Equity and Adequacy of Colorado School Funding

A Cost-Modeling Approach

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Presentation to the Joint Education Committee

Goals of State Funding Systems and Study Purpose

Key Goals of State Funding Formulas

- **Adequate** – Provide sufficient resources for all students to meet the state's educational goals regardless of their needs or where they attend school

- **Equitable** - Account for differences in the costs of providing an equal educational opportunity across schools/districts and the students they serve
  - Provide more resources to schools/districts that need more

- **Wealth Neutral** - Account for differences in ability to raise local revenue (mostly via property taxes)
  - Achieving adequate funding levels should not depend on the property wealth of the community

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Key Study Questions

- **Equity and Wealth Neutrality**

  – How is existing school funding/spending distributed with respect to student needs and other characteristics that affect cost (e.g., district or school size)?

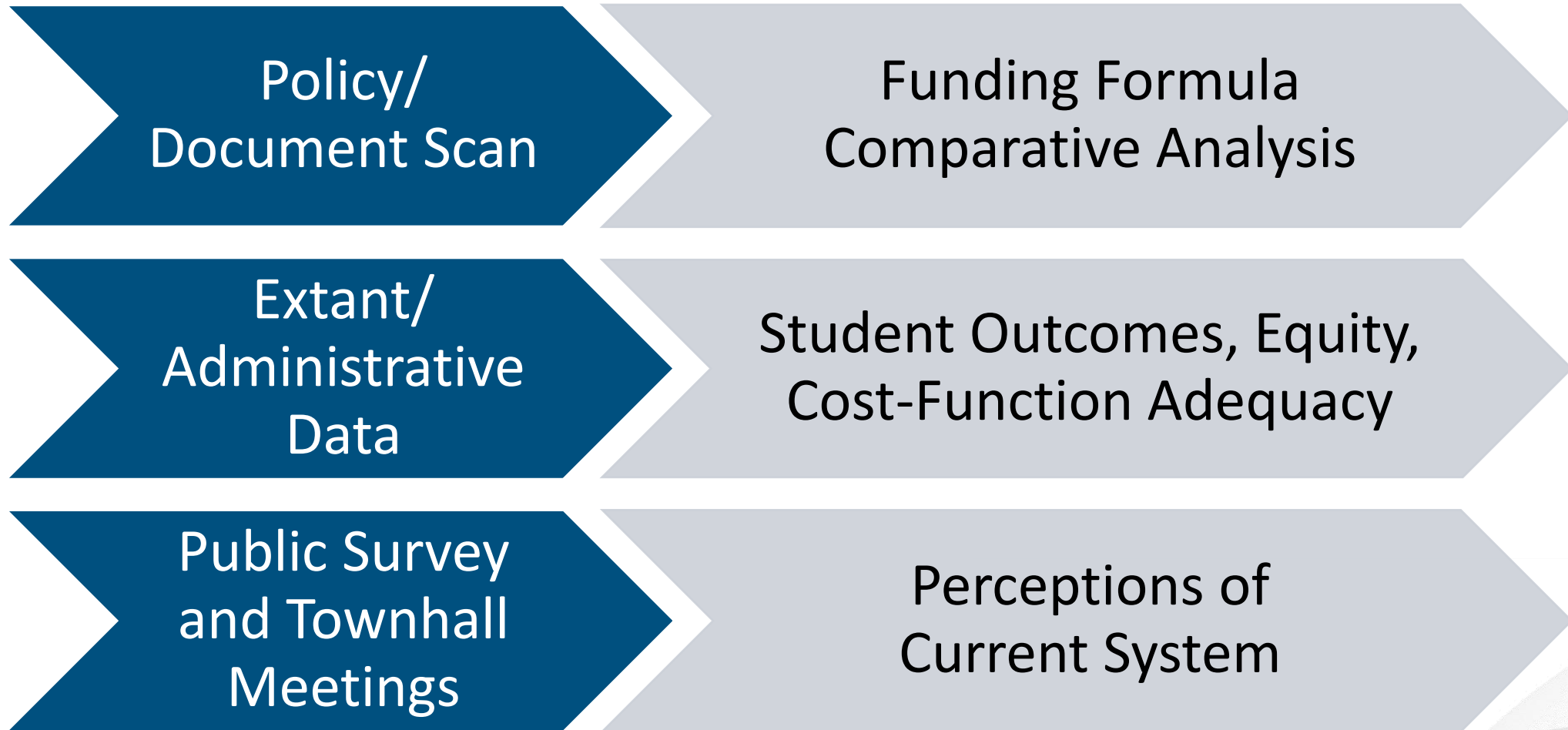 – To what extent are school funding levels dependent on local revenue capacity?

- **Adequacy**

  – Are current funding/spending levels sufficient to meet the state's educational goals?

  – How should funding be distributed across districts to provide equal educational opportunity?

Analytic Approach and Data Collection

Overview of Main Data Collection/Analysis Activities

Policy/ Document Scan	Funding Formula Comparative Analysis
Extant/ Administrative Data	Student Outcomes, Equity, Cost-Function Adequacy
Public Survey and Townhall Meetings	Perceptions of Current System

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Types of Adequacy Analysis

- **Cost-Function**
  - Use existing data on student outcomes and education spending to determine the appropriate level of spending to meet specified outcomes for schools with differing student learning in different locations.

- **Professional Judgement**
  - Expert educators specify resources necessary to meet outcome goals for hypothetical schools that vary with respect to student need and context (school size, locale, etc.)
  - Determine the cost of those resources how they vary with respect to student need and school context.

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Adequacy Analysis – Cost Function

- Cost function analysis is a statistical method that estimates:
  - the cost of providing an equal opportunity for all students to achieve at a common level on a host of educational outcomes
  - how *adequate* cost varies according to student needs and school/district characteristics

Adequacy Analysis – Cost Function

- Estimated cost function can be used to predict how much spending is needed to support an equal opportunity for all students to reach a specific performance level.

    - Costs for different types of students learning in different school/district contexts that inform funding policy (i.e., base per student cost and funding weights).

    - Use to develop cost projections for individual districts.

    - Aggregate district cost projections to calculate overall statewide cost to inform state funding allocation.

Key Findings

Colorado's current level of funding is inadequate to meet the state's educational goals.
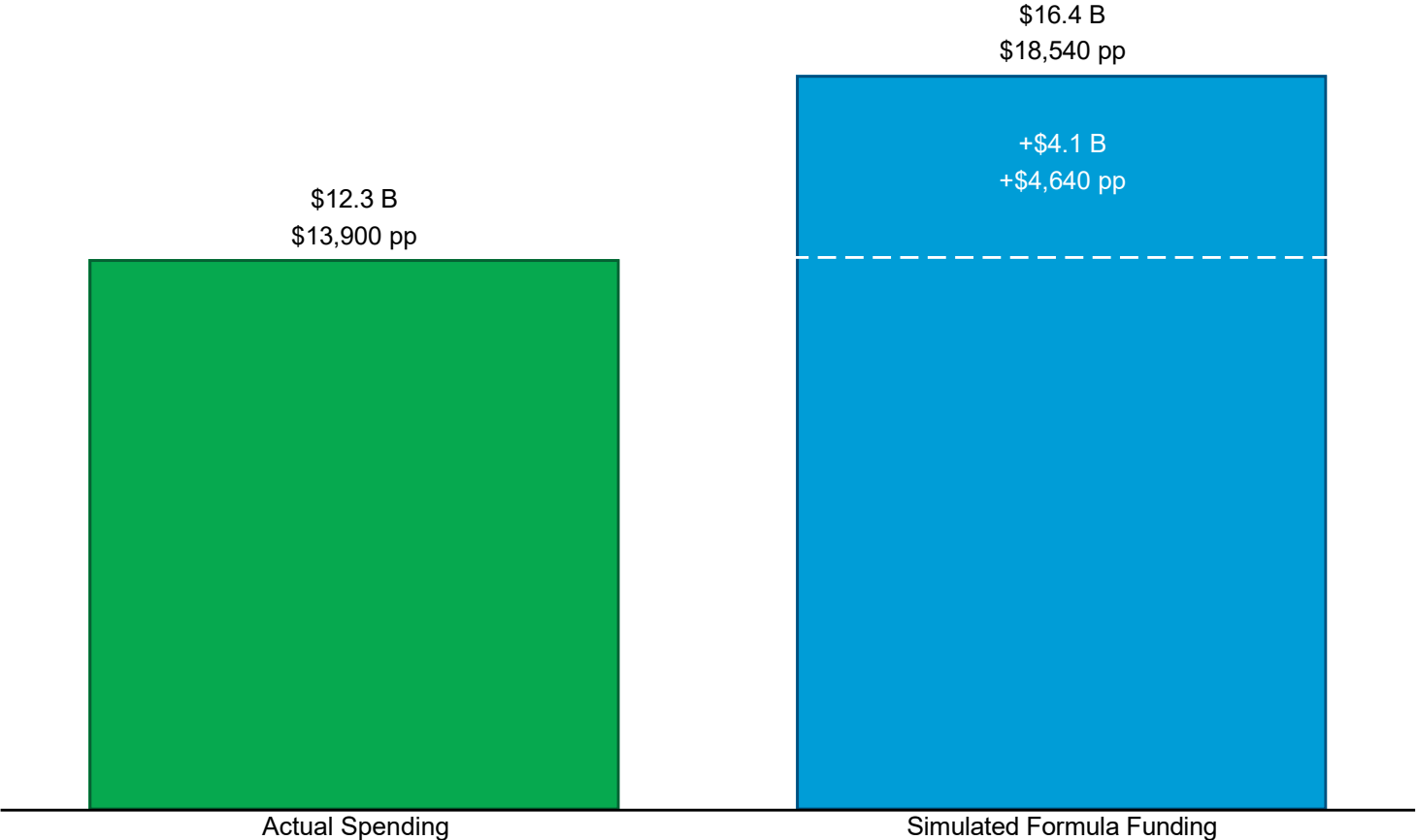
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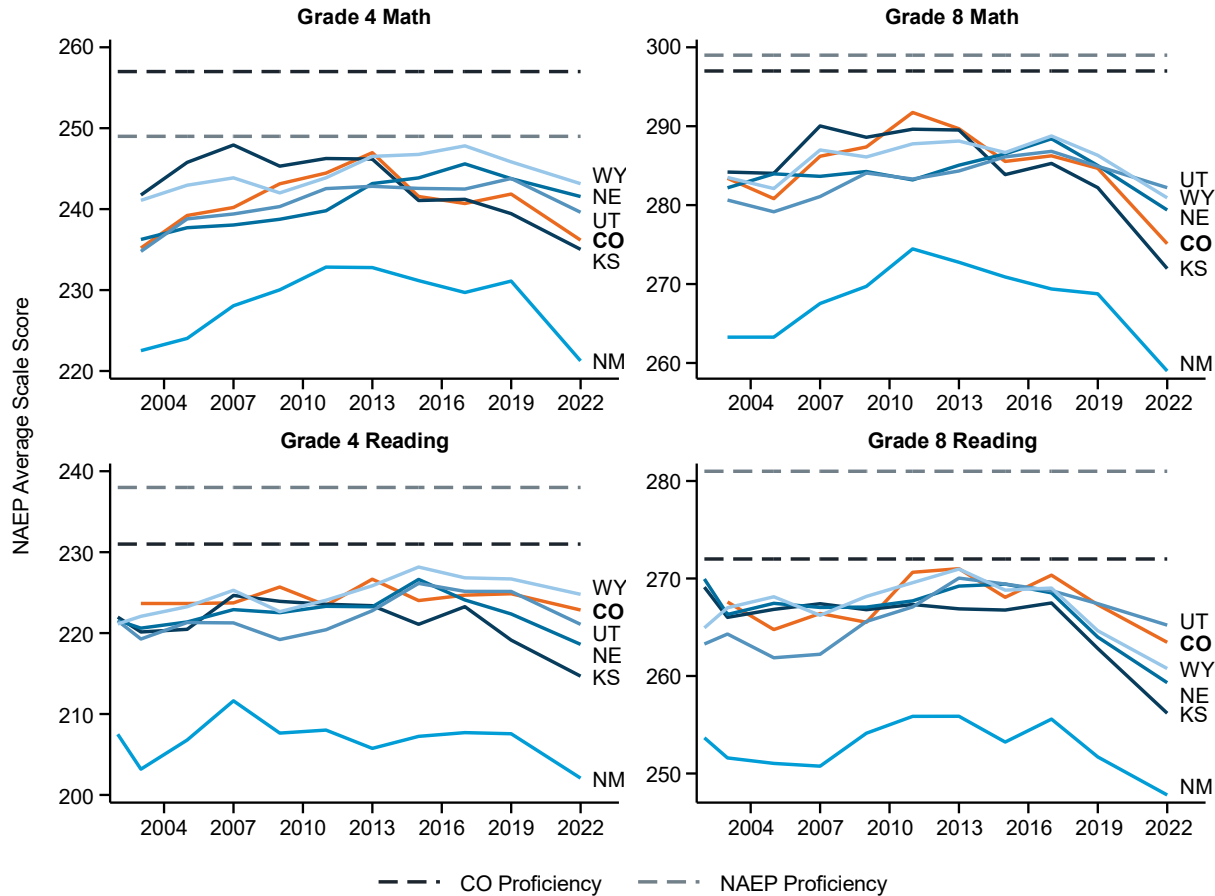$13,900 pp

Actual Spending

Simulated Formula Funding

80% of survey respondents reported that current levels of funding are not enough to meet the needs of all students

As of 2022-23, we find a gap of $4.1 billion in state and local funding, a 33% increase compared to what was spent.

Note: See Exhibit 1 in the executive summary and Exhibit 37 in the main report.

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Colorado's current level of funding is inadequate to meet the state's educational goals.
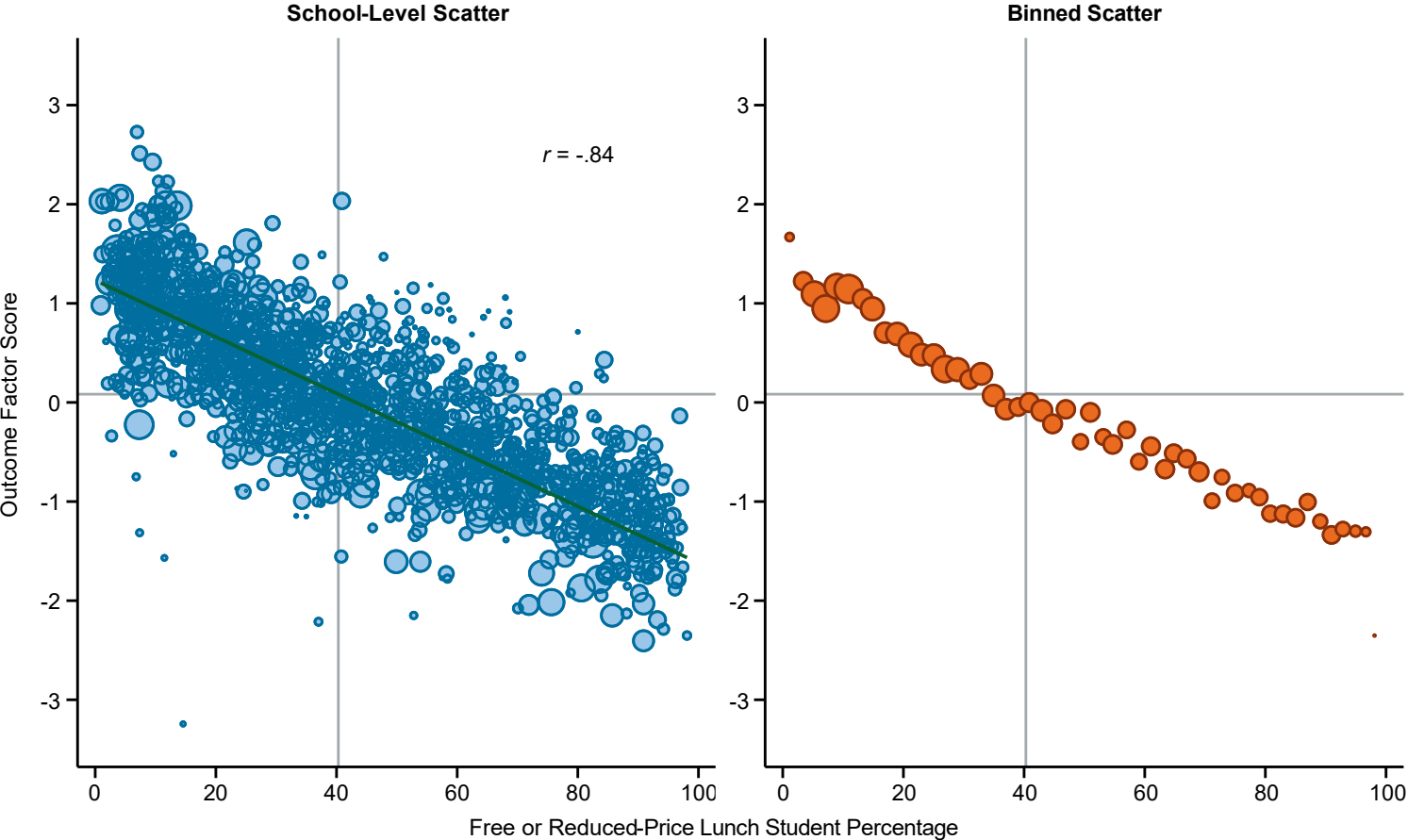

Overall, students in Colorado do not meet the state's benchmarks for proficiency or college and career readiness.

Student outcomes, as measured by the National Assessment of Educational Progress (NAEP), have declined over the past decade in absolute terms and relative to neighboring states.

Note: See Exhibit 2 in the executive summary and Exhibit 22 in the main report.

Colorado's current school funding system is not sufficiently equitable in providing all students an equal opportunity to achieve outcome goals.

School-Level Scatter

r = -.84

(Outcome Factor Score vs. Free or Reduced-Price Lunch Student Percentage)
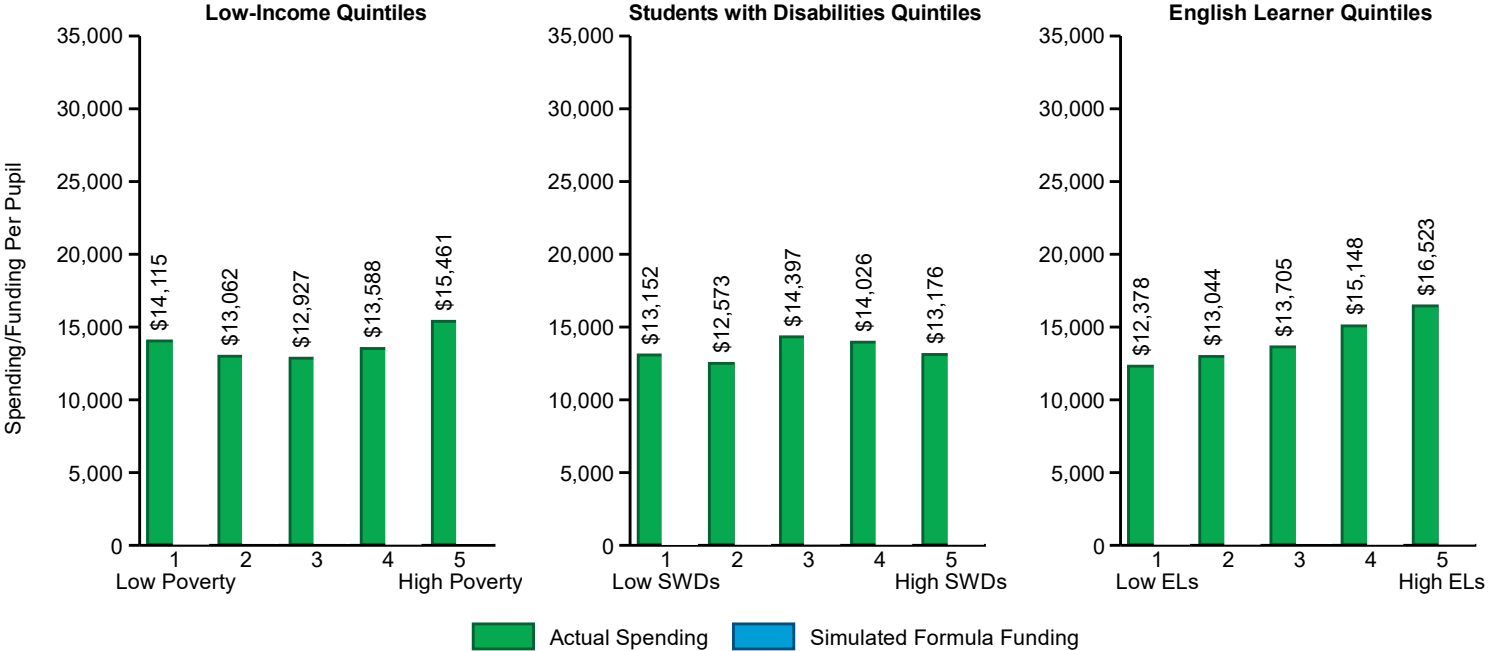
Binned Scatter

Schools with the highest student needs, particularly as measured by the percentage of students eligible for free or reduced-price lunch (FRL), have systematically lower student outcomes compared to schools with lower levels of student needs.

85% of survey respondents reported that current levels of funding are not enough to meet the needs of at-risk/low-income students

Note: See Exhibit 3 in the executive summary and Exhibit 24 in the main report.
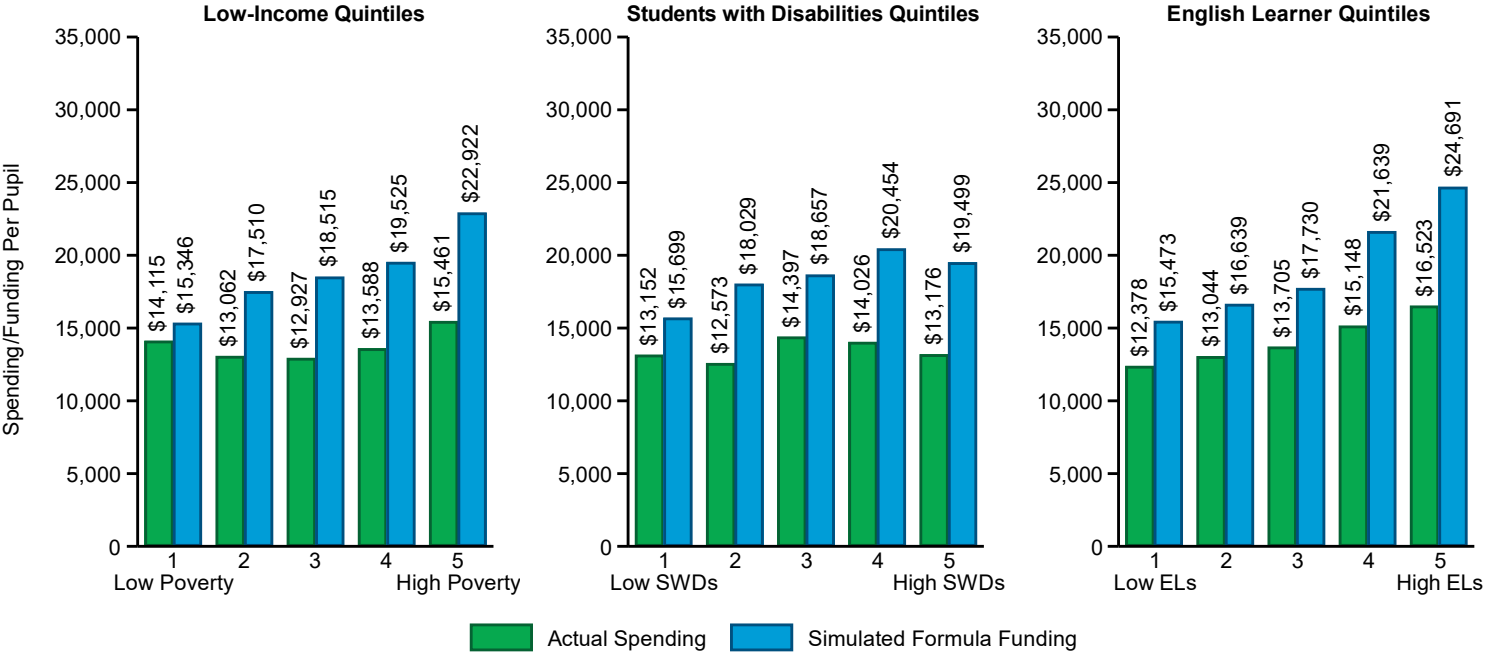
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Colorado's current school funding system is not sufficiently equitable in providing all students an equal opportunity to achieve outcome goals.

Low-Income Quintiles

Spending/Funding Per Pupil

- 1 Low Poverty: $14,115
- 2: $13,062
- 3: $12,927
- 4: $13,588
- 5 High Poverty: $15,461

Students with Disabilities Quintiles

- 1 Low SWDs: $13,152
- 2: $12,573
- 3: $14,397
- 4: $14,026
- 5 High SWDs: $13,176

English Learner Quintiles

- 1 Low ELs: $12,378
- 2: $13,044
- 3: $13,705
- 4: $15,148
- 5 High ELs: $16,523

Actual Spending   Simulated Formula Funding

There is little pattern between student needs, as measured by free or reduced-price lunch (FRL) and students with disabilities (SWD), and the level of spending in schools and districts.

Note: See Exhibit 4 in the executive summary and Exhibit 40 in the main report.

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Colorado's current school funding system is not sufficiently equitable in providing all students an equal opportunity to achieve outcome goals.

Low-Income Quintiles

Students with Disabilities Quintiles

English Learner Quintiles
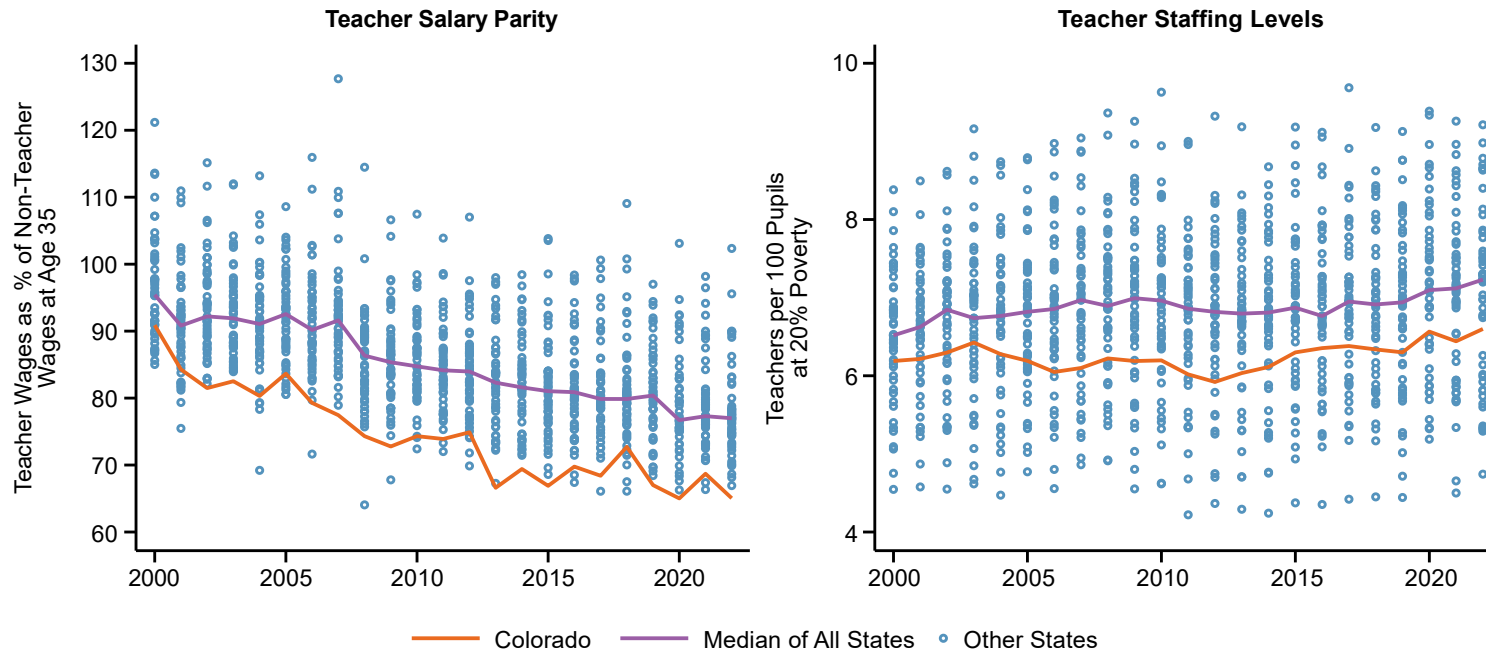

Actual Spending ■ **Simulated Formula Funding**

Our cost-function analysis and resulting estimation of funding weights indicates a need to provide much stronger funding adjustments on the basis of at-risk (free or reduced-price lunch), English language learners (ELLs), and students with disabilities (SWDs).

Less than half of survey respondents said the quality of education for SWDs and ELs was good.

Note: See Exhibit 4 in the executive summary and Exhibit 40 in the main report.

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Teachers are important in driving student outcomes, but Colorado's teachers are poorly paid and inequitably distributed.

Teacher Salary Parity

Teacher Wages as % of Non-Teacher Wages at Age 35

Teacher Staffing Levels

Teachers per 100 Pupils at 20% Poverty

— Colorado   — Median of All States   ○ Other States

The discrepancy in salaries between teachers and other workers with similar education and of similar age is larger in Colorado than in any other state.

Colorado also has a higher number of students per teacher than the median state nationally.

More than 80% of survey respondents felt that teachers in Colorado are underpaid.

Note: See Exhibit 5 in the executive summary and Exhibit 47 in the main report.

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Colorado's current funding system allows property tax rates to vary drastically across districts and enables higher spending levels in high-wealth districts.
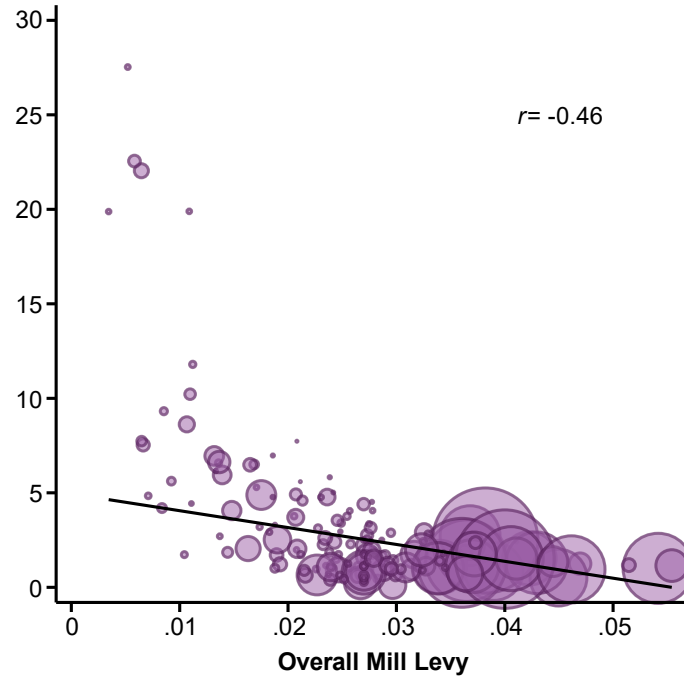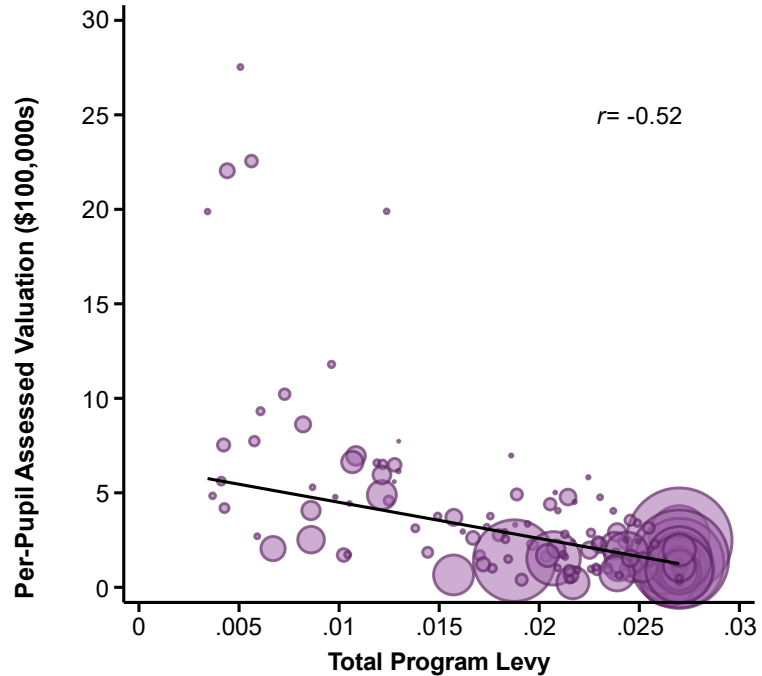
The poorest districts tend to have the highest tax rates and still often spend less than wealthy districts with very low tax rates.
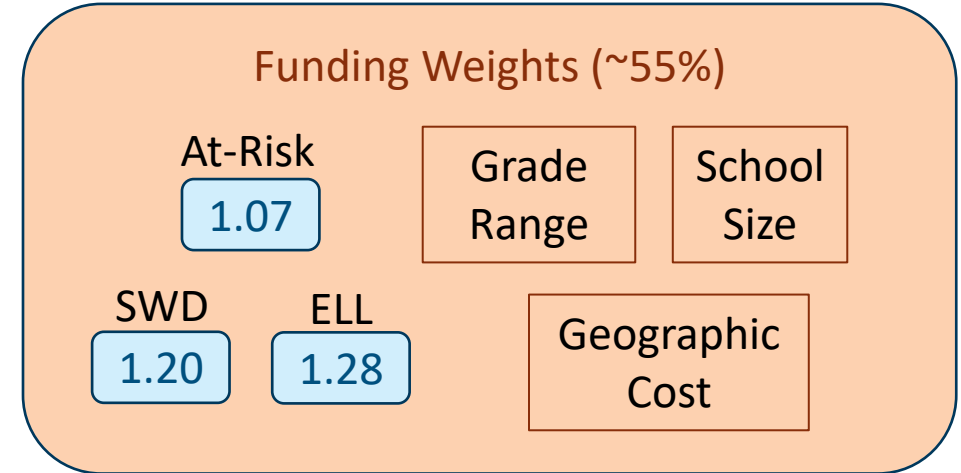
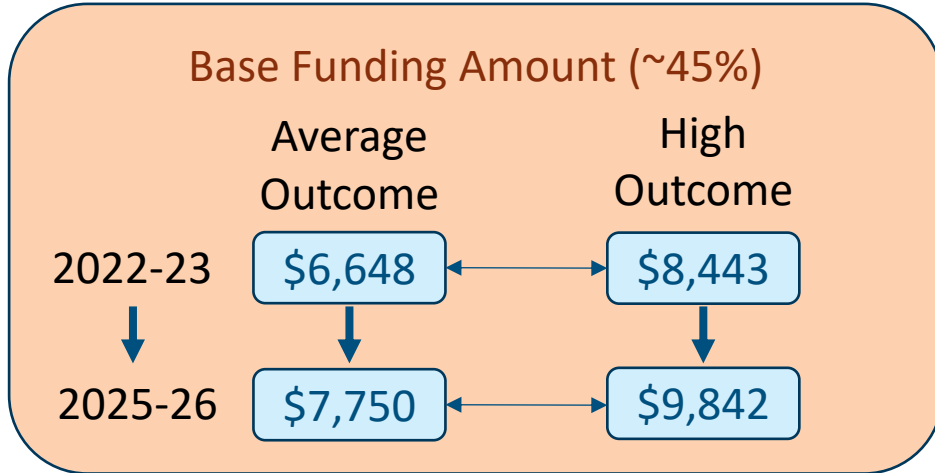Note: See Exhibit 13 in the main report.
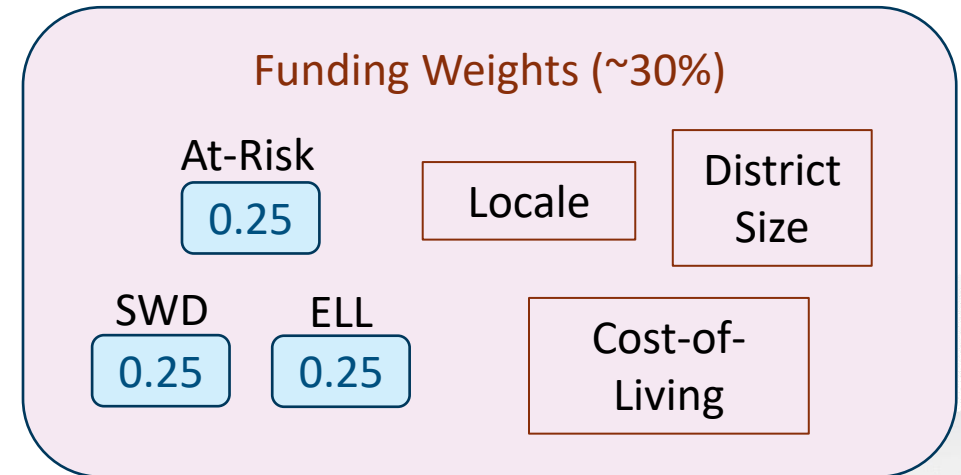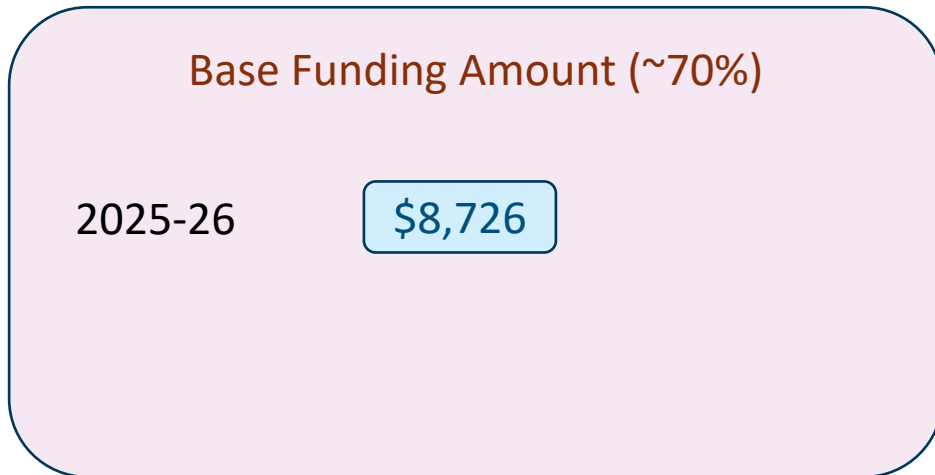
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Recommendations

Recommendations

1. Increase education funding so that funding levels are commensurate with the state's educational goals.

2. Increase the strength of funding weights for economically disadvantaged students, ELLs, and SWDs, so that more resources are distributed based on student need. This would help provide more equal opportunities to all students to achieve the state's goals regardless of background.

3. Invest more in teachers by: (a) increasing teacher pay to be more comparable to the pay of non-teachers with similar education levels and experience, and (b) increasing the number of teachers to reduce student-to-teacher ratios.

4. Address tax inequity in the local tax rates that go toward the local share calculations so that the local share required for each district is based on a more uniform property tax rate.

5. Adjust for geographic differences in staffing costs using a comparative wage index to reflect a region's cost of living and available amenities.

Comparing AIR Formula to HB24-1448

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Base Funding Amount (~45%)

	Average Outcome	High Outcome
2022-23	$6,648	$8,443
2025-26	$7,750	$9,842

\+

Funding Weights (~55%)

At-Risk 1.07

SWD 1.20   ELL 1.28

Grade Range   School Size

Geographic Cost

HB24-1448

Base Funding Amount (~70%)

2025-26 $8,726

\+

Funding Weights (~30%)

At-Risk 0.25

SWD 0.25   ELL 0.25

Locale   District Size

Cost-of-Living

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Conclusion

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- Colorado's redesigned formula (under HB24-1448) contains the necessary structure of a well-designed funding formula

  - Is transparent and understandable

  - Includes the necessary categories of funding adjustments (student needs, scale, geographic adjustments)

  - Embeds a process to help equalize funding across districts

- Rather than a wholesale redesign, the formula simply needs calibration and more funding

  - Adjustment of base and weights

  - Addressing inequity in local share calculations

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https://www.air.org/project/colorado-financial-adequacy-study