Funding Kentucky Public Education: An Analysis of Education Funding Through The SEEK Formula
Presentation 2

Presentation to the
Education Assessment and Accountability Review Subcommittee by the
Office of Education Accountability
October 5, 2021

Presentation Outline

- **Major Findings**

- SEEK Transportation formula

- Other issues in recording transportation costs

- District Activity Funds

- Preschool and kindergarten SEEK issues

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Data Used In This Report

- Several meetings with KDE staff responsible for calculating and distributing SEEK funding.

- SY 2020 state and local revenues by district.

- SAS code and output used for transportation calculations.

- SY 2020 SEEK transportation calculations posted to KDE's website.

- Attendance Data submitted on the Superintendent's Annual Attendance Report.

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Major Findings:
SEEK Transportation Formula

- KDE calculated square mileage incorrectly for county districts with independent districts within their borders.

- KDE did not audit districts' transportation codes for students transported more than a mile correctly.

- KDE grouped districts into seven groups instead of nine groups.

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Major Findings:
SEEK Transportation Formula

- In creating the seven cost groups, KDE did not use an objective methodology of grouping districts. Instead it used a subjective methodology to determine different groupings of districts.

- KDE grouped districts into groups by calculated cost per pupil day instead of density groups.

- KDE multiplied the number of handicapped students by 2.0 instead of 5.0 as required by statute.

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Major Findings:
Other Issues

- Transportation expenses to and from school with no students being transported.

- District Activity Funds not required to be recorded in MUNIS.

- Districts receiving the exceptional child add-on for preschool students.

- Full day Kindergarten was added for FY 2021-2022, however equalization level did not change.

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SEEK Transportation

- State reimburses districts for transporting students more than 1 mile to and from school in accordance with KRS 157.370.
- Area is calculated as district borders.
- In 2020 168 of 172 districts transported students to and from school.
- Does not include transportation costs for other purposes (field trips, athletics, etc.).
- Complex formula applied to district data.

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SEEK Transportation Issues

- Square mileage calculated incorrectly for county districts with independent districts within their borders.
- Districts' transportation codes for students transported more than a mile not audited correctly.

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Recommendation 4. 1

When calculating SEEK transportation, the Kentucky Department of Education should subtract the square mileage of independent districts from the square mileage of county districts within their county in accordance with KRS 157.370(4).

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Recommendation 4.2

When calculating SEEK transportation, the Kentucky Department of Education in doing transportation audits should ensure that students who are listed as being transported more than one mile, live beyond a one mile radius from their schools in accordance with KRS 157.370(3).

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KRS 157.370

- KRS 157.370 requires
  - Nine density groups
  - Smoothed graph
  - County and independent districts calculated separately
  - No independent district should get more per pupil day than any county district
  - Attendance of students with disabilities multiplied by 5.0

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KDE Transportation Methodology
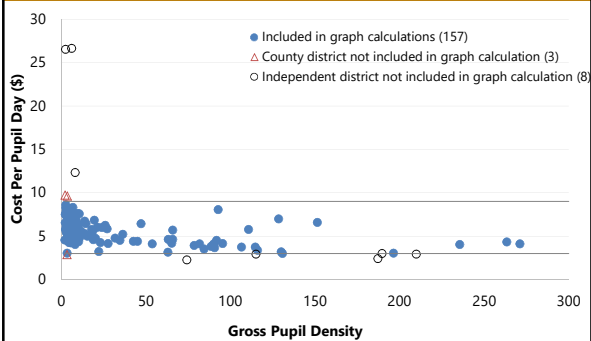
▪ Two variables used as inputs:

$$Gross\ transported\ pupil\ density\ (x) = \frac{Gross\ ADA\ transported\ by\ district\ buses}{Total\ area\ served\ by\ the\ district\ in\ square\ miles}$$

$$Cost\ Per\ Pupil\ Day\ (y) = \frac{\left(\begin{array}{c} The\ gross\ amount\ spent\ transporting\ students \\ -\ The\ amount\ reimbursed\ by\ federal,\ state,\ or\ local\ sources \\ -\ The\ amount\ spent\ on\ bus\ replacement \\ +\ Bus\ depreciation \end{array}\right)}{Gross\ ADA\ Plus\ Handicapped\ Factor}$$

▪ These variables are plotted on a graph for each district.

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KDE Transportation Methodology

SEEK Transportation Issues

▪ Districts grouped into seven groups instead of nine groups.
▪ Districts grouped by calculated cost per pupil day instead of student density.
▪ The number of handicapped students by was multiplied by 2.0 instead of 5.0 as required by statute.
▪ The gross ADA plus handicapped amount was used in determining the cost per pupil day in the nonlinear regression model. This penalizes districts with more handicapped students.

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Recommendation 4.3

When calculating SEEK transportation, the Kentucky Department of Education should determine the average cost per pupil per day of transporting pupils in districts having a **similar density of transported pupils** per square mile of area served by not less than **nine different density groups** in accordance with KRS 157.370(1).

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Recommendation 4.4

When calculating SEEK transportation, the Kentucky Department of Education should use an **objective methodology** to determine groups of districts to be included in graph calculations.

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Recommendation 4.5

When calculating SEEK transportation, the Kentucky Department of Education should multiply the aggregate days' attendance of qualified pupils for which the district provides special type transportation by **five (5.0)** and add it to that part of the district's aggregate days' attendance that is multiplied by the district's adjusted cost per pupil per day in determining the district's pupil transportation program cost for allotment purposes in accordance with KRS 157.370(9).

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Recommendation 4.6

When calculating the cost per pupil day to include in the nonlinear regression model, the Kentucky Department of Education should use the gross number of pupils without the handicapped factor.

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Nonlinear Regression Model

- A nonlinear regression model is fit to the districts that are in the graph calculation.

$$Cost\ Per\ Pupil\ Day = A + B^{\left(\frac{1}{Gross\ Transported\ Student\ Density}\right)}$$

- The coefficients *A* and *B* from the nonlinear regression model are calculated.
- Separate coefficients are calculated for county and independent districts.

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Graph-Adjusted Costs

- To calculate the graph adjustment, the net transported pupil density must first be calculated

$$Net\ transported\ pupil\ density = \frac{(Net\ ADA\ transported\ by\ district\ buses) - (Handicapped\ transported\ ADA)}{Total\ area\ served\ by\ the\ district\ in\ square\ miles}$$
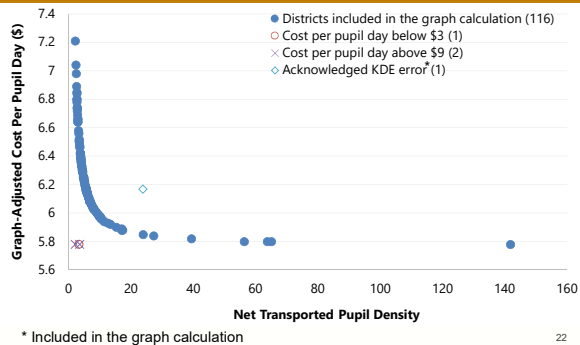
- Using the net transported pupil density and the coefficients from the nonlinear regression model, the graph-adjusted cost per pupil is calculated.

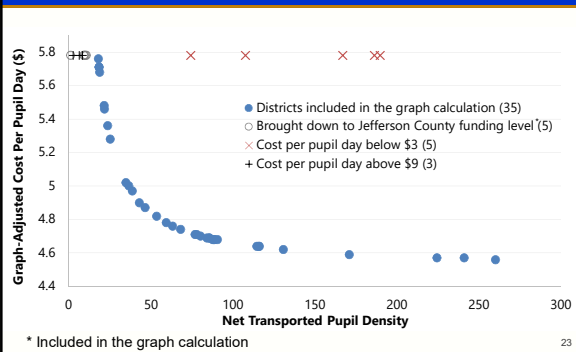$$Graph-Adjusted\ Cost\ Per\ Pupil\ Day = A + B^{\left(\frac{1}{Net\ Transported\ Student\ Density}\right)}$$

- These are then graphed for both county and independent districts

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County District Graph

Graph-Adjusted Cost Per Pupil Day ($) vs **Net Transported Pupil Density**

- ● Districts included in the graph calculation (116)
- ○ Cost per pupil day below $3 (1)
- ✕ Cost per pupil day above $9 (2)
- ◇ Acknowledged KDE error* (1)

* Included in the graph calculation

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Independent District Graph

Graph-Adjusted Cost Per Pupil Day ($) vs **Net Transported Pupil Density**

- ● Districts included in the graph calculation (35)
- ○ Brought down to Jefferson County funding level* (5)
- ✕ Cost per pupil day below $3 (5)
- + Cost per pupil day above $9 (3)

* Included in the graph calculation

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SEEK Transportation Issues

- For several years up until 2021, an error in transcribing districts' graph adjusted costs led to one district consistently receiving too much money.
- Any district not included in the graph calculation was given the same graph-adjusted cost per pupil day as Jefferson County.

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Recommendation 4.7

When assigning the graph-adjusted cost per pupil day to districts outside the graph calculation, the Kentucky Department of Education (KDE) should consider **giving independent districts that were below the threshold** for inclusion in the graph calculation **the same amount as the independent district with the lowest graph-adjusted cost per pupil day**. Likewise, KDE should consider giving **county districts that were above the threshold** for inclusion in the graph calculation **the same amount as the county district with the highest graph-adjusted cost per pupil day**.

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SEEK Transportation Issues

- A 2002 LRC report stated that KDE lacked expertise in the computer programs and mathematical formulas that are used in determining the formula-adjusted cost for student transportation.
- 702 KAR 5:020(2) to be updated and information should be posted to the KDE website.

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Recommendation 4.8

The Kentucky Department of Education should ensure that staff who perform SEEK transportation calculations should receive training to ensure they understand how the overall system works and how to use the programs that calculate SEEK transportation and be able to make any modifications.

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Recommendation 4.9

702 KAR 5:020(2) requires that the net ADA for a county district's pupils transported one mile or more to school shall be determined from the local superintendent's annual statistical report for the district. The Kentucky Board of Education should consider changing the language in this regulation to more accurately describe which statistical report it is referencing and KDE should consider posting the data from the report to its website.

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SEEK Transportation Issues

- In 2021, the depreciation for district school buses was not taken into account when calculating transportation costs.
- KDE depreciates districts school transportation vehicles more than 100 percent.

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Recommendation 4.10

The Kentucky Board of Education should consider amending 702 KAR 5:020 in order to allow districts to depreciate school transportation vehicles for 10 years and 100 percent of their value.

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Systemic Issues in Data Collection

- The first year of a county and independent merger; the county is not getting the independent district's transportation expenses or depreciation included in funding determinations.
- Transportation for nonpublic school students is reimbursed, but is sometimes listed as a cost for school districts.
- Some districts that did not transport students to and from school reported transportation expenses

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Recommendation 4.11

The Kentucky Department of Education should consider allowing county districts that had independent districts merge with them to include the independent district's prior year transportation costs including depreciation of school transportation vehicles during the first year of the merger.

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Recommendation 4.13

The Kentucky Department of Education should work with school districts to record fiscal court revenue received for transporting private school students as a negative expenditure on annual financial reports to properly reflect the transportation expenditures for public school students to and from school.

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Recommendation 4.14

The Kentucky Department of Education should work with school districts to ensure that their transportation costs are captured correctly in MUNIS.

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District Activity Funds

	Wealth Quintile	ADA	Percent FRPL	Per Student Local Funding From District Activity Funds
District A	4	3,591	47%	$294.67
District B	1	3,581	80%	$6.10

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Recommendation 4.12

The Kentucky Department of Education should require districts to record their district activity funds on their annual financial reports.

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SEEK: Kindergarten and Preschool

- Preschool students receive exceptional child add ons despite being funded through the preschool grant

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Recommendation 4.15

The Kentucky Department of Education should discontinue using preschool students in calculating the exceptional child add on in the SEEK formula.

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SEEK: Kindergarten and Preschool

- In SY 2022, districts received full AADA for kindergarten students; however, the equalization level did not change.

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Recommendation 4.16

If full-day kindergarten were funded in the future, the General Assembly should consider changing the statewide equalization level in order to accurately reflect 150 percent of per pupil assessments.

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Thank You

- Questions?

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