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Evaluation of Hawaii's Weighted Student Formula

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Chapter 1 – Introduction

Many states currently use a weighted student formula (WSF) to distribute revenues to local school districts. However, in recent years, several school districts have also started using this type of funding approach to distribute revenues from the central office to schools.[1] While Edmonton (Alberta, Canada) is widely cited as the first district to implement a large-scale model incorporating a WSF (in 1974), more recently a number of districts in the U.S.—including Baltimore, Boston, Chicago, Cincinnati, Clark County (Las Vegas, Nevada), Denver, Hartford, Houston, Los Angeles, New York, Oakland, Poudre (Colorado), Saint Paul, and San Francisco, as well as Hawaii—have also implemented WSF policies that are similar to the one originally pioneered in Edmonton.[2] Hawaii presents a unique case of WSF implementation because the state operates its entire educational system as a single school district.[3]

The WSF model is intended to replace the traditional staffing model, which allocates teachers and other staff based on the number of students enrolled in the school, combined with the desired ratios of staff (teachers, administrative, and support personnel) to pupils. The district then allocates additional staff or resources for specific programs along with supplies and materials. In contrast, a core component of WSF systems is the development of a funding mechanism that allocates funds, rather than staff, to schools based on the relative educational needs of the students served by the school, and additional factors that affect the costs of providing educational services, such as school size and degree of geographic isolation.

General Objectives of WSF Policies

As applied as an intra-district method for allocating resources, the general objectives of WSF policies are to promote equity and transparency in funding to schools, autonomy linked to accountability at the school site, and a culture of innovation and efficiency:

- **Equity** – The WSF approach intends to promote the equity with which resources are distributed to schools by implementing a student-need-based funding model that allocates dollars rather than staff to schools.
- **Transparency** – The WSF approach tries to increase transparency by simplifying and clarifying the processes through which resources are distributed to schools and by increasing the access of stakeholders to information about the resources available to schools and the student outcomes produced.
- **Autonomy and Accountability** – The WSF approach attempts to link school autonomy to accountability by providing school leaders more discretion over resources coupled

[1] See, for instance, a 2006 report by the Thomas B. Fordham Institute that promotes the use of WSF policies (Fordham, 2006).

[2] For a comprehensive review of implementation of WSF formulas, please see the Reason Foundation Yearbook (Snell, 2009). For more recent information, in 2010 the *Fair Funding Summit* was convened in Baltimore, Maryland; it invited districts using the WSF approach to resource allocation to share their experiences. The proceedings of this summit, which provide detailed information on several WSF systems, can be found in the report by Educational Resource Strategies (2010).

[3] However, Baker and Thomas (2006) are quick to point out that this does not change the assumptions underlying a need-based funding system, as the organizational structure of other districts implementing WSF is widely varied.

with increased responsibility for generating results. Local autonomy and accountability can also be enhanced by engaging and including a wide range of parent and community stakeholders into the decisions surrounding resource allocation at schools.

- **Innovation and Efficiency** – The WSF approach can promote a culture of innovation and efficiency by putting resource allocation decisions in the hands of school leadership who, being closest to the students at their schools, are more knowledgeable about how to best serve their unique needs.

Hawaii has a significant history of exploring alternative funding and governance structures, which culminated in the 2006–07 adoption of a WSF as a means to (1) provide a more equitable system of school finance capable of directing higher levels of resources to student populations that are deemed more costly to educate, and (2) usher in a process for increasing local authority (including school leadership, parents, and community members) over educational decision making. In turn, it is not at all surprising that the three implementation goals of Hawaii's WSF are in close alignment with the four general objectives listed above:

Goal 1: Empowerment of principals and school communities with greater decision-making authority over the use of funds allocated to the school, which allows for increased accountability for principals**.**

Goal 2: Streamlining the allocation of resources to schools.

Goal 3: Increased transparency and equity in allocation of resources.

Research Questions

Given the state's relatively long experience with the WSF, it is only natural to ask how well the policy has done in reaching its goals. To this end, this evaluation investigates the following main research questions concerning implementation of the Hawaii WSF:

- How was the WSF originally developed, and what changes to the formula have been made since its initial implementation in 2006–07?
- How have other states and districts incorporated weights and WSF structures into their funding systems?
- What do the perceptions of principals and stakeholders tell us about the extent to which Hawaii's WSF has achieved the following three outcomes?
  - Increasing both school discretion over funding and the degree to which the local community participates in decision making pertaining to budgeting and planning.
  - Improving innovation and accountability of school leadership.
  - Promoting equity and transparency in how funding is allocated to schools.
- Has there been significant improvement in the equity with which resources are allocated to schools?
- What have been the major successes and challenges in the implementation of the Hawaii WSF since its inception?

Organization of the Report

To answer these questions, the research team has conducted a series of qualitative and quantitative analyses, the results of which are reported in the various chapters as follows. Chapter 2 provides an in-depth description of the development of the original WSF and the changes that it has undergone since its inception in 2006–07. Chapter 3 describes the emergence of cost-based funding and how this has manifested in specific state and district policies that use funding weights to account for the key factors (student needs, scale of operations, and geographic differences in resource prices) that differentiate the cost of providing educational services to students of varying needs and circumstances. Chapters 4 and 5 use principal surveys and interviews of stakeholders, respectively, to describe perspectives regarding the extent to which the WSF has delivered: increased school discretion over funding and the degree of stakeholder empowerment; improved effectiveness, innovation, and accountability of school programs; and better equity/transparency in how schools are funded. Chapter 6 provides a statistical analysis of funding allocations to explore whether there have been significant improvements in the equity with which resources have been distributed to schools since implementation of the WSF. The final chapter highlights the main analysis findings, characterizes the major successes and challenges faced over the course of implementing the WSF, and discusses a detailed set of policy considerations that should be taken into account as the state moves forward with future implementation of the formula.

Chapter 2 – Overview and Evolution of the Hawaii Weighted Student Formula

Hawaii has a significant history of exploring alternative funding and governance structures. The use of a weighted student formula (WSF) emerged in Hawaii as the means not only to provide a more equitable system of school finance to direct higher levels of resources to student populations that are more costly to educate, but also to usher in a process for increasing local authority over educational decision making. Although there is no requirement that reforms to implement a WSF and to increase local autonomy must be combined, Hawaii's strong history of decentralization efforts suggests that these two reforms be described in conjunction with one another. The following chapter provides an overview of the Hawaii's effort to increase both funding equity and local autonomy and specifically examines how the WSF has evolved from its inception in 2006–07.

Methodology and Resources Describing Hawaii's WSF

To develop a richer understanding of the Hawaii WSF and the changes that have occurred since implementation, the research team used resources that were, for the most part, publicly available online from the Hawaii Department of Education (HIDOE) website and that give insight into the reasoning behind the recommendations and decisions concerning this reform. The following provides a list of selected resources that were used to provide a descriptive overview of Hawaii's WSF since its inception:

- ***Act 51: Reinventing Education Act of 2004*** – The language from the act itself provides the purpose and intentions of the legislature in engaging toward a WSF approach to financing Hawaii's educational system. (http://reach.k12.hi.us/Act51SB3238amended1.pdf)
- **Yearly calculations of weighting factors and dollar values** (2007–08 through 2012–13 school years) – These documents show both the planned and implemented cost factors and their assigned weights for each year of implementation. These data are important for determining trends as well as being snapshots of the funding formula at any distinct point in time. (http://reach.k12.hi.us/empowerment/wsf/index.htm)
- **Recommendations and reports from the Hawaii Department of Education** – These memos explain the recommendations made to the Legislative Committee on Budget and Fiscal Accountability from the superintendent pertaining to adjustments in weights, characteristics, calculations, and included revenue sources. (http://reach.k12.hi.us/empowerment/wsf/index.htm)
- ***Recommendations to the Hawaii State Board of Education*** from the Committee on Weights, and the Committee on Weights reports to the Board of Education – These memos and reports explain the recommendations to the Legislative Committee on Budget and Fiscal Accountability from the Committee on Weights pertaining to adjustments in weights, characteristics, calculations, and included revenue sources. (http://reach.k12.hi.us/empowerment/wsf/committeeonweights/index.htm)

- **Committee on Weights and Board of Education meeting minutes** – Minutes from meetings include the discussion and debate about key issues of implementation and structure of the WSF. (http://reach.k12.hi.us/empowerment/wsf/committeeonweights/index.htm)
- ***WSF Implementation Manual*** (2005–2010) – These manuals are written by the HIDOE for use by school principals. They describe the WSF in detail and guide principals through the planning and implementation at their school site. (http://reach.k12.hi.us/empowerment/wsf/index.htm)

A Short History of Decentralization of Public Education in Hawaii

Decentralization efforts in Hawaii began with a site-based management law enacted in 1989 and continued with several additional decentralization efforts, including establishing structures for school/community-based management, "lump-sum" budgeting, and the creation of complex areas. However, none were as extensive as the implementation of the current WSF created under the direction of the Hawaii state legislature as part of *Act 51: Reinventing Education Act of 2004.* Later, we touch on each of these efforts in turn. However, before doing so, it is important to note a major contextual factor under which these efforts took place that distinguishes Hawaii's public education administration from others throughout the country. Specifically, the HIDOE functions differently from those in other states in that it is a single "local education agency" (school district) and, therefore, is in a unique position to streamline processes and decentralize by disseminating dollars directly to schools.

- **School/Community-Based Management (SCBM) initiative** – In 1989, the Hawaii State Legislature passed the School/Community-Based Management (SCBM) initiative. The SCBM initiative was a voluntary program designed to offer schools flexibility in exchange for increasing accountability for improving educational outcomes for students. SCBM had significantly increased collaboration among stakeholders through the establishment of SCBM councils. However, the number of resources included was minimal; there was a need for aligned accountability and for assistance with comprehensive planning; and, because participation was voluntary, the effect was not systemic (Izu, Aronson, De Long, Cuevas, & Braham, 1996).
- **Lump-Sum Budgeting initiative** – In 1992, HIDOE enacted the Lump-Sum Budgeting initiative to further increase principal control over funding streams that had previously been tied to special programs. The initiative also included a needs-based system of per-pupil allocation. As described in Hawaii Board of Education meeting minutes from September 1992, this initiative increased local control by addressing schools beyond the SCBM schools and increasing the amount of resources under local control. However, questions regarding the capacity of principals to make effective decisions, the need for increased training and support, and the limits on effective autonomy caused by insufficient discretion over funding (Auditor, State of Hawaii, 1998).[4]

[4] To this last point, the Auditor report states: "… school-based budgeting was designed to give schools more control and authority over their expenditures. The promise of school-based budgeting has not been achieved. Schools do not have sufficient control over their expenditures. … In practice, the actual proportion of the expenditures over which schools have control is relatively insignificant."

- **Complex areas** – In 2001, Hawaii formed complexes, combinations of high schools and their feeder middle and elementary schools, and complex area superintendents. The intent of this change was to decentralize decision making by eliminating district superintendents and emphasize smaller units of management. This change decentralized midlevel administration but did not directly allocate new autonomies to the school level (Hawai'i Educational Policy Center, 2003).
- ***Reinventing Education Act of 2004*** – In 2004, the Hawaii state legislature passed Act 51. The legislation set out a plan for major educational reforms in Hawaii that contained both a move toward a more equitable funding mechanism and additional decentralization. Act 51 put forth 13 key elements, which included the establishment of a WSF, empowering principals through capacity building and increased authority, streamlining processes for the purpose of reducing bureaucracy, and strengthening community involvement through the establishment of School Community Councils (see Appendix for a full list of the main elements of Act 51):
    - Establishing a WSF – The WSF ensures that funds go to the schools with the greatest need and acknowledges that some students are more costly to educate. The WSF allocates money to schools on the basis of a formula that includes weighted characteristics.
    - Empowering principals – The WSF will be most successful when combined with other reforms, including the increase in school authority related to budgeting and planning in return for being held accountable for performance through a system of rewards, assistance, and sanctions.
    - Reduction of bureaucracy – Educational processes and responsibilities are divided across different state agencies and are in need of alignment and streamlining to implement the WSF and appropriately support schools. This component will include the reorganization of departments and roles to streamline the allocation of resources to schools and improve the responsiveness of services.
    - Strengthen community involvement – This component shifts SCBM councils into mandatory School Community Councils (SCCs) at each public school. The SCCs will increase community involvement by including community members in the recommendation of key decisions related to school programming, interventions, and budgeting through transparent financial reporting and planning.

Act 51 defines a WSF as a means "for allocating operating moneys to individual public schools that includes a system of weighted characteristics affecting the relative cost of educating each student attending a public school." By allocating at least 70 percent of education appropriations directly to schools, Act 51 furthered the goal of decentralization. Promoting funding equity requires that a significant portion of these dollars would be allocated through a WSF formula.[5] By allocating these dollars according to weighted characteristics, Hawaii hopes to achieve both *horizontal* and *vertical* equity for the purpose of improving student academic performance and closing achievement gaps. In the mainstream education finance literature, *horizontal equity* refers to treating similar students in similar ways (e.g., all students with a similar need such as

[5] As will be seen below, since its inception in 2006-07, approximately half of the annual General Fund education appropriation has been is allocated to schools through the WSF.

English language learner services will be provided the same level of resources), whereas *vertical equity* refers to treating different students classified according to need in systematically different ways (e.g., all students with a similar need such as English language learner services will be provided more services compared to an otherwise similar student with no need for these services). Promoting both horizontal and vertical equity ensures that all students, regardless of their specific needs or circumstances, will be provided an equal opportunity achieve a set level of outcomes.

A key concern voiced in studies of school finance in Hawaii, other districts, and other states is that of *adequacy* (or *sufficiency*).[6] Mainstream education finance literature defines *adequacy* as the minimum amount of resources necessary for educating a student to attain an established set of academic standards (Chambers and Levin, 2008). For Hawaii, *adequacy* has been defined as the opportunity for students to become proficient in the Hawaii Content and Performance Standards III. It is important to recognize that because of constraints on funding at its inception, the Hawaii WSF did *not* purport to ensure there was adequate funding, but rather to allocate existing available dollars equitably:

> *…current funding is not adequate. The weighted student formula re-allocates inadequate resources…* (WSF Implementation Manual, November 17, 2005)

Committee on Weights

Act 51 required that the HIDOE establish a committee to develop a WSF. The composition of the Committee on Weights (COW) is determined by the Board of Education (BOE) to contain key stakeholders. The initial COW was composed of 42 members, including nominees from the Superintendent of Education and the Dean of the University of Hawaii at Manoa's College of Education as well as principals, teachers, parents, and other appropriate members.[7]
Act 51 outlined seven duties for the COW to fulfill:

> *"1. Create a list of student characteristics that will be weighted;*
>
> *2. Create a system of weights based upon the student characteristics that may be applied to determine the relative cost of educating any student;*
>
> *3. Determine specific weights, including their unit value;*
>
> *4. Determine which moneys shall be included in the amount of funds to be allocated through the weighted student formula;*
>
> *5. Recommend a weighted student formula to the Board of Education;*
>
> *6. Perform any other function that may facilitate the implementation of the weighted student formula; and*

[6] These two words *adequacy* and *sufficiency* are often used interchangeably in the literature and are used to convey the same standard as applied in the different laws across states.
[7] Additional information regarding the COW may be found at http://reach.k12.hi.us/empowerment/wsf/committeeonweights/index.htm.

7. *Meet not less than annually to review the weighted student formula and if the committee deems it necessary, recommend a new weighted student formula for adoption by the board of education."*

The first COW began meeting in 2005 to plan and develop a system of weights for the first year of WSF implementation in 2006–07. Following up on a recommendation in 2005, the COW has continued meeting annually to monitor implementation, evaluate effectiveness, and recommend adjustments to the WSF. In 2011, the Hawaii Revised Statutes (HRS) 302A–1303.5 requiring the COW to be convened yearly and make recommendations for changes to the WSF as it deems necessary was modified to require their convening not less than every odd-numbered year.

Determining the Revenue Sources Distributed by the Hawaii WSF

A key task of the COW is to identify and recommend which monies are included in the WSF allocation. The COW uses the following criteria to determine which revenue to include in the WSF allocations:

- ***Include*** revenues from services or programs that are in place or available to every school.
- ***Include*** revenues from services or programs for which there is a formula to distribute dollars fairly.
- ***Include*** revenues of the service or program if they meet the prior two criteria for every school within a given schooling level (elementary, middle, high).
- ***Exclude*** revenues that are used to meet complex area or state responsibilities.

In the 2008 report, the COW IV revised these criteria to also include funds that "would provide greater flexibility to the school community, or were previously distributed in a manner that resulted in an inequity." These changes were made to emphasize and support the goal of ensuring that all students, regardless of their needs or where they attended school, were provided a similar opportunity to achieve the state standards (i.e., to promote horizontal and vertical equity in their funding distribution mechanism).

The COW I (2005) differentiated between discretion and total flexibility. The COW I stated that they are not the same and that there are certain restrictions that can limit the flexibility of some funds included in the WSF allocated funds. The COW IV recommended a significant increase in funding for the 2009–10 school year. Their report from July 2008 cites the goal of increased flexibility as central to this recommendation. The report states that "funds allocated via WSF give school communities the greatest degree of flexibility." It was decided not to include federal categorical dollars in the WSF, even when spent at the school site, because the lack of flexibility principals had in using these funds was too great for them to be considered as under principal discretion.[8] Although certain categorical revenues are spent by principals at the school site, these funds must be spent only on specified programs.

[8] Appendix E reports the specific revenue sources and the amounts under each that were distributed to school sites via the WSF.

SCCs and the Academic and Financial Plans

Establishment of the SCCs under Act 51 to address the need for increased and enhanced community involvement was based on the following three principles (Office of Curriculum, Instruction and Student Support, 2008, p. 4):

1. Those closest to students should be more involved in instructional programming.
2. Transparency fosters more support for school plans.
3. Students and schools are more successful when families are included in decision making at the school.

SCCs are an extension of the SCBM initiative described earlier and, as before, serve as the process for including both internal and external stakeholders in decision making about school programs and budgets. SCCs are made up of 50 percent internal stakeholders (principals, teachers, and noncertificated staff) and 50 percent external stakeholders (parents, students, and community members). One of the responsibilities of the SCC is to provide input into the development of the Academic and Financial Plans.

The Academic and Financial Plans are a collection of documents that were designed to provide a framework to ensure that school and complex area programs and priorities were aligned with the HIDOE Strategic Plan. The Academic and Financial Plans were also designed to be tools for the monitoring and evaluation of goals. It is part of a planning process that aligns goals for the school, school programs, and the resources available to the school, including those allocated through the WSF (Hawaii Department of Education, 2012).

Description of Hawaii's WSF

The purpose of this section is to describe the WSF at its inception and to track any major changes that have occurred since first implemented in the 2006–07 school year.

Theoretical Background of Cost-Based Funding Systems

Any needs-based funding system for schools is based on the assumption that different groups of students have particular needs that require additional costs to offer the same educational opportunities. The education finance literature groups these *cost factors* into three different categories (Duncombe & Yinger, 2008).

The first category is *Student Needs*—pupil characteristics that necessitate additional or specialized services. This category usually includes such needs groups as students in poverty, those designated as English language learners, and those in special education. Later, we will see that the Hawaii WSF refers to this category as *student characteristics*.

The second type of cost factor is *Scale of Operations*—geographic and population characteristics of a school, including enrollment (students served by a district) and student population density (district enrollment divided by the area of a district in square miles). Hawaii's WSF refers to these types of cost factors as *school characteristics*.

The third cost factor category is *Geographic Differences in Resource Prices*—differences in the cost of hiring similarly qualified staff across different regional labor markets and other associated costs with geographic differences.

Structure of Hawaii's Initial WSF (2006–07)

On January 7, 2005, the COW submitted its first report outlining its recommendations for the WSF to be used for the 2006–07 school year. For its first task, determining the student characteristics for which funding weights (weighting factors) would be developed, the COW identified several key issues. The first was the need for clarification of the distinction between student characteristics and school characteristics. During the seven years of implementation, the definitions of these categories have been modified as will be discussed in detail later. The COW used four criteria to determine which weighting factors would be taken into account in the WSF:

- Practicality – There exists a reliable method and available data source that can be used to identify current student counts and develop corresponding projections.
- Feasibility – Other school districts have proved the measure could be used successfully.
- Scale – There is a significant number of *schools* impacted by this factor—all schools, just high schools, and so on.
- Scale – There is a significant number of *students* impacted by this factor even if it is not spread across many schools.

Using these criteria, the first COW recommended three student characteristics that should be accounted for in the WSF: being economically disadvantaged, being an English language learner, or being in special education. Three others were considered but identified as needing further research before inclusion: transiency and mobility, being at risk, and being gifted and talented.

Their second task was to determine the specific weighting factors that represented the additional costs associated with each of these characteristics. At this point, the COW determined that there was not a reliable system for identifying transient, at-risk, and gifted and talented students. Therefore, they would not be recommended for inclusion in the WSF. The COW discussed different options for addressing these characteristics. For example, one option discussed to address transiency was to provide more frequent budget adjustments throughout the year. The HIDOE eventually did include transiency by developing a calculation described later.

The first COW also decided to leave the allocation of special education funds as is and not include this characteristic in the WSF, and this practice has continued throughout its implementation. One reason for this was that the degree of compliance with regulation as to how special education funding could be used made decentralizing these dollars a risky proposition. In addition, the allocation of dollars for special education was already based on a weighted formula and that this system should not be changed. The weights in the special education formula are designed to reflect relative intensities of the instruction needed for each student as determined by their Individualized Education Program (IEP). This information from IEPs is compiled in a state database, and then resources are allocated to schools on the basis of the weighted calculations.[9]

[9] The weights for Special Education funding are determined according to categories of instructional support. These categories include Intermittent Support, Targeted Support, Sustained Support, and Intensive Support.

The weighted formula for the first year of implementation (2006–07) is documented in the *Weighted Student Formula/School Financial Plan Implementation Manual* (2005)[10]. The original formula, represented in Exhibit 2.1 and explained later, contains a combination of weighted factors and nonweighted allocations divided into two categories (student characteristics and school characteristics). In later years, there were changes made to the weighted factors and nonweighted allocations as well as the organization of the categories. This section describes the original weighted formula under Act 51, and the subsequent changes are described later in this chapter. *Nonweighted* characteristics were calculated in terms of dollars per pupil or school rather than a weighting factor multiplied by the foundation per-pupil funding amount. The formula includes a per-pupil foundation funding amount for all students and eight additional weighting factors listed in the following table and described later.

Exhibit 2.1 – Weighting Factors in Hawaii's Original WSF

WSF Weighting Factors	Relative Weight
Student Characteristics	
K–2 Students	0.012
English Language Learner	0.263
Economically Disadvantaged	0.100
Transiency	0.025
School Characteristics	
Grade Level – Elementary Grade Level – Middle	0.0249 0.0553
Multitrack (Year-Round Schooling)	0.0025
Geographically Isolated	0.0050

Student Characteristics

- **(Regular Education, weighted characteristic)** The *Basic Allocation* to all students in the first year of implementation (2006–07) equaled $3,845. This amount is equal to a weight of one calculated by dividing the total educational revenues for inclusion in the WSF (reduced by the nonweighted factors) by the total weighted enrollment (Hawaii Department of Education, 2005, p. 12).
- **(K–2 Students, weighted characteristic)** The *K–2 Student* weighting factor was included to support continued smaller targeted class sizes of 20:1. The COW had recommended a level of 0.20 because of the need for 20 percent more teachers to serve these smaller classes. However, the DOE calculated a weight of 0.12 by determining that "if classroom teachers are approximately 60% of the WSF costs, then a 20% increase on 60% of the costs should result in a weight of 0.12" (Hawaii Department of Education, 2005, p. 11).

[10] This manual can be found at http://reach.k12.hi.us/empowerment/wsf/2006-2007/2006-07_WSF_Implementation_Manual.pdf.

- **(English Language Learners, weighted characteristic)** The additional personnel and nonpersonnel costs associated with the pre-WSF *English language learner program* were accounted for with a weighting factor of 0.263. This factor was determined by taking pre-WSF funding for English language learners in 2005–06, adding the related fringe costs, and dividing this sum by the total number of English language learners in Hawaii (12,377). This number approximately equals $1,010 per English language learner, and this amount corresponded to the resulting weighting factor of 0.263 (Hawaii Department of Education, 2005, p. 10).
- **(Economically Disadvantaged, weighted characteristic)** The count of students considered *Economically Disadvantaged* is defined as the number of pupils who qualify for the federal Free or Reduced-Price Lunch Program (FRPL). This allocation is in addition to federal categorical funds (Title I) that are allocated to schools where there is a concentration of 35 percent or more students who qualify for the FRPL. The weighting factor of 0.10 was determined by reviewing weighting factors commonly used by other districts using WSF (Hawaii Department of Education, 2005, p. 10).
- **(Transient Students, weighted characteristic)** The number of students counted under *Transiency* is determined as the number of pupils enrolled in a school at the end of the year who were not enrolled at the beginning of the school year. The count from the previous year is used to determine this allocation. Originally, this weighting factor was focused on students of military families, and the BOE had recommended a weight of 0.05 per military student in schools with more than 10 percent military students. However, the HIDOE expanded this factor to cover all transient students, who make up approximately 10 percent of Hawaii's total student population. For the formula to remain revenue neutral, the resulting assigned weight of 0.025 for all transient students must correspond to the total dollar amount equal to what would have been allocated only to military students at a weight of 0.05 (Hawaii Department of Education, 2005, p. 10).

School Characteristics

- **(Geographically Isolated Students, weighted characteristic)** Pupils enrolled in *Geographically Isolated* schools were provided an additional weighting factor to account for added transportation costs. To this end, schools on Molokai and Lanai and in Hana received a weight of 0.005 per student.
- **(Multitrack Students, weighted and nonweighted characteristic)** This characteristic has both a weighted and a nonweighted component. Pupils enrolled in *Multitrack* schools received an additional WSF weighting factor because of the added expenses of having year-round custodial service. It was calculated that these extra costs equaled approximately $10 per student at a multitrack school. The HIDOE applied a weight of 0.0025 to this factor, which equaled approximately $9.50 per student attending a multitrack school in the 2004–05 school year (Hawaii Department of Education, 2005, p. 9). In addition, multitrack schools were allocated a nonweighted *per-school* allocation of $111,050.50 to subsidize the additional costs of maintaining year-round administration at the school sites.
- **(Elementary School Students, weighted characteristic)** The HIDOE assigned a weight of 0.0249 per K–5 student (enrolled in kindergarten through grade 5), whether located at

an elementary school or at a combination school (i.e., a school that serves students from multiple schooling levels). This weight was calculated by determining the pre-WSF funding levels at elementary schools and dividing this total across all K–5 students. This calculation ensured that, in aggregate, elementary schools were held harmless to pre-WSF levels of funding (Hawaii Department of Education, 2005, p. 11).

- **(Middle School Students, weighted characteristic)** A weight of 0.0553 was applied to all grade 6–8 students whether located at a middle, intermediate, or combination school. This weight was determined, similar to the way in which the elementary student weight was determined, by dividing pre-WSF funding levels for middle and intermediate students across all grade 6–8 students. As with the elementary calculation, the middle school weight would hold harmless middle school students in the aggregate to levels allocated before WSF implementation (Hawaii Department of Education, 2005, p. 11).
- **(School Size, Nonweighted characteristic)** This characteristic was used to account for the benefits of economies of scale associated with large schools and the additional costs associated with small schools. Subsidies for small schools equaled an additional $400 per student. Small schools were defined as those with funding that was lower than the thresholds identified for each specific grade range (see Exhibit 2.2). The dollars to cover these additional allocations came in part ($3 million of a total of $7 million) from an assessment to large schools of a funding reduction of $400 per student, whereas the remainder of the subsidy came as a reduction spread across all schools. The benefits derived from economies of scale were the rationale for reducing the per-pupil allocations for large schools. Using enrollment data for each school, the top and bottom 25 percent were determined within each grade range and then used to determine the thresholds used for the school size adjustments as seen in Exhibit 2.2.

Exhibit 2.2 – School Size Adjustments

Grade Level	+$400 per student	+$0 per student	-$400 per student
Elementary	< 400 students	400 – 800 students	> 800 students
Middle	< 700 students	700 – 1,100 students	> 1,100 students
High School	< 1,150 students	1,150 – 1,850 students	> 1,850 students
K–8	< 400 students	400 – 1,100 students	> 1,100 students
K–12	< 400 students	400 – 1,850 students	> 1,850 students
7–12	< 700 students	700 – 1,850 students	> 1,850 students

Source: (Hawaii Department of Education, 2005, p. 8)

Characteristics not included in the 2006–2007 WSF

Special Education was not included in the WSF because these funds were already distributed using a weighted system with the dollars being used largely for prescriptive programs that have significant legal ramifications for noncompliance in meeting regulatory and legal requirements.

The COW looked at including gifted and talented as an additional weighting factor yet cited an absence of a consistent identification system as prohibitive to including this weight in the funding formula. This issue would be revisited in later years.

There are several special or unique schools that receive funding allocations primarily through categorical funds and, therefore, were not included in the WSF system: Olomana, Jefferson Orthopedic, Hawaii Center for the Deaf and Blind, Keanae, Niihau, Pohukaina.

Treatment of Schools With Losses Under WSF

The transition plan for the implementation of the WSF in Hawaii included a scaled approach to the Board-adopted WSF. Act 51 stipulated that assistance for schools adversely affected by the WSF will be provided for no more than three years beginning with the 2006–07 school year. Schools losing funds under WSF would be compensated for lost funds according to the following percentages during the first three years of the program:

- FY 2006–07: 90 percent of the difference
- FY 2007–08: 75 percent of the difference
- FY 2008–09: 50 percent of the difference
- FY 2009–10: none of the difference

The funds used to supplement schools with losses under WSF would be generated from the additional dollars that schools with gains would have received. Therefore, schools that would gain funding through WSF would have these phased in during the same period of time and at the same percentages. However, during the 2007–08 school year, the BOE decided to accelerate the phase-in by adopting the COW recommendation to implement the WSF fully in the 2008–09 school year and protected schools only against losses caused by enrollment decreases.

To this end, in 2008–09, a *loss threshold* was established to ensure that no school lost more than 4.00 percent annually because of enrollment shifts. In 2009–10, it was determined that the total cost of these adjustments should not exceed 1.50 percent of the total WSF appropriation and that the loss threshold must adjust accordingly. The loss thresholds that resulted from these policy changes were as follows:

- 2008–09: 4.00 percent
- 2009–10: 6.82 percent
- 2010–11: 3.07 percent
- 2011–12: 7.41 percent
- 2012–13: Loss thresholds were eliminated

Staffing Costs

For staffing purposes, the COW and the HIDOE agreed that average salaries should be used instead of actual salaries. For teachers, average salaries are calculated across all teachers statewide. Average principal salaries were calculated within schooling level (elementary, middle, high school). In the 2008–09 school year, principals were grouped by both school size category and schooling level to determine average salaries. A combined average for positions such as teachers, librarians, counselors, student services coordinators, student activities coordinators, and

registrars is calculated and used for the development of the Financial Plan.[11] Using average salaries instead of actual salaries means that the true realized costs of staff (i.e., the costs of the salaries actually paid out to staff) are not reflected in school budgets. Any differences in teacher qualifications, and hence salary levels, from one site to another are masked by this policy and do not accurately reflect the actual realized cost of the various school programs. Fringe benefit costs associated with staffing were included in the WSF and allocated to the sites to budget in their Financial Plan until 2010–11 when they were removed from the programs included in the WSF allocations and provided for centrally.

Enrollment Calculations and Adjustments

The timing and calculation of enrollment counts is an important aspect of any WSF system. Because projected and realized enrollment counts determine how much funding a school will have to work with, the time at which this information is collected can greatly affect both initial funding projections as well as adjustments that are made to account for enrollment fluctuations. Prior to Act 51, enrollments for different student characteristics were calculated at different times of the year. This system led to problematic counts of students being used for funding calculations, which sometimes resulted in student counts for particular weighting factor categories that were larger than total school enrollment. For example, if the number of economically disadvantaged students is calculated at one point and total enrollment is recorded at a later date after large decreases have taken place, then the count for economically disadvantaged students could be overrepresented in the WSF allocation. Aligning the timing of these counts was necessary to distribute dollars fairly.

Enrollment projections are calculated in the prior fall and used to project WSF allocations for school planning through the Academic and Financial Plans. However, official enrollment adjustments are made at the start of school, as well as in September and January (collectively referred to as midyear adjustments). The official enrollment adjustment at the start of the school year may increase or decrease a school's WSF allocation. However, school WSF allocations are not decreased based on downward midyear enrollment adjustments. Schools that have increases in their midyear enrollment counts receive an increase in their allocations. HIDOE holds back $3 million in funding to cover these midyear enrollment increases. The total WSF holdback is allocated to schools experiencing midyear enrollment increases, and if the amount held exceeds the amount needed to cover the increases, any remaining dollars are allocated across all schools.

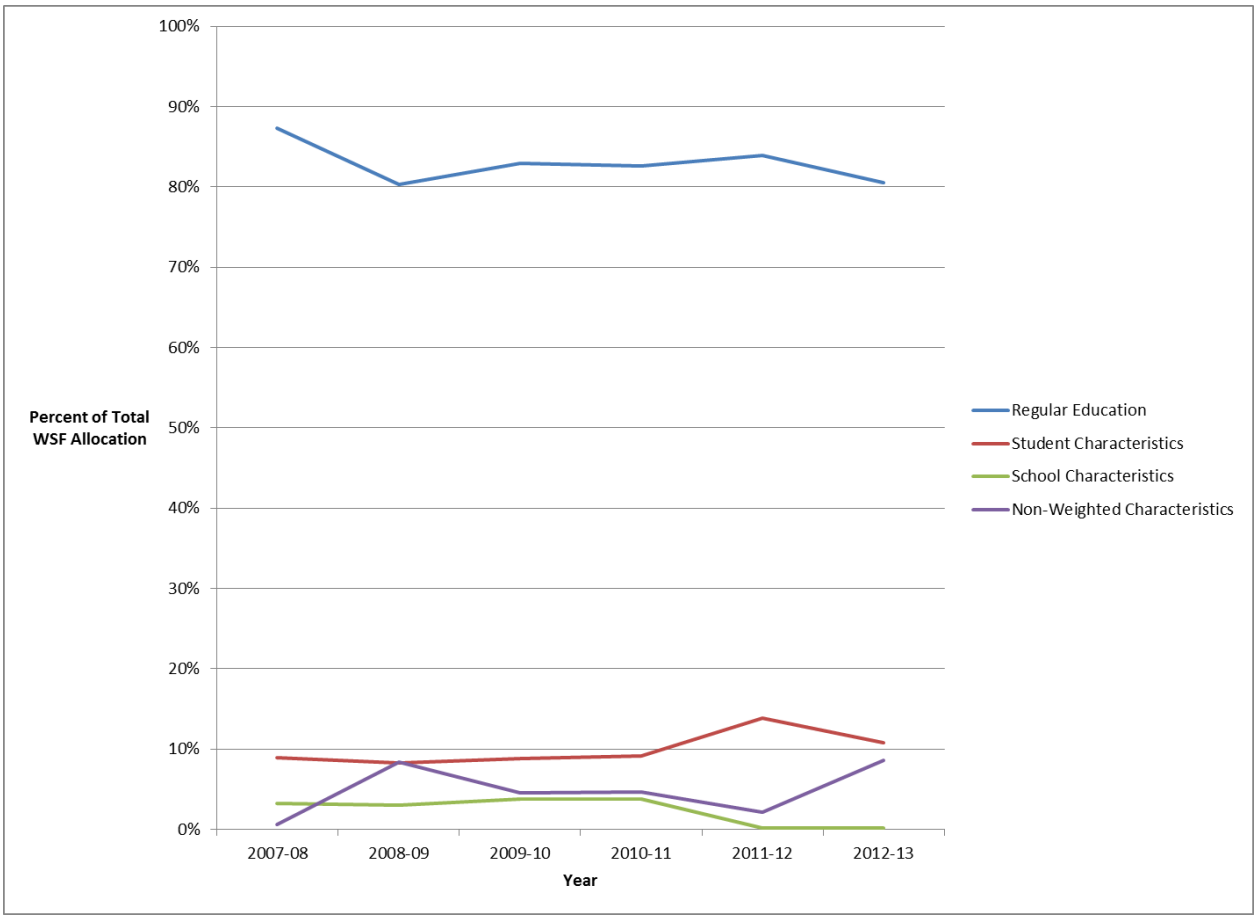
Changes to Weighting Factors Since Initial Implementation (2006–07 to 2012–13)

During the seven years since the inception of Hawaii's WSF, there has been widespread policy discussion stemming largely from the deliberations of the COW. This has resulted in changes to both the weighting characteristics and specific weighting factor values used by the WSF that are worth noting. The following section examines the modifications made in terms of the student, school, and nonweighted characteristics, as well as changes to the weighting factor values over time.

[11] The Academic and Financial Plans are documents that schools are required to use for academic and budget planning.

Exhibit 2.3 displays the relative contributions of each of the WSF weighting categories (i.e., student, school, and nonweighted) to the overall WSF dollar allocations. The portion of the WSF dollar attributed to student characteristic weighting factors has tended to be the largest during the implementation period and peaked in 2011–12 (13.8 percent). However, in 2012–13, the share of funding allocated through the student characteristic weighting factors decreased to 10.72 percent, while the contribution of nonweighted characteristic dollar allocations increased from 2.14 percent to 8.64 percent. The combination of these two factors had the impact of moving Hawaii away from an emphasis on weighting student needs (i.e., the proportions of WSF allocations driven by student and nonweighted characteristics was about equal by 2012–13). The percentage of the WSF included in the nonweighted category has fluctuated significantly across the years from less than 3.0 percent in 2007–08 and 2011–12 to close to 9.0 percent in 2008–09 and 2012–13.

Exhibit 2.3 – Proportions of Overall WSF Dollar Allocations, by Characteristics Category (2006–07 to 2012–13)



Source: Yearly Calculations of Weighting Factors and Dollar Values (SY 2007/08 – SY 2012/13): (http://reach.k12.hi.us/empowerment/wsf/index.htm)

The characteristics included in the WSF have remained relatively stable, with only a few additions and modifications. There was a significant shift in factors defined as student characteristics beginning in 2011–12. Specifically, the Grade-Level weighting factors were

redefined as student characteristics instead of school characteristics because they apply individually per student. The same year, the number of school characteristics was reduced to one (Neighbor Island, which denotes the school is on a neighboring island of Oahu), placing an emphasis on student needs over both school needs and nonweighted factors.

The remainder of this section briefly discusses the weighting factors in each of the WSF characteristic categories. The table in Exhibit 2.4 below shows, by WSF characteristic category, which weighting factors were applicable in each of the implementation years and how these values changed over time.

Student Characteristics

K–2 Students – This weighting factor has remained stable, with only a minor upward adjustment in 2007–08 (from 0.0120 to 0.0150).

English Language Learner – Starting in the 2008–09 school year, the weighting factor for English language learners was divided into the following three categories, each with a specific weight: Fully English Proficient (FEP), Limited English Proficiency (LEP), and Not English Proficient (NEP). Each of the three weighting factors experienced modest changes in their values over time:

- FEP – Ranged from its lowest value of 0.0535 in 2010–11 to its highest value of 0.0590 in 2008–09, with the most current value at 0.0546 for 2012–13.
- LEP – Ranged from its lowest value of 0.1604 in 2010–11 to its highest value of 0.1780 in 2008–09, with the most current value at 0.1639 for 2012–13.
- NEP – Ranged from its lowest value of 0.3209 in 2010–11 to its highest value of 0.3560 in 2008–09, with the most current value at 0.3277 for 2012–13.

The division and differential weight for each subcategory of English language learner explicitly acknowledges the differences in the costs associated with providing adequate supports for students with varying levels of English proficiency.

Economically Disadvantaged – This weighting factor has remained constant since inception of the WSF. The COW acknowledged in its 2007 report that there is substantial evidence that the weight assigned is not necessarily adequate and is lower than most state allocations. In addition, the report by Baker and Thomas (2006) states that, whether measuring the explicit or implicit weighting of poverty, the magnitude of the weight in Hawaii's WSF is "very small" in comparison with those of other WSF systems.

Transiency – In 2007–08, the weighting factor for transiency was doubled from its original value of 0.0250 to 0.0500. After this year, the rate has remained stable.

Gifted and Talented – This weighting factor was added in the 2011–12 school year by the sixth COW (COW VI) to support the Board of Education Gifted & Talented Policy (2012). The COW VI acknowledged at the time that processes used to identify gifted and talented students still needed further improvement.

Grade Levels – Prior to the 2011–12 school year, this characteristic was listed under school characteristics. Moving it under student characteristics is more in line with research on needs-based cost factors. In making this change, the COW IV asserted that this was the original intent of the BOE when developing the WSF in 2005 (See the description of *Grade Levels* under School Characteristics later for a more full discussion of changes over time).

Exhibit 2.4 – Weighting Factors and Nonweighted Funding Support Changes Since WSF Implementation (2006–07 to 2012–13)

WSF Weighting Factor	Year						
	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Student Characteristics							
K–2 Students	0.012	0.0150	0.0150	0.0150	0.0150	0.0150	0.0150
English Language Learner	0.2630	0.2100	---	---	---	---	---
FEP	---	---	0.0590	0.0582	0.0535	0.0560	0.0546
LEP	---	---	0.1780	0.1745	0.1604	0.1670	0.1639
NEP	---	---	0.3560	0.3491	0.3209	0.3340	0.3277
Economically Disadvantaged	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000
Transiency	0.0250	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500
Gifted and Talented	---	---	---	---	---	0.2650	0.2650
School Characteristics							
Grade Levels Elementary	0.0249	0.0350	0.0350	0.0347	0.0347	0.0350[1]	---
Middle	0.0553	0.1000	0.1000	0.1004	0.1004	0.1000[1]	0.0435[1]
High	---	---	---	0.0240	0.0240	0.0240[1]	---
Multitrack Year	0.0025	0.0050	0.0050	0.0050	0.0050	---	---
Geographically Isolated	0.0050	0.0050	0.0050	0.0050	0.0050	---	---
Neighbor Island	---	---	0.0050	0.0050	0.0050	0.0040	0.0040
Neighbor Island – Secondary	---	---	---	0.0010	0.0010	---	---
Nonweighted School Characteristics							
Multitrack Year (Lump Sum Per School)	$111,050	$111,050	$111,050	$137,570	$97,804	---	Elementary: $80,000 Middle: $80,000
School Size	$400 Per Pupil	$400 Per Pupil	$400 Per Pupil	Sliding Scale Per Pupil	Sliding Scale Per Pupil	Sliding Scale Per Pupil	Base Funding[3] Elementary: $200,000 Middle: $347,000 High: $354,000 K-12: $465,500 K-8: $403,000 6-12: $410,000
Geographically Isolated (Lump Sum Per School)	---	---	---	---	---	$50,000[2]	---

[1] Starting in 2011–12, the Grade-Level weighting factors were considered *student* characteristics (as opposed to *school* characteristics).
[2] In 2011–12, the weighting factor for Geographically Isolated was eliminated, and a *nonweighted*, school-based allocation was used in its place.
[3] Base funding amounts were allocated based on school type and replaced the formerly per-pupil allocation.

School Characteristics

Grade Levels – When first implemented, grade levels were listed as school characteristics. As described earlier, these weights were later moved under the student characteristics category. From 2006–07 to 2008–09, the WSF included weighting factors for elementary and middle schools only. In 2009–10, programs associated with high school level programs were added to the WSF allocation. Accounting for this change and maintaining the relative amounts of funds allocated to each site across the three schooling levels required adding a weighting factor for high schools.

Geographic Isolation – This weighting factor remained constant at 0.0050 for the first six years of implementation (from 2006–07 through 2010–11) to support additional costs for students attending geographically isolated schools in Hana (on Maui) and on the islands of Lanai and Molokai. In 2011–12, the weighting factor for geographic isolation was eliminated and replaced with a nonweighted, school-based subsidy of $50,000 for each of the seven identified schools. As of 2012–13, this nonweighted school characteristic was eliminated completely.

Neighbor Island – This school characteristic was included to account for the additional costs associated with providing a similar learning experience to students who live on Oahu. This characteristic was added in 2008–09 as a single weighting factor (0.0050) but in the following year (2009–10) was split into two separate factors. One calculation was included for all geographically isolated students (0.0050), and an additional weight was included for secondary students (0.0010). In 2011–12, they were combined again into one weight (0.0040) and now remain the only school characteristic weighting factor.

Multitrack – The multitrack weighting factor existed from 2006–07 through 2010–11 and was eliminated in 2011–12. The COW V deemed that large enrollments and economies of scale at these schools offset any additional costs associated with staffing a year-round school.

Nonweighted Characteristics

School Size – In the first two years of implementation (2006–07 and 2007–08), schools received an additional $400 per student if they were lower than a particular enrollment threshold. Starting in 2008–09, Hawaii implemented a sliding scale that "provides an increasing amount of additional funding to schools as the enrollment gets progressively smaller" (Hamamoto, 2007).

Enrollment thresholds were lowered in 2009–10, and then lowered again in 2011–12 to align better with research regarding the effect of small schools on operating costs. Elementary thresholds were lowered from 650 to 500 to 300; middle school thresholds from 850 to 600 to 450, and high school thresholds from 1,690 to 1,000 to 750. In 2012–13, the sliding scale was eliminated and a Base Funding amount that was allocated per school replaced this system. These Base Funding allocations ranged from $200,000 for elementary schools to $465,500 for K–12 combination schools.

Multitrack – Additional lump-sum funding allocations beyond the school characteristic weighting factor for multitrack schools have been present in the funding formula through all but one of the WSF implementation years. It was eliminated in 2011–12 (from both the school and

nonweighted characteristics) and then reintroduced as base funding under the nonweighted characteristics in 2012–13 (i.e., multi-track schools receive more in base funding than their non-multi-track counterparts).

Total and Relative Revenues Allocated by the Hawaii WSF

Since its inception, there has been a significant amount of revenue allocated by the WSF. Exhibit 2.5 contains financial information provided by HIDOE on the portions of the state's General Fund education appropriation that were allocated to schools through the WSF and those that remained outside of the WSF (Non-WSF), respectively, from 2006–07 to 2012–13. Exhibit 2.6 shows how the overall education appropriation (including the General Fund and most other sources of funding[12]) was split between WSF and Non-WSF allocations. In addition to listing the total dollar breakouts, the exhibits also provide the proportions of the General Fund and overall appropriations allocated within and outside of the WSF. It is important to note that the figures in both tables do not include dollars spent on fringe benefits. Below, we discuss the following types of trends:

- Changes in the education appropriation made out of the General Fund and all available funding sources;
- Changes in the total dollars allocated by the WSF;
- Changes in the WSF dollars as a proportion of the education appropriation from the General Fund and all available funding sources.

Exhibit 2.5 shows that over the seven-year period of WSF implementation (2006–07 to 2012–13), the General Fund appropriation fluctuated between $1.2 billion and $1.4 billion, with its lowest levels occurring in 2006–07 and 2010–11. The years in which the total General Fund appropriation was highest were from 2007–08 to 2009–10, where its level remained relatively stable at approximately $1.4 billion. The largest decrease in the General Fund appropriation occurred in 2010–11, when there was a 10 percent drop from the previous year, which mirrored a similar 11 percent decrease in the overall educational appropriation from all available sources (see Exhibit 2.6). These decreases were due to the fiscal crisis, which affected both the state and the nation. However, in the most recent two years (2011–12 and 2012–13), there was a sustained rebound in both the General Fund and overall appropriations, with increases of 11.6 percent and 7.7 percent, respectively, in 2011–12, which have held relatively steady in 2012–13.[13]

While the fluctuations in the overall education appropriation mirrored the General Fund appropriation over most years, the most notable difference (as seen in Exhibit 2.6) was in 2009–10. In this year, the overall appropriation increased by approximately 7 percent while the General Fund appropriations remained stable. The significant increase in 2009–10 was due to an influx of $117.8 million of American Recovery & Reinvestment Act (ARRA) funds in the federal apportionment.

[12] While we refer to the more comprehensive appropriation measure below as dollars from "all available funding sources," please note that Interdepartmental Transfer, Revolving Fund, and Trust Fund appropriations are not included in the figures. Moreover, dollar appropriations targeted for fringe benefits have been removed from all dollar figures presented in Exhibits 2.5 and 2.6.

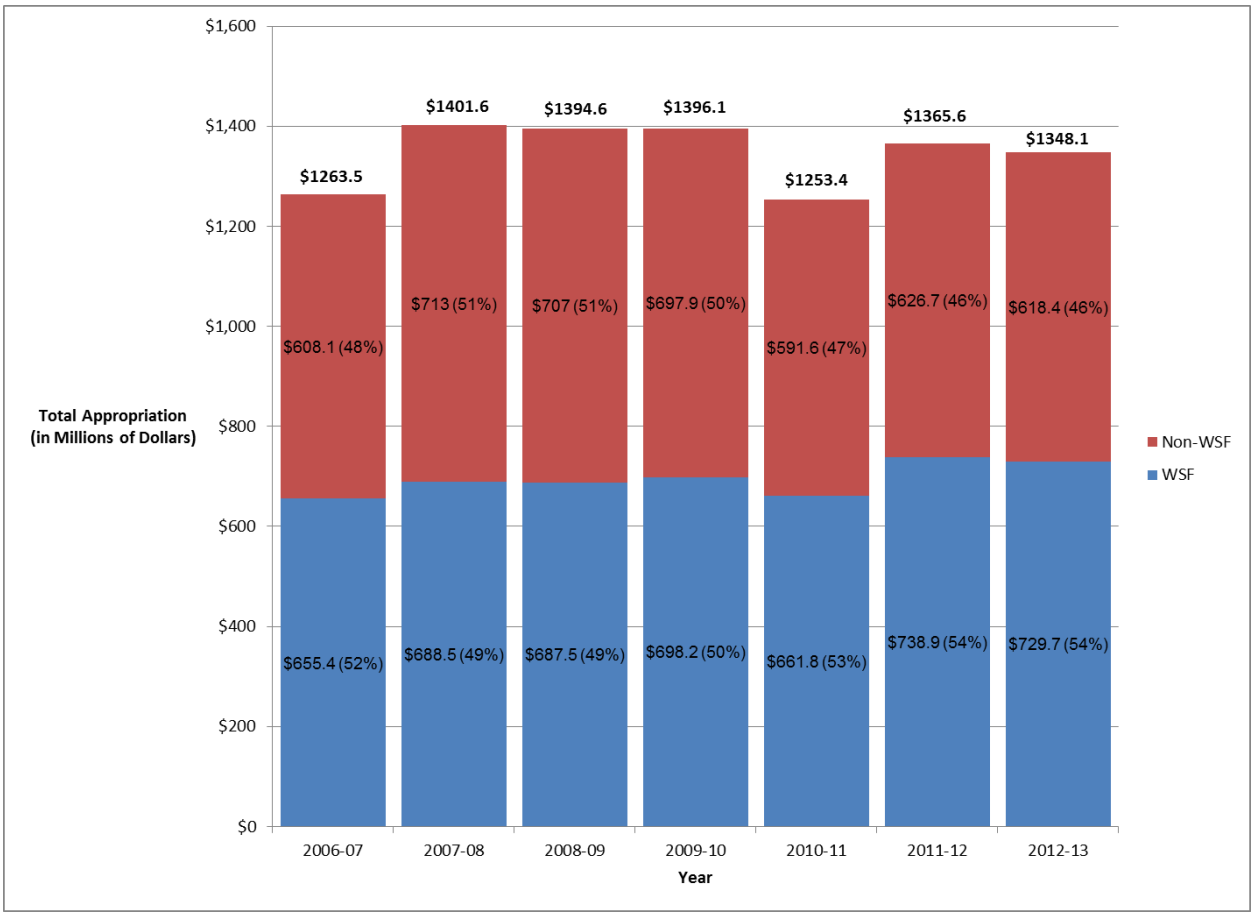
[13] The General Fund and overall appropriations fell by -1.2 and -2.1 percent, respectively, in 2012-13.

Exhibit 2.5 shows that over the seven-year period since the WSF was implemented, the total number of dollars allocated by the formula has fluctuated a bit but, overall, it has increased by 11.3 percent (from $655.4 million in 2006–07 to $729.7 million in 2012–13). In 2007–08, 2009–10, and 2011–12, there were year-over-year increases in the amount of funds flowing through the WSF of 5.0 percent, 1.5 percent, and 11.6 percent, respectively. In 2008–09, 2010–11, and 2012–13, there were decreases in the WSF allocation from previous years of -0.1 percent, -5.2 percent, and -1.2 percent, respectively. Note that a corresponding decrease in the overall appropriation of -11.5 percent occurred in 2010–11, which proved much larger than the -5.2 percent decline for the WSF portion. It follows that the decrease in overall appropriation was driven by the -15.2 percent drop (from $697.9 to $591.6 million) in the Non-WSF portion of the overall appropriation.

It should be noted that in addition to the total amount of education appropriation dollars allocated through the WSF, the relative share of the appropriation distributed by the formula has also been quite substantial. The figures in parentheses in Exhibits 2.5 and 2.6 provide a look at the dollars allocated through WSF in relative terms (i.e., as a share of the General Fund and all available funds, respectively). Since 2007–08, the WSF percentage of the General Fund appropriation has increased by 5 percentage points, from 49 percent in 2007–08 and 2008–09 to 54 percent in the most recent years, 2011–12 and 2012–13 (see Exhibit 2.5). It is important to recognize the sustained commitment that has been made to maintaining the level of support the WSF has received since its inception, even in leaner fiscal years. For instance, the proportion of the General Fund dollars dedicated to the WSF was insulated from the dramatic decrease in the General Fund appropriation experienced in 2010–11; a large part of this decline in the General Fund appropriation came from the non-WSF share.

Exhibit 2.6 shows that the amount of funding allocated by the WSF relative to the overall education appropriation has remained quite stable, ranging from 39 percent to 43 percent over the seven-year period.

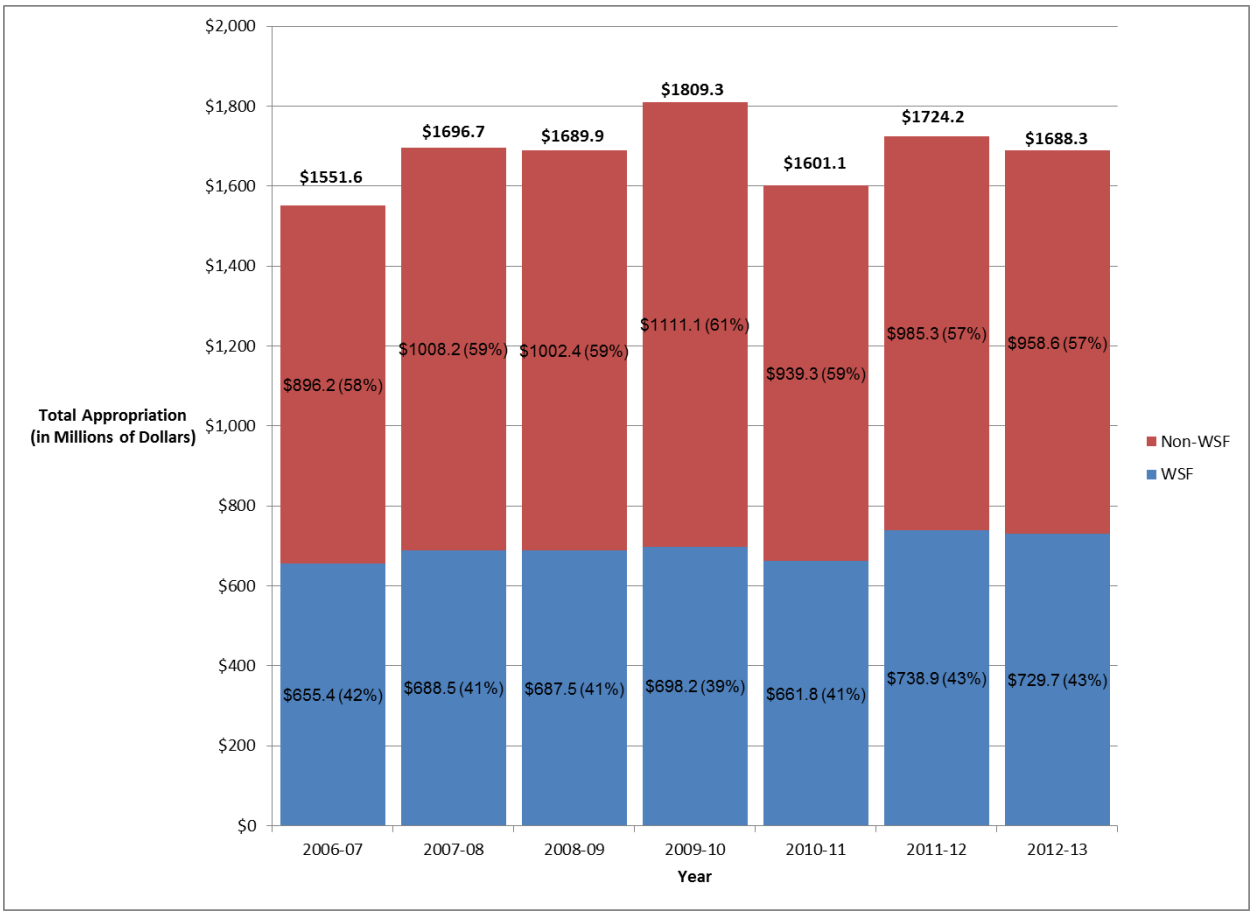
Exhibit 2.5 – Educational Appropriation From General Fund by WSF Status (2006–07 to 2012–13)



Source: Historical appropriations data obtained from Hawaii Department of Education Budget Execution Section.

Note: Proportion of General Fund appropriation in parentheses.

Exhibit 2.6 – Educational Appropriation From All Available Funds by WSF Status (2006–07 to 2012–13)



Source: Historical appropriations data obtained from Hawaii Department of Education Budget Execution Section.

Note: Proportion of appropriation from all available funds in parentheses.

Conclusion

Hawaii's WSF has combined a history of decentralization with an initiative intended to promote more equitable funding through recognizing the needs of individual students and the schools that serve them. Since 1989, Hawaii has enacted a series of reforms aimed at increasing local autonomy, transparency, and stakeholder engagement. The decentralization of funds to schools has empowered principals and stakeholders to make key decisions about programming and budgeting at the school site.

The key vehicle for this decentralization was Act 51, passed in 2004, which, through the implementation of a statewide WSF, effectuates a comprehensive system for not only driving additional funds to the schools but also doing so within a framework of equity. 70 percent of education revenue is intended to be allocated directly to schools through weighted and nonweighted allocations. Furthermore, more than half of these funds that are intended for direct distribution to schools are allocated through the WSF. Hawaii built its WSF on the inclusion of weighted factors for characteristics of students and schools requiring additional investment and

support (e.g., English language learners, economically disadvantaged, geographic isolation). Although some changes to the weights and characteristics have occurred during the seven-year history of the WSF in Hawaii, many have remained stable.

Hawaii's unique circumstance as both a state and a district has facilitated the statewide formula to drive funds directly into the hands of schools and their communities. The use of the COW to regularly review, monitor, and recommend adjustments to the formula annually is a transparent and inclusive process that has proven to be a valuable system for the implementation of Hawaii's WSF. The COW was conceived as a system to create the initial WSF; however, Hawaii's recognition of the iterative nature of a fundamental reform, such as WSF, led to the regular review of WSF by the COW since inception. The changes that have been made over time to the weighted factors have become more student centered and simplified, creating a more transparent system. In addition, although the financial crisis had a negative effect on the availability of educational dollars Hawaii effectively insulated the WSF funding from these cuts, opting to allow the non-WSF funding to take a relatively larger hit. In doing so, the state affirmed its commitment to the WSF and maintained its importance as a core educational practice.

Chapter 3 – A Descriptive Survey of WSF in Other Districts and States

The state of Hawaii is unique in that the HIDOE operates as one local education agency (LEA) or school district, yet it also functions as a statewide agency. Thus, HIDOE functions in many ways similar to those of both states and districts. With that in mind, we have organized this chapter to describe a brief history and the current trends across the United States in the use of weighted student formulas and more general funding weights at both the district and state levels.

The Emergence of Needs-Based Funding and the Shift From Compliance to Accountability

The importance of accounting for differences in the factors that affect the cost of providing educational services (student needs, scale of operations, and geographical differences in resource prices) across schools and districts has been recognized since 1924 (Baker & Thomas, 2006). The notion here is that cost-based funding of schools will lead to an equitable system for providing the resources required to operate schools and attain academic success. Certain conditions such as grade level, school size, and geographic differences in resource prices were understood to be outside the control of local school administrators, yet these conditions had a sizable effect on the operating costs of schools. Indeed, these conditions became the basis for early discussions about differential funding systems.

In the 1960s and ’70s, cost factors based on student needs such as economic disadvantage, language proficiency, race, and ethnicity were first taken into account in adjustments to school funding. Accounting for these conditions across schools and districts has become the rationale for the development of a weighted student formula (WSF) to finance education and is often referred to simply as *needs-based funding*.

States have approached the goal of needs-based funding in two primary ways: (1) through a system of categorical funds or (2) through a weighted formula. The difference between these two systems is more an issue of governance than finance. A WSF allocates dollars on the basis of need but then leaves the decisions about spending in the hands of the district. Weighted systems have gained traction in the area of education finance because of the flexibility they offer districts. This flexibility is combined with a focus on accountability for student achievement in place of the compliance system that accompanies categorical funds. Districts already navigate the considerable compliance requirements of federal categorical funding, which, when combined with additional categorical funding created at the state level, can create an unwieldy and inefficient system that can hinder districts and schools from focusing on their mission to improve the academic performance of students and close achievement gaps.

Districts face similar choices related to governance when creating a needs-based system for funding schools; however, instead of categorical systems, districts face a choice between central management of how funds are translated into staff and services provided to sites or allowing schools to determine programming within the flexibility of a weighted formula. In a system that allows for more local autonomy, as well as increased participation of site leadership and other stakeholders in key programming decisions, districts have developed systems to hold sites

accountable for student performance similar to the shift to weighted funding at the state level. Part of the local autonomy discussion has been focused on the shift away from traditional systems of allocating staff through central decisions and staffing formulas. In traditional systems, sites receive staff through full-time equivalents (FTEs) determined by means of formulas for different positions. Shifts in staffing at individual sites are determined largely by district policies and collective bargaining agreements, leaving few decisions at the local school level. As part of the decentralization of decision making, increased autonomy concerning the quantities and qualifications of the staff employed at the site are a significant shift in governance; this autonomy is granted primarily through the allocation of dollars to schools instead of FTEs, allowing school sites more flexibility over staffing.

A similar federal shift from compliance to accountability can be seen in documents released by the U.S. Department of Education. The *Blueprint for Reform* from the U.S. Department of Education (2010) describes flexibility with federal funding in exchange for meeting accountability targets. Providing equity and the promotion of innovation and continuous improvement are cited as the benefits from this shift in governance. The Race to the Top grant, of which Hawaii is a recipient, requires that districts and schools have increased flexibility and control over programming and staffing decisions. However, even before the relatively new Race to the Top grants issued by the federal government, Hawaii embraced the shift, as evidenced by the implementation of its WSF in 2006–07.

Determining Adequate and Equitable Funding for Education

A key goal of education finance systems is to provide a quality public education program that produces a similar opportunity for all students to be academically successful regardless of their specific learning needs or other circumstances, such as where they attend school. The emphasis on subgroup achievement in the determination of Adequate Yearly Progress (AYP) is an example of this concept in federal policy. Accountability systems at the state level often have similar measures designed to incentivize the closing of achievement gaps. These accountability systems define the *outcomes* desired by the schooling system, whereas the discussion about educational finance is focused on determining the *inputs* necessary to achieve these educational objectives. The assumption within school finance is that *equitable* access to *adequate* levels of resources is a key lever for the attainment of academic success for students. Two key questions follow this assumption:

1. What does it cost to enable a public school system to provide students with an adequate education?
2. How can school systems allocate their resources equitably, such that all students are afforded an adequate education regardless of their need or circumstance?

The determination and provision of adequate funding is complex and constrained by competing demands for, and the limited availability of, resources. There are several methodologies for determining adequacy (described further later), but all start with the definition of desired outputs in the form of educational standards or targets. States and districts can then use costing-out studies to determine the minimal costs for providing access to these standards for all students.

In addition to base funding allocations provided to districts, states often provide additional funds to acknowledge cost factors that are beyond the local control of the school district and that affect the ability to provide *equitable* educational opportunities to all students. In the *Handbook of Research in Education Finance and Policy*, Duncombe and Yinger (2008) describe the factors that affect the cost of providing similar educational opportunity across students with differing circumstances:

- *Student Needs* – Pupil characteristics that necessitate additional or specialized services, including low income (measured in various ways, such as eligibility for the free or reduced-price lunch program), English language learner (ELL) designation, and enrollment in special education programs. The rationale for this type of cost factor is based on the concept of *vertical equity* (i.e., ensuring students with varying needs have access to systematically different resources necessary to provide them with equal opportunities for success in school). Certain student needs require more support, in the form of additional personnel, personnel with specific qualifications or certification requirements, and other nonlabor resources associated with providing those students an opportunity to achieve state outcome standards that is comparable to the opportunity provided to students with lower needs.
- *Scale of District Operations* – Geographic and population characteristics of a school district, including enrollment (students served by a district) and student population density (district enrollment divided by the area of a district in square miles) that affect the cost of providing educational services. This term refers to an array of factors that may result in costs associated with the diseconomies of operating small school districts and schools. In addition, geographic isolation may also be associated with the costs of providing specific educational services (e.g., transportation, special education, professional development).[14] Rural remote schools will often be small and will have certain minimal administrative and support costs similar to those of larger schools, which, therefore, will increase the per-pupil costs of operating the school and the district. Small schools also may present constraints on the way classes are organized by grade level (e.g., self-contained classrooms) or specialized subjects (e.g., laboratory sciences) for upper-grade students.
- *Geographic Differences in Resource Prices* – Differences in the cost of hiring and retaining similarly qualified staff across different regional labor markets and other associated costs with geographic differences such as the large scale pricing of supplies and materials. Education finance studies (Chambers, 1981; Taylor, 2006) have shown that there can be significant variations in the cost of recruiting and employing teachers with comparable characteristics across labor markets within a state. Differences in the cost of living and the attractiveness of regions as places to work and live can impact differences in the price of hiring and retaining labor in general as well as teachers and educators in particular. Although most of the emphasis in state systems is on geographic differences in labor costs, the price of nonlabor goods and services can vary due to access to consulting services (e.g., speech and physical therapists or professional development specialists) or large-

[14] For example, remote rural districts that are located far away from more urban communities may require schools to operate at necessarily small sizes because of the cost (and children's time) involved in transporting students over long distances.

scale pricing differences (e.g., buying supplies in bulk) that put small districts at a disadvantage. However, because these nonlabor inputs usually account for only a small portion of the budget, most of the emphasis related to geographic price differences has been on isolating the impact of differences in labor costs.

These cost factors are used to determine the allocation of funding that will ensure *vertical* and *horizontal equity* are achieved. Defining different needs and creating a system for treating similar students in similar ways achieves *horizontal equity*; the level of funding for students with similar needs should be similar and predictable. *Vertical equity* is achieved when students with different needs are treated in systematically distinctive ways. Therefore, if the state or district has identified, for example, the special education status as a cost factor requiring additional resources to provide a similar opportunity to achieve for students with this type of need, then it should follow that additional funding would be provided.

There is a rich literature base that addresses costing out educational adequacy. Exhibit 3.1 provides descriptions from Chambers and Levin (2009) of the four main costing-out methodologies that have traditionally been used to estimate the cost of an adequate education and how these costs vary with respect to different cost factors. Chambers and Levin (2009) also discuss the merits and drawbacks of each approach.

Exhibit 3.1 – Four Main Costing-Out Methodologies

Costing-Out Methodology	Description
Cost-Function Studies	The approach uses data on educational expenditure and correlates these with measures of student need; scale (size) of district operation; measures of efficiency, if available; and educational outcomes on the basis of achievement test results. The result estimates an education "cost function," which measures the cost associated with producing a given level of output (i.e., students educated to a certain standard) under specific conditions defined by measures of student need and scale of operations.
Professional Judgment Studies	Comprehensive panels of educators (e.g., teachers, principals, and special education and English language learner specialists) specify the resources (e.g., levels of administrative, student, and instructional support; teacher staff, supplies, and materials) necessary to deliver a set of defined adequate educational outcomes at a minimal cost across a variety of settings defined by student needs and school size. These resource specifications are used to calculate the costs of the desired achievement outcomes across each setting.
Successful Schools and Districts Method	This methodology looks at the spending of schools or districts that are deemed successful according to well-defined measures of educational outcomes.
Evidence-Based Approach	This method uses the research literature on educational effectiveness to specify the appropriate resources necessary to implement specific sets of best practices and then determines the corresponding costs.

Source: Chambers, J. and Levin, J. (2009). *Determining the Cost of Providing an Adequate Education for All Students.* Washington, D.C.: National Education Association.

Provisions to increase funding above and beyond a foundation per-pupil amount can be included in the major finance grant through weights or can be added to that amount as a separate provision outside the major finance formula through categorical aid. As discussed earlier, a major difference between these two systems is in the governance over the use of these funds. When districts or schools receive categorical aid, rules and regulations including "supplement, not supplant" and "maintenance of effort" usually disallow comingling of funds and can lead to the inefficient use of dollars to fund needed programming for students.

Weighted funding systems, on the other hand, can offer substantial flexibility in the use of funds. In concert with this increased flexibility, states and districts implementing a WSF have seen the need to develop supporting accountability systems that ensure that districts and schools are spending funds effectively and are ultimately held responsible for the achievement of all subgroups of students. Further, to hold districts and schools accountable, those that do not meet their accountability targets can lose flexibility in programmatic decisions. Alternatively stated, autonomy in resource allocation decisions should be earned.

Review of State Finance Systems

The following provides a review of state finance systems across the country. The source of the data is a 50-state survey of state finance policies and programs from fiscal year 2011 (Verstegen, 2011). The survey asked state departments of education to report on the type of finance system, as well as on the formal funding adjustments used to account for various cost factors. As discussed earlier, needs-based systems have been used for almost a century, and the survey showed that no fundamentally new state finance distribution models have emerged in recent years. However, there is a shift toward weighted mechanisms for addressing student and school cost factors motivated at least in part by the need for more equitable distribution systems. For instance, the increased emphasis on subgroup achievement through the accountability policies within the No Child Left Behind Act has highlighted achievement gaps and has resulted in increased emphasis on funding methods to help address these disparities.

The 50-state survey identifies five major types of state finance systems: Foundation Programs, District Power Equalization Systems, Full State Funding, Flat Grants, and Combination Systems.

- Foundation Programs (36 states) – Provide a uniform state guarantee per pupil with state and local district funding.
- District Power Equalization Systems (3 states) – Provide funding that varies on the basis of tax rates.
- Full State Funding (1 state) – All funding is collected and distributed by the state.
- Flat Grants (1 state) – Provides a uniform amount per pupil from state funds; localities can add funding to this amount.
- Combination Systems (9 states) – These combine several of the funding plans listed.

Exhibit 3.2 –Finance Systems Used Across States

Finance System	State
Foundation Programs (36)	AK, AL, AR, AZ, CA, CO, DE, FL, IA, ID, IN, KS, MA, ME, MI, MN, MO, MS, ND, NE, NH, NJ, NM, NV, NY, OH, OR, PA, RI, SC, SD, TN, VA, WA, WV, WY
District Power Equalization Systems (3)	CT, VT, WI
Full State Funding (1)	HI
Flat Grants (1)	NC
Combination System (9)	GA, IL, KY, LA, MD, MT, OK, TX, UT

Financing Student and District Needs and Characteristics

Virtually all states adjust their basic support of districts to acknowledge differential costs in providing equitable educational opportunities to all students. As described earlier, the cost factors accounted for in school systems may include size, geography (i.e., density or sparsity, rural or urban), labor market characteristics, and special student needs (e.g., low income or at risk, ELLs, gifted and talented, and special education). The additional funding that state finance systems use to address these cost factors are added to the basic support to districts through different methods (e.g., weights, categorical aid, flat grants).

Federal educational aid provides supplemental funding to support schools on the basis of student characteristics; however, this chapter will focus on state and district policies and practices. The most common cost factors for which states provide additional aid include student characteristics: students with disabilities and students who are low income or at risk, ELLs, or students who are gifted and talented. In addition, many states also provide additional funding for schools that are necessarily small or in sparsely populated (remote) areas.

Special Education

All states except Rhode Island provide state aid targeted for special education students in addition to the federal aid provided all states under the Individuals with Disabilities Education and Improvement Act (IDEA). According to the 50-state survey, states pay for this supplemental state aid through one of several methods (see Exhibit 3.3). The most common method is through a per-pupil funding system, which is most frequently used by adding an additional weight to the general education funding that a state would disburse.

Exhibit 3.3 – Special Education Funding Mechanisms

Mechanism	Description	Number of States
Per-Pupil Funding	Either pupil weighted or a flat grant	20
Cost Reimbursement	State defines eligible costs and percentages that the state will reimburse	7
Instructional and Teacher Units	Funds to support additional teachers	6
Census-Based Funding	Funds on the basis of the count of all students in a district	9
Other	Block grants, catastrophic funding, excess cost grant, and others	16

Of the 20 states that use a per-pupil method of funding special education, weights and number of weighted categories can vary widely from state to state. Some states, such as Maryland and Oregon, use a single weight, whereas other states divide weights into 3 to 12 weighted categories on the basis of disability (e.g., Oklahoma—orthopedic impairment, visual impairment) or, as in Kentucky, severity of intervention (i.e., mild, moderate, severe). Hawaii has used four categories that are based on the additional hours per week that services are provided.

Low Income and At Risk

Thirty-six states include a method of providing additional state aid for at-risk or low-income students. States also receive federal aid for students in poverty through Title I of the Elementary and Secondary Education Act. Most states use a weighted approach to providing additional assistance to low-income students. These students are most often identified as those who are eligible or participate in the FRPL, which defines eligible income as a measure of economic disadvantage. In most states, low income serves as a proxy for low achievement or being at risk of dropping out of school; however, in some states, such as New York and South Carolina, funding is tied directly to the number of students not meeting academic standards. Weights vary from 0.05 in Mississippi to 0.97 in Maryland, with an average of 0.29. Hawaii assigns a weight of 0.10 to students eligible or participating in the FRPL.

ELLs

Forty-two states provide some additional assistance for ELLs, bilingual education students, or students with limited English proficiency. As with special education and students of low income or at risk, these state funds are in addition to the supplemental revenues provided through federal funding. For ELLs, the federal funding comes from Title III, Part A of the Elementary and Secondary Education Act. States use a variety of funding methods, including weights, block grants, unit funding, and lump-sum appropriations. Weights vary from 0.10 in Texas to 0.99 in Maryland, with Hawaii applying different weights for ELLs categorized as non-English proficient (0.32), limited English proficient (0.16), and fully English proficient (0.05); however, Verstegen (2011) reported an average ELL weight of 0.2373.

Gifted and Talented

The 50-state survey also identified gifted and talented as a common student characteristic found in state funding mechanisms. Thirty-three states include some additional funding for gifted and talented students. Among the states that provide funding for the gifted and talented, some use weights, such as in Hawaii, where a weight of 0.265 was added to the state WSF in the 2011–12 school year. Some states, such as Virginia, provide a unit cost of one instructional position per 1,000 eligible students.

Size or Sparsity of Small Schools

Thirty-two states provide assistance to small schools through this cost factor. Twenty-five of these states use small size, and 15 provide assistance to isolated school districts, with some states providing both additional funding methods. Hawaii's treatment of this factor has varied across the implementation of the WSF to include several weights and nonweighted allocations to schools of small size and geographic isolation.

A summary table showing the inclusion of all of the previously described factors in state funding mechanisms across the country can be found in Exhibit 3.4. There are 15 states, including Hawaii, that address all five of these factors in their state funding mechanisms and zero states that provide no supplemental funding across any of these categories.

Exhibit 3.4 – State Funding Mechanisms for Special Populations

State	Special Education	Low Income or At Risk	ELL	Gifted and Talented	Size or Sparsity
Alabama	X	X	X		
Alaska	X		X	X	X
Arizona	X		X		X
Arkansas	X		X	X	X
California	X	X	X	X	X
Colorado	X	X		X	
Connecticut	X	X	X		
Delaware	X	X			
Florida	X		X	X	X
Georgia	X	X	X	X	
Hawaii	**X**	**X**	**X**	**X**	**X**
Idaho	X		X	X	X
Illinois	X	X	X		
Indiana	X	X	X	X	X
Iowa	X	X	X	X	X
Kansas	X	X	X		X
Kentucky	X	X	X	X	
Louisiana	X	X	X	X	X
Maine	X	X	X	X	X
Maryland	X	X	X	X	
Massachusetts	X	X	X		
Michigan	X	X	X		X
Minnesota	X	X	X	X	X
Mississippi	X	X		X	
Missouri	X	X	X	X	X
Montana	X			X	
Nebraska	X	X	X		
Nevada	X				X
New Hampshire	X	X	X		
New Jersey	X	X	X	X	
New Mexico	X		X	X	X
New York	X	X	X		X
North Carolina	X	X	X	X	X
North Dakota	X		X	X	X

Exhibit 3.4 – State Funding Mechanisms for Special Populations (continued)

State	Special Education	Low Income or At Risk	ELL	Gifted and Talented	Size or Sparsity
Ohio	X	X	X	X	X
Oklahoma	X	X	X	X	X
Oregon	X	X	X		X
Pennsylvania	X	X		X	
Rhode Island			X		
South Carolina	X	X		X	
South Dakota	X				X
Tennessee	X	X	X	X	
Texas	X	X	X	X	X
Utah	X		X	X	X
Vermont	X	X	X		X
Virginia	X	X	X	X	X
Washington	X	X	X	X	X
West Virginia	X		X		X
Wisconsin	X	X	X	X	X
Wyoming	X		X	X	X

Interpreting Explicit and Implicit Weights

The *explicit weights* mentioned earlier in the text represent the specific state-established, formula-based funding adjustments to the actual allocations of dollars to account for various cost factors. A word of caution is in order when comparing the explicit weights across states. Explicit weights represent *relative* differences in funding for different populations of students but do not necessarily say anything about the *absolute level* of the funding differentials provided to schools to account for student needs or other cost factors. To see this, consider the following structure of a simple per-pupil foundation funding formula:

$$\begin{aligned} \textit{Total School Funding} = {} & [\textit{Base Per-Pupil Foundation} \times \textit{Total Enrollment}] + \\ & [\textit{Base Per-Pupil Foundation} \times \textit{Count of Students with Need}_1 \times (1 + \textit{Weight for Need}_1)] + \\ & [\textit{Base Per-Pupil Foundation} \times \textit{Count of Students with Need}_2 \times (1 + \textit{Weight for Need}_2)] + \\ & \qquad \ldots \\ & [\textit{Base Per-Pupil Foundation} \times \textit{Count of Students with Need}_k \times (1 + \textit{Weight for Need}_k)] \end{aligned}$$

The first term in brackets is simply the amount a school receives for its total student enrollment, irrespective of its pupils' individual needs or circumstances (i.e., the base per-pupil foundation multiplied by total enrollment). Each term that follows is the additional amount of funding the school is provided to account for students with a particular need or circumstance, which is equal to the product of the base per-pupil foundation and the weighted number of students (i.e., the

count of students with the specific need inflated by the corresponding explicit funding weight). Using this structure makes it easy to see why interpreting differences in explicit weights between states as differences in funding levels can be problematic. Specifically, in addition to the explicit weights, both the base per-pupil foundation amount and the method with which students are classified in specific categories vary widely from state to state. Therefore, differences in explicit weights across states do not necessarily imply a real difference in funding, unless the base per-pupil foundation and count method by which students are classified in specific categories are comparable. Nevertheless, comparisons of the state-specific explicit weights can be useful in assessing the relative funding differences for various student needs populations from state to state.

Another important consideration in the analysis of a weighted funding system is the effect that the distribution of multiple revenue streams can have on the *implicit funding weights.* We use the term *implicit funding weights* to refer to the net relationships between per-pupil funding and cost factors that occur as an end result after a state- or district-specific combination of multiple funding policies have interacted with one another. This term is in contrast to the evaluation of *explicit funding weights* described earlier.

It is also important to recognize that the intended effects of these *explicit weights* may be reinforced after they have fully interacted with other, sometimes complementary, funding policies. For example, once a state WSF is combined with federal Title I categorical monies, the *implicit weight* for students eligible for the FRPL might increase significantly. With this distinction in mind, any analysis of a state or district finance system necessitates the identification of *implicit weights* and an analysis of the impact of multiple revenue streams to realize the goals for the *explicit weights* set out in weighted or categorical systems.

Chambers et al. (2012) conducted a district-level statistical analysis to estimate implicit poverty weights for virtually all states and reported the 10 largest: Minnesota, South Dakota, New Jersey, Arkansas, Ohio, Massachusetts, Indiana, Kentucky, Utah, and Connecticut.[15] Exhibit 3.5 shows the 10 state-specific weights listed in descending order. Of these 10 states, Minnesota had the highest implicit weight at 1.34, and Connecticut had the lowest at 1.13. In addition, the exhibit shows average implicit poverty weights across the top 3, middle 4, and bottom 3 of these 10.[16]

[15] In addition to poverty, the model used in this analysis controlled cost factors associated with school district size, population density, and geographic differences in staffing prices.

[16] We note that because this analysis investigated the variation in funding according to student poverty *across* districts in each state, Hawaii (being a single-district state) was not included.

Exhibit 3.5 – States With the Most Progressive Implicit Poverty Weights

State	State-Specific Weight	Average by Group
Minnesota	1.34	1.30
South Dakota	1.28	
New Jersey	1.27	
Arkansas	1.25	1.21
Ohio	1.25	
Massachusetts	1.18	
Indiana	1.17	
Kentucky	1.17	1.15
Utah	1.16	
Connecticut	1.13	

Source: Chambers, Levin, Wang, Verstegen, Jordan, & Baker (2012)

Districts With WSF Systems

The Reason Foundation published a Weighted Student Formula Yearbook (2009) that identifies the existence of at least 14 urban school systems—and the state of Hawaii—that were using some form of WSF. The Reason Foundation describes WSF as part of a larger reform that includes five key principles.

3. ***Per-Pupil Funding*** – Funding should be allocated on a per-pupil basis and follow the child to the school of attendance.
4. ***Needs-Based Weights*** – Per-pupil funding should be based on student characteristics.
5. ***Flexibility in Governance*** – Funding should flow to the school as dollars, not staffing positions or programs, and sites should have the flexibility to implement programs focused on achieving agreed on academic targets.
6. ***Comprehensive Formula*** – Allocations should include all revenue streams: federal, state, and local.
7. ***Transparency*** – School funding systems should be simplified and be transparent to all stakeholders, both internal and external to the organization.

One of the primary differences between WSF funding models at the district and state levels is the way in which staff is accounted for. Although a few states allocate dollars on a per-teacher basis, most disperse funding on a per-student basis. However, because of cost pressures stemming from collective bargaining agreements, most school districts allocate staff centrally or charge sites on the basis of districtwide average salary costs instead of actual salary costs attributed to the staff employed at each school. In general, few districts provide principals with flexibility in hiring decisions. This lack of hiring flexibility at the school site can lead to inequities in both qualifications and actual per-pupil spending on teaching staff across schools (see Miles & Roza, 2006; Haxton et al., 2012; Baker & Corcoran, 2012).

Weighted Categories and Magnitudes

The proceedings of the Fair Student Funding Summit (Education Resource Strategies, 2010) identified the following six key questions that should be asked in determining weights:

- Who or what should be weighted? (What characteristics best represent student needs, and what other characteristics, such as school size, deserve to be weighted?)
- What weighting gradations should be included within those characteristics (e.g., special education cognitive disabilities, time spent in an ELL program)?
- What should the weights be?
- Which student group(s) should represent the base (1.0) weight?
- Who should develop the weights?
- Which district standards, represented through weights, are nonnegotiable?

When reviewing weighted systems in districts across the country, we find that there are many commonalities among weighted categories and that they are primarily within the three cost factors described earlier (student needs, scale of operations, and geographic differences in resource prices). The only additional area that surfaces is a per-pupil allocation or subsidy for special programs, such as vocational education programs. Exhibit 3.5 presents a summary of the various weighting factors—student need and other cost adjustment factors commonly used across school districts across the nation. We describe each of these weighting factors in turn later.

Exhibit 3.6 – Weighting Factors in District Weighted Student Formulas (WSFs)

Weighted Factors	Baltimore[a]	Chicago[a]	Cincinnati[a]	Hartford[a]	Hawaii[c]	Houston[a]	New York City[a]	Oakland[a]	Poudre[b]	San Francisco[a]	Seattle[a]	St. Paul[b]
Student Characteristics												
Students with Disabilities or Eligible for Special Education Services	X	X	X	X		X	X			X	X	X
Low Income	X	X	X		X	X	X	X	X	X	X	X
Low Achievement	X		X	X			X					
Gifted and Talented, High Achievement	X			X	X	X			X			
ELLs		X	X	X	X	X	X	X	X	X	X	
Grade Levels		X	X	X	X	X	X	X	X	X	X	X
Other			Preschool Disabilities		Transient Students	Mobility	Transfers					
School Characteristics												
Geographic Isolation					X				X			
Small Schools and Enrollment		X		X		X			X		X	
Other			Career Path Participation			Vocational Education	Collective Bargaining Increases, Career and Technical Education, Portfolio Schools					

Sources: (a) 2010 *Fair Student Funding Summit: Conference Proceedings and Recommendations for Action* (Education Resource Strategies, 2010); (b) 2009 *Weighted Student Yearbook* by the Reason Foundation (Snell, 2009); and (c) Fiscal Year 2012–13 WSF Details of Weighting Factors for Official Enrollment Count Allocation downloadable at http://reach.k12.hi.us/empowerment/wsf/2012-2013/FY2012-13%20WSF%20Detail%20of%20Weighting%20Factors%20for%20OEC%20Allocation.pdf.

Student Needs

As mentioned earlier, student needs cost factors account for the additional costs associated with pupil characteristics that necessitate additional or specialized services. There are several common student needs characteristics that districts employing a WSF address through weighted and categorical measures:

- Students in specific grade or schooling levels (elementary, middle, or high)
- Students from low-income families
- ELLs
- Students not meeting educational targets
- Gifted and talented students
- Students with disabilities who are eligible for special education services

Grade level and poverty are the two most widely used weighting factors. Some districts have added weights to only certain grade spans, such as elementary school, to help cover the costs of smaller class sizes, whereas others have differentiated funding across all grade spans, sometimes forming up to five categories, as in San Francisco (Kindergarten, 1–3, 4–5, 6–8 and 9–12). Ranges of the relative weights across grade spans vary widely from district to district. Educational Resource Strategies (2010) report that some WSF districts did not weight by grade span at all (Houston) and others with quite differentiated relative weights across grade spans (e.g., in Hartford the weights were as follows: Kindergarten = 0.85, grades 1–3=1.20, grades 4–6 = 1.00, grades 7–8 = 1.10, and grades 9–12 = 1.30).[17]

Relative weights for poverty varied widely as well across the WSF districts investigated by Education Resource Strategies, with weights ranging from 0.05 in Cincinnati to 0.24 in New York City. Weighted systems that include poverty use this student characteristic as a proxy for addressing student need that is correlated with student outcomes, such as academic achievement and graduation rates. For instance, Denver uses poverty, as measured by eligibility for the FRPL, to allocate dollars to students deemed at risk of not meeting achievement targets, as well as an additional weight for the cost of specialized services such as nurses, counselors, and school psychologists. Denver also adds an additional weight for schools with a higher concentration of students in poverty by providing a per-pupil adjustment for schools that meet the threshold of being Title I eligible.

Including relative weights for ELL students is also quite common with seven of the nine WSF districts investigated by Educational Resource Strategies employing this type of adjustment. Again, the size of the relative weights varied widely depending on district, proficiency level of ELL student, and grade level ranging from 0.0561 for advanced English learners in San Francisco to 0.50 for grade 6–12 English learners in New York City.

[17] A summary chart that documents all of the funding weights across the WSF districts investigated by Education Resources Strategies for the 2010 Fair Student Funding Summit can be found online at http://www.erstrategies.org/cms/files/838-wsfsummarycharts.pdf.

Districts sometimes also use *low achievement* or *high achievement* as weighting factors. However, using a weight for low achievement poses possible problems arising from a disincentive for improving achievement of students. Districts such as Hartford include a weight for *high achievement* (0.10) as well to incentivize achievement and offset problems caused by the *low achievement* weights (0.05 and 0.10 for students that are below and well below proficiency, respectively). Baltimore and Houston are other examples of districts in which students with advanced academic need or identified as gifted and talented, respectively, receive additional funding weights (0.45 in Baltimore and 0.12 in Houston).

Some districts have been hesitant to include special education (SPED) among their weights because of the complexities in serving students in this program and the legal and regulation requirements associated with these funds. WSF districts that have included SPED program funding have done so slowly or only in limited ways. Weights assigned for SPED usually include different levels of funding related to the severity of the disability (mild, moderate, severe), such as in Hartford, or the restrictiveness of the program (in a self-contained versus mainstreamed classroom environment), such as in San Francisco. The weights range from 0.0097 in San Francisco, where the allocations are for professional development and supplies only, with all other costs managed centrally, to 5.25 for the most severe in Seattle, where staffing is included. Clearly, in circumstances in which there are large differences in the weights for student characteristics, the underlying rationale largely hinges on whether staffing costs are supposed to be covered by the formula.

Scale of Operations

Scale of operations cost factors include geographic and population characteristics of a school district, including enrollment (students served by a district), geographic isolation, and student population density (district enrollment divided by the area of a district in square miles).

Two of the school WSF districts listed in Exhibit 3.6 allocated funding by using weights based on geographic isolation. These districts (Hawaii and Poudre, Colorado) have rural schools where low population density can add to their operational costs, such as through increased transportation costs. Five of the WSF districts included weighting factors that account for the additional costs (diseconomies of scale) associated with operating small schools.

Other Programs

Four of the districts prioritized particular programs and allocated funds on the basis of participation in such programs, such as career path participation (Cincinnati), vocational and career and technical education (Houston and New York City), and portfolio schools (New York City).

Policy Considerations

WSF systems are linked with many other policy considerations and, therefore, necessitate in-depth study and the understanding that implementation of these formulas is an iterative and dynamic process. In concluding this review of state and district funding systems, we would like to highlight several policy considerations.

Autonomy

In 2010, educational leaders from nine districts that enacted WSF in various forms gathered to share key lessons and issues that have emerged through the implementation of WSF. This conference, called the "Fair Student Funding Summit," was organized by Education Resource Strategies. The nine school districts in attendance identified several key issues, one of which was the "balancing of principal autonomy with district oversight." Three approaches to autonomy were described:

- *Autonomy for All:* This strategy sets the starting point as flexibility for all sites where failure to meet accountability targets results in the loss of flexibility. A benefit of this approach is increased innovation that might result from the varied perspectives of principals and stakeholders. However, caution is needed due to the possibility of autonomy outrunning the capacity of the school leaders.
- *Earned Autonomy:* This strategy starts off more restricted, offering flexibility only to schools that have already demonstrated high performance. A benefit of this approach is the continued support of effective practices and differentiation across levels of capacity. However, this approach might cause principals to be more conservative in their approach and not risk failure through more aggressive or innovative reforms.
- *Tiered Autonomy:* This strategy combines measures of capacity, performance, and growth into a defined matrix for determining levels of flexibility. The benefit of this approach is the ability to reward *growth* and performance with autonomy and match support and guidance with particular needs associated with student performance or internal capacity.

Programs to Include

Not only is it necessary to determine *whether* to offer autonomy and to *whom*, but it is important to consider *what* programs and services. The assumption in offering autonomy in programming decisions at the local level is that those closest to the students (parents, teachers, principals, staff, and community members) are in the best position to match programs with the needs and priorities of the local community.

There are three considerations when deciding on which programs to include. First, principals may not want autonomy for everything. For example, principals may want to focus on decisions related to instructional programming and leave decisions related to utilities and the maintenance of buildings to the district. Second, there are also economies of scale to consider for decisions regarding the purchase of instructional materials, distribution of testing materials, and technology and software purchases, which have generally lower unit cost when purchased in large volumes. And third, there are districtwide priorities that may necessitate centralized management for the sake of consistency. For example, common benchmark assessments and standards across all schools are necessary to maintain an accountability system and establish common high expectations.

Exhibit 3.7 provides an overview of the resources that were under control of schools in the WSF districts investigated for the 2010 Fair Student Funding Summit (see Educational Resource Strategies, 2010). The overview shows a wide variety of resources related to staffing, services, materials, and supplies that were placed under school control in each district. It is likely that

underlying each district's decisions about which resources to place in school control were thoughtful deliberation and planning on the part of the central office that involved input from school site leadership.

Exhibit 3.7 – Overview of School Controlled Resources Across Districts That Have Implemented a WSF

	Baltimore	Cincinnati	Denver	Hartford	Houston	New York City	Oakland	San Francisco	Seattle
Elementary School Homeroom Teachers									
Secondary School Core Subject Teachers	X	X	X	X	X	X		X	X
ELL Teachers	X	X	X	X	X	X	X	X	X
Special Ed Teachers –Mainstreamed/Resource Room		X	X	X	X	X	X	X	X
Special Ed Teachers –Self-Contained	X	X	X	X		X			X
Special Ed 1-to-1 Aides (IEP-driven)		X		X		X			X
Instructional Coaches			X						X
Librarian	X	X		X	X	X	X		X
Pupil Services Staff	X	X	X	X	X	X	X	X	X
Counselors									
Social Workers	X	X	X	X	X	X	X	X	X
Psychologists		X	X	X	X	X		X	
Nurses & Health Services Supplies		X	X			X			
Related Services Staff (OT/PT/Speech)	X	X	X	X	X				
School Administration Staff									
Principals									
Assistant Principals		X	X	X	X	X	X	X	X
Special Ed Case Managers	X	X	X	X	X	X	X	X	X
Parent/Community Coordinators or Liaisons	X								X
Secretarial/Clerical Staff	X	X					X	X	X
Operations Staff	X	X	X	X	X	X	X	X	X
Food Services Staff (Cooks, Porters, etc.)									
Maintenance Staff (Plumber, Electrician,)									
Custodial Staff (Custodians, Cleaners)									
Security Staff (Guard, Sentries, etc.)	X			X			X		
Technology Support Staff (IT Support, Help Desk, etc.)	X	X		X			X	X	
Transportation Staff (Drivers, Attendants, etc.)								X	
Staff Overtime or Substitutes									

Note: While resources are controlled by schools under WSF, they are still subject to federal, state, and local regulation, as well as collective bargaining agreements.
Source: Adapted from Fair Student Funding Summit summary charts, Education Resource Strategies (available for download at http://www.erstrategies.org/cms/files/838-wsfsummarycharts.pdf).

Exhibit 3.7 – Overview of School Controlled Resources Across Districts That Have Implemented a WSF (continued)

	Baltimore	Cincinnati	Denver	Hartford	Houston	New York City	Oakland	San Francisco	Seattle
Short-Term Substitutes									
Long Term Substitutes	X	X	X	X	X	X	X	X	X
Overtime for Instructional Staff		X				X			X
Overtime for Administrative/Maintenance Staff	X	X	X	X	X	X	X	X	X
Extracurricular Supplements	X	X	X	X	X	X	X	X	X
Other Extra-Duty Supplements	X			X	X	X	X		X
Staff Development	X	X	X	X	X	X	X	X	X
Release Time for Staff Development Activities									
Travel Expenses for School Personnel	X	X	X	X	X	X	X	X	X
Fees and Expenses for Speakers and Consultants	X	X	X	X	X	X	X	X	X
Staff Development Supplies and Materials	X	X	X	X	X	X	X	X	X
Instructional Supplies and Services	X	X	X	X	X	X	X	X	X
Computer Hardware									
Computer Software/Instructional Technology	X	X	X	X	X	X	X	X	X
Extracurricular/Athletic Supplies and Materials	X	X	X	X	X	X	X	X	X
Field Trips – Transportation	X	X		X	X	X	X		X
Instructional Supplies	X	X	X	X	X	X	X	X	X
Library Books and Materials	X	X	X	X	X	X	X	X	X
Testing and Assessment Materials	X	X	X	X	X	X		X	X
Textbooks	X					X			X
Admin/Operational Supplies and Services	X			X		X			X
Custodial Services and Supplies									
Maintenance Services and Supplies	X			X			X		
Office/Admin Services and Supplies	X								
Security Services and Supplies	X	X	X	X	X	X	X	X	
Transportation Services and Supplies	X	X		X			X		
Utilities									

Note: While resources are controlled by schools under WSF, they are still subject to federal, state, and local regulation, as well as collective bargaining agreements.
Source: Adapted from Fair Student Funding Summit summary charts, Education Resource Strategies (available for download at http://www.erstrategies.org/cms/files/838-wsfsummarycharts.pdf).

Use of Actual versus Average Salaries

When districts allocate dollars to schools in the place of allocating staff through FTEs, sites gain autonomy, yet there is still an issue with assigning costs to the specific staff employed at each school. Districts can choose to charge the actual salary costs of staff against school budgets or to charge based on costs determined using average salaries.

Although the use of actual salaries can lead to political and process complexities for which districts must be prepared, there are many advantages to switching from calculating costs on the basis of average salaries. The main advantage of using actual salaries when determining staffing investments is that actual salaries reflect true realized staffing costs in terms of dollars spent on the specific staff at each school. Actual salaries provide an increased level of transparency for all stakeholders, both internal and external to the organization, regarding the real costs of implementing programs and services at the school. The use of actual salaries also allows districts to directly address inequities associated with the distribution of teacher qualifications. Schools with higher concentrations of students in poverty often have more inexperienced staff and, therefore, have lower staffing costs. Under traditional staffing practices that use average salaries, these schools with lower staffing costs subsidize the higher costs of staff at schools with more affluent populations that attract more experienced, highly paid staff. The use of actual salaries unmasks this inequity and allows the sites with less experienced staff the flexibility to reinvest the monetary savings in strategies to increase capacity or provide programs targeted toward supporting high-need students. These opportunities for additional support and professional development also act as an incentive that school leaders in more challenging schools can use to attract better quality teaching staff.

Many districts continue to use average salaries because of the political and logistical complications associated with a shift to actual salaries. Principals argue that there is not a direct connection between the cost of individual teachers and effectiveness in traditional salary schedules, so schools with more senior staff would be penalized without a clear benefit for the additional cost. Principals also argue that the shift to actual salaries must be combined with increased autonomy for staffing formulas and hiring practices to be effective. Actual salaries also can lead to undesirable human capital practices, such as devaluing experienced staff and making decisions on the basis of costs and not on the basis of quality or qualifications. In a situation in which there is high turnover in staff, the use of average salaries can simplify processes. Actual staff costs, in this situation, are more volatile and less predictable, making planning difficult.

Although it is not common, some districts have attempted to switch from average to actual salaries.[18] For example, Chambers et al. (2008) investigated the adoption by Oakland Unified School District in California of a WSF (called *Results-Based Budgeting*) in which actual salaries were used. This example demonstrates the difficulties involved in such an undertaking and shows how equity can suffer when some schools pay less than the full salary expense of their staff and others pay more (as is the case when average salaries are used). Here, it was apparent that schools with a large numbers of veteran teachers on their rosters (who were guaranteed

[18] Specifically, of the nine WSF districts investigated under the 2010 Fair Student Funding Summit, only one made a complete switch to actual salaries (Oakland), whereas Houston and Seattle both applied actual salaries for staff supported by special funds and grant funding, respectively. Denver was also reported as piloting the use of average salaries.

placement at these schools through the collective bargaining agreement) would not be able to cover their staffing costs. Therefore, to make the move to actual salaries, a veteran teacher subsidy was provided to these schools, with an eventual phase out across several years. Although it was necessary to implement the subsidy, the report authors clearly show that the policy also undermined the intention of RBB. Specifically, similar to a system using average salaries, principals at schools receiving the teacher veteran subsidy (which tended to be lower poverty) no longer were facing the full salary expense of the staff at their schools, and these excess costs had to be covered by drawing from the district pool of dollars available to all schools (i.e., the distribution of dollars across schools under RBB was, as in any WSF, a zero-sum game). Through empirical analysis, the study showed that the full increase in equity resulting from RBB was not realized because of the use of the veteran teacher subsidies. Specifically, it showed that the relationship between per-pupil spending and student poverty (i.e., the extent to which higher poverty schools had higher spending per pupil) would have been stronger without the veteran teacher subsidies in place.

Establishing the Central Office Service Economy

When decentralization of decision making is coupled with weighted funding initiatives, as it often is, then a necessary shift in the role of the central office must take place. As increased amounts of programming and staffing decisions are taking place at the school site, the role of the central office must shift to a supporting role. This shift requires changes in the culture and staff roles. The most obvious shift is in providing additional assistance to schools in budgeting and staffing decisions and processes, which is often an area in which principals have the least expertise. Although training and capacity building are necessary, reorienting centralized staff roles to support school sites in understanding and developing their own budgets, as opposed to completing the work themselves, is necessary. The educational services staff is another area in which a considerable shift in roles must take place. For example, the central office staff must shift their role to one of offering advice to and monitoring of individual schools as opposed to deciding on best practice for the district as a whole. Extensive training and the redefinition of roles at the central office are necessary for this shift in culture toward a service mindset.

Conclusion

Greater efficiency, transparency, innovation, and equity are all desirable outcomes that are associated with the implementation of the WSF (Education Resource Strategies, 2010). Although the particulars of state and district decisions regarding weights and factors vary, there is a growing number that have either implemented or are considering weighted funding initiatives.[19] Included in the weighting factors are student characteristics associated with vulnerable populations that have a history of underperforming academically (e.g., ELLs, students in poverty). One of the aims of a more equitable funding system would be to provide the resources for districts and schools to address these achievement gaps. Weighted systems, by providing a predictable formula for the allocation of dollars and consolidating funding streams, also significantly increase system transparency. In addition, recent economic constraints and pressures for increased achievement for all students and the desire to close achievement gaps

[19] For instance, Colorado recently passed legislation that will institute statewide weighted student funding (Engdahl, 2013), and there are major efforts under way to implement a similar system in California (Ujifusa, 2013).

have highlighted the need to implement funding practices that improve both the equity with which funding is distributed and the efficiency with which it is used. A WSF approach allows states and districts to address equity even in a time of inadequate resources.

A second issue related to but not required of WSF is decentralization. Decentralization can provide many benefits, including increased innovation, more authentic stakeholder engagement, and specialization of programs designed for a targeted group of students. Although economies of scale provide benefits for some decisions to be made by central management, innovation can be fostered through programming linked to the unique characteristics of a district or school's population. Decentralization provides the process by which those closest to students can make tailored decisions for the use of monetary resources. The more decisions that are placed in the hands of local communities, the more authentic the collaboration can be between external stakeholders (e.g., parents) and internal stakeholders in the educational system.

The HIDOE has chosen to combine these two initiatives of WSF and decentralization and may be benefiting from the effects listed earlier. Because of Hawaii's unique role as both a state and a district, the HIDOE has included aspects of WSF and decentralization that are similar those assumed by both states and districts. As shown in the previous chapter, Hawaii's WSF is comprehensive in that it addresses many student and school characteristics commonly used in other funding systems, allocates a significant amount of funding through the formula, and empowers stakeholders through the COW at the state level and the SCC at the school level.

Chapter 4 – Principal Attitudes and Perspectives Surrounding Hawaii's WSF

Background and Purpose

As mentioned in the introduction, Hawaii's WSF was implemented to achieve the following key goals:

- Empowerment of principals and school communities with greater decision-making authority over the use of funds allocated to the school, which allows for increased accountability for principals.
- Streamlining the allocation of resources to schools.
- Increased transparency and equity in allocation of resources.

As part of the evaluation of the implementation of the WSF and its effectiveness in meeting these goals, the AIR team administered an online a survey to all public school principals (excluding charters) in the state to measure attitudes and perspectives about the WSF. The perspective of school leaders is particularly important to assess if the intended goals of the WSF are being realized at the school level. The survey was designed to address the following topics:

- The extent to which principals feel they have real autonomy concerning resource allocation decisions;
- The extent to which and ways in which the WSF has led to innovative instructional programs in schools (i.e., promoting a culture of innovation and efficiency);
- Principal perspectives on the equity with which WSF resources are allocated to their schools;
- Principal perceptions about the sufficiency of WSF funding (overall and relative weights) for students with varying needs and for school operations;
- The appropriateness of the approved formula for the 2012–13 and 2013–14 school years to meet student needs;
- Principals' understanding of how the WSF is applied to determine schools' allocations;
- The extent to which principals feel they are held accountable for student results;
- The extent to which principals involve School Community Councils (SCCs) and faculty in resource allocation decisions at the school site.

Description of Survey Respondents

The draft survey was pilot tested with three individuals identified by HIDOE and then after minor modifications was administered online from February 5–28, 2013. The final response rate was 83 percent, or 210 of the 252 principals who were administered the survey. Exhibits 4.1 and 4.2 describe the distribution of the respondent principals' experience, both as a principal at any school and as a principal at his or her current school.

Exhibit 4.1 – Total Prior Years of Experience Serving as Principal

	Frequency	Percentage	Cumulative
0–4 years	94	44.76	44.76
5–9 years	51	24.29	69.05
10–14 years	36	17.14	86.19
15+ years	29	13.81	100.00
Total	210	100.00	

Exhibit 4.2 –Prior Years of Experience Serving as Principal at This School

	Frequency	Percentage	Cumulative
0–4 years	132	62.86	62.86
5–9 years	44	20.95	83.81
10–14 years	24	11.43	95.24
15+ years	10	4.76	100.00
Total	210	100.00	

The schools whose principals responded to the survey were categorized along the following dimensions:[20]

- *Geographic isolation*: 202 not geographically isolated, 7 geographically isolated
- *Location*: 139 Oahu, 70 Neighbor Island
- *School Level*: 140 elementary, 33 middle, 24 high, 12 mixed
- *School Size*: Within each school type (elementary, middle, and high) split into three equally sized groups on the basis of total enrollment and labeled as small, medium, or large
- *Percentage Free or Reduced-Price Lunch*: Split into three equally sized groups on the basis of the percentage of students eligible for free or reduced-price lunch and labeled as low, medium, or high
- *Percentage ELL*: Split into three equally sized groups on the basis of the percentage of English language learner students and labeled as low, medium, or high
- *Locale*: Split into four groups of different size on the basis of the National Center for Education Statistics (NCES) locale code for City (48), Suburb (79), Town (56), and Rural (26)

To investigate whether the sample suffered from nonresponse bias, we compared the principals who responded to the survey with those who did not respond across each of the categories listed.

[20] The reader will note that one principal who was surveyed could not be categorized according to school characteristics because the individual was listed as leading a brand new school opening in the upcoming school year (2013–14). Therefore, although the responses from this principal were used for the aggregate analysis, they could not be included in the more granular investigation.

The results demonstrate that the response sample is representative of the larger universe of public school principals in Hawaii. The comparisons are included in tables in Appendix 4.A.

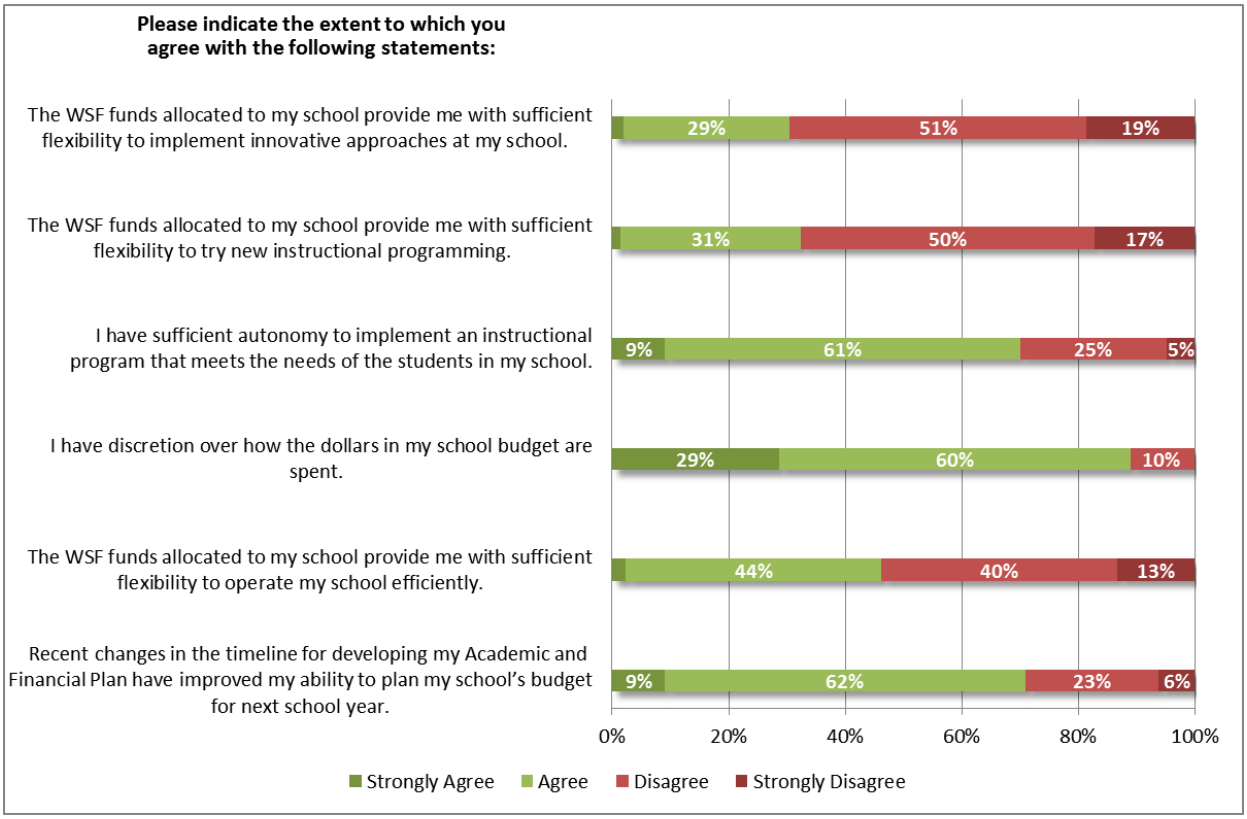
Aggregate Survey Results

This section presents the survey results for all 210 principals who completed the survey. Respondents were required to complete all questions, so there are no missing data for individual items.

- *Most principals agreed that they had discretion over how funds were spent in their schools, but fewer than one third of principals agreed they had sufficient flexibility to be innovative or try new instructional programs.*

As shown in Exhibit 4.3, principals generally agreed that they have discretion concerning how funds are spent and sufficient autonomy to implement an instructional program that meets their students' needs. In contrast, fewer than one third of principals agreed that they have sufficient flexibility to implement innovative approaches or try new instructional programming at their school, and less than half agreed they have sufficient flexibility to operate their school efficiently.

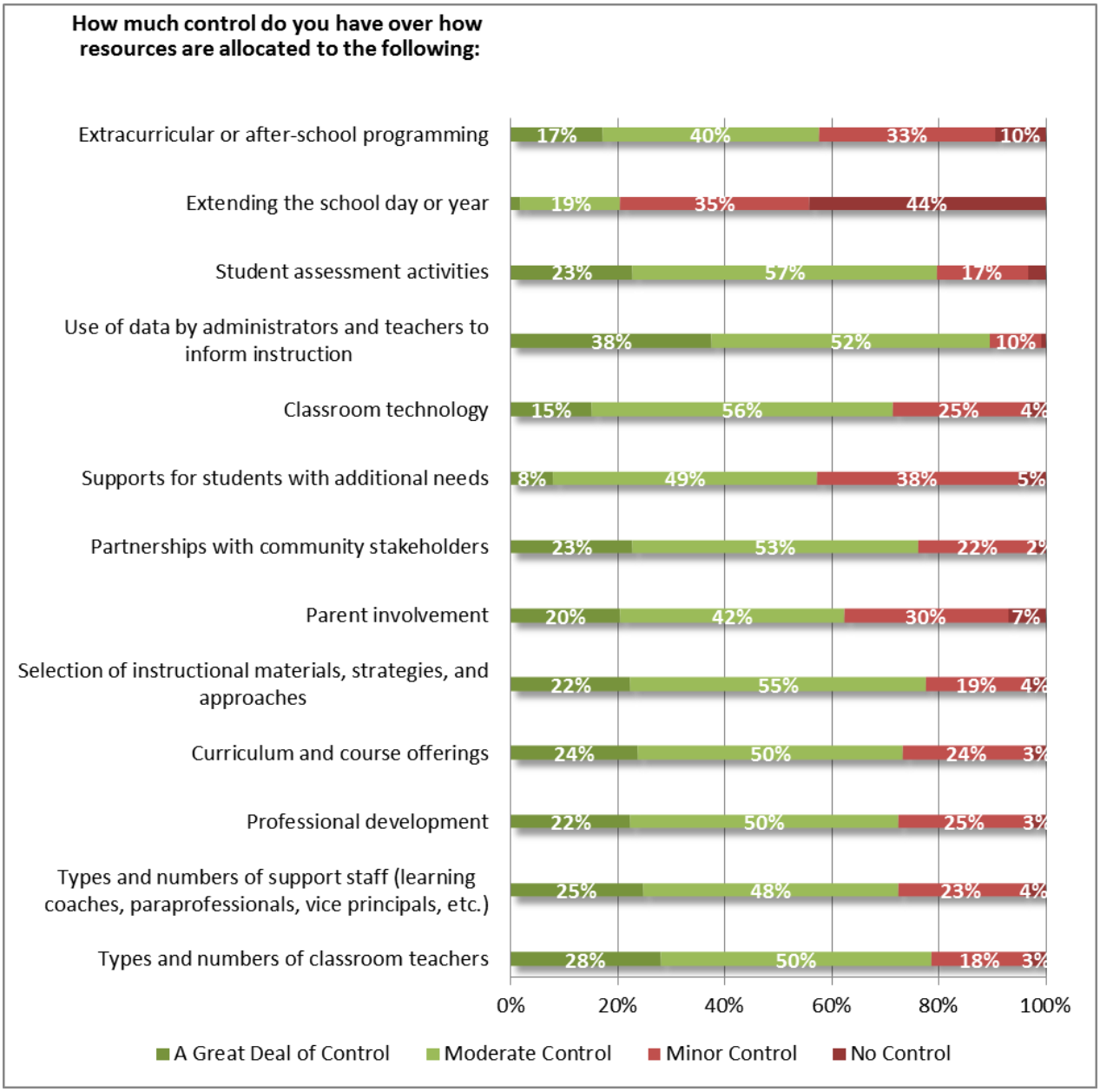
Exhibit 4.3 – Empowerment and Flexibility



- *A substantial majority of principals responded that they exerted control over a wide variety of programmatic components at their school, though fewer than one fifth indicated they had control over extending the school day or year.*

When asked how much control they have over how resources are allocated to various programmatic components at their school, around two thirds of principals generally agreed that they have control (Exhibit 4.4). The area with the most reported control was administrator and teacher use of data to inform instruction, with 90 percent of principals reporting that they had moderate or a great deal of control. At least 70 percent of principals said they had moderate or a great deal of control in all areas except for parent involvement (62 percent), support for students with additional needs (57 percent), extracurricular or afterschool programming (57 percent), and extending the school day or year (21 percent).

Exhibit 4.4 – Control Over the School's Programmatic Components



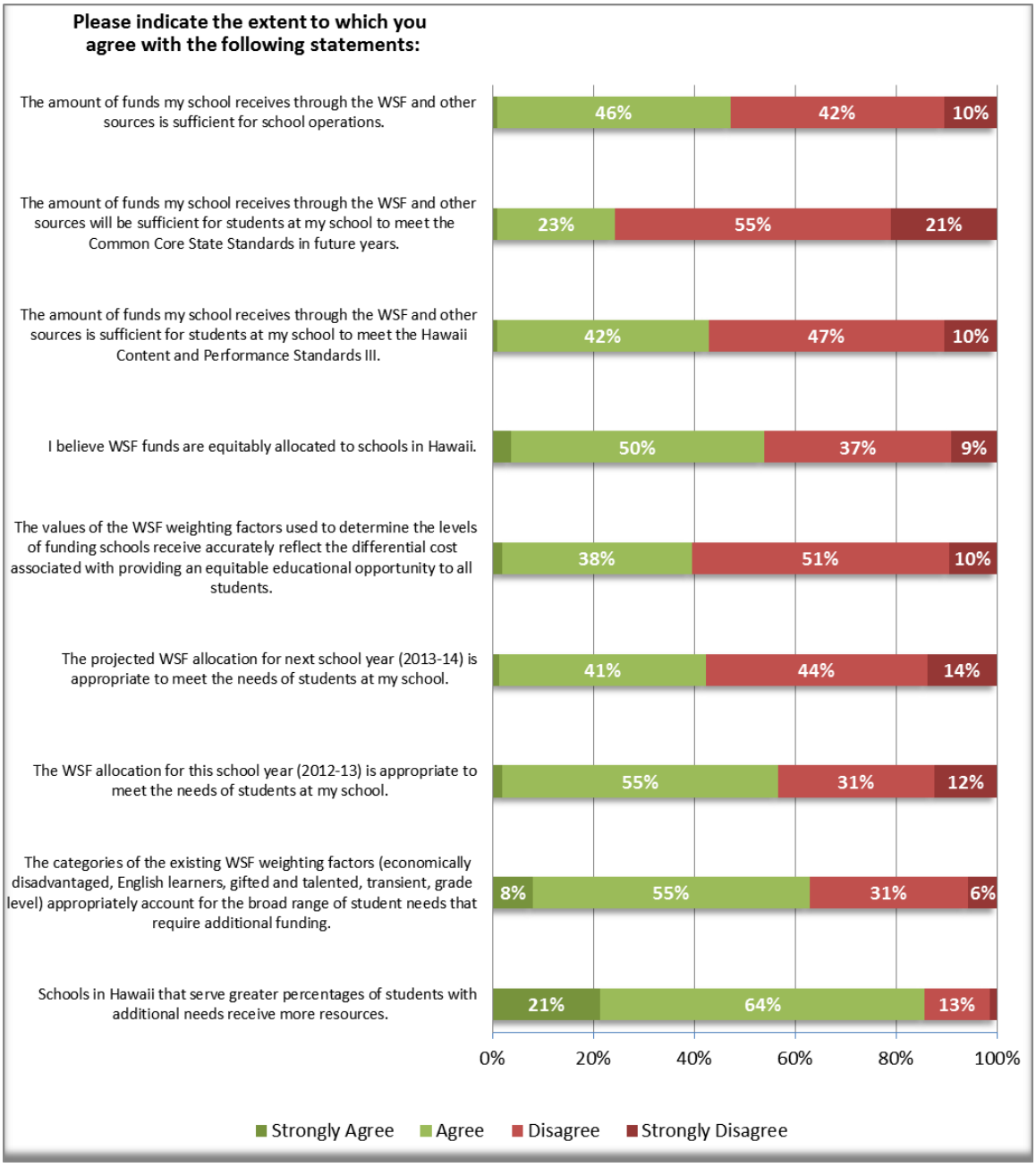
Principals were given the option of writing in an "other" category in the question shown in Exhibit 4.4 that asked "How much control do you feel you have over how resources are allocated to the following areas in your school this year?" They could also select either "no control, "minor control," "moderate control," or "a great deal of control" to correspond with their response. Fifteen principals responded to this item as follows: five wrote "staffing," either personnel or hours (all selected "no control"); three wrote "PD" (Professional Development) (one selected "no control," one selected "minor control," and one selected "moderate control"); two wrote "special education/special needs" (both selected "no control"); one wrote "physical plants" ("minor control"); one wrote "supplies" ("a great deal of control"); one wrote "contracting services" ("minor control"); one wrote "projected enrollment was low" ("minor

control"); and one wrote "the school was able to get more funding during restructuring" (no rating given).

- *Most principals agreed that WSF funding is equitably allocated to schools, but they did not agree that the amount of funding is sufficient.*

As shown in Exhibit 4.5, the survey questions about resource and programmatic equity revealed that principals did not agree that the WSF provides sufficient funding. Although 85 percent of principals agreed or strongly agreed that schools that serve greater percentages of students with additional needs receive more resources, only 54 percent agreed or strongly agreed that WSF funds are equitably allocated to schools. Furthermore, only 48 percent agreed or strongly agreed that the amount of funds their school receives through the WSF and other allocations is sufficient for school operations. Principals generally reported that future allocations will be less sufficient than current allocations: 57 percent of principals agreed or strongly agreed that the WSF allocation for the current 2012–13 school year is appropriate to meet the needs of their students, and 43 percent agreed or strongly agreed that the funding from WSF and other sources is sufficient to meet the current Hawaii Content and Performance Standards III (HCPS). However, only 42 percent agreed or strongly agreed that the projected WSF allocation for 2013–14 would be sufficient, and only 24 percent agreed or strongly agreed that current levels of funding from WSF and other sources would be sufficient for students to meet the Common Core State Standards in future years. When asked about the WSF itself, 63 percent of principals agreed or strongly agreed that the existing WSF categories appropriately account for the range of student needs that require additional funding, and 39 percent agreed or strongly agreed that the values of the weights reflect the cost of providing equitable educational opportunity to all students.

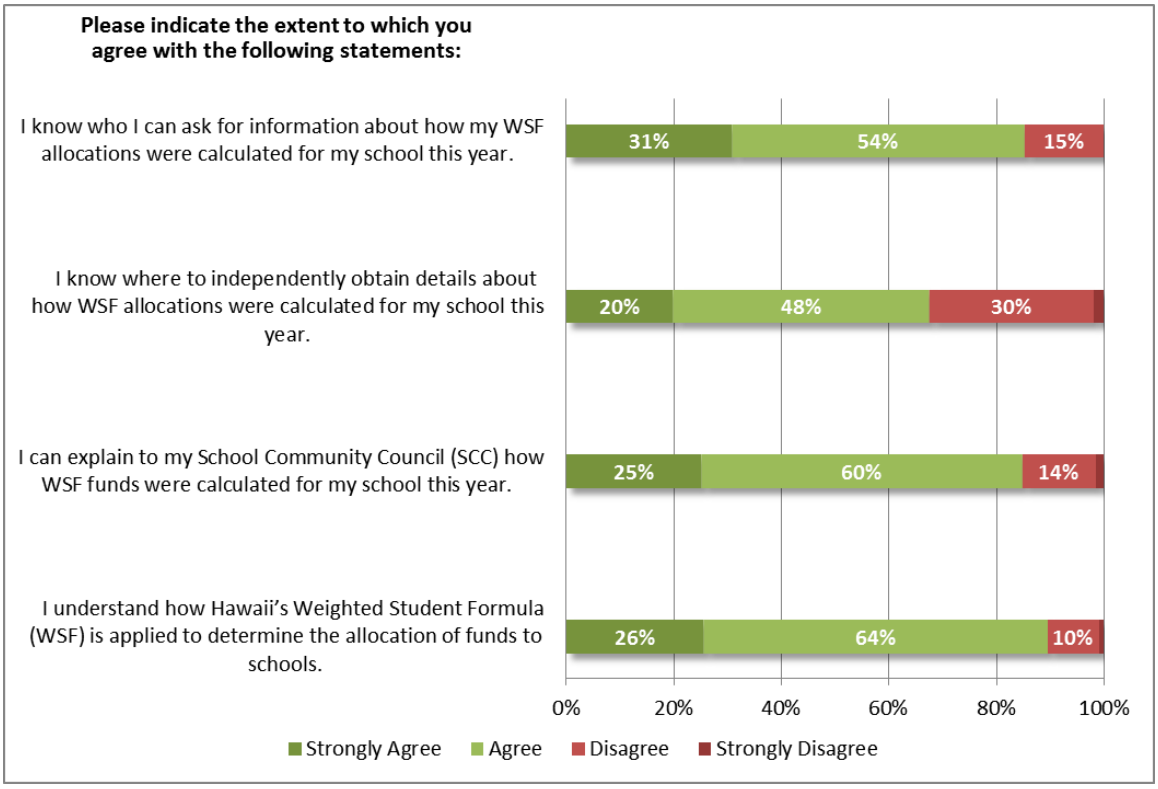
Exhibit 4.5 – Resource and Programmatic Equity



- *Most principals understand the WSF and know where to go for more information if they need to.*

As shown in Exhibit 4.6, most principals agreed or strongly agreed that they understand the WSF, can explain it, and know who to ask for more information if needed. Principal agreement decreased slightly as the required level of understanding in the statement increased; for example, 85 percent knew whom they could ask for more information about WSF calculations, but only 68 percent knew where to independently obtain details about how WSF allocations were calculated for their school this year.

Exhibit 4.6 – Transparency of School Funding



- *Principals agreed that they are held accountable for student performance, but most do not agree that the SCC is held accountable.*

Exhibit 4.7 shows that principals overwhelmingly agreed that they are held accountable for student performance by the State Board of Education, the State Superintendent, their SCC, and their Complex Area Superintendent. Eighty-six percent of principals agreed or strongly agreed that teachers are held accountable for student performance (Exhibit 4.8), and 79 percent agreed or strongly agreed that the Complex Area Superintendent is held accountable for student performance. In contrast, only 31 percent of principals agreed or strongly agreed that the SCC is held accountable for student performance.

Exhibit 4.7 – Principal Accountability

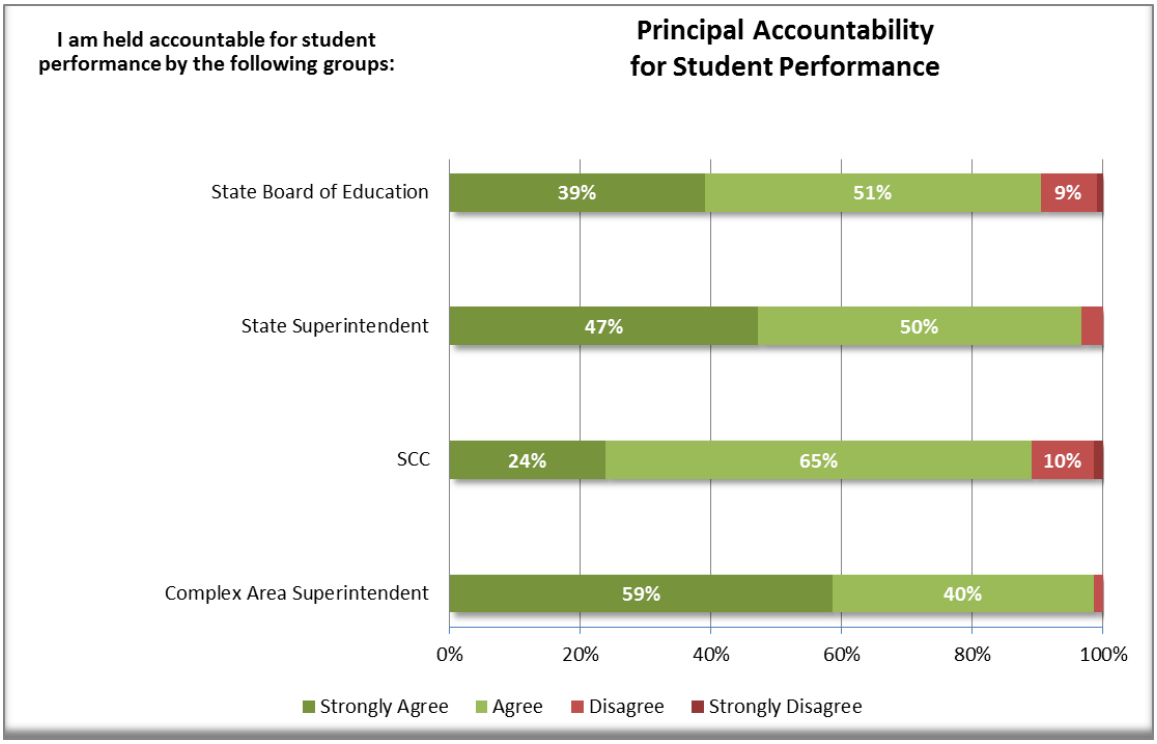
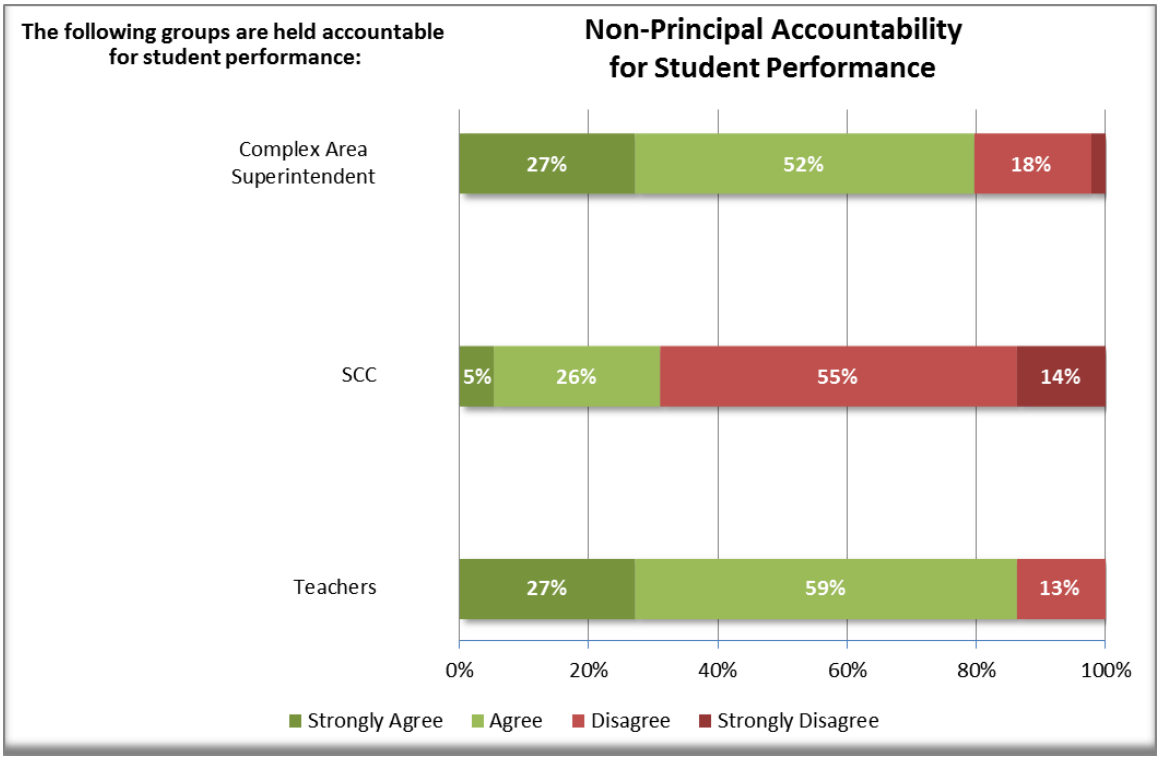


Exhibit 4.8 – Nonprincipal Accountability



- *Principals are holding regular SCC meetings, and they are communicating—and often consulting—with the SCC and with faculty about resource allocation decisions.*

When asked about the frequency of SCC meetings (Exhibit 4.9), 88 percent of principals reported that they hold between 5 and 15 meetings in the typical year, and 98 percent reported that up to 10 meetings are to develop and review the Academic and Financial Plans. Only 12 percent of principals reported that they are not complying with the rule that notice of SCC meetings be posted at least six days in advance (Exhibit 4.10).

Exhibit 4.9 – Frequency of SCC Meetings

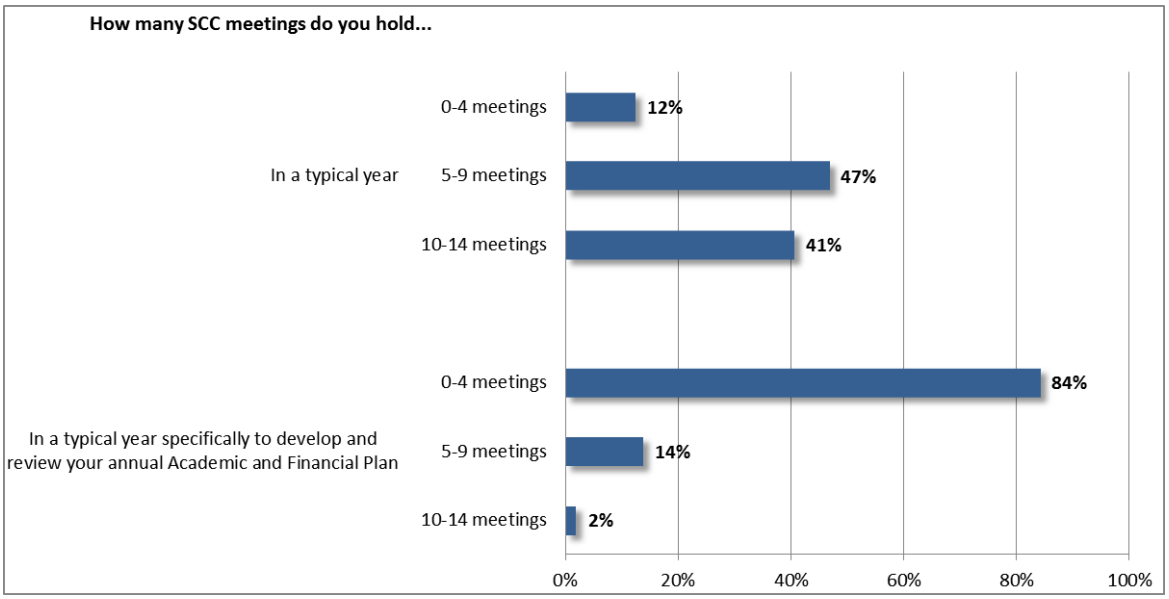
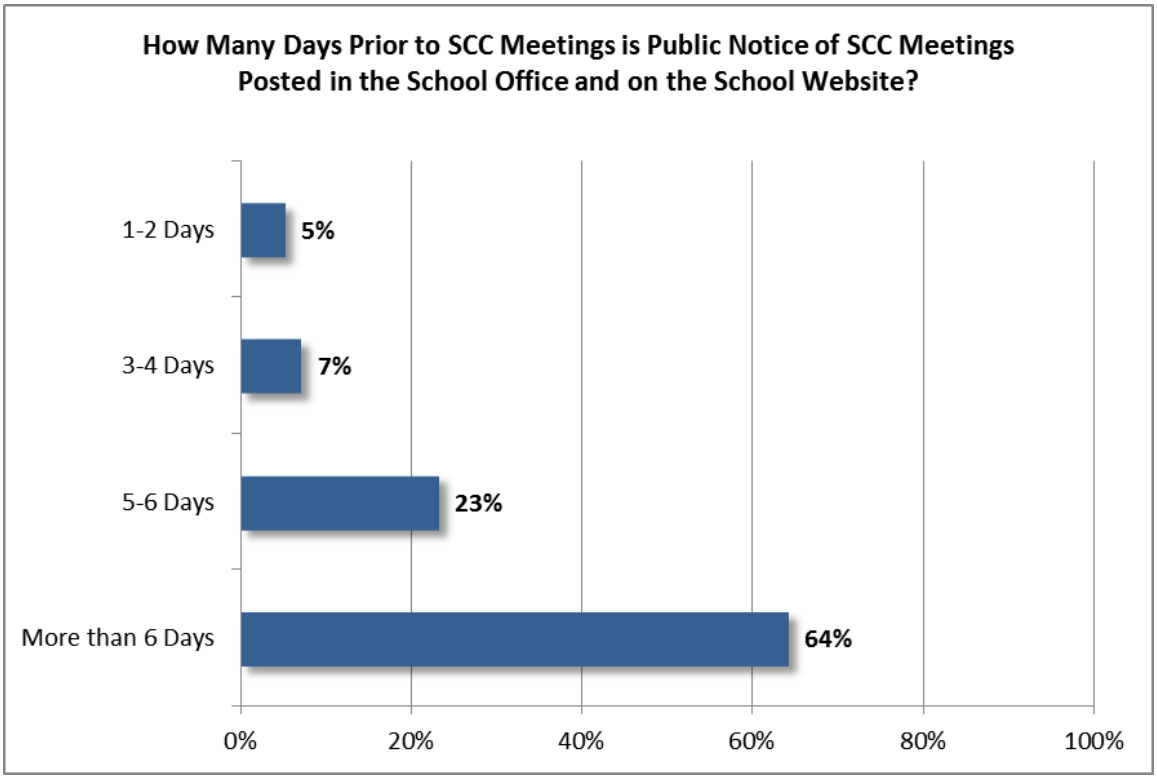


Exhibit 4.10 – Public Notice of SCC Meetings



The survey question concerning engagement between the principal and the SCC about key resource allocation decisions shows a bell-shaped pattern of responses across the varying degrees of principal and SCC engagement (Exhibit 4.11). Ten percent of principals reported that they make the final decisions together with the SCC, 40 percent of principals reported that they are in two-way communication with the SCC about key resource allocation decisions, and 33 percent reported that they consult with the SCC about key resource allocation decisions. Seventeen percent reported that they make key decisions and then inform the SCC.

Exhibit 4.11 – SCC Engagement

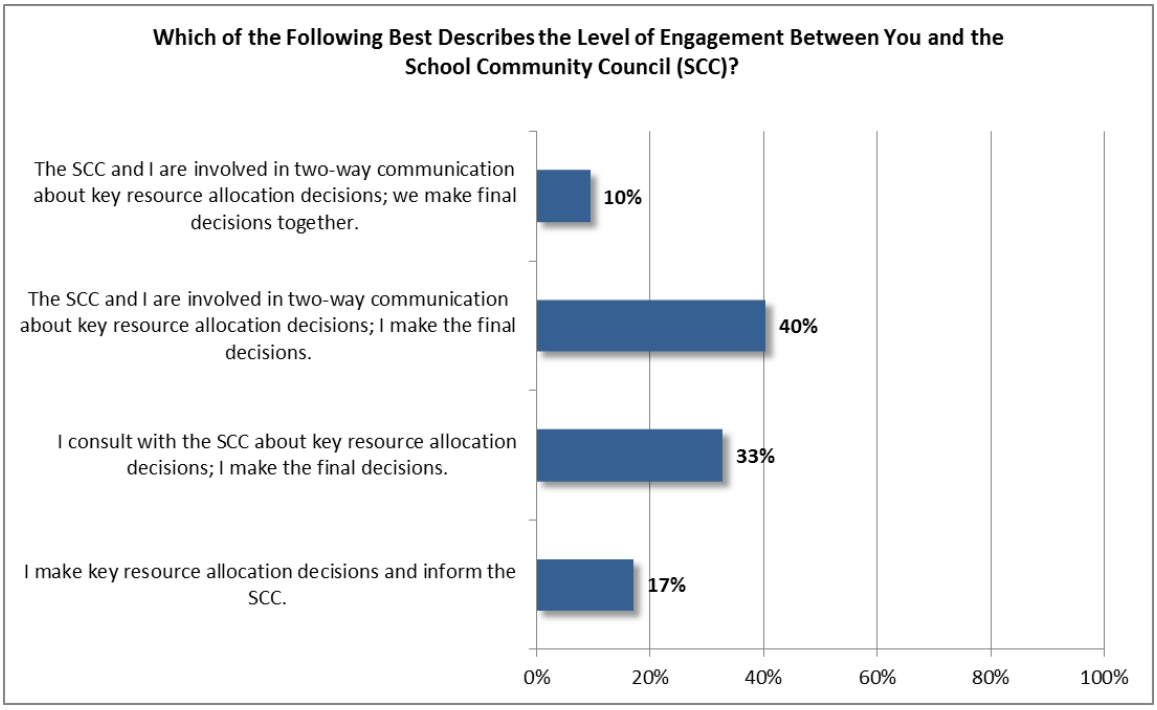
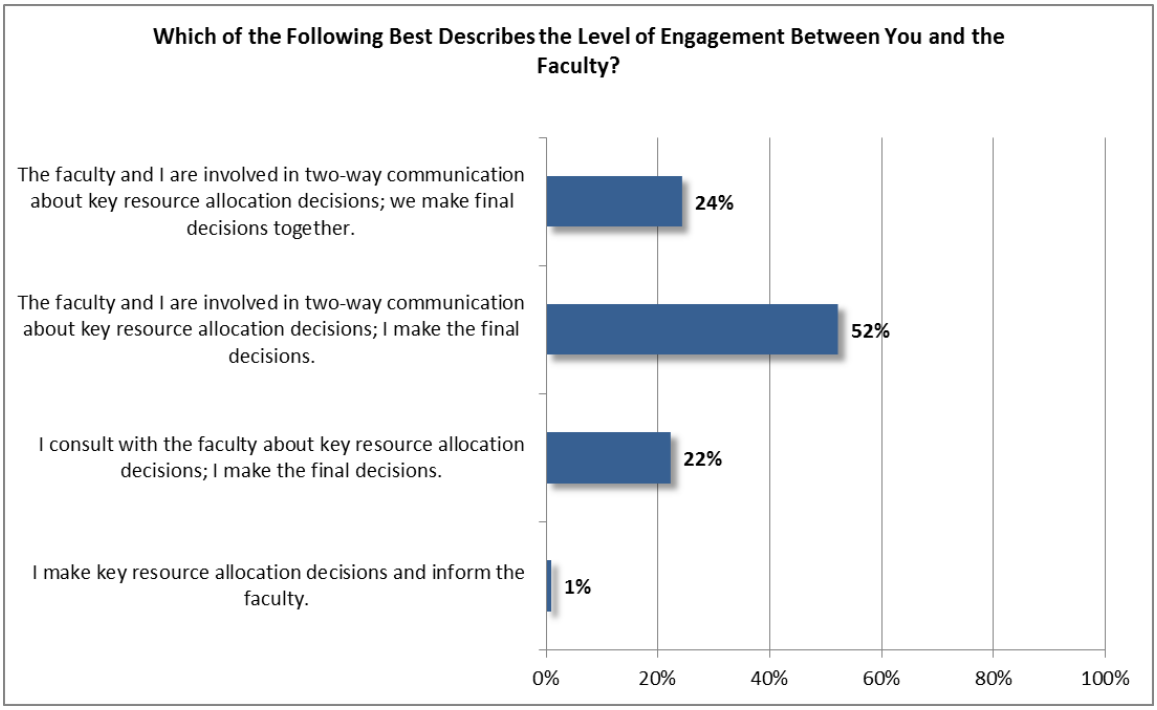


Exhibit 4.12 shows that principals are more engaged with the faculty in decision making about key resource allocations than they are with the SCCs: 24 percent of principals reported making final decisions together with the faculty, and 52 percent reported that they are in two-way communication with the faculty before making the final decisions themselves. Twenty-two percent of principals consult with faculty and then make the final decisions, whereas only 1 percent make key decisions and then inform the faculty.

Exhibit 4.12 – Faculty Engagement



Open-Ended Survey Responses

At the end of the survey, respondents were asked, "Has the WSF permitted you to design and/or implement an innovative program in your school?"

- *About half of principals said that the WSF has permitted them to innovate, including hiring staff, providing extra support, and implementing new programs.*

In response, 97 principals selected "yes," and 113 selected "no." Those who selected "yes" were then asked, "Can you briefly describe one example of a program you have developed that would have been difficult to implement without WSF?" and "Please tell us how you have used the flexibility provided by WSF funding to implement the program." Of the 97 principals who selected "yes," 82 filled in responses for these questions. The categories with the greatest number of responses[21] are as follows:

- Hiring staff (34 responses)
- Extra support (21): reading program (4), afterschool program (7), ELL (English language learner) (6), tutoring in math and reading (3), summer programs (3)
- New learning programs (14): AVID (Advancement Via Individual Determination) (5), technology programs (4), International Baccalaureate (2), STEM (2)
- Professional development (12): professional learning communities (3)
- Purchasing materials or devices (computers, updating technology) (3)

[21] Some principals listed multiple responses in different categories.

- Reallocate resources (moving funds from one program to another) (10)
- Part-time teachers – for extra support and to allow teachers extra PD time (8)
- Rearrange schedules (8): Saturday school (1), year-round school (1), extended school day (1), extended school year (1)
- Using grants, private funds, PTA money to support what remains or what WSF does not cover (4)

Principals who selected "no" in response to the original question were asked, "Please explain why the WSF has not permitted you to design and/or implement an innovative program in your school."

▶ *More than half of principals said that the WSF has not permitted them to innovate, and many cited insufficient WSF funding that supports only basic staff and operations.*

Of the 113 who selected "no," 107 filled in responses for this question. The categories with the greatest number of responses are as follows:

- WSF funding is insufficient (44)
- WSF supports only basic staff and operations (29)
- Funding problems for small or isolated schools (14)
- No or not enough flexibility (7)
- Not able to have professional development (7)
- Facing decreasing enrollment or WSF funds (6)
- Use of other funds outside WSF (6): Federal funds (5), Title I funds (3), Partnerships (3), Fundraising (e.g., by PTA) (3)
- Insufficient time to implement or gauge innovation (new to the position) (5)
- Special education (5): Inclusion or coteaching of special education children (4)
- Mandates and compliance issues (4): RTT (1), Common Core Standards (4), EES (2)
- Predicted versus official versus actual enrollment numbers (Actual enrollment differs from projected enrollment) (4): High mobility means Day 1 enrollment numbers become inaccurate (1)
- Weights and funds keep changing or are insufficient (4): PK weight (1), Middle school weight (2), Neighbor Island weight (1)

Principals were also asked, "Do you have any suggestions for how the WSF formula could be improved (e.g. additional categories or different weights)?"

▶ *More than half of principals suggested ways to improve the WSF, and more than one third of those suggested increasing weights or adding specific categories of student need.*

One hundred twenty-three principals responded to this question, and the categories with the most responses are as follows:

- Adjust (increase) the weights or additional money categories (47): Small schools (18), Isolated schools (14), SPED (11), Poverty (8), ELL (6), Gifted and talented (5), Middle schools (5), Low-proficiency kids (4), Mobility (3)
- More funding in WSF or in general (bigger pot of money) (15)
- Ensure any funding can cover basic staffing and operation costs (13)
- Minimum base amount for each school (by school level) (6)
- Increase funds for facility and maintenance (4)
- Resolve staffing issues (e.g., having a clerk, administrator, elective teachers, and other staff members) (4)
- More flexibility (3)
- Fund principals or vice principals outside of WSF (3)
- Travel money for Neighbor Island schools to attend PD on Oahu, Maui (3)

Finally, respondents were asked, "Do you have any suggestions for how the implementation of WSF could be improved?" Ninety-one principals answered this question, and the categories with the most responses are as follows:

- More money for WSF (11)
- More categorical positions (i.e., fund essential personnel at every school outside WSF) (8)
- More PD and training for principals and CAS (Complex Area Superintendent) (6)
- Allow more carryover funds (use them as reserve funds in case school's enrollment decreases the next year) (5)
- More flexibility (5)
- More funding for small schools (5)
- Mandates inhibiting innovation and flexibility (4)
- Have a minimum base amount for each school regardless of enrollment (4)
- Easier procurement policies (too much red tape) (4)
- Adjust timeline of Academic and Financial Plans process (3)
- Get rid of WSF (use old funding methods) (3)
- More support for isolated schools (3)
- Fund textbooks outside WSF (3)
- Use assessment scores to determine weights (3)

Survey Results by School Type

The survey data were also analyzed by school type by using the following categories defined at the start of this chapter: Oahu versus Neighbor Island, geographically isolated versus non-

isolated, school type (elementary school, middle school, high school, mixed), school size within school type (small, medium, large), percentage of ELL students (low, medium, high), and percentage of free or reduced-price lunch (low, medium, high). The results from one principal are excluded from these analyses because he or she is the principal of a new school opening in fall 2013, so the sample size for all questions in this section is 209. Key findings are summarized here, with a presentation of selected graphs following. The complete presentation of the charted data can be found in the Technical Appendix.

Key Findings

1. Principals at the 70 Neighbor Island schools generally responded similarly to principals on Oahu. If anything, principals at Neighbor Island schools reported more agreement that WSF funding is sufficient and that it affords them sufficient flexibility.
2. The 12 principals at mixed schools (i.e., those not classified as elementary, middle, or high schools) reported less agreement than did other principals on survey questions related to the WSF's equity, sufficiency, and flexibility.
3. Principals at small schools—particularly small elementary schools and small high schools—generally reported less empowerment and flexibility than did principals at large schools.
4. Few differences were reported among principals on the basis of a school's percentage of ELL students or percentage of free or reduced-price lunch (FRPL) students.
5. Few differences were reported among principals on the basis of a school's location in a city, suburban, town, or rural setting.
6. Differences were found in survey responses between the principals at the seven schools deemed geographically isolated and those at the non-isolated schools (the isolated principals tended to report less agreement that WSF funding was sufficient and offered enough flexibility to allow innovation).

Isolated Schools

Far fewer principals at the seven isolated schools agree or strongly agree that WSF funds are equitably allocated to schools in Hawaii (Exhibit 4.13) or that the WSF funding for this year and next year is appropriate to meet the needs of students at their school (Exhibit 4.14). Furthermore, only 14 percent of principals at isolated schools agreed or strongly agreed that the amount of funds their school receives through WSF and other sources is sufficient for school operations, compared with 49 percent at non-isolated schools (see Technical Appendix).

Exhibit 4.13 – Resource and Programmatic Equity, by School Isolation (Part 1)

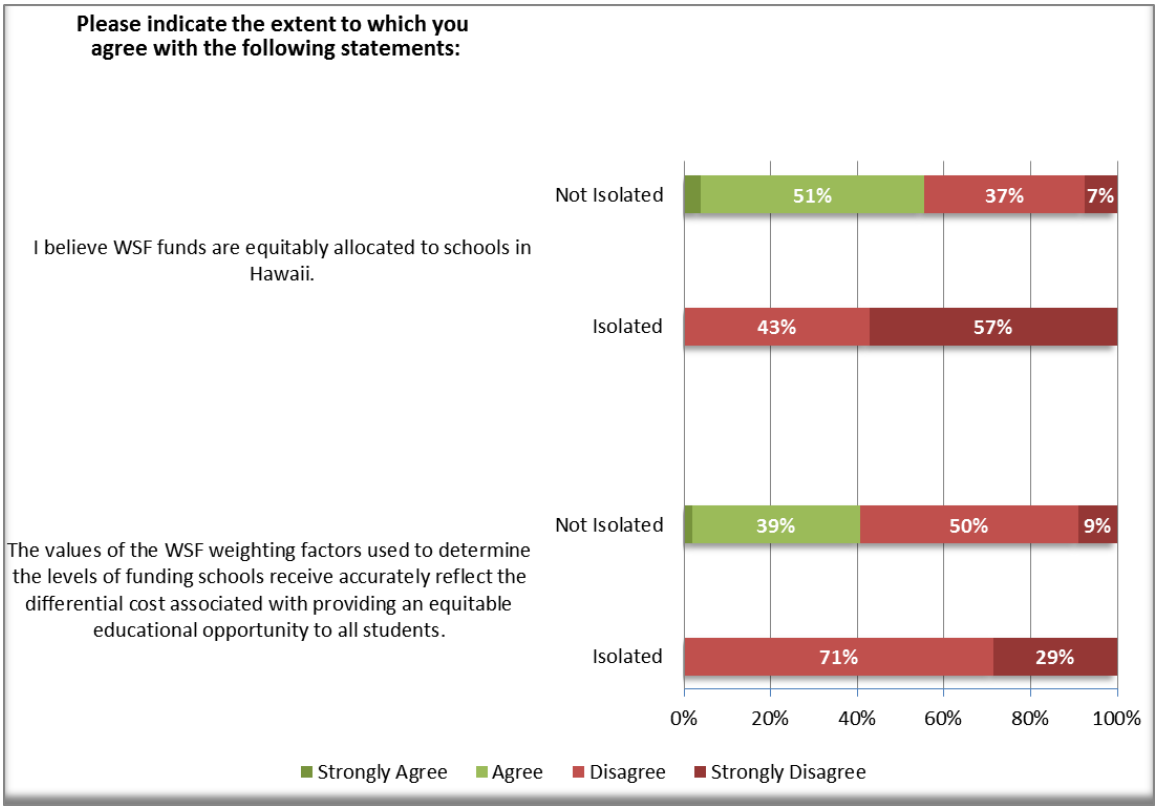
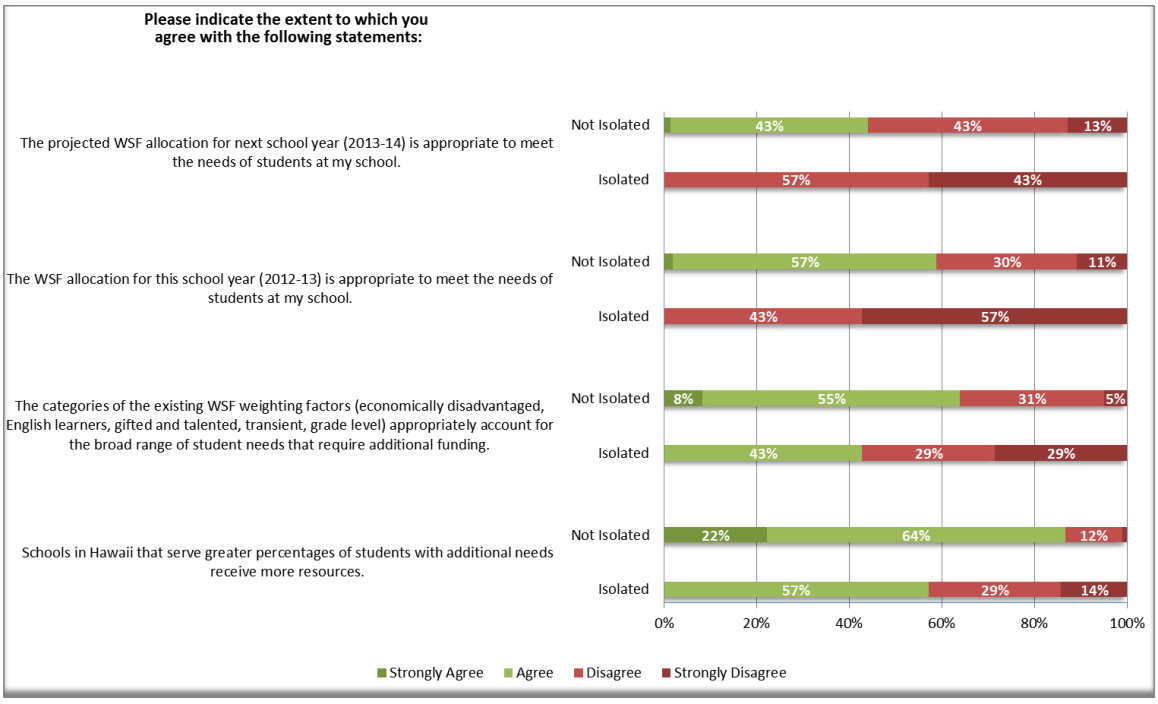
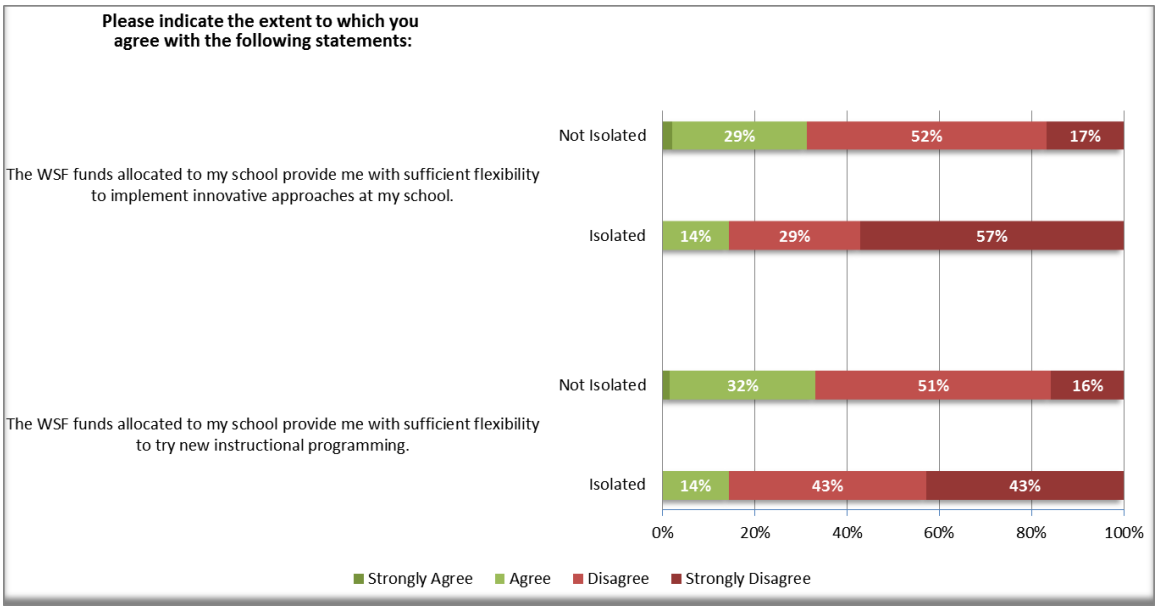


Exhibit 4.14 – Resource and Programmatic Equity, by School Isolation (Part 2)



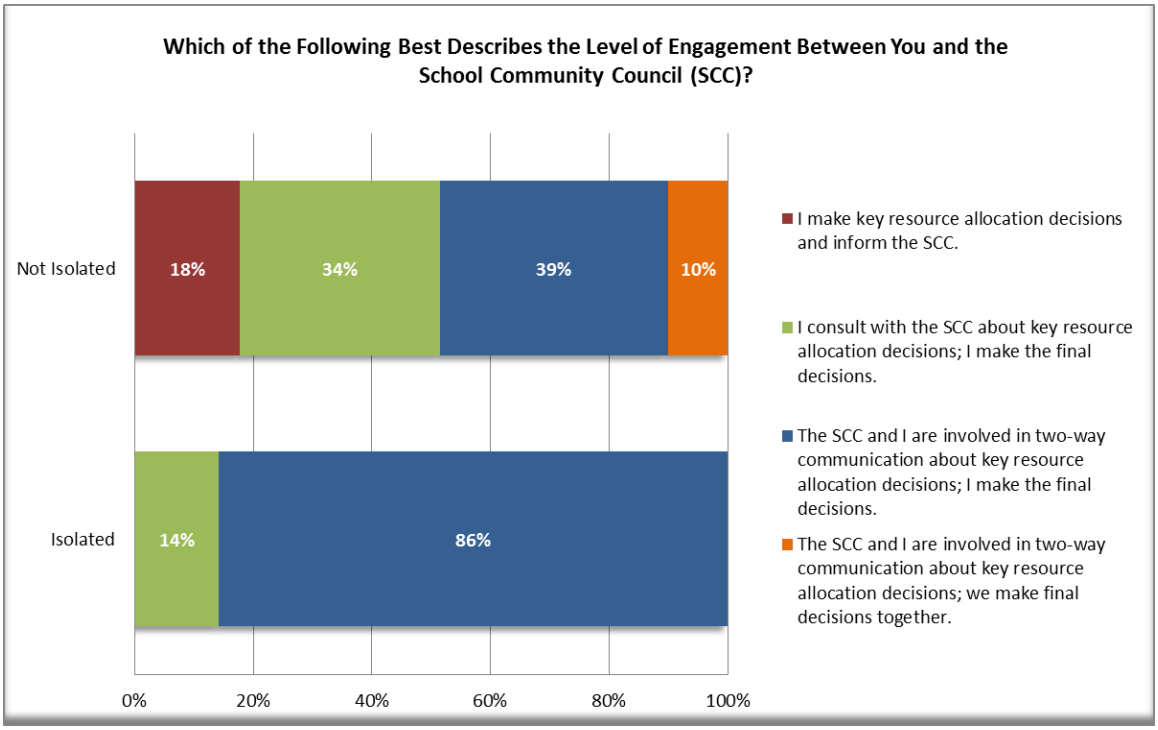
Fewer principals at isolated schools agreed or strongly agreed that they have sufficient flexibility to implement innovative approaches or try new instructional programming than do principals at non-isolated schools (Exhibit 4.15).

Exhibit 4.15 – Empowerment and Flexibility, by School Isolation



In contrast, principals at isolated schools appear to be involving their SCCs more closely in key resource allocation decisions than do principals at non-isolated schools (Exhibit 4.16).

Exhibit 4.16 – SCC Engagement, by School Isolation



Neighbor Island Schools

Principals at Neighbor Island schools and those on Oahu generally reported similar levels of agreement on the survey questions related to resource and programmatic equity (Exhibit 4.17), though fewer Neighbor Island principals agreed or strongly agreed that the amount of funds their schools receive through the WSF and other sources is sufficient for school operations (Exhibit 4.18).

Exhibit 4.17 – Resource and Programmatic Equity, by Neighbor Island Status (Part 1)

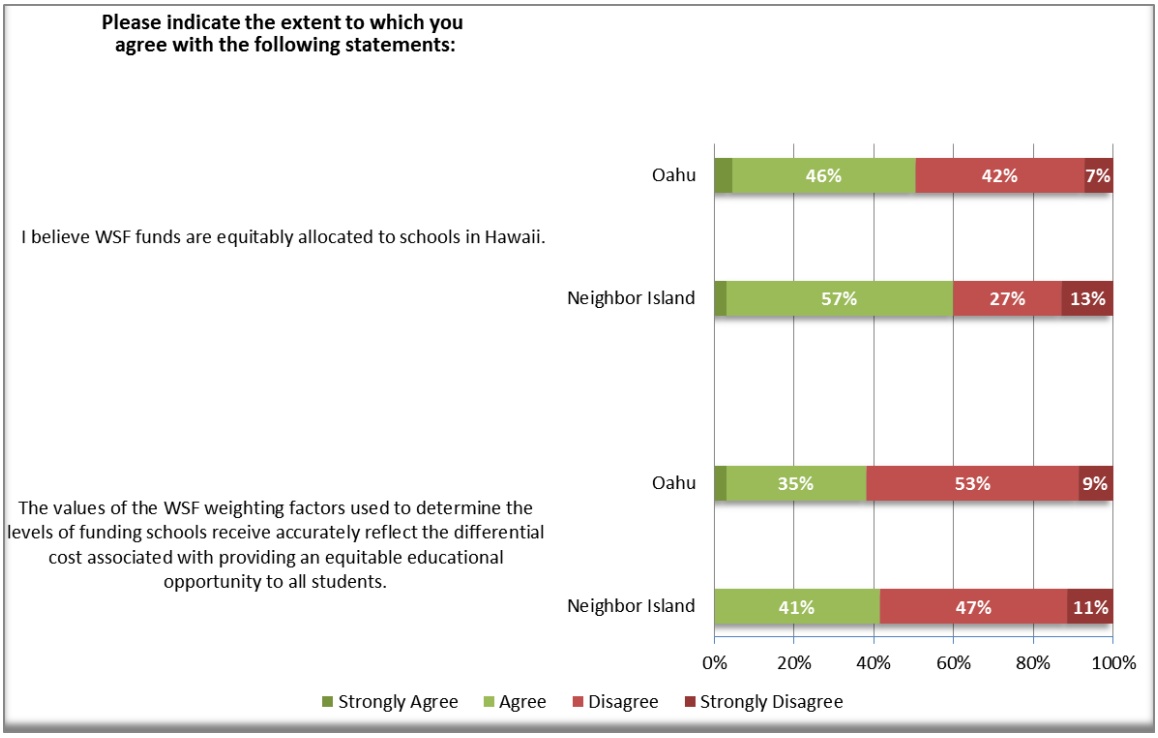
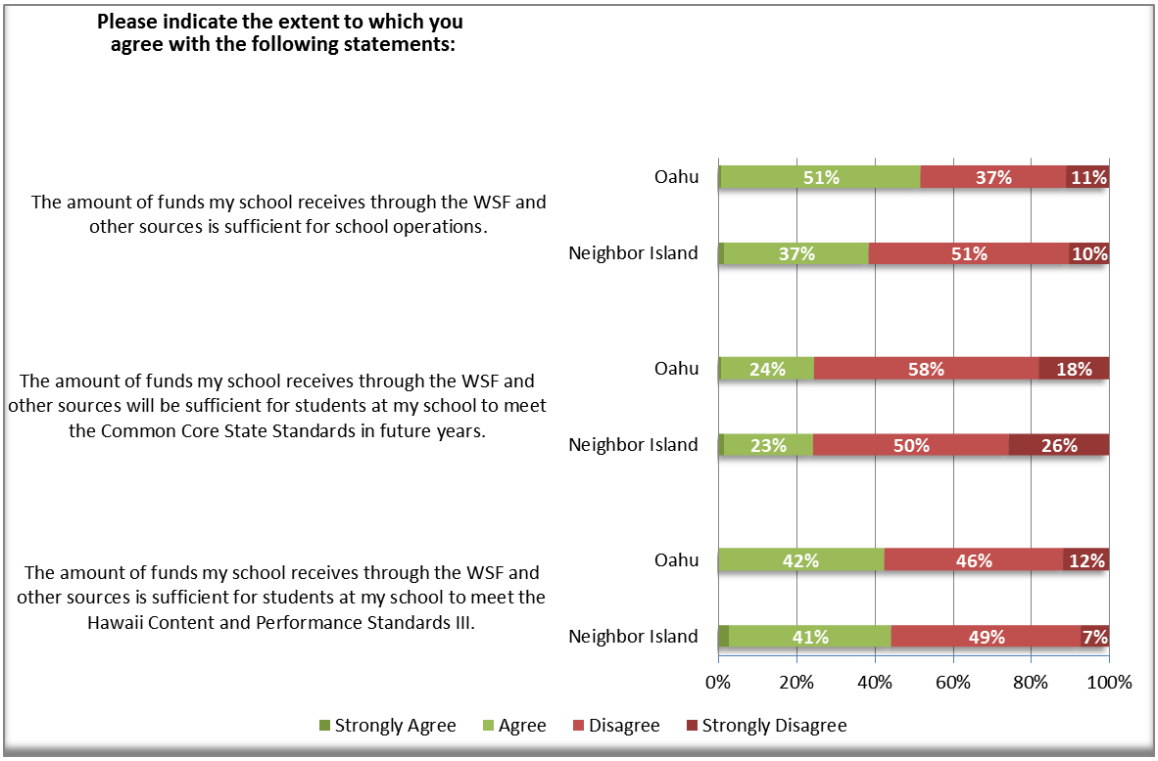
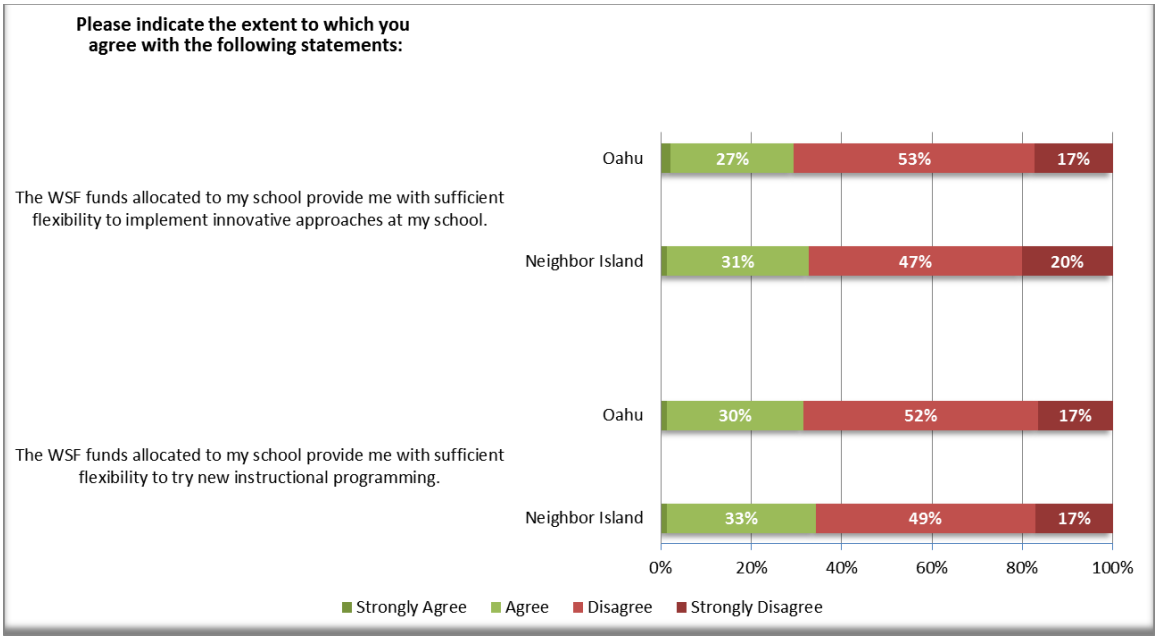


Exhibit 4.18 – Resource and Programmatic Equity, by Neighbor Island Status (Part 2)



Principals at Neighbor Island schools reported slightly higher agreement that WSF funds provide them with sufficient flexibility to implement innovative approaches and new instructional programming at their schools (Exhibit 4.19).

Exhibit 4.19 – Empowerment and Flexibility, by Neighbor Island Status



Unlike the differences between principals at isolated schools and non-isolated schools, principals at Neighbor Island schools and those on Oahu reported similar levels of engagement with their SCCs in key resource allocation decisions (see Technical Appendix).

Mixed Schools

The responses from principals at mixed schools tended to follow a different distribution than did those of principals at other schools. Only 2 of the 12 mixed schools were also classified as isolated schools, so by and large they represent a different category of principals. Mixed school principals reported less agreement that WSF funds are equitably distributed, that the weighting factors accurately reflect differential costs (Exhibit 4.20), and that the amount of funds they receive through the WSF and other sources is sufficient (Exhibit 4.21).

Exhibit 4.20 – Resource and Programmatic Equity, by School Level (Part 1)

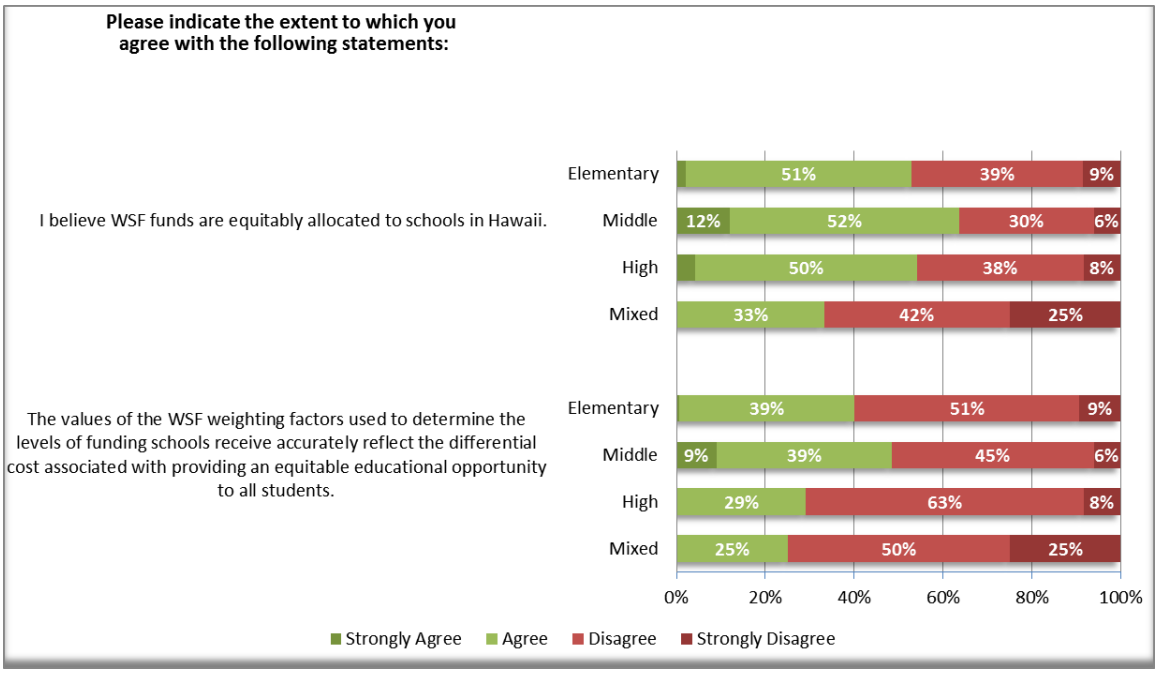
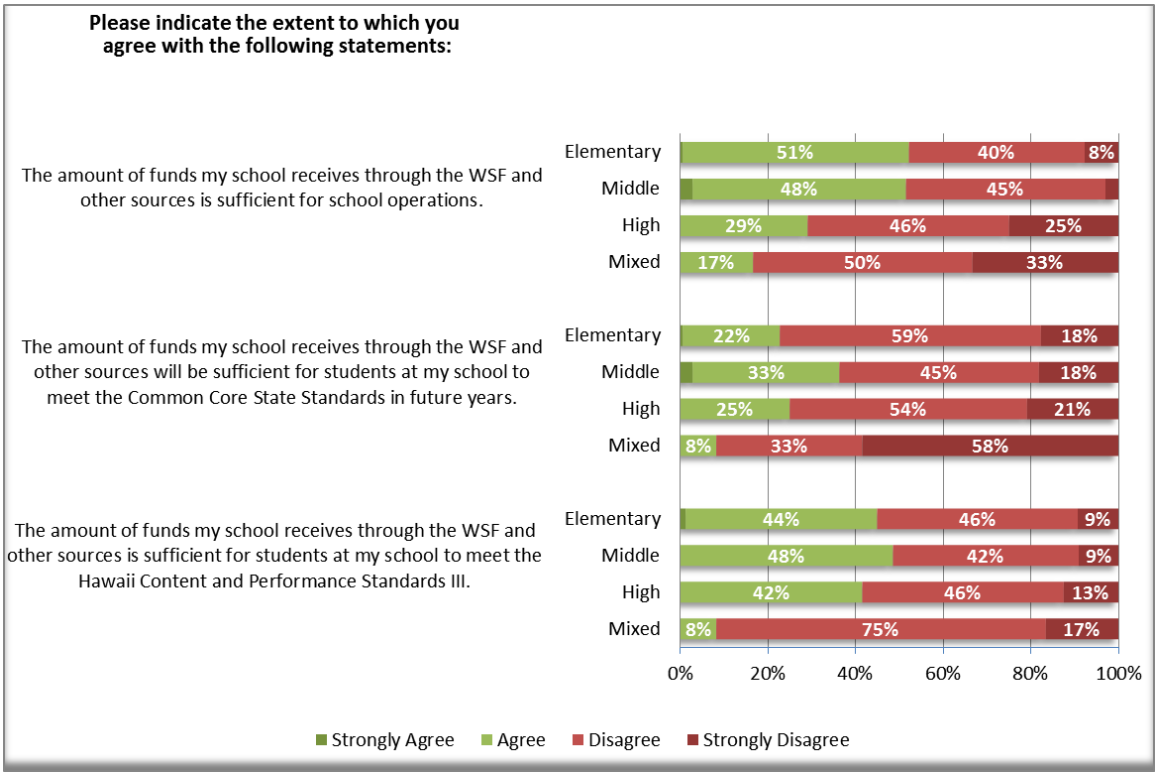


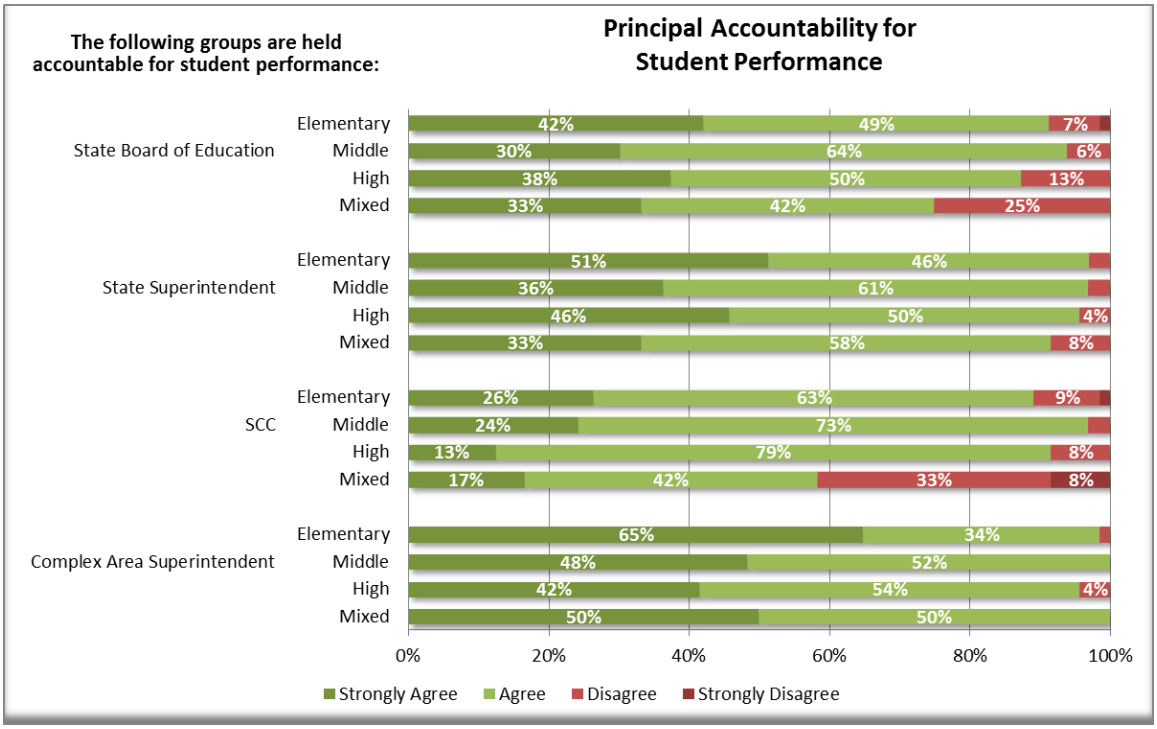
Exhibit 4.21 – Resource and Programmatic Equity, by School Level (Part 2)



Principals at mixed schools also reported less autonomy and flexibility than did other principals: for example, only 42 percent of mixed principals agreed that they have sufficient autonomy to implement an instructional program that meets the needs of students at their school, compared with 71 percent at high schools, 70 percent at middle schools, and 73 percent at elementary schools (see Appendix). Similarly, only 16 percent of principals at mixed schools agreed or strongly agreed that the WSF funds allocated to their school provide them with sufficient flexibility to try new instructional programming, compared with 29 percent at high schools, 33 percent at middle schools, and 35 percent at elementary schools. The results are similar for efficiency: only 16 percent of principals at mixed schools agreed or strongly agreed that the WSF funds allocated to their school provide them with sufficient flexibility to operate their school efficiently, compared with 33 percent at high schools, 52 percent at middle schools, and 50 percent at elementary schools (see Technical Appendix).

Principals at mixed schools reported less accountability for student performance to the SCC and to the State Board of Education compared with accountability reported by other principals (Exhibit 4.22).

Exhibit 4.22 – Principal Accountability, by School Level



Small Schools

Principals at small schools—particularly small elementary schools and small high schools—generally agreed or strongly agreed with statements about empowerment and flexibility at lower rates than did principals at large schools. For example, compared with principals at large elementary schools or large high schools, fewer principals of small elementary schools and small high schools agreed that they have sufficient autonomy to implement an instructional program that meets the needs of their students or for which they have discretion concerning how the dollars in their school budget are spent. This finding contrasts with that for principals at small middle schools, more of whom who agreed they had autonomy and discretion than did principals at large middle schools (Exhibits 4.23, 4.24, and 4.25). Similarly, when asked if the WSF funds allocated to their school provide them with sufficient flexibility to operate their school efficiently, only 35 percent of principals at small elementary schools agreed or strongly agreed compared with 65 percent at large elementary schools, whereas 0 percent of the principals at small high schools agreed or strongly agreed compared with 50 percent at large high schools (see Appendix).

Exhibit 4.23 – Empowerment, by Elementary School Size

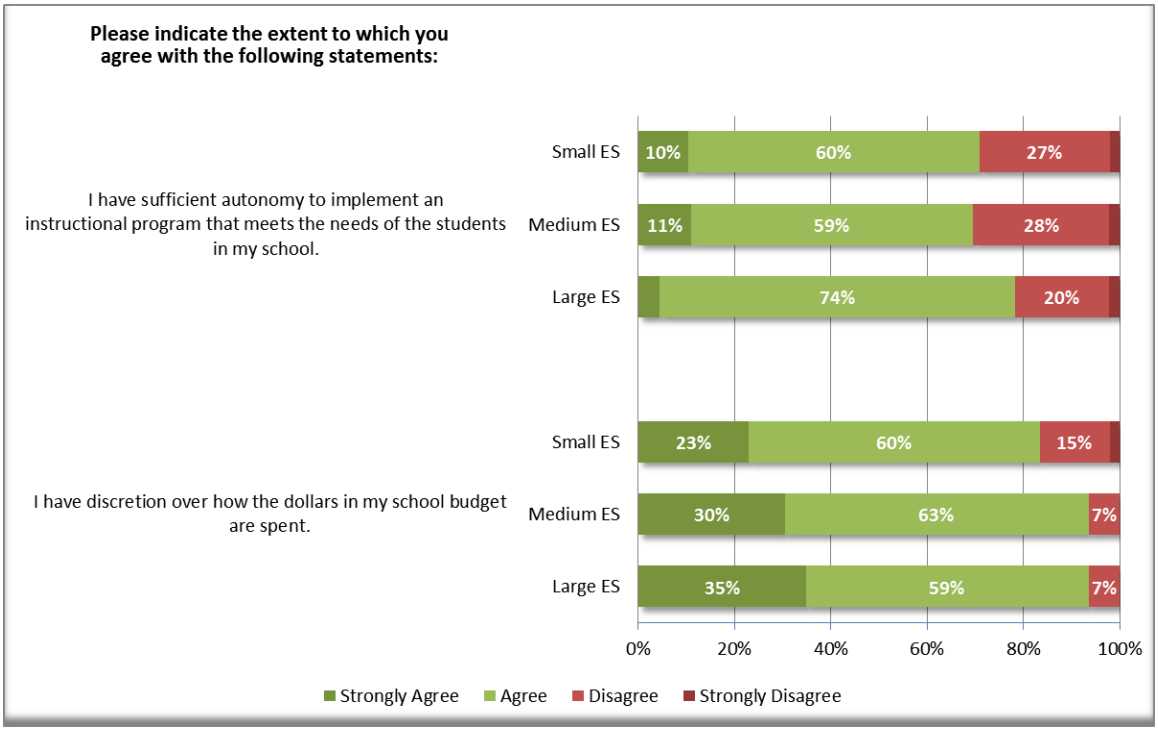


Exhibit 4.24 – Empowerment, by Middle School Size

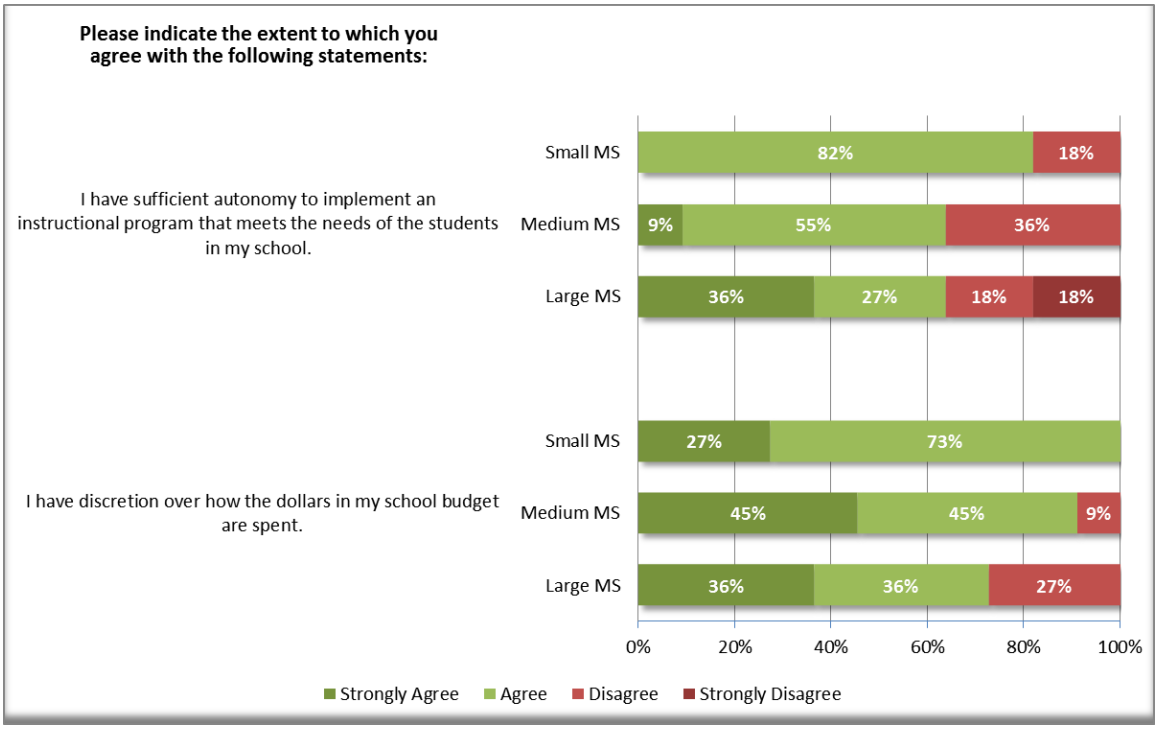
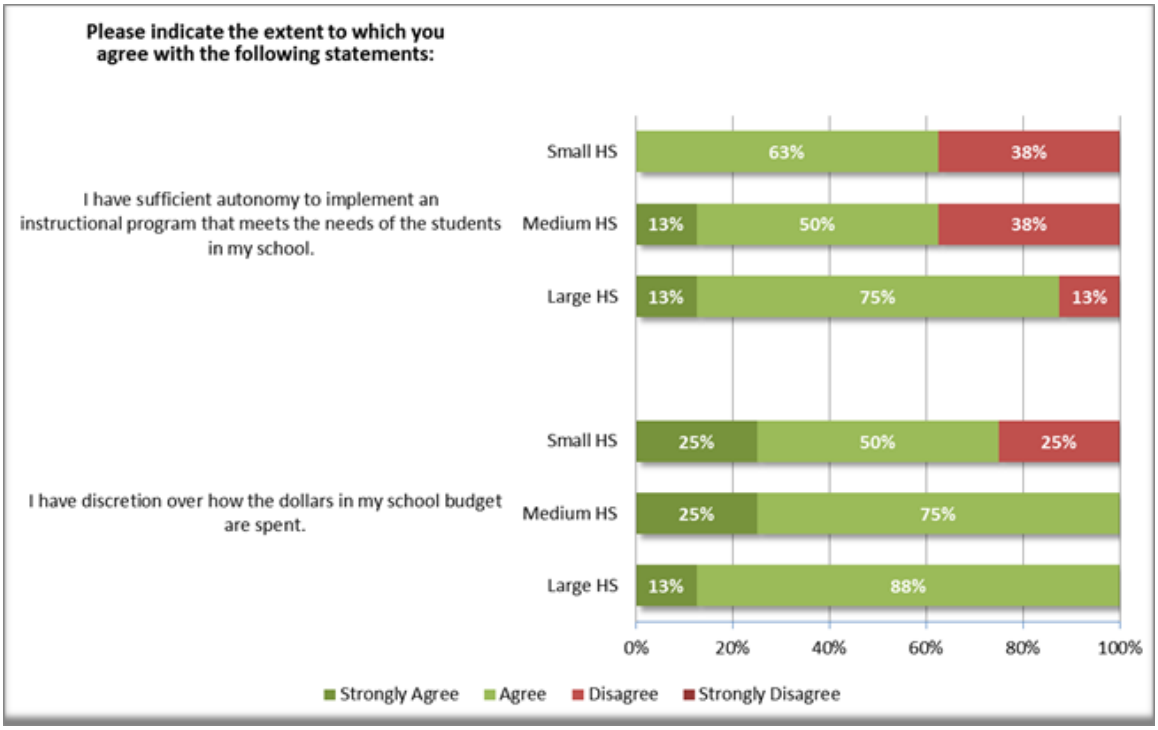


Exhibit 4.25 – Empowerment, by High School Size



When asked if the WSF funds allocated to their school provide them with sufficient flexibility to implement innovative approaches, 25 percent of principals at small elementary schools agreed or strongly agreed compared with 47 percent at large elementary schools. Twenty-seven percent of principals at small middle schools agreed or strongly agreed compared with 36 percent at large middle schools, and 13 percent at small high schools agreed or strongly agreed compared with 50 percent at large high schools (see Exhibits 4.26, 4.27, 4.28).

Exhibit 4.26 – Flexibility, by Elementary School Size

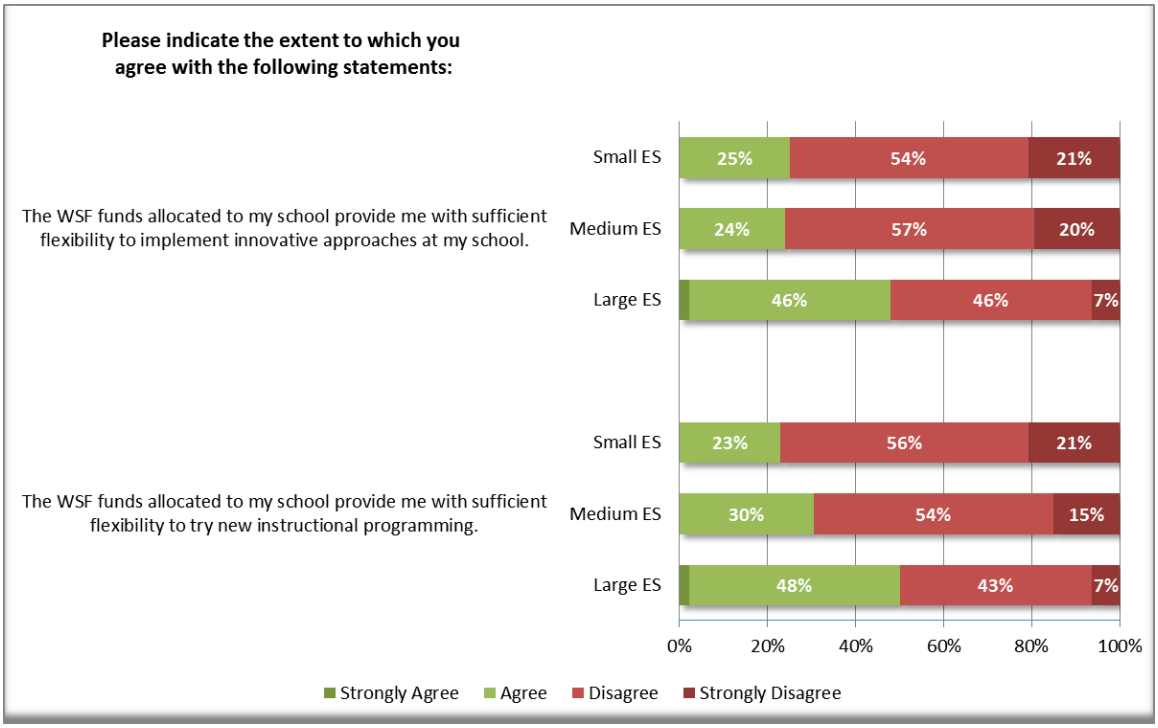


Exhibit 4.27 – Flexibility, by Middle School Size

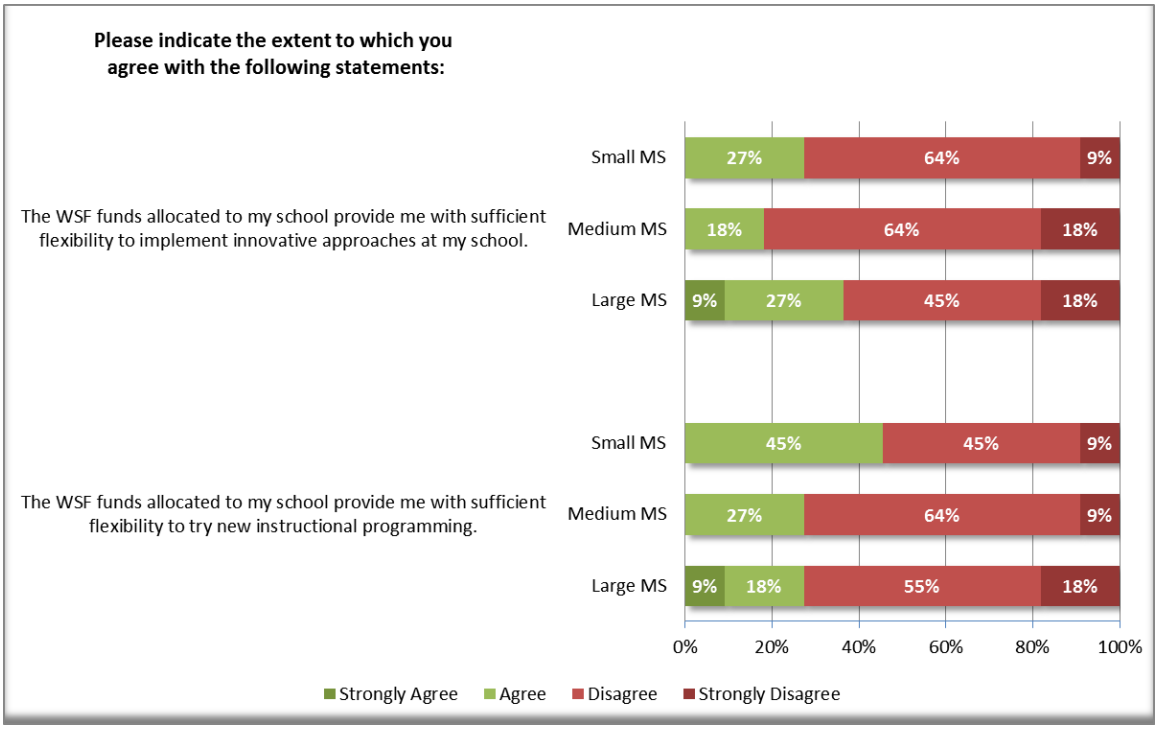
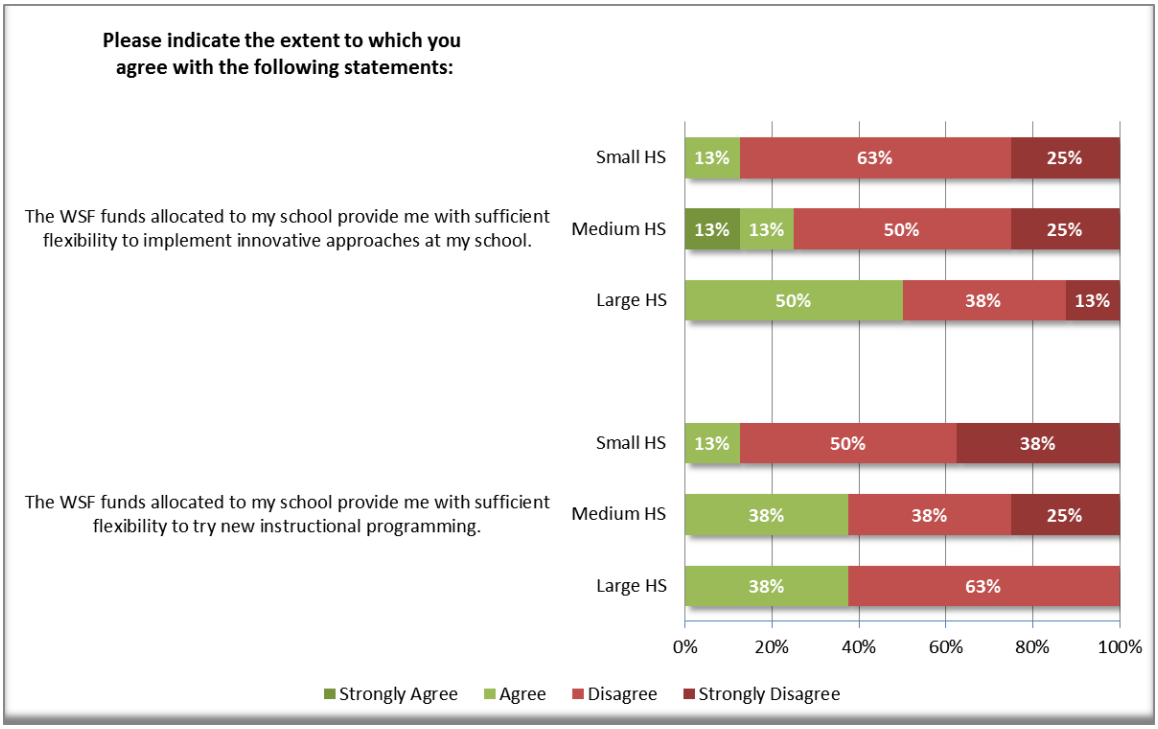


Exhibit 4.28 – Flexibility, by High School Size



In some cases, the differences among principals of varying school sizes appeared to be the most pronounced at the high school level. For example, 48 percent of principals at small elementary schools agreed or strongly agreed that WSF funds are equitably allocated to schools in Hawaii compared with 69 percent at large elementary schools, but at high schools the level of agreement was 26 percent for principals at small high schools compared with 75 percent for principals at large high schools (see Technical Appendix). Results were generally more even for middle schools of varying sizes than they were for elementary schools and high schools. However, when asked if the amount of funds their school receives through the WSF and other sources is sufficient for school operations, fewer principals agreed or strongly agreed at small elementary schools (38 percent), small middle schools (36 percent), and small high schools (25 percent) than at large elementary schools (72 percent), large middle schools (64 percent), and large high schools (50 percent) (see Technical Appendix). Similarly, fewer principals at small elementary schools (33 percent), small middle schools (55 percent), and small high schools (25 percent) agree or strongly agree that the projected WSF allocation for the next school year (2013–14) is appropriate to meet the needs of students at their school compared with the percentages of principals at large elementary schools (54 percent), large middle schools (73 percent), and large high schools (50 percent) (see Technical Appendix).

English Language Learners and Students Eligible for Free or Reduced-Price Lunch

There were few notable differences in responses among principals in schools with low, medium, and high percentages of ELL students or among principals in schools with low, medium, and high percentages of FRPL students. The full set of graphs for these survey results can be found in the Technical Appendix.

Locale

There were few notable differences in responses among principals at city, suburban, town, and rural schools, and the results are not always consistent. For example, slightly more rural principals agree or strongly agree that they have discretion concerning how the dollars in their school budget are spent, yet fewer rural principals agree or strongly agree that WSF funds provide them with sufficient flexibility to implement innovative approaches or try new instructional programming. Rural principals report being the most engaged with their SCCs in key resource allocation decisions, yet they also report the least agreement that they are held accountable for student performance by their SCCs. The full set of graphs for these survey results can be found in the Technical Appendix.

Chapter 5 – Stakeholder Attitudes and Perspectives Surrounding Hawaii's WSF

Purpose and Methodology

Successful implementation of WSF requires a clear understanding of the policy, as well as alignment of stakeholders at different levels of the system about the goals of the system and possible solutions to emerging challenges. To gain a broad understanding of attitudes and perspectives about the goals of WSF, the implementation process, and the extent to which the policy is achieving its intended outcomes, 16 semistructured interviews were conducted with stakeholders.

The pool of stakeholders interviewed covered a wide range of roles and included the following: seven principals, five staff members from the State Department of Education or at the Complex Area level (referred to as *state staff members*), three state legislators, and one teacher. The scope of the investigation of stakeholder attitudes and perspectives was limited because of budgetary constraints, and, therefore, we note that the findings here represent only a limited, albeit important, set of stakeholders and their perspectives.

The interviews were designed to gather data on the following topics:[22]

- Perceptions of the intended goals and outcomes of the WSF policy
- Key decisions made in the creation of the WSF
- Perceptions of the implementation process since inception, changes in resource allocation, and changes in the budgeting and planning process over time
- Extent to which respondents perceive the WSF to provide sufficient funding to achieve desired student outcomes
- Extent to which school leaders have the necessary autonomy to make a difference in student learning
- Capacity of stakeholders at different levels of the system to implement WSF
- Support and communication about the WSF
- Understanding of the WSF and involvement of the school community in decision making
- Extent to which the WSF has increased innovation and efficiency
- Overall likes and dislikes about the WSF
- Impact of other state and federal policies and procedures on the WSF
- Suggestions for how the WSF could be improved in the future

Four of the interviews were conducted in person, and the rest were conducted by phone. Not every respondent was asked every question; the specific questions asked were determined by time constraints and by the respondent's particular role, length of experience, and area of

[22] The full protocol can be found in Appendix 5.A.

expertise. Interviews ranged from 45 to 60 minutes and were audio-recorded and then transcribed. Interview transcripts were imported into NVivo analytic software and coded by domains corresponding to the main sections of the interview protocol. The transcripts were then analyzed to identify major themes and determine response frequencies.

Findings 1 – Background, Goals, and Implementation Process

Goals for WSF

- *Almost all respondents were aware of the goals of the WSF policy; roughly two thirds thought that equity was a goal of the policy, and about half thought that a goal was autonomy and flexibility for school leaders. Respondents reported that the goals have not changed over time.*

All 16 respondents were asked about the state's goals for the WSF policy, and only one stated that she did not know what the goals were. Eleven of the remaining 15 respondents said that one goal was resource distribution equity based on school enrollment, and 5 of those 11 also mentioned equity based on student need. Eight of the 15, including all 3 state legislators, cited giving school leaders more autonomy and flexibility in school budgeting decisions as a goal. Four of the 15 said that improved student achievement was a goal, and 2 cited transparency and accountability.

Fourteen respondents were asked to what extent the goals have changed since the WSF's inception, and all 14 said that they were not aware of changes or that that there have been only minor changes. Three respondents said that the formula and weights have been modified: one mentioned the establishment of a "slush fund" for schools that had large funding decreases, and one state legislator said that schools now have a base amount and that weights are added on top of that base. One respondent mentioned more of an emphasis now on the alignment of the Academic and Financial Plans; one said that schools are increasing their spending on personnel, especially vice principals, because of Race to the Top (RTTT) demands concerning teacher evaluation; and three alluded to the difficult economic situation of a decreasing budget paired with increasing enrollment.

Development of the WSF

- *Respondents suggested that the WSF policy was grounded in the desire to create more local control.*

Twelve respondents were asked about the process by which the WSF was created, and nine of those were asked how the WSF originally got on the state policy agenda and key decisions in its creation. Respondents explained that the idea started in Hawaii in the late 1980s, that it was grounded in the idea of local control, and that research was done on other districts that used per-pupil funding methods. Three of the respondents described how the COW was created and has evolved. All 12 were also asked specifically about the data and analyses that went into creating the WSF. Six of the 12 described the budget office gathering data from different departments and using those data to run scenarios to determine whether funding would be sufficient under the WSF. Two of the legislators mentioned debates about which items should go into the WSF: one

said that the categorical money that schools receive from the weights is insignificant compared with the new responsibilities placed on principals, and the other described problems with putting gifted and talented funds into WSF, adding a mobility weight, and leaving high-end special education funding out of the formula. Two of the legislators described how the weights have fluctuated from year to year, explaining that the weights were tweaked a lot for the first few years but are more stable now.

Percentage of school resources from WSF

- *There was wide variation in understanding how much of a school's resources come from WSF funds.*

Fifteen respondents were asked what percentage of a school's resources comes from WSF funds. Six respondents replied with an amount that was between 50 percent and 90 percent; for example, "most," "the bulk," "two-thirds," or "almost 80 percent, if not more." Five respondents, including four of the principals, said 90 percent or more of school funding comes from the WSF. Three did not know or were not sure, and one said that it depends on the school.[23]

Implementation

- *Respondents provided useful context and descriptions of how the WSF implementation process has proceeded over the years in terms of fluctuations in the weights, the use of the superintendent's reserve fund, and the use of average versus actual salaries and application of fringe benefits in the calculation of teacher compensation.*

Seven respondents—those with the most institutional memory—were asked to describe how implementation of the WSF has proceeded since its inception, and each had slightly different descriptions of how the process has proceeded. Three of the respondents (one legislator and two state staff members) indicated that state budget and enrollment fluctuations cause the weights to fluctuate from year to year, so the funding allocation to schools fluctuates as well. In referencing the creation of the superintendent's reserve fund, one respondent used the example of a virtual school that saw enrollment increase but funding decrease:

> *I guess we ran into problems a few years ago where if the enrollment went up and then even though they gained students, when they did the official enrollment count the school lost money. So what they created was this virtual school that they set aside money and they also implemented loss threshold, but as of this fiscal year they took away the loss threshold and they created what we call a superintendent reserve for the schools to get some of the money they'll be short.*

Two of the state legislators said that salaries were an issue during implementation, one citing missteps around adding in and taking out fringe benefits when calculating salaries and the other explaining the effects of using average or actual salaries on hiring practices:

[23] The analysis in Chapter 6 shows that the percentage of overall dollars for schools coming from WSF funding equaled 66.5 percent (see Exhibit 6.1).

> *The toughest nut to crack in weighted student formula is should you use average teacher salaries or actual salaries? … The problem with actual salaries is it's very tempting for a principal to hire younger teachers. Maybe it's subconscious or what because it's cheaper; you can probably get three new teachers for the price of two seasoned teachers. Just punch me with a lawsuit on age discrimination or whatever. So people use average. It's a little clumsy, but I can't think of any other way in which you can kind of strike what the actual expenses are in a given school except for using average.*

Two of the legislators also described the difficulty in assessing opinions of the WSF because schools that get more funding are happy and those that get less do not like the policy. In addition, one principal recalled much lobbying to influence the WSF and said that complex areas and schools on Oahu got more out of the WSF because they could more easily attend the meetings on Oahu.

Funding allocation changes

- *When asked about recent changes in funding allocations, half the respondents spoke about the transition process to protect schools from sudden losses in funds during phase-in. Others reported additional sources of funds available to schools outside the WSF.*

Ten of the 16 respondents were asked how funding allocations have changed in the last 5 years. Five reported other funds available to schools, including the superintendent's reserve fund, which a legislator referred to as a "contingency fund." However, the state superintendent clarified that this fund is not new: "Well first of all, the reserve has always been there. It's always been a reserve." When describing other funding available to schools, one of the state staff members mentioned a separate WSF fund at the complex area level, the RTTT fund, and Title IIA money for professional development. Five respondents spoke about the transitional funding period and noted that the 2012–13 school year was the first without a loss threshold.[24] As staff in the budget office explained:

> *I think the first three years were really looked at as a transitional period. So I believe the first year was like 10 percent… We looked at what they would've gotten had we remained categorically funded versus what they would get based on the formula at a certain point in time. And we were slowly over the first couple of years progressing so they would get 10 percent distributed by formula and then 25 percent by formula. But come the third year, we were supposed to move to 50 percent and instead we went to 100 percent because instead of using a transition based on a previous point in time a couple years ago, what it would've been, we did something where we used the loss threshold adjustment, which looked at what they had the previous year and just tried to ease the transition. So we kind of capped their year-to-year loss that they would get based on the formula.*

Two respondents—one from the state and one legislator—noted that fringe benefits were included in the WSF pot, and one legislator said that ROTC funding was extremely close to being included.

[24] The loss threshold was implemented for the first few years after WSF implementation to "cushion the blow" for schools scheduled to receive dramatically less funding under the new policy.

Changes in the planning and budgeting process

- *The most salient change to the planning and budgeting process in recent years seems to be adjustments in the Academic and Financial Plans timeline and process.*

Ten respondents were asked how the planning and budgeting process has changed during the last five years. Six of them reported changes in the timeline and Academic and Financial Plans process. Budget office staff members described how the time frame for planning has changed:

> *The first seven years, it was basically the financial and the academic plans were due at the same time right around the calendar new year. … Schools would start meeting on their academic plans to define what are their hopes, dreams, goals, initiatives, what were they going to try to do. And then the financial plan would come out, and then they would do the best they could to fund the academic plan with the resources that they had. Basically, they'd have like two months to finish their financial plan and turn it in to the CAS either before the Christmas break the first three years or so and then the next three years it was due after the Christmas break. So then this year we changed the process a little bit. So financial and academic plans were still released October time frame, and we asked this year that personnel … be submitted by the end of December and approved by the CAS [Complex Area Superintendent]. And then we reopened the plan and are allowing them to do…the nonpayroll expenditure plans from now until March time frame. … So we've changed that process a little bit this year to give the principals more time on their academic plans because with all of our initiatives there were complaints that they didn't have enough time to implement and see how the results were coming back before they were already planning their next academic plan. So this has allowed them six, seven, eight months of implemented new initiatives in their schools to see if they've made any difference on the test scores or any other things they've implemented for this school year, to see what kind of adjustments they need to make.*

The principal survey echoes this sentiment, as 71 percent of principals agreed or strongly agreed that recent changes in the Academic and Financial Plans timeline have improved their ability to plan their school's budget for the next school year.

One state staff member said that the biggest change has come this year:

> *In terms of the academic financial plan for the schools, there weren't a lot of changes until this past year. And the big change there was more around assuring that our strategic plan goals and measures and our six focus strategies, the nonnegotiable strategies, are embedded in the AcFin.*

Key Contributors

- *Respondents pointed to a variety of stakeholders as playing key roles in implementing the WSF.*

Four respondents were asked who they considered to be the key contributors to WSF implementation. One legislator said the Committee on Weights: "they decide what's in and what's out," adding that the principals are important but that there is "not enough understanding

at the school level to really effectively use it. The other part of that is it never resulted in significant enough resources that would allow the average principal to really do something different." Respondents also mentioned the district, complex area staff, and the legislature as being key contributors. As one state staff member said, "To me it's actually the leg[islature] because they're going to appropriate how much money based on the whole state needs…depending on the economy…"

Findings 2 – Sufficiency and Autonomy

Sufficiency of WSF

- *About half of the respondents said that WSF funding was not sufficient to achieve desired student outcomes.*

All 16 respondents either were asked directly the extent to which they perceived that WSF funding was sufficient to achieve desired student outcomes or elaborated on the theme when discussing related topics. Eight of the respondents said funding was insufficient, including five of the principals. One legislator said that WSF funding was not sufficient because the DOE was keeping a large percentage of funding. One principal said that funding has never been sufficient and that schools have always been underfunded. Four of the respondents seemed neutral about funding sufficiency, with comments such as, "You do with what you can get with what you're given" and "I think we can always do better … I think if we could give more I'd love to give more." Four more said it was sufficient, though not enthusiastically; for example, one principal said that funding was sufficient in the sense that it could cover the basic goals. One legislator made the distinction between sufficiency in terms of equity and sufficiency in terms of adequacy:

> *The weighted student formula was never and is never designed for adequacy. It's designed for equity. Are schools funded today all inadequately … but with a formula that at least reflects the need of that individual school? In my mind, the answer is yes. Is it enough? The answer is no.*

This finding is aligned with the results from the principal survey, in which more than half (57 percent) of principals agreed or strongly agreed that the WSF allocation for the current 2012–13 school year is appropriate to meet the needs of their students. However, fewer than half (42 percent) agreed or strongly agreed that the projected WSF allocation for 2013–14 would be sufficient, and 48 percent agreed or strongly agreed that the funds their school receives through the WSF and other sources is sufficient for school operations.

- *More than half of those interviewed seemed to suggest that funding for small and isolated schools may be insufficient.*

More than half of the respondents acknowledged that funding for small schools might not be sufficient, including respondents from all three groups (state DOE, legislators, and school staff). Two of the principals said that 98 percent of their budget is spent on the very minimum personnel they need to run a school, and one state staff member noted:

- *"I think that it works for many schools if not most schools but it does not work for small schools and rural schools…I think it helps if the last COW set some baselines on what is essential for every school to have. Every school needs a principal. And every school needs certain other key personnel depending on the level."*

As one legislator put it, it's hard to "pay the bills when the weighted student formula comes to $180,000."

At various points during the interviews, nine respondents across all three stakeholder groups highlighted funding issues for small and rural or isolated schools. All nine stated that the WSF does not provide enough funding for small schools; specifically, they said that it does not provide enough staff to fulfill the needs of the student population and achieve the Academic Plan goals. A state staff member gave the example of Canyon Middle School, which needs $534,000 to achieve its goals but is allotted only $187,000. One principal said that she spends 98 percent of her funding on personnel, and another principal said that the student/teacher ratio (26:1) allocates him 3 teachers for a school with 14 grade levels. A different principal pointed out that having one teacher teach three subjects affects the quality of teaching, yet small schools are expected to reach the same benchmarks as other schools do.

Five respondents elaborated on the superintendent's reserve fund to assist small schools; one of the state staff members explained that a committee of five complex area superintendents reads over applications and decides which schools are allotted funds from the reserve. A principal said that the application has big flaws and that the questions asked are not insightful, citing the example of a low student-to-teacher ratio at small schools not necessarily meaning that there is sufficient staffing. Five of the nine respondents pointed out problems of isolation; for example, one principal noted that the isolation of Neighbor Islands makes it hard for schools to pool resources with other schools, and a state staff member noted that isolation makes it hard for schools to obtain resources from the DOE. Three of these respondents cited Hana as an example of a small, isolated school. Finally, two of the principals felt strongly that small schools should have a minimum base (or flat) amount of funding.

Alignment of Academic and Financial Plans With Resource Allocation

- *Principals reported that they do their best to align their Academic and Finance Plans with their allocations of resources.*

Eleven respondents were asked about the alignment of Academic and Financial Plans with resource allocations. All seven of the principals reported that their schools' Academic and Financial Plans are aligned with resource allocations, and state staff said that reviews are done by SCCs or principals' peers. One state staff member said that principals should be working together with their CASs to align plans from K–12 "so that a student moving from elementary to middle to high can see the alignment in the curriculum and programs." Two of the principals mentioned that principals are held accountable by teachers for this alignment: "It's got to be aligned, and the teachers hold you accountable to why are we buying this, where is it in our academic plan that it says that we need this." Three of the principals said that their schools' Academic and Financial Plans must be aligned even if they lack resources; as one said, "whether we get funded for it or not is not even paid attention to." Another explained, "but for whatever

little meager amount that we get, we try to make sure it's tied to our academic plan in terms of meeting the goals to help student achievement." The third principal said that he has a generous community support base to fund the extra things his school needs.

Autonomy of School Leaders

- *Respondents were split on whether school leaders have the autonomy to make a difference in student learning; some examples of limits to real autonomy are a lack of funds and the inability to hire and fire teachers.*

Thirteen respondents were asked about whether school leaders have the autonomy to make a difference in student learning. Six of these, including one legislator and two principals, said there is sufficient or increased autonomy under the WSF. The findings from the interviews are mirrored in the results from the principal survey, in which 89 percent of principals agreed or strongly agreed that they have discretion concerning how the dollars in their school budget are spent, and 70 percent agreed or strongly agreed that they have sufficient autonomy to implement an instructional program that meets the needs of students in their school. One interviewed principal gave the example of being able to implement a unique schedule and reduce certain staff positions. Similarly, 34 of the 82 principals who responded to an open-ended survey question cited hiring staff as an example of how the WSF has permitted them to implement an innovative program at their school.

However, some of these respondents added the caveat that there is a lack of sufficient funding to make autonomy effective. As one principal said, "I believe there are no problems with autonomy. The problem is with you can't be too creative when you don't have too much money to start with in the first place." Another principal said that schools have many choices in programs (e.g., Achieve 3000 or Read 180) but that he would like more autonomy with the Common Core curriculum. One of the state staff members explained that procurement policies hinder autonomy because of the paperwork it takes to obtain certain materials, and one of the legislators noted that autonomy over funding is a balance of different types of flexibility for different funds, especially as it relates to personnel and union issues.

Seven respondents, including the five principals not quoted earlier, said there is not enough autonomy under the WSF. One principal rated his autonomy as a 4 out of 10, noting that he does have autonomy with areas such as hardware, technology, and rules about student conduct at the school. Four respondents said autonomy is limited because there is not enough funding: one principal said he has a certain degree of autonomy but cannot exercise it because of lack of funds, another principal noted the many mandates she must fund, and a third principal explained that since the WSF was implemented "the school leaders never really saw the resources to make a significant difference." One state staff member also added that small schools have limited money to fund programs. Three respondents described issues related to flexibility of personnel management. One principal said that the Hawaii State Teacher's Association has a staff reduction provision, and another principal explained that although schools have autonomy to add personnel, they cannot hire and dismiss specific teachers:

The problem that we've always had is that we've never had true autonomy to be held accountable, and the number one thing we don't have is the autonomy to hire and fire who we need. Every principal will tell you that.

In addition, one principal explained that there is a contradiction between autonomy and the centralized adoption of the Common Core curriculum.

Findings 3 – Capacity

- *Most respondents reported that state and Complex Area staff have the necessary capacity to implement WSF, but only half felt the same way about school staff.*

Ten respondents were asked about the capacity of state and complex area staff to successfully implement the WSF. Seven of these said that state and CA staff have the necessary capacity, mentioning the complex area business managers, the administrative service assistants, and the school renewal and educational specialists funded from ICAA. One principal noted, however, that there is a lack of practical experience in isolated areas and that "people in Honolulu who are making these decisions are completely unaware of that stuff." Another principal was neutral about capacity but emphasized how each community is different: "It's very difficult to know one size fits all…But I think the state does its best to try to make sure that there is a process and the process is streamlined to the best of their capabilities." In contrast, two respondents said that capacity at the state and complex area is lacking: One principal gave the example of the competing goals of Common Core standards and decentralized funding, and a state staff member related that the new school board has not closed small schools yet has not funded them enough to stay open.

Ten interviewees were asked about the capacity of school staff and the school community to successfully make decisions about program planning, budgeting, and resource allocation. Five of the 10 said that schools have the necessary capacity: One principal noted that schools are gradually becoming capable but that "there's a pretty steep learning curve," and another principal noted that his school has capacity because he personally has training and experience. One of the state staff members explained that schools definitely have capacity on the curriculum side but perhaps not on the business side, though they do have training programs for administrators (Administrator Certification for Excellence, or ACE) and school administrative service assistants (SASAs). Four of the 10 were neutral about school capacity, with 3 mentioning that capacity varies greatly among schools. One legislator noted that some Academic and Financial Plans are robust and others lack detail, one state staff member described uneven SCC involvement throughout the state, and one principal said that the information is overwhelming but that most schools know the basics of budget and spending decisions. Finally, one school staff member did not believe that schools had the necessary capacity and emphasized the need for training to understand the complexity of the budget:

I've had a situation at my school—stakeholders put pressure on the principal, hey, we want to see where [you are] spending the money. The principal gets all bent out of shape, comes in and throws on the table at the SCC a three ring binder three inches thick…with all the different codes…There will be other principals that try, but there is no official

training process statewide that ensures a consistent understanding by all the stakeholders in every single school, what's going on, that's a problem.

Findings 4 – Support and Communication

Professional Development Training and Support

- *Principals reported receiving support from the Complex Area office in aligning their Academic and Financial Plans.*

Three respondents were asked about the state's role in supporting the alignment of schools' Academic and Financial Plans with resource allocation decisions. Staff from the budget office noted that the state provides PowerPoint presentations about the WSF, implementation manuals, checklists, and references in a Lotus Notes database and that they answer questions about the WSF, monitor and track timelines, provide updates and supports to the Complex Area superintendents, provide new principals with PDERI (Professional Development and Educational Research Institute) training, and are developing more training for SASAs. One of the principals said that the state is streamlining the academic review process and providing schools with a template:

> *The state sends down guidelines, plans; they put the strategic plan online. So they've done everything they can to make it as streamlined as possible for you to be able to put in what your school would like to do to achieve the strategic goals. And then they've recently started a new academic review team to where you're going to see what the Board of Education's goals are and what the state's strategic plan is. And see how what you put into the school matches that. So there's a template now for the academic review team to look at how much aligned are you to hitting any of the Board of Education and strategic plan targets.*

In contrast, the other principal said that he does not find the state supports helpful and that he has instead hired outside providers for support:

> *To me, sometimes the best thing is for them is to stay out of our way. You have them set targets for us then just get out of our way because a lot of times they impede a lot of things that the school does by putting all these restraints and guidelines and strings attached to stuff that they give us.*

Eight respondents were asked about support from the CAS and his or her office. Three noted that there is a lot of support coming from the complex area business manager, and two principals said that their CAS or CAS's office helps to advocate for small schools and rural or isolated schools. As an example, one of these principals said that her CAS provided her school with additional funds to supplement WSF funding. Two other principals said that their CAS helps schools with Academic and Financial Plans: One said that the CAS discusses and reviews the Academic and Financial Plans to make sure they are focused before submission to the state, and the other described peer reviews of Academic and Financial Plans to ensure K–12 consistency, which the CAS monitors and then submits to the state. Finally, one of the state staff members noted that

she is attempting to provide trilevel (school, complex area, state) training to ensure statewide consistency.

Five respondents, including four principals, were asked about other supports for school leaders. Two of the principals said they get support from their PTAs and PTOs: Both cited fundraising, and another added that the PTO also helps to rally volunteers and is trying to start a group of parent tutors. Two respondents cited support from the SASAs, and one also mentioned the administrators training program (ACE) as being a good support. One principal said that the state budget people are very supportive, another principals said that staff development is a very useful support, and a third principal said that there is no other support for school leaders except him.

Communication

- *Information about the WSF comes from a variety of sources.*

Thirteen respondents were asked what the state has done this year with regard to communicating about the WSF. Six said that the state has been communicating about the WSF in some way: One principal said that he knew about the budget allocation per head and the ELL, special education, and free reduced-price lunch percentages; another principal said that she learns about WSF funding at the Educational Officers' (EO) meeting during the summer; another principal heard about the new timeline and breakdown of the Financial Plan from memos and conversations at principal meetings; and one other principal cited a lot of back-and-forth memos about the WSF. One of the state officials noted that everyone has access to the biennium proposal to the legislature. In contrast, six respondents, including two legislators and two principals, said there has not been much communication from the state about the WSF. A state official noted that the WSF is mostly an internal process with no formal communication about the formula.

Findings 5 – Transparency, Understanding, and Involvement of the School Community

Understanding of the WSF

- *Most respondents reported that the HIDOE staff and the complex area superintendents have a good understanding of the WSF but that the legislature generally does not. Respondents were split in their assessment of the school community's understanding of the WSF.*

Eleven respondents were asked about the understanding of the WSF by state-level staff. Five of these reported that the HIDOE staff have a good understanding of the WSF, one qualifying this by saying that the budget office has a good understanding but that she was not sure about other offices. Two respondents, both principals, spoke about understanding by the new board: One said that the new board does not understand the WSF because "they all come from the business sector," and the other said that the board has a "clear basic understanding" of the WSF but did not know the details. Five of the 11 respondents—including two of the legislators themselves—said that the legislature does not have a good understanding of the WSF. One state staff member noted that there is high turnover in the legislature, and another state staff member noted that few legislators understand the WSF but that the education chairs clearly do. One legislator reported

that members of the legislature understand the WSF conceptually but not which funds are in the WSF and which are categorical, and another legislator explained that his peers have not spent time looking at the budget. Two other respondents were either not sure about the legislature's understanding of the WSF or felt that it varied among members. Finally, one of the legislators noted that there is a misconception about why the WSF was developed and was hoping that this evaluation would shed light on "why it was developed in the first place and what the possibilities can really be as we move forward."

Eight respondents were asked about the understanding of the WSF by the CASs, and all eight said that the CASs understand the WSF well. Twelve of the 16 respondents were asked about the understanding of the WSF by the school staff and community members. Five said that the school staff and community have a good understanding of the WSF, though one of these respondents, a principal, said that her SCC understands it but that parents do not care. Four respondents, three principals and a state staff member said that the school staff and community do not have a good understanding of the WSF. One principal said they have an outsider's knowledge but not a working knowledge of the WSF, another principal said he does not believe that parents understand WSF, and a third principal thinks that his school community does not care. The state staff member explained that some principals cannot effectively explain the WSF to their SCCs, "so several school community council chairs came to argue that they could not lose money, most of them from smaller schools." Finally, the remaining three respondents said that understanding at the school level varies: One said that it varies depending on training, another said that the principal understands the WSF but that teachers do not, and the third said that the SCC understands the WSF but that the community as a whole does not and that staff understanding depends on their length of employment.

- *Respondents reported that misconceptions about the WSF at the school level appear to be connected more with the insufficiency of the available funds than with the WSF approach itself.*

Finally, a few of the respondents cited misconceptions about the WSF at the school level. One state staff member said there is a misconception regarding the base amount of funding for a school, and another said that there are a lot of misconceptions about the WSF because of decreasing funds. As she put it:

> *Actually there probably are misunderstandings just because the dollars change. And it wouldn't be so bad if the dollars were stable or going up. But I think a lot of the misunderstandings will arise because the dollars are going down. And people see those budget reductions and blame it on the formula but may not realize that it's based on the fact that their student population has gone down.*

One principal said there is a misconception that the WSF will ensure adequate funding for needs:

> *I guess to a certain extent people think that okay, because students are weighted differently because they have different educational needs, somehow or another WSF will always be able to fund everything that they want or need to service kids and that's not necessarily true.*

Another principal noted the problem at small schools:

> *I think the one complaint that I always hear is that our budget is being cut every year and that we're being bled to death…Large schools used to say that the small schools steal money from them, and small schools, every single principal that I talk to are talking about how they're being bled dry. There's just not enough money to even fulfill what the academic financial plan is meant to do.*

Transparency

- *Almost all respondents said that the WSF calculations and process are transparent.*

Thirteen respondents were asked about the transparency of the WSF calculations and implementation process, and 11 of those 13 said that the calculations and implementation were transparent. A few provided caveats, though, including not being sure if it was transparent at the state level, stating that the federal funds were not transparent and should be published online, and knowing of extra funds that are being held at the state level ("contingency funds for lawsuits, unexpected special education enrollment increases, and those kinds of things"). One legislator was not sure about transparency but suspects that "it's probably pretty good," and only one principal said that the process is not transparent but that "they'll give you all the information you need." This finding is echoed in the principal survey, in which most principals agreed or strongly agreed that they understand the WSF, can explain it, and know whom to ask for more information if needed.

Involvement of the School Community

- *About half of the respondents indicated that there was community involvement in the budgeting and planning process, though the level and value of that involvement varies.*

Thirteen respondents were asked about school community involvement in the budgeting and planning process. Six, including five school staff, said that their communities are involved, though the level of involvement varied. One principal said that his SCC volunteers and provides input but does not know enough to make budgeting and staffing decisions, whereas another principal said that his SCC helps make tough staffing decisions and plays a major role in facilities and maintenance. Another principal said that he has two budget meetings with his SCC and that they must sign off on the plan. In contrast, five respondents said that their communities are not heavily involved. For example, one legislator said that the SCC was "disconnected…nobody believes that they can make a change through how the funds are spent." A principal said that having SCC involvement now is of no use and "more of a trivial thing," whereas another principal said that ultimately he is just sharing information because of the lack of funding. The principal survey reflected similarly mixed SCC involvement: 10 percent of principals reported making key resource allocation decisions together with the SCC, 40 percent of principals reported that they are in two-way communication with the SCC about key resource allocation decisions, 33 percent reported that they consult with the SCC about key resource allocation decisions, and 17 percent reported that they make key resource allocation decisions and then inform the SCC.

One of the state officials described the SCC as "supposed to be part of the collaborative decision making" but some principals and CAS "can't articulate what WSF is and what the impact of that is. Then it just perpetuates the idea that this big, bad, terrible committee on weights is not distributing money properly." Another state official noted that it varies, depending on how the SCCs were trained and how well they understand the Academic and Financial Plans process.

Findings 6 – Accountability and Innovation

Accountability

- *Although most respondents said that strong accountability measures are in place, some questioned whether accountability had any impact.*

Ten respondents were asked about the accountability mechanisms in place for the WSF. Seven respondents said there are strong accountability measures in place. Four mentioned having many audits, two cited federal accountability programs, and two mentioned having to report to the legislature. One of the state respondents described a hierarchy of accountability in which principals report to CASs and CASs report to the deputy superintendent. This finding generally mirrors the results from the principal survey, in which the principals overwhelming agreed that they are held accountable for student performance by the State Board of Education, the State Superintendent, the SCC, and the Complex Area Superintendent, while 79 percent agreed or strongly agreed that the Complex Area Superintendent is held accountable for student performance.

In contrast, three interview respondents said that there are not many accountability mechanisms in place: One legislator said that it's just "accounting" and that not much has changed, noting, "My guess would be if you looked at what the school did prior to WSF and what they do today, I would say you would only find a handful of schools that actually look very different today than what they looked like before WSF." A principal described accountability as a "pretty archaic system" and said that he does not think anyone is checking on what he is doing with the money. One of the state respondents said that schools must report on activities in the Academic Plan every quarter but that she does not "really see very many financial accountability pieces."

Innovation and Efficiency

- *Less than half of the respondents felt there was an increase in innovation and efficiency as a result of the WSF, and some suggested that limits on funding were playing a role in hampering innovation.*

Fourteen respondents were asked whether the WSF has created more of a culture of innovation and efficiency in schools. Seven said that they have seen an increase in innovation and efficiency, though two of those (both principals) did not attribute innovation to the WSF. One said that schools have always had to innovate since the "start of the one room schoolhouse," and the other attributed innovation to other, non-WSF funds. In contrast, one of the state respondents said that principals are now making wise purchases instead of "arbitrary decisions" while working in isolation. As an example, one of the principals explained that he had created technology coordinator positions instead of converting a teacher's role into that position:

What the WSF allowed me to do was to create positions of true technicians, to purchase technicians for this school. I was the first one to do it in the state of Hawaii…to create my technology coordinators as true technicians versus teachers.

Four respondents said that innovation and efficiency varies among schools; one state respondent said that some principals are still in the "position count mentality" but that the problem was becoming less widespread. One of the legislators noted, "There's a difference between innovation and creativity versus just scraping by and surviving. And I have a feeling that some have just survived, and some have been absolutely innovative." One of the principals said that innovation is probably not based on budgeting practices but rather on the culture of the school, and a state official listed examples of innovative actions by principals that included implementing STEM programs, project-oriented team teaching, investing in technology, getting more computers, and implementing more professional development days for teachers.

One respondent was not sure whether innovation and efficiency had increased, explaining that schools have more control over their budgets now but that there is less money. Finally, two respondents (one principal and one legislator) said there has been no increased innovation or efficiency. That principal said that schools are bound by mandates and union agreements, and the legislator seemed unsure, explaining that "you can see them [principals] examining different alternatives and trying to make decisions and then hopefully funding…" but that there is very little funding to do what is needed.

This finding about limits on innovation and efficiency is mirrored in the principal survey, in which fewer than one third of principals agreed or strongly agreed that they have sufficient flexibility to implement innovative approaches or try new instructional programming at their school, one third agreed or strongly agreed that the WSF funds allocated to their school provided sufficient flexibility to try new instructional programming, and fewer than half agreed that they have sufficient flexibility to operate their school efficiently. Similarly, 44 of the 107 surveyed principals who said that the WSF has not permitted them to implement an innovative program at their school reported that it was because WSF funding is insufficient.

Successes, Challenges, and Recommendations

General Reflection on the WSF

Toward the end of the interview, 15 respondents were asked what they most like and dislike about the WSF. Thirteen of these spoke about what they like about the WSF, as follows:

- *Equity based on enrollment.* Five of the 13—three state staff members and two principals—like that the WSF is based on enrollment and applied equitably throughout the state so that everyone can anticipate what the budget is going to be. One state staff member said that she likes knowing where the money is coming from, and a principal liked that "if people get more it's for different reasons, they've got more students."
- *School-level empowerment*. Three respondents—two legislators and a state staff member—like that schools are empowered to increase student achievement.

- *Collaboration with the school community*. Two state staff members like the collaboration with the school community, and one of these respondents further elaborated that she likes the autonomy given for collaboration:

  > "I like the fact that a principal, the instructional leader of a school, can work collaboratively with their school community based on their needs and have autonomy to make decisions about positions and types of positions and programs and how many and all those things… You have a lot more flexibility to make adjustments in instructional decisions for the kids that you have."

- *Flexibility and autonomy.* Three respondents—one principal, one legislator, and one state staff member—said that they like the flexibility and autonomy that schools now have, and that principal specifically said that he likes the flexibility to purchase personnel positions, although he often cannot hire or fire specific personnel.
- *General philosophy.* One other principal said, "I like the philosophy of it [WSF]."

Fourteen respondents spoke about what they dislike about the WSF, as follows:

- *Insufficient funding.* Nine respondents, including six of the seven principals, said they would like to see more funding under the WSF.
- *Inadequate funding implies no flexibility.* One principal said he would like to see more funding to have the flexibility to start new programs, and another explained that "when you don't get any money, then there's no flexibility."
- *Small schools get inadequate funding.* Five respondents, including three principals, said that small or isolated schools do not have adequate funding under the WSF and need a base amount to cover basic costs. One principal noted that the WSF does not account for economies of scale, another emphasized the lack of resources at isolated schools, and a third said, "I think if I was in a school where finances were okay, then I would have no problem with it, but because I'm in a school where it's making my job almost impossible to do, I don't really care for it. It does not support student learning."
- *Lack of stability.* Two of the 14 respondents dislike the lack of stability and how the funding allocations can fluctuate from year to year, and two others citing difficulties on the part of school leadership in being able to adapt to changes in the budgeting timeline process including working with new templates and planning salaried staffing needs versus casual staffing and other resource needs at different stages in the process.
- *Miscellaneous issues.* Respondents cited additional aspects of the WSF that they do not like, including the lack of transparency when funds are taken out of categorical funds and put into the WSF (principal), too much freedom in the procurement process when principals lack an understanding of that process (principal), outdated systems of mandatory instructional hours and school days (legislator), difficulty in pushing out statewide initiatives under WSF funding (state staff member), and "viewing kids as walking dollar signs" (legislator).

Successes

Eight respondents were asked what they considered the biggest successes of the WSF:

- *Equity.* Three respondents said that the WSF is consistently and equitably applied to all schools.
- *Earlier budgeting*. Two respondents said that the earlier budgeting process gives principals more time to plan.
- *Increased collaboration.* Three respondents cited increased collaboration during the budgeting process, with a principal saying that the creation of SCCs "brought the conversation about school budgeting to that group of people, which is representative of the community… Even though I said earlier that most of the community is not aware of the school budgeting issues, the people who do sit on the council are, and I think that's a good first step towards more widespread understanding of it."
- *More autonomy and flexibility.* Two respondents, both principals, said that principals now have more autonomy and flexibility with school budgeting: "Knowing what funds you truly have control over and how you can influence your school with that. That's been the biggest success." One legislator said that principals are now more creatively allocating funds:

  > "They [principals] do at least look at the broader picture and the schools that are doing a good job of embracing the curriculum responsibility and trying to live the whole performance-based instruction."

- *Potential for increased accountability.* Finally, one state staff member said that although she hopes the WSF brings about more accountability and less waste, there is not enough money to see that happening right now.

Policy Barriers

Fourteen respondents were asked about policy barriers to WSF implementation and achieving the WSF goals:

- *State barriers.* Five respondents described state barriers: One legislator said the state is not following the 75 percent WSF statute and believes it has been funded at 49 percent for five years.[25] Two said that state procurement processes are a hindrance, and one state official said that principals' flexibility is inhibited by state mandates that do not come with separate funding streams.
- *Federal barriers.* Seven respondents described federal barriers, including five who cited NCLB mandates, federal compliance, or standardized tests; one who suggested aligning

[25] The official language of the statute reads as follows: "Not less than seventy per cent of appropriations for the total budget of the department, excluding debt service and capital improvement programs, shall be expended by principals." (see http://www.capitol.hawaii.gov/hrscurrent/Vol05_Ch0261-0319/HRS0302A/HRS_0302A-1301.htm). While the statute points to the requirement that 70 percent of the education appropriation be spent at school sites ("expended by principals"), it seems the respondent in this case may have interpreted this 70 percent as dollars flowing through the WSF (over which principals have the most discretion). Therefore, this finding may say more about the challenge in the understanding and interpretation of the statute on the part of stakeholders.

the Academic and Financial Plans and all funding streams instead of having separate plans for Titles I and II; and one who cited federal categorical funds.

Challenges and Critical Next Steps

Twelve respondents were asked to describe what they thought were challenges and critical next steps for the WSF:

- *Lack of funding, especially for small schools.* Seven of the 12, including 5 school staff members, said that lack of funding was a big challenge. Five of those seven specified that small schools need enough funding for essential personnel. As one principal explained, at her school positions were created to meet certain mandates but the funding is not enough to staff them. Consequently, she has to combine positions, which leaves her shorthanded, and if she has no one to fill that spot she has to "do the custodial work, my job, and whatever else is required of me." She does not want to cut teacher positions because combining grades will result in parents pulling their children out of mixed curriculum classes and, thus, further lower her enrollment.
- *Special education funding.* Two of the 12 respondents spoke about the challenge of pushing more of the budget, including special education, onto schools. One of these, a legislator, said that he wants to see principals empowered because they are closest to the children and can make the best decisions. However, he knows the dangers of adding expensive special education into the WSF and the difficulties in decentralizing funding in this fiscal climate. A principal echoed this sentiment, saying that one special education case "at $350,000" would wipe away the budget.
- *Miscellaneous challenges*. Two of the 12 respondents would like to see better understanding of the WSF and finance training for principals[26], one state staff member wants to see the enrollment numbers released to match with the budgeting process timeline in order to avoid large deviations between projected and official enrollment counts, a legislator wants to get more data and good information out to stakeholders, and a principal sees the challenge of fluctuating funding and the lack of experienced teachers as needs increase.

Suggestions for Improving the WSF or Its Implementation

Finally, 15 respondents were asked for suggestions to improve the WSF or its implementation:

- *More funds in the WSF.* Three respondents want to see more funds going to the WSF.
- *Additional changes to the timeline.* Two respondents want to tweak the timeline of the WSF process.
- *More support for small and isolated schools.* Five respondents suggested extra support for small and isolated schools: One principal wants to see a flat amount for small schools, whereas another principal voiced the need for a base amount to cover basic costs at each

[26] Note that this may seem in contrast to the principal survey analysis finding presented earlier where most principals reported that they understood the WSF and know where to go for additional information. However, the sentiment of these two stakeholders merely suggests that principal knowledge could be improved and points specifically to training in finance.

schooling level (e.g., a K–6 school needs one teacher for every grade). Another principal would like to see more funds for isolated schools (e.g., extra funds for facilities because minor repairs and maintenance are part of the WSF funds), whereas another wants to see higher weights for isolated schools and travel funds for isolated school staff to fly to Oahu for professional development. One state staff member suggested that addressing the issue with small schools should be a priority.

- *Better transparency and communication.* Four of the 15 respondents would like more transparency about the WSF and more communication about COW decisions about the formula and weights.
- *More autonomy and flexibility.* Three respondents—including two legislators—suggested more autonomy and flexibility for schools. As one said, "I've always believed that it's really trying to get the resources closest to the people closest to the students and [having] them make most of those decisions would be in the best interest of the student." One state staff member elaborated on autonomy by suggesting that teachers should be able to use PCards for purchasing (currently, only principals have PCards) and that the base amounts for the procurement process should be reexamined.
- *Special education funding.* Two respondents had opinions about special education and the WSF but in opposite directions. One, a legislator, wants special education included in the WSF: "I would say that the simplest and most direct might be high functioning special needs kids. I talk to principals, they don't know, they get assigned how many special ed teachers show up and how many educational assistants and all of that. It's a separate kind of thing, and they don't seem like they have any input into what happens… From year to year…I don't know how many SPED teachers are going to show up, I don't know how many EA's [Educational Assistants] I'm going to have." The other, a principal, wants to keep special education as categorical funding: "…we need to keep that categorical because, depending on your clientele that you have at your school, one lawsuit could eat the entire budget up and that's something that I think at the state level as a central categorical fund, I think that's one of the things I feel safer that the schools not touch and I think most of the principals agree with that, even though it would give you autonomy to buy more special education teachers or EAs or whatever you want to do, I think it's dangerous in the sense that now what the state is going to do is say you know we got no money, you guys have to pay for it out of your own budget."
- *Miscellaneous suggestions.* Additional suggestions for improvement included the following: multiyear weights for multiyear Academic and Financial Plans would be more effective and logical (state staff member), bring back professional development days when the budget allows (state staff member), training for principals to learn how to budget (school staff member), a survey of other jurisdictions that use average daily attendance in their WSF (state staff member), and getting the legislature more involved with the COW (state staff member).

Chapter 6 - Changes in Equity After Implementation of Hawaii's WSF

As discussed earlier, a key motivation behind the implementation of a WSF is to improve the *equity* with which resources (dollars) are distributed to schools. Two additional and equally important motivations were also presented. First, WSF policies can improve the *efficiency* with which money is spent by shifting the discretion over resources from the central office to school leaders who, because of their proximity, are arguably more knowledgeable about how best to serve the unique needs of their students. Second, WSF policies often involve increasing the degree to which parents and members of the local community are empowered to participate in the decision making concerning educational programming at their schools, and this engagement also takes advantage of this group's proximity to help meet the needs of the students being served.

The preceding chapters touched on all three of these motivations. The overview in Chapter 2 described the development and evolution of the WSF currently in place in Hawaii and the establishment of SCCs under Act 51. Chapters 4 and 5 investigated principal and stakeholder perceptions and the extent to which they understood the WSF and felt it increased the equity with which dollars are distributed, the flexibility principals have in how resources are used and whether any innovative programs have been implemented as a result of the formula, and the extent to which the SCCs have been engaged in the decision-making process. In contrast, this chapter focuses solely on the equity motivation by using statistical analysis to explore whether there were changes (improvements) to funding equity since the WSF was implemented. Specifically, it addresses the following research question:

> *Did the relationship between dollar allocations to schools and student need in terms of student socioeconomic disadvantage become stronger after implementation of the WSF?*

The following chapter addresses this question through a series of statistical analyses involving demographic and fiscal data on student and school characteristics and dollar allocations to schools under the WSF. The chapter first provides an overview of the data used and then presents the methodology and results of descriptive analysis that shows over time the average WSF per-pupil dollar allocations across schools serving students with various levels of socioeconomic disadvantage (SED). A second analysis goes on to show the general relationship between per pupil allocations and SED and how this may have changed since implementation of the WSF. Finally, a more rigorous regression analysis is then presented that estimates the relationship between both WSF and overall per-pupil allocations and SED, while controlling for the influence of school scale of operations.

Fiscal Data

The HIDOE provided all of the fiscal data used in the analyses presented in this chapter. These data were used to generate school-level measures of allocations per pupil as detailed below. It is important to note that although the allocations made through the WSF come strictly out of General Fund dollars, our analysis also makes use of all dollar allocations that can be linked

directly to schools in our sample, including those supported by the General, Federal, Special, and Trust Funds.

Allocations Data

Data on the dollar allocations made to school sites for the school years 2000–01 to 2012–13 were provided to the research team by the HIDOE. Two types of files were provided for each fiscal year: *position* allocation files, which included the number (in FTE counts) and type of staff positions allocated to each school in the state supported by the various available funding sources, and *transactional* allocation files, which included allocation amounts from funds distributed through the WSF, as well as all nonpayroll allocations from non-WSF–related funds. Although the position allocation files contain the bulk of the resources made up by staffing costs that was spent at school sites, the transactional allocation files account for funds carried over from previous years, as well as adjustments for enrollment fluctuations and interprogram transfers, which help generate a more accurate measure of the resources made available to schools over the full course of the school year.[27]

Identifying WSF versus Non-WSF Dollar Allocations

In both the position and transactional allocation files, the program ID code identifies the source and purpose of fiscal resources. This data element was used to identify fiscal resources that were eventually distributed through the WSF versus those that were not. Specifically, for all years in our analysis—both those prior and subsequent to implementation of the WSF policy—the research team separated allocation dollars into three categories: (1) those that were eventually distributed by the WSF exclusively after 2006–07, (2) those that were never distributed by the WSF, and (3) those that were distributed by the WSF for only a portion of the post-WSF period.

When the formula was introduced, multiple programs were retired and consolidated into the program IDs currently used to identify WSF resources.[28] The HIDOE provided a list of program IDs that currently identified WSF program IDs and a crosswalk between these current IDs and the retired IDs that were eventually consolidated into WSF program IDs in the 2006–07 school year or later. This information allowed the research team to compare the distribution of the fiscal resources that were associated with the WSF both before and after they were allocated through the formula.[29]

For the analyses presented in this chapter, we examine overall allocations per pupil, as well as allocations broken out by WSF status (i.e., those distributed through the WSF versus those distributed outside of the WSF). In the scatter plots and regression analysis, allocations are coded as WSF if they were associated with a WSF program ID in 2006–07 or later. Prior to 2006–07, allocations are coded as WSF if they were associated with a retired program ID that was

[27] More information about the position and transactional allocation files and how these were combined to create the analysis data set is included in Appendix E.

[28] For a comprehensive list of current and retired Program IDs associated with the WSF and their corresponding allocations, see Appendix E (Exhibits E.2, E.3, E.4, and E.5).

[29] Additional necessary adjustments were made to account for retired programs that were split between WSF and non-WSF programs after the WSF was implemented and to exclude allocations for fringe benefits that were included in selected years of data. Details on these adjustments can be found in Appendix F.

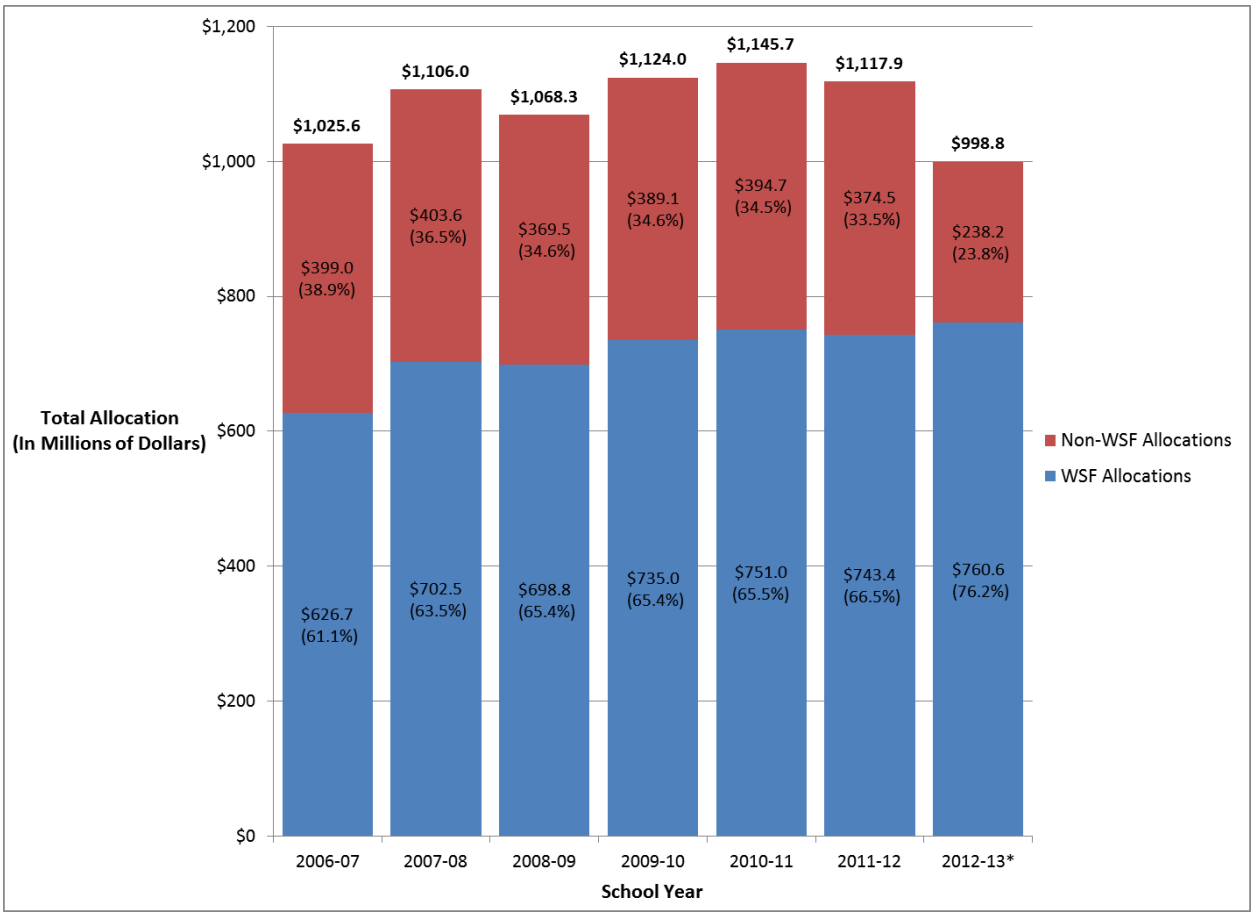
consolidated into the WSF in 2006–07.[30] In the bar charts, however, to take into account the fact that additional program IDs were distributed through the WSF some years after the initial implementation in 2006–07 (beginning in 2009–10), allocations under these additional programs are coded as "Ever WSF," in contrast to those that were introduced through the formula in the first year, which are coded as "Pure WSF."[31]

Exhibit 6.1 shows the total dollar allocations and corresponding shares received by school sites in the analysis sample between 2006–07 and 2012–13 broken out by WSF status. The lower portion of each bar indicates allocations that were distributed through the WSF, and the top portion denotes those that were distributed outside of the WSF. Both the level and share of WSF dollar allocations are relatively stable after increases in the first two years and until the final year in the period (from 2008–09 to 2011–12). During this period, WSF allocations constituted approximately two thirds of total allocations from the HIDOE. In the most recent year, the results show that there was a sharp increase in the share of WSF allocations, largely because of the decrease in non-WSF dollar allocations; the reader will note that the absolute level of dollars allocated through the WSF in 2012–13 has not changed appreciably since 2009-10.

[30] Because schools can carry over a portion of funds from the previous year, a handful of retired program IDs appeared in the 2006–07 file; these were coded as WSF.

[31] The amount of funding contained in programs labeled as "Ever WSF" is quite small and mostly corresponds to dollars supporting high schools.

Exhibit 6.1 – Dollar Allocations to Schools by WSF Status from 2006–07 to 2012–13 (Total Dollar Allocations in Bold)



*Note: 2012–13 allocations are preliminary.

Source: Historical fiscal data obtained from the HIDOE Budget Execution Section.

Demographic Data

The research team assembled a data set containing school-level information pertaining to student needs and enrollment. HIDOE provided electronic data files for the post-WSF years (2006–07 to 2012–13) which contained the official school-level demographic and enrollment measures that were used in conjunction with the WSF weighting factors to calculate dollar allocations for schools.[32] These data included SED (proxied by students eligible for or receiving free or reduce-price lunch), English language learner status, and enrollment by grade range. Student counts by grade level, special education status, and eligibility for free or reduced-price lunch were provided separately for all years in which the fiscal allocation files were made available (2000–01 to 2012–13) allowing us to fill in the years prior to WSF implementation. Counts by ELL status were also provided; however, they were unavailable for the 2000–01, 2001–02, and 2002–03

[32] See Chapter 2 for an in-depth description of the WSF weighting factors.

school years. For these years, school-level ELL counts were generated by using data from the National Longitudinal School-Level State Assessment Score Database.[33]

The analyses in this chapter make use of the following school-level characteristics across the study period (2000–01 to 2012–13): enrollment, percentage of students who are eligible for or receiving FRPL, and percentage of students who are ELLs. Percentages for the latter two variables were generated by taking the total number of students in each group and dividing by the school's total enrollment.

Analyses in this chapter are performed separately by schooling level (elementary, middle, and high). To determine schooling level, each school's grade-level student counts were summed into three mutually exclusive grade ranges: K–5 (elementary), 6–8 (middle), and 9–12 (high). These counts were then divided by total school enrollment. The category that had the largest share of a school's enrollment was then assigned to that schooling level. For example, if the school's largest share was K–5, then it was designated as an elementary school.

Study Sample of Schools

The HIDOE provided a list of schools that received allocations through the WSF. Any schools that did not receive allocations through the formula were excluded from the analyses presented in this chapter. Appendix H lists schools that appeared in the fiscal files but were excluded in the analyses (see Exhibit H.1). The majority of schools that were excluded serve special populations and, accordingly, were funded through special programs. In addition, one school was removed from the file because of its conversion to a public charter school after the WSF was implemented, as was a handful of charter schools occasionally appeared in the fiscal files in years prior to the introduction of the WSF.

Exhibit 6.2 contains descriptive statistics for the variables included in the analysis for selected years (2005–06, 2008–09, and 2012–13).[34] Across all schooling levels, on average, there has been a noticeable increase in both FRPL percentage and ELL percentage during the period. For all schooling levels, the average FRPL percentage increased by more than 10 points from the 2005–06 to the 2012–13 school year. It appears that the major shift occurred between 2008–09 and 2012–13 and was largest for high schools. Among the increases in the average ELL percentage that occurred at all three schooling levels, the sharpest was found at the middle school level, where the average ELL percentage more than doubled between 2005–06 and 2012–13. For enrollment, it appears that the size of the average elementary school fluctuated, exhibiting a u-shaped pattern during the three study years, and showed an increase between 2005–06 and 2012–13. In contrast, the average enrollment at middle and high schools has declined during the period.

[33] For more information about how the ELL rates were generated, see Appendix G.
[34] For sake of brevity, we limited this analysis to three years. The specific years were chosen to provide a comprehensive spread of results spanning from before to after the WSF was implemented.

Exhibit 6.2 – Characteristics of Analysis Sample of Schools (2005–06, 2008–09, and 2012–13)

Variable	Year	Elementary Schools				Middle Schools				High Schools			
		Average	Min	Max	Count	Average	Min	Max	Count	Average	Min	Max	Count
FRPL Percentage	2005–06	47.1%	1.6%	100.0%	176	43.5%	11.7%	75.5%	37	35.7%	8.2%	67.1%	39
	2008–09	47.3%	1.9%	99.5%	177	44.7%	12.9%	80.7%	37	37.8%	10.7%	70.8%	39
	2012–13	57.5%	4.5%	99.5%	174	56.5%	17.3%	84.8%	38	50.6%	16.3%	89.1%	39
ELL Percentage	2005–06	9.9%	0.0%	53.8%	176	7.4%	1.3%	28.8%	37	6.5%	0.6%	20.5%	39
	2008–09	11.1%	0.0%	47.7%	177	7.8%	1.13%	25.6%	37	6.6%	1.6%	22.3%	39
	2012–13	15.5%	0.0%	75.0%	174	16.4%	3.0%	45.8%	38	11.9%	2.7%	30.4%	39
Total Enrollment	2005–06	520	57	1,452	176	811	181	1,872	37	1,420	285	2,579	39
	2008–09	508	61	1,381	177	781	151	1,742	37	1,344	285	2,565	39
	2012–13	552	76	1,459	174	767	174	1,731	38	1,288	258	2,818	39

Source: Historical demographic data obtained from the HIDOE Budget Execution Section.

Analysis of Funding Allocations by SED Category

Methodology

The first analysis investigates how overall pure WSF, ever WSF, and non-WSF allocations varied with school SED over time. Examining the relationship between school per-pupil allocations and student SED across multiple years provides insight into how the distribution of school allocations has changed from before to after the WSF was implemented. If schools with higher levels of SED receive larger per-pupil allocations relative to schools with lower levels of SED, and this difference increases over time, then it suggests that the distribution of fiscal resources may have become more equitable. To demonstrate how this relationship may have changed during the study period, the analysis results are presented for the 2005–06 school year, the year immediately prior to the introduction of the WSF, as well as for 2011–12 and 2012–13, the two most recent years for which data are available.[35]

To perform this analysis, for each year all schools within a particular schooling level (e.g., elementary) were sorted by FRPL percentage and then divided into 10 groups of equal size (deciles). Decile 10 contains schools with the highest FRPL percentage, whereas decile 1 contains schools with the lowest FRPL percentage. The average overall, pure WSF, ever WSF, and non-WSF per-pupil allocations for each decile were then charted by school year.[36] Proportions of average allocations by WSF status were also included on the bar charts to observe changes in relative shares of allocation by the various types over time. Treating the data in this fashion allows us to evaluate the general patterns of per-pupil allocations across levels of SED and assess whether the relationship between allocations and disadvantage has become more systematically positive over time.

[35] Note that the analysis was performed for all study years (2000-01 through 2012-13), however, for sake of brevity we have chosen to present the findings from this sample of years, which provides a good contrast between the period before the WSF was implemented and the most recent years.
[36] Overall allocations may not match the sum of the WSF and non-WSF allocations due to rounding.

Results

- *Descriptive analysis of patterns of average per-pupil allocations across levels of SED suggest that the relationship between funding and student need at all schooling levels has become consistently more positive and stronger since implementation of the WSF.*

Elementary Schools

The findings for elementary schools suggest that there has been a more consistent and positive relationship between average WSF per-pupil allocations and school SED (average percent FRPL) since the introduction of the WSF. To see this, consider the shape of the leftmost portion of the bars that run from higher to lower SED in Exhibit 6.3; they denote average per-pupil allocations just prior to WSF implementation (2005–06) from programs that were distributed by the WSF in the following year (WSF allocations per pupil).

In the year prior to WSF implementation (2005-06), per-pupil allocations from program funds that were eventually included as part of WSF did not show a consistently positive relationship with the proportion of SED students in the school. Average WSF allocations per pupil did decrease, albeit unevenly, from the 9th to the 4th deciles of FRPL.[37] However, average allocations then *increased* for successively lower levels of SED, suggesting possible inequity in the manner in which these dollars were distributed prior to WSF implementation.[38] For example, the average per-pupil allocation of WSF dollars for the least disadvantaged elementary schools (FRPL decile 1) of $3,821 was *higher* than the $3,463 average found for more disadvantaged elementary schools (FRPL decile 4).[39] Similarly, the per-pupil allocation of WSF dollars for the most disadvantaged elementary schools (FRPL decile 10) is *lower* on average than that of elementary schools with lower proportions of disadvantaged students (FRPL deciles 7, 8, and 9).

For a more comprehensive picture of the relationship between funding and student need, it is also important to look at the *overall* per-pupil dollar allocations (i.e., from all sources of funding including both programs eventually distributed within and outside the WSF) across levels of SED. The overall per pupil allocations in 2005-06 did reveal a somewhat positive relationship that was largely driven by the non-WSF funding. The relationship is best described as following a sawtooth pattern—going up at some points in the distribution of FRPL and down at other points. For example, we observed successive average funding increases associated with lower FRPL deciles followed by unexpected decreases at particular FRPL deciles (e.g., at deciles 3, 6, and 10).

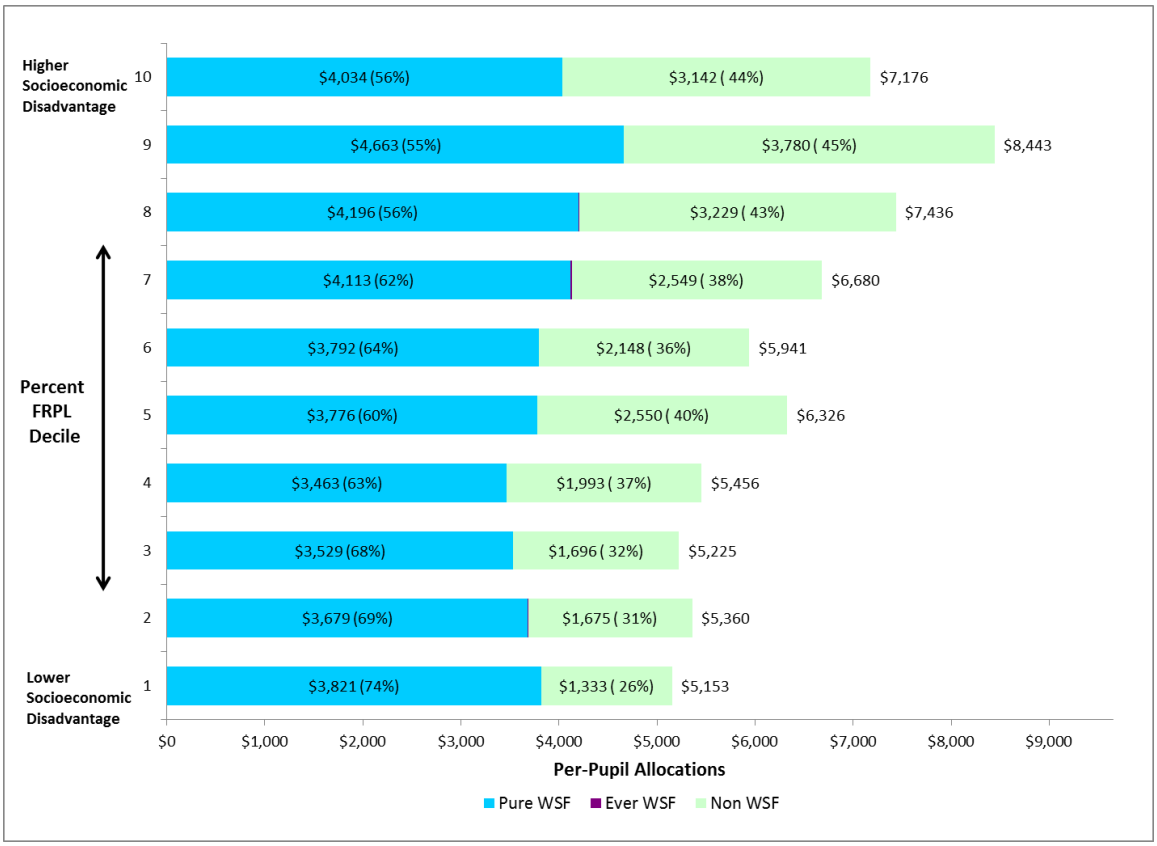
It is important to emphasize that the analysis presented in this section is purely descriptive. The variation in average allocations per pupil shown in this analysis may be influenced by many factors in addition to SED. For example, schools in FRPL decile 9 may receive larger per-pupil

[37] The within-FRPL decile average WSF allocations per pupil decreased unevenly in the sense that there were relatively large drops between deciles 9 and 8, 7 and 6, and 5 and 4, respectively.
[38] It should be noted that SED is only one specific, albeit key, factor that might explain variation in per-pupil allocations. Specifically, other factors responsible for driving funding to schools, but were not related to SED, could also explain inconsistent patterns of average per-pupil allocations across FRPL decile.
[39] Note that the average FRPL percentage in elementary decile 1 was 10.4 percent, compared with an average of 38.1 percent in decile 4 (see Exhibit H.2 in Appendix H).

allocations on average than those in decile 10 because of other cost factors (e.g., average enrollment in decile 9 schools may be smaller, their incidence of ELLs may be higher, and so on). Similarly, the non-WSF allocations per pupil may be larger for less versus more disadvantaged schools because of additional cost factors such as incidence of special education students.

To put these results in context, the reader is referred to Appendix H, which provides tables detailing average student needs (percentages of FRPL, ELL, and special education students) and school characteristics (enrollment) within each FRPL decile for all three schooling levels (elementary, middle, and high) across the years presented in the bar charts (2005–06, 2011–12, and 2012–13). A scan of the average characteristics in Exhibit H.2 (Appendix H) shows that some of the observed patterns might indeed be explained by other cost factors. For example, the enrollment among schools is lowest in FRPL deciles 7, 8 and 9, which also could help explain the relatively high per-pupil allocations in these deciles. Analysis presented later in this chapter attempts to control for other factors that might potentially further explain these variations.

Exhibit 6.3 – Average Per-Pupil Allocations by Category: Elementary Schools, 2005–06

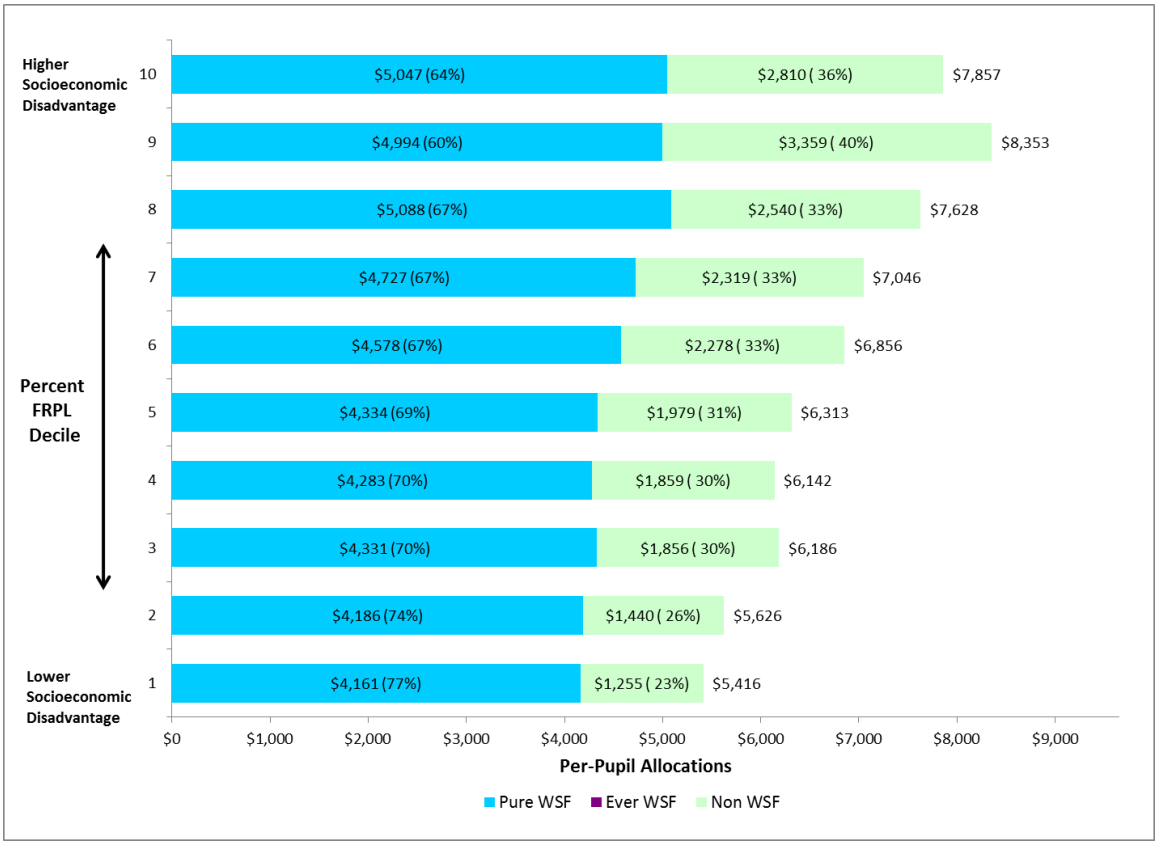


Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Moving to the post-WSF period, we find that the average WSF allocations per pupil appear to be more consistently and positively related to SED. Exhibit 6.4 shows average WSF per-pupil allocations by category of SED in 2011–12, which suggests that a smoother relationship emerged. Specifically, average per-pupil allocations of both WSF and non-WSF dollars (and,

hence, overall dollars) generally increased with higher levels of SED. Exceptions to this general rule are relatively few and usually correspond with relatively small increases in per-pupil funding.[40]

Exhibit 6.4 – Average Per-Pupil Allocations by Category: Elementary Schools, 2011–12



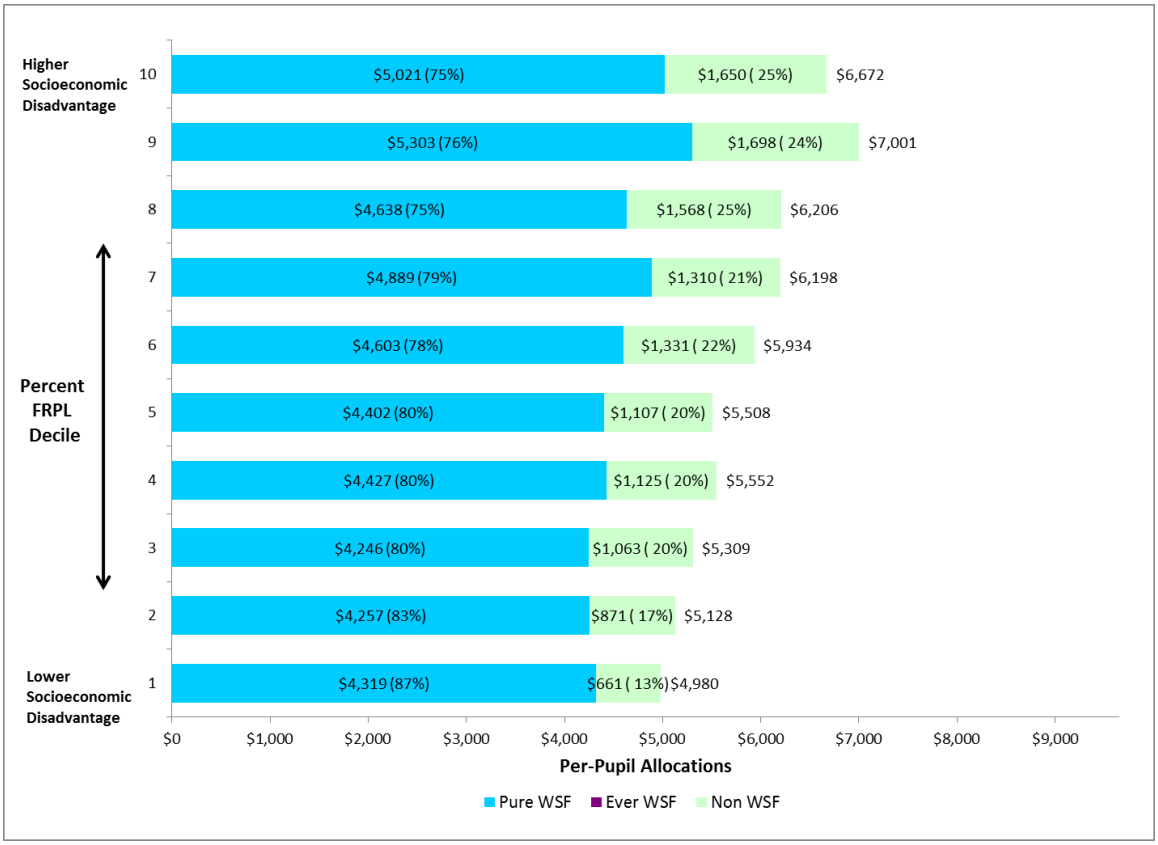
Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.5 provides the distribution of average per-pupil allocations by SED for the most recent year: 2012–13. Here we find that the positive pattern between WSF dollar allocations per pupil and SED has become slightly less consistent than in 2011-12. Notably, the average WSF per-pupil allocation for FRPL decile 9 is larger than that of decile 10 by $102, whereas that of decile 7 is larger than that of decile 8 by approximately $251. In addition, we observe small decreases in WSF per-pupil allocations associated with increases in FRPL from deciles 1 to 2, 2 to 3, and 4 to 5 on the order of -$62, -$11, and -$25, respectively. The average non-WSF per-pupil allocations also follow a general pattern of consistent increases corresponding with higher SED. The resulting pattern of overall per-pupil allocations across disadvantage is similar to that found in the preceding year (2011–12), exhibiting consistent increases in average overall per-pupil

[40] The exceptions to this for the WSF allocations are between the following FRPL deciles: deciles 8 ($5,088) and 9 ($4,994) and deciles 3 ($4,331) and 4 ($4,283). The exceptions to this for the non-WSF allocations are between the following FRPL deciles: deciles 9 ($3,559) and 10 ($2,810) and deciles 3 ($1,856) and 4 ($1,859). The exceptions to this for overall allocations are between the following FRPL deciles: deciles 9 ($8,353) and 10 ($7,857) and deciles 3 ($6,186) and 4 ($6,142). The increase in non-WSF and overall allocations per pupil from FRPL deciles 10 to 9 stands out as a nontrivial exception.

allocations with higher levels of disadvantage. However, the levels of non-WSF allocations, and, hence, overall allocations, are dramatically lower than in 2011–12.

Exhibit 6.5 – Average Per-Pupil Allocations by Category: Elementary Schools, 2012–13



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

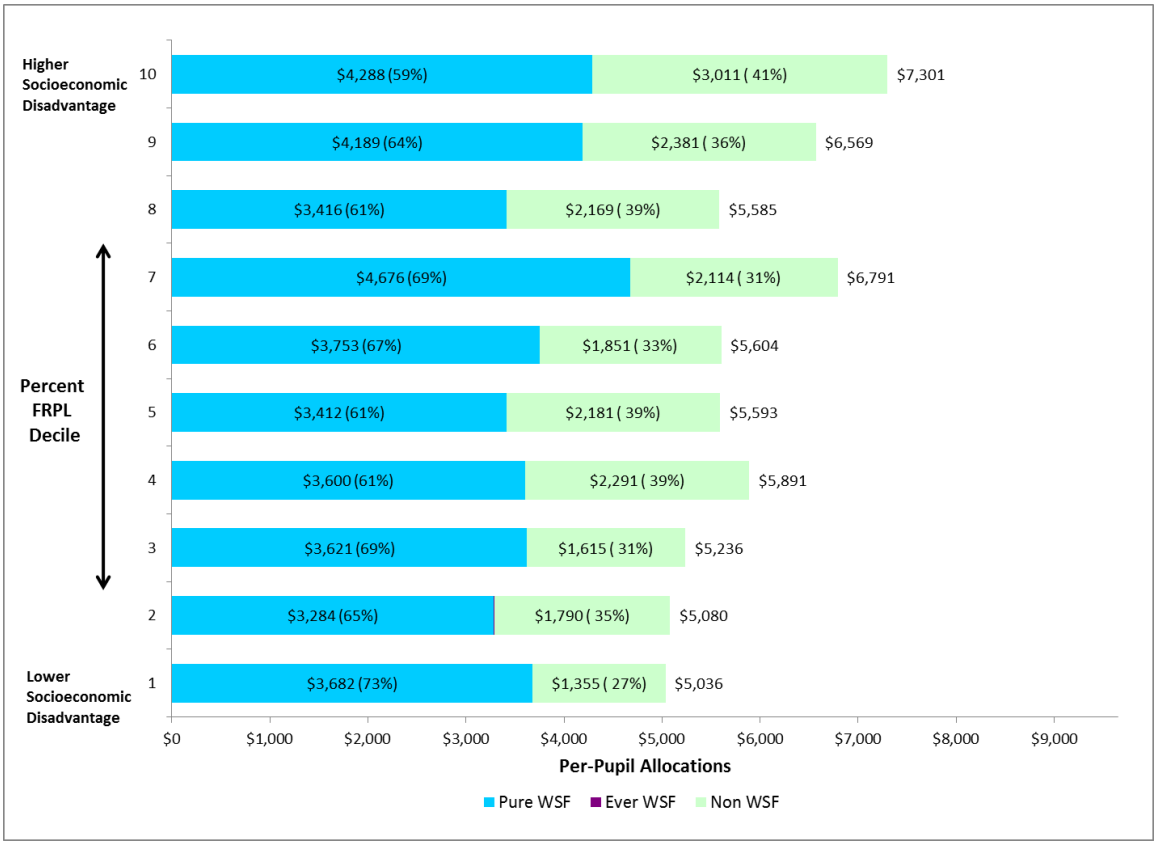
Middle Schools

The pattern of average WSF allocations per pupil across SED for middle schools in 2005–06 was less consistent than for elementary schools. That is, the average relationship between WSF allocation per pupil and FRPL decile was not as consistently positive for middle schools. Exhibit 6.6 shows decreases in average WSF allocation per pupil associated with increasing disadvantage categories at FRPL deciles 2, 4, 5, and 8. Moreover, the apparent divergence from a consistently positive funding/student need relationship is also found when comparing per-pupil allocations across relatively high and low deciles of FRPL. For instance, the average WSF dollar allocation per pupil for middle schools with the lowest disadvantage (decile1) is $266 more than that of schools with much higher levels of disadvantage (decile 8).[41] There are also notable discontinuities in the increasing pattern associated with average non-WSF allocations per pupil at

[41] The average FRPL percentages in deciles 1 and 8 are 15.0 percent and 50.9 percent, respectively (see Exhibit H.3 in Appendix H).

deciles 3, 5, and 6. The resulting shape with respect to overall per-pupil allocations again similarly represents a familiar uneven sawtooth pattern.

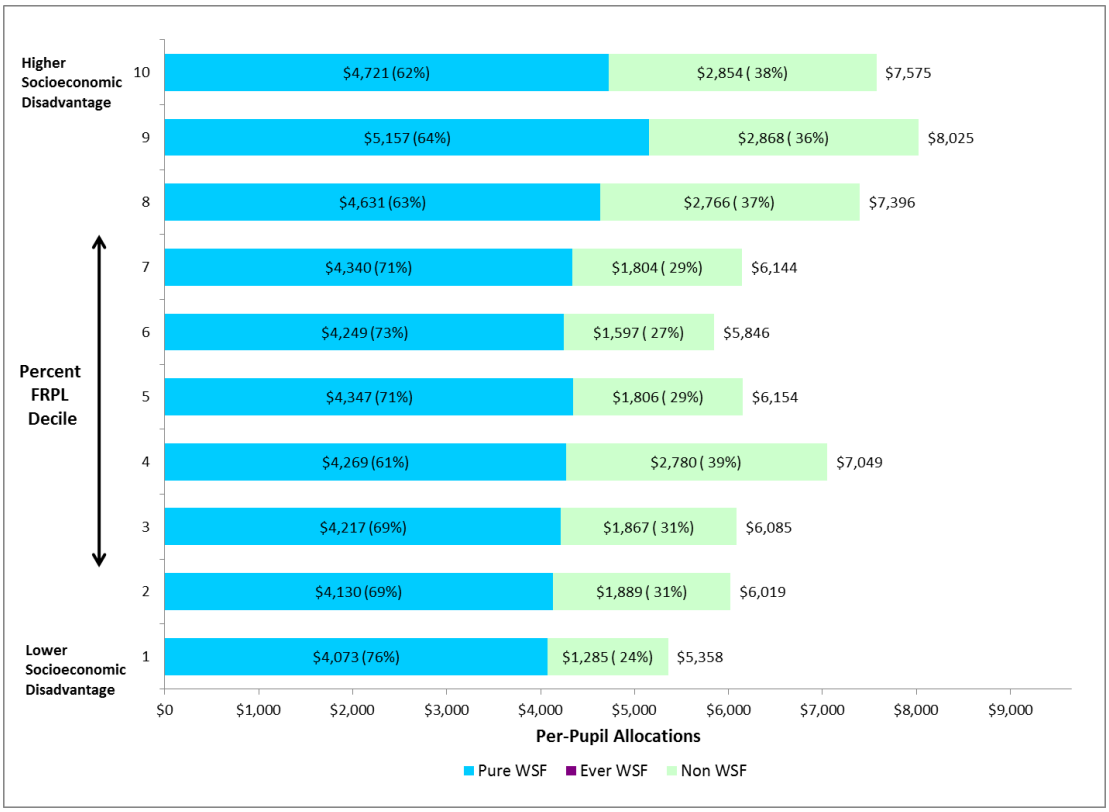
Exhibit 6.6 – Average Per-Pupil Allocations by Category: Middle Schools, 2005–06



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Moving to the post-WSF period, Exhibit 6.7 shows the pattern of average middle school WSF per-pupil allocations across varying levels of SED in 2011–12 to exhibit a more consistent positive relationship than in 2005–06, suggesting the dollars allocated through the WSF may have been distributed in a more equitable manner after it was implemented. With only two exceptions (the differences between deciles 9 and 10 and between deciles 5 and 6, respectively), the WSF allocations per pupil tended to be higher for schools in higher poverty deciles. The pattern of average non-WSF allocations per pupil across school disadvantage is similar to that for 2005–06, with four breaks in the positive funding/student need relationship (between deciles 2 and 3, 4 and 5, 5 and 6, and 9 and 10). Therefore, the resulting sawtooth pattern with respect to overall per-pupil allocations we observe is driven by the distribution of non-WSF dollars.

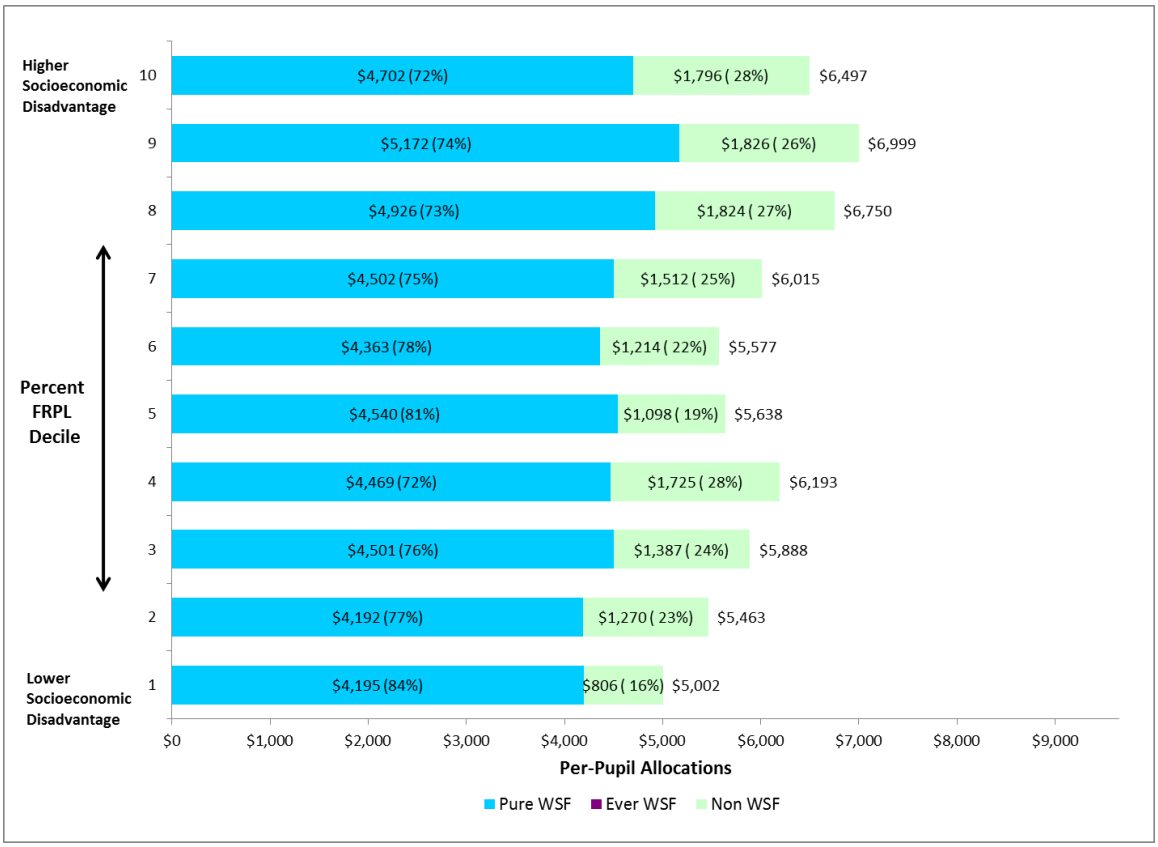
Exhibit 6.7 – Average Per-Pupil Allocations by Category: Middle Schools, 2011–12



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Examining the middle school results (Exhibit 6.8) for the most recent year (2012–13), we find that the pattern of WSF allocations per pupil is slightly less consistent and positive than that in the preceding year (2011–12). Specifically, the average per-pupil WSF allocation in decile 6 is less than in deciles 3, 4, and 5 (by as much as $177 comparing deciles 5 and 6). We again find that the pattern of non-WSF allocations exhibits discontinuities similar to those in 2011–12, which are largely responsible for the sawtooth-shaped pattern found for overall allocations. Also, we note that funding levels from non-WSF allocations and overall in 2012–13 are markedly lower than those of the prior year.

Exhibit 6.8 – Average Per-Pupil Allocations by Category: Middle Schools, 2012–13



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

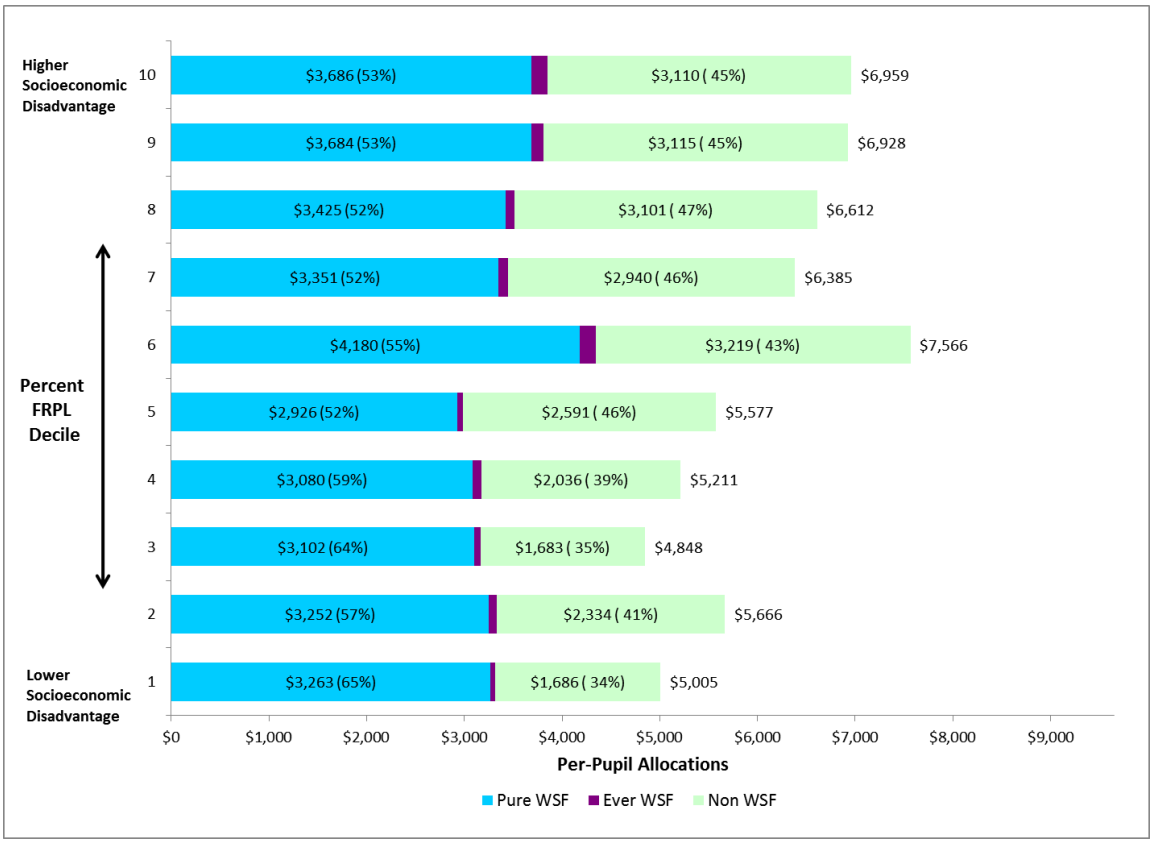
High Schools

Exhibit 6.9 contains the average per-pupil allocations across SED category for high schools in the year prior to WSF implementation (2005–06). The reader will notice that a third category of dollar allocations (ever WSF) appears, which represents program dollars that were distributed through the WSF after its initial implementation (in 2009–10) and are relatively small. Inspection of the chart shows an interesting u-shaped pattern of WSF and ever WSF allocations suggestive of both equitable and inequitable relationships between allocations and SED across specific ranges of FRPL: (1) average per-pupil dollars become larger from the decile 7 SED schools up to the highest SED schools (FRPL decile 10), and (2) average per-pupil dollars become smaller from lowest SED schools (FRPL decile 1) to the decile 5 schools. The exception to this is the spike in average WSF per-pupil allocations for schools in FRPL decile 6. Further investigation shows that this can be at least partially explained by the fact that schools in this decile are much smaller than those in all other SED categories.[42] In contrast, the allocation of non-WSF funding follows a more consistent positive pattern across SED but still exhibits large breaks at FRPL deciles 2 and 6. The combination of the WSF and non-WSF allocations results in a pattern of

[42] The average enrollment in 2005–06 for schools in FRPL decile 6 was 768 compared with the next larger average enrollment of 1,131 for decile 9 and largest average enrollment of 1,660 in decile 3 (see Appendix H, Exhibit H.4).

overall dollar allocations that systematically declines with SED across all categories except for FRPL deciles 2 and 6.

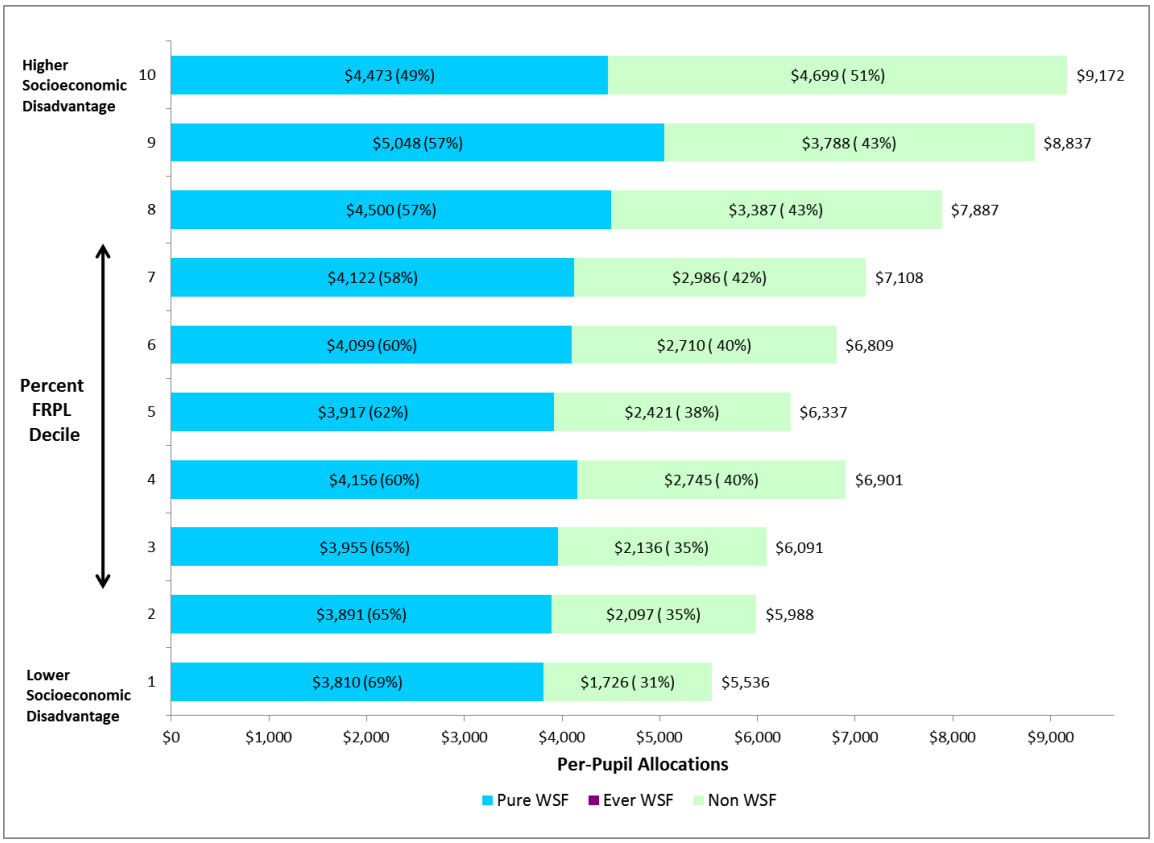
Exhibit 6.9 – Average Per-Pupil Allocations by Category: High Schools, 2005–06



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibits 6.10 and 6.11 show the allocation patterns for the two most recent years of the post-WSF period. By this time, the allocations listed as ever WSF were being distributed through the formula and, therefore, are part of the WSF allocations (leftmost portion of each bar). Reviewing the results for 2011–-12, we find that the WSF per-pupil allocations follow more of a consistent pattern in which they tend to increase with higher levels of disadvantage. There is the familiar exception to this increasing pattern between FRPL deciles 9 and 10 and a smaller one between deciles 4 and 5. The increasing pattern of non-WSF allocations is even stronger, with a single exception between FRPL deciles 4 and 5. Similarly, the pattern of overall allocations follows this increasing trend across the full range of disadvantage except for the break at decile 5.

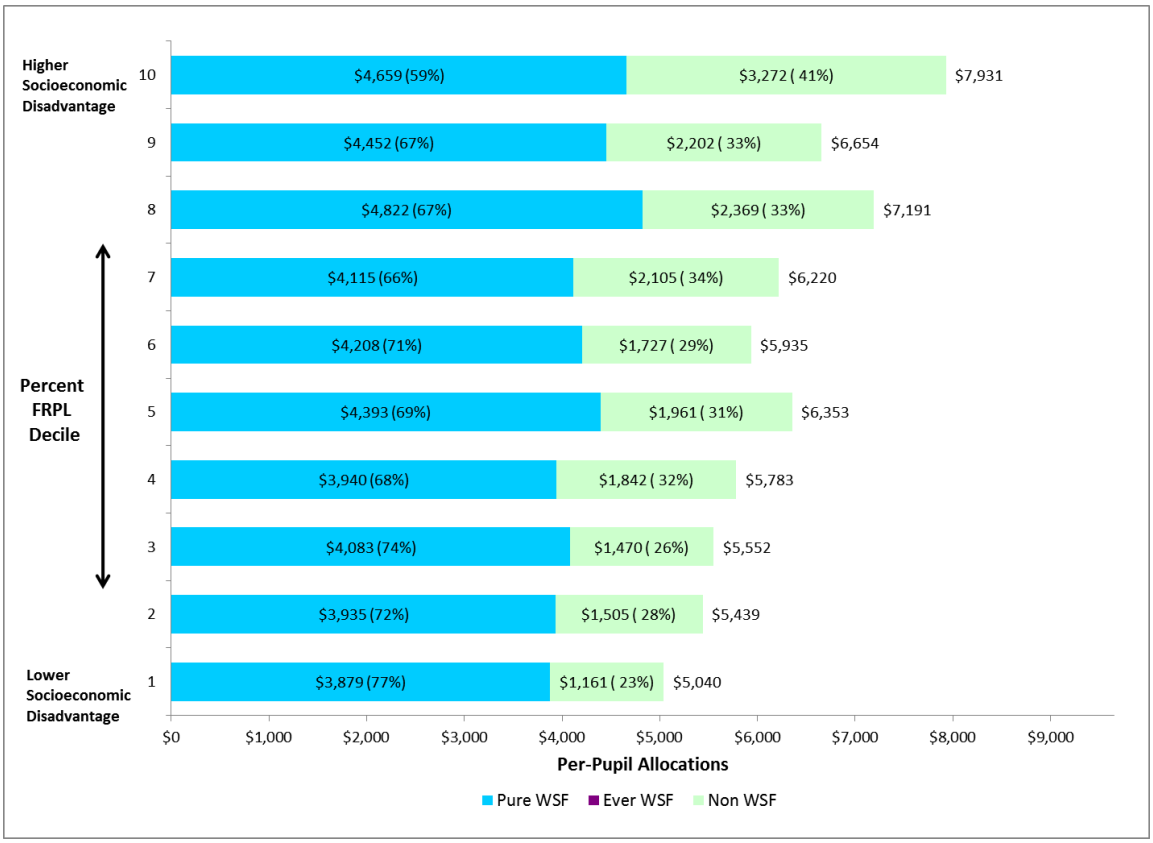
Exhibit 6.10 – Average Per-Pupil Allocations by Category: High Schools, 2011–12



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

The patterns of both the WSF and non-WSF allocations across disadvantage category became less systematic in 2012–13, which resulted in two noticeable breaks in the increasing pattern of overall allocations at FRPL deciles 6, 7 and 9. However, the observed shape suggests that despite the more erratic patterns found for this year compared to 2011-12, funding equity may have improved since before the WSF was implemented.

Exhibit 6.11 – Average Per-Pupil Allocations by Category: High Schools, 2012–13



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Scatter Plot Analysis of WSF Funding Allocations Across SED

Methodology

Although the bar charts provide a simple method of showing the basic relationship between average allocations and levels of SED and how that relationship has changed over time, there are certain disadvantages associated with analyzing data in an aggregated form. Specifically, the grouping of schools into categories of SED defined by deciles of FRPL percentage and reporting the group averages mask the variation in funding allocations within each decile. An alternative method to explore the basic relationship between school allocations and levels of SED that does not mask the variation in funding allocations across schools is to simply use the data to generate scatter plots, with each pair of coordinates representing a school's per-pupil dollar allocation (measured on the *y* axis) and percentage of FRPL (measured on the *x* axis).

The scatter plots can also be used to detect systematic patterns of per-pupil allocations across levels of SED. A line can be fitted through the plotted points by using the method of ordinary least squares that best describes the data to provide predictions of per-pupil allocations as a function of FRPL percentage. A positively sloped line indicates that schools with higher FRPL percentages tend to receive larger per-pupil allocations, implying some level of equity with which funding is distributed to schools. If the fitted line is positively sloped and becomes steeper

over time (for instance, since the implementation of the WSF), this suggests a stronger relationship between per-pupil allocations and SED and, hence, an improvement in funding equity. In turn, our analysis reports the slopes of lines fitted through scatter plots from before and after the WSF was implemented; that is, we present results from the year just prior to the implementation of the WSF (2005–06) and the most recent year (2012–13). Our hypothesis is that the WSF has strengthened the relationship between WSF dollar allocations per pupil and SED, which should be reflected in steeper (more positively sloped) fitted lines after implementation of the WSF.

The scatter plots and fitted lines can also be used to evaluate how well SED predicts per-pupil allocations, as well as whether this has changed since implementation of the WSF. To this end, our analysis also reports the share of total variation in per-pupil allocations explained by SED or the *R*-squared statistic associated with each fitted line. We hypothesize that after implementation of the WSF, we should also expect to see SED explaining more variation in per-pupil WSF allocations as measured by a higher *R*-squared statistic.

In the scatter plots, in addition to plotting each school's per-pupil allocation and FRPL percentage, an indication of each school's ELL percentage is displayed. Schools are classified into one of three groups: low, medium, or high ELL percentage. To determine a school's classification, schools were sorted by ELL percentage and divided into three equal groups. If a school's ELL rate was in the top third, then it appears on the scatter plot with a square, the middle third are plotted with a triangle, and schools in the bottom third of the ELL distribution are displayed with a circle. In this way, the scatter plots add ELL as a third dimension with which to visualize schools. Because ELL percentage and FRPL percentage are often strongly correlated, we expect to see more high-ELL schools denoted by squares on the right-hand side of the scatter plot (at higher FRPL percentages) and low-ELL schools denoted by circles on the left-hand side (at lower FRPL percentages).[43]

Results

- *Scatter plot analysis of per-pupil WSF allocations and school SED shows that the relationship between these two measures has become stronger and more predictable since implementation of the WSF, suggesting an increase in the equity with which funding allocated by the WSF has been distributed.*

Each pair of exhibits presented below contains the scatter plots for 2005–06 and 2012–13, respectively, across the three schooling levels (elementary, middle, and high school). The equation of the fitted line on each chart includes an estimated slope that shows how much additional funding per pupil a school was expected to receive for each percentage point of FRPL. The results suggest that the relationship between per-pupil WSF allocations and SED may have become stronger after implementation of the WSF. For the elementary and high school levels, the slope of the fitted line was steeper in the most current year (2012–13) than in the year immediately before the introduction of the WSF (2005–06). For example, Exhibit 6.16 shows that in 2012-13 each percentage point increase in high school FRPL was expected to generate an

[43] For a table of correlations between ELL and FRPL for the years presented in the scatterplot, see Appendix H, Exhibit H.5.

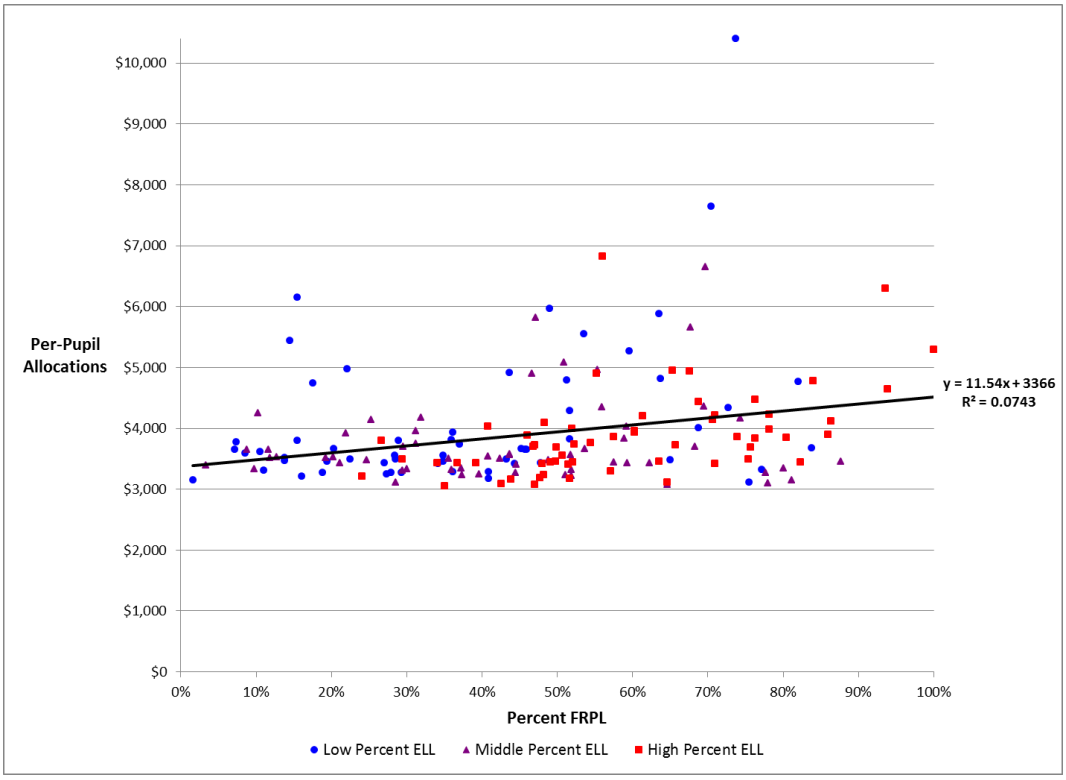
additional $14.20 in per-pupil funding compared to $11.81 in 2005-06. Therefore, a high school in which 50 percent of its students were eligible for FRPL was expected to receive $710 per pupil more due to SED in 2012-13 compared to $591 per pupil more in 2005-06, for a difference of $119 per pupil.[44]

Moreover, between the two years, the *R*-squared statistic more than doubled for all three schooling levels, suggesting that the relationship between WSF per-pupil allocations has become more predictable. This is an important finding, as the report by Chambers and Levin (2009) lists predictability as a desirable property of a well-functioning school funding mechanism. The increase in the *R*-squared statistics observed across all three schooling levels may suggest that the introduction of the WSF has made funding to schools more predictable and consistently related to pupil needs.

Note that at any given level of FRPL percentage, there is variation in the observed per-pupil allocations around those predicted by the fitted line, which is likely attributable to a host of factors other than SED. For example, other weighting factors included in the WSF, such as ELL percentage and school size, will contribute to this variation not explained by SED. As mentioned above, in analysis presented below we attempt to explicitly control for additional factors that might further explain the remaining observed variation in allocation.

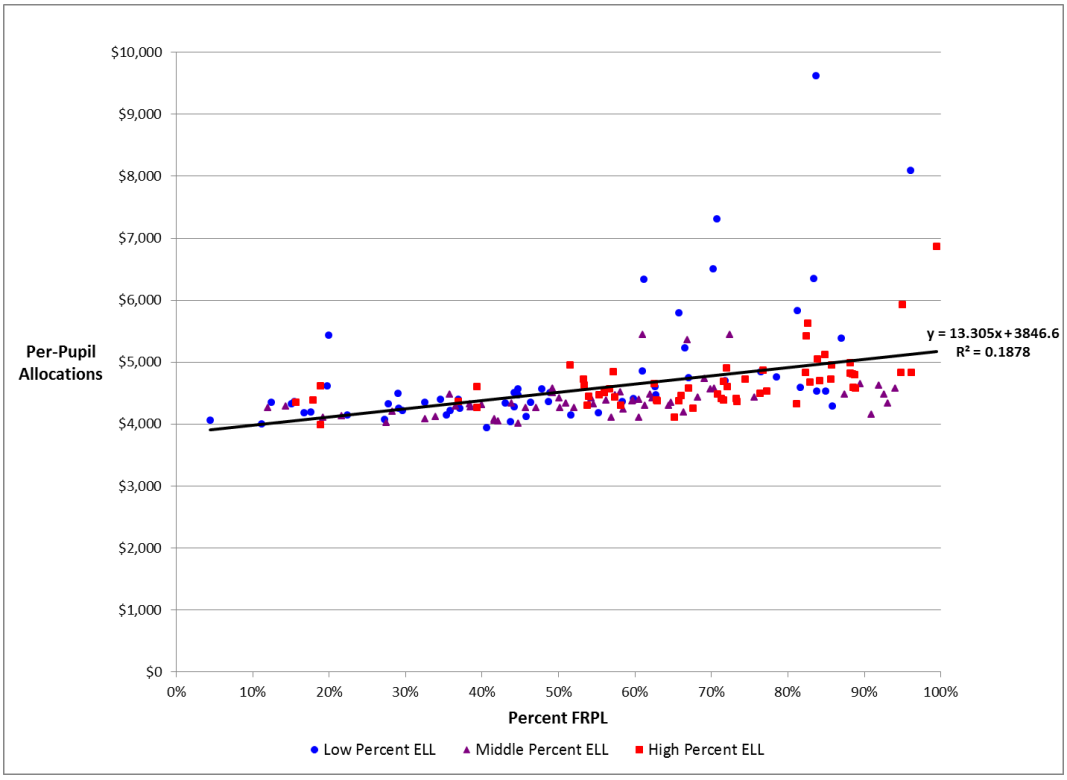
[44] To make this calculation, simply multiply the high school slope coefficients in 2012-13 ($14.20) and 2005-06 ($11.81) each by the 50 FRPL percentage points and take the difference of these products [e.g., ($14.20×50) - ($11.81×50) =$119.50].

Exhibit 6.12 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii Elementary Schools (2005–06)



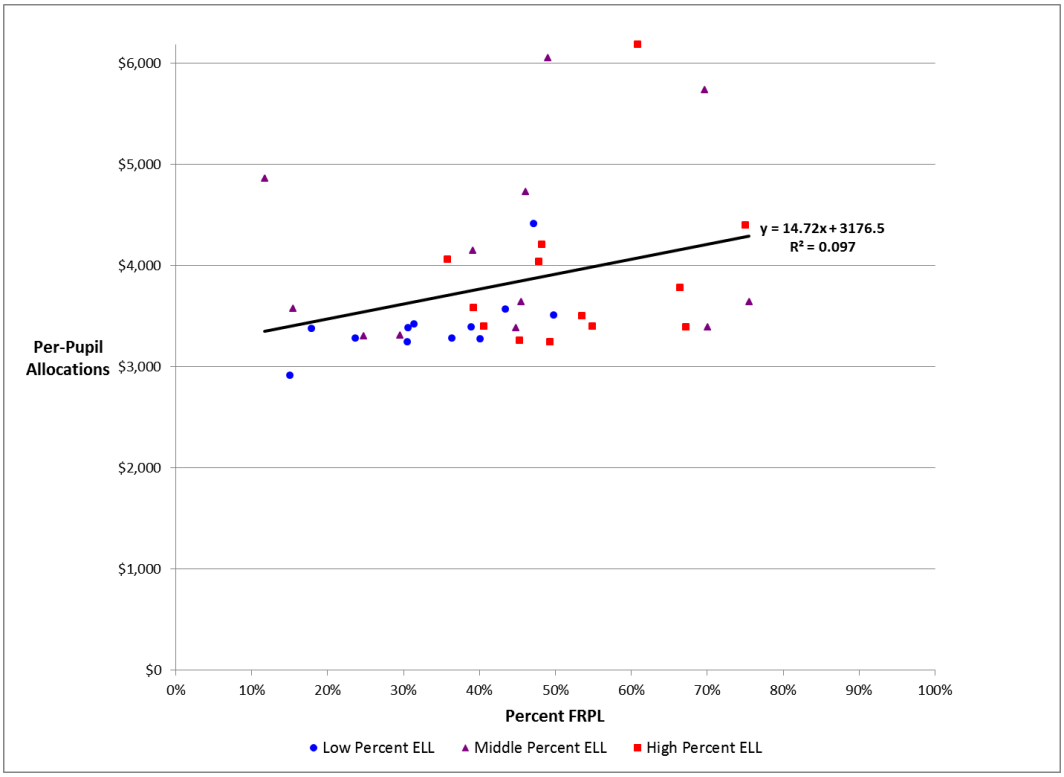
Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.13 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii Elementary Schools (2012–13)



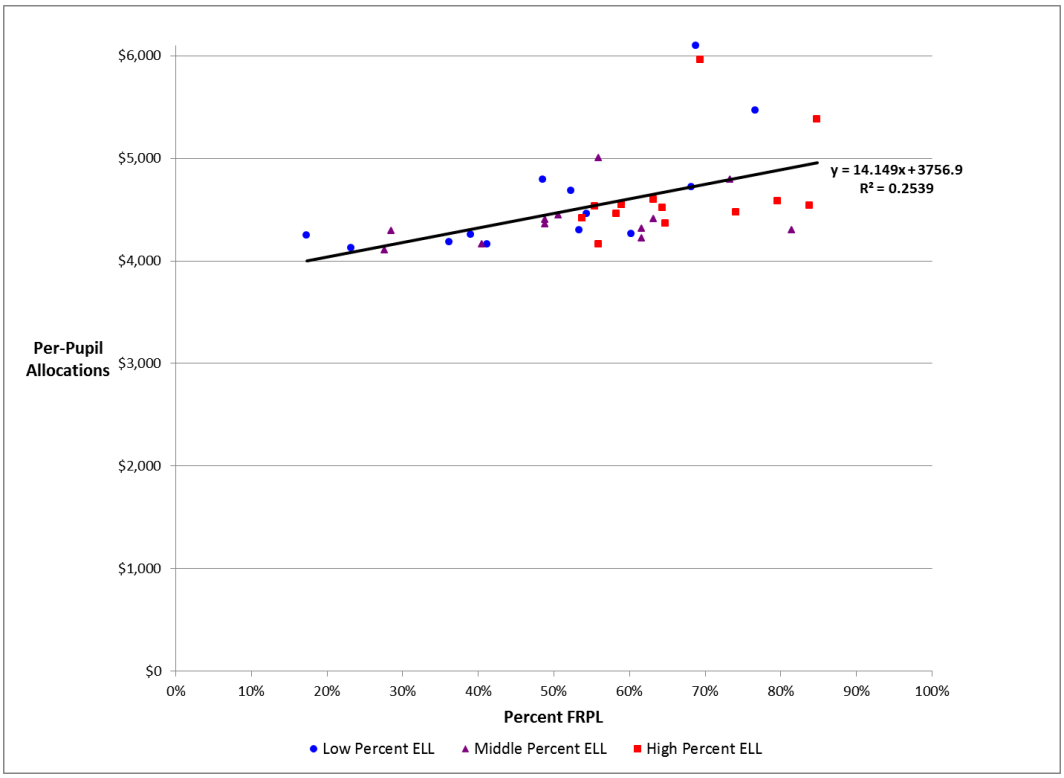
Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.14 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii Middle Schools (2005–06)



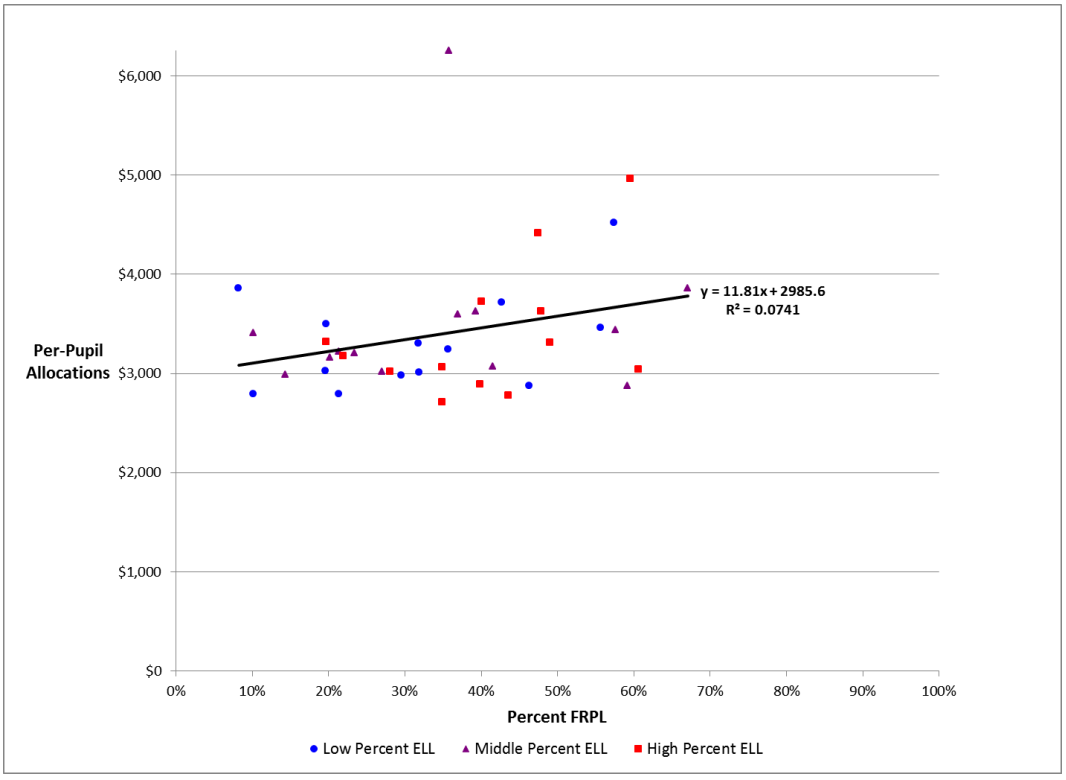
Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.15 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii Middle Schools (2012–13)



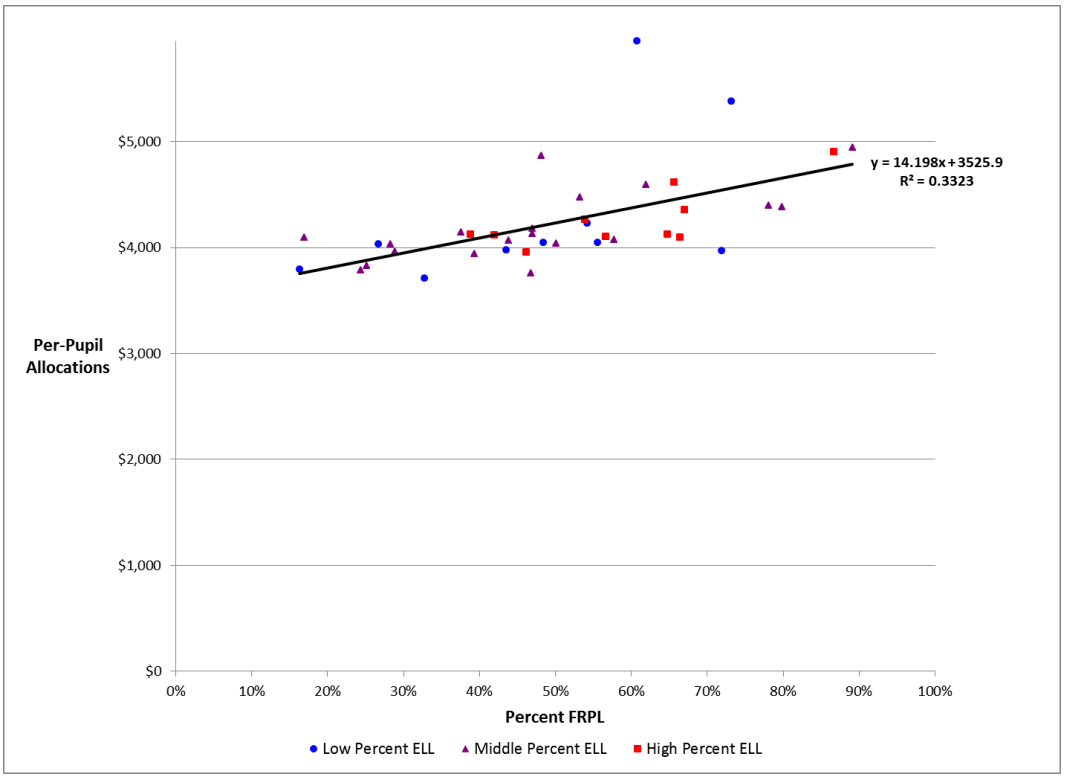
Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.16 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii High Schools (2005–06)



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Exhibit 6.17 – WSF Per-Pupil Allocations by FRPL Percentage for Hawaii High Schools (2012–13)



Source: Historical fiscal and demographic data obtained from the HIDOE Budget Execution Section.

Implicit Weight Analysis of WSF Funding Allocations

Methodology

The descriptive analysis earlier presents a basic story of the relationship between allocations and SED by relying on average per-pupil allocations within FRPL decile and simple scatter plots. To develop a more sophisticated understanding of how allocations vary by SED, we used regression analysis, which allowed us to estimate *implicit funding weights* associated with FRPL while controlling for the influence of other cost factors. In this particular regression analysis, we control for school size (enrollment) to account for the extent to which economies of scale played a role in the allocation of resources to schools.[45,46] The basic model used is as follows:[47]

(1) *School-Level Per-Pupil Allocation = f(FRPL Percentage, School Enrollment)*

All regressions have been run separately by schooling level (elementary, middle, and high school) to account for the different cost structures associated with the use of self-contained versus departmentalized classes by elementary and high schools, respectively. In addition, we estimated the relationships between per-pupil allocations and the cost factors (FRPL and enrollment) during a 13-year period spanning both before and after the WSF was implemented (2000–01 to 2012–13). We used the magnitude of the estimated relationship between per-pupil allocations and FRPL percentage to derive implicit funding weights to gauge how equitably resources have been allocated across schools in a given year. We define the implicit FRPL weight as follows:

- Implicit FRPL Weight – A value representing the relative per-pupil allocation of a school with 100 percent FRPL to that of a school with 0 percent FRPL, holding enrollment constant.

For example, an implicit FRPL weight of 1.20 indicates that a school with all of its students eligible for or receiving FRPL is allocated about 20 percent more per pupil than is a school of identical size with no students eligible for or receiving FRPL. The implicit FRPL funding weight can also be interpreted as the relative difference in allocations, on average, generated by a student eligible for or receiving FRPL. Using the above example of 1.20, a student eligible or

[45] As discussed in Chapter 3, scale of operations is a key factor that determines the cost of delivering education. Specifically, very small schools often face higher costs for achieving the same outcomes because of the diseconomies associated with the small scale of operations.

[46] We also experimented with more inclusive regressions that also controlled for ELL percentage, but the model was unable to accommodate this measure because of its high positive correlation with FRPL percentage. Specifically, including ELL percentage along with FRPL percentage in the regression model resulted in multicollinearity, affecting our ability to isolate the separate impacts of poverty and ELL status on per-pupil allocations. Given the inability to include both the FRPL and ELL percentages due to their correlation, it is important to recognize that the model estimate of the implicit weight associated with FRPL may be upwardly biased because it will also account for part of the effect of ELL which was omitted. However, because the purpose of this model is to test whether the relationship between allocations and student needs has become stronger over time, if we make the plausible assumption that the degree of correlation between percentage FRPL and ELL is relatively stable over time, this should not affect our results.

[47] A more technical discussion of the regression procedure used can be found in Appendix I.

receiving FRPL would generate 20 percent more funding for their school than a non-FRPL student.

Using the magnitude and statistical significance of implicit FRPL weight estimates we test the formal hypothesis that the relationship between per-pupil allocations and SED became stronger after the implementation of WSF, which would indicate an increase in the equity with which resources are allocated.

Results

- *Regression analysis suggests that implementation of the WSF has improved the equity with which funding is allocated to schools at all grade levels.*

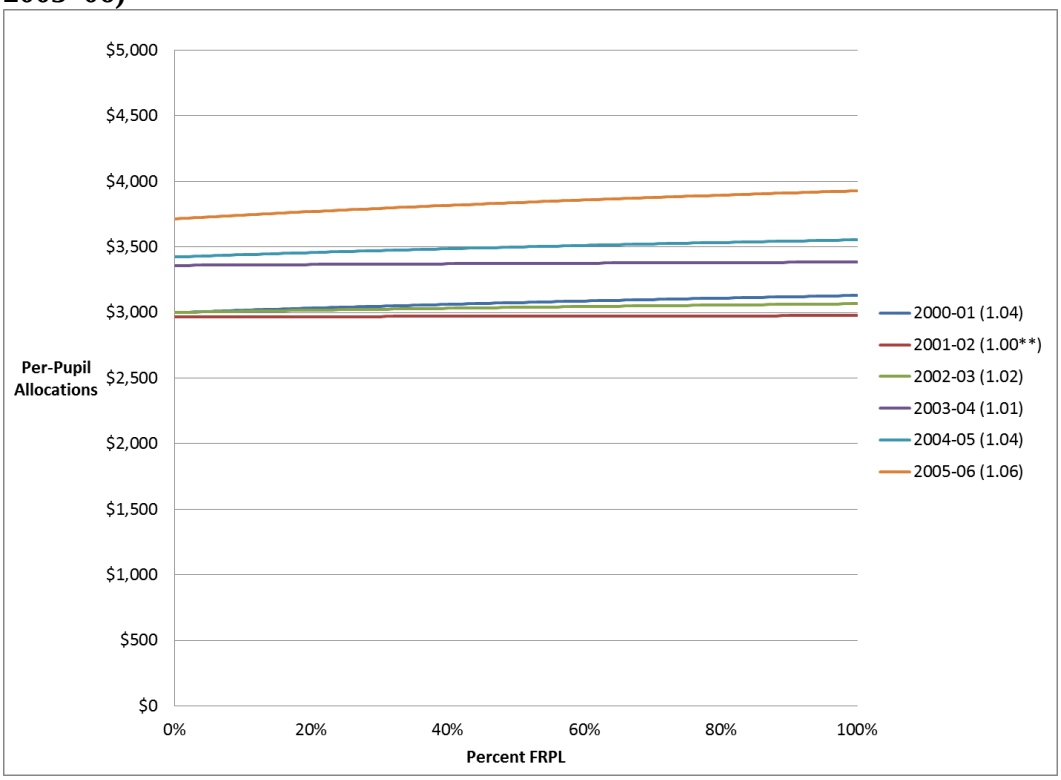
The exhibits in the following section depict the responsiveness of school-level WSF per-pupil allocations to FRPL percentage. More precisely, each chart contains a series of year-specific profiles that each show within a given year how the predicted WSF allocation per pupil changes across FRPL percentage, controlling for the influence of (holding constant) school size. In the chart legend, we include the calculated implicit FRPL weight for each year, and asterisks that denote whether the underlying estimated relationship between the per-pupil WSF allocation and FRPL percentage for a given year was significantly different from the reference year of 2005–06 (the year prior to WSF implementation).[48]

Elementary Schools

Exhibits 6.18 and 6.19 show the WSF allocation profiles for the pre- and post-WSF periods, respectively. In the pre-WSF years (2000–01 to 2005–06) the charted profiles are rather flat, as indicated by the low implicit FRPL weights that reach a maximum of 1.06 in the reference year (2005–06). In 2001-02, the estimated implicit FRPM weight was 1.00 denoting no relationship between per pupil allocations and the percent FRPL, and this was the only estimate that proved statistically different from the implicit weight of 1.06 estimated for the reference year (2005-06). However, the profiles for the post-WSF period (2006–07 through 2012–13) show steeper slopes and correspondingly higher implicit FRPL weights, ranging from 1.12 to 1.17, suggesting that there was an improvement in the equity with which WSF dollars were allocated after the WSF was implemented. Furthermore, in all post-WSF years other than the first year of implementation (2006–07), the difference in the estimated allocation profile was significantly different from the that of the reference year.

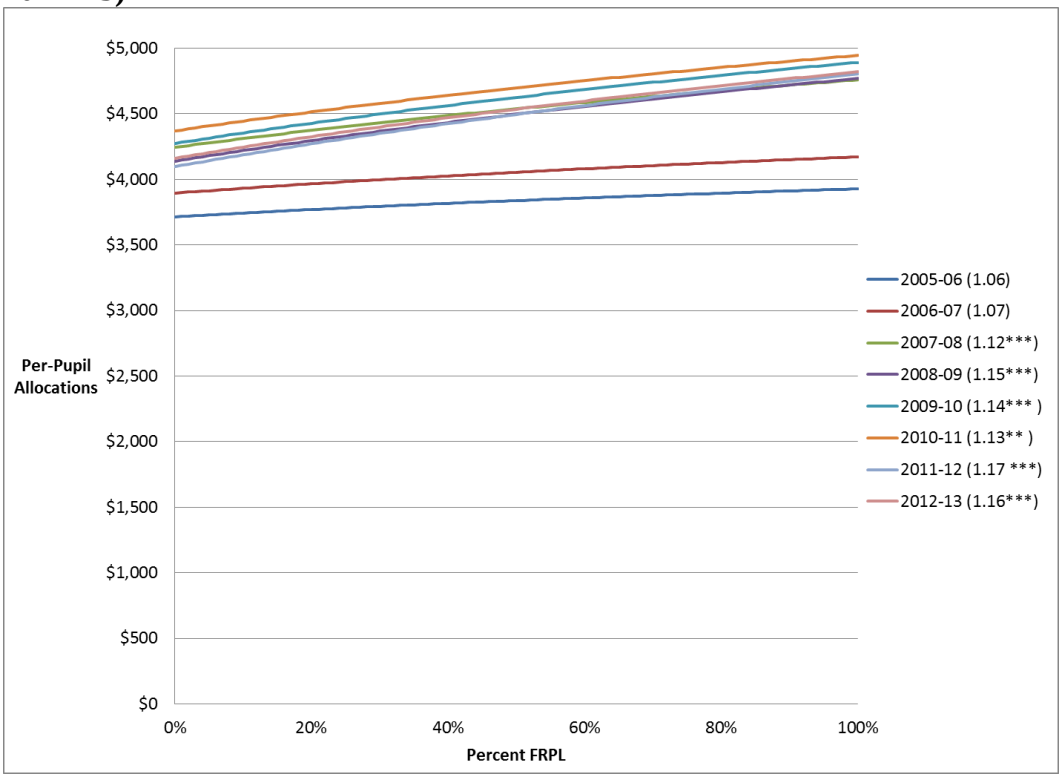
[48] The term *statistically significant* indicates that the magnitude of the difference in estimated per-pupil allocation and FRPL relationship from that of the reference year (2005–06) is larger than would be expected merely by chance.

Exhibit 6.18 – Estimated WSF Allocation Profiles for Elementary Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively

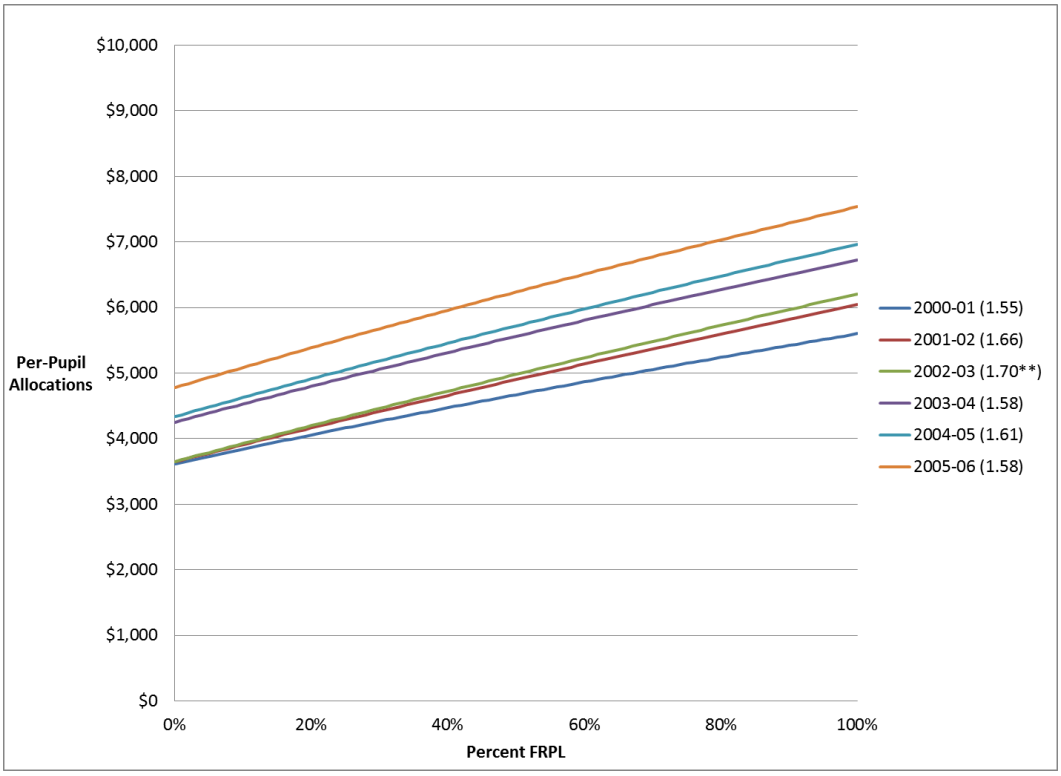
Exhibit 6.19 – Estimated WSF Allocation Profiles for Elementary Schools (2006–07 to 2012–13)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

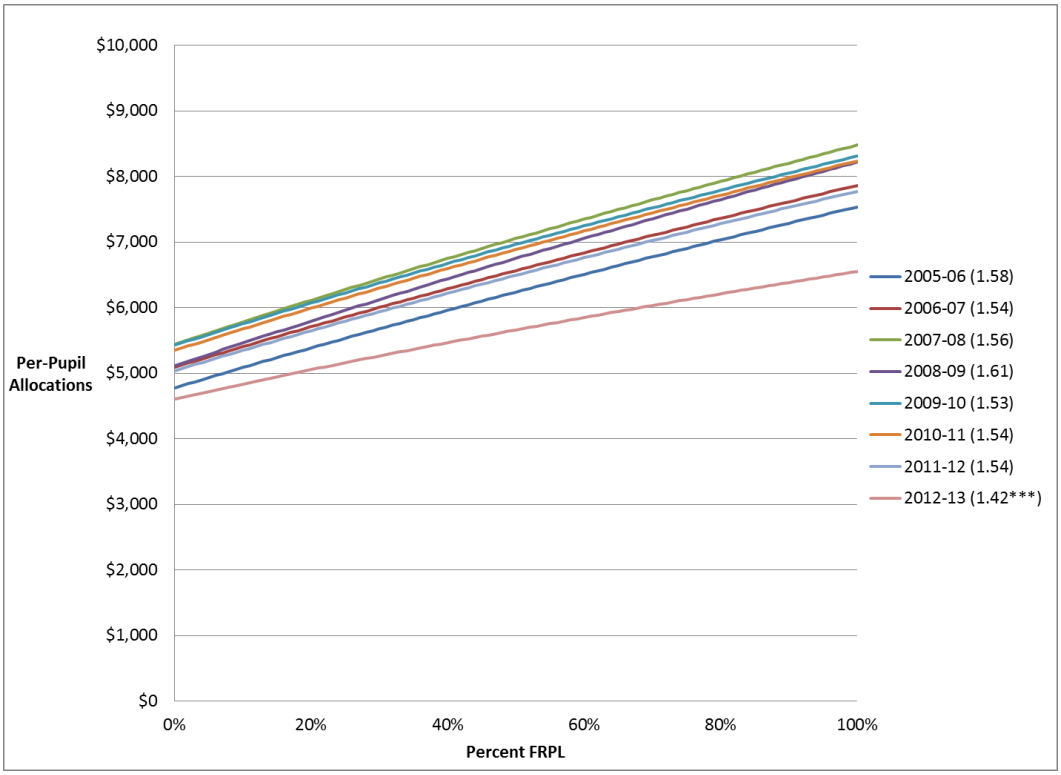
It is also instructive to ask what happened to the equity with which overall resources (WSF and non-WSF dollars) were allocated to schools. Our analysis addresses this by running the regression model by using overall per-pupil allocations rather than WSF per-pupil allocations as the dependent variable. Exhibits 6.20 and 6.21 show the estimated elementary school overall allocation profiles for the pre- and post-WSF years, respectively. The slopes of the pre-WSF year profiles for overall allocations are much steeper than for those corresponding to WSF allocations, ranging from 1.55 to 1.70; however, only the value for 2002–03 proved statistically different from that of the reference year. This finding of steeper slopes is driven by the fact that the overall allocations also include non-WSF funding, which is made up of many categorical funds that are necessarily distributed according to various student needs, including and/or correlated with SED (e.g., Title I, Title III, and IDEA). Moving to the post-WSF profiles, we find a general decrease in the estimated implicit FRPL weights, with a minimum value of 1.42 in 2012–13 that proves to be statistically significant from that corresponding to the pre-WSF reference year (2005-06). This finding suggests that overall funding equity experienced a significant decline between 2005-06 and 2012-13. However, this decline cannot be attributed to the WSF, which showed statistically significant equity improvements with respect to the portion of overall funding it allocates.

Exhibit 6.20 – Estimated Overall Allocation Profiles for Elementary Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Exhibit 6.21 – Estimated Overall Allocation Profiles for Elementary Schools (2006–07 to 2012–13)



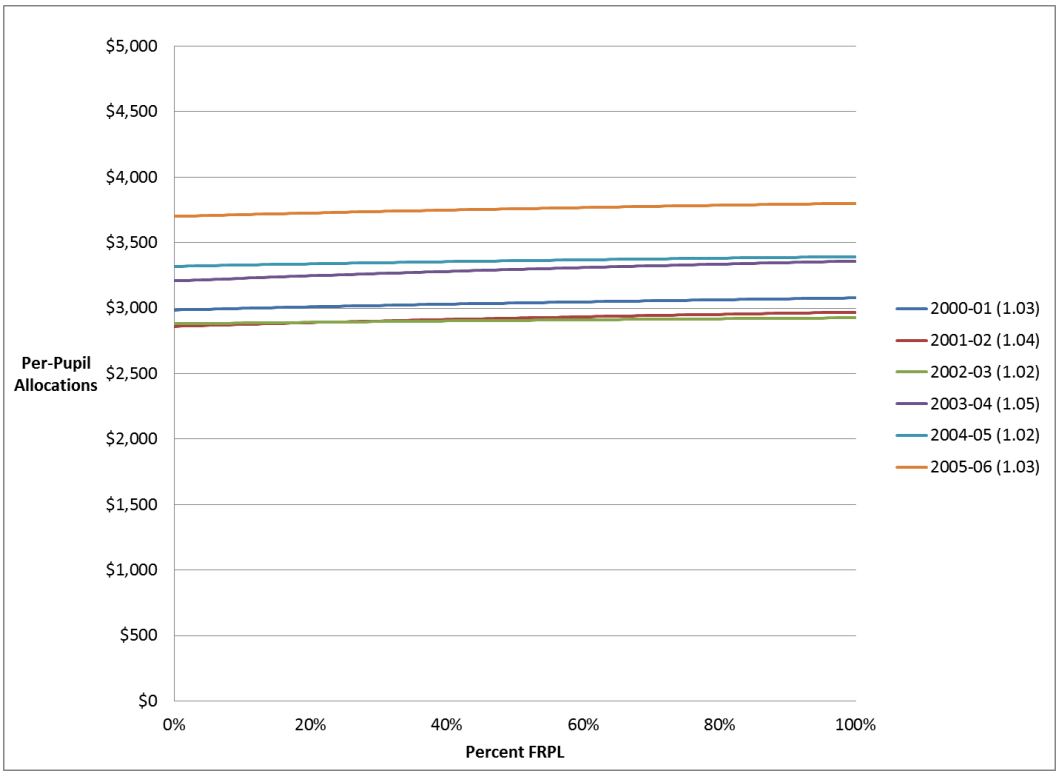
Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Middle Schools

The middle school WSF allocation profiles for the pre- and post-WSF years are charted on Exhibits 6.22 and 6.23, respectively. Similar to what we found for elementary schools, the profiles in the years prior to WSF implementation were also relatively flat with implicit FRPL weights ranging from 1.02 in 2002–03 to 1.05 in 2003–04, and none proved to be statistically different from the 1.03 calculated for the reference year. Turning to the post-WSF years, the slopes again became steeper, with higher implicit FRPL weights ranging from 1.09 in 2006–07 to 1.19 in 2011–12, the latter of which proved to be statistically different from the reference year at conventional significance levels. The implicit FRPL weights for 2007–08 (1.13), 2008–09 (1.15), and 2010–11 (1.17) also stand out, but because of less precision of the regression estimates underlying these figures, their differences from the implicit weight for the reference year can only be considered significant at the 10 percent level.[49] Nevertheless, the findings suggest that there were equity increases with respect to the dollars allocated by the WSF to middle schools after the formula was implemented.

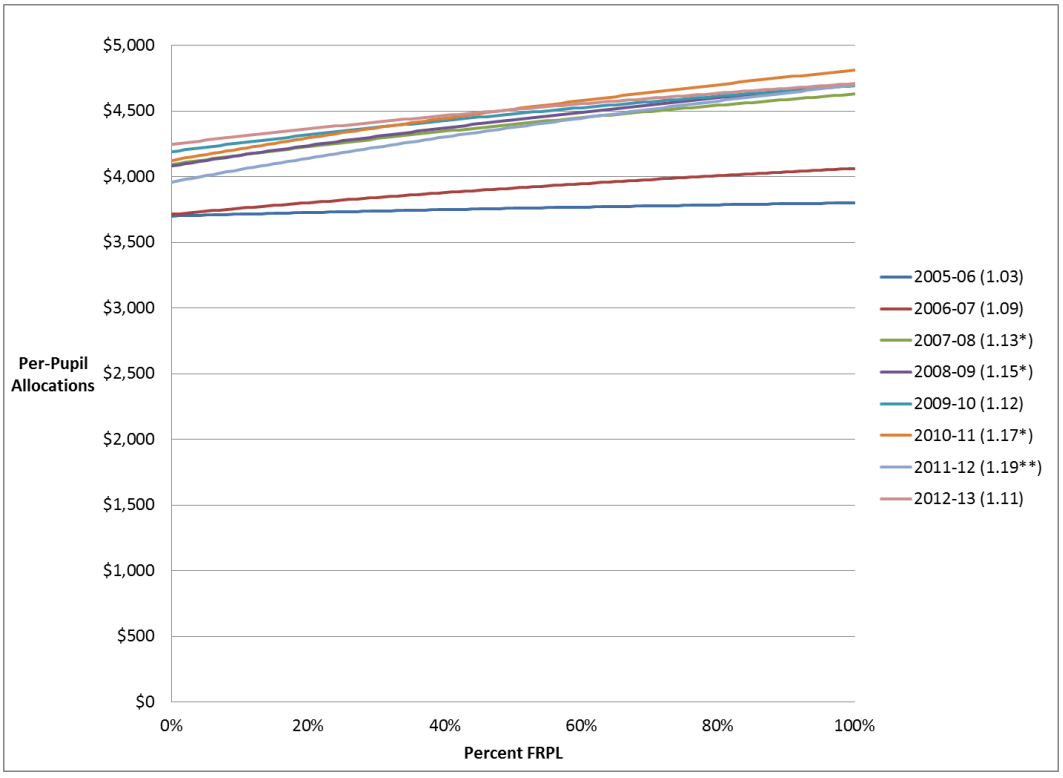
[49] Note that the statistical precision of regression estimates tends to decrease as the number of observations goes down. This may have played a role in the drop in precision of the middle and high schools estimates compared to those generated for elementary schools.

Exhibit 6.22 – Estimated WSF Allocation Profiles for Middle Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Exhibit 6.23 – Estimated WSF Allocation Profiles for Middle Schools (2006–07 to 2012–13)

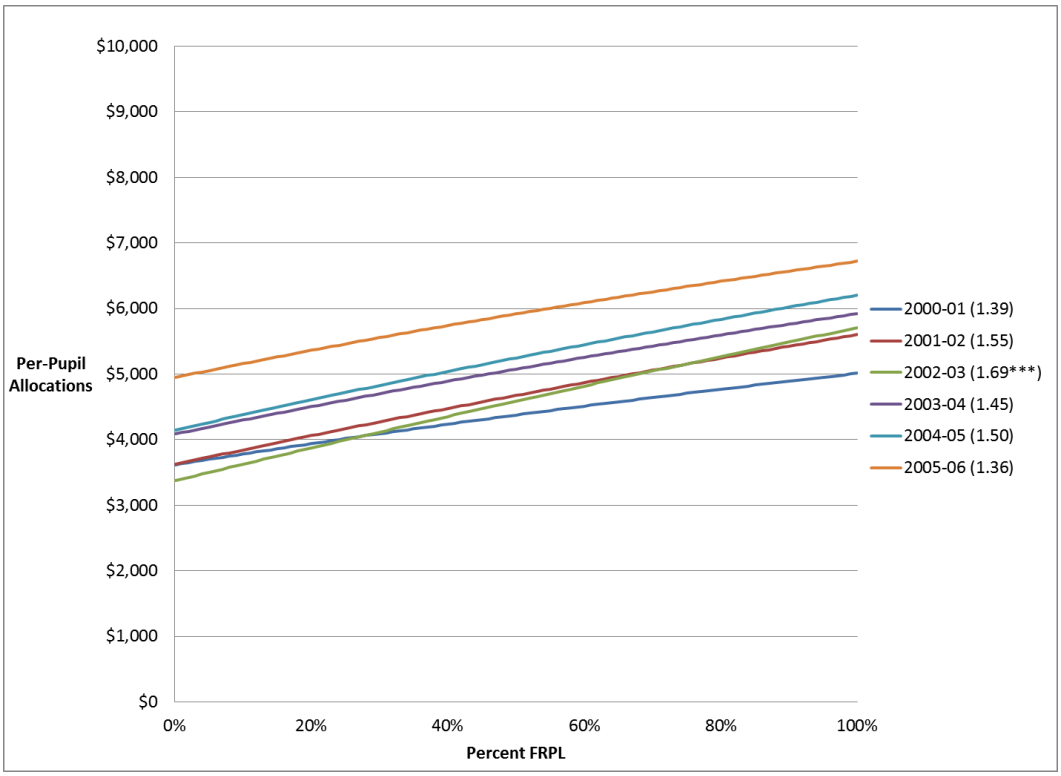


Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

The estimated profiles corresponding to overall allocations in the pre- and post-WSF years are graphed in the following two exhibits (Exhibits 6.24 and 6.25). Again, because of the role of categorical funds in the non-WSF portion of these allocations and their strong link to measures of student need, the implicit FRPL weights were much larger than those based on WSF allocations. For the pre-WSF years, the weights ranged from 1.36 (2005–06) to 1.69 (2002–03), with the difference between these extremes being statistically significant. The estimated allocation profiles in the post-WSF years tended to be lower than those in the pre-WSF period, and most did not differ significantly from the reference year (the exception being 2006–07, with an implicit weight of 1.49).

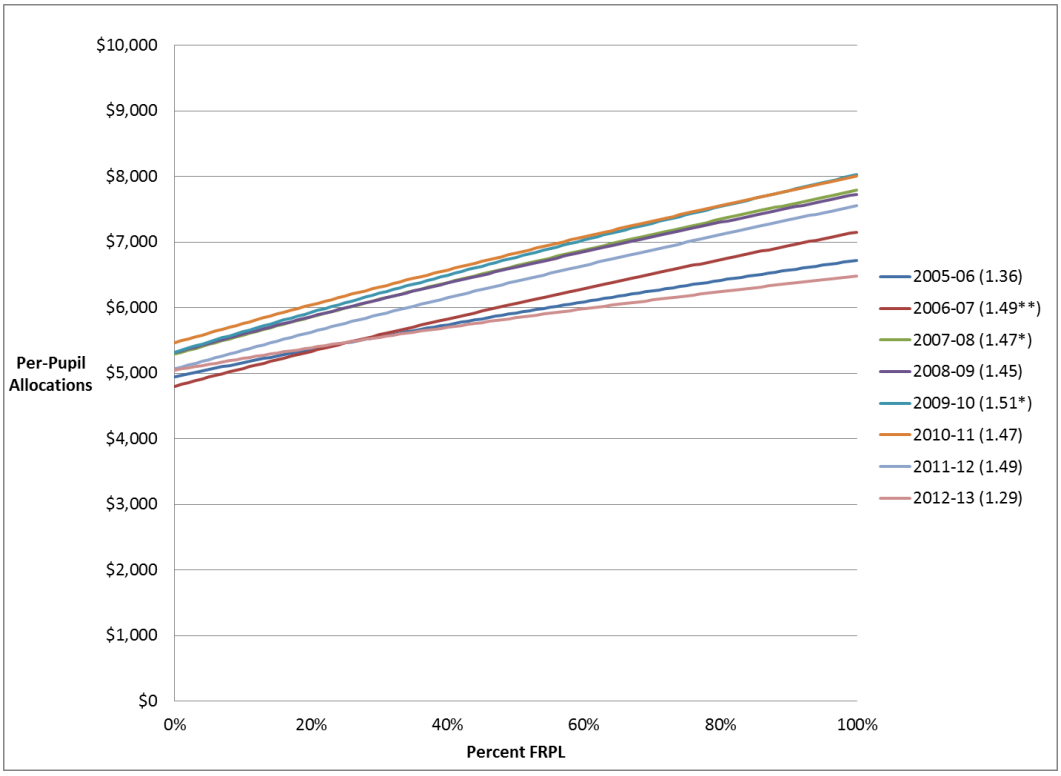
Therefore, the results with respect to WSF allocations are similar to those found for elementary schools but are not as strong. While the estimated implicit FRPL weights suggested that WSF allocations were distributed more equitably after the WSF was implemented, they were not as precise as those generated for elementary schools. Moreover, there was little evidence to suggest that equity with respect to overall allocations changed significantly from the pre- to post-WSF period. These two findings imply that allocations made by the WSF helped mitigate the decrease in overall funding equity that occurred over the period.

Exhibit 6.24 – Estimated Overall Allocation Profiles for Middle Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Exhibit 6.25 – Estimated Overall Allocation Profiles for Middle Schools (2006–07 to 2012–13)

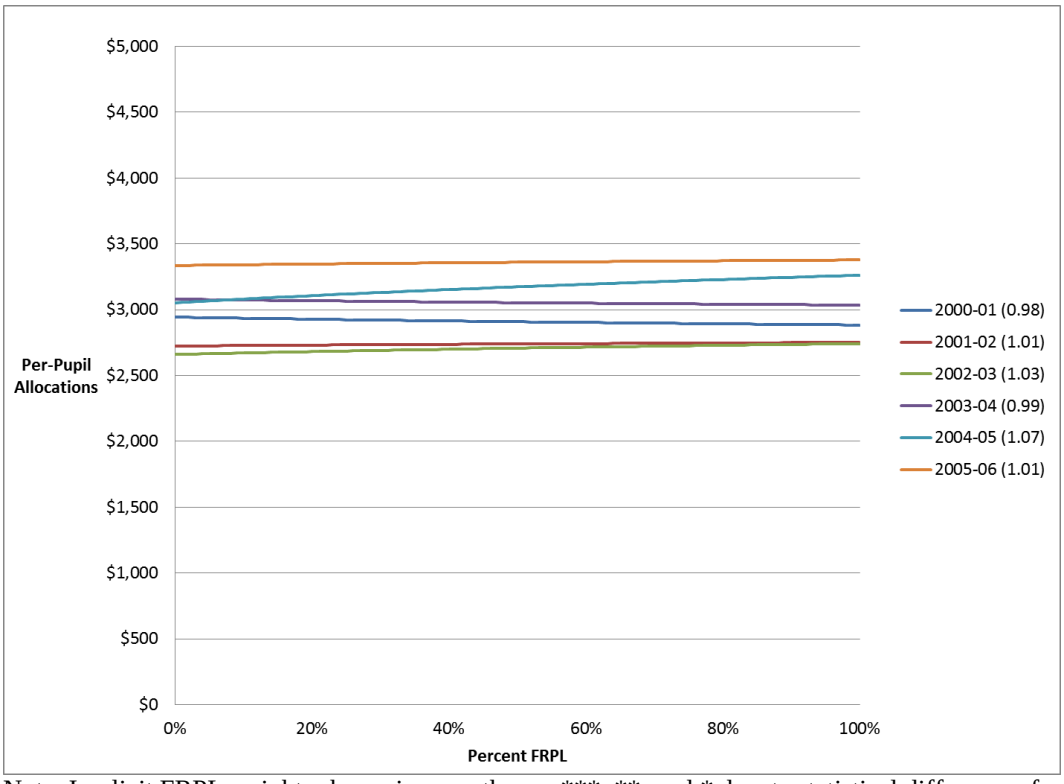


Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

High Schools

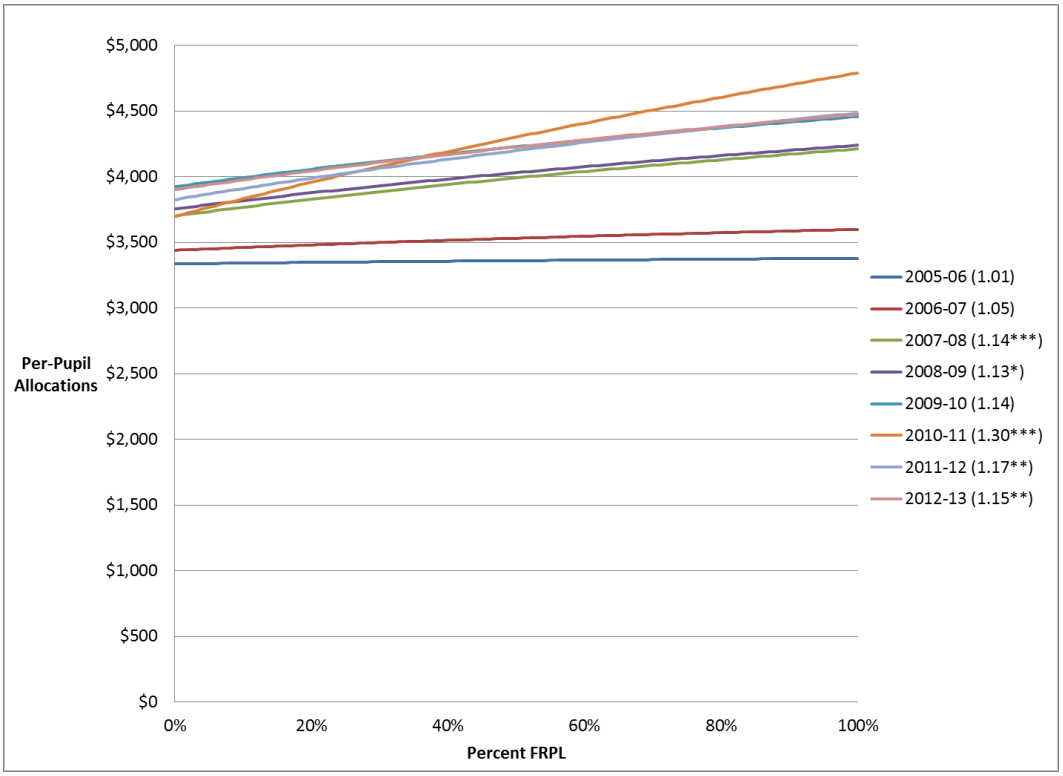
Profiles of the high school allocation profiles for the pre- and post-WSF years are charted in Exhibits 6.26 and 6.27, respectively. The profiles for the pre-WSF years were exceedingly flat, with implicit FRPL weights ranging from 0.98 to 1.07 and none proving statistically different from the reference year value of 1.01. There was a dramatic increase in the profile slopes across the post-WSF years during which the range of the implicit FRPL weights went from 1.05 in 2006–07 to 1.30 in 2010–11; in addition to this latter figure, those for 2007–08 (1.14), 2011–12 (1.17), and 2012–13 (1.15) proved to be significantly different from that for the reference year. Therefore, the findings strongly suggest that implementation of the WSF had a significant positive influence on the equity with which the funds directed through it were allocated.

Exhibit 6.26 – Estimated WSF Allocation Profiles for High Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

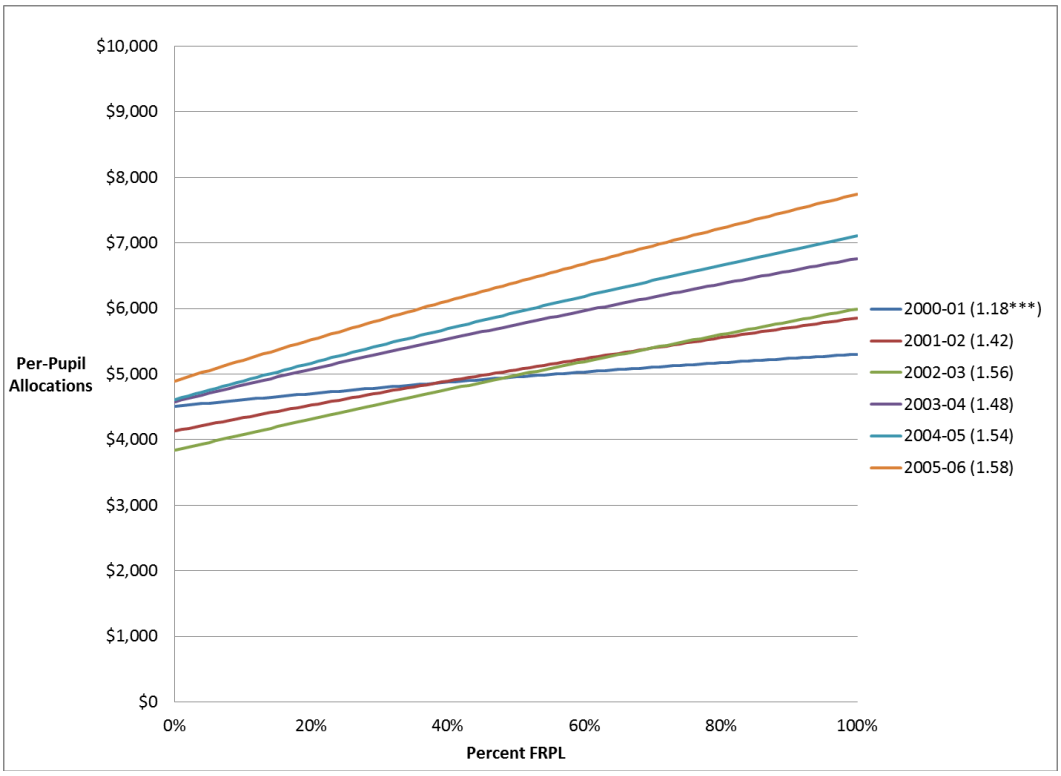
Exhibit 6.27 – Estimated WSF Allocation Profiles for High Schools (2006–07 to 2012–13)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

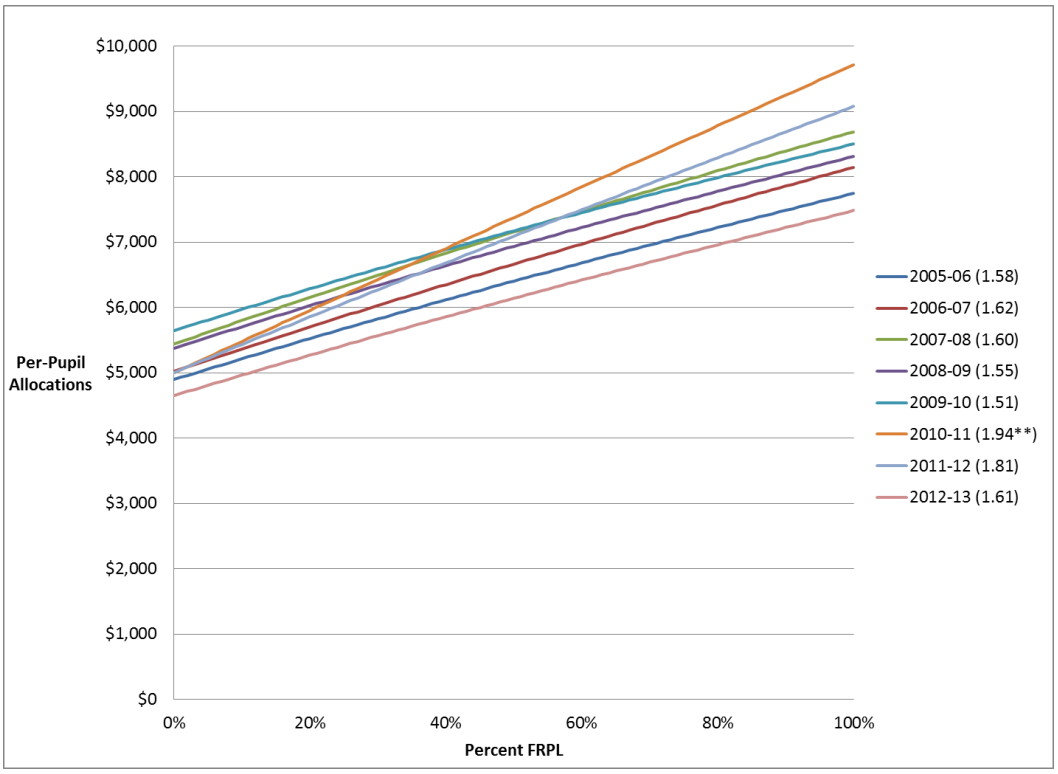
The final exhibits (6.28 and 6.29) contain the estimated high school profiles of overall allocations in the pre- and post-WSF years. While the results show increases in the magnitude of the implicit FRPL weights, there were very few that were considered significantly different from the reference year. In the pre-WSF period the implicit FRPL weight ranged from 1.18 in 2000–01 to 1.58 in 2006–07, with only the earliest year in the period proving statistically different from the reference year. The profiles for the post-WSF years tend to be steeper, with higher implicit weights ranging from 1.51 in 2009–10 to 1.94 in 2010–11, the latter of which was the only one that proved significantly different from the reference year.

Exhibit 6.28 – Estimated Overall Allocation Profiles for High Schools (2000–01 to 2005–06)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Exhibit 6.29 – Estimated Overall Allocation Profiles for High Schools (2006–07 to 2012–13)



Note: Implicit FRPL weights shown in parentheses. ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively.

Comparing Hawaii's Implicit Weights on SED with Those from Other States

Our best estimates of the implicit SED weights for Hawaii are of the same order of magnitude as the highest found for other states.

The model described in equation (1), above, serves two main purposes. First, we want to see if the allocations from programs that were eventually distributed using the WSF became more closely related to SED after the formula was put in place. Second, we are also interested in how the relationship between overall funding and SED may have changed over the same period. In turn, it is appropriate to use an identical model that only includes controls for SED and school enrollment.

However, as a next step, we are interested in comparing the implicit weights for SED in Hawaii with those obtained from other states which we presented in Chapter 3 (see Exhibit 3.5). For this purpose, we require a slightly more detailed model similar to the one used to estimate implicit weights in other states. Specifically, we need to control for additional student characteristics that account for some of the Non-WSF funding streams. Moreover, if the Non-WSF portion of overall allocation is driven by student needs that are positively related to the percentage of students classified as FRPL, our estimates of the implicit SED weight will be biased upward.[50]

[50] Put another way, if there are student needs positively related to SED which help determine overall allocations and these are excluded from the model, the implicit SED weight will to some extent also reflect the effect of the excluded needs.

With this in mind and for the purpose of comparing estimated implicit SED weights between Hawaii and other states, we run a slightly more comprehensive model that controls for the school percentage of special education students who generate some portion of the allocations of Non-WSF funds to each school.[51] The enhanced model therefore will take on the following form:

(2) *School-Level Per-Pupil Allocation = f(FRPL Percentage, Special Education Percentage, School Enrollment)*

If the percent of FRPL and special education are positively related, then inclusion of the latter in the model is expected to generate more accurate (less biased) estimates of the implicit SED weight that are lower than those produced by the earlier model.

Exhibit 6.30 provides the resulting implicit SED weights of the more comprehensive model of overall per-pupil dollar allocations that also controls for the percentage of special education students served. Indeed, comparison of the results from the more comprehensive model and original model show that the estimated implicit SED weights for overall allocations have decreased from our original estimates as a result of including special education in the model.[52] In other words, the estimated implicit SED weight was accounting for some of the influence in overall allocations associated with the percentage of special education students. Additionally, virtually all of the estimates are measured with enough precision to be deemed statistically significant (the exception being the estimate for high schools in 2000-01). However, there is very little evidence that the implicit SED weights for overall funding in the post-WSF years differed statistically from the year prior to implementation; only the estimate for middle schools in 2006-07 proved to be significant from the reference year (2005-06).

Exhibit 6.30 – Estimated Implicit Weights for Socioeconomic Disadvantage Using Enhanced Model (2000–01 to 2012–13)

Period	Year	Schooling Level		
		Elementary	Middle	High
Pre-WSF	2000-01	1.35	1.23	1.03***
	2001-02	1.47	1.34	1.35
	2002-03	1.54**	1.30	1.45
	2003-04	1.45	1.27	1.37
	2004-05	1.49	1.39	1.39
	2005-06	1.43	1.28	1.46
Post-WSF	2006-07	1.38	1.42**	1.50
	2007-08	1.34*	1.40*	1.44
	2008-09	1.40	1.37	1.35
	2009-10	1.36	1.40	1.35
	2010-11	1.41	1.36	1.71*
	2011-12	1.39	1.48*	1.52
	2012-13	1.34	1.30	1.38

[51] Note that funding for special education services is included in the Non-WSF portion of overall allocations.
[52] Across the study period, the implicit SED weights decreased by as much as 0.22, 0.39 and 0.29 for elementary, middle and high schools, respectively.

Note: ***, **, and * denote statistical differences from reference year (2005–06) at the 1 percent, 5 percent, and 10 percent significance levels, respectively. All implicit weight estimates differ from 0 at the 1 percent significance level except that for high schools in 2000-01.

Exhibit 6.31 provides the averages of the estimated implicit SED weights associated with the pre- and post-WSF periods, respectively. The resulting averages weakly suggest that the equity with which overall dollars have been allocated tended to decrease for elementary schools and increase for middle and high schools. Given the prior findings where WSF allocations for elementary schools became more equitable after implementation, one might be apt to conclude that the way in which non-WSF resources were distributed to elementary schools may have inhibited any equity improvement in overall allocations at this schooling level. Nevertheless, there is reason to be skeptical about this finding. As shown in Exhibit 6.30, very few of the year-specific implicit SED weight estimates in the pre- or post-WSF periods proved to be different from the reference year and, therefore, it is unlikely that the pre-WSF and post-WSF averages in Exhibit 6.31 statistically differ from one another.

Exhibit 6.31 – Average Estimated Implicit Weights for Socioeconomic Disadvantage Over Pre- and Post-WSF Periods

Period	Elementary	Middle	High
Pre-WSF	1.45	1.30	1.34
Post-WSF	1.37	1.39	1.46

Nevertheless, virtually all of the year-specific implicit SED weight estimates did differ statistically from 0. Therefore, it makes sense to put these results in context by comparing the weights estimated here to those for the 10 states with the largest weights (from Chambers et al., 2012) presented in Chapter 3 (see Exhibit 3.5). While a direct comparison of these results is not perfect given differences between what was included in the two models, it still can help to put the findings here in context.[53] Comparison of the results shows that the estimated implicit SED weights for overall allocations in Hawaii are of the same order of magnitude as the highest found in the earlier study which compares these implicit weights across all states. Specifically, the estimated implicit SED weights for Hawaii elementary, middle and high schools in 2012-13 range between 1.30 and 1.38 while the highest implicit weight for poverty found in the previous study was 1.34 (for the state of Minnesota).

Allocations Versus Expenditures

We note that the analysis presented in this chapter has all been performed using funding allocations as distributed by the WSF as well as outside of the formula. However, allocations may not provide the whole story in terms of how equity plays out across all schools. An alternative approach is to evaluate how per pupil *expenditures* vary according to student need. Indeed, it can be argued that the expenditure realized at a school is a more accurate reflection of the resources that students have access to and therefore a more meaningful measure with which to evaluate equity.

[53] For instance, the model used in the report by Chambers et al. (2012) only examined state and local (not federal) dollars and included an additional control for geographic differences in resource (staffing) prices, neither of which were accounted for in the current model. Moreover, the models in this report were run on district-level information, while the current model is run on school-level data.

There are several reasons why the results from an expenditure analysis of Hawaii public school equity may differ from those found using funding allocations. The most obvious reason lies in the fact that while schools are effectively charged the average teacher salary against their funding allocation budgets (regardless of the take home salary of their instructors), the actual salaries paid out will vary according to teacher seniority. Therefore, schools with teachers that earn above-average salaries will have less than the realized cost of their instructors deducted from their budgets, while the schools with below-average salaried teachers will have their budgets docked by more than what their teachers actually cost. In essence, this means that schools are not facing the realized costs of their instructors and that schools with large numbers of more costly senior teachers are in fact subsidizing those with few higher paid teachers. Given that more senior teachers who are more highly paid tend to gravitate to low-need schools, while less senior lower-salaried teachers tend to be placed in more needy schools, the application of average salaries to school budgets in and of itself can result in significant inequities across schools within a district (see Roza, 2009). In the same vein, the analysis of funding allocations may mask underlying inequities across schools and therefore provide different results from an analysis of expenditures.

Chapter 7 – Conclusion

Motivating Factors Behind the Implementation and Evaluation of Hawaii's WSF

A key motivation behind the implementation of a weighted student formula (WSF) is to improve the *equity* and *transparency* with which resources (dollars) are distributed to schools. Additional and equally important motivations that regularly underlie WSF implementation include improving the *efficiency* with which dollars are spent to provide educational services and increasing the degree to which parents and the local community are *empowered* to participate in the decision making concerning educational programming at their schools. All of these motivations drove the adoption of the WSF in Hawaii under the historical legislative Act 51.

Given these motivations, it is only natural to ask how well this reform has performed in terms of achieving its goals. The preceding chapters investigated this question by providing a detailed evaluation of the state's experience in developing and implementing their WSF. Specifically, Chapter 2 provided an in-depth description of the development and evolution of the WSF since its inception in 2006–07. Chapter 3 described the emergence of cost-based funding and how this has influenced both state and district policies that weight funding according to cost factors (e.g., student needs, scale of operations, and geographic differences in resource prices). Chapters 4 and 5 investigated principal and stakeholder perceptions and the extent to which they understand the WSF and feel it has delivered on its goals of promoting equity/transparency in school funding, improved the effectiveness and innovation of school programs through enhanced school discretion over dollars, and increased the degree of stakeholder empowerment. Chapter 6 provided a statistical analysis of funding allocations to explore whether there were significant improvements in the equity with which resources have been distributed since implementation of the WSF.

The purpose of this final chapter is to highlight the main findings of the various analyses and to use these findings to help characterize the major successes realized and the challenges faced over the course of implementing the WSF. In addition, it draws on this material to list and discuss a detailed set of policy considerations that the state should take into account as it moves forward to refine the implementation of the WSF.

The remainder of the chapter is organized as follows. The first two sections summarize the key findings from the principal survey and stakeholder interview analyses presented in Chapters 4 and 5, respectively. The third section provides the main results from the equity analysis of the state's WSF (Chapter 6). The fourth section presents an overview of noted successes and challenges in implementing the WSF, as well as important policy considerations for policymakers—such as the Committee on Weights (COW)—as Hawaii moves forward with the WSF.

Findings 1 – Principal Attitudes and Perspectives Surrounding Hawaii's WSF

To investigate principal attitudes and perspectives pertaining to the WSF and the effectiveness with which it is meeting its goals, a survey was administered to all public school principals

(excluding charters). The survey's high response rate (83 percent) is evidence of how interested school leaders are in the WSF policy and in expressing their views about it.

Findings From Aggregate Analysis

The main findings from the aggregate analysis (across all schools) are summarized below.

Equity and Transparency of Funding

- Most principals agreed that WSF funding is equitably allocated to schools, but they did not agree that the amount of funding is sufficient.
- Most principals understand the WSF and know where to go for more information if required.

Discretion Over Funding and Innovation

- Most principals agreed that they had discretion over how funds were spent in their schools, but less than one third of principals agreed that they had sufficient flexibility to be innovative or to try new instructional programs.
- A majority of the principals responded that they exerted control over a wide variety of programmatic components, such as use of data, parental involvement, support for students with additional needs, extracurricular or after school programming, classroom technology, curriculum offerings, professional development, and numbers and types of classroom teachers and other staff at their school. The only exception was that fewer than one fifth of the principals indicated they had control over extending the school day or year.
- About half of the principals said that the WSF has permitted them to innovate, including hiring staff, providing extra support, and implementing new programs.
- More than half of the principals said that the level of funding allocated via the WSF has not permitted them to innovate and that the (insufficient) funding under the WSF supports only basic staff and operations.

Empowerment and Accountability for Results

- Principals reported that they are holding regular SCC meetings and that they are communicating—and often also consulting—with the SCC and with faculty about resource allocation decisions.
- Principals agreed that they are held accountable for student performance, but most do not agree that the SCC is held accountable.

Suggestions for Improving the WSF

- More than half of the principals suggested ways to improve the WSF, and more than one third of those suggested increasing the formula weighting factors or adding specific categories of student need.

Differences in Responses Across School Type

Although most response items were consistent across all schools, we did notice some differences in attitudes and perspectives on a limited number of survey items across various types of schools. Analysis of the survey data by school type showed the following:

- *Neighbor Island Schools.* Principals at the 70 Neighbor Island schools generally responded similarly to principals on Oahu. If anything, principals at Neighbor Island schools reported more agreement that WSF funding is sufficient and that it affords them sufficient flexibility.
- *Mixed Grade Level Schools.* The 12 principals at mixed schools (i.e., those not classified as elementary, middle, or high schools) reported less agreement than did other principals on survey questions related to WSF equity, sufficiency, and flexibility.
- *Small Schools.* Principals at small schools—particularly small elementary schools and small high schools—generally reported less empowerment and flexibility than did principals at large schools.
- *Schools by Need.* Few differences in responses were found between principals at schools serving high, medium, and low percentages of English language learners or students eligible for free or reduced-price lunch.
- *Schools by Locale Type and Isolation.* Few differences were found between principals serving schools in city, suburban, town, or rural settings. However, differences were found in survey responses between the principals at the seven schools deemed geographically isolated and those at the non-isolated schools. The isolated principals tended to report less agreement that WSF funding was sufficient and offered enough flexibility to allow innovation.

Findings 2 – Stakeholder Attitudes and Perspectives Surrounding Hawaii's WSF

To gain a broad understanding of attitudes and perspectives about the goals of the WSF, the implementation process, and the extent to which the policy is achieving its intended outcomes, we conducted a limited number (16) of semi-structured interviews with stakeholders. It should be noted that not all interview questions were asked of every stakeholder interviewed (i.e., some questions were only asked of a subset of the 16 stakeholders who were interviewed). The findings, presented here by theme, are summarized in this section.

Understanding of WSF Background, Goals, and Implementation Process

- Almost all respondents were aware of the goals of the WSF policy; roughly two thirds thought that equity was a goal of the policy, and about half thought that a goal was autonomy and flexibility for school leaders.
- Respondents suggested that the WSF policy was grounded in a desire to create more local control.
- There was wide variation in stakeholders' understanding of how much of a school's resources come from WSF funds.

- Respondents provided useful context and descriptions of how the WSF weighting factors have changed over the years, the use of the superintendent's reserve fund, and the use of average instead of actual salaries in the calculation of teacher compensation.
- Half of the respondents who were asked spoke about the transition process to protect schools from sudden losses in funds during phase-in.

Sufficiency, Autonomy, and Alignment of Academic and Financial Plans with Resource Allocation

- About half of the respondents said that WSF funding was not sufficient to achieve the desired student outcomes.
- More than half of those interviewed seemed to suggest that funding for small and isolated schools may be insufficient.
- Respondents were divided on whether school leaders have the autonomy to make a difference in student learning; examples of limits to real autonomy include a lack of funds and the inability to hire and dismiss specific teachers.
- Principals reported that they do their best to align their Academic and Financial Plans with their allocations of resources.
- The most widely reported change to the planning and budgeting process in recent years was adjustments in the Academic and Financial Plans timeline and process.

Capacity, Support, and Communications

- Most respondents who were asked about site capacity reported that state and complex area staff have the necessary capacity to support school-level implementation of the WSF program, but only half of the respondents felt the same way about school staff.
- Principals reported receiving support from the complex area office in aligning their Academic and Financial Plans.

Transparency, Understanding, and Involvement of the School Community

- Most respondents reported that the HIDOE staff and the complex area superintendents have a good understanding of the WSF, and about half said that the legislature does not. Respondents were divided in their assessment of the school community's understanding of the WSF.
- Respondents reported that school-level misconceptions about the WSF appear to be connected more with the insufficiency of the available funds than with the WSF approach itself.
- Almost all respondents said that the WSF calculations and process are transparent.
- About half of the respondents who were asked about community involvement indicated that the community was involved in the budgeting and planning process, though the level and value of that involvement varied.

Accountability and Innovation

- Although most respondents who were asked about accountability measures said that strong measures are in place, some questioned whether accountability had any impact.
- Less than half of the respondents felt that there was an increase in innovation and efficiency as a result of the WSF, and some suggested that limits on funding were playing a role in hampering innovation.

Successes, Challenges, and Recommendations

What Stakeholders Liked About the WSF

- *Equity is based on enrollment and student needs.* Stakeholders like that the WSF is based on enrollment and applied equitably throughout the state so that everyone can anticipate what their budget is going to be.
- *School-level empowerment*. Stakeholder interview respondents like the fact that schools are empowered to increase student achievement.
- *Collaboration with the school community*. Stakeholders like the collaboration with the school community.
- *Flexibility and autonomy.* Stakeholders said that they like the flexibility and autonomy that schools now have, and the flexibility to purchase personnel positions, despite not being able to hire or fire specific personnel.

What Stakeholders Did Not Like About the WSF

- *Insufficient funding.* A majority of the stakeholder respondents said that they would like to see more funding under the WSF.
- *Inadequate funding implies no flexibility.* Stakeholders reported that more funding is necessary to have the flexibility to start new programs.
- *Small schools get inadequate funding.* Several respondents said that small or isolated schools do not have adequate funding under the WSF and that the formula does not adequately account for diseconomies of scale associated with small schools or for additional costs due to geographic isolation.
- *Lack of stability and process administration.* Some respondents dislike the lack of stability and the fluctuations in funding allocations from year to year, while others cited difficulties on the part of school leadership in being able to adapt to changes in the budgeting timeline process including working with new templates and determining salaried versus casual staffing needs at different stages in the process.
- *Miscellaneous issues.* Respondents cited a number of additional aspects of the WSF that they do not like, including the lack of transparency when funds are taken out of categorical funds and put into the WSF, the disproportionate amount of freedom that is afforded to principals in the procurement process when they lack an understanding of how this process works, difficulty pushing out statewide initiatives under WSF funding, and treating children as though they are "walking dollar signs."

Successes

There were several items that stakeholders reported as being the biggest successes of the WSF:

- *Equity.* The WSF is consistently and equitably applied to all schools.
- *Earlier budgeting*. The fact that the budgeting process occurs earlier in the school year gives principals more time to plan.
- *Increased collaboration.* The creation of SCCs means that representatives of the community are included in the conversation surrounding school budgeting.
- *More autonomy and flexibility.* Under the WSF, principals have more autonomy and flexibility with school budgeting.
- *Potential for increased accountability.* The WSF has the potential to bring about more accountability and less waste.

Challenges to WSF Implementation

Stakeholders reported the following challenges in implementing the WSF:

- *State policy barriers to WSF implementation.* The state has not been following the legislative statute in terms of the amount of funding that should be directed to the WSF (e.g., one stakeholder claimed that the "75 percent goal of the statute has not yet been met; at present, it is closer to 50 percent").[54] The state procurement processes are a hindrance, and principals' flexibility is inhibited by state mandates that do not come with separate dedicated funding streams.
- *Federal policy barriers to WSF implementation.* A number of federal barriers exist, including mandates under No Child Left Behind (NCLB), federal compliance, and standardized testing. There should be alignment with all funding streams in the Academic and Financial Plans instead of having separate plans for Title I and II funding.
- *Lack of funding, especially for small schools.* Lack of funding is a major challenge, especially for small schools that need to support essential personnel.
- *Special education funding.* Providing schools with more budgetary discretion over special education poses a serious challenge. While providing discretion to principals because they are closest to the students and can arguably make the best decisions regarding their school's instructional program, there are risks involved with adding special education to the WSF and difficulties in decentralizing funding for these services.

[54] The official language of the statute reads as follows: "Not less than seventy per cent of appropriations for the total budget of the department, excluding debt service and capital improvement programs, shall be expended by principals." (see http://www.capitol.hawaii.gov/hrscurrent/Vol05_Ch0261-0319/HRS0302A/HRS_0302A-1301.htm). While the statute points to the requirement that 70 percent of the education appropriation be spent at school sites ("expended by principals"), it seems the respondent in this case may have interpreted this 70 percent as dollars flowing through the WSF (over which principals have the most discretion). Therefore, this finding may say more about the challenge in the understanding and interpretation of the statute on the part of stakeholders.

- *Miscellaneous challenges*. There is a need for a better understanding of the WSF and finance training for principals[55], improved alignment between the timing of the release of enrollment figures and the budgeting process timeline in order to avoid large deviations between projected and official enrollment counts, and improved data and information for stakeholders. Funding fluctuations inherent in the WSF can also pose a challenge.

Suggestions for Improving the WSF and Its Implementation

Stakeholders offered a number of suggestions for improving the WSF and its implementation:

- *Increased funding.* More funding should be directed to the WSF.
- *Timeline changes.* The timeline of the WSF process needs to be modified.
- *Support for small and isolated schools.* Extra support should be provided for schools that are small or isolated.
- *Better transparency and communication.* There needs to more transparency about the WSF and better communication about COW decisions concerning the formula and its weighting factors.
- *Autonomy and flexibility.* The level of autonomy and flexibility for schools should be increased.
- *Special education funding.* Two stakeholders had opposing opinions about whether discretion over special education should be given to schools under the WSF or kept centralized. The argument for decentralizing special education was that school leadership is in the best position to provide special education services, many of which are for relatively low-severity students. The contrasting argument against decentralization was that many schools would not be able to afford the specialized services necessary for the high-severity pupils.[56]
- *Miscellaneous suggestions.* Additional suggestions for improvement included providing multiyear weights for multiyear Academic and Financial Plans, providing training for principals to learn how to budget, exploring the possibility of using average daily attendance as a WSF weighting factor, and increasing legislature involvement with the COW.

Findings 3 – Changes in Equity Associated With the WSF

Chapter 6 detailed an in-depth statistical analysis of how the equity with which resources are distributed to schools has changed since the WSF was implemented. The main findings were as follows:

[55] Note that this may seem in contrast to the principal survey analysis finding presented above where most principals reported that they understood the WSF and know where to go for additional information. However, the sentiment of the stakeholders merely suggests that principal knowledge could be improved and points specifically to training in finance.

[56] Clearly, the solution might not be an all-or-nothing case in which the provision of special education as a whole is pushed out to school discretion. Perhaps schools could be given discretion over the services (and corresponding funding) provided to low-severity special education students.

- *Funding equity has increased with the WSF*. Our analysis of the patterns of average per-pupil dollar allocations across different levels of school socioeconomic disadvantage suggests that the relationship between funding and student need has become stronger (i.e., schools with higher socioeconomic disadvantage have tended to receive higher funding allocations) across all grade levels since implementation of the WSF, implying an increase in funding equity.
- *Funding has become more predictable with the WSF*. Scatter plot analysis of per-pupil WSF allocations against school socioeconomic disadvantage suggests not only that the relationship between these two measures has become stronger since implementation of the WSF, but also that funding under the WSF has become more predictable as a function of student need.
- *There have been statistically significant improvements in the equity with which WSF funding has been distributed since implementation of the formula*. More rigorous regression analysis (which controls for differences in school size) of the relationship between per-pupil allocations made to schools through the WSF and school socioeconomic disadvantage suggests that the implementation of the formula has been associated with statistically significant improvements in the equity with which these dollars have been distributed. Moreover, the results show that prior to implementation of the WSF, no statistically significant pattern existed between socioeconomic disadvantage and the dollars from revenue sources that would eventually be directed through the formula.
- *Our best estimates suggest that the equity with which overall funding has been distributed in Hawaii since implementation of WSF is among the highest found across all states.* The regression analysis that looked at the relationship between overall allocations (allocations made both within and outside of the WSF) and socioeconomic disadvantage produced 2012-13 estimates of the implicit socioeconomic funding weight ranging from 1.30 to 1.38 across the three schooling levels. An interpretation of this finding is that, on average, Hawaii allocates 30 percent to 38 percent more for each socioeconomically disadvantaged student than for a student with no socioeconomic disadvantage.[57] Further investigation showed that this range compares favorably against states that exhibit among the highest implicit weights for socioeconomically disadvantaged students.

Successes, Challenges, and Key Considerations for Refining the WSF Policy

As is clear from the preceding chapters and the summarized findings presented in this chapter, implementation of Hawaii's WSF has been met with a host of major successes and significant challenges that should be reflected upon to inform future changes to the policy. The following section synthesizes the main findings into successes and the remaining challenges and provides a discussion around key policy considerations that should be taken into account as the state moves forward with the formula.

[57] Formally, this finding suggests that schools with the greatest socioeconomic disadvantage (i.e., where all students are eligible for free or reduced price lunch) are funded between 30 percent and 38 percent higher than those with the least socioeconomic disadvantage (i.e., where no students are eligible for free or reduced price lunch).

Successes

Success 1 – Significant and Sustained Commitment to Funding the WSF

As was shown in Chapter 2, there has been a sustained commitment to directing significant funding through the WSF since its inception in 2006–07. This can be seen in the absolute level of revenues, as well as the shares of both the overall and General Fund education appropriations that have been allocated to schools through the formula. In the seven-year period that the WSF has been in place, the amount of dollars allocated to schools through the formula has increased by 11.3 percent (from $655.4 million in 2006–07 to $729.7 million in 2012–13). Over the same period, the share of the state's education appropriation supported by General Fund dollars has ranged from 49 percent (in 2007-08) to 54 percent (in 2011-12 and 2012-13), while the share of the overall appropriation (including both General Fund and other revenues) ranged from 39 percent (in 2009-10) to 43 percent (in 2011-12 and 2012-13). While this commitment to the WSF stands out as a key success and a signal of the significant political support this policy enjoys, it is important to note that stakeholders remain concerned about whether the statute requirement that 70 percent of state dollars for education is provided to schools has been met, and, more generally, if a sufficient amount of this funding is being allocated through the WSF (see Challenge 1, outlined below).

Success 2 – School Flexibility and Discretion Over Funding and Innovation

Results from both the principal survey and the stakeholder interviews suggest that under the WSF principals have had significant flexibility and discretion over spending at their schools, which they have appreciated. At the same time, however, the results suggest that there are limits on principals' ability to exert this discretion. Specifically, serious concerns were raised about the sufficiency of funding allocated via the WSF and the extent of principal discretion over staffing and other programmatic decisions (see Challenges 1 and 2, below).

Success 3 – Empowerment of Local Stakeholders and the Community

The results of the principal survey analysis suggest that the creation of the SCCs under the WSF has been associated with local community involvement in resource allocation decisions at their schools. The stakeholder interviews partially corroborate this finding, with many respondents reporting that under the WSF the community has been involved in the school budgeting and planning process (however, the value and level of involvement was varied).

Success 4 – Improvement in the Equity and Transparency of Funding Under the WSF

Results from the statistical analysis that investigated the relationship between per-pupil WSF funding and school-level socioeconomic disadvantage suggest that the equity with which dollars are distributed by the WSF significantly increased in the years following implementation of the formula. Moreover, both the principal survey and stakeholder interview analyses provide suggestive evidence that the goals of the WSF and the process by which dollars are distributed to schools on the basis of the formula are well understood.

Challenges

Challenge 1 – Providing Sufficient Amounts of Funding Through the WSF

The most significant remaining challenge concerns the level of funding allocated by the WSF. The results of both the principal survey and stakeholder interview analyses showed that there was a clear perception that the level of available funding distributed under the WSF, to be used at the school's discretion, was not sufficient to allow them to cover their minimum operational costs and still have funds left to implement additional innovate programming. This challenge was especially emphasized for small and isolated schools. This suggests that any efforts to increase student outcomes through more innovative and better tailored programs that meet the unique needs of each individual school have been hampered by a lack of discretionary funding. That is, the WSF framework alone is not enough. While providing additional school discretion over how funding is used may be a *necessary* condition, it is not *sufficient* to ensure that innovative programming can take place; that is, there must be available funding that covers more than a school's minimal operational costs.

It is vitally important to recognize that the challenge of insufficient funding in no way represents a fundamental design flaw in the WSF. The WSF is merely a mechanism for equitably distributing a predetermined amount of funding in a transparent manner and, in this respect, the WSF is working exactly as intended. Instead, the issue of funding insufficiency should be viewed somewhat independently. There are two factors that have limited the amount of funding directed through the WSF: (1) leaner years, during which the General Fund education appropriation (from which WSF funding is derived) has been smaller due to fiscal crisis, and (2) the important policy decision that determines what share of the General Fund education appropriation should be allocated by the WSF. Clearly, the first factor is less in the control of state policymakers and rather is the result of cyclical fluctuations in the economy as a whole. In contrast, the second factor is under the direct control of policymakers and requires thoughtful deliberation over what types of services should be provided by the central office rather than being pushed out to school discretion (see Consideration 3, below). The results of this deliberation will greatly inform the level of funding that needs to be allocated via the WSF.

Challenge 2 – Ensuring WSF Weighting Factors Accurately Reflect Differential Costs

The weighting factors that make up the WSF should accurately account for the differential costs of providing an equal opportunity for all students to achieve, regardless of their individual needs or circumstances (such as geographic location). One theme that emerged from the principal survey and stakeholder interview analysis was that small schools and those in geographically remote locations were especially lacking sufficient funding to cover much more than a minimally operating program. This is a situation in which the inclusion and value of potential weighting factors that account for the additional costs associated with small-scale operations and/or remote geographic settings must be considered. However, identifying the specific factors that account for the differential costs of providing educational services to students with various needs and circumstances is a more general key policy consideration that will have to be addressed on a recurring basis (see Consideration 1, below).

Challenge 3 – Determining an Appropriate Central/School Split of Program Discretion

An inherent challenge in the design of any WSF is determining how discretion over specific educational services should be divided between the central office and school sites. A main tenet of WSF systems is that *more* funding should be directed to the discretion of local school sites on the basis of the assumption that the leadership of each school is in the best position to develop the programs that will most effectively address the unique needs of their students. However, this in no way suggests that *all* funding should be driven out to school discretion. Indeed, there are some services that simply make more sense to be distributed and managed centrally and others that might be better placed under the discretion of school sites with a system in place that provides effective monitoring, capacity support where necessary, and accountability for results. These decisions represent a key policy consideration (see Consideration 3, below) and should take into account both the efficiency and practicality with which the central office (as opposed to school sites) can deliver the services under scrutiny. It is important to recognize that addressing the appropriate split of program discretion is in no way a clear-cut exercise. It is not always obvious which services should be placed under the discretion of the central office as opposed to school sites. These policy decisions must be made with thoughtful deliberation on the part of the central office administration and should take into account input from school sites.

Challenge 4 – Having Enough Discretion Over Staffing and Other Programmatic Decisions

Another potential challenge that emerged was the level of discretion over certain resource allocation decisions. Specifically, while principals appreciate the increased level of discretion over dollars the WSF affords them, some stakeholders reported that the effectiveness of this discretion may be limited by the fact that they can change only the *quantities* of the staff at their school as opposed to modifying the composition of their staff with respect to qualifications through hiring and dismissal. Although not suggested by the analysis results, an additional potential limitation concerns the ability to provide alternative payments that are large enough to attract and retain qualified staff at struggling schools or those in remote geographic locations. While there does exist a bonus for teaching at schools that are deemed hard to staff, the current study has not investigated how widely these are used and whether they are large enough to level the playing field in terms of providing equal access to quality teachers.

Key Considerations Moving Forward

On the basis of our previous research, we have identified a number of key considerations that policymakers generally need to address as they implement a WSF policy. As outlined in Exhibit 7.1, the first three relate specifically to funding, while the remaining two concern nonfunding issues around planning and implementation. Within the discussion of each consideration, we outline the general questions the state of Hawaii may wish to address as it reviews and modifies implementation of its own WSF.

Exhibit 7.1 – Key Policy Considerations in Designing and Implementing a WSF

Funding Considerations	1 – Calculating School Allocations
	2 – Calculating School-Level Salaries and Benefits
	3 – Degree of School-Level Discretion
Nonfunding Considerations	4 – Level of School Site Capacity
	5 – Interaction With Other Policies

Consideration 1 – Calculating School Allocations

Given that a WSF policy fundamentally changes how schools receive funding by basing allocations on a predetermined set of student needs and school characteristics thought to influence the cost of providing educational services, it is imperative that the formula design accurately reflects these cost factors, as well as offering a sufficient base per-pupil level of funding.

First, because a WSF allocates funds to schools using a foundation per-pupil amount, it is necessary to define which measure will be used for the count of students being served. States and districts use different metrics for counting students for making funding allocations. Some use total school enrollment, while others use the school's average daily attendance (ADA). The use of ADA creates an incentive for increasing attendance rates and therefore may be preferable, although more burdensome to track, if improving attendance is a goal.

Next, districts must decide how to calculate the specific allocations for each school. As detailed in Chapter 2, Hawaii currently weights funding allocations on the basis of individual student need factors such as grade range, student poverty, English language learner (ELL) status, transiency, and gifted and talented status, and students attending schools on Oahu's Neighbor Islands. In addition, the state uses nonweighted funding allocation adjustments for different school types defined by grade level and whether a school is on a multitrack year.

Ideally, these formula weighting factors and nonweighted adjustments should reflect the best estimate of the differential cost of offering students an equal opportunity to achieve at a given level, regardless of their needs or circumstances. In setting some of the Hawaii WSF weighting factors, such as economically disadvantaged, the support offered by federal programs (e.g., Title I) was taken into account so as to achieve an overall equity with respect to economic disadvantage that recognizes resources allocated both within and outside of the WSF. In other cases, it is unclear whether the weighting factors take into account the additional categorical funds received from federal dollars (e.g., in the case of ELL weighting factors and Federal Title III funding). In any case, the most appropriate way to develop funding adjustments (formula weights) that account for student needs as well as other cost factors is to employ a costing-out approach such as those mentioned earlier in Chapter 3 and detailed in Chambers and Levin (2009).[58] In turn, the state may want to consider engaging in a costing-out study designed to understand the differential costs of serving students with varying needs and circumstances.

[58] The four traditional costing-out approaches include Cost Functions, Professional Judgment, Successful Schools/Districts and the Evidence-Based Approach. Chambers and Levin (2009) also describe a "hybrid" approach that uses elements of the latter three, which they used to determine the cost of an adequate education and develop a corresponding funding formula for New Mexico.

In addition to accounting for student needs, it should be determined whether there are other factors that have cost implications for operating schools. For example, should the state provide additional funding for "necessarily small" schools that cannot take advantage of the economies of scale associated with operating larger schools? Also, should the state take into account geographic differences in resource prices, especially with respect to staff, in order to ensure schools are operating on a level playing field in terms of their ability to attract and retain qualified staff? Schools in geographically isolated areas or are otherwise difficult to staff, for example, may have problems attracting qualified teachers. While there is currently a bonus for teaching at hard-to-staff schools, it is unclear as to whether it is large enough to fully adjust for this cost factor.

Adjustments for compensation differentials might also be based on factors other than geographic isolation, such as challenging student populations, which may require alternative compensation to attract qualified teachers. As was shown in Chapter 2, the state's WSF has, over the years, included adjustments related to scale of operations and geographic isolation. However, we again stress that adjustments for all cost factors—whether they are student needs, scale of operations, or geographic differences in resource (staffing) prices—should be set to reflect the differential cost of providing an equal opportunity for students to achieve at a given level, regardless of their needs or circumstances. This is best done through a formal costing-out study that can use several methodologies to calculate the differential cost of providing educational services across a population with varying needs and circumstances.[59]

Finally, policymakers need to determine whether the funding their schools receive under the WSF policy is at least sufficient to support basic operations. Establishing this basic level of funding support ensures that every school has sufficient funds to operate a basic program of services. Note that what constitutes enough funding to support basic operations may very well differ from school to school, depending on the various cost factors they face. Again, a formal costing-out study using methods similar to those outlined in Chambers and Levin (2009) is also ideal for understanding what the cost is to support basic operations across different schools. In addition to determining what level of funding is necessary to support basic operations (in line with Challenge 1, above), a key policy consideration is how much revenue needs to be driven through the formula in order to provide enough resources to allow school leadership to make use of the additional flexibility and discretion afforded by the WSF.

Consideration 2 – Calculating School-Level Salaries and Benefits

In implementing a WSF policy, policymakers must determine how to charge the costs of school personnel against each school's budget. When a district uses average salaries, the salary amount charged against the school budget for each teacher reflects the average teacher salary for the district and therefore is identical for each school. When a district uses actual salaries, this amount is the actual salary for each teacher, which is usually determined by educational preparation and experience (i.e., the step-salary schedule). Because less experienced (and therefore lower salaried) teachers are more typically found in higher disadvantage schools, the use of average salaries tends to charge these schools an amount that is higher than their teachers' earnings,

[59] For an overview of the four main costing-out methodologies (cost functions, evidence-based models, and the professional judgment panel and successful schools approaches), see Chambers and Levin (2009).

while lower disadvantage schools (with a higher incidence of more experienced, higher salaried teachers) will be charged an amount that is lower than that paid out by the district to its teachers. In other words, under the average salary system, schools that employ a greater number of higher salaried teachers are subsidized by schools that employ a greater number of lower salaried teachers. Because the higher salaried teachers tend to gravitate to schools serving fewer disadvantaged students, while newer and lower salaried teachers are more often found in schools serving relatively more disadvantaged students, an inherent funding inequity associated with the use of average rather than actual salaries may ensue that can undermine the very intent of a WSF.[60]

In contrast, moving to actual salaries ensures that charges against school budgets reflect exactly what is paid out to their staff, which offers schools the opportunity to respond to this inequity in the distribution of qualified staff. Use of actual salaries means that schools with less experienced teachers have lower teacher-related costs, which allows remaining funds to be redirected toward resources such as professional development to improve teacher capacity, or toward providing additional supports that would support and help retain or attract a qualified pool of teachers.

However, it must be noted that the use of actual salaries can also introduce political tensions into a district. Use of actual salaries is often avoided because of the potential political tensions that may arise with the teachers' union, administrative and privacy challenges, and a concern that principals might discriminate against more "expensive" veteran teachers.

Consideration 3 – Degree of School-Level Discretion

One of the main goals of a WSF policy is an increased level of school-level discretion. As mentioned above under Challenge 3, one of the major challenges (and key policy considerations moving forward) is determining the appropriate split between central office and site-level discretion, which will have a direct impact on the level of funding directed through the WSF. Following up on this discussion, it is also important to distinguish between the discretion over the types and quantities of services used by schools and who is responsible for providing these services. Increasing school discretion does not mean that sites necessarily have to provide the services themselves and that central office departments administering specific programs will be dismantled. Rather, it is often the case that these services can be provided much more efficiently and in a more organized manner through the central office. As pointed out in Chapter 3 (under the section *Establishing the Central Office Service Economy)*, increasing discretion for school sites can also include the option for school leadership to purchase required services (e.g., professional development or maintenance services) from the central office or to permit school leaders to contract for services from external vendors. Central office staff would have to be more competitive and market oriented in their services, but this could improve their efficiency and help create a culture among central office staff that is more responsive to their clients (i.e., schools sites).

Related to discretion over staffing decisions, our experience in this arena is that school leaders often feel that true discretion requires control over not only the general quantities of various staff but also which staff to hire or dismiss. While there was generally substantial agreement among

[60] For example, see Roza (2009).

principals that they had the autonomy to implement the instructional programs required to meet their students' needs (as reported above under Challenge 4; see Exhibit 4.3), some stakeholders suggested that there were limits to real autonomy because of principals' inability to hire and dismiss teachers (see Chapter 5, on the *Autonomy of School Leaders*). To this end, additional consideration might be given to whether school leadership should be provided additional discretion over hiring and dismissal. It must be noted that providing this type of discretion would involve extensive discussion between multiple stakeholder groups including educational administration and union leadership in order to modify collective bargaining agreements. Moreover, these deliberations need to take into account how policy governing discretion over hiring and dismissal practices might interact with other policies (see Consideration 5, below).

Consideration 4 – Capacity of School Sites

Given that a WSF policy requires a school to assume a larger role in determining its academic plans and to develop a corresponding budget, policymakers need to ensure that schools have adequate information and the technical capacity to make effective decisions about resource allocation. As mentioned above, results from interviews with stakeholders suggest that state and complex area staff have the necessary capacity to implement the WSF but that school staff do not necessarily have this capacity. Therefore, a key policy consideration to take into account concerns the support and additional training that will be provided to schools that lack a sufficient amount of capacity necessary to implement the WSF.

Consideration 5 – Interaction with Other Policies

Finally, it is important to consider how other policies affect the implementation of the WSF. No policy exists in a vacuum. Policies and processes—including those related to the treatment of small schools, open enrollment, and collective bargaining agreements, as well as the number of state and federal categorical programs, the budgeting cycle, and the level of funding in the state—all impact the way the WSF has been implemented in Hawaii. It is critical for the state to see its implementation of the WSF within this larger context and to think about how these various policies impact school operations and, ultimately, student learning.

Concluding Statement

The findings of this evaluation have shown that implementation of Hawaii's WSF appears to have gained widespread acceptance among school leaders and some key stakeholders within the state. It has generated an increased awareness among these constituencies of how funding is distributed to Hawaii's public schools and has generally increased the equity with which funds are allocated among schools serving the diverse populations of students across the state.

The investigation findings also suggest that WSF has also resulted in expanded autonomy for school leadership that allows greater flexibility to implement instructional programs that best suit the needs of their unique student populations. In addition, Hawaii's WSF policy has provided the opportunity for local communities to participate in local decision making surrounding their schools and to function in a partnership with the state in an attempt to improve the effectiveness with which children are served. It is important that both school leadership and the community have a key role in deciding how to serve the students because this combination of stakeholders is

most likely to know and understand their students' needs and be able to recognize more easily what is and is not working.

The evaluation also showed there to be some outstanding challenges that the state still faces. First, one of the main findings suggest that there is a perception among principals and stakeholders that the amount of funding in the education system as a whole may not be sufficient to allow them to both make use of the additional flexibility the WSF has afforded them and consequently inhibits their ability to achieve their goals. Second, there is some question as to whether the existing formula accurately reflects the differential costs of serving the diversity of students attending schools that vary in size and degree of geographic isolation. A related question is what the cost for providing a basic level of services is and how this might vary across schools (especially with respect to size and degree of geographic isolation).

Additional challenges cited involve determining: (1) the optimal split of program discretion between the central office and school sites, (2) whether there is enough site-level discretion with respect to hiring and dismissal, and (3) if the salary structure for teachers is too rigid to allow for meaningful forms of alternative compensation that provide all schools a similar opportunity to attract and retain qualified instructors.

Going forward, the state might choose to engage in future work that investigates the remaining challenges. In addition, because the WSF has been implemented for several years, the state now has an excellent opportunity to undertake a longitudinal analysis that investigates the extent to which the implementation of WSF has had a positive impact on student learning and to assess the factors underlying any observed changes that may have occurred. It is only through a more comprehensive program evaluation analysis of the policy's impact on student learning that the state can explore ways to further improve how resources are distributed and used by schools under WSF. In sum, the suggested next steps are for the state to engage in investigations that will assess the sufficiency of available funding and whether the distribution of resources accurately reflect student needs, and to inform various policies that further support the autonomy, efficiency and innovation in order to promote a positive impact on student outcomes in the future.

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Appendix A – Key Elements of Act 51: Reinventing Education Act of 2004

The following paragraph and numbered items are taken verbatim from the *Reinventing Education Act of 2004*:

> Description: Establishes a weighted student formula; provides additional information technology; empowers principals through a Hawaii principals' academy and other means; strengthens community involvement through school community councils and parent-community networking centers; provides more mathematics textbooks; lowers class size in kindergarten, grade one, and grade two; provides full-time, year-round student activity coordinators; provides support for students who need additional help to succeed in school; establishes a national board certification incentive program for teachers; enhances teacher education; reduces the bureaucracy that hampers the effectiveness of the department of education; improves the educational accountability system; requires the board of education members to hold community meetings in their districts.
>
> (1) Establishing a weighted student formula
> (2) Providing additional information technology
> (3) Empowering principals through a Hawaii principals academy and other means
> (4) Strengthening community involvement through school community councils and parent-community networking centers
> (5) Providing more mathematics textbooks
> (6) Lowering class size in kindergarten, grade one, and grade two
> (7) Providing full-time, year-round, high school student activity coordinators
> (8) Providing support for students who need additional help to succeed in school
> (9) Establishing a national board certification incentive program for teachers
> (10) Enhancing teacher education
> (11) Reducing the bureaucracy that hampers the effectiveness of the department of education
> (12) Improving the educational accountability system
> (13) Requiring board of education members to hold community meetings in their districts

Appendix B – Principal Survey of Attitudes and Perspectives About the Hawaii WSF

Hawaii's Weighted Student Formula: Principal Survey

Purpose. This evaluation for the Hawaii Department of Education is being carried out by the independent, non-profit research organization the American Institutes for Research (AIR). The purpose of the evaluation is to gain a better understanding of the implementation and effectiveness of Hawaii's Weighted Student Formula (WSF). We are asking all principals in the state to participate in an online survey, intended to gather information on the implementation of the WSF.

Procedures. The survey should take approximately 20-25 minutes. We recommend completing the survey in a single session, though the survey may be completed in multiple sessions. You must use the unique link to the survey that was e-mailed to you.

Benefits and Risks. Your completion of this survey gives you the opportunity to share your opinions on issues that may be important to you and will contribute to an understanding of how to improve the state's implementation of the WSF. There are no anticipated risks to participating in this study.

Confidentiality. The surveys are intended to provide information about participants' experiences and not to evaluate individuals' capabilities or performance. We will treat the information you supply in a confidential manner. Your email address will be replaced with an anonymous identification number to protect your confidentiality. Only the AIR research team will have access to the survey responses. Individual responses will not be provided to other school staff, your complex area, or any other party outside of the AIR research team.
Voluntary Participation. Your participation in this survey is entirely voluntary.

More Information. For more information about this evaluation you can contact the study's director, Jesse Levin, at the American Institutes for Research at (650) 843-8270 or jlevin@air.org. If you have concerns or questions about your rights as a participant, contact AIR's Institutional Review Board (which is responsible for the protection of project participants) at IRB@air.org, toll free at 1-800-634-0797, or c/o IRB, 1000 Thomas Jefferson Street, NW, Washington, DC 20007.

If you have any technical issues when completing this survey, please email Kevin Lane at klane@air.org

Please answer each question below.

Prior to this school year, how many years did you serve as principal of this or any other school in Hawaii?

- [Enter number of years]

1. **Prior to this school year, how many years did you serve as principal of this school?**
   - [Enter number of years]

2. Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I understand how Hawaii's Weighted Student Formula (WSF) is applied to determine the allocation of funds to schools.	☐	☐	☐	☐
I can explain to my School Community Council (SCC) how WSF funds were calculated for my school this year.	☐	☐	☐	☐
I know where to independently obtain details about how WSF allocations were calculated for my school this year.	☐	☐	☐	☐
I know who I can ask for information about how my WSF allocations were calculated for my school this year.	☐	☐	☐	☐
I have discretion over how the dollars in my school budget are spent.	☐	☐	☐	☐
Schools in Hawaii that serve greater percentages of students with additional needs receive more resources.	☐	☐	☐	☐
The categories of the existing WSF weighting factors (economically disadvantaged, English learners, gifted and talented, transient, grade level) appropriately account for the broad range of student needs that require additional funding.	☐	☐	☐	☐
The values of the WSF weighting factors used to determine the levels of funding schools receive accurately reflect the differential cost associated with providing an equitable educational opportunity to all students.	☐	☐	☐	☐
I have sufficient autonomy to implement an instructional program that meets the needs of the students in my school.	☐	☐	☐	☐

2. Please indicate how much you agree or disagree with the following statements. (continued)

I believe WSF funds are equitably allocated to schools in Hawaii.	☐	☐	☐	☐
The WSF allocation for this school year (2012-13) is appropriate to meet the needs of students at my school.	☐	☐	☐	☐
The projected WSF allocation for next school year (2013-14) is appropriate to meet the needs of students at my school.	☐	☐	☐	☐
The amount of funds my school receives through the WSF and other sources is sufficient for students at my school to meet the Hawaii Content and Performance Standards III.	☐	☐	☐	☐
The amount of funds my school receives through the WSF and other sources will be sufficient for students at my school to meet the Common Core State Standards in future years.	☐	☐	☐	☐
The amount of funds my school receives through the WSF and other sources is sufficient for school operations.	☐	☐	☐	☐
The WSF funds allocated to my school provide me with sufficient flexibility to try new instructional programming.	☐	☐	☐	☐
The WSF funds allocated to my school provide me with sufficient flexibility to implement innovative approaches at my school.	☐	☐	☐	☐
The WSF funds allocated to my school provide me with sufficient flexibility to operate my school efficiently.	☐	☐	☐	☐
Recent changes in the timeline for developing my Academic and Financial Plan have improved my ability to plan my school's budget for next school year.	☐	☐	☐	☐

3. How much control do you feel you have over how resources are allocated to the following areas in your school this year?

	No control	**Minor control**	**Moderate control**	**A great deal of control**
Types and numbers of classroom teachers	☐	☐	☐	☐
Types and numbers of support staff (learning coaches, paraprofessionals, vice principals, etc.)	☐	☐	☐	☐
Professional development	☐	☐	☐	☐
Curriculum and course offerings	☐	☐	☐	☐
Selection of instructional materials, strategies, and approaches	☐	☐	☐	☐
Parent involvement	☐	☐	☐	☐
Partnerships with community stakeholders	☐	☐	☐	☐
Supports for students with additional needs	☐	☐	☐	☐
Classroom technology	☐	☐	☐	☐
Use of data by administrators and teachers to inform instruction	☐	☐	☐	☐
Student assessment activities	☐	☐	☐	☐
Extending the school day or year	☐	☐	☐	☐
Extracurricular or after-school programming	☐	☐	☐	☐
Other (please specify)	[Open ended response box]			

4. Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Agree	Strongly Agree
I am held accountable for student performance by my SCC.	☐	☐	☐	☐
I am held accountable for student performance by my Complex Area Superintendent.	☐	☐	☐	☐
I am held accountable for student performance by the Superintendent.	☐	☐	☐	☐
I am held accountable for student performance by the state Board of Education.	☐	☐	☐	☐
Teachers in our school are held accountable for student performance.	☐	☐	☐	☐
The SCC in our school is held accountable for student performance.	☐	☐	☐	☐
The complex area superintendent is held accountable for student performance.	☐	☐	☐	☐

5. How many SCC meetings do you hold in a typical year? [Fill in number]

6. How many SCC meetings do you hold in a typical year specifically to develop and review your annual Academic and Financial Plan? [Fill in number]

7. How many days prior to SCC meetings is public notice of SCC meetings posted in the school office and on the school website? [Response options: 1-2 days; 3-4 days; 5-6 days; more than 6 days]

8. Which of the following best describes the level of engagement between you and the School Community Council (SCC)? *(Please select one.)*

- ☐ I make key resource allocation decisions and inform the SCC.
- ☐ I consult with the SCC about key resource allocation decisions; I make the final decisions.
- ☐ The SCC and I are involved in two-way communication about key resource allocation decisions; I make the final decisions.
- ☐ The SCC and I are involved in two-way communication about key resource allocation decisions; we make final decisions together.

9. Which of the following best describes the level of engagement between you and the faculty? *(Please select one.)*

- ☐ I make key resource allocation decisions and inform the faculty.
- ☐ I consult with the faculty about key resource allocation decisions; I make the final decisions.
- ☐ The faculty and I are involved in two-way communication about key resource allocation decisions; I make the final decisions.
- ☐ The faculty and I are involved in two-way communication about key resource allocation decisions; we make final decisions together.

10. [Open ended]: Has the WSF program permitted you to design and/or implement an innovative program in your school? (Yes/No). If no, please explain why not. If yes, can you briefly describe one example of a program you have developed that would have been difficult to implement without WSF? Also, please tell us, how you have used the flexibility you have with WSF funds to implement the program

11. [Open ended] Do you have any suggestions for how the WSF formula could be improved (e.g. additional categories or different weights)?

12. [Open ended] Do you have any suggestions for how the implementation of WSF could be improved?

Thank you!

Appendix C – Differences in Characteristics Between Schools With and Without Principal Survey Responses

Exhibit C.1 - Tabulation of Neighbor Island and Geographically Isolated Status Schools, by Response Category

Respondent/ Nonrepsondent		Neighbor Island	Oahu
Respondent	Count	70	139
	Proportion (Row)	33.49%	66.51%
Nonrespondent	Count	16	26
	Proportion (Row)	38.10%	61.90%
Respondent/ Nonrepsondent		**Not Geographically Isolated**	**Geographically Isolated**
Respondent	Count	202	7
	Proportion (Row)	96.25%	3.35%
Nonrespondent	Count	42	0
	Proportion (Row)	100%	0%

Exhibit C.2 - Tabulation of Schools, by Demographic Tertile and Response Category

Group	Group Type		0%–33%	33%–66%	66%–100%
Percentage of English Language Learners (ELLs)	Respondent	Count	70	71	68
		Proportion (Row)	33.49%	33.97%	32.54%
	Nonrespondent	Count	14	13	15
		Proportion (Row)	33.33%	30.95%	35.71%
Percentage of Students Eligible for Free or Reduced-Price Lunch (FRPL)	Respondent	Count	67	68	74
		Proportion (Row)	32.06%	32.54%	35.41%
	Nonrespondent	Count	17	16	9
		Proportion (Row)	40.48%	38.10%	21.43%
Student Enrollment in Elementary Schools	Respondent	Count	45	47	48
		Proportion (Row)	32.14%	33.57%	34.29%
	Nonrespondent	Count	11	8	7
		Proportion (Row)	42.31%	30.77%	26.92%
Student Enrollment in Middle Schools	Respondent	Count	11	11	11
		Proportion (Row)	33.33%	33.33%	33.33%
	Nonrespondent	Count	2	2	1
		Proportion (Row)	40%	40%	20%
Student Enrollment in High Schools	Respondent	Count	10	6	8
		Proportion (Row)	41.67%	25%	33.33%
	Nonrespondent	Count	1	5	3
		Proportion (Row)	11.11%	55.56%	33.33%
Student Enrollment in CEM, CMH, or K–12 Schools	Respondent	Count	4	4	4
		Proportion (Row)	33.33%	33.33%	33.33%
	Nonrespondent	Count	1	1	0
		Proportion (Row)	50%	50%	0%

Exhibit C.3 - Tertile Threshold Cutoffs, by School Characteristics

Group	Cutoff 1	Cutoff 2
Percentage of English Language Learners (ELLs)	5%	10%
Percentage of Students Eligible for Free or Reduced-Price Lunch (FRPL)	45%	64%
Student Enrollment in Elementary Schools	421	611
Student Enrollment in Middle Schools	647	863
Student Enrollment in High Schools	1,116	1,612
Student Enrollment in CEM, CMH, or K–12 Schools	387	660

Exhibit C.4 - Tabulation of Schools, by Schooling Level and Response Category

Group Type		Elementary	Middle	High	CEM, CMH, or K–12
Respondent	Counts	140	24	33	12
	Proportion (Row)	66.99%	11.48%	15.79%	5.74%
Nonrespondent	Counts	26	9	5	2
	Proportion (Row)	61.90%	21.43%	11.90%	4.76%

Exhibit C.5 - Tabulation of Schools, by NCES Locale Type and Response Category

Group Type		City	Suburb	Town	Rural
Respondent	Counts	48	79	56	26
	Proportion (Row)	22.97%	37.80%	26.79%	12.44%
Nonrespondent	Counts	6	18	13	5
	Proportion (Row)	14.29%	42.86%	30.95%	11.90%

Appendix D – Stakeholder Interview Protocol

Informed Consent – HI WSF Interviews

Thanks again for taking the time to speak with me today. Before we start, I'd like to provide a little background on why I'm here and answer any questions you might have for me.

The Hawaii Department of Education (DOE) has a great interest in ensuring that the Weighted Student Formula used to fund its public schooling is best serving its students, staff, and communities. To this end, HIDOE has commissioned an independent evaluation to better understand the implementation and effectiveness of Hawaii's Weighted Student Formula (WSF). They have contacted with the American Institutes for Research (AIR), an independent not-for-profit research organization, to conduct this evaluation.

This interview will allow you to share your experiences, perceptions, and feedback about WSF policies and implementation. Information gained during the interviews will provide the state with meaningful information that will help inform future WSF implementation decision making.

All of the information you provide will be completely confidential, meaning that we will not associate your name with what you said when we present findings. This interview is voluntary, and you may withdraw from the interview without penalty or decline to answer any question at any time.

If you don't mind, I would like to record this interview simply for note-taking purposes. No one will hear the tape, outside of our research team; it will just be for my own reference. If you would like me to turn off the recorder at any point, just let me know. Will that be ok?

If you have any questions about your rights as a participant you may contact the AIR IRB chair at IRB@air.org or 1-800-634-0797.

Do you have any questions before we begin?

Do you agree to participate in this interview?

HI WSF Interview Protocol

Background and goals

1. What is your current role?
    a. How long have you been in this role?
    b. What were you doing before?

2. What has been your role in developing and implementing Hawaii's Weighted Student Formula?

3. What are the state's goals for the WSF policy?
    Probe: What do you see as the primary goals for funding allocation decisions?
        - *Flexibility/autonomy of funds; per-pupil funding, need-based funding; actual teacher salaries; Transparency; Innovation*

    Probe: What do you see as primary goals for the planning and budgeting process?
        - *Budget timeline; goals-based budgeting; alignment between program plans, budgets, and resource allocation; transparency; innovation; staff and community engagement*

4. To what extent have these goals changed since the WSF's inception?

Development of the WSF

5. What key decisions were made in the creation of the WSF?
    a. How did the idea first get onto the state's education agenda?
    b. Who were the early champions of the policy?
    c. What challenges emerged as the policy was being developed?

6. What kinds of data and analyses were used to determine the pupil weights? (*Probe on both categories and relative weights for each category*)
    a. What role does the Committee on Weights play? (*Probe if a contractor was involved, if committee had analytic staff to do the work, etc.)*

7. Approximately what percentage of a school's resources come from WSF funds?

8. To what extent do you perceive that the WSF provides sufficient funding to achieve desired student outcomes?
    a. If yes, why is it sufficient?
    b. If no, why is it not sufficient?

    Probes: In what ways do you assess the sufficiency of funds? What does insufficiency mean to you? Is it sufficient for some students and not others?

Implementation

9. Can you describe how implementation of the WSF has proceeded over the years since inception?

10. What progress has been made in the last few years on goals related to funding allocation decisions? What key milestones have been reached?

11. How have funding allocation decisions changed over the past five years?
    a. To what would you attribute those changes or lack of changes?

12. How has the planning and budgeting process changed over the past five years?
    a. To what would you attribute those changes or lack of changes?
    b. Has the process or tools for supporting planning and budgeting changed over time?

13. What progress has been made this school year (2012-13) on other WSF goals? What key milestones have been reached?

14. To what extent do you feel that schools' Academic and Financial plans are aligned with resource allocation?
    a. How well are the AcFin plans aligned with state and complex area goals?

15. To what extent do school leaders have the necessary autonomy to make a difference in student learning, to be innovative and creative about programs, and to ensure access to quality teaching? (*Probe on barriers to autonomy and flexibility at the school level)*

Capacity

16. Do you feel that state and complex area staff have adequate preparation and the technical capacity to successfully implement the WSF?
    a. If yes, what evidence do you have of this?
    b. If no, what kinds of capacity building activities do you think are important?

17. Do you feel that principals, teachers, and school community council (SCC) members have adequate preparation and the technical capacity to make effective decisions about program planning, budgeting, and resource allocation?
    a. If yes, what evidence do you have of this?
    b. If no, what kinds of capacity building activities do you think are important?

18. Who would you say are key contributors to WSF implementation in the state office? In the complex area offices? In the schools?
    a. About how much time do they spend related to WSF?
    b. Why are they key?

Professional development training and support

19. How would you describe the role of the state Department of Education in supporting the alignment of schools' Academic and Financial plans with resource allocation decisions?
    Probe: What has the state office done this year (2012-13) to provide PD training to school sites around program planning, budgeting, and/or resource allocation?

20. How would you describe the role of the Complex Area Superintendent and his/her office in supporting the alignment of schools' Academic and Financial plans with resource allocation decisions?
    Probe: What has the complex area offices done this year to provide PD?

21. What other resources or supports do principals, school community councils (SCC), and teachers have for program planning, budgeting, and resource allocation—besides from the state office?
    Probe: What resources or supports do you think they need? Are there any plans to provide these?

Communication

22. What has the state done this year (2012-13) with regard to communicating about the WSF? *(Probe: website announcements, newsletters, emails, etc.)*

23. Do you feel that state-level staff – both in the Department of Education and in the State Legislature - have a clear understanding of the WSF?
    a. If no, what do they know? What don't they know?
    b. What perceptions or misperceptions do they have?

24. Do you feel that complex area superintendents have a clear understanding of the WSF?
    a. If no, what do they know? What don't they know?
    b. What perceptions or misperceptions do they have?

25. Do you feel that principals, teachers, school site council members, parents, and community members have a clear understanding of the WSF?
    a. If no, what do they know? What don't they know?
    b. What perceptions or misperceptions do they have?

Transparency and involvement

26. To what degree do you believe the current WSF calculations and implementation process is transparent?
    a. What has been done to increase transparency?
    b. What remains to be done to increase transparency?
    c. What successes or failures have you encountered in attempting to increase transparency?

27. How would you describe the role and involvement of the school community (teachers, other faculty, parents, students, other community members) in the budgeting and program planning process at the school level? What evidence do you have to support your answer?

General reflection on WSF

28. What do you most like about the WSF?

29. What do you most dislike about the WSF?

30. What kinds of accountability mechanisms are in place for implementing the WSF?
    a. If applicable - Why were they not implemented?

31. Do you feel that the WSF has created more of a culture of innovation and efficiency in the way resources are being allocated in the state or in the schools?
    a. If so, what changes have you observed that provide evidence of innovation or improved efficiency?
    b. If not, why do you think this is so?

32. Do you feel there are any federal or state policies that create barriers to WSF implementation and achieving WSF goals?
    a. If yes, which policies? What is the implication of these policies for the WSF? What would you like to see changed about this policy? Do you have any strategies for changing the policy?

33. What have been the biggest challenges or barriers to implementing the WSF and achieving its goals? *Probe on: funding and resource allocation; planning and budgeting process; capacity of school leaders; professional development; communication; transparency; community involvement*
    - *How were these addressed?*
    - *Were there any issues you faced that you hadn't predicted? If yes, how did you address this?*
    - *Were there any major mistakes that were made? If yes, how did you address this? What might you do to avoid a similar mistake in the future, or to prevent it if you could go back?*
    - *What most concerns or disappoints you about the WSF? What "keeps you up at night"?*

34. What have been the biggest successes related to the WSF?

35. What do you see as critical next steps moving forward? What do you see as major challenges?

36. Do you have any suggestions for improving the WSF or its implementation?

37. Is there anything else you would like to add that we haven't already covered?

Appendix E – Description of Position and Transactional Allocation Files

Position Allocation File

The position allocation files received from HIDOE contained information about the number and type of FTE staff positions allocated to schools from each funding source. These files were comprised of the following elements:

- ***Year:*** A four-digit code identifying year. HIDOE provided files for the 2000-01 through 2012-13 school years.
- ***Organization ID:*** A unique six-digit code assigned to each school. The file also included allocations for complex area offices and the state central office, which also are assigned distinct organization IDs.
- ***Program ID:*** A five-digit code that identifies the source and purpose of funds. This code was used to identify fiscal resources that were distributed through the Weighted Student Formula (WSF). See Exhibit 6.A.2 below for a list of Program IDs that identify WSF dollars.
- ***Object Code:*** A four-digit code describing the position associated with a specific allocation. For example, an elementary teacher position has a code of "2510." A principal position has a code of "2607."
- ***Total FTEs:*** The number of FTEs associated with a specific allocation.
- ***Average Salary:*** The statewide average salary associated with a specific position. In years prior to the implementation of the WSF, a school's monetary allocation for staff positions were based on average salaries. Those staff funded by programs not associated with the WSF continue to be allocated to school sites using this method.
- ***Total Allocation*****:** The product of the Total Number of FTEs times Average Salary.

Transactional Allocation File

The transactional allocation files received from HIDOE included allocation amounts by school from the WSF, dollar amounts from all funding sources for non-staff allocations, and subsequent adjustments to each school's allocation amounts. These files were comprised of the following elements:

Year: A four-digit code identifying year. HIDOE provided files for the 2000-01 through 2012-13 school years.

Organization ID: A unique six-digit code assigned to each school. The file also included allocations for complex area offices and the state central office, which also are assigned distinct organization IDs.[61]

[61] The last three digits of the code identify funding centers within a site; therefore, sites are uniquely identified by the first three digits.

Program ID: A five-digit code that identifies the source and specific purpose of funds. This code was used to identify fiscal resources that were distributed through the WSF. See Exhibit 6.A.2 below for a list of Program IDs that identify WSF dollars.

Fund Code: The fund code indicates the source of funds. In the files there were four types of funds:

- General Funds – Revenues from state income and excise taxes indicated with a code of "G".
- Federal Funds – Federal grants and reimbursements (e.g., Title I, Individuals with Disabilities Education Act (IDEA)) indicated with a code of "F".
- Special Funds – Revenues collected from user fees and indicated with a code of "S".
- Trust Funds – Revenues collected from donors and foundations and indicated with a code of "T".

Each program is associated with a specific fund code. For the purposes of the analysis, any program, regardless of the fund with which it was associated, was counted in a school's total allocation. Resources distributed through the WSF are entirely comprised of revenues from the General Fund.

Character Code: The character code is a broad aggregation of the types of resources on which allocations can be spent. Exhibit 6.A.1 lists the resource categories associated with each code.

Exhibit E.1 – Description of Character Code

Code	Description
A	Salaried Payrolls
A1	Casual/hourly Payrolls
B	Supplies, other current expenses
C	Equipment
M	Motor Vehicles
BC	Allocations for new facilities, is a combination of resource categories associated with B and C
T	A combination of the resource categories A, A1, B, C, and M used to indicate federal funds
F	A combination of the resource categories A1, B, C, and M used to indicate WSF, other resources from programs with a "General fund code" or carryover from programs with a "General" fund code.

***Allocation*:** Amount of allocation (in dollar values).

Transaction Type: This data element indicates whether an allocation amount is an initial allocation, carryover from a federal funding source allocated in a previous fiscal year, or a transaction that took place during the fiscal year. Allocations can be adjusted during the fiscal year; additionally, schools can transfer allocations between specific programs, and buy and or sell staff positions. These allocations were added to a school's initial allocation to generate a total allocation that reflected a more accurate measure of the total amount of resources available to a school during the school year. A more detailed description of how WSF funds are allocated to schools and subsequently adjusted can be found below in Appendix F.

Combining the Position and Transactional Allocation Data to Calculate School-Level Allocations

For each fiscal year, the position and transactional allocation files were combined to calculate the total amount of money allocated to each school in a given fiscal year, net of all adjustments. In years prior to the introduction of the WSF, all payroll-related allocations were included in the position file. Allocation amounts from the *position* file were calculated by multiplying the number of staff FTEs times the statewide average salary for a particular position.

Because the information that was reported in both the position and transactional allocation files by schools changed after the introduction of WSF, the calculation method differed slightly over time. Following the implementation of WSF, the transactional file included each school's *entire* initial WSF allocation at the start of the school year and any subsequent adjustments to that allocation, which included resources that were used to fund the payroll of many staff positions. Note that these WSF dollar allocations that were based on the formula described in detail in Chapter 2 took the place of the previous ones based on staff FTEs that were costed out at statewide average salaries. However, allocations for positions that were funded by fiscal resources that were *not* distributed through the WSF continued to be calculated by using statewide average salaries. Therefore, for years prior to WSF, a school's total allocation was generated by simply adding all allocation amounts from both the position and transactional file. For years in which funds were distributed through the WSF, however, only the allocation amounts from fiscal resources not associated with WSF were used from the position allocation file.[62]

[62] Specifically, these amounts were added to the transactional allocation file amounts after filtering out "Fin Plan A Load" transactions, which cancel out non-negative WSF allocations that schools put towards staff payroll.

Exhibit E.2 – List of Current Program IDs Identifying Dollar Distributed by WSF

Program ID	Program Description
42100	WEIGHTED STUDENT FORMULA
42101	WSF-INSTRUCTION
42102	WSF-ELL
42103	WSF-INSTRUCTIONAL SUPPORT
42104	WSF-STUDENT SERVICES
42105	WSF-STUDENT BODY ACTIVITIES
42106	WSF-ENABLING ACTIVITIES I
42107	WSF-ENABLING ACTIVITIES II
42108	WSF-ENABLING ACTIVITIES III
42109	WSF-ENABLING ACTIVITIES IV
42110	WSF-ENABLING ACTIVITIES V
42111	WSF-ENABLING ACTIVITIES VI
42112	WSF-SCHOOL ADMINISTRATION
42113	WSF-SCHOOL FACILITY SERVICES
42114	WSF-PROTOCOL FUND
42115	WSF-CTE
42121	WSF BUY BACK DECA
42122	WSF BUY BACK SKILLS USA
42123	WSF BUY BACK FFA
42124	WSF BUY BACK FCCLA
42125	WSF BUY BACK HOSA
42127	CAREER & TECHNICAL STUDENT ORGS
42150	WSF-SCHOOL HEALTH AIDES

Exhibit E.3 – List of Retired Program IDs Distributed Through Hawaii WSF and Indicator of "Pure" WSF Status

Program ID	Program Description	Year First Distributed Through WSF	"Pure" WSF
12641	PREGNANT/PARENTING PROGRAM	2009-10	No
12652	SCIENCE EDUCATION	2006-07	Yes
15103	CLASS SIZE REDUCTION	2006-07	Yes
15110	BASIC NEEDS	2006-07	Yes
15123	GRADE SCHOOL PRIORITY FUND	2006-07	Yes
15186	FRP 12-SCHOOL BASED SERVICES	2006-07	Yes
15630	HIGH RISK COUNSELORS	2006-07	Yes
15636	YOUTH LEADERSHIP PROJECT	2009-10	No
15637	INSTRUCTIONAL MATERIALS FOR REGULAR ED	2006-07	Yes
15638	SCHOOL-BASED SERVICES EA	2006-07	Yes
15672	STUDENT SERVICES COORDINATORS-FELIX	2006-07	Yes
15674	PRIMARY PREVENTION/INTERVENTION-FELIX	2006-07	Yes
15684	FRP-EXTENDED SCHOOL YEAR	2006-07	Yes
15816	SCIENCE EQUIPMENT	2006-07	Yes
15852	MUSIC EQUIPMENT	2006-07	Yes
15878	FOUNDATION PROGRAM / STANDARDS SUPPORT	2006-07	Yes
15954	LSB / WSF ADJUSTMENT	2006-07	Yes
16111	SCHOOL PRIORITY FUND-CASH	2006-07	Yes
16202	PREGNANT/PARENTING PROGRAM	2009-10	No
16290	INSTRUCTIONAL RES AUGMENTATION	2006-07	Yes
16734	SKILLS-USA	2006-07	Yes
16735	JUNIOR SKILLS-USA	2006-07	Yes
16744	HEALTH CAREER ACADEMY	2009-10	No
16771	CORE LEARNING	2006-07	Yes
16816	PINS-STUDENT ACTIVITY COORDINATOR	2006-07	Yes
16817	PINS-BASIC SKILLS	2006-07	Yes
16819	PINS-INSTRUCTION & SUPPORT SERVICES-VPS	2006-07	Yes
16830	WORLD LANGUAGES-SECONDARY	2006-07	Yes
16833	WORLD LANGUAGES-ELEMENTARY	2006-07	Yes
16871	GIFTED & TALENTED	2006-07	Yes
16887	ESLL	2006-07	Yes
16901	PROTOCOL FUND	2006-07	Yes

Exhibit E.3 – List of Retired Program IDs Distributed Through Hawaii WSF and Indicator of "Pure" WSF Status (continued)

Program ID	Program Description	Year First Distributed Through WSF	"Pure" WSF
16902	ENVIRONMENTAL EDUCATION	2006-07	Yes
16936	PINS-INSTRUCTION & SUPPORT SERVICES	2006-07	Yes
17131	SPECIAL EDUCATION IN REGULAR SCHOOLS	2006-07	Yes
17711	TRANSITION SERVICES	2006-07	Yes
17724	OCCUPATIONAL SKILLS LEARNING CENTER	2006-07	Yes
18291	COMPREHENSIVE SCHOOL ALIENATION PRGM	2006-07	Yes
18727	IN-SCHOOL SUSPENSION	2009-10	No
23105	SCHOOL ADMINISTRATION	2006-07	Yes
23106	SAFETY MANAGERS	2006-07	Yes
24317	SCHOOL LIBRARIES	2006-07	Yes
26120	COUNSELING	2006-07	Yes
27032	DECA	2006-07	Yes
27358	ATHLETIC DIRECTORS	2009-10	No
27362	INTRAMURALS	2006-07	Yes
27535	SCIENCE AND ENGINEERING FAIR	2006-07	Yes
27713	TRANSPORTATION FOR BAND	2006-07	Yes
27856	STUDENT ACTIVITIES COORDINATION SERVICES	2006-07	Yes
27857	TECHNOLOGY EDUCATION FAIR	2006-07	Yes
27867	MOLOKAI/LANAI STUDENT ACTIVITIES	2006-07	Yes
27868	ART EXHIBIT	2006-07	Yes
27875	MAUI INTER SCHOOL LEADERSHIP COUNCIL	2006-07	Yes
27876	FAMILY CAREER COMM LEADERS OF AMERICA	2006-07	Yes
27889	FUTURE FARMERS OF AMERICA	2006-07	Yes
28715	PREGNANT TEEN CENTER-MAUI	2009-10	No
36168	LUNCH AND BREAKFAST SUPERVISORS	2006-07	Yes
36172	CAMPUS SUPERVISION AND PATROL	2006-07	Yes
37297	SCHOOL CUSTODIAL SERVICES	2006-07	Yes
37305	CLASSROOM CLEANERS	2006-07	Yes
37325	TELEPHONE (CENTRALIZED SERVICES)	2006-07	Yes
37662	REPAIRS AND MAINTENANCE OF SCHOOLS	2006-07	Yes
46793	PCNC COORDINATORS	2006-07	Yes

Exhibit E.4 – Total and Relative WSF Dollar Allocations Associated With Retired Program IDs

Program ID	Program Description	Total Allocation	Percent of Overall 2005-06 Allocation from Program IDs Distributed by WSF in 2006-07 or Later	Year First Distributed Through WSF
15110	BASIC NEEDS	$320,193,434	51.7%	2006-07
23105	SCHOOL ADMINISTRATION	$81,697,352	13.2%	2006-07
37297	SCHOOL CUSTODIAL SERVICES	$31,446,325	5.1%	2006-07
16290	INSTRUCTIONAL RES AUGMENTATION	$24,620,689	4.0%	2006-07
26120	COUNSELING	$23,555,042	3.8%	2006-07
15672	STUDENT SERVICES COORDINATORS-FELIX	$17,137,835	2.8%	2006-07
24317	SCHOOL LIBRARIES	$15,436,951	2.5%	2006-07
16771	CORE LEARNING	$13,281,508	2.1%	2006-07
16887	ESLL	$10,135,808	1.6%	2006-07
18291	COMPREHENSIVE SCHOOL ALIENATION PRGM	$8,542,173	1.4%	2006-07
15674	PRIMARY PREVENTION/INTERVENTION-FELIX	$7,427,369	1.2%	2006-07
15630	HIGH RISK COUNSELORS	$6,825,240	1.1%	2006-07
16111	SCHOOL PRIORITY FUND-CASH	$6,354,325	1.0%	2006-07
15638	SCHOOL-BASED SERVICES EA	$5,823,858	0.9%	2006-07
16871	GIFTED & TALENTED	$4,951,704	0.8%	2006-07
36172	CAMPUS SUPERVISION AND PATROL	$4,693,145	0.8%	2006-07
16817	PINS-BASIC SKILLS	$3,786,909	0.6%	2006-07
46793	PCNC COORDINATORS	$3,537,118	0.6%	2006-07
47282	ACT 51-CLASS SIZE REDUCTION K,1,2	$3,408,048	0.6%	2006-07
27358	ATHLETIC DIRECTORS	$2,737,098	0.4%	2009-10
27856	STUDENT ACTIVITIES COORDINATION SERVICES	$2,726,421	0.4%	2006-07
15954	LSB / WSF ADJUSTMENT	$2,685,829	0.4%	2006-07
16936	PINS-INSTRUCTION & SUPPORT SERVICES	$2,609,780	0.4%	2006-07

Source: Historical fiscal data obtained from the HIDOE Budget Execution Section.

Exhibit E.4 – Total and Relative WSF Dollar Allocations Associated With Retired Program IDs (continued)

Program ID	Program Description	Total Allocation	Percent of Overall 2005-06 Allocation from Program IDs Distributed by WSF in 2006-07 or Later	Year First Distributed Through WSF
15878	FOUNDATION PROGRAM / STANDARDS SUPPORT	$2,173,248	0.4%	2006-07
17711	TRANSITION SERVICES	$1,875,806	0.3%	2006-07
37662	REPAIRS AND MAINTENANCE OF SCHOOLS	$1,816,475	0.3%	2006-07
15123	GRADE SCHOOL PRIORITY FUND	$1,759,227	0.3%	2006-07
15637	INSTRUCTIONAL MATERIALS FOR REGULAR ED	$1,294,228	0.2%	2006-07
16202	PREGNANT/PARENTING PROGRAM	$1,237,115	0.2%	2009-10
17131	SPECIAL EDUCATION IN REGULAR SCHOOLS	$883,757	0.1%	2006-07
37325	TELEPHONE (CENTRALIZED SERVICES)	$749,404	0.1%	2006-07
16816	PINS-STUDENT ACTIVITY COORDINATOR	$716,184	0.1%	2006-07
16744	HEALTH CAREER ACADEMY	$567,035	0.1%	2009-10
15816	SCIENCE EQUIPMENT	$557,031	0.1%	2006-07
15852	MUSIC EQUIPMENT	$498,139	0.1%	2006-07
16833	WORLD LANGUAGES-ELEMENTARY	$372,240	0.1%	2006-07
18727	IN-SCHOOL SUSPENSION	$355,885	0.1%	2009-10
16830	WORLD LANGUAGES-SECONDARY	$235,604	0.0%	2006-07
12652	SCIENCE EDUCATION	$233,359	0.0%	2006-07
16902	ENVIRONMENTAL EDUCATION	$200,583	0.0%	2006-07
28715	PREGNANT TEEN CENTER-MAUI	$184,449	0.0%	2009-10
27362	INTRAMURALS	$57,704	0.0%	2006-07
17724	OCCUPATIONAL SKILLS LEARNING CENTER	$49,392	0.0%	2006-07

Source: Historical fiscal data obtained from the HIDOE Budget Execution Section.

Exhibit E.4 – Total and Relative WSF Dollar Allocations Associated With Retired Program IDs (continued)

Program ID	Program Description	Total Allocation	Percent of Overall 2005-06 Allocation from Program IDs Distributed by WSF in 2006-07 or Later	Year First Distributed Through WSF
27713	TRANSPORTATION FOR BAND	$45,706	0.0%	2006-07
15636	YOUTH LEADERSHIP PROJECT	$43,524	0.0%	2009-10
27867	MOLOKAI/LANAI STUDENT ACTIVITIES	$20,000	0.0%	2006-07
16735	JUNIOR SKILLS-USA	$17,351	0.0%	2006-07
27032	DECA	$15,387	0.0%	2006-07
16901	PROTOCOL FUND	$10,640	0.0%	2006-07
27875	MAUI INTER SCHOOL LEADERSHIP COUNCIL	$10,383	0.0%	2006-07
16734	SKILLS-USA	$10,240	0.0%	2006-07
27876	FAMILY CAREER COMM LEADERS OF AMERICA	$10,007	0.0%	2006-07
27889	FUTURE FARMERS OF AMERICA	$6,800	0.0%	2006-07
12641	PREGNANT/PARENTING PROGRAM	$0	0.0%	2009-10

Source: Historical fiscal data obtained from the HIDOE Budget Execution Section.

Exhibit E.5 – Total Dollars Associated With Programs Allocated by WSF (2006-07 to 2012-13)

Program ID	Program Description	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
42100	WEIGHTED STUDENT FORMULA	$689,835	$1,043,114	$1,542,214	$1,105,336	$2,367,184	$2,281,901	$9,269,004
42101	WSF-INSTRUCTION	$400,556,693	$445,721,231	$441,022,161	$463,455,005	$463,913,451	$462,002,938	$465,599,824
42102	WSF-ELL	$10,131,979	$11,514,134	$11,909,674	$12,377,306	$13,858,327	$13,708,124	$14,258,223
42103	WSF-INSTRUCTIONAL SUPPORT	$22,133,930	$24,472,849	$23,760,992	$23,808,571	$26,105,682	$23,478,088	$22,576,155
42104	WSF-STUDENT SERVICES	$57,477,743	$65,889,325	$65,050,226	$69,621,964	$70,101,633	$69,551,222	$68,378,506
42105	WSF-STUDENT BODY ACTIVITIES	$2,883,886	$3,186,970	$3,254,928	$4,732,528	$4,503,366	$4,395,639	$4,350,606
42106	WSF-ENABLING ACTIVITY I	$731,960	$1,943,924	$1,867,470	$2,095,909	$2,904,045	$2,900,345	$3,383,040
42107	WSF-ENABLING ACTIVITY II	$370,377	$559,588	$917,888	$867,366	$665,198	$658,126	$611,015
42108	WSF-ENABLING ACTIVITY III	$478,538	$772,963	$553,484	$523,037	$699,525	$632,012	$714,532
42109	WSF-ENABLING ACTIVITY IV	$74,759	$36,406	$141,138	$130,271	$60,869	$119,013	$136,013
42110	WSF-ENABLING ACTIVITY V	$133,471	$47,136	$105,522	$86,933	$57,949	$124,960	$28,946
42111	WSF-ENABLING ACTIVITY VI	$33,528	$99,934	$13,147	$61,346	$142,592	$58,447	$72,472
42112	WSF-SCHOOL ADMINISTRATION	$88,022,107	$99,426,713	$100,128,160	$106,305,126	$113,662,502	$110,081,671	$118,027,615
42113	WSF-SCHOOL FACILITY SERVICES	$42,863,965	$48,070,844	$48,346,927	$50,038,411	$51,803,593	$51,794,297	$51,773,711
42114	WSF-PROTOCOL FUND	$105,395	$129,617	$74,300	$48,072	$181,997	$59,507	$69,218
42115	WSF-CTE	$0	$0	$0	$0	$0	$1,522,732	$1,335,299
42121	WSF BUY BACK DECA	$0	$0	$0	$0	$0	$0	$0
42122	WSF BUY BACK SKILLS USA	$0	$3,040	$569	$1,360	$150	$0	$0
42123	WSF BUY BACK FFA	$0	$0	$293	$0	$155	$0	$750
42124	WSF BUY BACK FCCLA	$0	$0	$1,356	$1,176	$0	$0	$0
42125	WSF BUY BACK HOSA	$718	$0	$759	$0	$0	$0	$0

Source: Historical fiscal data obtained from the HIDOE Budget Execution Section.

Appendix F – Description of How Schools Receive WSF Allocations and Necessary Adjustments to Allocations Data

How Schools Receive WSF Allocations

In the fall prior to the upcoming fiscal year (e.g., Fall 2010 for the 2011-12 school year), schools are forwarded their projected WSF allocations, which are used by principals and school site councils to develop their Academic and Financial Plans. The following summer, schools receive their initial WSF allocation, which is based on this projected figure. This allocation is subsequently adjusted in August, when official enrollment counts for the school year are taken. At this point, schools can either gain or lose money due to actual enrollment being lower or higher than projected enrollment.

In September, schools that experience enrollment growth after the official enrollment count is taken receive an additional per-pupil allocation that is pro-rated at 75 percent for the number of additional students that have enrolled in the school since August. Schools also receive a similar adjustment for enrollment growth in December, except that the per-pupil allocation is pro-rated at 50 percent. Note that schools do not lose funding for enrollment declines experienced between the official August counts and either the September or December updates.

During the fiscal year, allocations may also change because schools have the option to transfer fiscal resources between locations (i.e. to other school sites or to Complex Area or State Offices to consolidate resources for projects or initiatives).[63] Finally, schools also have the option to carry over a portion of their WSF allocations from the prior fiscal year. For these reasons, school-level WSF allocations calculated from the transactional allocation file may not reflect their actual WSF allocation in a given fiscal year.

Necessary Adjustments to Allocations Data

In a handful of cases noted in the crosswalk, dollars in the retired programs were split between WSF and non-WSF program IDs in the post-WSF years. For these programs, allocation amounts for the pre-WSF years WSF were pro-rated into a WSF share and non-WSF share for all schools. The percentages used to pro-rate the allocations were based on the dollars distributed through the WSF and outside of the WSF in 2006-07 divided by the total allocation associated with the Program ID in the 2005-06 school year. Below we list the handful of cases and the corresponding percentages used to pro-rate program allocations in the years before WSF was introduced (see Exhibit 6.B.1).

Between the 2006-07 and 2009-10 school year, WSF allocations included fringe benefits for all staff supported by WSF programs. Beginning in the 2010-11 school year, this money, and the responsibility of administering fringe benefits was transferred to the Hawaii Department of Budget and Finance. In order to ensure that WSF allocation levels reflected the same amount of

[63] Schools can also elect to spend more or less of their allocation on payroll. That is, schools have the option to buy or sell additional FTEs with their staff allocation. However, this does not affect their total WSF allocation, only the balance between allocations used to cover payroll and non-payroll expenses.

resources across years, WSF allocations in these years were pro-rated to remove the share of allocation that comprised fringe benefits. The amount by which these allocations were pro-rated in post-WSF years are contained in Exhibit 6.B.2.

Exhibit: F.1 – Programs Pro-Rated Between WSF and Non-WSF Allocations

Program ID	Program Description	Pro-Rated into WSF	Pro-Rated into Non-WSF
15110	BASIC NEEDS	99.8%	0.2%
15630	HIGH RISK COUNSELORS	99.6%	0.4%
15638	SCHOOL-BASED SERVICES EA	99.6%	0.4%
15672	STUDENT SERVICES COORDINATORS-FELIX	99.7%	0.3%
17131	SPECIAL EDUCATION IN REGULAR SCHOOLS	0.7%	99.3%
17711	TRANSITION SERVICES	96.4%	3.6%
23105	SCHOOL ADMINISTRATION	98.9%	1.1%
37297	SCHOOL CUSTODIAL SERVICES	94.0%	6.0%
37325	TELEPHONE (CENTRALIZED SERVICES)	93.0%	7.0%
37662	REPAIRS AND MAINTENANCE OF SCHOOLS	99.7%	0.3%
46793	PCNC COORDINATORS	92.3%	7.7%

Exhibit F.2 – Rates Used to Eliminate Fringe Benefits from WSF Allocations in Analysis Data (2006-07 to 2009-10)

Year	Adjustment for Fringe Benefits
2006-07	71.8%
2007-08	76.0%
2008-09	75.9%
2009-10	73.5%

Appendix G – Generation of English Language Learner (ELL) Percentages for Study Years 2000-01 through 2002-03

To generate school-level ELL rates for the 2000-01, 2001-02, and 2002-03 school years, the research team used data housed in the National Longitudinal School-Level State Assessment Score Database (NLSLSASD). This database contains test score information for approximately 90,000 public schools in the U.S. until the 2004-2005 school year, and contains information available about the number of tested students by different demographic groups.

Data for Hawaii schools were available in the 2000-01, 2002-03, 2003-04, and 2004-05 school years. These files contained school-level Stanford Achievement Test, Ninth Edition (SAT 9) scores in grades 3, 5, 8, 10, and also included the total number of tested students as well as the number tested identified as Limited English Proficient or non-Limited English Proficient. These counts were used to generate school-level ELL percentages for the 2000-01 and 2002-03 school years by dividing them through by the total numbers of students tested.

Unfortunately, the NLSLSASD did not contain data for Hawaii schools in the 2001-02 school year. ELL rates for this year were therefore imputed for each school by taking the average of the calculated 2000-01 and 2002-03 ELL rates.[64]

To investigate the possibility that the ELL rates generated from the NLSLSASD data were not representative of a school's actual ELL rate, the research team compared school-level ELL rates from the HIDOE data and that generated using the NLSLSASD for the two years in which both files were available (2003-04 and 2004-05). The average pupil-weighted difference between the two files by schooling level was computed for each of these two years. The results showed, as one might expect, that the NLSLSASD rates were systematically lower by an average of 3.0 percentage points for elementary schools, 2.0 percentages points for middle schools, and 0.4 percentage points for high schools.[65] To account for this likely undercounting, ELL rates in 2000-01, 2001-02, and 2002-03 were adjusted upward by these averages.

[64] A handful of schools did not have an ELL percentage available for the 2000-01 school year. For these schools, the more recent 2002-03 percentage was imputed for 2001-02.

[65] One might expect this finding if the number of ELL students tested represent a selective sample of all ELL students enrolled at a school and this group has a lower incidence of test-taking. If this is the case, then dividing this smaller number of tested ELLs by the overall number tested will provide a proxy for ELL percentage that is downwardly biased.

Appendix H – Study Sample of Schools

Exhibit H.1 –List of Schools Excluded from Analysis

Org ID	School Name	Reason for Exclusion
144	JEFFERSON ORTHOPEDIC SCHOOL	School serves a special population
149	WAIALAE ELEM PCS	Charter school, does not receive WSF allocation
320	LANIKAI ELEM PCS	Charter school, does not receive WSF allocation
394	WAIMEA MIDDLE PCS	Excluded beginning in 2003-04 school year due to conversion to charter school
396	CONNECTIONS PCS	Charter school, does not receive WSF allocation
397	KANU O KA'AINA PCS	Charter school, does not receive WSF allocation
398	WATERS OF LIFE PCS	Charter school, does not receive WSF allocation
399	WEST HAWAII EXPLORATIONS ACADEMY PCS	Charter school, does not receive WSF allocation
408	KEANAE ELEM	School serves a special population
461	NIIHAU SCHOOL	School serves a special population
466	KULA AUPUNI NIIHAU A KAHELELANI ALOHA PCS	Charter school, does not receive WSF allocation
470	HAWAII SCHOOL FOR THE DEAF & THE BLIND	School serves a special population
472	HALE O' OLOMANA	School serves a special population
475	OLOMANA SCHOOL	School serves a special population
495	POHUKAINA SCHOOL	School serves a special population, and closed before introduction of WSF
496	LAHAINALUNA BOARDING	School serves a special population

Exhibit H.2 – Average FRPL, ELL, SWD, and Enrollment by FRPL Deciles for Elementary Schools, 2005-06, 2011-12, 2012-13

Year	FRPL Decile	Average Percent FRPL	Average Percent ELL	Average SWD	Average Enrollment
2005-06	10	83.9%	18.4%	9.6%	488
	9	72.3%	13.1%	10.4%	392
	8	63.1%	12.5%	10.3%	410
	7	54.4%	11.3%	9.2%	473
	6	49.7%	10.9%	7.4%	614
	5	45.1%	7.9%	9.4%	549
	4	38.1%	8.1%	8.4%	604
	3	30.9%	5.6%	7.7%	580
	2	22.0%	6.0%	8.4%	591
	1	10.4%	4.8%	5.1%	507
2011-12	10	90.7%	23.6%	11.8%	465
	9	81.5%	14.6%	13.7%	406
	8	72.0%	17.9%	10.0%	519
	7	65.5%	14.6%	10.4%	461
	6	59.9%	8.5%	9.2%	571
	5	55.1%	11.5%	9.7%	597
	4	47.4%	8.4%	9.5%	600
	3	39.1%	6.9%	10.1%	578
	2	30.3%	4.6%	8.5%	618
	1	14.5%	5.4%	6.7%	547
2012-13	10	91.8%	28.7%	10.5%	528
	9	83.9%	21.0%	12.0%	337
	8	74.5%	22.0%	10.7%	596
	7	67.7%	15.0%	9.6%	526
	6	61.6%	13.5%	9.3%	530
	5	56.4%	17.4%	9.1%	628
	4	49.3%	10.8%	9.7%	577
	3	41.6%	9.8%	9.4%	616
	2	32.3%	7.0%	9.0%	645
	1	16.3%	9.6%	6.5%	539

Exhibit H.3 – Average FRPL, ELL, SWD, and Enrollment by FRPL Deciles for Middle Schools, 2005-06, 2011-12, 2012-13

Year	FRPL Decile	Average Percent FRPL	Average Percent ELL	Average SWD	Average Enrollment
2005-06	10	72.6%	11.2%	16.1%	609
	9	62.3%	17.6%	11.2%	853
	8	50.9%	8.2%	12.2%	887
	7	48.1%	7.2%	14.3%	457
	6	45.4%	5.8%	10.2%	805
	5	41.4%	5.4%	13.7%	896
	4	38.4%	4.8%	12.1%	853
	3	32.6%	5.9%	11.1%	723
	2	27.1%	3.5%	12.3%	1,066
	1	15.0%	3.3%	10.4%	977
2011-12	10	79.7%	21.5%	13.0%	655
	9	72.2%	18.5%	13.0%	493
	8	62.6%	9.8%	14.6%	570
	7	59.1%	20.1%	8.8%	986
	6	54.4%	14.3%	8.6%	797
	5	53.4%	11.4%	14.0%	705
	4	50.3%	5.9%	14.0%	630
	3	46.4%	7.6%	10.3%	820
	2	36.1%	4.8%	12.8%	943
	1	22.4%	4.4%	9.9%	1,110
2012-13	10	82.4%	29.4%	12.8%	675
	9	73.3%	24.5%	14.3%	502
	8	66.5%	17.6%	12.5%	668
	7	63.2%	22.7%	13.0%	796
	6	60.1%	16.9%	10.2%	785
	5	55.4%	17.8%	10.2%	682
	4	53.1%	9.7%	14.6%	694
	3	49.2%	11.9%	11.3%	782
	2	39.2%	7.1%	13.0%	983
	1	24.1%	7.5%	9.6%	1,100

Exhibit H.4 – Average FRPL, ELL, SWD, and Enrollment by FRPL Deciles for High Schools, 2005-06, 2011-12, 2012-13

Year	FRPL Decile	Average Percent FRPL	Average Percent ELL	Average SWD	Average Enrollment
2005-06	10	61.6%	11.8%	18.1%	1,475
	9	54.9%	7.6%	17.9%	1,131
	8	46.3%	12.4%	14.8%	1,599
	7	41.0%	5.5%	16.5%	1,334
	6	36.9%	4.2%	17.0%	764
	5	33.9%	6.3%	15.3%	1,650
	4	29.1%	4.5%	14.7%	1,575
	3	22.0%	4.9%	11.7%	1,660
	2	19.8%	3.7%	14.2%	1,412
	1	10.7%	4.1%	11.0%	1,656
2011-12	10	79.1%	10.6%	19.8%	787
	9	66.2%	9.8%	15.1%	1,191
	8	59.6%	16.2%	14.5%	1,019
	7	53.8%	8.7%	13.2%	1,477
	6	47.9%	6.5%	11.3%	1,066
	5	44.2%	5.3%	12.4%	1,931
	4	41.7%	7.8%	11.3%	1,213
	3	36.6%	9.9%	9.4%	1,320
	2	27.3%	4.2%	10.2%	1,483
	1	18.3%	3.5%	10.0%	1,695
2012-13	10	83.4%	14.8%	19.9%	757
	9	69.7%	15.7%	12.7%	1,282
	8	63.3%	18.7%	15.9%	883
	7	56.0%	12.5%	13.4%	1,474
	6	51.4%	10.3%	13.0%	1,227
	5	47.3%	8.7%	11.0%	914
	4	45.1%	11.7%	11.4%	1,758
	3	39.4%	14.1%	9.6%	1,310
	2	29.1%	5.8%	10.5%	1,459
	1	20.7%	6.2%	10.4%	1,727

Exhibit H.5 – Correlation Between FRPL and ELL, 2005-06 and 2012-13

Schooling Level	Year	Correlation Between Percent FRPL and Percent ELL
Elementary	2005-06	0.47
	2012-13	0.40
Middle	2005-06	0.59
	2012-13	0.55
High	2005-06	0.41
	2012-13	0.41

Appendix I – Technical Description of Regression Model

Simple regression analysis was used to identify if there were any systematic patterns in school-level per-pupil allocations that could be explained by cost factors related to student need (pupil socioeconomic disadvantage proxied by percent eligible for free or reduced-price lunch) and scale of operations (enrollment and enrollment squared), and whether the relationships between dollar allocations and these cost factors changed over time (and specifically since the implementation of the WSF. The regressions estimated year-specific implicit weights for student need and scale, which represented how school-level per-pupil allocations varied on average with respect to levels of socioeconomic disadvantage and total school enrollment. The analysis was run separately by grade level (elementary, middle and high) with regressions being run separately using Overall per-pupil dollar allocations, as well as those allocations defined as WSF and non-WSF (i.e., dollars that were and were not allocated using the WSF). The formal regression specification used was as follows.

$$\ln(Per\ Pupil\ Allocation)_{s,t} = \alpha + \beta_1 \ln\left(1 + FRL_{s,t}\right) + \beta_2 \ln(ENR_{s,t}) + \beta_3 \ln(ENR_{s,t})^2 + \sum_{t=1}^{T} \delta_t YEAR_t + \sum_{t=1}^{T} \phi_t \ln\left(1 + FRL_{s,t}\right) YEAR_t + \sum_{t=1}^{T} \eta_t \ln(ENR_{s,t}) YEAR_t + \sum_{t=1}^{T} \psi_t \ln(ENR_{s,t})^2 YEAR_t + \varepsilon_{s,t}$$

where,

- *s* = index of school-specific observations
- *t* = index of year-specific observations
- *FRL* = School-Level Percent of Pupils Eligible or Receiving Free or Reduced-Price Lunch
- *ENR* = Total School Enrollment
- *YEAR* = Year-Specific Dummy Indicator Equal to 1 for year *t* and 0, otherwise.
- α = The average per-pupil allocation in 2005-06 (reference year).
- β_1 = Estimated implicit socioeconomic disadvantage weight for reference year.
- β_2, β_3 = Estimated implicit enrollment weights (linear and quadratic) for specified pre-implementation reference year.
- δ_t = Marginal impact of year *t* relative to specified pre-implementation reference year.
- ϕ_t = Marginal impact of poverty in year *t* relative to estimated implicit poverty weight for reference year.
- η_t, ψ_t = Marginal impacts of (linear and quadratic) enrollment in year *t* relative to estimated implicit enrollment weight for reference year.
- $\varepsilon_{s,t}$ = School-level random error term.[66]

[66] The error terms are assumed to be independent across schools, but not within schools across years. To this end, robust standard errors are calculated for all of the regressions that take into account this form of group-clustered heteroskedasticity, where the group is an individual school. Standard errors that do not adjust for clustered error terms tend to overstate the precision with which parameters are estimated.

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