Establishing a Student-based Funding Formula for Vermont

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How does a student-based funding formula work?

Student-based Funding Systems

- Allocates funding to districts **based on the number of students enrolled or in attendance**
- State **guarantees a basic spending amount** – or "foundation" - for each student
- Districts may receive **additional funding based on certain student or school characteristics**, using pupil **weights** or fixed per pupil **grant** amounts.

Student-based funding systems are used by 37 states, Washington DC, and Puerto Rico, and are viewed as the strongest starting point for ensuring an adequate and equitable state school funding system.

How does a student-based funding system work?

Hypothetical Formula:

(A) Base funding amount =$10,000

(B) Economically disadvantaged student weight = 1.0

Hypothetical school district:

(C) 100 students

(D) 20% students experiencing poverty

Step 1: Calculate Weighted Student Count

	Calculation	Student Count
Student Count	(C*1)	100
Poverty Weighted Student Count	(C*D*B)	20
Total Weighted (WTD)Student Count		120

Step 2: Calculate Funding Amount

WTD Student Count * Base Funding = 120*$10,000 = $1,200,000

State foundation funding formula are like apples: No two are exactly alike.

Policy Design Considerations

Key Design Questions

- What should be the **base spending amount** per student?
- What **cost adjustments** should be incorporated in the formula?
  - When adjusting for costs, should the formula use ***pupil weights***, ***fixed grant amounts per pupil***, or ***both approaches*** to adjust for differences in cost due to student needs and school context-related factors?
- What **student count** should be used to calculate a district's membership in the formula?

Establishing a Base Spending Amount

Base Funding Amount

- **Provides a baseline**
  - The base is the **standard funding amount**, regardless of other cost factors, that every student receives. It acts as a floor so that **all students receive "foundational" support** to ensure equal educational opportunities or educational adequacy.
- **Cost based**
  - The base funding amount should reflect the **cost of the resources necessary to educate a typical student with average needs to common outcomes.**
- **Allows for targeted adjustments**
  - **Weights can be applied to a common base amount** to adjust for different cost factors, including differences in student needs and local context.

What should be included in a base funding amount?

- The base funding amount should **reflect the cost of the resources** needed to **ensure a typical student, with no additional needs and who is educated in a common context to common standards to common standards**
    - *Most studies incorporate some common measure(s) of student academic performance, such as achievement or proficiency*

- **Base spending amounts should include the cost of**:
    - A typical general education curriculum, including educator compensation and instructional materials
    - Academic and non-academic enrichment (including extracurriculars) opportunities that are available to all students as part of a district/school's general education
    - Student support services that are available to all students as part of a district/school's general education (e.g., counseling services, school nurse)
    - Transportation and food services
    - Operating expenses for a district/school, including administration and facilities (non-capital and no debt service)

Determining Cost Adjustments to Base Spending Amount

Cost Adjustments in a Student-based Funding Formula

- **Adjust for differences in education costs.**
  - ***Should:*** Adjust for things that affect the level of spending required to achieve desired educational outcomes ***and*** are outside the control of local school districts.
  - ***Should not:*** Adjust for differences in educational cost that are the result of *preferences* for higher spending

Cost factors considered in Vermont's existing formula:

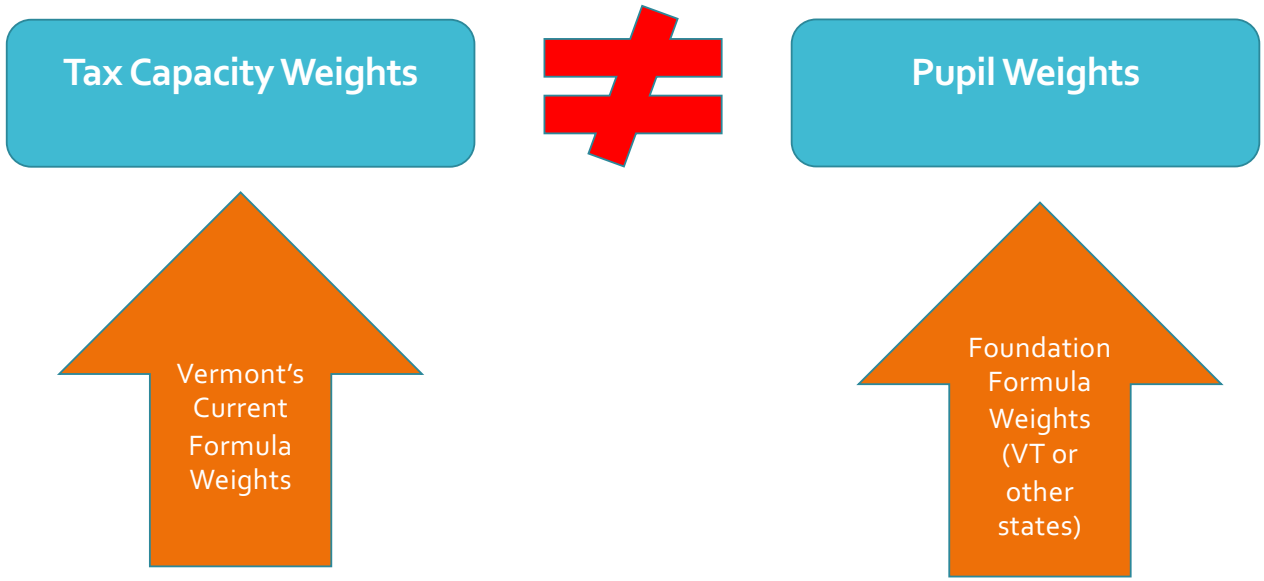
Student economic disadvantage, English learner status, student grade level, school size, and population density.

- **Generate a specific amount of additional funding.**
  - Weights are applied to a base funding amount and calibrated to generate a certain level of additional funding, over-and-above the base funding amount
  - **Weights cannot "stand alone" – they are always relative to some base funding amount**
- **Can be incorporated in different ways.**
  - Weights can be additive or multiplicative in a formula
  - The magnitude of the weight can depend on how it is used in a formula

Reasons to be careful about comparing base amounts and weights used in different state funding formula …

- **Different states, different costs.**
  - *Consideration:* States vary in terms of their outcome goals, governance structures, labor markets, educational costs, when they last updated their weights, and…
- **States apply weights differently in their formula**
  - *Consideration:* Weights can be multiplicative or additive in a formula and as a result can be calibrated in ways that make them difficult to compare to another state with a different formula.
- **Differences in the relationship between the base spending amount and weights.**
  - *Consideration:* Weights are proportional to a stipulated base funding amount.
- **Politics.**
  - *Consideration:* States may have "negotiated" weights that are not empirically derived.

Problematic comparison …



How do you determine a base funding amount and weights for a foundation formula?

Approaches to estimating education costs …

- **Professional Judgment Panels (PJPs; Input-based)**
  - Involves convening focus groups with practitioners and experts in the field to propose resource types and quantities for hypothetical schools to achieve specific outcomes
    - *Strengths:* Incorporates field-based input/knowledge
    - *Limitations:* Input may be limited to individual experiences, and not evidence-based
- **Evidence-based model schools (EB; Input-based)**
  - Involves compiling published research into model schools
    - *Strengths:* Cost estimates reflect evidence-based practices
    - *Limitations:* No school exists that incorporates all the identified practices; difficult to differentiate according to state standards and requirements
- **Education Cost Function (ECF; Outcomes-oriented)**
  - Statistically models the level of spending necessary for students to attain desired outcomes and how spending varies according to differences in student need and educational context
    - *Strengths:* Provides estimates for a base spending amount and weights that are calibrated to that base amount
    - *Limitations:* Does not provide information on "how" dollars should be spent; requires sufficient data for modeling

Accepted practice is to pair EB <u>with</u> PJPs to estimate costs.

Recent studies show that cost estimates from ECF and PJPs generate comparable estimates.

See Appendix A at end of presentation for additional description of and comparison among approaches.

Vermont Study of Pupil Weighting Factors (2019)

UVM/AIR used ECF to:

- **Identify cost factors.**
  - Empirically identified "need" factors that have the strongest predictive validity for differences in student outcomes (economic disadvantage, ELL, and student disability) and aspects of school context that explained differences in school spending (size, grade levels served, and population density).
- **Estimate a spending amount for an average student with no additional needs and the dollar adjustments to this base for identified cost factors.**
  - Statistically modeled a base spending amount for an average student with no additional needs to meet common outcomes (equal educational opportunity), and the additional spending necessary to adjust for differences in student need and school context (cost factors).
- **Develop tax capacity weights.**
  - Used base and additional spending amounts to develop weights that equalized tax capacity among districts using equalized pupils.

The same information is needed to develop pupil weights for a student-based funding formula.

Approach to Updating Cost Estimates

- **Updated analyses from the 2019 Pupil Weighting Study** to to incorporate data from the 2018/19 to the 2023/24 school years
- The updated analyses:
  a) Generated an estimate for a **base per pupil cost**, and
  b) Identified **necessary cost adjustments** to the base per pupil cost **for differences in student need and school context.**
- We **inflated the cost estimates to real FY2025 dollars** using the U.S. Bureau of Labor Statistics (BLS) Employment Cost Index (ECI) to reflect spending levels for the 2024/25 school year

Base Cost Per Student & Cost Adjustments from Updated Analyses

	Cost Adjustments Identified in 2019 Pupil Weighting Study	FY2025 Dollars
Base cost per student		$15,033
Cost adjustments		
Student Needs	Students experiencing economic disadvantage	$15,334
	English learners	$20,896
School Enrollment	<100 students	$3,157
	101-250 students	$0
Population Density	<36 persons per square mile	
	36 to <55	$1,954
	55 to <100	$0
Grade Range	% Middle grades enrollment (grades 6-8)	$0
	% Secondary grades enrollment (grades 9-12)	$0

Using Updated Cost Estimates in a Vermont Student-based Funding Formula

Student Weights Derived from Updated Analyses

Base funding amount per student		$15,033
Cost adjustments		**Student Weights**
Student needs	Students experiencing economic disadvantage	1.02
	English Learners	1.39
School enrollment	<100 students	0.21
Population density	<55 persons per square mile	0.13

Refined Student Weights for English Learners

Student Grade Level	WIDA Language Proficiency Levels				Newcomer/ SLIFE
	Level 1	Levels 2/3	Level 4	Levels 5/6	
Average Cost by Proficiency Level	$31,657	$21,195	$18,073	$1,795	$6,329
Pupil weight	2.11	1.41	1.20	0.12	0.42

*A refined set of weights for English Learners would **account for differences in costs associated with different levels of language proficiency** and whether a student is Newcomer/SLIFE.*

Cost Adjustments for Students Receiving Special Education

	Cost Estimates (FY2025 Dollars)	
	U.S. Department of Education Special Education Expenditure Project (SEEP)	Ohio Special Education Cost Study
Average	$22,415	$29,656
Low-cost disabilities	$11,611	$11,872
Specific learning disability (SLD)	$10,800	$9,721
Speech or language impairment (SLI)	$12,422	$14,022
Medium-cost disabilities	$14,725	$20,327
Developmental delay (DD)	$19,637	$32,302
Emotional disturbance (ED)	$19,386	$31,081
Intellectual disability (ID)	$22,344	$31,320
Other health impairment (OHI)	$17,168	
OHI (minor)		$18,908
OHI (major)		$59,948
High-cost disabilities	$25,945	$37,502
Autism spectrum disorder (ASD)	$29,847	$39,810
Deaf–blindness (DB)	$25,768	$29,012
Hearing impairment (HI)	$21,585	$30,047
Multiple disabilities (MD)	$31,571	$23,797
Orthopedic impairment (OI)	$21,354	$22,295
Traumatic brain injury (TBI)	$24,435	$60,411
Visual impairment (VI)	$27,057	$34,696

Special education costs vary considerably according to student disability.

Special Education Weights Using Vermont Base Funding Amount

Weighting Categories	Weights Using SEEP	Weight Using AIR Base
Overall (single weight)	1.49	1.97
Low-cost disabilities	**0.77**	**0.79**
Specific learning disability (SLD)	0.72	0.65
Speech or language impairment (SLI)	0.83	0.93
Medium-cost disabilities	**1.31**	**1.89**
Developmental delay (DD)	1.31	2.15
Emotional disturbance (ED)	1.29	2.07
Intellectual disability (ID)	1.49	2.08
Other health impairment (OHI)	1.14	
OHI (minor)		1.26
OHI (major)		3.99
High-cost disabilities	**1.73**	**2.49**
Autism spectrum disorder (ASD)	1.99	2.65
Deaf–blindness (DB)	1.71	1.93
Hearing impairment (HI)	1.44	2.00
Multiple disabilities (MD)	2.10	1.58
Orthopedic impairment (OI)	1.42	1.48
Traumatic brain injury (TBI)	1.63	4.02
Visual impairment (VI)	1.80	2.31

Options for Including Special Education Weights in a Vermont Student-based Funding Formula

- **Option 1 – Single Weight**
  - A **single weight of 1.97 for each student receiving special education,** assuming a base spending amount of $15,033
- **Option 2 – Multiple weights based on disability categories**
  - Assign student weights **based on primary disability classification**, using the 13 disability categories identified in the federal Individuals with Disabilities Education Act (IDEA)
- **Option 3 – Multiple weights based on disability categories grouped by cost**
  1. **Low-cost disabilities (0.79)**, including students with a specific learning disability (SLD) and speech or language impairment
  2. **Medium-cost disabilities (1.35)**, including students with an emotional disturbance (ED), intellectual disability (ID), and other health impairment (OHI)
  3. **High-cost disabilities (2.49)**, including students with autism spectrum disorder (ASD), deaf-blindness (DB), hearing impairment (HI), multiple disabilities (MD), orthopedic impairment (OI), traumatic brain injury (TBI), and visual impairment (VI)

Additional Design Considerations

- Student transportation
- Tuitioned Students
- Students participating in Career and Technical Education
- Adjusting the base spending amount for changes in costs over time

Transportation

- A design consideration will be **whether to continue the state's current transportation grant funding program or to adjust for transportation cost differences within the new student-based funding formula** (e.g., using a weight or fixed grant amount per student).
- **Transportation spending** paid for by the state's existing transportation grant program is **not included in the base spending amount** ($15,033).

Tuitioned Students

A new student-based funding formula **will need to consider how to apply the base spending amount and weights to students for whom a town or unified school district pays tuition** for them to attend another public school or approved independent school (i.e., tuitioned students).

Two key considerations:

1. Whether towns will be allowed to pay tuition amounts that are different from the base spending amount.
2. How formula weights will be applied to tuitioned students.

Whether Towns Will Be Allowed to Spend More Than the Base Amount

- A student-based formula presumes that this amount is ***uniformly applied to all students in the state*** to meet the state's constitutional obligations to ensure equal educational opportunities and fiscal equity among the state's towns and unified school districts.

- Given the state's obligations, a key consideration will be **whether towns can pay tuition amounts that are different from the base spending amount**, and if so, under what circumstances.

    - If towns are allowed to pay a different tuition amount, a related consideration will be **whether towns are limited in the amount they can spend per student above the base amount.**

How Formula Weights Will Be Applied to Tuitioned Students

The **weights from the updated analyses only apply in certain circumstances**.

- Student need-based weights **can be equally applied to tuitioned students *if* the new formula sets the base spending amount equal to the approved tuition amount.**
- **School context weights can be equally applied to students who *attend public schools***; school context weights cannot be applied to tuitioned students who attend non-public schools (in Vermont or elsewhere).
- The student-need and school context **weights can only be applied to the base spending amount ($15,033)**.

Career and Technical Education

- The base spending amount and student weights **do not apply** to students who attend the state's Career and Technical Education programs.
- As a matter of practice, most states' student-based funding formula **do not include weights for students who attend CTE programs** since these programs have different cost structures, and as a result would have a different base spending amount from what is assigned to a typical public-school program.

Adjusting the Base Spending Amount

- **The base spending amount in a student-based funding formula should be adjusted annually to reflect changes education costs** due to general inflation, and in particular employee compensation since most education spending is for personnel wages and benefits.
- **States can develop and adopt state specific employment cost indices (e.g., Wyoming) or use a regional or national employment cost index.**
  - We used the U.S. Bureau of Labor Statistics (BLS) Employment Cost Index (ECI) to adjust the base spending amount to reflect real FY2025 dollars.
  - Other places in Title 16 of Vermont statute calls for using inflation adjustments based on the National Income and Product Accounts (NIPA).
- The choice to use the ECI, NIPA, or some other inflation adjustment to recalibrate the base spending amount in a Vermont student-based funding formula **is consequential to the amount of funding available to school districts and total education spending statewide**.

Appendix A: Comparison Among Costing Out Approaches

	Approach	Strengths	Limitations	Recent State Studies
Professional Judgment Panels (PJPs)	Involves convening focus groups with educators and other experts in the field to propose resource quantities for hypothetical schools to achieve specific outcomes.	• Reflects field-based input on what it takes to educate students to standards and operate effective schools	• Professional input may be limited to personal experience, and not necessarily evidence based	Delaware (AIR), Ohio (AIR, WestEd, APA), Colorado (APA), New Mexico (AIR), Vermont (Picus/Odden), Vermont (Kolbe)
Evidence-based (EB)	Researchers create model schools based on "evidence" in research literature and then identify and value the resources required to operate these schools.	• Describes and provides a cost for a set of evidence-based programs, practices, and resources implemented in a model school.	• Distinct research evidence is not easily aggregated into whole-school models; no school operates as a compiled set of evidence-based practices • Selective incorporation of research evidence in models • May not reflect state-specific requirements and goals	Arkansas (APA/WestEd, updating Picus/Odden); Vermont (Picus/Odden)
Education Cost Function (ECF)	Statistically models the level of resources necessary for students to attain targeted outcome.	• Identifies student need factors • Provides statistical estimates for a base spending amount that is equal to the cost of educating a typical student with no additional needs to common standards • Provides weights that are calibrated to the base amount	• Does not provide information on "how" resources were used to attain outcomes. • Requires sufficient information about spending, student outcomes, and student and district/school characteristics to generate precise estimates.	Delaware (AIR), New York (AIR), Oregon (AIR), Colorado (AIR), Ohio (AIR), New Hampshire (AIR), Vermont (AIR)