# An Analysis of Nebraska School Districts' Profile of General Fund Receipts and Disbursements as Related to Selected Characteristics

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Michael J. Lucas

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Michael J. Lucas, Ed.D.

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#### Adviser: Donald F. Uerling

The purpose of this study was to explore possible relationships between selected school district characteristics and the percentage profiles of 2005-06 general fund receipts and disbursements for a sample of Nebraska school districts.

An important issue for policy-makers is whether or not school districts of different enrollment sizes tend to receive and spend their general fund resources in similar or different ways. An analysis of such similarities and differences should provide some insight into the feasibility of merging a number of smaller school districts into fewer but larger units.

The study focused on a stratified random sample of 44 Nebraska school districts with a K-12 enrollment of fewer than 2,000 students. Most school district reorganizations involve school systems with student numbers in the lower end of this enrollment range. Selected school district characteristics included average daily membership, cost per pupil, pupil-teacher ratio, sparsity, and number of non-high school attendance centers. This study was based on a similar study conducted by Uerling (1994) that provided summary data in the form of percentage profiles of general fund receipts and disbursements for Nebraska school districts for the fiscal years 1977-78 through 1991-92.

Data were compiled by downloading Annual Financial Report information from the Nebraska Department of Education website, then analyzing that data using an Excel spreadsheet. Five main categories of receipts included local, county and ESU, state, non-revenue, and federal. Two significant sub-categories also included were "property taxes" and "state aid." Seven categories of disbursements included instruction, support services, governance and administration, operation and maintenance, transportation, transfers, and depreciation.

The results showed that for Nebraska school districts with different characteristics there were major differences in the percentage profiles of general fund receipts, but few differences in the percentage profiles of general fund disbursements. Also, the percentage profiles of general fund receipts and disbursements for 2005-06 were quite similar to the percentage profiles for school districts in the late 1970s and early 1990s.

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#### Chapter 1

#### Introduction

#### Statement of the Problem

School finance has traditionally concentrated on the distribution of resources to school districts, focusing primarily on the equitable distribution of funds within a state. In recent years, attention has been paid to how school districts use the funds they receive to provide education to students (Picus, 2005-06).

Simply put, there is much more of a push from lawmakers, tax payers, local constituents, and educational researchers to find out where K-12 schools get their money from and where it goes when it is spent.

A predominant perception in the state of Nebraska, as well as other states, is that smaller school districts are less "efficient" than their larger counterparts, with higher costs per pupil and relatively higher overhead costs. Politicians often talk about merging smaller districts into larger ones to get the most out of the tax dollar.

In a debate with numerous unanswered questions, the only certainty is that there will be proponents of both small school districts and large school districts. Before we can fully understand how to make schools more efficient, we must better understand how schools use the resources currently available to them. This quantitative study is designed to see if Nebraska school districts' enrollment size, cost per pupil, source of revenue, pupil-teacher ratio, and sparsity factor may be related to their spending patterns or have an effect on their profile of receipts from local, state, and federal sources.

This is an important issue for all Nebraskans. In 2005, the Legislature closed all Class I school districts (Provide for Regulation, LB 126, 2006). In 2006, the Legislature responded to Omaha's "One City – One School District" initiative by providing a statutory mechanism for creating "learning communities" (Learning Community Reorganization Act, LB 1024, 2006). Major changes were added during the 2007 legislative session and as of the fall of 2007, no one seems to be certain about the future of learning communities and other initiatives that could restructure school districts.

This study was meant to update and expand upon a similar study conducted by Dr. Donald F. Uerling in the early 1990s. That study by Uerling (1994) provided data in the form of summary profiles of selected receipts and disbursements for all Nebraska school districts for the fiscal years 1977-78 through 1991-92. The study examined data for all general fund receipts and disbursements, for general fund disbursements specifically for personnel, and for general fund disbursements specifically for special education.

This study can help shed some light on what has changed in the past 15 years and what has remained the same.

This study focused on the "percentage profile" of receipts and disbursements because comparing actual dollars would not provide an accurate comparison between different sized schools. The only true way to ascertain whether or not statistical relationships existed was to compare percentages across different school districts.

As this study got started, the intent was to focus almost exclusively on disbursements. It was decided to include an analysis of receipts during the research process. Disbursements remain the primary scope of the study but a detailed analysis of receipts is also intertwined in the research process and review of literature. Analyzing individual school districts' percentage profile of receipts and/or disbursements enables the reader to readily compare a specific school district to the state average, to districts in near proximity, to districts with similar characteristics, and so on.

Local taxpayers, politicians, or those pondering a move to another school district can look at percentage profile data to begin to better understand how a district operates financially. It is one true comparison that holds up across the state. Many superintendents will compare their districts' percentage profile of receipts and disbursements to the other schools in their conference and region as they look for ways to communicate with their boards of education and constituents as to how their money is collected and disbursed compared to other school districts.

Continual tracking of a school districts' percentage profile of disbursements also allows local leaders to monitor its potential impact on student achievement, facility upkeep, and other important school system operations. For example, if a school district finds itself falling below the state average in student achievement on standardized assessments, they may look to the percentage of expenditures used on direct instruction. If local board members are constantly asked why their school systems' facilities "are the worst in the conference," they could look to the percentage of their money that is spent on facility upkeep compared to other schools in the area and their respective conference.

State aid is a vital tool for Nebraska school districts of all sizes. A complicated formula is utilized to distribute this important source of revenue. Key components of the state aid formula include the amount of money that school districts can generate locally and how many students each school system has. Students receive different "weighted values" depending on their characteristics. For example, school districts receive extra

"weight" within their calculations for students with limited English proficiency or those on free or reduced lunch. In theory, money is then "equalized" throughout the state to help each district generate the revenue necessary to provide a quality education for their clientele.

For purposes of distributing state aid, Nebraska school districts are also categorized as "very sparse," "sparse," and "standard" (Nebraska Budget Act, Neb. Rev. Stat. § 79-1007.02, n.d.). The sparsity factor depends on the number of students per square mile and the distance from the high school to the closest high school in another school district. "Very sparse" districts receive more state aid per student than do "sparse" districts, which in turn receive more state aid per student than do "standard" districts.

Some school districts have much more property valuation per student than others. These districts are able to generate more money from local sources so they will receive less state aid. An example includes the districts of West Point and Franklin. West Point is considered "land rich" as they have a valuation of over \$500 million. This means that every penny on their levy generates over \$50,000. Franklin has a valuation of \$171 million so every penny on their levy is only worth \$17,100. With the disparity of revenue that can be generated locally, the state aid formula equalizes funds and in 2005-06 provided West Point with less than \$9,000 of support while Franklin received over \$1.15 million of state aid.

Each Nebraska school district must file an Annual Financial Report (AFR) with the Nebraska Department of Education. These reports break down the amount of general fund disbursements by function, as well as show how money was brought in as revenue. After all the reports have been filed, the Department then collects the data into a statewide Annual Financial Report summary. Using a spreadsheet, these data can be compiled to show the profile of receipts and disbursements across categories. The tables for 2005-06 are included in the Appendix A.

The purpose of this study is to explore possible relationships between selected school district characteristics and the profile of receipts and general fund disbursements. The study focused on a stratified random sample of 44 of the 197 Nebraska school districts with a K-12 enrollment of less than 2,000 during the 2005-06 school year. This study focused on districts with 2,000 or less students due to the abundance of those size districts in the state and the fact that reorganization of school systems takes place in smaller schools with enrollments often much less than 2,000.

#### **Research Questions**

Five research questions will provide the focus for this study of Nebraska school districts:

- 1A. Is there a relationship between K-12 average daily membership and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 1B. Is there a relationship between K-12 average daily membership and the percentage profile of all seven general fund disbursement categories?
- 1C. Is there a relationship between K-12 average daily membership and K-12 cost per pupil?
- 2A. Is there a relationship between K-12 cost per pupil and the percentage profile of the five major general fund receipt categories and the two subcategories?

- 2B. Is there a relationship between K-12 cost per pupil and the percentage profile of all seven general fund disbursement categories?
- 2C. Is there a relationship between K-12 cost per pupil and K-12 pupil-teacher ratio?
- 3A. Is there a relationship between K-12 ADM and pupil-teacher ratio?
- 3B. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 3C. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of all seven general fund disbursement categories?
- 4A. Is there a relationship between the school district sparsity factor and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 4B. Is there a relationship between the school district sparsity factor and the percentage profile of all seven general fund disbursement categories?
- 4C. Is there a relationship between the school district sparsity factor and pertinent AFR data?
- 5A. Is there a relationship between the number of non-high school attendance centers and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 5B. Is there a relationship between the number of non-high school attendance centers and the percentage profile of all seven general fund disbursement categories?

5C. Is there a relationship between the number of non-high school attendance centers and pertinent AFR data?

#### **Definition of Terms**

It is useful to provide brief operational definitions of the variables and key terms. An operational definition is based on observable characteristics of that which is being defined. Although the method section, which follows later, will provide more details, it is helpful for the reader to have an early idea of what certain key terms mean.

- Total Annual Cost is the amount of a school district's total adjusted general fund expenditures, plus depreciation. For this study, Total Annual Cost will be divided into seven categories: Instruction, Support Services for Students and Staff, Governance and Administration, Maintenance and Operations, Transportation, Transfers to Lunch Fund and Activity Fund, and Depreciation.
- 2. *Profile of Receipts* is the percentage distribution of school district revenue that comes in from local, state, and federal levels as cataloged on the annual financial report.
- Profile of Disbursements is the percentage distribution of general fund disbursements across the aforementioned seven categories that make up Total Annual Cost.
- 4. *Average Daily Membership (ADM)* is used by a school district to report its average daily K-12 enrollment for a school year.
- 5. *Annual cost per pupil (CPP)* is a dollar figure calculated for each school district by dividing total annual cost by average daily membership.

6. *Sparsity* is a term used in the Nebraska state aid formula. School districts are categorized as "very sparse," "sparse," or "standard." The categorization is based on the number of students per square mile in the school district and the distance of the high school from the next closest high school.

#### Significance of the Study

The purpose of this study was to find similarities and differences in how Nebraska public schools receive and disburse their funds. This information will be helpful as it could help shed some light on whether or not certain sized schools are more "efficient" than others. With dwindling resources and a growing number of unfunded mandates, Nebraska must continue to explore all possible avenues of consolidation and sharing of resources.

It was not intended for this study to characterize school districts' spending patterns. This dissertation will not categorize a group of schools as 'conservative' or 'liberal' in terms of spending.

Schools in Nebraska are more than just educational facilities. Many small rural schools provide the only major center for their communities. When lawmakers and public officials discuss school district consolidation, they are not just impacting how many textbooks or teachers the kids in a community need; they are potentially impacting the livelihood and economic development for many constituents in the area.

Politicians and local leaders could use this study as a precursor to conduct more widespread analysis of all sized schools and where they receive their operational funds and what their spending patterns are. More research will certainly be needed before any major decisions are made as our state continues to consider alternatives to having such a large number of operating school districts.

To date, research on school productivity has not been conclusive. One thing is clear, however; before we can fully understand how to make schools more productive, we must better understand how schools use the resources currently available to them (Picus, 2005-06).

#### **Delimitations and Limitations**

Delimitations have to do with any restrictions or confinements in the content or scope of the study, methodology utilized, or statistical analysis; which was necessary to undertake the study. Limitations are any resulting weaknesses in the study because of the confinements and restrictions that were placed in the study.

Some delimitations of the study were:

- The population included in this study was confined to a stratified random sampling of the active school districts operating in 2005-06 with an ADM of 2,000 or less, and
- 2. The design for this study was ex post facto.

Some limitations of the study were:

- Conclusions from the study will only be applicable for the stratified random sampling of public school districts with an ADM of 2,000 or less within the state of Nebraska during the 2005-06 school year, and
- 2. This study will be subject to those weaknesses inherent in an ex post facto design such as lack of control over treatment.

#### Chapter 2

#### **Review of the Literature**

#### Introduction

Education is an enormous enterprise in our country. It makes up the largest portion of most state and local government budgets; it engages more than 100,000 local school board members, and employs millions of individuals as teachers, administrators, and support staff; and it educates tens of millions of children (Odden & Picus, 2004).

Since 1957, one of the major stories across the nation has been the consolidation of school districts into larger entities. In 2000, there were just under 15,000 school districts in the United States, which is believed to be about the lowest number during the 20th century. In 1940, there were 117,108 school districts nationwide. During the 1970 school year, there were only 17,995 local school districts nationally and at the turn of this century only about 15,000 (Odden & Picus, 2004).

In fact, on July 17, 2007; www.argusleader.com posted an article on its website about forced school district consolidation in South Dakota (Woster, 2007). Nine school districts received notice from the South Dakota Department of Education that they met criteria for forced consolidation under a new state law.

Generally, the law requires schools with fewer than 100 students to create a consolidation plan within two years. This law includes exceptions for schools with no neighboring district's attendance center within 15 miles of its own. This new law also gives the state Board of Education the duty to write a reorganization plan for any district that meets the low-enrollment test.

Utah Office of Education statistician Randy Raphael has concluded that for his home state of Utah, an optimal school district would have 43,407 students (Lyon, 2006). Such a district, he found, would be the most economically efficient based on enrollment and per-pupil spending. He also found that larger districts, such as Jordan, Utah with 77,400 students, could educate many more students than the optimal number without paying significantly more per student.

Most individuals have their own perception of what "small" schools are and how many students attend "large" schools. This researcher categorizes small schools as those with an enrollment of 800 or fewer.

Small-district proponents will vehemently argue that education quality is critical in the district-size debate. Studies that support their view include an analysis of California Public Schools data that suggests larger school districts may negatively affect student achievement. In 1999, for example, students in larger California districts did not fare as well on standardized tests as those in smaller districts (Lyon, 2006).

Funding public schools requires large amounts of money. In 2000, public school revenue in this country totaled \$378.5 billion, an increase of \$170 billion from 1990. Further analysis of data shows that revenues more than doubled during each decade from 1940 to 1990 (Odden & Picus, 2004).

As Table 1 (Odden & Picus, 2004) indicates, the sources of school revenue have changed over the years. In the early to mid 1900s, local districts provided the bulk of school revenues, and the federal contribution was close to non-existent. This began to

### Table 1

	Disbursements per Pupil	Perce	ent Revenues by S	Source
Year	Real Dollars (2000-01)	Federal	State	Local
1919-20	\$367	0.3	16.5	83.2
1929-30	\$734	0.4	16.9	82.7
1939-40	\$957	1.8	30.3	68.0
1949-50	\$1,380	2.9	39.8	57.3
1959-60	\$2,088	4.4	39.1	56.5
1969-70	\$3,482	8.0	39.9	52.1
1979-80	\$4,710	9.8	46.8	43.4
1989-90	\$6,402	6.1	47.1	46.8
1994-95	\$6,436	6.8	46.8	46.4
1995-96	\$6,447	6.6	47.5	45.9
1996-97	\$6,527	6.6	48.0	45.4
1997-98	\$6,700	6.8	48.4	44.8
1998-99	\$6,925	7.1	48.7	44.2
1999-2000	\$6,855	6.9	50.7	42.4

Educational Disbursements per Pupil and Revenues by Source

change in the 1960s as the federal government increased its financial commitment. This federal assistance peaked at 9.8% in 1979-80 and since then has dropped by almost one-third.

As we have entered another century, the state level has proven to be the primary provider of public school revenues across the country. During the 1999-2000 school year,

on average, the states provided 50.7% of public school revenue, local districts (primarily through local property tax) 42.4%, and the federal government 6.9%.

Table 1 (Odden & Picus, 2004) also displays disbursements per pupil amounts adjusted to 2000-01 real dollars. Cost per pupil is a category that many constituents and educational researchers like to analyze. It is a figure that is arrived at by taking a district's total disbursements on instruction and dividing that by their number of students. These real disbursements per pupil (disbursements adjusted by the Consumer Price Index) have increased each decade at large rates: 100% between 1920 and 1930, 67% during the 1960s, and 35% during the 1970s.

Even during the 1980s, a decade of government tax and disbursement limitations, disbursements per pupil increased by 36% to a total of \$6,402 (in 2000-01 dollars using the Consumer Price Index) for current operating expenses in 1989-90. (Odden & Picus, 2004). In 2000, an average of \$6,855 was spent nationally on each public school student.

Table 2 shows differences from all 50 states in 1998-99 in regards to their disbursements per pupil and their percentage of revenue received from local, state, and federal sources. Cost per pupil (disbursements) ranged from a low of \$4,478 in Utah to a high of \$10,748 in New Jersey.

States also varied greatly in how they received their funds. In Hawaii, for example, a state with only one school district, 89% of their school district's revenue came from state sources while New Hampshire school districts only received 9.3% of their revenue from the state.

## Table 2

Educational Disbursements per Pupil and Revenues by Source by State for 1998-1999

		Percent Revenues by Source		
State	Cost per Pupil	Federal	State	Local
Alabama	\$5,512	9.4	62.5	23.2
Alaska	\$9,209	12.3	62.2	22.9
Arizona	\$5,235	10.2	44.3	43.2
Arkansas	\$5,193	10.8	57.7	26.0
California	\$6,045	8.2	60.2	30.6
Colorado	\$6,386	5.1	43.4	47.6
Connecticut	\$9,620	3.9	37.3	56.1
Delaware	\$8,366	7.6	64.4	26.7
District of Columbia	\$10,611	16.5	N/A	83.1
Florida	\$6,443	7.6	48.8	39.7
Georgia	\$6,534	6.8	51.2	40.1
Hawaii	\$6,648	8.6	89.0	0.5
Idaho	\$5,379	7.0	62.7	28.6
Illinois	\$7,676	6.8	28.5	62.5
Indiana	\$7,249	4.8	51.4	40.9
Iowa	\$6,548	5.3	51.3	38.2
Kansas	\$6,708	5.9	57.9	33.5
Kentucky	\$6,412	9.6	61.7	26.5
Louisiana	\$6,019	11.3	50.4	35.9
Maine	\$7,688	7.0	45.5	46.4
Maryland	\$7,865	5.2	39.0	52.7
Massachusetts	\$8,750	5.0	40.7	52.9
Michigan	\$8,142	6.6	66.0	25.4
Minnesota	\$7,159	4.9	52.3	39.8
Mississippi	\$4,871	14.1	55.4	27.1
Missouri	\$6,393	6.2	39.7	50.1

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Table 2 continues

		Percent Revenues by Source		
State	Cost per Pupil	Federal	State	Local
Montana	\$6,768	10.2	46.9	38.7
Nebraska	\$6,856	6.7	33.1	54.7
Nevada	\$5,934	4.6	31.8	60.1
New Hampshire	\$6,780	3.8	9.3	84.5
New Jersey	\$10,748	3.6	39.8	54.3
New Mexico	\$5,363	13.2	72.2	12.3
New York	\$10,514	5.4	39.7	53.9
North Carolina	\$6,088	7.2	67.3	22.7
North Dakota	\$5,820	12.4	41.1	41.1
Ohio	\$7,295	5.8	41.2	48.9
Oklahoma	\$5,684	8.6	61.6	24.5
Oregon	\$7,787	6.4	56.8	33.6
Pennsylvania	\$8,026	5.9	38.7	53.6
Rhode Island	\$9,049	5.4	40.1	53.1
South Carolina	\$6,003	8.5	51.5	35.7
South Dakota	\$5,613	10.0	35.6	51.4
Tennessee	\$5,521	8.8	47.7	36.4
Texas	\$6,161	7.6	44.2	45.8
Utah	\$4,478	6.9	61.0	29.5
Vermont	\$7,984	5.2	29.4	63.6
Virginia	\$6,129	5.2	31.4	60.2
Washington	\$6,595	6.4	66.0	24.4
West Virginia	\$7,176	9.2	62.7	26.8
Wisconsin	\$8,062	4.5	53.7	39.7
Wyoming	\$7,393	6.7	47.0	44.5

In 1998-99, Nebraska school districts had the sixth lowest percentage (33.1%) of revenue coming from the state level, with only New Hampshire, Illinois, Vermont, Virginia, and Nevada receiving less funding from their state government. On the flip

side, Nebraska had the seventh highest percentage (54.7%) of revenue generated from local sources. Only Connecticut, Nevada, Virginia, Illinois, Vermont, and New Hampshire brought in a higher percentage of revenue from local sources. Nebraska's cost-per-pupil was \$6,856. This was the 21st highest total in the country.

Table 2 goes on to show that in 1998-99, states provided over 60% of school revenues in 14 states, while local districts provided over 60% of school revenues in just five states.

Receipts and disbursements for schools in Nebraska are cataloged into an Annual Financial Report (AFR). These data are compiled annually through outside audits and then sent into the Department of Education and the State Auditor's Office. The AFR is a way to compare "apples to apples" when looking at school district receipt and disbursement data.

The state of Nebraska groups school district receipts into five main categories. Property tax revenue is an important sub category under the "local receipts" heading. State aid is another very relevant sub category that is found under the "state receipts" category.

*Local Receipts* include all revenue generated from local property taxes, carline taxes, public power district sales taxes, motor vehicle taxes, tuition received from other school districts, tuition received from individuals, pre-school, summer school and adult education tuition and fees, transportation received from other districts and individuals, interest, local license fees, police court fees, community service activities, rental fees for school equipment and facilities, contributions and donations, and "other" local receipts.

*County & ESU Receipts* include all revenue generated from county fines and licenses, educational service unit receipts and "other" county receipts.

*State Receipts* include all revenue generated from state aid, Special Education, homestead exemption, high ability learners, enrollment option program transportation, textbook loan, payments received for wards of the state/court, adult basic education, prorate motor vehicles, state apportionment, in-lieu of school land tax, state categorical programs, distance education incentive and reimbursements, early childhood, and "other" state receipts.

*Federal Receipts* include all revenue generated from Title I, II, III, IV, V, VI and VIII Programs, IDEA Special Education and enrollment/poverty, Medicaid in public schools, Johnson-O'Malley, flood control, forest reserve, school to work initiative, Carl Perkins grants, E-Rate, Indian education, Migrant education, career education, Head Start, child and adult care food program, No Child Left Behind grants, assessment and reporting management systems grants, adult basic education, small rural school achievement grants, and "other" federal categorical receipts.

*Non-Revenue Receipts* include all revenue generated from tax anticipation notes, long term loans, insurance adjustments, sale of property, transfers from other funds, and "other" non-revenue receipts.

*Property Tax Receipts sub category* includes the money brought in when people pay their local property tax based on their valuation and the school district levy. Property tax receipts make up a large percentage of the "local receipts" category.

*State Aid Receipts sub category* includes the money brought in directly from the state by way of monthly state aid payments. State aid makes up a large percentage of the "state receipts" category.

Nebraska also breaks down public school disbursements into specific categories for AFR reporting purposes. On this side of the ledger, there are seven true categories: instruction disbursements, support services disbursements, governance and administration disbursements, maintenance and operations disbursements, transportation disbursements, transfer disbursements, and depreciation disbursements.

*Instruction disbursements* include the percentage of money that school districts spent on providing instruction to traditional and non-traditional students to include salaries of teachers, substitutes, clerical and paraprofessional staff; employee benefits, early retirement or voluntary termination, purchased services, tuition paid to other districts, distance education and telecommunications, supplies and materials, textbooks, capital outlay, and other expenses related to pre-K regular and special education within the regular school year and throughout the summer.

*Support Services disbursements* include the percentage of money that school districts spend on salaries for professional, clerical, and technical staff; early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, staff development, and other expenses related to support.

*Governance and Administration disbursements* include the percentage of money that school districts spend on salaries for their superintendent and all school administration, clerical and other professional staff; employee benefits, early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, and other central office expenditures.

*Maintenance and Operations disbursements* include the percentage of money that school districts spend on salaries for professional, clerical, and custodial staff; employee benefits, early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, and other expenses within the realm of maintenance and operations.

*Transportation disbursements* include the percentage of money that school districts spent on salaries for professional staff, clerical staff, and drivers; employee benefits, early retirement or voluntary termination, purchased services, mileage to parents, transportation paid to other districts, supplies and materials, capital outlay, and other expenses within pupil transportation areas.

*Transfer disbursements* include the percentage of money that school districts moved from the general fund to the student activity fund, the lunch fund, or the bond fund.

*Depreciation disbursements* include the percentage of money that school districts put into this account to use for vehicle acquisition and other capital outlay expenditures.

Tables 3 and 4 focus on Nebraska school district receipts and disbursements in 2005-06. It is important to remember that property tax receipts make up the majority of local receipts so those that are not two separate entities. The same goes for state aid receipts being intertwined with overall state receipts.

### Table 3

All Nebraska School Districts Receipts Data from 2005-06

Revenue Source	Total Dollars Collected	Overall Percentage
Local Receipts	\$1,317,736,782	52.4
County & ESU Receipts	\$21,042,723	0.8
State Receipts	\$921,897,068	36.7
Federal Receipts	\$224,272,917	8.9
Non-Revenue Receipts	\$28,830,140	1.1
Property Tax Receipts	\$1,147,380,080	45.6
State Aid Receipts	\$700,847,396	27.9

#### Table 4

All Nebraska School Districts Disbursement Data for 2005-06

Disbursement Category	Total Dollars Spent	Overall Percentage
Instruction	\$1,428,013,648	60.5
Support Services	\$173,307,030	7.3
Governance & Administration	\$274,820,238	11.6
Maintenance & Operations	\$230,922,492	9.8
Transportation	\$73,920,784	3.1
Transfers	\$5,530,400	0.2
Depreciation	\$175,199,459	7.4

During 2005-06, over 52% of Nebraska school district receipts came from local sources while less than 37% came from the state. Instruction disbursements came in just over 60% with less than 12% paying for governance and administration.

#### The 65% Solution

More than a dozen states and the District of Columbia are currently considering legislation that would require school districts to spend at least 65% of their budgets on "classroom instruction" (Bracey, 2006).

This proposal, known as the "65 Percent Solution," is being promoted across the nation by the Washington-based organization "First Class Education" (FCE). The organization's goal is for all 50 states and the District of Columbia by the end of 2008 to pass a law requiring each school district to "spend at least 65% of its operating budget on classroom instruction" (Bracey, 2006).

The organization FCE suggests three potential benefits of the 65 Percent Solution: (a) increasing the amount of money spent in the classroom without increasing taxes; (b) reducing the amount spent on "wasteful" administrative costs by making districts accountable for how they spend their money; and (c) improving student performance by focusing on classroom activities (Standard & Poor, 2005).

Nationally, 61.5% of education operational budgets reach the classroom, according to the National Center for Educational Statistics (NCES). It is important to note, that for their calculations, they take into account mostly teacher pay and leave out some categories such as "support services" that many other educators feel should be included. Raising the national average to 65% would inject nearly \$14 billion into the classroom, First Class Education estimates (Peterson, 2005).

The President of FCE has stated that what matters is not the amount of money spent per child, but the percentage spent in the classroom (Byrne, n.d.).

The state of Kansas passed legislation in 2006 to add \$148 million to public schools (Moon, 2005). This was part of the Legislature's court-ordered 10% boost to education funding. Lawmakers included a provision that would establish a statewide goal for school districts to spend 65% of their money on classroom expenses. Lawmakers argued this would ensure money is spent for teachers and direct instruction rather than on "administrative" expenses.

The Kansas Legislature has set a public policy goal of sending 65% of funding to schools to the classroom. Here's how some districts in the Topeka area fared at getting money into the classroom in 2005-06 (Kansas Department of Education, n.d.):

- Auburn Washburn: 59.9%
- Topeka: 59.8%
- Seaman: 58.2%
- Shawnee Heights: 57.4%
- Silver Lake: 57.4%
- Kansas' Statewide average: 59.2%
- Highest: Holton, 69.4%
- Lowest: Comanche County, 49.8%

According to the U.S. Department of Education's National Center for Education Statistics, only four states—Maine, New York, Tennessee and Utah—spend 65% of their money in the classroom as of 2005-06. Kansas spends 59% of its funding there. The national average is 61%.

Classroom expenses, as defined by NCES, consist mostly of teacher pay. "First Class Education" called the Kansas provision a good start but weak because it lacked strict enforcement provisions. "Unless school districts have got to do something, they won't do it," said Tim Mooney, spokesman for First Class Education. The group has helped get legislation passed in Louisiana, and it is pushing for proposed amendments to the constitutions of Colorado, Arizona, and Washington by 2008.

Mark Tallman, a lobbyist for the Kansas Association of School Boards, said the 65% mark shouldn't be a goal at all. Classroom expenses, as defined by NCES, don't include money school districts spend on school counselors and nurses, whom Tallman said help teachers do their jobs (Moon, 2005).

According to the Kansas Department of Education, the school districts throughout their state spent about 8% of their funding on school district administration in 2005-06. Other areas tugging for funding include maintenance, capital improvements, debt service, transportation and food service. But putting pressure on some areas, like food service or counseling services, simply to put more money into the classroom could actually worsen student test scores, Tallman said. "It is potentially a concern," he said (Moon, 2005).

In 2005-06, the Kansas Legislature approved a 10% increase in school funding in Kansas, which Tallman said would make the 65% goal easier to attain (Moon, 2005).

Georgia is another state that is actively pursuing the 65% idea. According to the on-line version of the Atlanta-Journal Constitution, in January of 2006 the Georgia Senate approved Governor Sonny Perdue's bill to require local school systems to spend at least 65% of their money in classrooms, pushing the plan close to final passage.

Perdue's bill would require school systems to meet the 65% standard by 2008. The "65 Cent Solution" is being pushed by conservative education activists in legislatures across the country. Texas has adopted it, and efforts are under way to put the issue on the ballot by 2008 in at least 10 states, according to stateline.org (Peterson, 2005). Georgia officials have said 64 of the state's 180 school districts were already meeting the new standard in the 2002-2003 school year, the latest term for which statistics are available (Bluestein, 2006).

The Georgia model exempts high-achieving school systems from the mandate. It also includes potential hardship exemptions, such as acts of God and skyrocketing fuel prices.

Many practitioners, including this researcher, agree that disbursements on instruction and support services (the first two categories of the AFR) should go towards this 65% solution. If so, Nebraska, as a state, comes in at 67.8% in 2005-06 with 60.5% disbursed on instruction and an additional 7.3% on support services as shown in Table 4. However, it is important to remember that the NCES would not consider Nebraska as meeting the 65% plateau because the NCES model emphasizes primarily teacher pay and doesn't presently recognize support services as having a direct impact on classrooms.

On December 10, 2004, the Nebraska Department of Education (NDE) adopted an "Essential Education Policies Document." It can be found on the NDE Internet homepage. This document outlines for public school districts in the state recommendations on curriculum, staffing, certification, and more.

At this time, there are no financial recommendations as to how much should be spent per pupil or anything of that nature. If and when that time comes, school districts will need to be able to fully understand and justify what their spending patterns are.

#### National Trends

Equity is still an issue in school finance but the adequacy of education revenues has assumed an even bigger place within the major topics of school finance. Today, in most states, the primary school finance issue is whether there is a sufficient, thus adequate, amount of dollars for districts and schools to teach students to meet new and improved rigorous performance standards on local, state, and national assessments that have been developed and enhanced during the past 15 to 20 years of standards-based education reform.

Assuming student achievement goals are ambitious, many argue that if school finance adequacy is met, remaining inequities are not as big of a problem (Odden & Picus, 2004). Obviously, this point has its share of detractors as well.

Responsibility for supporting the education of our children almost always rests with the nearly 15,000 local school districts across the nation. However, over the last 30 to 40 years, we have seen an increase in revenue to local districts from state sources. Today, nationwide, nearly half the money spent on public K-12 education is provided by our state governments (Odden & Picus, 2004) as shown previously in Tables 1 and 2.

States have taken a larger role in the financing of schools for several reasons. Various lawsuits across the nation have forced some states to better utilize their financial resources to equalize differences in the property tax revenue generating capacity of some of their school districts (Odden & Picus, 2004). As local taxpayers have become more reluctant to pay higher property taxes to finance school costs, states have filled in. Increases in state revenues have been used to partially reduce local property tax burdens and partially to increase educational spending (Odden & Piccus, 2004).

Local school districts across the nation have traditionally financed their share of educational revenues through property taxes. This is because property is fixed in location, and values tend to change slowly, giving school districts a stable source of revenue (Monk & Brent, 1997). Larger states that have a broader base upon which taxes can be levied have been able to use additional taxes, like sales and income taxes, to help finance their operations. These broad-based statewide taxes make it possible for the state to more efficiently ensure that educational spending in individual districts is more a function of the wealth of the state as a whole and not an individual district with a beneficial location (Odden & Picus, 2004).

Typically, the property tax rate was set by the local school board, other local officials, or directly by citizens. This local control led to dramatic differences in school funding, usually depending on the relative property wealth of the surrounding community. During the 1970s and 1980s, the courts in many states ruled that these wealth-related differences in school support needed to be eradicated (Rankings and Estimates 2004-05, National Education Association, EdSource 7/06). They called on state governments to come up with new ways to fund public schools more equitably.

As a result, school finance systems today look dramatically different from state to state. The general trend has been toward a larger portion of state funding and control, but the proportions and funding structures vary. Illinois and Pennsylvania, as well as many other states, depend somewhat on state funds but still rely most heavily on local property taxes. A few states, most notably California and Michigan, have state-controlled school finance systems. Hawaii is unique in that it has one statewide school district.

Table 5 shows percent of revenue by source for schools in all 50 states during 2002-03. Although its contribution has been increasing, the federal government provided less than 9% of funding for public education nationwide in 2002-03. Nearly all of it is

## Table 5

## Revenues for Public Elementary and Secondary Schools for 2002-03

	Percent of Revenues by Source		
State	Federal	State	Local
* National Average	8.5	48.7	42.8
Alabama	11.6	57.6	30.9
Alaska	17.7	56.8	25.5
Arizona	11.4	48.4	40.2
Arkansas	11.7	55.2	33.0
California	9.9	58.9	31.3
Colorado	6.5	43.1	50.4
Connecticut	5.2	37.4	57.4
Delaware	8.6	63.4	28.0
District of Columbia	13.8	N/A	86.2
Florida	10.5	43.6	45.8
Georgia	8.1	48.2	43.7
Hawaii	8.2	90.1	1.7
ldaho	9.8	59.1	31.1
llinois	8.5	33.0	58.5
ndiana	7.6	58.8	33.5
owa	7.4	46.6	46.0
Kansas	9.1	57.1	33.8
Kentucky	10.6	58.8	30.7
Louisiana	13.2	49.1	37.7
Maine	8.9	42.9	48.1
Maryland	6.7	38.3	55.0
Massachusetts	6.0	40.9	53.1
Michigan	7.8	63.3	28.9
Minnesota	5.9	73.8	20.2
Mississippi	15.4	53.8	30.8
Missouri	8.0	35.8	56.2
Montana	14.5	46.3	39.2
Vebraska	8.9	34.4	56.7
Vevada	7.0	30.2	62.8
New Hampshire	5.2	48.9	45.9
New Jersey	4.3	43.5	52.2
New Mexico	15.0	72.1	12.9
New York	7.0	45.6	47.5

Table 5 continues
	Pe	rcent of Revenues by Sour	ce
State	Federal	State	Local
North Carolina	9.6	63.7	26.7
North Dakota	15.3	36.8	47.9
Ohio	6.4	44.8	48.7
Oklahoma	12.7	54.7	32.6
Oregon	9.1	50.9	40.0
Pennsylvania	7.7	36.6	55.6
Rhode Island	6.5	42.0	51.5
South Carolina	9.8	48.1	42.1
South Dakota	15.7	33.7	50.6
Tennessee	10.0	43.8	46.1
Texas	9.9	40.9	49.2
Utah	9.3	56.4	34.3
Vermont	7.0	67.8	25.3
Virginia	6.6	39.6	53.8
Washington	9.0	61.8	29.2
West Virginia	10.6	61.4	27.9
Wisconsin	6.1	53.4	40.6
Wyoming	8.8	50.9	40.3

Source: NCES Website, Table 153

earmarked to support specific programs or to help certain categories of students, primarily those who are poor or require Special Education.

Table 5, with its 2002-03 data on receipts per source by state, has some similarities with Table 2 that shows 1998-99 receipts and disbursements by state. Hawaii, with one statewide school district, continued to lead the way with 90.1% of its receipts coming from the state level compared to 89.0% in 1998-99.

Nebraska school districts only received 34.4% of their revenue from state sources in 2002-03, well below the national average of 48.7%. This was a decrease of 1.3% compared to 1998-99 data that showed Nebraska received 33.1% of their revenue from the state level.

In 2002-03, Nebraska had the fourth lowest percentage of revenue coming from state sources. Only Illinois, South Dakota, and Nevada received less from their respective states. In 1998-99, Nebraska had the sixth lowest percentage from state sources.

As expected, Nebraska's 56.7% of revenue from local sources in 2002-03 was high above the national average of just 42.8%. This was an increase of 2% over the 54.7% from local sources during the 1998-99 year. As a percentage of receipts from local sources, Nebraska had the fourth highest total in 2002-03. Only Connecticut, Illinois, and Nevada relied more on their local sources than did the Cornhusker state. Back in 1998-99, Nebraska had the seventh highest total of revenue coming from local sources.

While Table 5 displays the percentage of revenue by source for all 50 states, Table 6 focuses on percentage of revenue by source by region of the country. This allows the reader to analyze regions and not just individual states.

From 1989–90 to 2003–04, total elementary and secondary public school revenues across the nation increased 51% in constant dollars (National Center for Education Statistics, 2007). During this period, the total amount from each revenue source (federal, state, and local) also increased, though not at the same rate.

Table 6 shows that federal and state revenues increased at a faster rate than all local revenues (both property tax revenue and other local revenue). The proportion of total revenue for public elementary and secondary education from local sources declined, from 47% in 1989–90 to 44% in 2003–04, while the proportion of total revenue flowing to public schools from federal sources increased from 6% in 1989–90 to 9% in 2003–04. The proportion from state sources was the same in 1989–90 as in 2003–04 (47%).

### Table 6

Total Revenue for Public Elementary and Secondary Schools, by Region and Revenue Source: Selected Years, 1989–90 to 2003–04 [Billions of constant 2003-04 dollars]

Region	Revenue Source	1989-90	1999-2000	2003-04
United States	Total	305.8	409.8	462.0
	Federal	18.6	29.8	41.9
	State	144.0	202.9	217.4
	Local	143.1	177.2	202.7
	Property Taxes	109.8	137.1	160.6
	Other Sources	33.3	40.1	42.1
Northeast	Total			
	Federal	75.2	93.0	107.5
	State	3.5	5.1	7.4
	Local	30.2	39.8	44.5
	Property Taxes	41.4	48.1	55.7
	Other Sources	36.6	42.2	49.3
Midwest	Total	71.8	97.0	106.7
	Federal	3.9	6.2	8.4
	State	28.4	46.6	51.0
	Local	39.5	44.2	47.4
	Property Taxes	32.3	34.9	38.9
	Other Sources	7.2	9.3	8.5
South	Total	94.6	131.1	145.3
	Federal	6.9	10.9	15.2
	State	46.5	65.3	65.9
	Local	41.2	54.8	64.2
	Property Taxes	25.6	38.2	45.5
	Other Sources	15.6	16.6	18.7
West	Total	64.2	88.8	102.5
	Federal	4.4	7.6	11.0
	State	38.9	51.2	56.1
	Local	20.9	30.0	35.5
	Property Taxes	15.3	21.7	26.9
	Other Sources	5.6	8.3	8.5

NOTE: Detail may not sum to totals because of rounding. Estimates are revised from previous publications. Revenues are in constant 2003–04 dollars, adjusted using the Consumer Price Index (CPI).

Although total revenues for elementary and secondary public schools increased in each region, different regional patterns of change in the distribution of public school revenues are evident. The Midwest experienced the largest decreases in the proportion of total revenue from local sources: local funding dropped from 55% of all revenue for public elementary and secondary education in 1989–90 to 44% in 2003–04. Declines in the proportion of property tax revenue accounted for most of this decrease. The Northeast also experienced declines in the proportion of revenue from local sources. In both regions, there were increases in the proportion of total revenue from federal and state sources.

In the West, the proportion of total revenue from local sources increased from 33 to 35% during this period. In the South, that proportion experienced very little change (less than 1 percentage point). The proportion of total revenue from property taxes increased 4%. In both the South and the West, the proportion of revenue from state sources decreased, and the proportion from federal sources increased.

The Northeast relied to a greater degree on property tax revenues than the other regions in 2003-04, as in earlier years. The difference in the reliance on property tax revenues between the Northeast and the Midwest was greater in 2003–04 than in 1989–90. Conversely, the differences between the Northeast and the other two regions were less in 2003–04 than in 1989–90.

Lawrence O. Picus and Associates have conducted several studies during the past two decades on school finance. He lists the following under "equity findings during the 1990s" as part of a Power Point presentation:

- school finance equity improved in most states,
- states generally "equalized up,"
- wealthy districts shifted from low tax/high spending to high tax/high spending, and
- poor districts went from high tax/low spending to low tax/low spending. (picusmangan022207AM.ppt)

Picus (1997) offered the following conclusions about the use of education dollars

during the last decade:

- steady increase in per pupil spending,
- consistent patterns of disbursements over time, location, and disbursement level,
- change in composition of instruction disbursements,
- administration is not overly large, and
- increase in spending is not matched by increases in student achievement.

A number of writers have presented results of studies based on national data from American school districts that show the trend of general fund disbursements. As would be expected, costs have risen.

Hanushek (1994) showed that real disbursements (inflation adjusted to 1990 dollars) for public K-12 education in the United States increased from \$2 billion in 1890 to nearly \$190 billion in 1990. He further pointed out that growth in disbursements for education was more than three times as fast as growth in the Gross National Product (GNP), with the result that K-12 education represented some 3.6% of GNP in 1990 compared to less than 1% in 1890. Hanushek also states that disbursements on education have grown faster than spending for health care. Obviously, one major reason that spending on public education has increased is because Americans want better schools. Another is because our country's public schools now educate a much larger percentage of eligible youth than they did in the 1890s. Hanushek is not immune to criticism for using the easiest data he could acquire and not allowing for data adjustments for important intervening variables.

The NCES (n.d.) series on Education Finance shows the distribution of total school district disbursements by category that is compiled into Table 7. This set of national data will relate well to our comparison of school district disbursements from the AFR website.

Data from Table 7 validates the argument that total spending by category is staying fairly steady. The only category that showed more than a 2% move up or down was "capital," which would relate closely to depreciation and transfers in the Nebraska model.

Recently a number of researchers, notably Picus (1994) and Cooper (1993), have looked closely at how school districts and school sites use the dollars they actually

#### Table 7

Disbursement Category	1989-90 Total Spending	2001-02 Total Spending
Instruction	53%	52%
Administration	8%	7%
Operations/Maintenance	10%	8%
Capital	10%	14%
Other	19%	20%

Public School Disbursements by Category (reported by percentages)

receive. A significant conclusion from this work is the consistency in the pattern with which schools spend the funds they receive. Across the United States, schools have spent approximately 60% of their resources on direct student instruction. This figure holds true regardless of how much is spent per pupil, and seems to hold true across all grade levels.

Picus (1994) showed that real per pupil disbursements in the United States increased by nearly 70% during the 1960s, almost 22% in the 1970s, and over 48% in the 1980s. The total compound increase in educational disbursements between 1959-60 and 1989-90 amounted to 206%. Spending on K-12 public education represented approximately 2.8% of GNP in 1960, 4.0% in 1970, and 3.6% in both 1980 and 1990.

When looking at all the additional money that has been spent on public education, the obvious question is "what has it bought?" The easiest answer to that is the increased spending has helped employ more teachers. It has also educated more children. Barro (1992) estimated that teacher salaries accounted for 53% of all recent and current spending by school districts. Moreover, he estimated that as districts received additional funds, they spend approximately half on teachers, with 40% going to reductions in class size and 10% devoted to higher teacher salaries. To demonstrate the effect of this emphasis on reducing class size, the *Digest of Education Statistics* showed that the pupil-teacher ratio in the nation's public K-12 schools declined from 26.9 in 1955 to 17.6 in 1994.

Moreover, the pupil-teacher ratio declined every year but one between 1955 and 1990 and hovered between 17.2 and 17.6 throughout the last decade.

It is important to note that the pupil-teacher ratio has certainly been lessened in the past 50 years due to the increase in "specialty teachers." With the influx of Special Education teachers, Title I reading and math teachers, "Reading Recovery teachers," and others, it has become easier for school districts to report smaller pupil-teacher ratios based on the numbers of students that visit specialty classes in small-group settings.

If Barro's (1992) estimates are correct, then half of the average increase in spending goes to areas other than teacher salaries. One factor that is directly responsible for considerable growth in spending in recent years has been the amount of benefits paid to school personnel. These increases are tied both to the increased number of teachers and other personnel, and to the growing costs of providing benefits such as health care and retirement.

There are a number of other important functions that must be considered into the day-to-day operation of a school system. Nationally, central administration, for example, only represents some 2 to 3% of total disbursements, while operations and maintenance accounts for an average of approximately 10%.

The NCES (n.d.) provides numerous studies that analyze different aspects of school spending. Riddle and White (1996) studied the variation in revenues and disbursements per pupil for public elementary and secondary education among the local educational agencies (LEAs) of almost every state. Public school finance is primarily a state and local government function, and localities and states vary greatly in their willingness and ability to fund public schools. Obviously, states generally subsidize LEAs in ways intended to, at a minimum, partially equalize fiscal resources among them.

Individual states and the federal government also provide additional funds on behalf of high-needs pupils, such as those with disabilities and English Language Learners, with results intended to better match resources with needs. This practice may very well increase simple measures of disparity in disbursements per pupil, however.

Riddle and White (1996) pointed out that some people believe that states have an outright obligation to provide substantially equal educational resources to all pupils, regardless of the locality in which they live, primarily on the basis of general concepts of equity or fairness, while others believe that local educational disbursement variations are significant only if they are substantially associated with differences in academic achievement or other important educational outcomes.

Riddle and White (1996) included an important table of data that analyzes all 50 states. This table shows the range in per pupil disbursements between schools at the 5th and 95th percentile of their respective states' per pupil disbursement spending pattern from the 1991-92 school year. Alaska showed the greatest discrepancy between schools at the 5th and 95th percentile with a gap of \$7,657. New York had the second largest margin with a difference of \$5,122. West Virginia and Delaware had the two smallest ranges of disbursements between schools at the 5th and 95th percentile with 2. West Virginia and Delaware had the two smallest ranges of disbursements between schools at the 5th and 95th percentile of spending per pupil with \$781 and \$994 respectively. Nebraska's range of disbursements between schools at the 5th and 95th percentile came in at \$1,981.

This aligned well with the following Midwestern states that are often looked to for comparisons with Nebraska:

- Iowa with a range of \$1,176,
- Oklahoma with a range of \$1,265,
- Texas with a range of \$1,500,
- Colorado with a range of \$1,788,
- Kansas with a range of \$2,107, and
- Missouri with a range of \$4,876 (much more than any of its Midwest counterparts).

Table 8 comes from data gathered from the NCES (2003). This table allows us to compare and contrast rural schools against other larger sized systems. In Nebraska, this could translate into a quasi-comparison between sparse and non-sparse schools.

#### Table 8

Type of School System	1991-92	1996-97	2000-01
Rural	\$6,550	\$7,300	\$8,490
Small Town	\$6,490	\$6,900	\$7,570
Mid-Size City	\$6,600	\$7,200	\$8,550
Urban (fringe of large)	\$7,600	\$7,880	\$9,100
Large City	\$7,700	\$7,550	\$9,500

This table shows us that per pupil disbursements at public schools have increased somewhat steadily over the past decade in a half. Table 8 shows that the gap in disbursements per student widened from 1991-2001 between small towns and large cities. The gap between the two was \$1,210 in 1991-92 but grew to \$1,930 by 2000-01. Throughout the ten-year span of 1991-92 and 2000-01, rural communities spent more per student than small towns.

Table 9, with data also taken from NCES, illustrates how the K-12 public school pupil-teacher ratio and expenditure per pupil data has changed since the early 1970s. This shows the disbursements per pupil figure almost doubling from 1972-73 to 2002-03 while the pupil-teacher ratio has stabilized around the 16 or 17 to 1 level. These figures can be skewed by how pupil-teacher ratio is reported with the influx of specialty teachers

#### Table 9

Public School Pupil-Teacher Ratios and Current Disbursements per Pupil in Fall

School Year	K-12 Pupil Teacher Ratio	K-12 Disbursements per Pupil
1972-73	11-1	\$4,100
1982-83	20-1	\$5,100
1992-93	17-1	\$6,900
2002-03	16-1	\$8,000

in English Language Learning Programs, Special Education, Title I, and other nonhomeroom areas.

Table 10, with data taken from NCES, provides us with data on per pupil disbursements by district poverty level. These data prove to be intriguing, as the districts with the highest poverty level have a lower per pupil expenditure rate than districts with the lowest poverty level. In Nebraska, there is controversy surrounding school districts with larger poverty rates and more diverse demographics, like Omaha and Lexington, because they feel they need more money for per pupil expenses than the districts with lower poverty levels, such as Elkhorn, Millard, and Papillion La-Vista.

Table 10

Disbursements per Student by District Poverty Level

Poverty Level	1989-90	1995-96	1999-00
Low	\$7,950	\$8,080	\$9,000
Middle	\$6,100	\$6,800	\$7,600
High	\$7,000	\$7,400	\$8,500

Due to the aforementioned disbursement numbers, many people across our nation have become disgruntled with what their perceptions are of student performance.

According to Murnane (1991), when Benno Schmidt resigned as President of Yale, he explained that he had given up on public schools because "we have roughly doubled perpupil spending (after inflation) in public schools since 1965 but the nation's investment in educational improvement has produced very little in return."

School finance expert Allan Odden (1997) notes that "real education

disbursements" increased by 58% in the 1960s, 27% in the 1970s, and 30% in the 1980s,

but "student performance, and thus education productivity, haven't improved that much."

Rothstein (1995) conducted a two-year data-gathering project in nine typical U.S.

school districts. He stated that

the conventional focus on the distinction between 'classroom' and 'administrative' disbursements implicitly poses an industrial mode of schools: classrooms are like factory floors where 'direct' teaching labor carries out production, while other functions provide indirect support. But, as in manufacturing, schools do not succeed as 'direct to indirect' ratios increase. Success depends on the intelligence with which the enterprise is planned and coordinated, as well as on the product mix created.

The single biggest disbursement category in school districts is for personnel.

Translating the broad disbursement patterns identified above into staffing patterns is the

first step in analyzing what happens to the education dollar (Picus, 2005-06).

The implicit notion in educational debate that classrooms are "profit centers,"

while curriculum libraries or school buses are "cost centers," prevents thoughtful analysis

of programmatic productivity. Rothstein (1995) calculated total costs for each program

and type to include teachers, aides, other professionals, etc. By his own admission, he

acknowledges that,

by calculating total costs for each program, including administrative costs, we do not suggest that leadership funds are well spent, any more than we believe that a separation of classroom disbursements would identify the most effective teaching techniques. This cannot be determined by finance analyses alone and must be addressed in separate inquiries.

The findings from Rothstein's (1995) study were based upon comparing and contrasting spending of nine urban-mega districts in 1967 and 1991. These nine districts were: Bettendorf, Iowa; Boulder, Colorado; Anne Arundel, Maryland; Spring Branch, Texas; Middletown, New Jersey; East Baton Rouge, Louisiana; Clairborne, Texas; Fall River, Massachusetts; and Los Angeles, California.

When comparing 1967 disbursements to 1991 disbursements, Rothstein (1995) found that special education's share of disbursements increased the most from 3.7% in 1967 to 17% in 1991. In contrast, the share of funds allocated to regular education declined. In 1967, regular education consumed 79.6% of the school districts' share of disbursements. This percentage fell to 59% by 1991. In 1967, 9.4% of these school districts' share of disbursements went towards school administration and governance. By 1991, this figure had only risen to 9.7%. The percentage of share of disbursements for operations and maintenance was 15.7% in 1967 but fell to 14.3% by 1991.

#### Nebraska Trends

A study by Uerling (1994) provided data in the form of summary profiles of selected receipts and disbursements for all Nebraska school districts for the fiscal years 1977-78 through 1991-92. The study examined data for all general fund receipts and disbursements, for general fund disbursements specifically for personnel, and for general fund disbursements specifically for special education.

Uerling (1994) showed that from 1977-78 to 1991-92, total general fund revenue rose from \$487,835,765.72 to \$1,231,114,680.89, an increase of 152.4%. The majority of this increased revenue came from local and state receipts.

Over the 15-year period, there was a noticeable change in the amounts of funding from local and state sources. Local receipts declined from 68.45% to 51.90%, while state receipts increased from 18.74% to 39.96%. Uerling further analyzed this data to conclude that most of this change resulted from a shift in the percentages of receipts from the two biggest sources with the local and state receipts categories – local property taxes and state aid. In 1977-78 local property taxes accounted for 65.5% of total general fund revenue and state aid accounted for 11.3%. In 1991-92, these figures changed to property taxes coming in at 48.8% and state aid at 28.9%.

Uerling (1994) also determined that federal revenues increased from \$26,055,365.30 in 1977-78 to \$64,798,957.51 in 1991-92. This was an overall increase of 148.7%, which is similar to the 152.4% increase for overall general fund revenue during that same span.

When analyzing K-12 annual costs for all Nebraska school districts for the aforementioned 15-year period of time, Uerling (1994) found that the annual aggregate cost rose each year, from \$418,818,791 in 1977-78 to \$1,232,631,021 in 1991-92. This is an overall increase of 155.8% and an average annual increase of 11.1%.

On the other hand, the average daily membership fluctuated during that same time span. The ADM for Nebraska school districts in 1977-78 was 301,726. The ADM fell to 262,130 in 1984-85 and then rose back up to 274,671 in 1991-92. From beginning to end of this 15-year period, the ADM decreased by 9.0%.

"Annual cost per pupil" is a common measure of comparison between districts as it allows readers to see how much money is allotted per student. One arrives at the annual cost per pupil by dividing the total annual cost by the average daily membership. Uerling's (1994) study showed that the annual cost per pupil increased each year, from \$1,596.87 in 1977-78 to \$4,487.66 in 1991-92, with the dollar amounts not being adjusted for inflation. This is an overall increase of 181% and an average annual increase of 12.9%. It is important to note that the basic components of public school systems need to be kept in place from year to year and that fluctuations in student enrollments will not necessarily be mirrored by corresponding disparities in total annual costs. For example, a school with 32 students per grade level is likely to have two teachers at every K-6 level, just as a school of 48 students per grade level might also have just two teachers despite having 50% more students.

Uerling's (1994) study went on to point out that about two-thirds of the total annual cost for school districts in Nebraska can be attributed to *instruction and related support*. The remaining one-third of expenditures can be attributed to the other five categories of each school district's annual financial report: administration and governance, operations and maintenance, transportation, transfers, and depreciation. Instruction and related support was the only category showing relative growth during the study, accounting for 65.67% of total annual costs in 1977-78 and 70.31% in 1991-92. The percentage for administration and related support remained relatively steady, while the percentages for operation and maintenance, transportation, transfers, and depreciation all went down.

It was understood before Uerling's (1994) study that the costs attributable to the employment of both certificated and non-certificated staff account for a major part of the total cost of education. Disbursements from 1977-78 through 1991-92 were studied and separated into three categories – salaries for certified employees, salaries for non-certified employees, and "other" disbursements for employees.

From 1977-78 to 1991-92, total disbursements for employees increased from \$360,066,789 to \$976,284,977. This accounted for an increase of 171.1%. As a percentage of total annual cost, both salaries for certified and non-certified employees showed a slight decline, from 55.57% to 53.22% for certified staff and from 10.64% to 9.88% for non-certified staff. However, the percentage for "other" disbursements for employees such as retirement, health insurance, social security, and other benefits; nearly doubled from 8.52% to 16.10%.

Understandably, disbursements for salaries have increased over time. It is important to note, however, that disbursements for fixed costs and fringe benefits have increased at an even greater rate. For instance, the school district contribution to the cost of health insurance rose from 2.4% of total annual cost in 1977-78 to 6.0% of total annual cost in 1991-92. The dollar amount for this item during this same time span rose from \$11,500,801 to \$73,669,562, which is an astounding increase of 540.6%.

Every Nebraska school district must submit an Annual Financial Report (AFR) that summarizes receipts and disbursements for the prior fiscal year. The distribution of general fund receipts and disbursements for all the state's school districts are compiled by the Nebraska Department of Education. The data are summarized by function, and a spread sheet developed by Uerling (1994) permits the calculation of the amounts and percentages for general categories of receipts (Appendix A, Table 15) and general categories of disbursements included in total annual cost (Appendix A, Table 16), the amounts and percentages for specific categories of disbursements related to personnel costs (Appendix A, Table 17), and the amounts and percentages for specific categories related to special education (Appendix A, Table 18). These four tables show the data for all Nebraska school districts for the 2005-06 fiscal year.

Appendix A Table 15 shows the sources of general fund receipts. Most came from local and state levels. Of the total receipts, local property taxes accounted for 45.6% and state aid accounted for 27.9%. The ratio of receipts from local property taxes to receipts from state aid was 1.63, which reflects a heavy reliance on local property taxes.

Appendix A Table 16 shows that the cost per pupil for all Nebraska school districts was \$8,509.86 The seven categories included in total annual cost reflected these percentages:

1.	Instruction	60.5%
2.	Support Services for Students & Staff	7.3%
3.	Governance & Administration	11.6%
4.	Operation & Maintenance	9.8%
5.	Transportation	3.1%
6.	Transfers to Lunch & Activity Accounts	0.2%
7.	Depreciation	7.4%

Appendix A Table 17 shows the disbursements related to personnel costs, expressed as both total dollars and percentages of total annual cost. Salaries of certificated staff accounted for 48.1%; salaries for non-certificated staff accounted for 10.0%; and benefits and early retirement accounted for 19.0%. Total disbursements for employees equaled 77.1% of the total annual cost. Appendix A Table 18 shows the disbursements for special education instruction and special education transportation. Total disbursements for special education accounted for 11.6% of total annual cost.

All the dollar amounts included in Appendix A Tables 17 and 18 are also included in the figures shown in Appendix A Table 16; however, these data are also presented separately.

#### Chapter 3

#### Methodology

#### Introduction

The purpose of this study was to explore possible relationships between selected school district characteristics and the profile of general fund receipts and disbursements. The study focused on a stratified random sample of 44 Nebraska school districts with a K-12 enrollment of less than 2,000.

This study wanted to analyze school districts with a variety of criteria so it selected average daily membership as a trait because it allowed the study to compare and contrast patterns of receipts and disbursements across various sized schools. The researcher also wanted to see if there appeared to be one sized school that was more efficient than other sizes. Cost per pupil was selected as an indicator because this study wanted to identify the characteristics of schools with an above and below average cost per pupil. Sparsity factor was then selected as an indicator because there is a widespread perception that schools with a sparsity label spend money more recklessly than their larger counterparts. Finally, it was decided to look at school districts that had differences in their total number of operational educational facilities. This allowed the study to look for patterns or discrepancies by receipt and disbursement category; especially in the disbursement areas of maintenance and operations and transportation, of districts with one facility as compared to those with more than one.

The most recent Annual Financial Report data compiled by the Nebraska Department of Education is for the 2005-06 school year. Therefore, this study was based on data for that year. All data necessary for this study are public information and available on Nebraska state agency websites.

#### Population and Sample

During the 2005-06 school year, there were 219 K-12 school districts in Nebraska. For this study, a sample of 44 districts was selected, which was 20% of the total number of operable districts in 2005-06. The focus was on the 197 school districts that had a K-12 enrollment of 2,000 or less. The researcher chose 2,000 students as the maximum because school district reorganizations have involved school districts with fewer students; most often with enrollments of less than even 800. Enrollment figures were taken from the Nebraska Department of Education's "Statistics and Facts about Nebraska Schools" located on their website.

This study wanted to disaggregate various sized schools within the 0-2,000 ADM range so schools were broken down into one of four categories by ADM: less than 400, 400-799, 800-1,199, and 1,200-2,000. It was also important to geographically represent the entire state so this study looked to select districts from east, west, north, and south.

Interestingly enough, the east/west boundary had to be formed at Crete in order to find enough schools in the study that were "west" that had K-12 ADM's over 800.

Due to the abundance of school systems in Nebraska with ADM's less than 800, we broke up our disaggregated groups as follows:

- 12 schools (half of them west of Crete) with ADM of less than 400
- 12 schools (half of them west of Crete) with ADM between 400-799
- 10 schools (half of them west of Crete) with ADM between 800-1,199
- 10 schools (half of them west of Crete) with ADM between 1,200-2,000

A balance of school districts, in terms of sparsity factors, was also selected. In 2005-06, there were 13 K-12 districts across the state that were labeled as very sparse (5.9%), 45 labeled as sparse (20.5%), and 161 labeled as standard (73.5). In this study of 44 districts, 4 were included that were very sparse (9%), 7 that were sparse (16%), and 33 that were standard (75%). These percentages aligned well with sparsity category percentages across the state.

#### **Research Questions**

Five research questions provided the focus for this study of Nebraska school districts:

- 1A. Is there a relationship between K-12 average daily membership and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 1B. Is there a relationship between K-12 average daily membership and the percentage profile of all seven general fund disbursement categories?
- 1C. Is there a relationship between K-12 average daily membership and K-12 cost per pupil?
- 2A. Is there a relationship between K-12 cost per pupil and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 2B. Is there a relationship between K-12 cost per pupil and the percentage profile of all seven general fund disbursement categories?
- 2C. Is there a relationship between K-12 cost per pupil and K-12 pupil-teacher ratio?

- 3A. Is there a relationship between K-12 ADM and pupil-teacher ratio?
- 3B. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 3C. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of all seven general fund disbursement categories?
- 4A. Is there a relationship between the school district sparsity factor and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 4B. Is there a relationship between the school district sparsity factor and the percentage profile of all seven general fund disbursement categories?
- 4C. Is there a relationship between the school district sparsity factor and pertinent AFR data?
- 5A. Is there a relationship between the number of non-high school attendance centers and the percentage profile of the five major general fund receipt categories and the two subcategories?
- 5B. Is there a relationship between the number of non-high school attendance centers and the percentage profile of all seven general fund disbursement categories?
- 5C. Is there a relationship between the number of non-high school attendance centers and pertinent AFR data?

#### Statistical Treatments

Data were compiled into spreadsheets over a period of time by downloading AFR information from the NDE website. The five main categories of receipts were each given their own column so we could compare and contrast percentages, medians, and other useful figures. Two significant sub-categories were also included as "property taxes" make up the majority of local receipts and "state aid" is the largest portion of state receipts. These main receipt categories are:

*Local Receipts* include all revenue generated from local property taxes, carline taxes, public power district sales taxes, motor vehicle taxes, tuition received from other school districts, tuition received from individuals, pre-school, summer school and adult education tuition and fees, transportation received from other districts and individuals, interest, local license fees, police court fees, community service activities, rental fees for school equipment and facilities, contributions and donations, and "other" local receipts.

*County & ESU Receipts* include all revenue generated from county fines and licenses, educational service unit receipts and "other" county receipts.

*State Receipts* include all revenue generated from state aid, Special Education, homestead exemption, high ability learners, enrollment option program transportation, textbook loan, payments received for wards of the state/court, adult basic education, prorate motor vehicles, state apportionment, in-lieu of school land tax, state categorical programs, distance education incentive and reimbursements, early childhood, and "other" state receipts.

*Federal Receipts* include all revenue generated from Title I, II, III, IV, V, VI and VIII Programs, IDEA Special Education and enrollment/poverty, Medicaid in public

schools, Johnson-O'Malley, flood control, forest reserve, school to work initiative, Carl Perkins grants, E-Rate, Indian education, Migrant education, career education, Head Start, child and adult care food program, No Child Left Behind grants, assessment and reporting management systems grants, adult basic education, small rural school achievement grants, and "other" federal categorical receipts.

*Non-Revenue Receipts* include all revenue generated from: tax anticipation notes, long term loans, insurance adjustments, sale of property, transfers from other funds, and "other" non-revenue receipts.

*Property Tax Receipts* include the money brought in when people pay their local property tax based on their valuation and the school district levy. Property tax receipts make up a large percentage of the "local receipts" category.

*State Aid Receipts* include the money brought in directly from the state by way of monthly state aid payments. State aid makes up a large percentage of the "state receipts" category.

The analysis then focused on the seven categories of disbursement data.

*Instruction disbursements* include the percentage of money that school districts spent on providing instruction to traditional and non-traditional students to include salaries of teachers, substitutes, clerical and paraprofessional staff; employee benefits, early retirement or voluntary termination, purchased services, tuition paid to other districts, distance education and telecommunications, supplies and materials, textbooks, capital outlay, and other expenses related to pre-K regular and special education within the regular school year and throughout the summer.

*Support Services disbursements* include the percentage of money that school districts spent on salaries for professional, clerical, and technical staff; early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, staff development, and other expenses related to support.

*Governance and Administration disbursements* include the percentage of money that school districts spent on salaries for their superintendent and all school administration, clerical and other professional staff; employee benefits, early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, and other central office expenditures.

*Maintenance and Operations disbursements* include the percentage of money that school districts spent on salaries for professional, clerical, and custodial staff; employee benefits, early retirement or voluntary termination, purchased services, supplies and materials, capital outlay, and other expenses within the realm of maintenance and operations.

*Transportation disbursements* include the percentage of money that school districts spent on salaries for professional staff, clerical staff, and drivers; employee benefits, early retirement or voluntary termination, purchased services, mileage to parents, transportation paid to other districts, supplies and materials, capital outlay, and other expenses within pupil transportation areas.

*Transfers disbursements* include the percentage of money that school districts moved from the general fund to the student activity fund, the lunch fund, or the bond fund.

*Depreciation disbursements* include the percentage of money that school districts put into this account to use for vehicle acquisition and other capital outlay expenditures.

Once all the data were aligned into spreadsheets, it was imported into an SPSS program at the NEAR Center on the University of Nebraska-Lincoln campus. The NEAR Center staff helped to enter and analyze the data.

As further explanations were needed, the NEAR Center was able to provide information and resources as necessary to include website tutorials like texasoft.com and power point presentations used in various class lectures.

For Research Questions 1-3, the analyses involved a Pearson r correlation test. For each question, a separate test was run for each of the seven categories of receipts and disbursements to see if a statistically significant relationship existed.

The Pearson r correlation is used to measure the strength of the linear relationship between two variables. Both variables (often called X and Y) are interval/ratio and approximately normally distributed, and their joint distribution is bivariate normal.

Pearson's Correlation Coefficient is usually signified by r (rho), and can take on the values from -1.0 to 1.0. Where -1.0 is a perfect negative (inverse) correlation, 0.0 is no correlation, and 1.0 is a perfect positive correlation.

The coefficient of determination or "r squared" can be interpreted as the proportion of variance in Y that is contained in X. The statistical significance of r is tested using a t-test. The hypotheses for this test are:

H0: rho = 0

Ha: rho <> 0

A low p-value for this test (less than 0.05 for example) means that there is evidence to reject the null hypothesis in favor of the research hypothesis, or that there is a statistically significant relationship between the two variables.

When understanding and interpreting the Pearson r correlation, it is important to remember that correlation does not necessarily imply causation and that the value of the correlation coefficient can be affected by the range of scores.

Correlations and their respective strengths of the relationship are categorized as follows:

+/80 - 1.00	High
+/6079	Moderately High
+/4059	Moderate
+/2039	Low
+/0019	No relationship

For Question 4, which focused on sparsity factor, the Mann-Whitney Test was utilized after more consultation with the NEAR Center. The explanation that follows for Questions 4 and 5 is based on information obtained directly from the NEAR Center.

This non-parametric testing method was selected due to the relatively small sample size within this study. It forced the study to combine its districts into two subgroups so it ended up with "sparse/very sparse" and "standard." Originally this study wanted to keep "sparse" and "very sparse" separate but larger subgroups were needed for data reporting as this method only allows two variables.

The Mann-Whitney test evaluates whether the test variable differs significantly between two groups. It is defined as a non-parametric test (distribution-free) used to compare two independent groups of sampled data. This non-parametric test makes no assumptions about the distribution of the data.

This test is an alternative to the independent group t-test, when the assumption of normality or equality of variance is not met. This, like many non-parametric tests, uses the ranks of the data rather than their raw values to calculate the statistic. Since this test does not make a distribution assumption, it is not as powerful as the t-test. The hypotheses for the comparison of two independent groups are:

Ho: The two samples come from identical populations

Ha: The two samples come from different populations

The hypothesis makes no assumptions about the distribution of the populations. These hypotheses are also sometimes written as testing the equality of the central tendency of the populations (texasoft.com).

The test statistic for the Mann-Whitney test is U. This value is compared to a table of critical values for U based on the sample size of each group. If U is smaller than the critical value for U at some significance level (usually 0.05) it means that there is evidence to reject the null hypothesis in favor of the alternative hypothesis.

For sample sizes greater than 8, a z-value can be used to approximate the significance level for the test. In this case, the calculated z is compared to the standard normal significance levels.

The U test is usually performed as a two-tailed test, however some text will have tabled one-tailed significance levels for this purpose. If the sample size is large, the z-test can be used for a one-sided test. The graphical comparison allows one to compare the distribution of the two groups. If the p-value is low, chances are there will be little overlap between the two distributions. If the p-value is not low, there will be a fair amount of overlap between the two groups. There are a number of options available in the comparison graph to allow readers to examine the two groups. These include box plots, means, medians, and error bars. For this study, scatter plots were used.

In an SPSS data file, each question must have scores on two variables, the grouping variable and the test variable. The grouping variable divides cases into two groups or categories, and the test variable assesses individuals on a variable with at least an ordinal scale.

Although SPSS uses the terms grouping variable and test variable, the grouping variable may also be referred to as the independent or categorical variable, and the test variable may be referred to as the dependent or the quantitative variable.

A Mann-Whitney U test can analyze data from different types of studies, to include experimental, field, and quasi-experimental.

The Mann-Whitney U test was used for Question 5 that dealt with number of nonhigh school attendance centers. Again, it had to be adjusted as this question began with three categories (those with 1 attendance center, those with 2, and those with 3 or more) and paired that down to the required two variables; those with 1 attendance center and those with more than 1.

After all of the data was entered and applicable applications were run, scatter plot graphs were constructed at the NEAR Center on the University of Nebraska at Lincoln campus for Questions 4 and 5. The scatter plot graphs allow readers to better interpret difference in data fields. Each of the two different variables was color coded into either green or blue circles to show differences in outlier data and clumping. These scatter plots can be found in Appendices B and C.

#### Chapter 4

#### **Reporting the Results**

- 1A. Is there a relationship between K-12 average daily membership and the percentage profile of the five major general fund receipt categories and the two subcategories? r(42) for all
  - A. A statistically significant negative relationship, although small, was found between average daily membership and the percentage of receipts from local sources, r(42) = -.325, p = .031. As average daily membership increased, the percentage of receipts from local sources decreased.
  - B. No statistically significant relationship was found between average daily membership and the percentage of receipts from county and ESU sources, r(42) = .091, p = .557.
  - C. A statistically significant positive relationship, although small, was found between average daily membership and the percentage of receipts from state sources, r(42) = .330, p = .029. As average daily membership increased, the percentage of receipts from state sources also increased.
  - D. No statistically significant relationship was found between average daily membership and the percentage of receipts from federal sources, r(42) = .081, p = .603.
  - E. No statistically significant relationship was found between average daily membership and the percentage of receipts from non-revenue sources, r(42) = .088, p = .572.

- F. A statistically significant negative relationship, although small, was found between average daily membership and the percentage of receipts from property taxes, r(42) = -.349, p = .020. As average daily membership increased, the percentage of receipts from property taxes decreased.
- G. No statistically significant relationship was found between average daily membership and the percentage of receipts from state aid, r(42) = .290, p = .056.

## 1B. Is there a relationship between K-12 average daily membership and the percentage profile of all seven general fund disbursement categories?

- A. No statistically significant relationship was found between average daily membership and the percentage of disbursements on instruction, r(42) = .095, p = .539.
- B. No statistically significant relationship was found between average daily membership and the percentage of disbursements on support services, r(42) =-.088, p = .569.
- C. A statistically significant moderate negative relationship was found between average daily membership and the percentage of disbursements on governance and administration, r(42) = -.562, p < .0005. As average daily membership increased, the percentage of disbursements on governance and administration decreased.
- D. A statistically significant positive relationship, although small, was found between average daily membership and the percentage of disbursements on maintenance and operations, r(42) = .340, p = .024. As average daily

membership increased, the percentage of disbursements on maintenance and operations also increased.

- E. A statistically significant negative relationship, although small, was found between average daily membership and the percentage of disbursements on transportation, r(42) = -.319, p = .035. As average daily membership increased, the percentage of disbursements on transportation decreased.
- F. A statistically significant negative relationship, although small, was found between average daily membership and the percentage of disbursements on transfers, r(42) = -.336, p = .026. As average daily membership increased, the percentage of disbursements on transfers decreased.
- G. No statistically significant relationship was found between average daily membership and the percentage of disbursements on depreciation, r(42) = .169, p = .274.

## 1C. Is there a relationship between K-12 average daily membership and K-12 cost per pupil?

A. A statistically significant moderate negative relationship was found between average daily membership and cost per pupil, r(42) = -.581, p < .0005. As average daily membership increased, the cost per pupil decreased.

## 2A. Is there a relationship between K-12 cost per pupil and the percentage profile of the five major general fund receipt categories and the two subcategories?

A. No statistically significant relationship was found between cost per pupil and the percentage of receipts from local sources, r(42) = .241, p = .114.

- B. No statistically significant relationship was found between cost per pupil and the percentage of receipts from county and ESU sources, r(42) = -.055, p = .725.
- C. No statistically significant relationship was found between cost per pupil and the percentage of receipts from state sources, r(42) = -.245, p = .108.
- D. No statistically significant relationship was found between cost per pupil and the percentage of receipts from federal sources, r(42) = .012, p = .936.
- E. No statistically significant relationship was found between cost per pupil and the percentage of receipts from non-revenue sources, r(42) = -.164, p = .288.
- F. No statistically significant relationship was found between cost per pupil and the percentage of receipts from property taxes, r(42) = .265, p = .082.
- G. No statistically significant relationship was found between cost per pupil and the percentage of receipts from state aid, r(42) = -.221, p = .150.

## 2B. Is there a relationship between K-12 cost per pupil and the percentage profile of all seven general fund disbursement categories?

- A. No statistically significant relationship was found between cost per pupil and the percentage of disbursements on instruction, r(42) = -.166, p = .280.
- B. No statistically significant relationship was found between cost per pupil and the percentage of disbursements on support services, r(42) = .056, p = .720.
- C. A statistically significant moderate positive relationship was found between cost per pupil and the percentage of disbursements on governance and administration, r(42) = .456, p = .002. As cost per pupil increased, the percentage of disbursements on governance and administration also increased.

- D. No statistically significant relationship was found between cost per pupil and the percentage of disbursements on maintenance and operations, r(42) = -.047, p = .763.
- E. A statistically significant positive relationship, although small, was found between cost per pupil and the percentage of disbursements on transportation, r(42) = .311, p = .040. As cost per pupil increased, the percentage of disbursements on transportation also increased.
- F. A statistically significant moderate positive relationship was found between cost per pupil and the percentage of disbursements on transfers, r(42) = .589, p < .0005. As cost per pupil increased, the percentage of disbursements on transfers also increased.
- G. No statistically significant relationship was found between cost per pupil and the percentage of disbursements on depreciation, r(42) = -.169, p = .273.

## 2C. Is there a relationship between K-12 cost per pupil and K-12 pupil-teacher ratio?

A. A statistically significant substantial negative relationship was found between cost per pupil and pupil-teacher ratio, r(42) = -.842, p < .0005. As cost per pupil increased, the pupil-teacher ratio decreased.

#### 3A. Is there a relationship between K-12 ADM and pupil-teacher ratio?

A. A statistically significant substantial positive relationship was found between average daily membership and pupil-teacher ratio, r(42) = .744, p < .0005. As pupil-teacher ratio increased, average daily membership also increased.

# 3B. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of the five major general fund receipt categories and the two subcategories?

- A. No statistically significant relationship was found between pupil- teacher ratio and the percentage of receipts from local sources, r(42) = -.204, p = .183.
- B. No statistically significant relationship was found between pupil- teacher ratio and the percentage of receipts from county and ESU sources, r(42) = .124, p = .422.
- C. No statistically significant relationship was found between pupil-teacher ratio and the percentage of receipts from state sources, r(42) = .235, p = .125.
- D. No statistically significant relationship was found between pupil- teacher ratio and the percentage of receipts from federal sources, r(42) = -.148, p = .336.
- E. No statistically significant relationship was found between pupil- teacher ratio and the percentage of receipts from non-revenue sources, r(42) = .142, p = .359.
- F. No statistically significant relationship was found between pupil- teacher ratio and the percentage of receipts from property taxes, r(42) = -.223, p = .146.
- G. No statistically significant relationship was found between pupil-teacher ratio and the percentage of receipts from state aid, r(42) = .195, p = .205.

## 3C. Is there a relationship between K-12 pupil-teacher ratio and the percentage profile of all seven general fund disbursement categories?

A. No statistically significant relationship was found between pupil-teacher ratio and the percentage of disbursements on instruction, r(42) = .031, p = .843.
- B. No statistically significant relationship was found between pupil-teacher ratio and the percentage of disbursements on support services, r(42) = -.045, p = .770.
- C. A statistically significant moderate negative relationship was found between pupil-teacher ratio and the percentage of disbursements on governance and administration, r(42) = -.495, p = .001. As pupil-teacher ratio increased, the percentage of disbursements on governance and administration decreased.
- D. No statistically significant relationship was found between pupil-teacher ratio and the percentage of disbursements on maintenance and operations, r(42) = .242, p = .114.
- E. No statistically significant relationship was found between pupil-teacher ratio and the percentage of disbursements on transportation, r(42) = -.155, p = .315.
- F. A statistically significant moderate negative relationship was found between pupil-teacher ratio and the percentage of disbursements on transfers, r(42) = -.500, p = .001. As pupil-teacher ratio increased, the percentage of disbursements on transfers decreased.
- G. No statistically significant relationship was found between pupil-teacher ratio and the percentage of disbursements on depreciation, r(42) = .264, p = .083.
- 4A. Is there a relationship between the school district sparsity factor and the percentage profile of the five major general fund receipt categories and the two subcategories?
  - A. No statistically significant difference was found between sparsity factor and the percentage of receipts from local sources, U = 163.50, p = .626.

- B. Statistically significant difference was found between sparsity factor and the percentage of receipts from county and ESU sources, U = 99.50, p = .026. Standard schools had a median of 1.1% compared to that of .70% for sparse schools.
- C. No statistically significant difference was found between sparsity factor and the percentage of receipts from state sources, U = 179.00, p = .946.
- D. No statistically significant difference was found between sparsity factor and the percentage of receipts from federal sources, U = 166.50, p = .684.
- E. No statistically significant difference was found between sparsity factor and the percentage of receipts from non-revenue sources, U = 119.50, p = .088.
- F. No statistically significant difference was found between sparsity factor and the percentage of receipts from property taxes, U = 169.00, p = .735.
- G. No statistically significant difference was found between sparsity factor and the percentage of receipts from state aid, U = 168.00, p = .714.
- 4B. Is there a relationship between the school district sparsity factor and the percentage profile of all seven general fund disbursement categories?
  - A. No statistically significant difference was found between sparsity factor and percentage of disbursements on instruction, U = 161.00, p = .578.
  - B. No statistically significant difference was found between sparsity factor and percentage of disbursements on support services, U = 146.50, p = .343.
  - C. No statistically significant difference was found between sparsity factor and percentage of disbursements on governance and administration, U = 139.00, p = .249.

- D. No statistically significant difference was found between sparsity factor and percentage of disbursements on maintenance and operations, U = 164.00, p = .635.
- E. No statistically significant difference was found between sparsity factor and percentage of disbursements on transportation, U = 170.00, p = .755.
- F. A statistically significant difference was found between sparsity factor and percentage of disbursements on transfers, U = 102.00, p = .028. The median for standard schools was .001% while for sparse schools it was .003%.
- G. No statistically significant difference was found between sparsity factor and percentage of disbursements on depreciation, U = 115.50, p = .074.

# 4C. Is there a relationship between the school district sparsity factor and pertinent AFR data (ADM, pupil-teacher ratio, and cost per pupil)?

- A. A statistically significant difference was found between sparsity factor and ADM, U = 63.50, p = .001. Standard schools had a higher median average daily membership (834) compared to sparse schools (334).
- B. A statistically significant difference was found between sparsity factor and pupil-teacher ratio, U = 44.00, p < .0005. Standard schools' had a median pupil-teacher ratio of 13.3 while sparse schools had a median pupil-teacher ratio of 10.6.
- C. A statistically significant difference was found between sparsity factor and cost per pupil, U = 48.00, p < .0005. Standard schools had a median cost per pupil of \$8,283 while sparse schools' median cost per pupil was \$10,354.

- 5A. Is there a difference between the number of non-high school attendance centers and the percentage profile of the five major general fund receipt categories and the two subcategories
  - A. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from local sources, U = 200.00, p = .665.
  - B. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from county and ESU sources, U = 197.00, p = .611.
  - C. No statistically significant difference was found between number of non-high school attendance center and the percentage of receipts from state sources, U = 191.00, p = .512.
  - D. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from federal sources, U = 171.50, p = .255.
  - E. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from non-revenue sources, U = 174.50, p = .279.
  - F. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from property taxes, U = 190.00, p = .496.

G. No statistically significant difference was found between number of non-high school attendance centers and the percentage of receipts from state aid,

U = 196.50, p = .603.

- A. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on instruction, U = 150.50, p = .097.
- B. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on support services, U = 178.50, p = .334.
- C. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on governance and administration, U = 181.50, p = .372.
- D. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on maintenance and operations, U = 187.00, p = .450.
- E. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on transportation, U = 150.00, p = .094.
- F. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on transfers, U = 216.00, p = .970.

- G. No statistically significant difference was found between number of non-high school attendance centers and the percentage of disbursements on depreciation, U = 170.00, p = .239.
- 5C. Is there a difference between the number of non-high school attendance centers and pertinent AFR data (ADM, pupil-teacher ratio, and cost per pupil)?
  - A. A statistically significant difference was found between the number of nonhigh school attendance centers and average daily membership, U = 111.00, p = .008. Districts with one attendance center had an average daily membership median of 508 while districts with two or more attendance centers had an average daily membership median of 884.
  - B. No statistically significant difference was found between the number of nonhigh school attendance centers and pupil-teacher ratio, U = 173.00, p = .270.
  - C. No statistically significant difference was found between the number of nonhigh school attendance centers and cost per pupil, U = 210.00, p = .853.

#### Chapter 5

#### **Summary, Conclusions, and Recommendations**

#### Summary

School finance has always been a topic of high interest. Increased accountability for student performance, school choice programs, and budget constraints at all levels of government are just a few of the contributing factors that have heightened the publics' awareness of where schools get their money from and where it goes as they spend it.

Movements like the "65% Solution" continue to pick up momentum in various states across the country. The number of "non-educators" wanting to involve themselves in educational decision-making seems to be multiplying at a rapid rate.

School leaders and politicians at the local, state, and federal levels need to be able to justify how their schools are funded and how their schools allocate the funds they receive. The stakes seem to be at an all-time high in this era of forced consolidation, budget cuts, and litigation against states over school funding formulas.

The face of K-12 education here in Nebraska could vastly change over the next generation. Declining enrollment in all four corners of the state is a major issue and it is escalated the further you move away from Interstate 80. Our student demographics are changing and our student mobility rate is up over 14% statewide.

Financing of schools is becoming more difficult with each passing year. Levy limitations and increased fixed costs hamper school districts of all sizes. Of the 219 school district active in 2005-06, we are left wonder how many will still be operating in 2015-16 and beyond.

## **Conclusions**

While this study proves there are some differences in the receipt and disbursement profiles of schools with various characteristics, it is important to note that overall, schools across Nebraska receive and spend their money today in much the same way they did in the early 1990's.

Information taken from Appendix A Table 15 and Uerling's (1994) study illustrate the similarities in overall receipt categories between 1991-92 and 2005-06.

Table 11 shows that the only significant changes in receipts between the early 1990s and 2005-06 come from percentage of receipts from the county and ESU level and the federal government.

#### Table 11

#### Significant Changes in Receipts Between the Early 1990's and 2005-06

Receipt Category	1991-92	2005-06
Local Receipts	51.9%	52.4%
County & ESU Receipts	5.65%	0.81%
State Receipts	39.96%	36.71%
Federal Receipts	1.47%	8.90%
Non-Revenue Receipts	1.02%	1.11%
* Local Property Taxes	48.80%	45.60%
* State Aid	28.90%	27.90%

Data from Table 12 show very little difference in the percentage profile of disbursements between 1991-92 and 2005-06. This would be of interest to many people who think school spending has become wasteful on non-instruction areas.

#### Table 12

Disbursement Category	1991-92	2005-06
Instruction & Support Services	70.31%	67.87%
Governance & Administration	10.97%	11.66%
Maintenance & Operations	9.94%	9.83%
Pupil Transportation	3.22%	3.10%
Transfers	0.37%	0.22%
Depreciation	5.19%	7.41%

Difference in the Percentage Profile of Disbursements Between 1991-92 and 2005-06

The percentage spent on instruction and support services today is within 2.5% of what it was 15 years ago. The percentage spent on governance and administration has gone up less than .7% in that same time span. Health insurance premiums within both of these categories has gone up at tremendous rates yet school districts have been able to maintain high percentages of their disbursements on instruction without having to turn it over to governance and administration.

Dr. Donald Uerling (1994) stated that "some have contended that, as the years have gone by, Nebraska public schools have spent relatively less on instruction and relatively more on other things; that contention is simply wrong." This study validates that point up through 2005-06 as well. There were some relevant updated findings in this study regarding school districts receipts and disbursements. Average daily membership, cost per pupil, parent-teacher ratio, sparsity factor, and the number of non-high school attendance centers all contributed to statistically significant findings though none as relevant as the researcher would have predicted.

Average daily membership. School districts with larger enrollments received a smaller percentage of their receipts from local sources, to include property taxes; and received more money from the state level, including state aid; than their smaller counterparts.

There was a direct correlation in the data that showed as ADM increased, the percentage of receipts from local sources, to include property taxes, declined. As a result, another direct relationship was created, as schools increased in ADM, so did their state receipts, to include state aid. Table 13 shows data for actual figures of percentage of revenue during 2005-06.

#### Table 13

#### Data for Actual Figures of Percentage of Revenue During 2005-06

ADM	Local	Property Tax	State	State Aid
0-400	59.91%	54.30%	29.84%	21.80%
400-800	59.89%	52.84%	31.10%	22.78%
800-1,200	52.94%	46.78%	35.95%	27.65%
1,200-2,000	49.60%	43.47%	40.13%	30.83%

The weighted formula for student calculations, which is part of the state aid funding formula, results in districts with more students getting more money. This means school districts with smaller average daily memberships will need to rely more heavily on receipts from the local level.

School districts with larger enrollments disbursed a smaller percentage of their money on governance and administration, transportation, and transfers than did their smaller counterparts. Table 14 shows disbursement percentages for governance/administration and instruction. Support services is not included in the instruction disbursement data to follow. Cost per pupil data is also included by ADM subgroup.

#### Table 14

#### Disbursement Percentages for Governance/Administration and Instruction

ADM	Governance/Admin.	Instruction	СРР
0-400	13.00%	59.20%	\$10,491
400-800	11.05%	60.90%	\$8,816
800-1,200	10.95%	59.75%	\$8,342
1,200-2,000	9.95%	60.40%	\$8,077

All school systems must have an administration made up of at least one superintendent and usually at least one building principal as well. Smaller schools with 240 students will most likely have the same administrative makeup of a school with 320, despite having 25% fewer students and the smaller budget that goes along with a smaller ADM. The data above show there is a difference in disbursement percentages of different sized schools in the very important categories of governance and administration and instruction. However, the researcher would have predicted there to be a much larger discrepancy than the data showed. Even the cost per pupil figures are not as far apart as many would assume.

Smaller school systems spend a higher percentage on transportation because they often have large geographic boundaries with a non-dense population base. Larger schools often don't offer transportation and if they do, have a much more concentrated area of student population. Schools with an ADM of less than 400 spent 4.0% on transportation while schools with an ADM of 400-800 spent 3.2%. Larger schools spent even a smaller percentage on transportation as those with an ADM of 800-1,200 disbursed 2.65% and schools with an ADM of 1,200-2,000 spent 2.70%.

Larger school districts have a lower cost per pupil. School systems with an average class size of 16 students per grade level (208 for K-12 total) will most likely have a staff make up similar to schools with 24 students per grade level (312 for K-12 total). Therefore, since instruction costs will be similar, the district with 33% fewer students will have a cost per pupil figure that is considerably higher.

*Cost per pupil.* As a school district's cost per pupil increased, the percentage of disbursements spent on governance and administration, transportation, and transfers also increased. This validates the findings that smaller school districts have higher costs per pupil and spend more on these three categories.

As pupil-teacher ratio declined, a school district's cost per pupil increased. Again, this makes sense as smaller school districts benefit from a larger cost per pupil due to a smaller pupil-teacher ratio.

*Pupil-teacher ratio*. As a school districts' pupil-teacher ratios increased, the percentage of disbursements on governance and administration and transfers decreased. Again, larger districts are going to have a higher pupil-teacher ratio, which proves to mean a lesser percentage disbursed on administration and transfers.

As a school districts' pupil-teacher ratio increased, their average daily membership also increased. Larger schools have more students and more students per teacher.

*Sparsity factor.* Standard schools received more money from county and ESU sources than did schools with a sparsity label. The overall percentage of receipts for schools from county and ESU sources is always slight, so this was no major finding. The average rank of the 33 standard schools' percentage of receipts from county and ESU sources was 24.98. The average rank of the 11 schools with a sparsity label percentage of receipts from county and ESU sources was 15.05.

Sparsity labels proved to be very insignificant in other receipt categories. The researcher would have predicted that local and state receipts would have been more impacted but the data did not show that. Standard schools had an average rank of 23.05 for local receipts and 22.42 for state receipts. Schools with a sparsity label were very similar as their average rank for local receipts was 20.86 and 22.73 for state receipts. Likewise, property tax and state aid figures for schools with and without a sparsity label showed very little difference.

Schools with a sparsity label disbursed a higher percentage of their money on transfers. As previously stated, smaller schools and especially those that have a sparsity label, will spend about the same amount of real dollars on transfers but their percentage will be higher since they operate with a budget that is smaller than their larger counterparts with no sparsity label.

Transfers are made from the general fund to several funds that all schools have in common, to include yearbook, depreciation, food service, and activities. All sized schools buy vehicles out of their depreciation fund and pay for yearbooks out of their yearbook fund. A 10-passenger van costs about \$15,000 regardless of how big or small your school is. Yearbooks are going to cost about the same with the only difference being in the quantity that you order. As smaller districts transfer money over to cover the expense of a new vehicle or yearbooks, it is a larger percentage of their overall budget than larger schools.

Standard schools had a higher average daily membership and pupil-teacher ratio than sparse schools while having a lower cost per pupil than sparse districts.

*Number of non-high school attendance centers.* School districts with more than one attendance center had a higher average daily membership than school districts with only one attendance center. Larger schools with more than one facility had an average enrollment of 884 compared to only 508 for those districts with just one facility.

Number of non-high school attendance centers proved to not be a contributing factor with the profile of receipts or disbursements, which was a bit of a surprise to the researcher.

### **Recommendations**

Through all of the findings, it was evident there were some differences between smaller and larger schools. Disbursements on governance and administration, transportation, and transfers were somewhat affected by school district size, though not as heavily as many assume. Receipts from local and state sources were also affected.

This study can serve as a nice foundation to further studies. This topic will continue to gain popularity and more studies will be needed to be centralized so accurate comparisons can be made.

Recommendations for further research include:

- A study with a larger sample of school districts
- A longitudinal study that includes profiles of school district receipts and disbursements over a span of 5 to 10 years instead of just one fiscal year
   Recommendations for policy makers in Nebraska include:
- Develop a certified task force made up of politicians, school leaders, and constituents from the local level to conduct a more wide spread study of specific receipt and disbursement categories.
- Study what other states are doing with receipts and disbursements data to create some measuring sticks that are uniform across our state.

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Appendix A

Tables 15-18

Total General Fund Receipts	2,513,779,633.17
Average Daily Membership (K-12)	277,526.91
Receipts/ADM	9,057.79
1. Local Receipts	52.4%
real sector from	1,317,736,782.29
2. County & ESU Receipts	0.8%
	21,042,723.83
3. State Receipts	36.7%
	921,897,068.76
4. Federal Receipts	8.9%
	224,272,917.74
5. Non-Revenue Receipts	1.1%
5. Ton Revenue Receipts	28,830,140.55
Local Property Taxes	45.6%
	1,147,380,080.19
State Aid	27.9%
	700,847,396.89
Special Education	6.4%
Special Education	160,569,856.02

# Nebraska School Districts General Fund Receipts for 2005-06

# Nebraska School Districts General Fund Disbursements for 2005-06

Total A	nnual Cost	2,361,714,055.09
Average Daily Membership (K-12)		277,526.91
Cost per Pupil (ADM)		8,509.86
1.	Instruction	60.5%
	Total Regular Education	1,153,876,714.41
	Total English Language Learners	23,041,189.77
	Total Special Education	251,031,165.25
	Total	1,428,013,648.73
2.	Support Services for Pupils & Staff	7.3%
	Support Services Pupils	93,824,050.50
	Support Services Pupils - Safety	4,930,756.58
	Support Services Staff	72,503,814.24
	Support Services School Improvement	1,196,481.12
	Support Services Implementing Standards	851,928.40
	Total	173,307,030.84
3.	Governance & Administration	11.6%
	Board of Education	25,861,340.70
	Executive Administration	57,398,374.21
	Office of Principal	134,933,157.36
	General Administration - Business	54,764,486.70
	Vehicles	1,862,879.15
	Total	274,820,238.12
4.	Maintenance & Operation	9.8%
	Total	230,922,492.95
5.	Pupil Transportation	3.1%
	Regular Education	50,491,044.69
	Special Education	23,429,739.66
	Total	73,920,784.35
6.	Transfers	0.2%
	to Lunch Fund	2,452,595.74
	to Activity Fund	3,077,805.20
	Total	5,530,400.94
7.	Depreciation	7.4%
	Total	175,199,459.16

Nebraska School Districts Disbursements for	Employees 2005-06
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As Dollar Amounts	
Professional Staff Salaries	1,135,688,983.75
Support Staff Salaries	236,808,573.87
Employee Benefits	423,005,365.33
Early Retirement-Voluntary Termination	24,852,353.40
Total	1,820,355,276.35
As Percentage of Total Annual Cost	
Professional Staff Salaries	48.1%
Support Staff Salaries	10.0%
Employee Benefits	17.9%
Early Retirement-Voluntary Termination	1.1%
Total	77.1%

Nebraska School Districts Disbursements for Special Education 2005-06

Special Education Instruction	251,031,165.25
Special Education Transportation	23,429,739.66
Total	274,460,904.92
Total as Percentage of Total Annual Cost	11.6%

Appendix B

Scatter Plots—Sparse



Cost Per Pupil Array







## Percentage of Disbursements on Instruction

Percentage of Disbursements on Support Services







Percentage of Disbursements on Maintenance & Operations















Percentage of Receipts from Local Sources





Percentage of Receipts from County & ESU Sources







## Percentage of Receipts from Federal Sources







# Percentage of Receipts from Property Taxes





Appendix C

Scatter Plots—Number of Non High School Attendance Centers

# Cost Per Pupil

Based on Number of Attendance Centers



Average Daily Membership





## Percentage of Disbursements on Instruction

Based on Number of Attendance Centers



## Percentage of Disbursements on Support Services



## Percentage of Disbursements on Governance & Administration



Based on Number of Attendance Centers

Performance of Disbursements on Maintenance & Operations



## Percentage of Disbursements on Transportation



Based on Number of Attendance Centers

## Percentage of Disbursements on Transfers



Percentage of Disbursements on Depreciation



Based on Number of Attendance Centers

## Percentage of Receipts from Local Sources



Percentage of Receipts from County & ESU Sources



Based on Number of Attendance Centers

Percentage of Receipts from State Sources



## Percentage of Receipts from Federal Sources

Based on Number of Attendance Centers



Percentage of Receipts from Non-Revenue Sources



Percentage of Receipts from Property Taxes

Based on Number of Attendance Centers



Percentage of Receipts from State Aid

