

Options for K-12 Transportation Funding



K-12 Transportation Funding Sources

Foundation Matrix

Isolated Funding

Desegregation Funding

Federal Funding



FY11 Transportation Funding

TransCost =

Foundation + Isolated + Deseg + Federal

\$178 = \$138 + \$5 + \$25 + \$10

\$168 = \$138 + \$5 + \$25

\$143 = \$138 + \$5

\$138 = \$138

	FY08	FY09	FY10	FY11
Matrix Calculations	Recalibration			
School Size	500	500	500	500
K = 8% of students	40	40	40	40
Grades 1-3 = 23% of students	115	115	115	115
Grades 4-12 = 69% of students	345	345	345	345
Staffing Ratios				
K P:T ratio = 20:1	2.0	2.0	2.0	2.0
Grades 1-3 P:T ratio = 23:1	5.0	5.0	5.0	5.0
Grades 4-12 P:T ratio = 25:1	13.8	13.8	13.8	13.8
PAM = 20% of classroom	4.14	4.14	4.14	4.14
Total Classroom Teachers	24.94	24.94	24.94	24.94
Special Ed Teachers	2.9	2.9	2.9	2.9
Instructional Facilitators	2.5	2.5	2.5	2.5
Librarian / Media Specialist	0.825	0.825	0.825	0.825
Guidance Counselor & Nurse	2.5	2.5	2.5	2.5
Total Pupil Support Personnel	8.725	8.725	8.725	8.725
SUBTOTAL	33.665	33.665	33.665	33.665
Principal	1.0	1.0	1.0	1.0
Secretary	1.0	1.0	1.0	1.0
Total School-Level Personnel	35.665	35.665	35.665	35.665
School-Level Salaries				
Teacher Salary + Benefits	54,888	55,954	57,073	58,214
Per Student Matrix Expenditure	3,695.6	3,767.4	3,842.7	3,919.6
Principal Salary + Benefits	86,168	87,860	89,617	91,409
Per Student Matrix Expenditure	172.3	175.7	179.2	182.8
School-level secretary	34,751	35,415	36,123	36,845
Per Student Matrix Expenditure	69.5	70.8	72.3	73.7
School-Level Salaries Per Student	3,937.4	4,013.9	4,094.2	4,176.1
School-Level Resources				
Teacher Continuing Ed Pay (5 days)	0.0	0.0		
Technology	220	201		
Instructional Materials	160	163.2		
Extra Duty Funds	50	51.0		
Supervisory Aides	49.35	50.35		
Substitutes	59	59		
School-Level Resources Per Student	538.4	524.6		
Carry-Forward				
Operations & Maintenance	581	581	592.6	604.5
Central Office	376	383.5	391.2	399.0
Transportation	286	286	291.7	297.5
Carry-Forward Per Student	1,243.0	1,250.5	1,275.5	1,301.0
Foundation Per Pupil Expenditures	5,719	5,789	5,905	6,023
Retirement	0.0	0.0	0.0	0.0
Matrix Foundation Per Student	5,719	5,789	5,905	6,023
	57	70	116	118
Increase per ADM	1.0%	1.2%	2.0%	2.0%
Enhanced Funding Per Student	51.0	87.0	35.0	0.0
Matrix Foundation + Enhanced Per Student	5,770.0	5,876.0	5,940.0	6,023.0
Categorical Program Funding				
	FY08&09 ADJ	New Cost	FY10 ADJ	FY11 ADJ
ELL	0.4/1 to 0.6/1	293	0	0
ALE	15/1 to 12/1	4,063	0	0
NSLA	1.0328	496	0	0
	1.0328	992	0	0
	1.0328	1,488	0	0
PD	0	50	0	0

Matrix FY2011

FY11

Transportation

297.5



	FY08	FY09	FY10	FY11	FY12	FY13
Matrix Calculations	Recalibration					
School Size	500	500	500	500	500	500
K = 8% of students	40	40	40	40	40	40
Grades 1-3 = 23% of students	115	115	115	115	115	115
Grades 4-12 = 69% of students	345	345	345	345	345	345
Staffing Ratios						
K:P:T ratio = 20:1	2.0	2.0	2.0	2.0	2.0	2.0
Grades 1-3 P:T ratio = 23:1	5.0	5.0	5.0	5.0	5.0	5.0
Grades 4-12 P:T ratio = 25:1	13.8	13.8	13.8	13.8	13.8	13.8
PAM = 20% of classroom	4.14	4.14	4.14	4.14	4.14	4.14
Total Classroom Teachers	24.94	24.94	24.94	24.94	24.94	24.94
Special Ed Teachers	2.9	2.9	2.9	2.9	2.9	2.9
Instructional Facilitators	2.5	2.5	2.5	2.5	2.5	2.5
Librarian / Media Specialist	0.825	0.825	0.825	0.825	0.825	0.825
Guidance Counselor & Nurse	2.5	2.5	2.5	2.5	2.5	2.5
Total Pupil Support Personnel	8.725	8.725	8.725	8.725	8.725	8.725
SUBTOTAL	33.665	33.665	33.665	33.665	33.665	33.665
Principal	1.0	1.0	1.0	1.0	1.0	1.0
Secretary	1.0	1.0	1.0	1.0	1.0	1.0
Total School-Level Personnel	35.665	35.665	35.665	35.665	35.665	35.665
School-Level Salaries						
Teacher Salary + Benefits	54,888	55,954	57,073	58,214	59,378	60,566
Per Student Matrix Expenditure	3,695.6	3,767.4	3,842.7	3,919.6	3,998.0	4,077.9
Principal Salary + Benefits	86,168	87,860	89,617	91,409	93,237	95,102
Per Student Matrix Expenditure	172.3	175.7	179.2	182.8	186.5	190.2
School-level secretary	34,751	35,415	36,123	36,845	37,582	38,334
Per Student Matrix Expenditure	69.5	70.8	72.3	73.7	75.2	76.7
School-Level Salaries Per Student	3,937.4	4,013.9	4,094.2	4,176.1	4,259.7	4,344.8
School-Level Resources						
Technology	220	201	205			
Instructional Materials	160	163.2	165.5			
Extra Duty Funds	50	51.0	52.0			
Supervisory Aides	49.35	50.35	51.4			
Substitutes	59	59	60.2			
School-Level Resources Per Student	538.4	524.6	535.1	545.8	556.9	568.2
Carry-Forward						
Operations & Maintenance	581	581	592.6	604.5	616.6	629.0
Central Office	376	383.5	391.2	399.0	407.0	415.1
Transportation*	286	286	291.7	297.5	303.8	309.9
Carry-Forward Per Student	1,243.0	1,250.5	1,275.5	1,301.0	1,327.4	1,354.0
Foundation Per Pupil Expenditures	5,719	5,789	5,905	6,023	6,144	6,267
Retirement	0.0	0.0	0.0	0.0	0.0	0.0
Matrix Foundation Per Student	5,719	5,789	5,905	6,023	6,144	6,267
Increase per ADM	57	70	116	118	121	123
Enhanced Funding Per Student	1.0%	1.2%	2.0%	2.0%	2.01%	2.0%
Matrix Foundation + Enhanced Per Student	5,770	5,876	5,940	6,023	6,144	6,267
Categorical Program Funding						
	FY08&09 ADJ	New Cost	FY10 ADJ	FY11 ADJ	FY12 Cost	FY13 Cost
ELL	0.4/1 to 0.8/1	293	0	0	299	305
ALE	15/1 to 12/1	4,063	0	0	4,145	4,228
NSLA	1.0328	496	0	0	506	517
	1.0328	992	0	0	1,012	1,033
	1.0328	1,488	0	0	1,518	1,549
PD	0	50	0	0	51	52

Matrix FY2013

FY13

Transportation

309.9



History of School Transportation Funding

1. Act 84 of 1947 - allowed school districts to incur bonded indebtedness for school buildings and equipment, including buses.

2. Act 242 of 1961 - Established the State Transportation Aid Fund thru the State Board of Education for distribution of funds to public schools. \$20min/\$42max per average daily student transported.

3. Act 648 of 1975 - Amended Act 242 of 1961 by increasing to \$20min/\$90max per child transported.

4. Act 196 of 1979 - Amended Act 242 of 1961 by increasing to \$40min/\$120max per average child transported - specified K-12 included.

History of School Transportation Funding Continued...

5. Act 83 of 1983 - Amended Act 242 of 1961 by increasing to \$70min/\$280max per average child transported.

6. Act 840 of 1991 - Required any remaining balance in a school district's state transportation funds balance not used by the end of the biennium to be returned to the ADE for deposit into the fund and redistributed.

7. Act 1133 of 1997 - Repeal of A.C.A. 6-20-219 (Act 242 of 1961) and replaced with High Cost Transportation Funding Formula.

8. Act 373 of 1999 - Modification of A.C.A. 6-20-1703 (Act 1133 of 1997) for clarification and increased allowances.

9. Act 2138 of 2005 - Repealed A.C.A. 6-60-1701 et seq. (Act 1133 of 1997), and replaced with current formula.

ARKANSAS K - 12 TRANSPORTATION FUNDING

Historically, what method of distribution was used?

1961 to 1997

Average Child Transported [Riders]

1991 to 1997

**Transportation funds were “restricted”
and returned if unused [Categorical?]**

2005 to Present

\$X per ADM [O & P temporary resolution]

Odden and Picus

*The Arkansas Recalibration Report
August 30, 2006*

- **Page 72: ... we have used existing 2004-05 transportation expenses by district inflated to 2007-08. This 2007-08 estimate averages \$286 per ADM, but varies considerably by district from a low of \$67 to a high of \$695 per pupil.**

Continue... Odden and Picus

- **Page 79: ... we recommend that the transportation figure be removed from the new “per pupil” amount and provided to districts as a separate grant, providing each district with the amount actually spent per pupil on transportation in 2004-05 inflated up to an appropriate figure for 2007-08 until the state creates a more standards- and research-based transportation funding formula.**

Continue... Odden and Picus

- **Page 80: ... we recommend a transportation categorical program which would average \$286 per pupil in 2007-08, but based on district's actual transportation expenditures in 2004-05 inflated up to a 2007-08 base, AND to be replaced by a standards-based formula in the future.**

Act 624 of 2007

- **A.C.A. § 10-3-317 (a) (1) The Department of Education shall provide the Bureau of Legislative Research with direct read and report only access to the department's data warehouse concerning school districts and related records.**

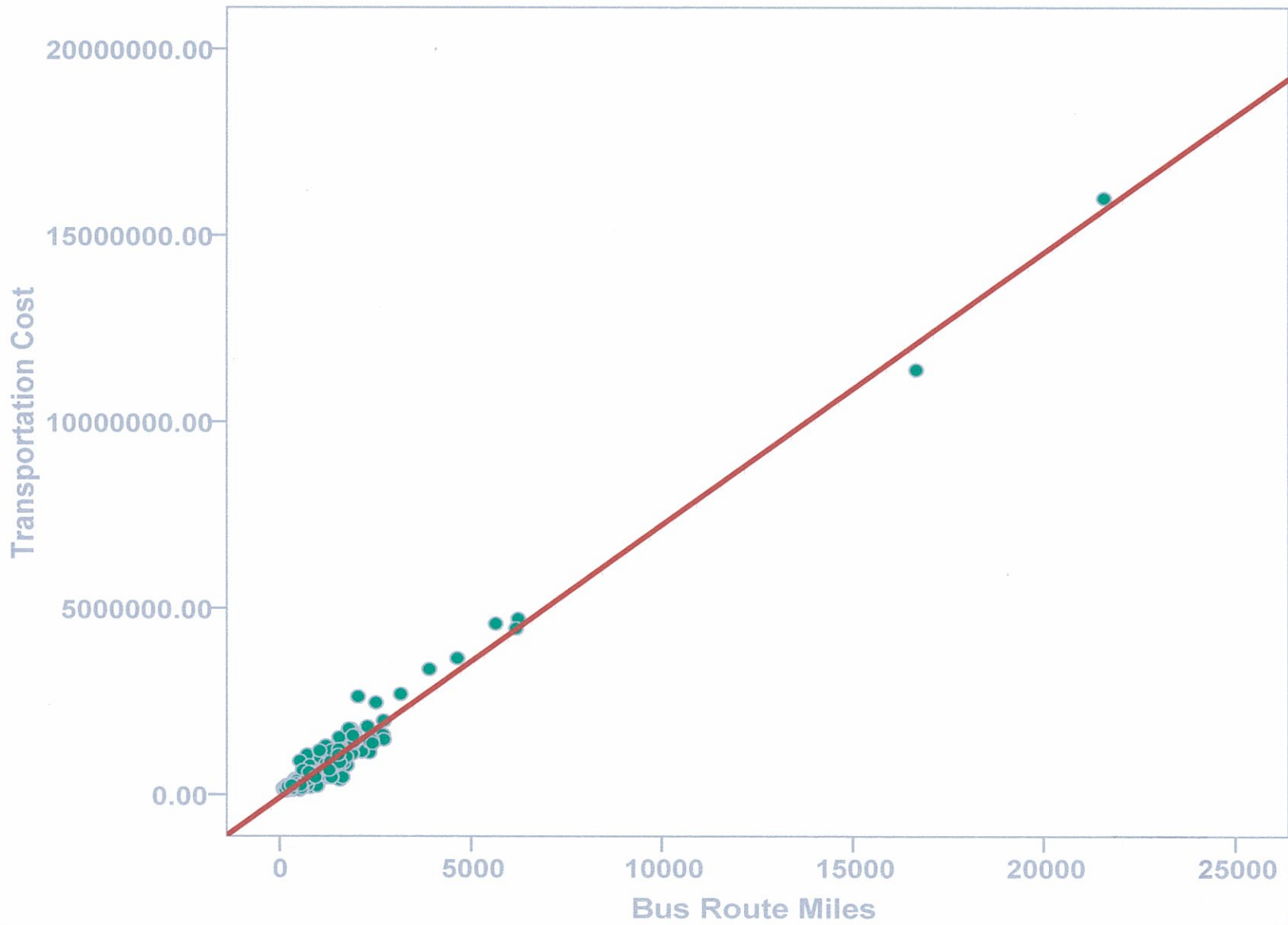
Transportation Variables

- **Cost**
- **ADM**
- **District Area (square miles)**
- **Number of Students Transported**
- **Daily Linear Route Miles**
- **Number of Buses**
- **Ratios:**
 - **ADM / District Area**
 - **Number Transported / District Area**
 - **ADM / Miles**

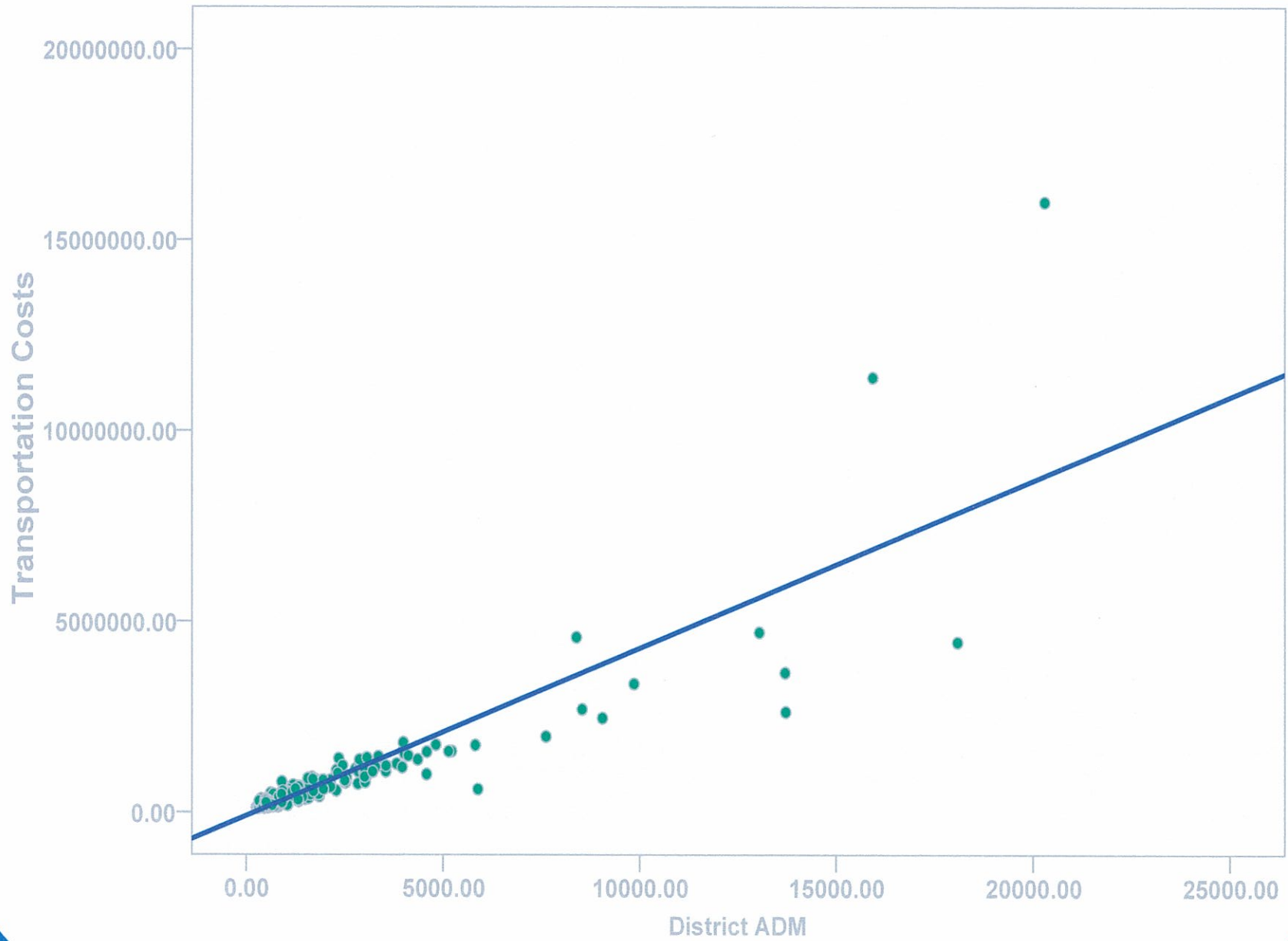
Methodology

- $Y = \alpha + \beta X + \varepsilon$
- $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \dots\dots + \beta_i X_i + \varepsilon$
- **Coefficient of determination = ESS / TSS**
- **Stepwise Procedure:**
 - $Y = f(X)$
 - $Y = f(X, Z)$
 - $Y = f(X, Z, Q)$
 - $Y = f(X, Z, Q, \dots, V)$

Prediction Line of Transportation Costs based on Bus Route Miles



Prediction Line of Transportation Costs on District ADM



$$\text{TransCost} = \beta_1(\text{miles}) + \beta_2(\text{riders}) + \beta_3(\text{ADM})$$

$$R^2 = .975$$

New Funding Method

Total Current Ark. School Districts = 239

New Distribution Method – No Offsets:

- **Districts Receiving More Transportation Funding = 203**
- **Districts Receiving Less Transportation Funding = 36**

New Distribution Method – Including Offsets:

- **Districts Receiving More Transportation Funding = 150**
- **Districts Receiving Less Transportation Funding = 89**

New Funding Method

Advantages

- Provides better accuracy in the prediction and the distribution of Transportation Funding
- Complies with O & P prescribed funding structure
- Difficult to manipulate
- Categorical funding need not be restricted

Disadvantages

- Temporary harm to a few districts
- Alters a funding system blessed by the Court

Options

Do nothing -- continue to distribute transportation funding by ADM as a line – item in the Foundation Matrix

Pull \$309.90 out of the Matrix and create a Transportation Categorical

Leave \$127 in the Matrix as Foundation Transportation and remove the remainder of the funding to create a partial Transportation Categorical due to higher cost

Continue to treat the three school districts in Pulaski County differently until the Desegregation issues are resolved