

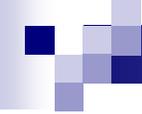


Review of Transportation Cost Model for Essential Programs and Services

Presented to
Joint Standing Committee on Education and Cultural Affairs

David L. Silvernail, Director
Maine Education Policy Research Institute
University of Southern Maine Office

January 2006



Goal

The goal of Maine's Essential Programs and Services Model is to insure that all schools have the programs and services that are essential if all students are to have equitable educational opportunities to achieve Maine's *Learning Results*.

Fundamental Premises of Essential Programs and Services

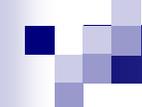
- There must be adequate resources to achieve desired outcomes.
- There must be equity in the distribution of adequate resources.

2005-06 EPS Transportation Cost Model

- Based on a pupil density index (i.e., number of resident pupils and number of class 1-5 road miles within SAU).
- Per-pupil transportation cost allocation based on lower of reported transportation expenditures + 10% or predicted per pupil costs + 10%.
- Per-pupil transportation cost allocation may not be lower than 75% of established costs of most recent fiscal year (or less than 90% in the case of SADs and CSDs with 1,250 or more pupils).
- Includes adjustments for:
 1. Out-of-district special education transportation
 2. Vocation education transportation
 3. Transportation of homeless pupils
 4. Ferry costs
 5. Island SAU costs

Review of Adjustments to Transportation Costs for SADs or CSDs with Greater than 1,250 Students PL05, c. 12 (LD468), Sec. UU-11

Review of the costs defined in Title 20-A, section 15681-A, subsection 3 as the costs pertain to school administrative districts or community school districts that have more than 1,250 resident pupils, in conjunction with other adjustments and funding increases provided by law to determine an appropriate level of funding for fiscal year 2006-07 in order for those districts to maintain their current level of transportation services.



Review of EPS Transportation Cost Allocation Model

1. Collection of additional transportation related information from SAUs
2. Analysis of additional cost calculation models
3. Review of 10% adjustment to predicted and actual per pupil expenditures
4. Recommendations for any needed legislation

1. Collecting Additional Information from SAUs

- Met with a group of superintendents, transportation directors, and business managers
- Met with transportation contractors
- Designed, revised, and finalized a SAU transportation survey form
- Distributed to all SAUs with deadline of February 10, 2006
- Analysis beginning February 2006

2. Analysis of Additional Cost Calculation Models

- Examine flat rate models

2003-04 Averages and Variation in Transportation Expenditures

	Mean	Standard Deviation	Minimum	Maximum
<i>Net Expenditures per Resident Pupil</i>	\$643	926	\$53	\$10,840
<i>Gross Expenditure per Pupil Conveyed</i>	\$1,007	2,904	\$171	\$34,196
<i>Gross Expenditure per Mile Traveled</i>	\$2.64	1.83	\$.35	\$20.84

➤ Calculated empirical relationship between various models and SAU transportation expenditures

Model	Description	Correlation
1. Pupil Density Model	The net cost per resident pupil for each SAU is predicted by the pupil density per mile of class 1 through class 5 road in the SAU.	.928
2. Odometer Miles Model	The gross cost per pupil conveyed for each SAU is predicted by the odometer miles traveled per pupil conveyed by each SAU.	.903
3. Cost Per Mile Traveled	The gross cost per odometer mile traveled for each SAU is predicted by the odometer miles traveled per pupil conveyed by the SAU.	.704
4. Combined Pupil Density and Odometer Miles Models	The greater of (1) the Pupil Density Model or (2) the average of the Pupil Density Model and the Odometer Miles Model.	.915

➤ **Review of the two cost calculation models**

1. Pupil density model (100%)

Strength:

- based on strong relationship between density and costs
- Develops unique predicted costs for each SAU

Weaknesses:

- Does not model all SAUs equally well

2. Pupil density model (50%) + Miles traveled per pupil conveyed (50%)

Strengths:

- Maintains strong relationship of per pupil density model
- Provides for non-density related factors (dead-end road runs, midday runs, summer school runs, etc.)
- Develops unique predicted costs to each SAU

Weakness:

- May support some controllable inefficiencies

➤ Applied both models to all SAUs

1. If predicted per pupil cost was less than the actual per pupil expenditures, added 10% to the predicted per pupil cost.
2. If the actual per pupil expenditure was less than the predicted cost, added 5% to actual per pupil expenditures.
3. Added adjustment costs (including mileage to multiple vocational sites) to the result.

➤ Selected whichever model was most beneficial to each individual SAU

➤ Identification and analysis of outliers

Results of Applying both Density and Density Plus Miles Traveled Models to SAUs

(Comparison to 2005-06 Cost Model Allocations)

- Increase in Total Allocation (n=130)
 - Allocation greater than expenditure (n=44)
 - Increase in number of pupils (n=24)
 - Expenditure greater than allocation (n=86)
 - Decrease in number of pupils (n=57)

- Decrease in Total Allocation (n=146)
 - Allocation greater than expenditures (n=81)
 - Expenditure greater than allocation (n=65)
 - Decrease in number of pupils (n=61)

Recommendation for 2006-07 EPS Transportation Cost Allocation Model

1. Apply whichever model (1 or 4) most beneficial to each individual SAU.
2. Incorporate modified vocational education adjustment into regulation.
3. Analyze additional information for SAUs and recommend any additional adjustments for 2007-08 if necessary.
 - Any recommended adjustment applicable only to SAU submitting empirically based survey information
4. Explore implementing new transportation systems in small number of pilot sites (e.g., routing software, regional models, etc.)