015 Foundation Projection.

Nationwide, at the local district level, the primary source of revenue for supporting schools is the property tax. In some states, local sales taxes may also contribute to district funding. In fewer jurisdictions, local income or employment taxes may also be used.

Because state funding for education comes from a state's general revenue fund, it is difficult to attribute a specific amount of any one state source directly to funding K-12 education. Even in states with "education funds" separate from their general fund and dedicated to funding education, the source of funds generally consists of a transfer of a specific percentage of state general revenues from the general fund to the education fund.

K-12 Spending Compared to Other Governmental Functions

As noted above, state and local governments fund a variety of governmental functions through their general revenue funds. In addition to K-12 education, these functions may include health and human services, public safety, and general government administration. The share of state resources used to fund education is one measure of a state's commitment to educating its children. Table 7.9 that follows shows the share of state and local expenditures allocated by governmental function for Alaska, the nine comparison states, and the nation. It shows that Alaska's proportion of total state and local expenditures for K-12 education is somewhat lower than the national average and lower than all but Hawaii among the comparison states. Significant areas of spending where the state is higher than the national average include transportation (non-capital expenditures) and general governmental administration. In both cases these higher spending levels may be due to the large and remote geography of the state.

State, Local, and Federal Shares of K-12 Education Funding

Table 7.10 that follows shows the share of state, local and federal sources of revenue going to support K-12 education in Alaska, the nine comparison states, and the U.S. average across all states. Table 7.10 shows that the distribution of state, local, and federal shares varies considerably across the 10 states. Vermont, at 88.3 percent, contributes the largest state share of funding for education, followed by Hawaii at 85.3 percent. Hawaii is a unique case in that it essentially administers one state-wide school district. Alaska follows these two states with a 64.8 percent state share. On the other end of the spectrum, state funding makes up only 30.7 percent of revenues in South Dakota and 40.0 percent of revenues in Maine. The national average is 45.2 percent of revenues from state sources and 44.6% from local sources.

Table 7.9
2012 Total State and Local Spending by Function: As Share of Total Current Expenditures

Function	Alaska	Colorado	Hawaii	Idaho	Maine	Montana	North Dakota	South Dakota	Vermont	Wyoming	U.S.
K-12 Education	15.9%	16.0%	13.1%	17.0%	18.8%	18.1%	18.4%	18.4%	21.9%	18.6%	17.9%
Higher Education	5.1%	8.9%	8.4%	9.5%	6.2%	8.8%	9.7%	9.7%	10.6%	8.0%	7.9%
Public Welfare and Health Care	19.4%	20.1%	24.8%	26.7%	31.6%	21.8%	21.1%	21.1%	26.4%	26.7%	25.1%
Public Safety	6.2%	8.3%	6.3%	8.9%	5.3%	7.8%	7.0%	7.0%	5.7%	7.0%	7.7%
Environment	4.1%	4.3%	4.7%	5.6%	4.1%	5.4%	6.3%	6.3%	3.5%	7.2%	3.7%
Transportation	9.1%	4.1%	5.3%	4.3%	5.1%	5.3%	7.0%	7.0%	7.2%	5.2%	3.4%
Housing and Community Development	2.3%	1.7%	1.6%	1.2%	2.9%	1.4%	1.8%	1.8%	2.1%	0.3%	1.8%
Governmental Administration	7.0%	5.2%	5.5%	5.5%	4.3%	6.5%	5.8%	5.8%	3.6%	6.7%	4.3%
Other Service Agencies	1.3%	1.9%	1.0%	2.0%	2.2%	2.5%	2.2%	2.2%	2.9%	2.3%	2.0%
Insurance Trust Expenditures	9.9%	13.1%	11.1%	10.7%	9.2%	11.0%	7.9%	7.9%	5.9%	8.7%	12.0%
Enterprise Expenditures	8.0%	7.7%	7.2%	3.4%	1.5%	3.8%	6.8%	6.8%	5.6%	4.6%	7.6%
All Other	8.6%	3.8%	6.9%	2.8%	5.8%	5.2%	2.5%	2.5%	2.2%	3.6%	2.9%
Interest on General Debt	3.0%	4.7%	4.1%	2.4%	3.0%	2.4%	3.5%	3.5%	2.3%	1.0%	3.8%

Source: U.S. Census, Census of Governments: State & Local Finances

Table 7.10
2012 State, Local, and Federal Shares of K-12 Funding

State	Local	State	Federal
Alaska	21.0%	64.8%	14.2%
Colorado	48.4%	43.3%	8.3%
Hawaii	2.2%	85.3%	12.6%
Idaho	23.3%	63.2%	13.5%
Maine	50.9%	40.0%	9.1%
Montana	39.1%	47.5%	13.5%
North Dakota	36.5%	50.4%	13.1%
South Dakota	52.7%	30.7%	16.6%
Vermont	3.9%	88.3%	7.8%
Wyoming	40.0%	51.2%	8.7%
U.S.	44.6%	45.2%	10.2%

Source: National Center for Education Statistics

Sustaining State Support for K-12 Education

The sustainability of education funding in Alaska is dependent on several factors. These include changes in cost drivers such as enrollment and numbers of students with special needs; changes in state, local, and federal revenue; the funding demands of other state services (health care, for example) competing for state dollars; and other state policy decisions. Alaska is unique among the states in that it is highly dependent upon a single source of revenue – oil production – to fund state government programs. This state revenue strategy has been very beneficial when oil prices are high. But, when oil prices fall, the state has little capacity in place to backfill the lost revenues, resulting in severe budget challenges such as those it is currently experiencing. Current projections for oil prices suggest that even though it appears oil prices are beginning to rebound, they will continue to be lower than previous projections throughout the next decade. Several analysts have noted that even with the expected oil price increases, revenues may not be sufficient to fully fund Alaska's state government services, including K-12 education, at current levels. While politically difficult, the state should consider exploring other revenue streams to both increase state revenues overall and to improve stability so that the state's fiscal position is less susceptible to large swings in the price of oil. The following provides several key findings stemming from this analysis. Specific recommendations are provided in the Recommendations section of this report.

Over the long term, it is in the state's best interest to begin moving toward reducing its reliance on oil revenues. The state should begin now to put a fiscal foundation in place to diversify its revenue sources. This will require putting new revenue streams in place that will eventually be able to reduce the 80 percent to 90 percent reliance on oil revenues. Increases in minor taxes, such as liquor, tobacco, or other targeted taxes will not be sufficient. Instead, the state should explore adopting broader-based taxes such as the individual income tax, the general sales tax, or both. The state could gradually phase

one or both in over time as oil revenues wane. As noted earlier, Alaska's residents are among the least taxed in the country. This low rate of individual taxation has been made possible by the substantial oil revenues enjoyed by the state over the past several decades. These revenues may not continue to be sufficient going forward.

In terms of fiscal capacity, Alaska is a relatively wealthy state in terms of its annual personal income earnings. Adjusted for geographical cost of living differences, Alaskan's average annual personal income in 2012[95] was $43,677, 23 percent higher than the national average of $42,693. Among the nine comparison states, only North Dakota ($57,404), South Dakota ($49,500), and Wyoming ($50,488) had higher average per capita incomes. This suggests that at this time, Alaska possesses a higher than average fiscal capacity, but has not been utilizing it due to its oil wealth. As a result, the state possesses the second lowest percentage of state and local taxes as a percent of personal income in the country.

The state has two potential sources of revenue to help stabilize funding until additional revenue sources are available: the Constitutional Budget Reserve Fund, estimated at 10.1 billion at the beginning of FY2016; and the Permanent Fund Earnings Reserve Account, with a balance of 6.9 billion at the beginning of FY2016. The state's Statutory Budget Reserve Fund has already been exhausted. Finally, as noted in the equity study chapter, it is difficult to determine whether the current state and local funding shares for K-12 education are appropriate and equitable. Currently, the state lacks a comprehensive and consistent measure of local wealth that can be applied across all district types. The state could use a formal definition and measure of local fiscal capacity to provide a better understanding of local districts' ability to contribute to K-12 education and to establish a more equitable and balanced local contribution.

[95] Bureau of Economic Analysis figures.

VIII. Recommendations

This chapter addresses the study team's recommendations for possible changes to Alaska's School Funding Program. These recommendations are based on the work discussed earlier in the report, including APA's:

1. review of the structure of Alaska's current funding structure;
2. interviews with district stakeholders to understand how the current school finance structure affects individual districts;
3. review of other states' approaches to school funding;
4. examination of the equity of the current system, looking at both district and taxpayer equity;
5. analysis of student performance across Alaska, including the relationship between need, funding, and performance; and
6. examination of the state's sources of revenues.

In this chapter, APA first frames the climate in which the analysis has been held, and then gives an overview of findings around the funding program and revenue sources. Finally, the study team provides recommendations for each component of the funding system and the revenue sources.

Each recommendation is offered as a means of strengthening Alaska's current school funding system, ensuring that it is responsive, equitable, efficient, and flexible.

Framing the Conversation

As was mentioned earlier in the report, the Alaska State Legislature asked APA to undertake a review of Alaska's school funding system and to make recommendations on possible changes to the structure of the system. APA was not asked to undertake an adequacy study, which would have examined the level of resources needed in the state to ensure that all students can meet state academic standards. Instead, APA's analysis focused on how well the system, in its current structure, serves the various and unique needs of schools and districts in Alaska. APA's intent for all recommendations is to strengthen the current funding system and to ensure that the system is more responsive to student needs. The study team does not recommend specific funding levels, since that would be outside the scope of this study.

It was also clear to the study team that Alaska's current fiscal reality influenced APA's interview conversations with school district leaders. Interviewees expressed strong concerns about making any changes to the system while the state was considering budget reductions. Given the absence of new state revenue dollars, there was an understandable fear that any change to the funding system would be a "zero sum game," meaning that any positive funding change for one district would, by definition, lead to a negative funding change for another district. The study team kept this underlying theme in mind when analyzing the information from the interviews and when creating the recommendations in this section.

A number of the recommendations made below could, or will, have cost impacts for the state. APA's work on school finance issues around the country makes the study team keenly aware of how difficult it can be to implement changes in tough fiscal environments. At the same time, the study team thinks it is important for Alaska to understand the impacts its funding system has on districts, schools, students, and taxpayers and to work to eliminate any possible issues when possible. The study team understands that, in the near term, it may not be possible for Alaska to make of the changes described below. Nonetheless, these recommendations provide a roadmap for the state to make changes in the future. Where possible, APA attempts to estimate the impact of the recommendations.

Overall Impressions

Funding Formula

The variations in school size, district size, and location create unique challenges for districts across the state. There are schools and districts in what would generally be considered urban or suburban locations, and there are other districts in some of the most remote locations in the United States. All of Alaska's districts face higher costs for goods or services than districts in the lower 48. There is also considerable cost variation between Alaska's districts, with many districts facing dramatically higher costs than others to provide the same education services. Further, there is variation in student needs across the state. Some districts face extremely high concentrations of special needs students, who are often served in remote and/or isolated settings. Differences like these call for a formula that addresses variations in circumstances between districts.

Overall, the study team believes Alaska's current funding system has the right elements in place to address the variations described above. The formula adjusts for variations in needs across the state through the School Size Adjustment (SSA), District Cost Factor (DCF), Hold Harmless, Special Needs Funding, Vocational Career and Technical Education (CTE) Funding, Intensive Services Funding, and Correspondence Program funding. Interviewees were generally happy with how the system works. They highlighted that the system is understandable and transparent to educators. Interviewees enjoyed that the formula offered local districts the flexibility to make the financial decisions that would best fit their communities. The system also limits reporting burdens on districts, freeing up districts to focus on student education.

Additionally, the data show a system where increases in instructional expenditures are tied to increases in student performance on the Alaska Standards Based Assessments (SBAs). The equity analysis shows that spending levels are not highly correlated with district wealth. Alaska has had robust revenues from oil revenues and has been able to sustain itself with no statewide income or sales taxes while maintaining low local tax levels.

At the same time, the current formula has several cliff points, e.g. where small changes in school- and district-level student enrollments may lead to large changes in funding. The SBA performance data shows that a district's student characteristics, including its percentage of special education, LEP, and Alaska Native students, provides a good indicator of that district's SBA proficiency levels. Still, the

funding system does little to differentiate funding based on actual student characteristics. Some of the formula's existing adjustments for student characteristics have not been addressed in many years. Equity concerns arise around the difficulty in comparing wealth across districts and a lack of correlation between a district's student needs and spending. Finally, revenues from oil taxes have declined and are predicted to remain lower than previous projections. A lack of a fuller state tax portfolio may make sustaining current spending levels difficult.

Recommendations for Each Component

This section examines each component individually, presenting: (1) general conclusions for each component, and (2) recommendations, if any, from the study team.

School Size Adjustment

Most of the interviewees involved in this study believed that the SSA is an important component of the system. The SSA provides additional resources so that the smallest schools have the instructional resources necessary to provide educational opportunities to their students. Alaska's SSA differs from size-based adjustments across the country in that it allocates resources for small schools in *all* districts, regardless of district size. Many states have adjustments for economies of scale and "necessarily small" schools, but few states make size adjustments across all districts, regardless of district size. Alaska's SSA also reduces the resources available to students in the largest schools in the state, funding school at a reduced ADM over about 1,025 students.

As was discussed in Chapter IV Alaska's SSA has a number of potential cliff points. The cliff points occur based on formulas derived from analysis done by McDowell Group in its 1998 Alaska Cost Study. The study team is concerned that districts and schools have difficulty adjusting resources from year to year at the scale of change predicated by the cliff points in the School Size Adjustment. The loss of large numbers of funded ADM for minimal changes in actual ADM is inconsistent with the likely resources shifts districts will be able to make in the near term.

Interviewees also made it clear that cutoff points in the SSA, below which schools no longer are funded separately, have a major influence on communities. APA understands that Alaska has made policy decisions to not fund schools with fewer than 10 students. It is important to report that, according to district stakeholders, the elimination of schools can have a negative impact on communities.

Recommendations

Alaska should consider not using the SSA in larger districts. There is some concern that the SSA could lead districts to make inefficient school size decisions based on funding incentives instead of educational concerns. Based on conversations with districts and how other states apply size adjustments, the larger districts may be in a position to adjust for economies of scale at the school level through their larger central operations. Since eliminating the size adjustment in larger districts would have a negative impact on the funding these districts receive, and there is no data that indicates that these districts are overfunded, the state should also consider holding these districts harmless for at least a period of time while not incentivizing inefficiencies.

Districts should be allowed to pick which school the students in a community under 10 are applied to. One stakeholder recommended that schools less than 10 ADM – which would typically have their ADMs added to those of the next smallest schools in their districts – should instead have their ADMs added to the largest schools in their districts. There are pros and cons to this approach. APA recommends allowing a district the freedom to decide where to add its smallest school's ADM, whether the ADM goes to the next smallest school, the largest school, or a school in between.

Alaska should create an average formula for schools affected by the community size cliffs at 100 and 425 students. The adjustment would be similar to the proposal seen in the Hold Harmless section, described in detail below. The adjustment would only apply to schools affected by the community adjustment cliff points. It would allow those schools to use a three-year averaging approach, described below. This recommendation keeps the economies of scale concepts described in the McDowell (1998) report, but takes into consideration a district's inability to make large resource shifts in any given year. It provides more stability for those schools affected by the community size provisions.

Alternatively, APA examined if a formula could be created to cushion the impact of these changes on the resulting size-adjusted ADM at the 100 student and 425 student cliff points. One option is to create a smooth formula between the cliff points by examining the impact of the change in funding between 100 students and 101 students. Assuming an equal distribution of students across all grades K-12, the 100-student community would receive 154.60 size-adjusted ADM and the 101-student community would receive 172.69 size-adjusted ADM. Making the cliff points less severe would be an attempt to create a smooth trend between the two points, similar to the smooth trend currently in the SSA for the student population changes not at the cliff points. A school at 47 students currently receives a 1.73 adjustment from the SSA, similar to the adjustment a community of 101 would receive based on the example above. The study team found that, to make the cliff points less severe, nearly every school between 47 students and 100 students would have to be adjusted. Having to adjust the formula for that many schools seems unreasonable and thus the averaging is recommended.

The SSA was first created in 1998, so it may be time to update the adjustment. In updating information, it is important to identify the minimum, or essential, program students should have access to statewide. Interviewees indicated that it is often difficult for the smallest schools in the state to provide an educational program beyond the core subjects. The state should consider: (1) identifying what educational opportunities and support services they want all students to have access to regardless of setting (such as art, music, technology, counseling/advisement) at all grade levels, which would be afforded by the Base Student Allocation (BSA), and then (2) identifying what the cost of providing those opportunities in an efficient manner would be at multiple school size points to create a School Size Adjustment. The current graduation guidelines provide a starting point at the high school-level. Any new adjustment should try to eliminate the potential cliffs described above.

District Cost Factor

The District Cost Factor (DCF) is an essential component of Alaska's funding structure that accounts for geographic variance between districts. As noted in Chapter IV, most states that use a Cost of Living

adjustment have cost structures where urban and suburban districts face the highest cost pressures and thus receive the highest Cost of Living adjustments. Only a few states use a Cost of Education adjustment similar to that of Alaska. Remote and isolated districts incur the highest costs and receive the largest DCF adjustments. This indicates that the DCF is generally responsive to districts' needs. Interviewees from districts around the state felt that the DCF adjustment was critically important, and that it generally provided the type and level of adjustment districts needed.

However, even with the DCF in place, many districts still struggle with the high costs of fixed operations costs, such as basic maintenance and fuel expenses. Interviewees indicated that it is difficult to keep up with these fixed costs and that negatively impacts the resources they have available for instruction. Many interviewees from remote districts also mentioned the high costs of participation in student activities, like sports. These interviewees felt that their districts were struggling to provide students with opportunities similar to those of students in other, larger districts. To generate enough money to cover the costs of student activities, remote districts had to raise large amounts of funds locally – a feat that may not be possible in all communities. Further, interviewees from more isolated districts indicated that these districts incur high costs to bring education specialists into their districts.

Recommendations

The study team believes Alaska's DCF is strong. The current DCF is also the most appropriate approach for the state, since the DCF accounts for the specific cost pressures Alaska's districts face beyond staff wages. These additional cost pressures include the costs of travel, energy, goods, and shipping.

Given that it has been 10 years since the last update of the DCF (ISER's work in 2005), it may be time to update the information in the DCF study to ensure it is responsive to current district needs. Alaska's current financial situation may make it a difficult time for the state to consider changes to the education funding system. However, to ensure that the school funding formula is responding to current district cost realties, the formula should be routinely reviewed as part of good school funding practice. Based on interviews with school district leaders around the state, the study team believes that all current DCF cost areas should remain in the formula. There are two costs that could be added to the program if they are deemed to be part of an essential education: the costs of student activities and the costs of travel for education specialists. It is important that all cost areas be evaluated in terms of their ability to help provide an appropriate instructional program.

Hold Harmless

The study team feels that Alaska's current Hold Harmless provision acts, in practice, more like what many states refer to as a Declining Enrollment adjustment. The term "Hold Harmless" often refers to a provision ensuring that a district will receive no less money in one year than it did in the prior year. Alaska's Hold Harmless provision does help districts stabilize their funding following large losses in enrollment; however, instead of holding any district "harmless" in the traditional, school finance sense of the word, the provision sets up a three-year pathway for a district's funding to gradually decrease.

Many other states use Declining Enrollment provisions that look similar to Alaska's Hold Harmless provision. Interviewees for this study felt that Alaska's provision was important. There was concern, however, that Alaska's current Hold Harmless provision does not recognize year-to-year losses in enrollment in a large number of districts. Instead, the provision tends to only recognize districts that have *very* large shifts in enrollment – leaving many districts struggling to address more subtle year-to-year declines that create funding challenges but do not trigger the Hold Harmless provision. This creates uncertainty for many districts about their ADM and the funding the can expect to receive each year. That uncertainty is compounded by the timing of state budgeting, the timing of employee contracts, and the timing of the October pupil count.

Further, because the Hold Harmless provision only kicks in for districts that lose five percent or more of their size-adjusted ADMs in one year, a decrease in enrollment of just one or two students can have a large impact on funding, as documented in Chapter IV. Since the Hold Harmless provision targets large, one-year declines, districts with larger multiple year drops (below the five percent threshold) may not receive any adjustment – even if their multi-year enrollment declines are actually more intense than the one-year declines in another district.

Recommendations

Alaska should create a true Declining Enrollment adjustment to replace the current Hold Harmless provision. This Declining Enrollment adjustment would be applied to all districts to ensure greater funding stability. This adjustment would benefit the large number of Alaska districts with declining enrollment. It would also provide districts with some more stability in planning, as districts would not be as concerned about unexpected changes in enrollments at the time of the October count. In the current system, unexpected changes in enrollments can make it difficult for districts to honor employee contracts signed in spring of the prior year. The study team modeled two possible approaches Alaska could use to create a true Declining Enrollment adjustment:

1. Best of Three-Year Averaging: Under this approach, districts would receive funding for whichever size-adjusted ADM is highest, between the current year, the average of the last two years, or the average of the last three years.

2. Weighted Average: Under this approach, the current year's size-adjusted ADM is highly weighted, and each of the two prior years' ADM receive less weighting. To model this approach, APA looked at the threshold percentages currently used in the Hold Harmless provision: 75 percent, 50 percent, and 25 percent. If these percentage thresholds are converted into a three-year weighted formula that add ups to 100 percent, but maintains the same proportional relationship, then the new formula will have yearly weights of 50 percent for the current year, 33.3 percent for the prior year, and 16.7 percent for the year two years prior.

Appendix D shows the district by district results when either of the alternative adjustments is applied. The models in Appendix C compare district ADMs under either approach against district ADMs under the

current Hold Harmless provision. The simulation is based on data from the Department of Education & Early Development (DEED) on the FY2015 Hold Harmless calculation. Appendix D shows the FY2012, FY2013, FY2014, and FY2015 size-adjusted ADMs for all districts, including Mt. Edgecumbe. It also shows the Hold Harmless ADMs for FY2015, with district ADM figures bolded where the Hold Harmless provision has been applied. Finally, it shows the results of the Three-Year Averaging and Weighted Average alternative approaches the study team created.

Total FY2015 size-adjusted ADM in Appendix D is 142,603.20. Twenty districts receive the current Hold Harmless provision, creating a total Hold Harmless-adjusted ADM of 142,903.10 – an increase of about three hundred ADM.

The Best of Three-Year Averaging approach, looking at FY2015, FY2014, and FY2013, produces a total ADM of 143,483.82 – an increase of over 880 ADM compared to the FY2015 size-adjusted ADM, or an increase of about 580 ADM compared to the current Hold Harmless ADM. The approach produces lower ADM figures for all of the Hold Harmless districts, with an average ADM decrease of 1.44 percent. This approach provides higher ADM figures for 30 districts above FY2015 size-adjusted ADM.

The Weighted Average approach shows a reduction of about 300 ADM compared to the current Hold Harmless ADM. Again, all current Hold Harmless districts have lower ADM. The Weighted Average approach provides higher ADMs for 26 districts, but reduces ADMs for growing districts.

Based upon this data modeling, APA recommends that Alaska use the Best of Three-Year Averaging approach, acknowledging that the net increase in ADM will cost additional dollars and may not be able to be implemented immediately due to budget constraints. APA believes the three-year averaging adjustment has a low overall impact, around a fifth of a percent of current District-Adjusted Average Daily Membership (DAADM), but provides stability for districts in planning and eliminates the cliffs present in the current Hold Harmless provision.

Special Needs Funding

The Special Needs adjustment provides a block grant to each district to provide additional resources for vocational education, non-intensive special education, gifted/talented education, and bilingual/bicultural education. Funding is not student population-specific, i.e. it is not adjusted for the differences in student populations across districts. The lack of both funding specific students and creating differential weights for different types of students concerns the study team. The data analyses in Chapters IV and VI show the large variation in need across the state. Districts have differences in their numbers of students in various special needs categories. When need factors[96] are examined, the differences are very large. APA's examination of student performance levels across districts also made it clear that special needs student populations, including special education, LEP, and Alaska Native

[96] Need factors are calculated based on proportion of students in each need category and using commonly accepted weights for each group. See Chapter IV for more detailed information about the calculations.

students, are not performing as well on the SBA as general education student populations, and may benefit from additional targeted dollars.

In Chapter VI, the study team also examined how the formula's multiplicative structure affects the imputed weights each district receives. When the Special Needs adjustment is multiplied by the SSA and the DCFs, it helps higher-need districts; however, it helps them in a non-strategic way – not at the scale needed to fully adjust for differential needs across districts.

The study team also recognizes that districts enjoy the flexibility and lower reporting requirements associated with the current block grant model of special needs funding. In APA's experience working with other states, student population-specific weights do *not* necessarily limit the districts' flexibility with, and local control over resource decisions. Instead, student-specific weights – which ensure that funding is based on a district's actual demographics – allow states to allocate resources in ways that are responsive to student needs, while leaving districts in control of how to use those resources (flexibility). States oversee districts through an accountability system that measures academic proficiency among the targeted populations.

Recommendations

The state should move towards a series of adjustments for special needs that are student population-specific and need-differentiated. The state should also consider providing an adjustment for at-risk students. This will require the state to identify the appropriate adjustment for each population of special needs students, and will require the state to collect comparable student population data for every district. The series of special needs adjustments could include adjustments for non-intensive special education, Limited English Proficiency (LEP), Alaska Native and Low Income students. The first three categories are the student populations shown as having a significant impact on district performance in Chapter VI. Additionally, low income students could also be funded, as states across the nation commonly provide these types of adjustments. Adjustments for at-risk students allow districts to fund more and higher-quality interventions for student most at risk of academic failure**.**

The study team modeled three possible approaches Alaska could take to implement student-based weights for Special Needs (presented in Appendix E):

1. Provide weights for non-intensive special education (.70 weight[97]), LEP (.50 weight), and Alaska Native (.40 weight) students. These weights are based on APA's experience with research-based adjustments for special needs students from across the country. This approach builds on the data from Chapter VI of this report, which discusses subgroup performances as well as the need for targeted resources for such subgroups.

[97] It is common to see a weight of 1.0 for all Special Education students, but given the weight suggested here will be for non-intensive special education students and not higher-cost, higher need intensive special education students, APA used a slightly reduced weight.

2. Replace the Alaska Native student weight with an at-risk weight, based on the number of low-income pupils: This approach builds on the fact that most states use an at-risk weight and that the Alaska Native and low-income student counts are highly correlated. The weights are .70 for non-intensive special education, .50 for LEP, and .30 for at-risk students.
3. Provide weights for all four special needs groups with weights of .70 for non-intensive special education, .50 for LEP, .20 for Alaska Native and .20 for at-risk students. Given the high correlation between Alaska native and low-income, the weights for each are reduced knowing that many students in these categories would qualify for both.

The current Special Needs Factor generated 34,351.63 additional ADM. The first model, including the Alaska Native weight, generated just 29,711.80 ADM. The second model, where Alaska Native weight is replaced with an at-risk weight, generates 35,615.10 ADM. The third model, which includes weights for both Alaska Natives and at-risk students, generates 35,641.20. These totals show that, even with robust weights, the ADM generated are very similar to current totals.

Appendix E shows the detail for each of the options, by district. Appendix D also shows that the special needs ADM shifts for districts can be quite large. Districts with high concentrations of correspondence students could see very large increases in due to Special Needs adjustment(s). Overall, model three may provide the most balanced approach to implementing a new student-centric special needs weighting system. It applies weights for the three student populations shown to impact district performance and provides an at-risk adjustment similar to that used in most other states.

The district by district totals also show why it would be important to not make a change in special needs funding without either: (1) holding districts harmless for any funding loss in the short term, or (2) ensuring total funding dollars are increasing for all districts. Implementing a change in the special needs funding using only the state's current dollars generated by the Special Needs adjustment would require large shifts in funding between districts which would harm a number of districts.

Further, if Alaska moved to a student-specific funding system, then the state could disconnect the Special Needs adjustment(s) from other adjustments. Based on the models, applying the weights outside of the other adjustments generates a similar amount of ADM as the current funding system, keeping the adjustment more cost neutral, and ensures that changes in the SSA or DCF do not impact the Special Needs adjustment(s). The state could also provide funding for correspondence students with special needs.

Vocational/Career and Technology Education Funding

Stakeholders interviewed for this report expressed that CTE adjustment had helped them provide additional programs for students. These interviewees felt that expansion of CTE programs is critical in Alaska, as there are many industries where students, with proper training, can access quality jobs that do not require college degrees. Interviewees did have some concerns that the CTE adjustment may not be able to provide as robust a CTE program as needed in every district. This was particularly true for small, remote schools and districts. Some districts also use intra-district transportation to help provide

CTE opportunities to more students. There was some fear that changes in transportation funding could eliminate this practice and decrease opportunities for districts.

Recommendations

Alaska should leave the CTE adjustment in place. When funding is available, the state should consider if it is possible to increase the level of funding and fund actual CTE student counts.

Intensive Services Funding

The Intensive Services Funding for intensive special education students is widely seen as an effective weight in the funding formula. Though Alaska's weight is higher than those used in other states, the weight may be on a lower base funding amount and the state also does not provide any extraordinary aid. The higher weight allows districts to more easily absorb the costs of the highest-cost students. However, the lower numbers of intensive special needs students in the smallest districts may make it more difficult for districts to absorb such costs because there are no economies of scale and so many services have to be contracted. The overall high level of the Intensive Services adjustment allows Alaska to avoid the need for specific extraordinary need funding.

Interviewees from districts in remote and/or isolated areas were concerned that the cost of providing related services to intensive needs students can be very high, due to travel time and costs of specialists. Generally, intensive special needs services are contracted, meaning that the district must pick up the cost of travel and the costs of travel time for the contractor. Districts not only face the higher cost but also the possibility that the high costs and difficult travel might lead to fewer services than what is provided to similar students in less remote and/or isolated areas. However, the study team does not believe the DCF should be applied to the Intensive Services adjustment. This would create too large of an adjustment. That said, some examination and adjustment for the additional costs incurred in remote/isolated areas could be beneficial.

Stakeholders expressed concern that, since intensive special education students are only counted once a year, students who enter districts midyear could create high costs for districts that cannot count the students until the following October. The concern is that, even if a district has a net zero change in its number of intensive special education students (e.g. if one intensive special education student leaves the district but another arrives, seemingly in her place), there may still be large differences in types of services needed. This can mean that a district may have existing contracts for services that are no longer needed but that still have to be paid for, while also having to contract for new services, resulting in additional costs. APA attempted to examine the flow of intensive special education students into and out of districts within a year. However, the study team was unable to get data that showed this information.

Recommendations:

Alaska should not make any major changes to the Intensive Services adjustment. The weight is significant and appears to sufficiently account for the cost of these students, on average.

If the state reexamines the DCF, the study team suggests examining the additional costs of related services for intensive special education students in remote and/or isolated areas. This appears to be one cost area that is not sufficiently accounted for in the funding formula, since there is no DCF applied to the Intensive Services adjustment.

Alaska should collect data on the movement of intensive special education students into and out of districts throughout the year to understand the potential cost impact for districts due to this mobility. The data should include information on the student movement in and out of districts, and the types of disabilities and/or services being provided to the students. This will allow for an analysis of the changes in resources districts face due to intensive high cost students.

Correspondence Programs

Based upon APA's national review, Alaska is unique in how it provides resources to publically-funded homeschool students enrolled in correspondence programs. It is clear that this funding is part of Alaska tradition, and is important to the state's education system. Stakeholders interviewed for this study were very happy with the increase in funding from a .8 weight to .9 weight for counting correspondence students. The weight was generally considered sufficient to provide education for correspondence students.

However, some interviewees were concerned by the fact that correspondence students from special needs populations are not funded as part of the current formula. Services are still provided to these students, but there is no specific pool of funding for the students. Interviewees were also concerned that the cost of blended learning programs may not be fully covered under the current funding structure. Blended learning provides opportunities for learning both on-site and online. Students are expected to be present for periods of time on-site, which means districts need to have adequate facility space for these students. Though districts may be include blended learning students in their non-correspondence ADM counts if those students attend classes at a school, there is concern that this level of funding is not enough to cover the costs of educating such students if they are only counted as correspondence students.

Recommendations:

If a new system is put in place to fund for actual counts of special needs students, then Alaska could consider adjusting for the special needs of correspondence students. To do so, Alaska should identify what types of special needs are present and what services are needed (which may be currently provided but not funded). This would ensure that the funding system is being responsive to the additional needs of these students.

If blended learning programs grow, then as they grow, Alaska should examine: (1) the costs of the programs, and (2) the methods for counting blended learning students.

Transportation

Generally, stakeholders view transportation funding as sufficient to cover district transportation costs. Alaska uses a per-pupil funding system, which differs from reimbursement systems in other states. Nonetheless, Alaska's transportation funding system appears to be working. Interviewees raised concerns, including concerns over districts' negotiating abilities during transportation bids. (Most districts have only one transportation vendor, which restricts the ability to negotiate transportation costs.) Some districts are considering bringing transportation into district operations to reduce costs. Large districts use transportation during the day for intra-district transportation. This type of transportation is used to increase student access to programs like CTE. Alaska is beginning to collect more specific transportation expenditure data, and interviewees mentioned some fear that this data collection could lead to a reduction in funding, or to an exclusion of intra-district transportation during the school day, for overall transportation funding. Interviewees made it clear that this type of reduction would require either the discontinuation of this programming or the reduction of other services to continue the programming. Either result would reduce the services available to students.

Recommendations:

The study team does not recommend changes to the current transportation funding system, and suggests that districts continue to be allowed to use transportation funding for intra-district transportation.

Equity Study Recommendations

Alaska's unique structure makes it difficult to accurately and comprehensively measure equity of Alaska's school funding system from a traditional school finance perspective. APA took several steps to facilitate measuring equity by examining spending on a per weighted student basis, developing a proxy wealth measure for all districts, and by analyzing equity of C&B and REAA districts separately. APA found through its analyses that: (1) the funding system appears to meet the standard for fiscal neutrality (i.e. there is only a small relationship between district wealth and per student spending), (2) the wide range of district circumstances in the state requires a high level of variation in spending among districts, but that the formula may still not sufficiently address differences in student need, and (3) there may be significant disparities in districts' ability to access revenues beyond what the formula provides, although the lack of a clear definition of local wealth makes it difficult to determine whether these disparities are largely due to differences in wealth (i.e. revenue raising capacity) or local policy decisions.

Recommendations:

The study team recommends that Alaska revisit its Special Needs adjustment to ensure that it accounts for differences in concentrations of special needs students, especially at-risk students, across districts. The research team provides a specific recommendation for modifying the adjustment in the *Special Needs Funding* section above. This would increase the vertical equity of the funding system.

The state should conduct further analysis of the differences in the amount of local revenues contributed to districts and explore approaches for either: (1) equalizing access to additional revenues beyond state foundation funding for low wealth districts, or (2) further limiting the amount of additional local funding that may be contributed to districts. This would create greater horizontal equity between districts, as presently there is significant variation in district spending due to funds above Basic Need.

Additionally, the state should consider creating a consistent measure of local capacity for supporting districts that may be used across all district types. This will allow the state to better measure and track how well its school finance system is providing equitable funding opportunities for all students across the state.

Fiscal Sustainability for Funding K-12 Education

Alaska is unique among the states in that it is highly dependent upon a single source of revenue – oil production – to fund state government programs. This state revenue strategy has been very beneficial when oil prices are high. But, as the recent decrease in oil prices demonstrates, the state has little capacity in place to backfill lost oil revenues with revenues from other sources, resulting in severe budget challenges. Current projections for oil prices suggest that even though oil prices may be rebounding, they will continue to be lower than previous projections throughout the next decade. Several analysts have noted that even with the expected oil price increases revenues may not be sufficient to fully fund Alaska's state government services, including K-12 education, at current levels. The following recommendations are made in the context of helping the state explore strategies for sustainably funding its current K-12 education finance formula over the long term.

Recommendations

The recommendations for this section are based on APA's examination of the funding sources and sustainability of funding for K-12 education. We recognize that this is not a full review of Alaska's total financial situation. The recommendations are made through our K-12 study lens.

Over the long term, it may be in the state's best interest to begin moving toward reducing its reliance on oil revenues. In the long term both demand and production will likely begin a permanent downward trend. The state should consider putting a fiscal foundation in place now to diversify its revenue sources. This would require putting new revenue streams in place that will eventually be able to reduce the 80 percent to 90 percent reliance on oil revenues. Increases in miscellaneous tax types, such as liquor, tobacco, or other targeted taxes will likely not be sufficient. Instead, the state should explore adopting broader-based taxes such as the individual income tax, the general sales tax, or both. The state could gradually phase one or both taxes in over time as oil revenues wane. Initially, the rates could be set quite low and then gradually raised over time. As noted earlier, Alaska's residents are among the least taxed in the country. This low rate of individual taxation has been made possible by the substantial oil revenues enjoyed by the state over the past several decades. These revenues may not continue to be sufficient going forward.

During the transition away from the current reliance on oil revenues, the state should explore using other available resources to temporarily help stabilize education funding. The state has two potential sources of revenue to help stabilize funding until additional revenue sources are available: the Constitutional Budget Reserve Fund, estimated at 10.1 billion at the beginning of FY2016, and the Permanent Fund Earnings Reserve Account, with a balance of 6.9 billion at the beginning of FY2016. The state's Statutory Budget Reserve Fund has already been exhausted. Using even a portion of annual Permanent Fund earnings would make a significant contribution to the state's K-12 revenues.

Alaska pays for a relatively high state share of K-12 funding; the state should explore equitable approaches to adjusting the local share of K-12 funding.[98] As of 2012, Alaska's state share of total K-12 funding was 64.8 percent. This compares to the national average of 45.2 percent. Among the nine comparison states, the average state share is 55.5 percent**.** For example, in some states with foundation education funding formulas, districts with very high local wealth are asked to fund up to the entire per student basic aid or foundation amount. That is, if the local tax capacity is great enough, wealthy districts may not receive any state foundation aid. Alaska currently limits a district's required local contribution to an amount not to exceed 45 percent of the district's prior year basic need. The state could consider lifting this cap on percentage of basic need as a means to reducing state funding.

The state could also consider creating a floor for the Impact Aid Percent applied to C&B districts making effort above the required level. This would lower the amount of state aid provided to these districts. Currently C&B districts that provide local funding above the mandatory match are rewarded with a decrease in the Impact Aid Percent used to calculate the amount of impact aid that offsets state funding. By capping or eliminating this reduction the state would reduce the cost of state basic aid and possibly improve funding equity across districts.

As noted in the *Equity Study Recommendations* above, the state should also consider formally defining and measuring the local fiscal capacity of all districts. Taking this step will provide the state with a better understanding of local districts' ability to contribute to K-12 education and to establish a more equitable and balanced local contribution.

Other Recommendations

Below are two additional final recommendations that while not component-specific, the study team believes are important to consider.

Alaska should undertake an examination of the state's current school district governance structure to ensure it is the most efficient and effective approach to serving students. APA's study focused on the current school finance formula and its application within the current school district governance structure in the state. The findings reflect our analysis within this context. So while the efficiency of the

[98] APA recognizes that there is ongoing litigation through the Ketchikan lawsuit regarding the constitutionality of the required local contribution for schools. This study examined the current structure of the finance formula. The ramifications of the constitutional challenge are outside the scope of the study.

current governance structure was outside of the study's scope, the study team observed at least one potential barrier to efficiency during its visits to districts across the state: replication of district-level services. Often a C&B and REAA district exist in one area, or district offices are located in a larger urban setting, which may mean there are duplicative administrative functions that could be consolidated to maximize resources. The examination of the governance would need to address the local revenue and tax implications of any changes to the school district governance structure.

Alaska should examine student enrollment trends through the year. Several interviewees indicated that the October student count used for funding may be lower than the actual number of students they served during the school year. Interviewees attributed this to the October count occurring at the same time as tribal gatherings, close of seasonal summer work, and when families receive their Permanent Fund Dividend. Student count information for multiple points during the school year was unavailable, so APA was unable to substantiate this anecdotal information. Alaska should collect this information, and then if it is found that the October count is not the most accurate measure of the number of students served within a year, Alaska should consider an alternative count method.

Appendix A:

District Group Interview Protocol

Alaska Group Interview Protocol

Hello, I am _____ and this is _____. We work for Augenblick, Palaich, and Associates (APA) the firm hired by the Legislature to examine the state's current funding formula to see if any possible changes should be recommended. Thank you so much for taking time out of your busy schedules to participate in this study.

The goal of our study is not to adjust specific pieces of the formula, such as district cost factor levels, or discuss the overall level of resources available, but instead to focus on the general structure of the system.

Instead, our work includes examining all aspects of the funding formula, comparing them to how other states address similar aspects of their formulas, and understanding their current impacts in Alaska. As part of learning about the formula's current impacts in the state, we have set up six phone interviews over this week to get a better understanding of districts' perspectives. The interviews are broken up by district demographic and geographic characteristics. Your group today consists of districts that _____.

For this conversation, we will first examine each part of the funding formula individually and then have a more open ended discussion of the funding system's impact, and overall strengths and weaknesses. We value each district's candid opinion and will facilitate the conversation to allow everyone a chance to be heard. The information from these interviews will be aggregated and we will not attribute any specific responses to individual districts or participants.

Considering first each system component individually:

<u>School Size Adjustment</u>

1. How well do you feel the size adjustment adjusts for differences in costs based on the size of schools?
2. Do any of you have schools with under 10 students in your district? If so, please describe the schools.
    a. What is the impact of the adjustment approach for schools under 10 students in your district?
3. How do you feel about size adjustments for all schools regardless of size?
    a. In all districts regardless of size?
4. Do you feel it's appropriate to have different adjustments for charter and alternative schools? Why or why not?
5. Are there any unique circumstances in your districts that the size adjustment affects?

<u>Hold Harmless</u>

1. Have your districts been impacted by the hold harmless provision?
    a. If so, do you feel the hold harmless adjustment appropriately addresses declining enrollment?

i. Do you feel the 5% metric is adequate?

District Cost Factor

1. Do you feel a district cost factor should be part of the state's formula?
2. Do you feel the factor adjusts for costs adequately?
    a. Are there other district circumstances that should be taken into account?

Special Needs Funding

1. Current special needs funding includes a single weight for vocational education, non-intensive special education, gifted/talented, and bilingual/bicultural education. How well does the current block funding approach to funding special needs students work in your district?
    a. Do you experience any significant variations in costs by student category?
2. Are there any student populations that are not included as part of the adjustment that should be, or should have a separate adjustment, such as at-risk or low income students?

CTE/VOC

1. Is the CTE factor appropriate for current CTE needs in your districts?

Intensive Services Funding

1. Do you feel the right students are funded in this count?
2. Does this generally cover the cost of serving these students when considering all funding available for the students?

Correspondence

1. Is the 90% adjustment appropriate to serve correspondence students?

Transportation

1. How does transportation impact your district?
2. How does the current transportation funding system work for your district?

Local Effort

1. If your district generates funding locally, how do the local contribution parameters, including both required and maximum local contribution, impact your districts?
2. If your district receives impact aid, how do you feel about the state's approach to impact aid?
3. Do you believe local districts should provide some portion of overall funding?
    a. If so, at what percentage do you think this should be?
4. What do you think are sustainable ways to increase education funding in the state?
    a. Would increasing local contributions be an appropriate approach?

Concluding Questions

1. Other than addressing the adequacy of any factors or the total funding available, are there any needs or circumstances in your district that the funding formula should address?
2. Anything else that you would like to share about how the current funding formula, either about its impact on your district, or its overall strengths and weaknesses?

Appendix B:

District Individual Interview Protocol

Alaska Individual Interview Protocol

Hello, I am _____ and this is _____. We work for Augenblick, Palaich, and Associates (APA) the firm hired by the Legislature to examine the state's current funding formula to see if any possible changes should be recommended. Thank you so much for taking time out of your busy schedules to participate in this study.

The goal of our study is not to adjust specific pieces of the formula, such as district cost factor levels, or discuss the overall level of resources available, but instead to focus on the general structure of the system.

Instead, our work includes examining all aspects of the funding formula, comparing them to how other states address similar aspects of their formulas, and understanding their current impacts in Alaska. Two weeks ago, we conducted several group phone interviews to get a better understanding of districts' perspectives. The interviews were broken up by district demographic and geographic characteristics.

For these onsite conversations, we would like to discuss each part of the funding formula individually and delve further into the impact of funding has on your district's ability to meet student needs.

We value your candid opinions, so the information from these interviews will be aggregated and we will not attribute any specific responses to individual districts or participants.

District and school context

First, can you please tell us more about your community, district and schools? *(Note to APA team: have existing district data on hand to refer to)*

1. Size, grade configurations, and locations
2. Staffing
3. Geography, and mix of public vs. federal lands
4. Unique circumstances
5. Special needs populations
6. Any charters or alternative schools?
7. Any school closures?

Then considering each funding formula component separately:

<u>School Size Adjustment</u>

6. How well do you feel the size adjustment adjusts for differences in costs based on the size of schools in your district?
7. Given the available funding for schools by size, how well can you meet the basic educational needs of all students?
    a. Are you able to provide the types and robustness of program offerings you would like?

   i. Does this vary elementary, middle and high school level?
   ii. Does this vary by size or remoteness?
b. Any pupil supports and services that you would like to offer beyond what you currently provide?
c. What about your district's ability to address other school cost areas:
   i. Technology?
   ii. Student Activities?
   iii. Facilities?

<u>Hold Harmless</u>

2. Has your district had experience with declining enrollment?
3. Do you feel that the hold harmless adjustment appropriately addresses declining enrollment?
   a. Do you feel the 5% metric is adequate?

<u>District Cost Factor</u>

3. Do you feel the factor adjusts for costs adequately in your district?
   a. Are there other district circumstances that should be taken into account?
4. What is your current district staffing structure?
   a. How well do you feel your district administration can support the needs of schools in your district?
5. Are there specific cost areas that your district struggles to afford or would like to grow/adopt?
   a. Are these areas for all students are for specific special needs populations?

<u>Special Needs Funding</u>

3. Current special needs funding includes a single weight for vocational education, non-intensive special education, gifted/talented, and bilingual/bicultural education. How well does the current block funding approach to funding special needs students work in your district?
   a. Are you able to provide the needed services for your special needs populations?
      i. Non-intensive Special Education?
      ii. Bilingual/Bicultural?
      iii. GT?
   b. How closely do expenditures match the revenues for these student groups?
4. Do you feel funding should be available for students "at-risk" of failure?
   a. Is there an identifiable group of students you would target resources towards?
      i. Do you already serve these students? If so, how?

<u>CTE/VOC</u>

2. Is the CTE factor appropriate for current CTE needs in your districts?
   a. Please describe your current CTE program.
      i. What grades are served by the program?
      ii. Is there anything you would like to do differently?

b. Does the additional funding enable you to focus resources in this area compared to block special needs funding?

Intensive Services Funding

3. Do you feel the right students are funded in this count?
4. Does this generally cover the cost of serving these students when considering all funding available for the students?
    a. How do you get your services from specialists such as OT/PT?
        i. Are they district employees or contracted?
        ii. Can you afford to cover the costs for transportation for specialists?

Correspondence

2. Is the 90% adjustment appropriate to serve correspondence students?
    a. How robust of a program are you able to offer your correspondence students?
        i. How do students in such program perform compared to their peers?

Transportation

3. How does transportation impact your district?
4. How does the current transportation funding system work for your district?
    a. Are you able to provide needed transportation to all students?
    b. Any transportation needs- within district or transportation outside your district- that your district cannot sufficiently address?

Local Effort

5. If your district generates funding locally, how do the local contribution parameters, including both required and maximum local contribution, impact your districts?
6. How do you feel about the state's approach to impact aid?
    a. What level of burden does the district face to generate impact aid dollars from the federal government?
7. Are you able to generate the funds needed to support your facilities?

Concluding Questions

3. Other than addressing the adequacy of any factors or the total funding available, are there any student needs or circumstances in your district that the funding formula should address?
4. Anything else that you would like to share about how the current funding formula, either about its impact on your district, or its overall strengths and weaknesses?

Appendix C:

Participating Districts

Participating Districts
Anchorage School District
Fairbanks North Star Borough School District
Kenai Peninsula Borough School District
Matanuska – Susitna Borough School District
Bering Strait School District (Unalakleet) - REAA
Kuspuk School District (Aniak) - REAA
Lower Kuskokwim School District (Bethel) - REAA
Lower Yukon School District - REAA
North Slope Borough School District
Northwest Arctic Borough School District
Galena City School District
Yukon-Koyukuk School District (Fairbanks) - REAA
Nenana City School District
Chugach School District - REAA
Bristol Bay Borough School District (Naknek)
Dillingham City School District
Hoonah City School District
Kake City School District
Tanana City School District
Yakutat School District
Cordova City School District
Juneau School District
Ketchikan Gateway Borough School District
Lake & Peninsula School District
Nome Public Schools
Sitka Borough School District
Unalaska City School District
Southwest Region School District (Dillingham) - REAA
Yupiit School District - REAA
Copper River School District (Glennallen) - REAA
Delta/Greely School District - REAA

Appendix D:

Hold Harmless Alternative Models

Hold Harmless Alternative Models							
District	**FY2012 School Size ADM**	**FY2013 School Size ADM**	**FY2014 School Size ADM**	**FY2015 School Size ADM**	**FY2015 Hold Harmless per DEED****	**Alternative 1- Best of Three Year Average**	**Alternative 2- Three Year Weighting**
Denali	379.92	378.89	355.70	354.96	**366.93**	363.18	359.20
Alaska Gateway	590.04	569.19	572.94	562.68	562.68	568.27	567.18
Aleutian Region	80.82	79.20	79.20	87.30	87.30	87.30	83.25
Aleutians East	401.57	403.54	366.43	382.58	**393.06**	384.18	380.70
Anchorage	52,273.11	52,390.41	51,745.55	51,637.18	51,637.18	51,924.38	51,799.06
Annette Island	404.31	421.39	418.94	428.33	428.33	428.33	424.04
Bering Strait	2,575.62	2,674.62	2,661.77	2,691.53	2,691.53	2,691.53	2,678.80
Bristol Bay	245.01	230.11	228.12	195.79	**220.04**	218.01	212.29
Chatham	282.81	276.40	257.74	314.63	314.63	314.63	289.30
Chugach	130.40	139.47	137.09	143.72	143.72	143.72	140.80
Copper River	681.71	677.01	613.15	584.49	**630.75**	624.88	609.48
Cordova City	462.66	453.24	441.90	462.67	462.67	462.67	454.18
Craig City	478.06	450.37	421.11	414.06	**430.06**	428.51	422.47
Delta-Greely	1,034.78	1,002.37	980.65	964.97	964.97	982.66	976.44
Dillingham	611.11	630.22	631.79	614.65	614.65	625.55	622.96
Fairbanks	15,972.29	15,981.68	15,794.76	15,539.63	15,539.63	15,772.02	15,698.41
Galena	406.57	417.68	385.69	409.26	**413.47**	409.26	402.82
Haines	457.64	426.33	385.08	383.55	**404.94**	398.32	391.20
Hoonah	191.69	192.51	173.88	189.38	**190.95**	189.38	184.74
Hydaburg	76.66	90.74	108.10	115.40	115.40	115.40	108.85
Iditarod	407.52	385.02	390.77	412.44	412.44	412.44	400.64
Juneau	5,558.55	5,573.16	5,473.35	5,469.28	5,469.28	5,505.26	5,487.98
Kake	145.20	179.14	177.16	185.66	185.66	185.66	181.74
Kashunamiut	446.74	432.37	450.28	449.80	449.80	450.04	447.05
Kenai Peninsula	10,469.20	10,309.81	10,298.24	10,453.55	10,453.55	10,453.55	10,377.83
Ketchikan	2,620.72	2,600.52	2,637.82	2,656.24	2,656.24	2,656.24	2,640.80
Klawock	224.62	216.65	225.37	205.40	**220.38**	215.81	213.93
Kodiak Island	3,016.59	2,991.93	2,962.74	2,929.56	2,929.56	2,961.41	2,951.02
Kuspuk	633.87	588.31	582.32	632.12	**632.56**	632.12	608.22
Lake and Peninsula	656.19	658.42	619.99	649.87	**654.15**	649.87	641.35
Lower Kuskokwim	6,019.42	5,940.50	6,035.31	6,083.08	6,083.08	6,083.08	6,043.36
Lower Yukon	3,008.37	2,980.88	2,958.58	3,041.17	3,041.17	3,041.17	3,003.60
Mat-Su	18,018.40	17,704.40	17,931.65	18,166.89	18,166.89	18,166.89	18,011.32
Mt Edgecumbe	466.99	468.54	472.20	487.10	487.10	487.10	479.04
Nenana	299.20	310.96	306.97	272.21	**298.28**	296.71	290.26

District	FY2012 School Size ADM	FY2013 School Size ADM	FY2014 School Size ADM	FY2015 School Size ADM	FY2015 Hold Harmless per DEED**	Alternative 1- Best of Three Year Average	Alternative 2- Three Year Weighting
Nome	853.85	862.33	877.94	869.85	869.85	873.90	871.29
North Slope	2,218.29	2,269.03	2,363.72	2,376.25	2,376.25	2,376.25	2,354.17
Northwest Arctic	2,672.01	2,712.46	2,779.09	2,830.93	2,830.93	2,830.93	2,793.88
Pelican	39.60	39.60	39.60	39.60	39.60	39.60	39.60
Petersburg	619.82	645.63	623.61	623.87	623.87	631.04	627.42
Pribilof	156.86	167.53	156.86	158.13	**162.83**	160.84	159.28
Saint Mary's	284.94	286.98	312.82	306.15	306.15	309.49	305.17
Sitka	1,572.77	1,570.52	1,598.15	1,570.27	1,570.27	1,584.21	1,579.60
Skagway	98.58	106.53	134.66	134.28	134.28	134.47	129.77
Southeast Island	439.90	462.99	427.46	447.41	**455.20**	447.41	443.37
Southwest Region	1,075.06	983.52	1,004.43	982.14	**1,005.37**	993.29	989.79
Tanana	61.76	83.37	71.59	68.47	**75.92**	74.48	72.00
Unalaska	558.89	559.91	552.03	539.45	539.45	550.46	547.06
Valdez	878.03	846.91	821.93	807.86	807.86	825.57	819.07
Wrangell	448.95	439.77	397.28	400.32	**420.05**	412.46	405.90
Yakutat	178.50	139.68	141.96	140.69	**150.14**	141.33	140.94
Yukon Flats	499.25	502.36	460.84	460.18	**481.27**	474.46	467.44
Yukon-Koyukuk	549.23	568.69	580.51	547.77	**572.33**	565.66	562.17
Yupiit	721.65	698.31	707.27	728.45	728.45	728.45	716.36
Total	**143,656.30**	**143,172.10**	**142,334.09**	**142,603.20**	**142,903.10**	**143,483.82**	**142,608.59**

Notes:

* Data from DEED spreadsheet on Hold Harmless calculation

** Bold districts qualified for Hold Harmless in FY2015

Appendix E:

Special Needs Adjustment(s) Alternative Models

Special Needs Adjustment(s) Alternative Models				
District	**FY2015 Net Special Needs ADM Under Current Alaska Formula**	**Alternative 1 - Weights for Special Education (.70), LEP(.50), and Alaska Native (.40)**	**Alternative 2 - Weights for Special Education (.70), LEP (.50) , and At-Risk (.30)**	**Alternative 3 - Weights for Special Education (.70), LEP (.50), Alaska Native (.20), and At-Risk (.20)**
Alaska Gateway	192.4	173.1	205.6	209.3
Aleutian Region	30.7	11.9	15.6	15.3
Aleutians East	154.6	94.1	79.9	94.9
Anchorage	10,369.1	8,490.0	13,996.0	12,437.4
Annette Island	110.4	144.6	90.9	128.0
Bering Strait	1,060.6	1,102.5	924.1	1,093.1
Bristol Bay	65.9	37.7	26.6	35.3
Chatham	88.4	53.6	44.7	53.8
Chugach	42.0	30.9	53.1	48.5
Copper River	174.5	107.0	90.8	108.4
Cordova City	110.1	57.8	96.3	86.8
Craig City	106.4	96.1	103.5	109.7
Delta-Greely	249.4	111.9	198.9	171.3
Denali	98.6	55.8	49.5	54.8
Dillingham	171.7	155.9	155.6	172.3
Fairbanks	3,380.1	1,830.5	2,554.2	2,407.3
Galena	113.2	410.9	813.3	714.9
Haines	94.8	43.5	63.7	59.7
Hoonah	50.0	41.9	32.3	40.5
Hydaburg	33.4	31.2	26.4	31.8
Iditarod	151.1	119.6	106.2	123.4
Juneau	1,250.1	987.4	987.5	1,050.4
Kake	53.3	45.4	21.7	36.0
Kashunamiut	144.0	241.3	205.9	239.1
Kenai Peninsula	2,418.3	1,368.4	1,991.3	1,840.6
Ketchikan	647.6	437.1	418.4	471.9
Klawock	55.8	41.0	37.4	43.8
Kodiak Island	760.2	546.5	661.4	657.7
Kuspuk	209.7	260.1	222.4	257.1
Lake and Peninsula	257.3	129.4	90.3	120.0
Lower Kuskokwim	2,000.3	3,215.3	2,626.0	3,082.7
Lower Yukon	1,092.6	1,790.2	1,512.7	1,740.8

District	FY2015 Net Special Needs ADM Under Current Alaska Formula	Alternative 1 - Weights for Special Education (.70), LEP(.50), and Alaska Native (.40)	Alternative 2 - Weights for Special Education (.70), LEP (.50) , and At-Risk (.30)	Alternative 3 - Weights for Special Education (.70), LEP (.50), Alaska Native (.20), and At-Risk (.20)
Mat-Su	3,874.4	3,000.8	3,516.6	3,560.4
Nenana	87.3	198.9	132.9	168.7
Nome	261.1	248.5	130.4	202.1
North Slope	855.2	900.4	610.9	798.4
Northwest Arctic	1,011.1	1,058.9	761.1	982.3
Pelican	11.7	3.7	6.0	5.5
Petersburg	154.5	62.9	104.4	94.9
Pribilof	55.8	38.6	23.5	33.8
Saint Mary's	92.2	109.2	86.5	106.8
Sitka	382.8	269.4	266.2	293.0
Skagway	31.8	6.4	9.8	8.8
Southeast Island	141.6	25.8	56.2	46.8
Southwest Region	352.6	292.3	183.4	257.7
Tanana	29.1	20.5	16.3	20.3
Unalaska	163.1	78.2	74.2	79.4
Valdez	191.9	85.9	106.6	104.5
Wrangell	98.6	51.8	71.5	69.6
Yakutat	43.0	34.0	34.7	39.0
Yukon Flats	209.2	155.9	126.8	152.1
Yukon-Koyukuk	215.4	270.1	352.6	352.9
Yupiit	239.9	384.5	341.7	385.9
Mt Edgecumbe	112.7	152.5	100.6	141.7
Total	**34,351.3**	**29,711.8**	**35,615.1**	**35,641.2**

Appendix F:

Sources

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