



## Virginia's K-12 Funding Formula

---

# Study resolution

## SENATE JOINT RESOLUTION NO. 294

*Directing the Joint Legislative Audit and Review Commission to study the true cost of education in the Commonwealth and provide an accurate assessment of the costs to implement the Standards of Quality. Report.*

Agreed to by the Senate, January 27, 2021

Agreed to by the House of Delegates, February 24, 2021

In conducting its study, the Joint Legislative Audit and Review Commission shall

- (i) estimate the cost of implementing the Standards of Quality based on the actual expense of education prevailing in the Commonwealth,
- (ii) determine if the Standards of Quality accurately reflect actual standards of practice within each school division.
- (iii) analyze changes in the Standards of Quality funding formula since 2009 and the impact of such changes on its accuracy in reflecting such costs,
- (iv) recommend changes to the Standards of Quality funding formula

---

## In brief

- Virginia school divisions receive less K–12 funding per student than
  - divisions in other states
  - several key funding benchmarks
- Many of the Standards of Quality (SOQ) formula's inputs and assumptions lack a clear rationale and do not reflect prevailing practice in school divisions

---

## In brief (continued)

- SOQ formula does not adequately account for higher needs students, regional labor costs, and division size (the three main cost drivers outside a division's control)
- Local composite index used to apportion funding obligations between the state and each locality is a reasonably accurate measure of ability to pay
- Most states use a student-based K-12 funding formula, which is simpler than Virginia's complex staffing-based formula

---

## JLARC developed recommendations and policy options and estimated their funding impacts

- Presentation focuses on major recommendations and policy options; full list can be found in report
- Near-term and long-term recommendations to help guide strategic approach to implementation
- Presentation focuses on *state-level* funding and impacts
- *Division- and local government-level* funding impacts will be available on JLARC website

---

# In this presentation

## Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

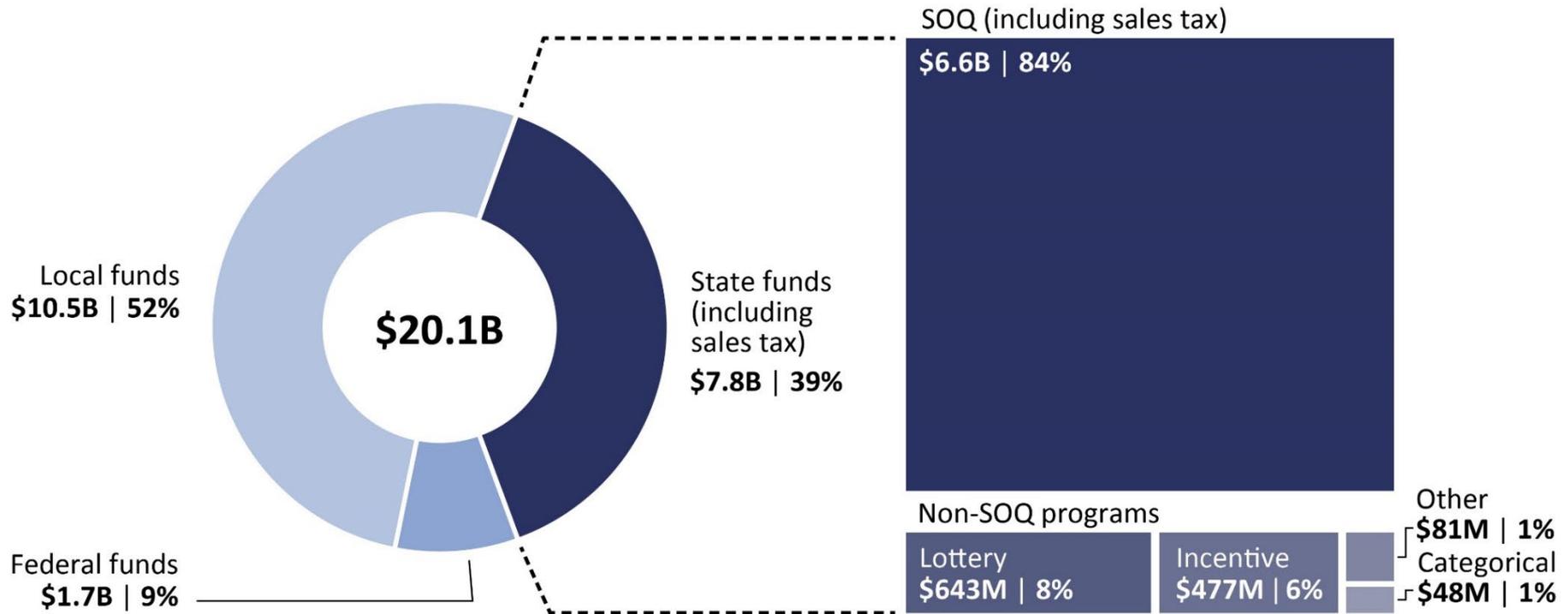
SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

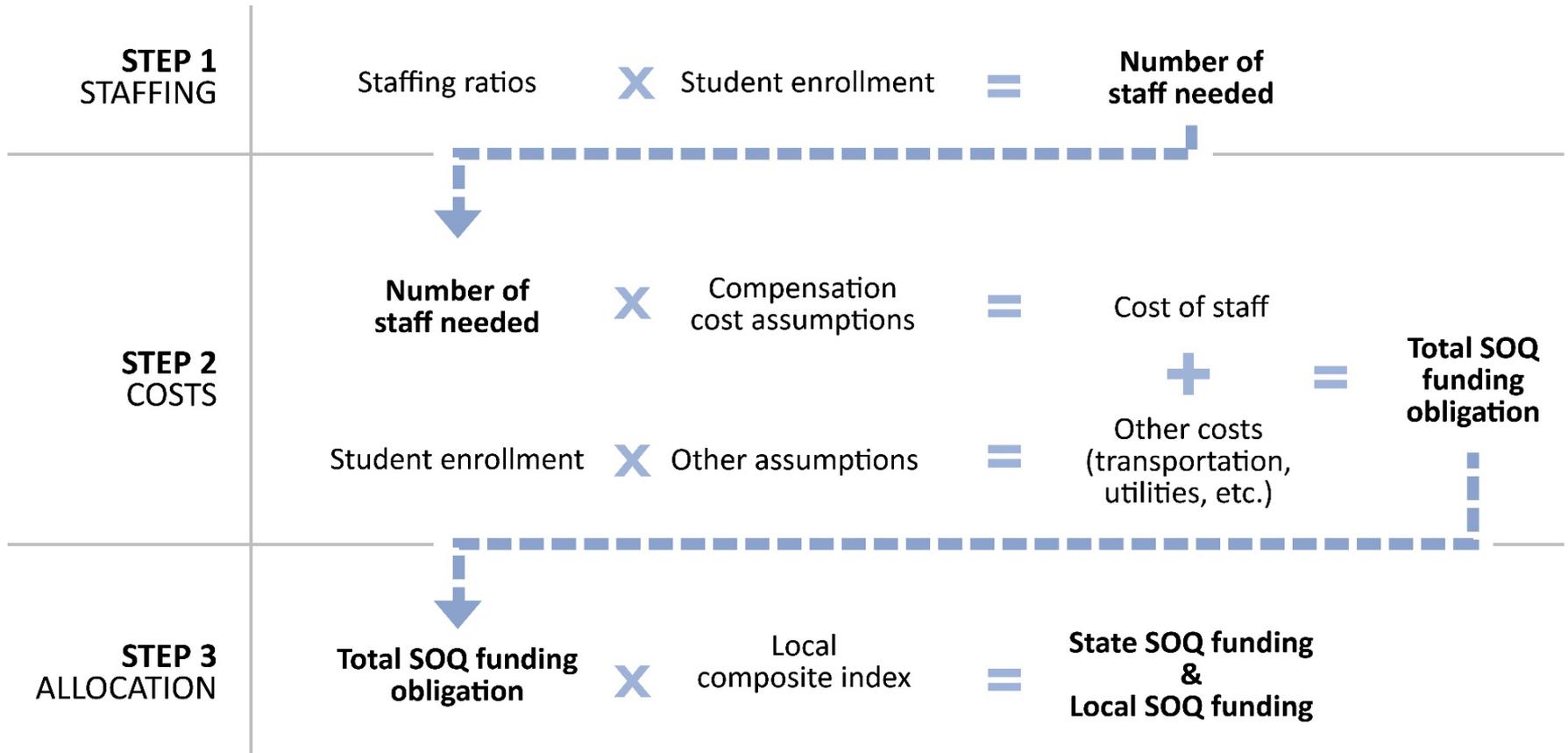
Formula use & design

# Virginia school divisions receive local, state, and federal funding



- Fairfax County accounts for \$2.5B of the \$10.5B in local funding

# SOQ formula is primary way state determines amount of K-12 education funding



---

# Sufficient funding is essential for a high quality education system

- Decades of research concludes funding has a critical role in quality of K-12 education
  - \$1,000 spending ↑ ; 2.3% graduation rate ↑
- Likelihood of having high quality teachers increases with sufficient funding
  - Repeatedly shown to increase student performance more than any other factor
  - Can ↑ student achievement 1.5 grade levels

---

# Though essential, funding alone does not ensure high quality education system

- Decades of research concludes factors in addition to funding levels impact student achievement
- Factors within the system's control
  - Systems of accountability for students and teachers
  - Instructional and support services
- Factors outside the system's control
  - Poverty level
  - Adequacy of support at home

---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

Formula use & design

---

# Constitution directs legislature to seek to ensure a high quality education but grants wide latitude

## Section 1. Public schools of high quality to be maintained

The General Assembly shall provide for a system of free public elementary and secondary schools for all children of school age throughout the Commonwealth, and shall seek to ensure that an educational program of high quality is established and continually maintained.

## Section 2. Standards of quality; State and local support of public schools

Standards of quality for the several school divisions shall be determined and prescribed from time to time by the Board of Education, subject to revision only by the General Assembly.

The General Assembly shall determine the manner in which funds are to be provided for the cost of maintaining an educational program meeting the prescribed standards of quality, and shall provide for the apportionment of the cost of such program between the Commonwealth and the local units of government comprising such school divisions.

---

# Prior General Assemblies have articulated the K-12 system's goal in statute

Chapter 13.2. Standards of Quality.

§ 22.1-253.13:1.

A. The General Assembly and the Board of Education believe that the fundamental goal of the public schools of the Commonwealth must be to enable each student to develop the skills that are necessary for success in school, preparation for life, and reaching their full potential.

---

# Prior General Assemblies have also identified what is necessary for a high quality education

Chapter 13.2. Standards of Quality.

§ 22.1-253.13:1.

The General Assembly and the Board of Education find that the quality of education is dependent upon the provision of (i) the appropriate working environment, benefits, and salaries necessary to ensure the availability of high-quality instructional personnel; (ii) the appropriate learning environment designed to promote student achievement; (iii) quality instruction that enables each student to become a productive and educated citizen of Virginia and the United States of America; and (iv) the adequate commitment of other resources.

---

# Within this framework, staff developed six criteria to evaluate the SOQ funding formula

## Criteria for evaluating formula

1. Clear and justifiable rationale\*
2. Reflects prevailing practice\*
3. Accurate
4. Fair
5. Predictable
6. Transparent

\*Criteria established by the Task Force for Financing the Standards of Quality, 1972-1973 and Virginia Attorney General opinions, 1973, 1983.

---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

Formula use & design

---

## Virginia funding for K-12 education was compared to several benchmarks

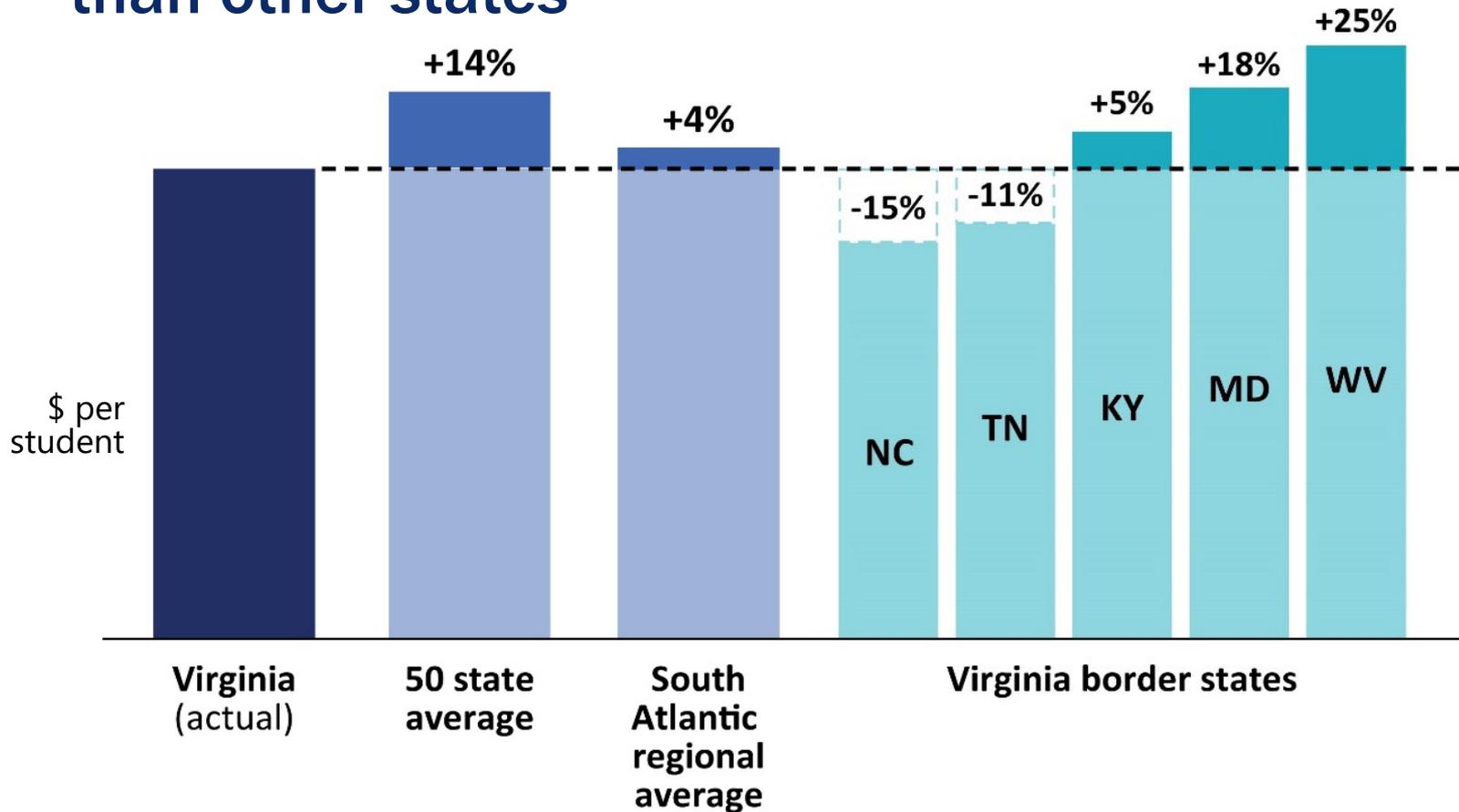
- No single best way to determine ideal K-12 funding levels
- Comparing actual K-12 funding to benchmarks can help determine whether Virginia's education funding is within a reasonable range
  - Compared to other states
  - Compared to Virginia-specific estimates of funding needs
- Funding substantially above or below benchmarks would suggest divisions are not receiving appropriate level of K-12 funding (from all sources), including SOQ funding

---

## Finding

Virginia divisions receive less funding per student than the national and regional state averages.

# Virginia divisions receive less funding per student than other states



NOTE: Adjusted, FY20 data. Includes funding for K-12 operations from all sources (federal, state, and local). Analysis controls for differentials in statewide cost of labor.

---

## Finding

Virginia school divisions receive less funding per student than what three Virginia-specific benchmarks indicate may be needed.

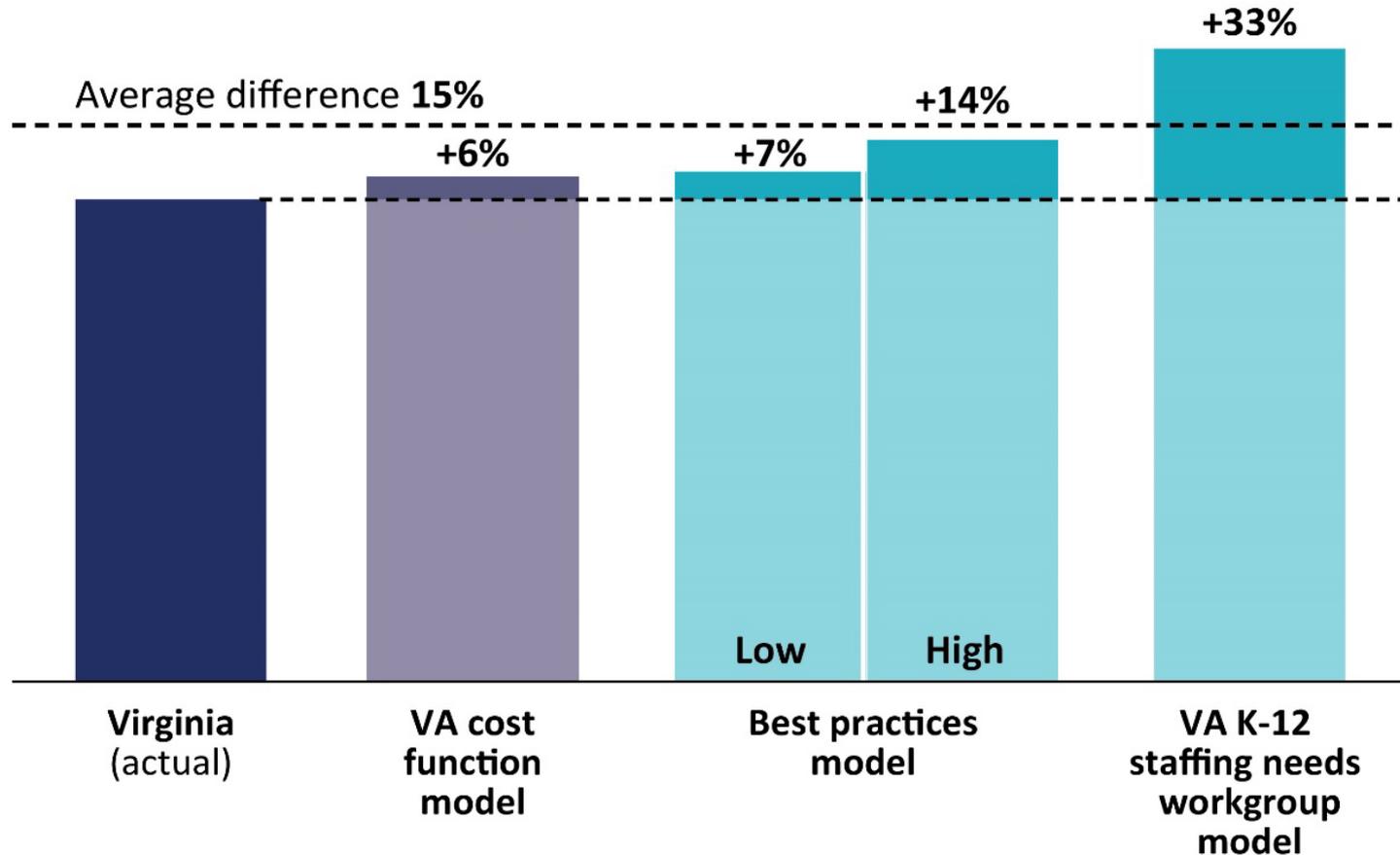
---

## JLARC used three of the most commonly used methods to benchmark Virginia K–12 spending

- Cost function model: Used statistical relationships between funding, test scores, divisions, and student demographics to estimate funding for Virginia.\*
- Best practices / other state cost studies: Identified funding recommendations from reviews performed in 31 states and applied them to Virginia.
- Virginia K–12 staffing needs workgroups: Estimated staffing needs using ratios developed by 7 workgroups of more than 40 current Virginia K–12 teachers and staff.

\*Performed under contract by one of the nation's leading K–12 funding experts, Dr. Bruce Baker.

# Funding models estimate Virginia school divisions need 6 to 33 percent more total funding



NOTE: Includes funding for K-12 operations from all sources (federal, state, and local).

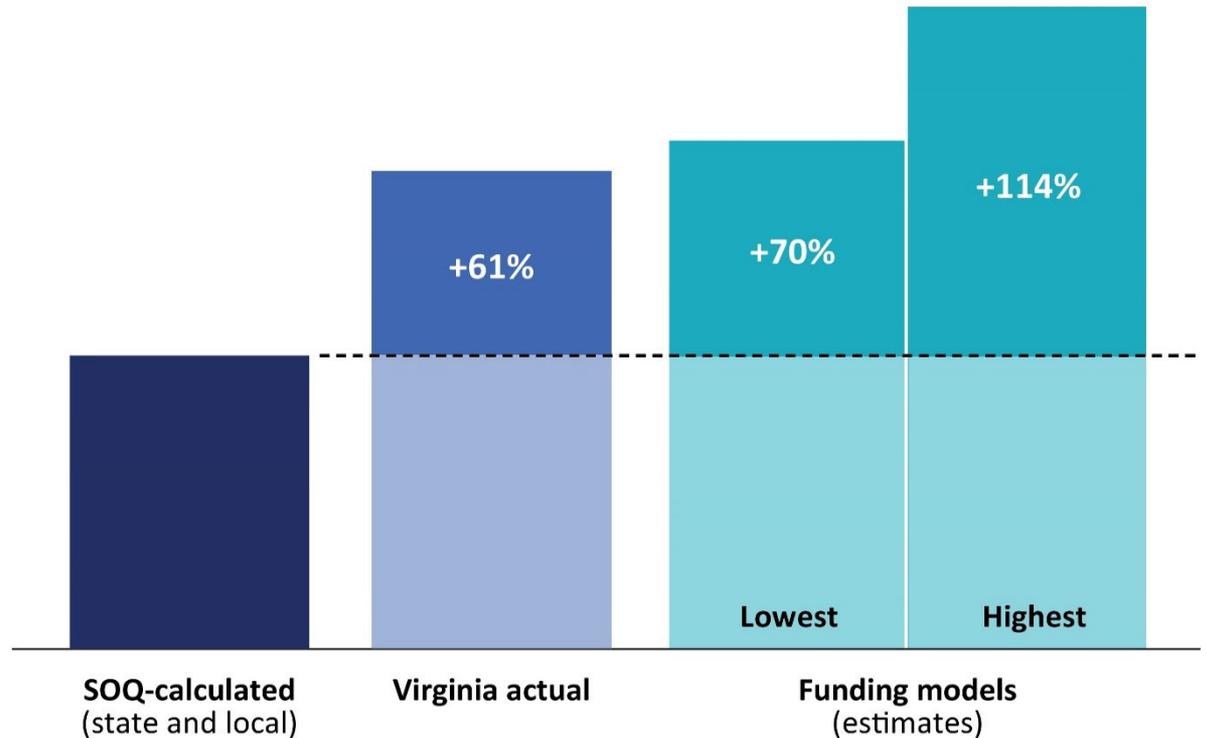
---

# Finding

*SOQ formula calculations* result in substantially less funding than actual K-12 spending and benchmarks.

# SOQ-calculated funding amounts are substantially less than actual funding and benchmarks (FY21)

- SOQ formula calculated divisions needed \$10.7B
- But divisions actually spent \$17.3B



---

## Few Virginia school divisions spend more on K–12 than peers, after accounting for cost drivers

- Per student spending tends to be higher in urban and suburban areas, especially in Northern Virginia
- After adjusting for differences in the three major drivers of divisions costs (student need, local labor costs, and enrollment):
  - Only two very small school divisions spend substantially more than their peers on K–12 education
  - Northern Virginia divisions look similar to others

---

## States and localities, including in Virginia, have recently been providing additional K-12 funds

- Virginia General Assembly has recently provided substantial, additional funds that cannot yet be reflected in benchmark comparisons
  - Funding for 5% salary increases for SOQ-recognized staff
- Other states, such as Tennessee and Maryland, have recently embarked upon major, long-term funding initiatives also not reflected in benchmark comparisons
- Local government funding trends unclear

---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

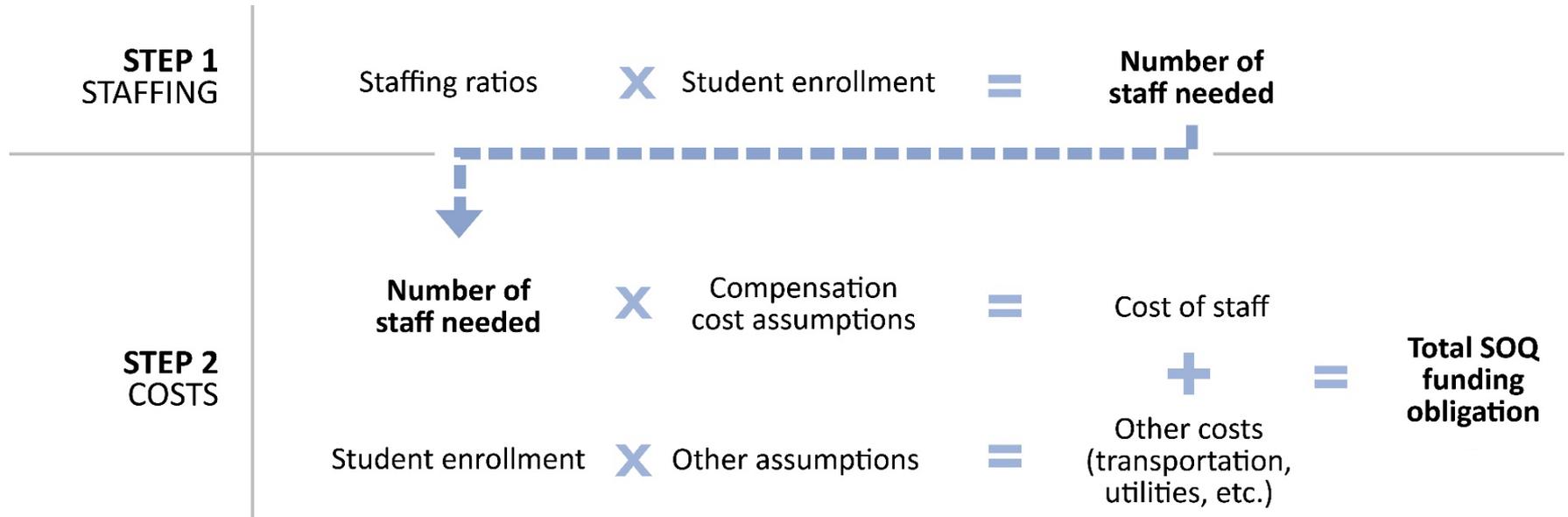
SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

Formula use & design

# SOQ formula heavily relies on staffing and cost assumptions to determine funding obligations



# Finding

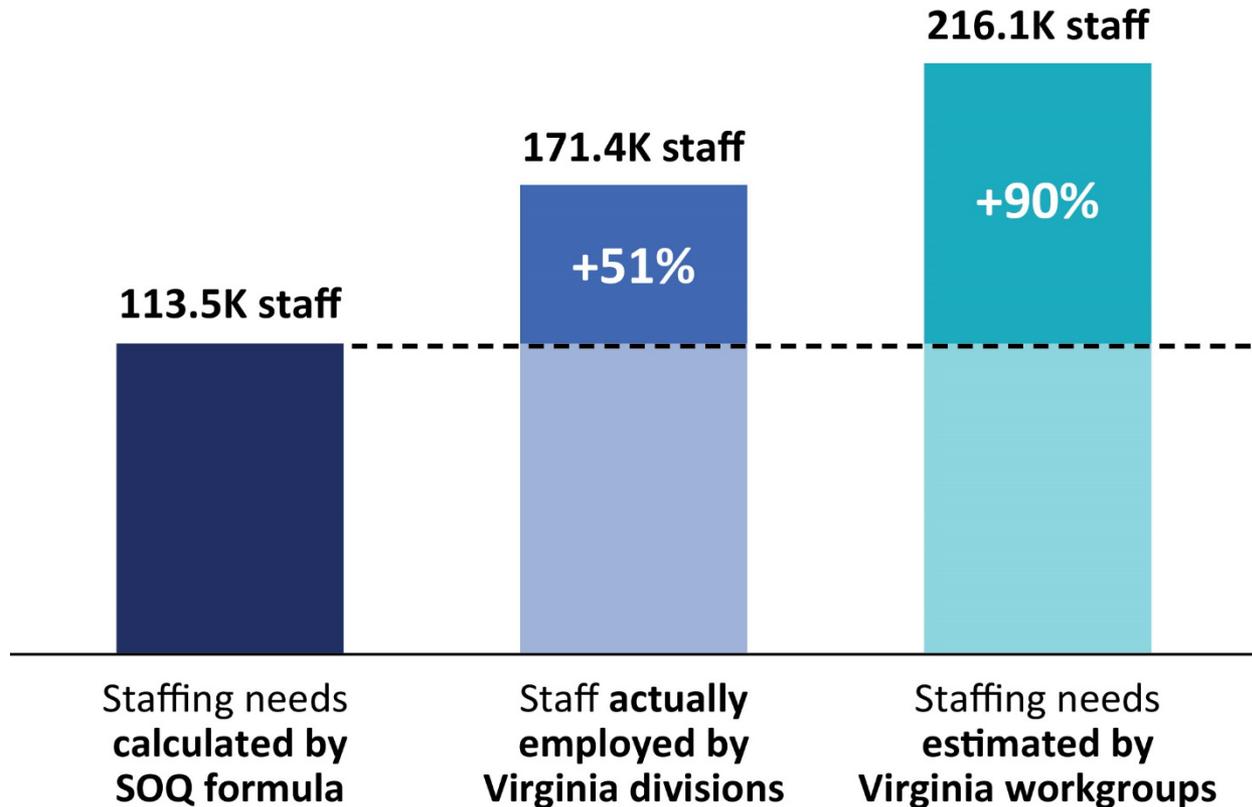
	Clear & justifiable rationale	Reflects prevailing practice?	Accurate?	Fair?	Predict-able?	Trans-parent?
SOQ formula staffing ratios and calculations	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	n/a	n/a	<input type="radio"/>

Fully meets criteria

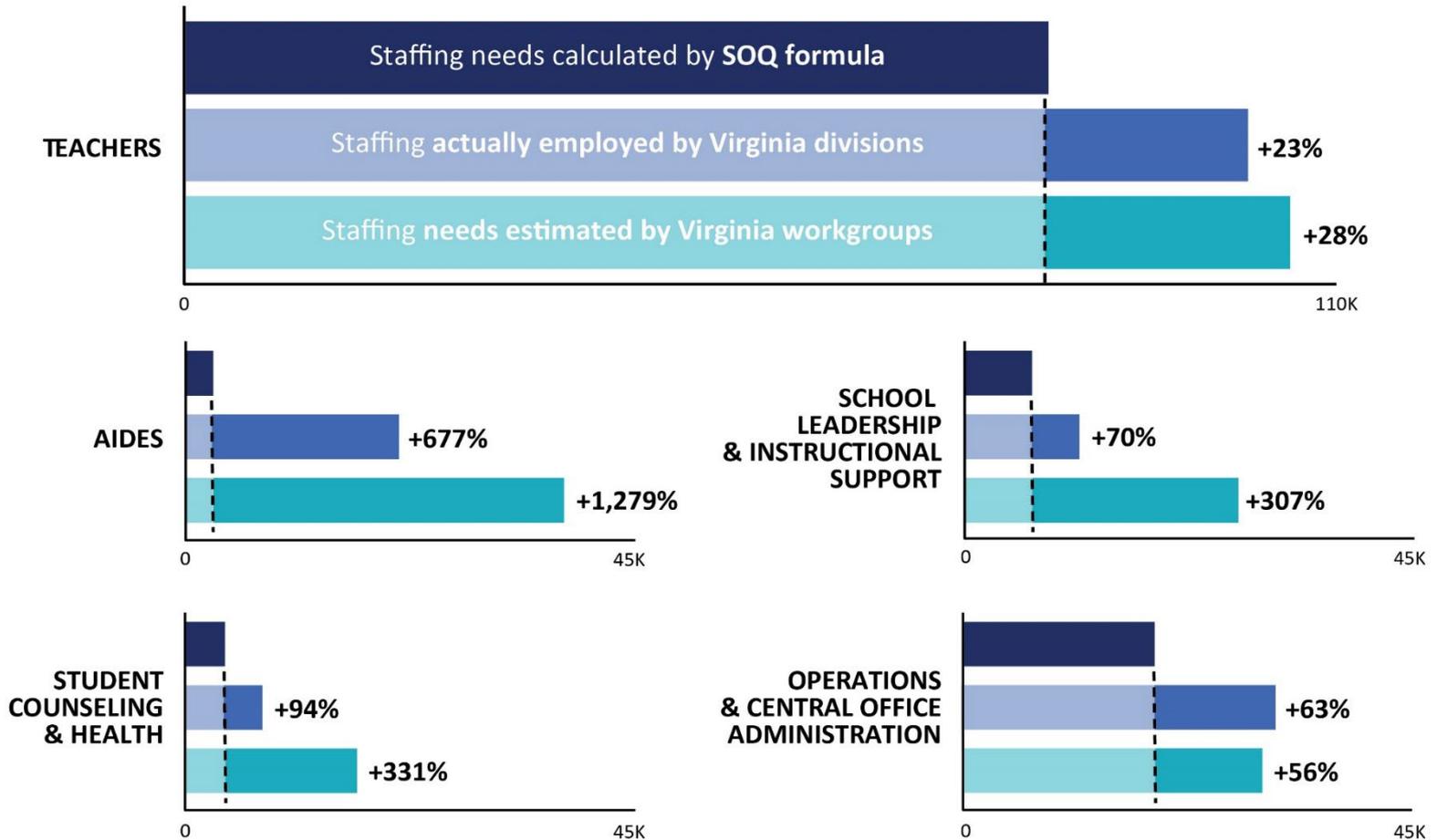
Partially meets

Does not meet

# SOQ formula assumes fewer staff are needed than number employed and workgroup estimates



# Formula calculates fewer of all major staff types than number employed and estimates of need



# Recommendation (near term)

Address technical issues:

- (i) include all division central office positions
- (ii) apply cost of competing adjustment to facility and transportation staff salaries
- (iii) remove cap on non-personal cost assumptions
- (iv) account for facilities staff cost

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est. FY23) <b>\$45M</b> <b>+0.6%</b>
							

# Recommendations (long term)

Develop and adopt a new, simpler, and comprehensive set of staffing ratios that more accurately reflect how divisions are staffed.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑			↑	<b>\$1.86B</b> <b>+24%</b>

# Finding

	Clear & justifiable rationale	Reflects prevailing practice?	Accurate?	Fair?	Predict-able?	Trans-parent?
Great Recession-era formula changes	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	n/a	n/a	<input type="radio"/>
SOQ formula calculation of prevailing salaries	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	n/a	<input type="radio"/>
SOQ formula salary cost adjustments	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	n/a	<input type="radio"/>	<input checked="" type="radio"/>
Increasing compensation funding	<input checked="" type="radio"/>	n/a	n/a	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

---

## Several changes were made to SOQ formula in FY09 & FY10 during steep revenue declines

- “Support cap” reduced funding for divisions below prevailing costs
  - Also affected instructional funding
- Certain “non-personal” costs were removed from the prevailing SOQ cost calculations, though they are still incurred by divisions (travel, leases, other)
- Calculation used to account for federal funds was changed to use less accurate assumptions

## Recommendation (near term)

Eliminate cap on support positions, re-instate the non-personal cost categories removed in FY09 and FY10, and re-instate the previous federal fund deduction methodology.

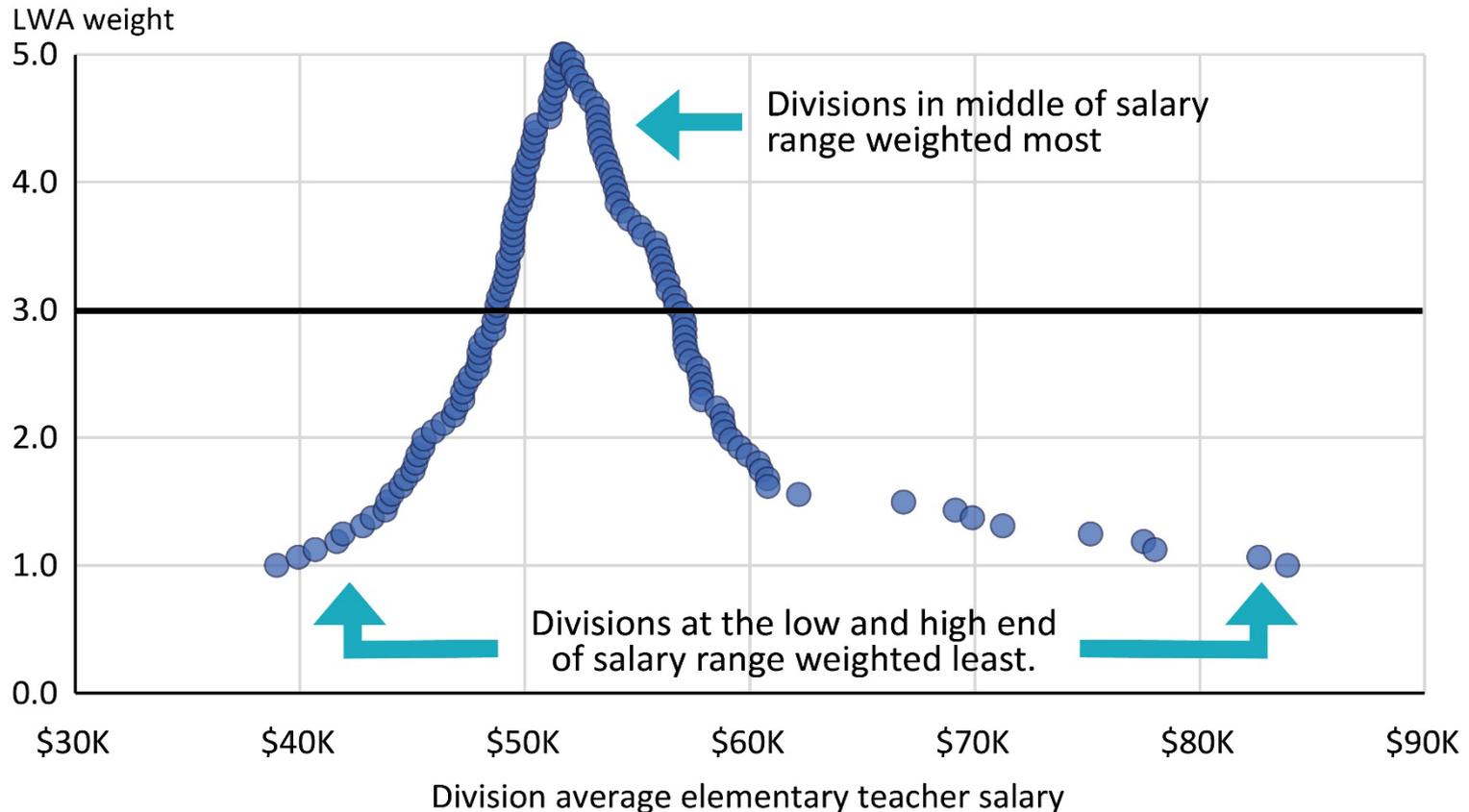
Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑			↑	\$515M +6.5%

---

## Background: Divisions, not state or SOQ formula, determine employee pay scales and salaries

- SOQ formula allocates funding that divisions have wide latitude to use (in combination with other K-12 funds) to compensate their workforce
- SOQ formula uses a variety of salary assumptions and estimates as basis to determine funding levels, but does not determine salaries
- Out of scope: Evaluation of adequacy of salaries & process divisions use to compensate employees

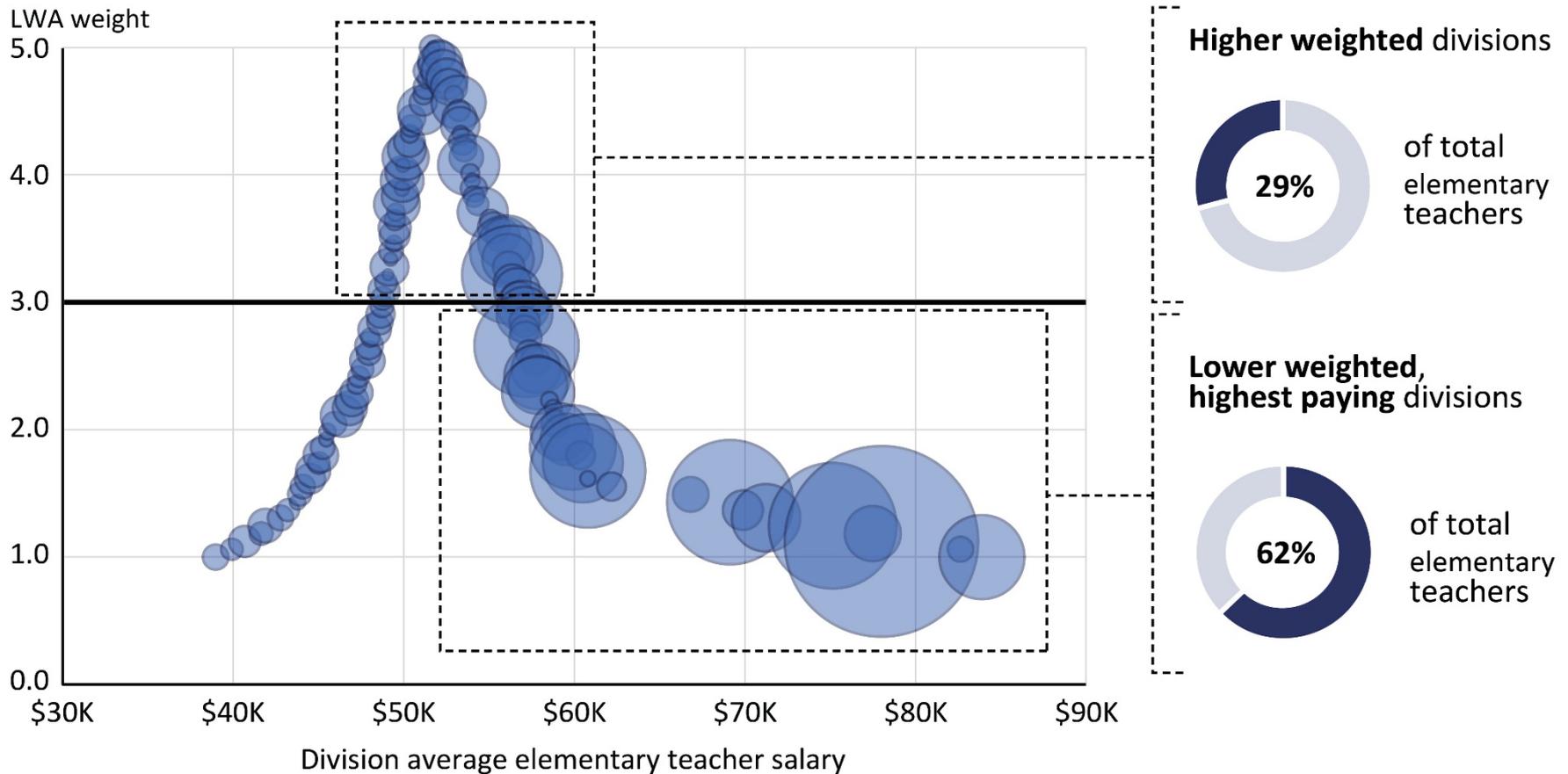
# Formula uses a valid, but little-used, statistical method\* to calculate the average teacher salary



\*Method is the Linear Weighted Average

Note: Each dot represents one school division.

# Formula's "prevailing" statewide teacher salary underweights divisions with the most staff



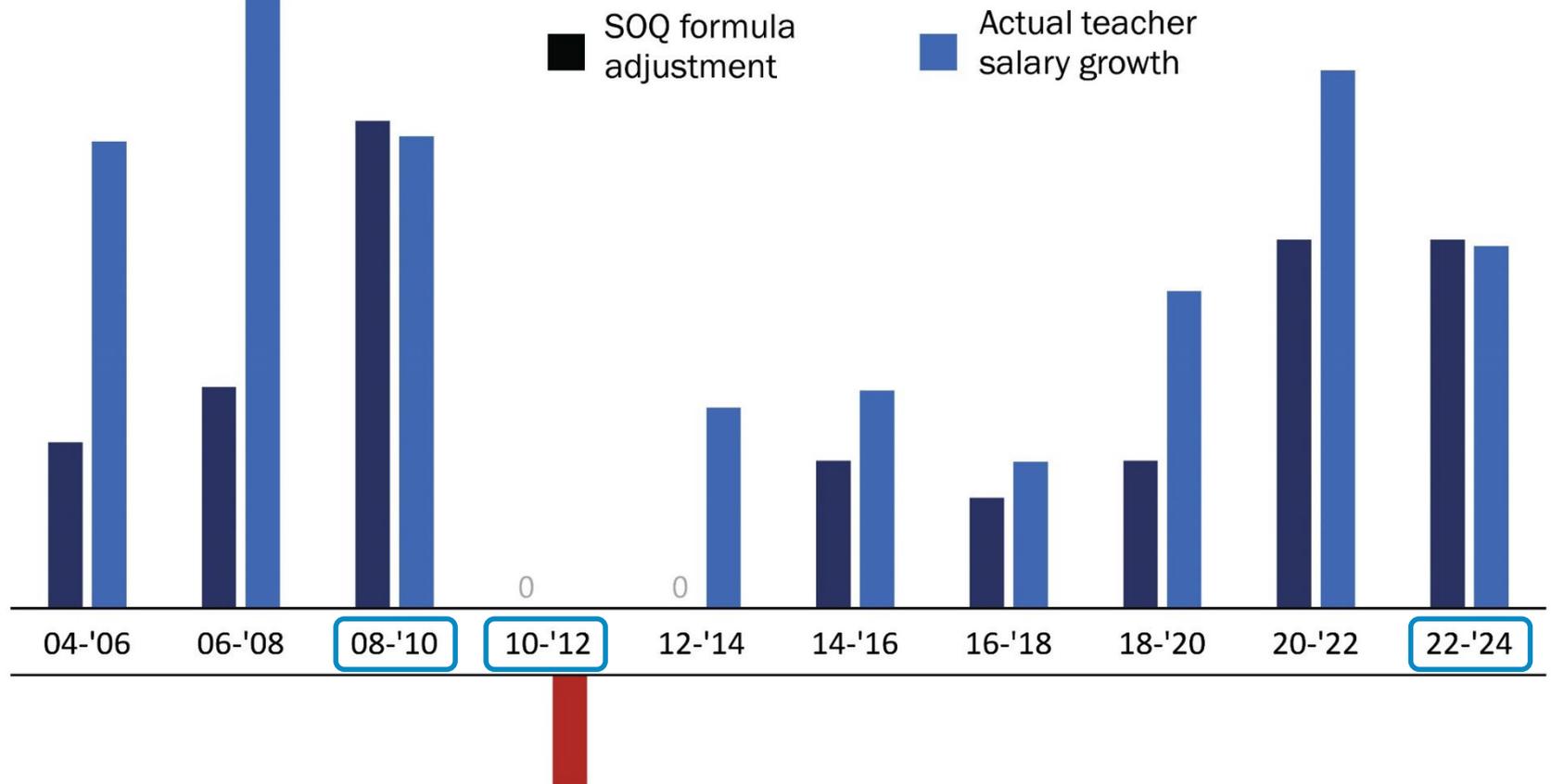
Note: Each dot represents one school division. Larger dot size = more teachers employed by division.

# Recommendation (near term)

Calculate salary and other cost assumptions using the division average, rather than the linear weighted average.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑	↑		↑	\$190M +2.4%

# SOQ formula adjustments for salary costs are usually less than growth in teacher salaries



---

## State uses unsystematic process to increase funding for compensation over time

- State uses “compensation supplements” to adjust funding for salaries and related compensation costs
- Not consistently provided
- Amounts provided are not based on a clear measure or objective and often trail actual salary growth and inflation
- Virginia average teacher salaries consistently trail statutory goal of being at or above national average
- State must balance funding increases with other budget priorities and constraints

# Recommendation (long term)

Update outdated salary cost assumptions used in the formula to more closely reflect current salaries (during the biennial SOQ re-benchmarking process).

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑		↑	□	Depends on timing

# Policy Option

Develop and implement a funding plan to increase compensation supplements as needed to achieve the statutory goal of Virginia teacher salaries being at or above the national average.



---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

SOQ formula staffing and cost calculations

**Cost drivers**

State & local share of SOQ estimates

Formula use & design

---

## Three major drivers of what divisions spend are outside their direct control

- Number of higher needs students (at-risk / low income, special education, English learners)
- Regional labor costs
- Division size (as measured by number of students)

---

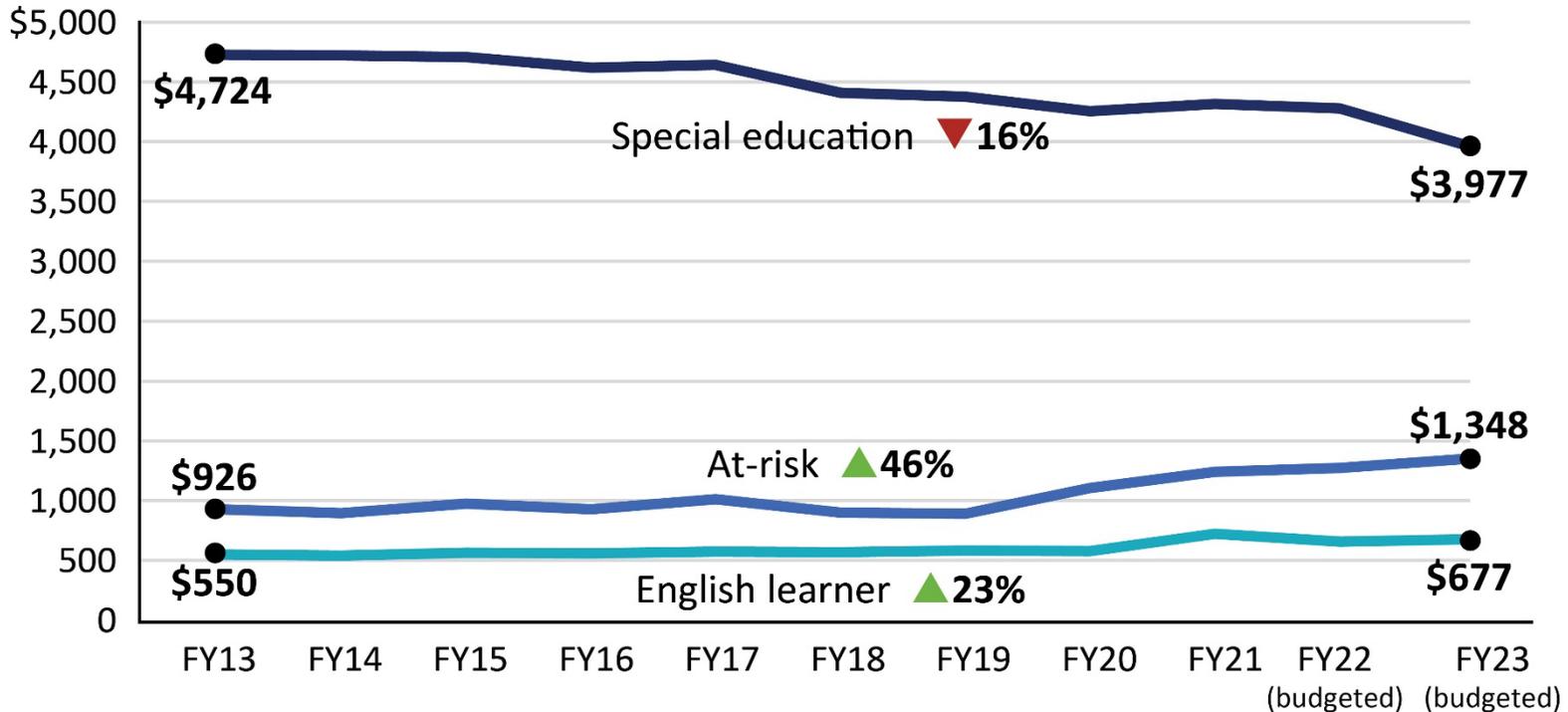
## Findings

State funding per student has increased for at-risk (low income) and English learners and declined for special education.

State funding per student for higher needs students is less than several relevant benchmarks.

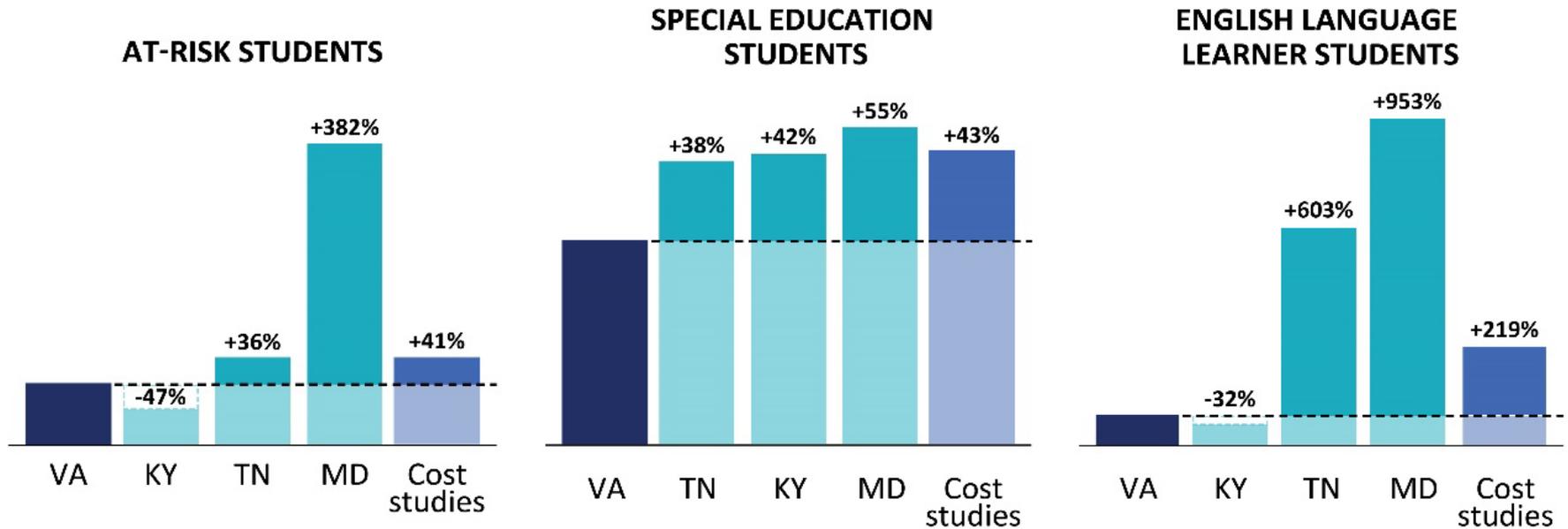
# State funding for at-risk and English learners has increased but special education funding has decreased

Additional funding per student



Presented in FY21, per student dollars. FY22 and FY23 figures are based on budgeted expenditures and not actual reported revenues. FY23 figure makes several assumptions of future inflation and enrollment changes.

# State funding for the three types of higher needs students is below several benchmarks



NOTES: Other state data is derived from their formula weights and base student funding amounts, adjusted for inflation and each state's Comparable Wage Index for Teachers (CWIFT). The cost study amounts are calculated from the midpoints (average or median) per pupil base amounts and student weightings recommended in the cost studies reviewed, adjusted for inflation and CWIFT.

---

## Recommendation (near term)

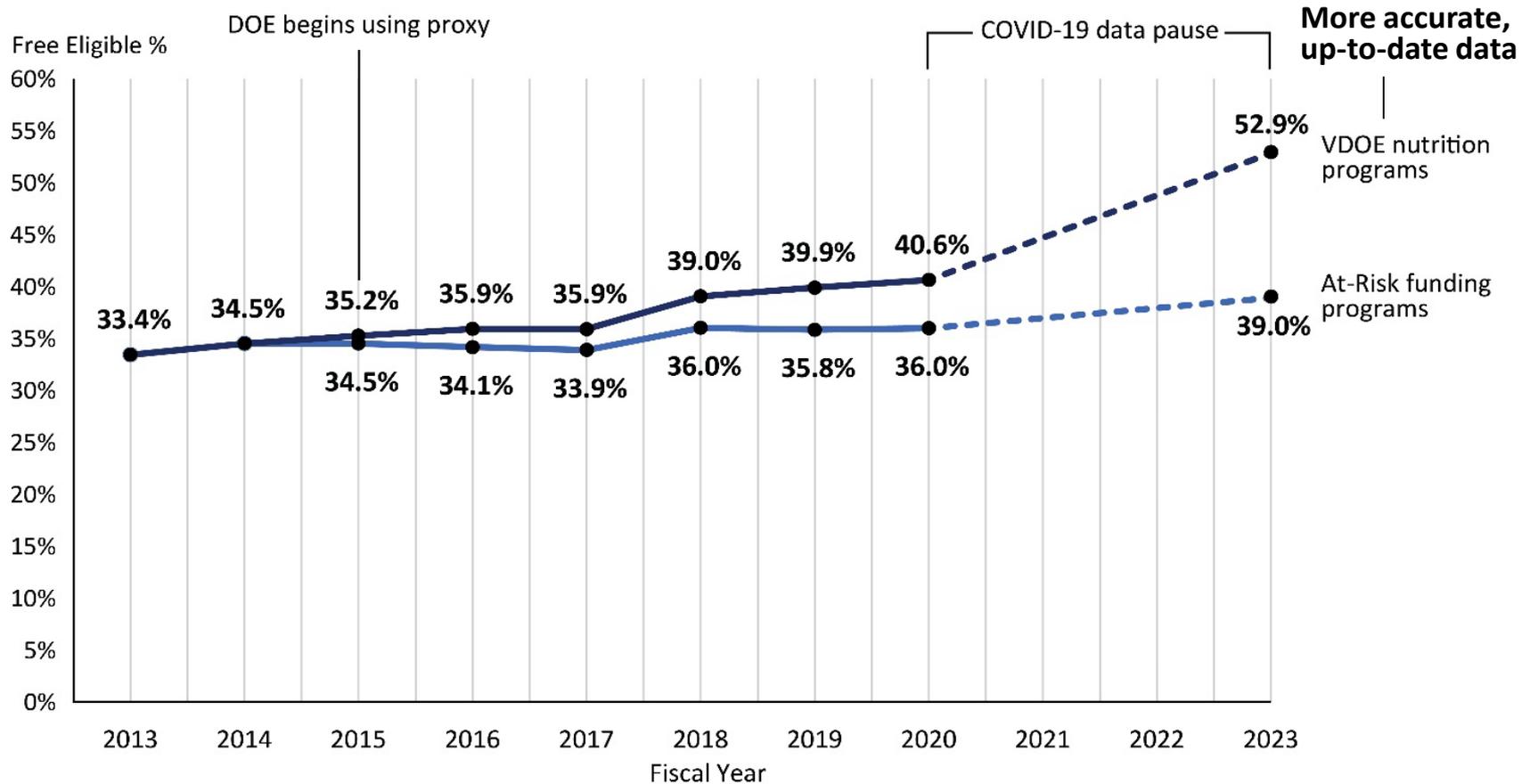
Direct VDOE to work with school division staff and experts to develop new special education staffing needs estimates and report its findings to the Board of Education and General Assembly.

---

## Funding for at-risk programs is essential for low income student success, yet not SOQ required

- Academic research concludes that funding services for low income students is crucial for success
  - Instructional (e.g., math and reading intervention)
  - Support services (e.g., counseling, health)
- Funding needs for low income students are even greater when a division has highly concentrated poverty
- Despite importance, only 32% of at-risk funds are SOQ required
- Funding programs do not provide divisions with consistent base amount for each at-risk low income student

# Data used to estimate poverty for at-risk program funding is old and increasingly inaccurate



## Recommendation (near term)

Designate the At-Risk Add-On program as an SOQ funding program, in recognition that the funding is essential for providing Virginia K-12 students with a quality education.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	□	↑	↑	□	None

## Recommendations (near term)

Use the federally approved Identified Student Percentage (ISP) measure to determine funding for all at-risk programs that currently rely on outdated free lunch estimates.

Consolidate the At-Risk Add-On program and Prevention, Intervention, Remediation program into a single new At-Risk Program under the Standards of Quality, using a new formula based on the ISP.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑	↑	□	↑	\$250M +3.2%

---

# Finding

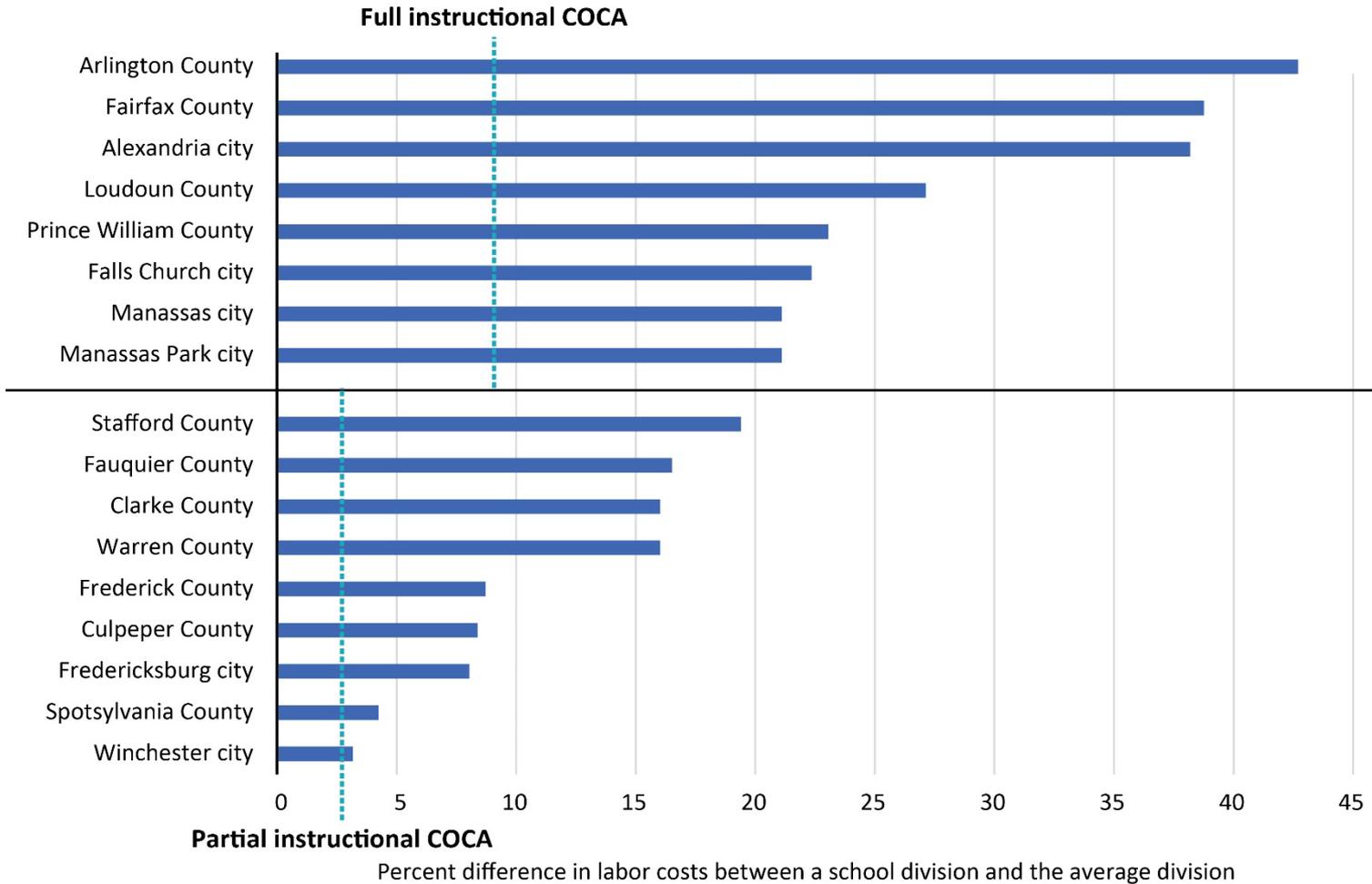
Cost of competing adjustment provided in SOQ formula to address higher regional labor costs uses old data and excludes several divisions.

---

## Cost of competing adjustment amounts are based on an old, imprecise analysis

- Cost of competing adjustment percentages were developed in 1995
- Underlying data was imprecise because of data limitations at the time
  - Relied on the difference between state employee salaries in Northern Virginia and the rest of the state
  - Used a 1991, partial survey of private market wages that also included data about state government pay

# COCA amount is less than division salaries



---

## Current wage data shows several divisions outside Northern Virginia have above average labor costs

- Several localities not included in the current COCA have above average labor costs
- Central Virginia
- Tidewater

*Note: Full state map provided in written report.*

# Recommendation (long term)

Replace cost of competing adjustment with a more accurate adjustment based on a Virginia cost of labor index applied to all divisions with above average costs.

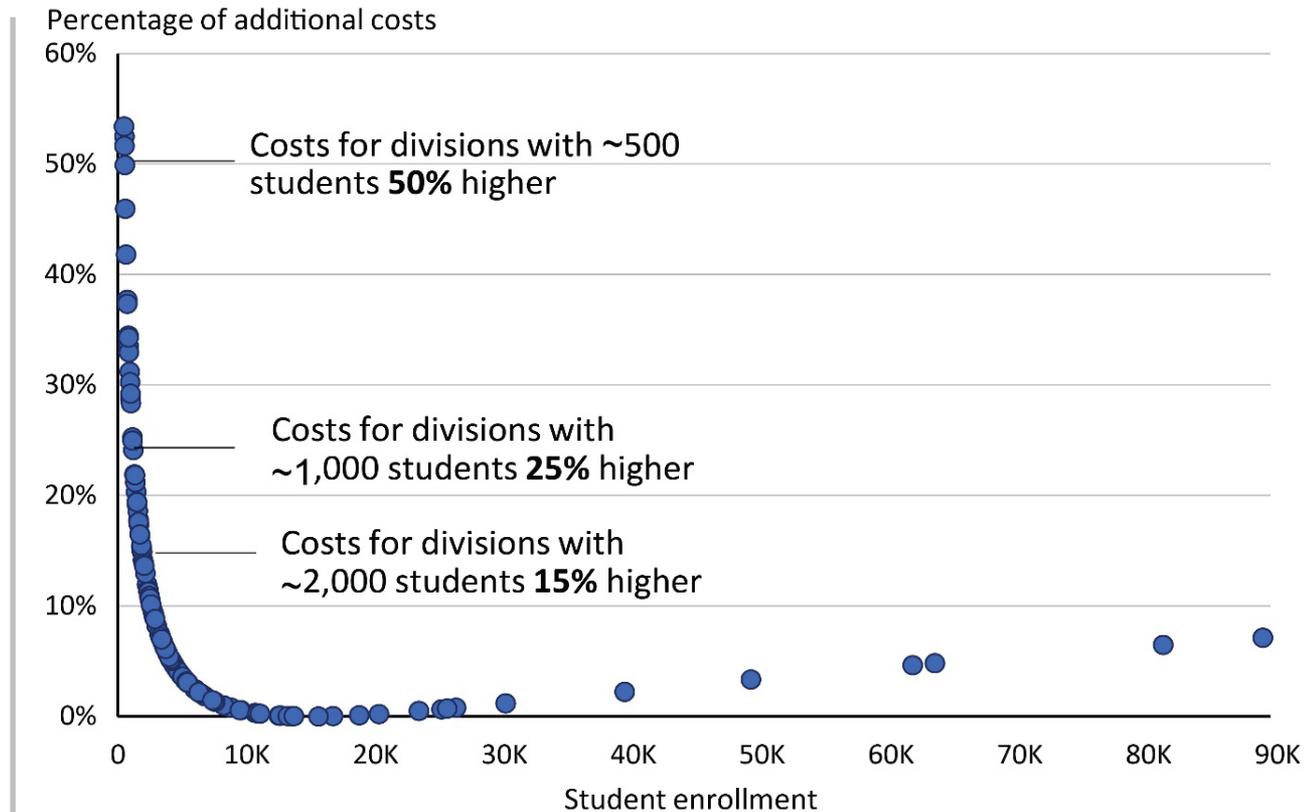
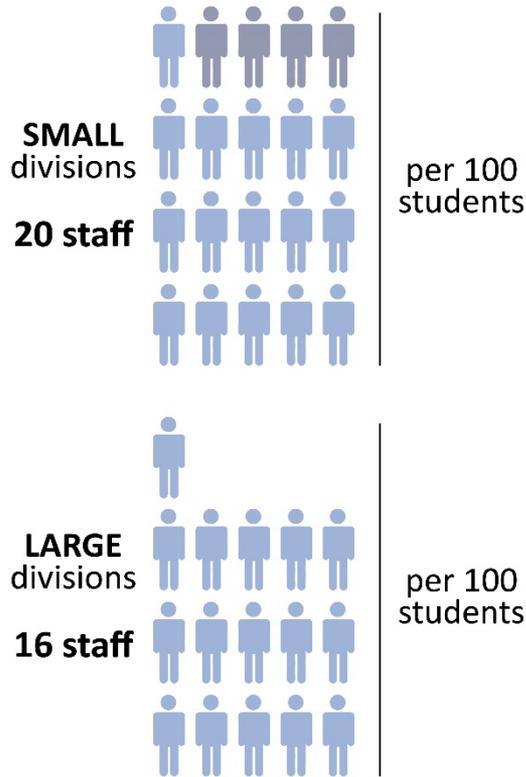
Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑	↑		↑	\$595M +7.5%

---

## Finding

SOQ formula does not account for small school divisions' inability to achieve operational efficiencies (economies of scale), resulting in less funding needed to operate.

# Academic research and analysis of Virginia finds small divisions have higher costs per student



Second figure shows Virginia school divisions plotted using a formula developed by cost study researchers.

# Recommendation (long term)

Add an economies of scale adjustment to the SOQ formula to provide additional funding to divisions with fewer than 2,000 students.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost (est.)
	↑	↑	↑	↑		↑	\$80M +1.0%

---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

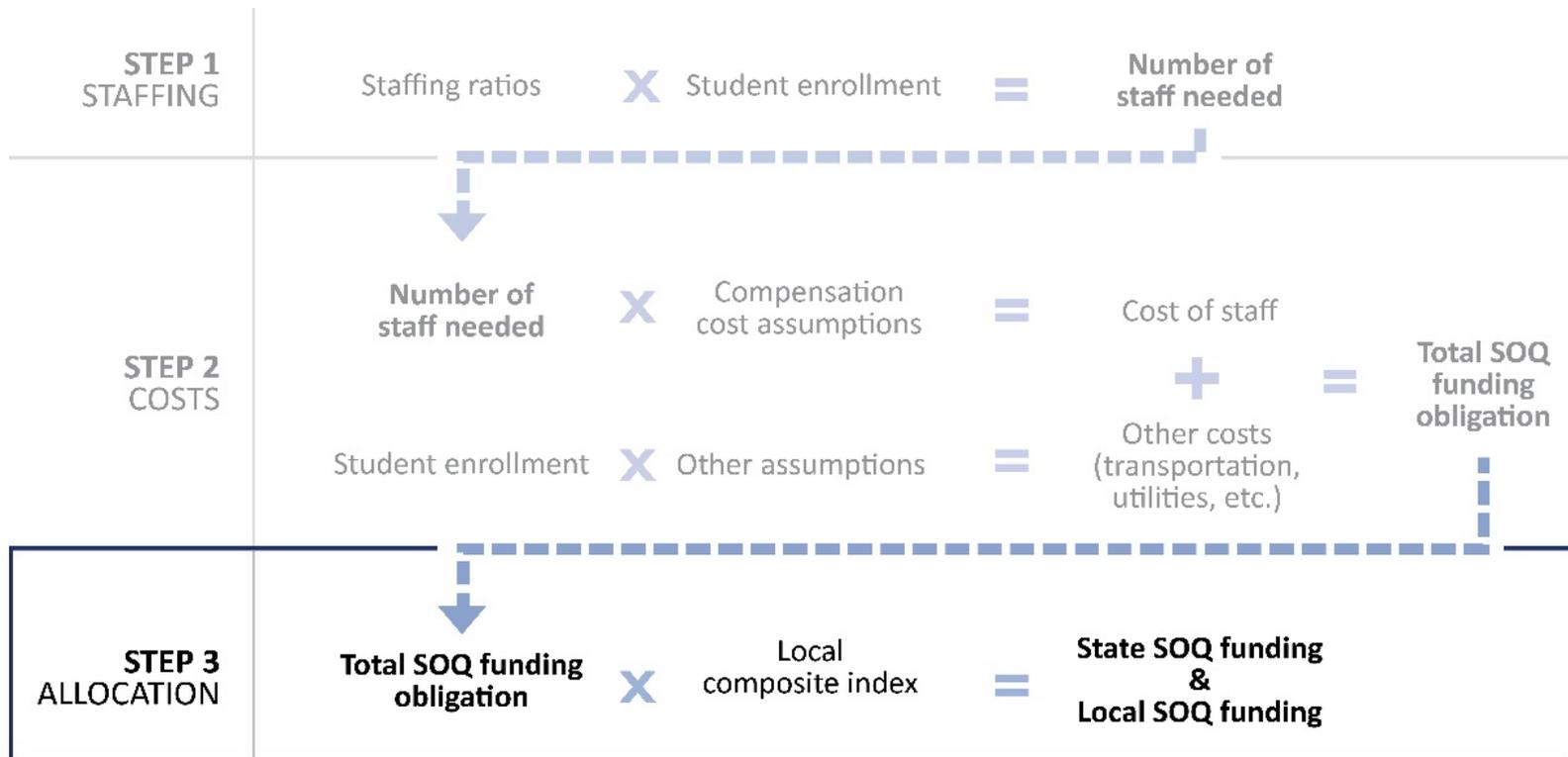
SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

Formula use & design

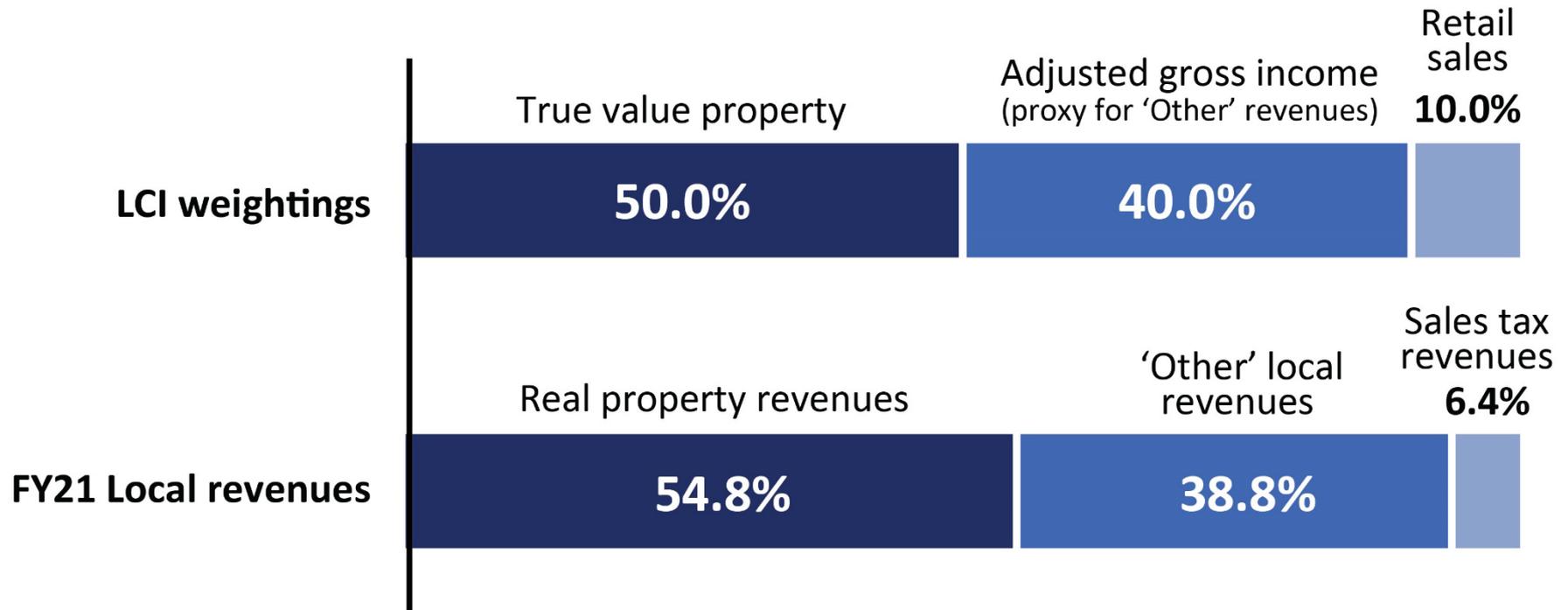
# Local Composite Index that allocates state and local share is applied *after* the formula calculates costs



# Finding

	Clear & justifiable rationale	Reflects prevailing practice?	Accurate?	Fair?	Predict-able?	Trans-parent?
Local composite index methodology & application	●	n/a	◐	●	◐	◐

# Proportion of current local revenue sources still similar to original LCI weightings from 1970s



---

## LCI is generally accepted by school divisions despite a few unfounded concerns

- LCI appropriately excludes tax-exempt properties when measuring local wealth
- LCI is not substantially skewed by any single individual's income or change in income
- LCI appropriately does *not* account for differences in local land use or other tax policies

## LCI recalculations each biennium can result in sudden, large losses of state funding

- Most school divisions see only a small to moderate change after LCI recalculations each budget
- But a few divisions report “sticker shock” after LCI recalculations when certain economic and population trends occur

Example	Change in LCI	Reduction in state funds	
		\$	%
Greensville	0.2799 ↑ 0.4607	-1.12 M	-15
Richmond City	0.4688 ↑ 0.5139	-6.75 M	-5

## Recommendation (near term)

Change the local composite index to be calculated using a three-year average of the most recently available data, rather than a single year of data every other year.

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost ( <i>est.</i> )
	↑		□	↑	↑	□	-\$1.5M -0.02%

---

# In this presentation

Background

Legal requirements for K-12 system

K-12 funding compared to key benchmarks

SOQ formula staffing and cost calculations

Cost drivers

State & local share of SOQ estimates

Formula use & design

---

## Finding

SOQ formula does not accurately reflect prevailing practice because it has sometimes been subject to changes that reflect budget decisions.

---

## Formula does not reflect prevailing practice, in part because it has been revised based on the budget

- SOQ calculations are subject to revision based on budget priorities and constraints
  - e.g., Great Recession budget reductions, increases for specific groups (counselors) or some purposes (at-risk) but not others (special education)
- SOQ formula should ideally provide accurate picture of funding needs to guide—but not determine—budget decisions
  - SOQ formula calculates estimated funding need
  - General Assembly appropriates an amount above, below, or equal to what formula estimates

---

## Separating SOQ formula from determining budget would have several benefits

- General Assembly would have a more accurate estimate of school division funding needs
  - SOQ formula staffing ratios and cost calculations could be more easily updated to preserve formula accuracy
- General Assembly would have more flexibility in how much funding is provided based on budget constraints
- Approach has been used in other states

---

## Recommendation

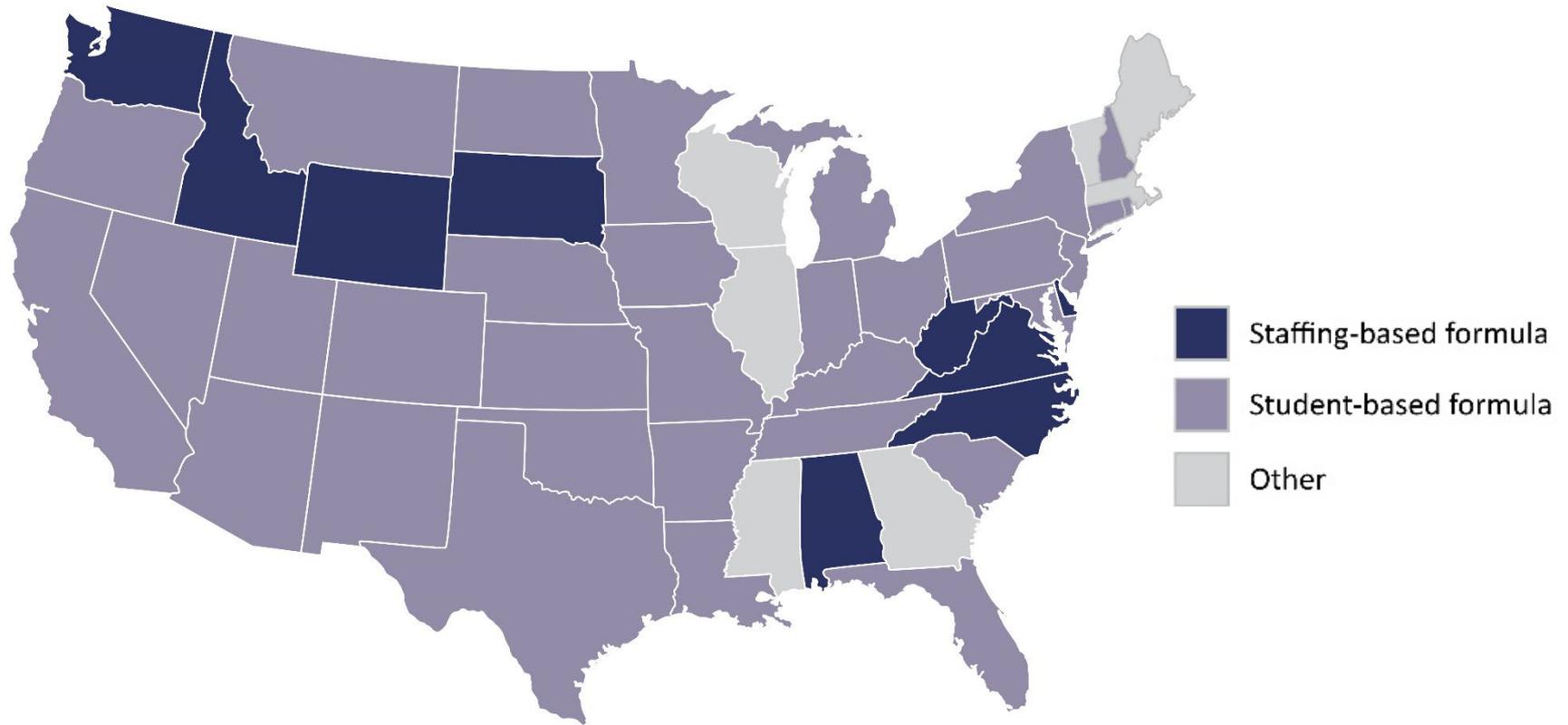
Amend the Code of Virginia to *consider* the amounts calculated by the SOQ formula, but *not be obligated* to fund the amounts calculated by the formula.

---

## Finding

Virginia's use of a complex staffing-based K-12 funding formula is unusual and creates a variety of issues for policymakers and school divisions.

# Virginia is one of only a few states that use a staffing-based education funding model



---

## Student-based funding models used by most other states have several advantages

- Simpler than staffing-based funding models
- Allow funding to more easily be designated for specific purposes (e.g., special education)
- More accurate, transparent, and easier to adapt to changes in education practice over time (if well designed)
- Can be directly tied to actual prevailing costs

# Policy options

*Partially* replace SOQ formula by using student-based calculations for special education and English learner funding

OR

*Fully* replace entire staffing-based SOQ formula with a new student-based formula

Impact	Clear & justifiable rationale	Reflect prevailing	Accurate	Fair	Predict-able	Trans-parent	Cost <i>(est.)</i>
	↑	↑	↑	↑	↑	↑	\$520M (partial) \$1.17B (full)

---

## JLARC staff for this report

Justin Brown, Associate Director

Mark Gribbin, Chief Analyst

Sarah Berday-Sacks, Senior Analyst

Mitch Parry, Senior Associate Analyst

Sam Lesemann, Associate Analyst