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A Correlational Study of the Effect of Per Pupil Expenditure on Standardized Third Grade Reading Scores in Missouri

John Arthur Dunahm Jr.

A CORRELATIONAL STUDY OF THE EFFECT OF PER PUPIL EXPENDITURE ON STANDARDIZED THIRD GRADE READING SCORES IN MISSOURI

by

John Arthur Dunham, Jr.

A project submitted to the Educational Faculty of the Lindenwood University
in partial fulfillment of the requirements for the
degree of

Education Specialist
Education Division

DECLARATION OF ORIGINALITY

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

Full Legal Name: John Arthur Dunham, Jr.

Signature: John Arthur Dunham, Jr.

Date: 10/1/2004

A Project

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This project has been approved as partial fulfillment of the requirements for the Degree of Education Specialist at Lindenwood University by the Education Division

Dr. Nancy Schneider Dr. Nancy Schneider, Major Advisor	October 4, 2004 Date
Larry Matthews, Ph.D. Dr. Larry Matthews, Committee Member	10-4-04 Date
Richard Boyle Dr. Richard Boyle, Committee Member	10/04/04 Date

DEDICATION

This paper is dedicated to Linzy, Livia, and Tucker Dunham, for their understanding and patience with their father throughout the entire process of completing this paper. It is also dedicated to the faculty of Warsaw High School. Finally, it is dedicated to my cohorts in the Educational Specialist program who have been not only my fellow students, but have been my best friends, and most importantly, my family over the last two years. A special thanks to Sarah Peiffer and Renee' Henke for their constant input, practicality, and expertise.

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LIST OF ABBREVIATIONS

ANOVA - Analysis of Variance

C.C.D. - Common Core of Data

C.P.I. - Cost Per-pupil Index

D.E.S.E. - Missouri Department of Elementary and Secondary Education

I.G.A.P. - Illinois Goal Assessment Program

M.A.P. - Missouri Assessment Program

N.A.E.P. - National Assessment of Educational Programs

N.E.L.S. - National Educational Longitudinal Study

S.A.T. - Scholastic Aptitude Test

T.C.I. - Teacher Cost Index

ABSTRACT

Funding of education has long been a major topic of discussion in both the public and political arenas. How tax dollars are spent in the area of education is now at the forefront of this debate with the advent of mechanisms which are designed to hold schools accountable for their funding. The chief mechanism of accountability is standardized testing achievement by students.

In this study, per-pupil expenditures for schools districts in the state of Missouri, for the years 1998 and 2002, will be examined as a correlation to high student achievement on the Missouri Assessment Program third grade communication arts tests for the same time periods. The study will investigate the expenditures made directly on students by districts and how these expenditures correlate to high achievement, as described by the percentage of those students achieving at Proficient and Advanced levels.

CHAPTER I- INTRODUCTION

Background

Funding of public education in the state of Missouri is not equitable in the sense that each student, statewide, does not receive the same amount of dollars in a given year. Each district in the state receives monies from the state of Missouri through appropriations made by the legislature. These monies account for a large portion of the total funds for each district. Another sizable source for district monies comes from local taxation. This local support of each individual school district accounts for the greatest inequity between districts. Local funding is set by the district and by the voters and is determined by assessment of personal property. Once funds, whether state, federal, or local are appropriated, most are not allocated for specific areas of operation in the district. The manner in which funds are allocated, and the directness of the expenditure to the individual student, directly affects the instruction and resources that each student receives and, hence, each student's ability to achieve. This was the crux of the research.

Schools are being held accountable by the state mainly through student scores on standardized achievement tests. The Missouri Assessment Program, or M.A.P., is the basis for accountability in Missouri. The M.A.P. is considered a performance-based assessment. This battery of tests is designed to not only test knowledge in the subject areas, but the skills of application of knowledge to real life situations. The battery is a sharp turn from previous assessments due to the fact that students are required to supply constructed responses as opposed to multiple choice or true-false questions, which allow for random correctness of guesses. The tests are designed to make the student think and

present the thought in a reasonable manner, as deemed by a scoring guide for each response. The M.A.P. was implemented in response to the Outstanding Schools Act of 1993. It is reportedly for, according to the Missouri Department of Elementary and Secondary Education, or D.E.S.E., the measure of student progress toward meeting the Show-Me Standards. The Show-Me Standards are 73 academic standards defined and adopted by the Missouri Board of Education in 1996.

The M.A.P. tests are given annually to 3rd and 4th graders, 7th and 8th graders, and 10th and 11th grade students in the core areas of math, communication arts, social studies, and science, with two of the previous areas tested in each grade level. Mathematics tests are administered in grades 4, 8, and 10. Communication Arts tests are administered in grades 3, 7, and 11. Science tests are administered in grades 3, 7, and 10. Social Studies tests are administered in grades 4, 8, and 11. Health/ Physical Education tests are administered in grades 5 and 9. The implementation schedules, as well as the administration schedules for subject areas and grade levels, are currently in flux due to a reduction in state funding to school districts statewide. Plans for implementation for Fine Arts tests have been halted and the current state trend, again due to losses in state funding, is toward only mandatory testing in the areas of Communication Arts and Mathematics, with districts having the option to pay for all costs of testing, to include scoring costs, in all other areas available. Individual student scores, on each subject area test, are designated to be in one of five achievement areas. Scores again are based on the ability to not only exhibit knowledge, but to exhibit the ability to apply the knowledge to real life situations though the provision of written constructed responses. All constructed

responses are scored by a scoring guide that is applied by Missouri teachers who have been trained and tested on procedures of consistent scoring of constructed response items based on the individual scoring guide for each question. Based on the accumulation of points for an entire subject area's tests, students are placed into one of the five scoring categories; Step 1, Progressing, Nearing Proficiency, Proficient, and Advanced, with Advanced being the most difficult to achieve. It stands to reason that those schools which can appropriate more funds toward preparing each individual student will, in turn and by the theoretical ability to concentrate more funds for preparation of students for taking achievement tests, have students that achieve higher on standardized tests, in particular the Missouri Assessment Program tests.

The importance of this research is to determine if there is a positive correlation between per-pupil expenditure and achievement on standardized tests. In other words, is there a correlation between the money that is spent on students and whether those students achieve higher scores on state mandated tests? This research should prove to be even more valuable given the poor economic trends in public education that Missouri school districts are currently experiencing. The research should provide guidance for in-district expenditures geared at increasing student performance on standardized testing by determining if per-pupil expenditures positively correlate to increased student achievement.

Statement of the Problem

In theory, school districts with a larger financial base can attract, employ, and retain instructors with the best skills. These districts can also provide more funds for the

preparation of students for the Missouri Assessment Program. It also stands to reason that school districts which appropriate more funding to each student, regardless of the finances of the district, will reflect a higher level of achievement of its students. Each pupil in the public schools of the state of Missouri does not receive the same amount of money toward his/her instruction. Did this inequity in funding correlate positively to achievement on the Missouri Assessment Program testing? This research will statistically conclude, based solely on expenditures made by public school districts in the state of Missouri, whether there is a positive correlation between per-pupil expenditures and student achievement. The research will examine achievement only on Grade 3 Communication Arts tests, as provided by the Missouri Department of Elementary and Secondary Education, as it related to per-pupil expenditures for each of the 524 school districts as reported by the Missouri Department of Elementary and Secondary Education.

Rationale for Study

There is little research based solely on per-pupil expenditures as a component of student achievement. The purpose of this research is to prove statistically, by correlating per-pupil expenditure and Grade 3 M.A.P. communication arts achievement in the Proficient and Advanced achievement levels for each public school district in the state of Missouri, that school districts that expend more funds on pupils will have a higher achievement level among their students. This research should provide a guide for greater expenditures of funds toward pupils in the pursuit of higher achievement levels for pupils.

Independent Variable

Per-pupil expenditure, as calculated by the Missouri Department of Elementary and Secondary Education, is the independent variable in this research.

Dependent Variable

The dependent variable in this research is the percentage of each school district's third grade students that achieve in the Proficient and Advanced categories on the communication arts assessment of the Missouri Assessment Program test.

Hypothesis

There is a positive and statistically significant correlation between per-pupil expenditure and high achievement on Missouri Assessment Program tests in Grade 3 communication arts.

Limitations of Study

Subject characteristics. All data for this study was collected from the Missouri Department of Elementary and Secondary Education. As the subjects were all of the third grade students that took the reading test in all public school districts in the state and all of the data is either monetary or blind aggregate test scores, there is little if any limitations due to the subjects that would affect validity of the research.

There were four districts whose data was eliminated from the 2002 study. Laredo, the Special School District of St. Louis, The Missouri School for the Blind, and the Missouri School of the Deaf did not report data that supplied the required variable. Due to this fact, a correlation was impossible to achieve in these four cases and any data relating to any of the four districts was not included in this research.

Mortality threat. All data relating to expenditures, as well as all test-related data are one time reports. It is unknown whether there are individuals who did not participate in either the 1998 or 2002 M.A.P. testing. The extent to which a district can claim a student's level of achievement as "level not determined" is minimal. Scores not aggregated due to individuals with severe mental handicap is unknown and minimal. Mortality is not an issue in this research.

Testing threat. Third grade test scores on the reading test of the Missouri Assessment Program were chosen to decrease test threat. The first time that a student in Missouri is administered the M.A.P. is in the third grade, which eliminated prior knowledge of the test. The one item that might influence the validity as it relates to this issue is that the Missouri Department of Elementary and Secondary Education allows schools to access items used on previous assessments that have been released from further use for one reason or another.

Instructors also have access to workshops regarding the M.A.P. tests and districts may participate in a program that trains instructors in test item construction that is comparable to those items on the M.A.P. tests. These two items relate specifically to per-pupil expenditures made by districts, which is included in this study.

History threat. Test data in this study is blind to individuals that were assessed and whose scores were included in the study. The normal educational history, methods of instruction, emotional state of the test takers, and environment in which tests were administered and taken are unknown. While there are undoubtedly historical influences in

many of the individuals in the 521 participating districts, these are unknown. The data used in the correlational study must be taken at face value.

Maturation threat. Test data used in this study is from a one time occurrence. There is no pre-test or post-test data used. It is assumed that all individuals that took the third grade reading assessment did so for the first time. There is a possibility that a minute, and statistically insignificant, number of individuals, due to retention from one school year to the next, scored in the Proficient or Advanced levels of achievement due to re-testing after one year.

Attitude of subject threat. Third grade is the first time that students in Missouri are administered the M.A.P. tests. There is no control group in this study. Therefore, it must be assumed that the attitude of the subjects is fairly uniform and has no affect on the validity of this study.

Regression threat. There is no pre-test or post-test in this study. The test scores that are reported are one time examinations.

Implementation threat. There is no control group or administration of an independent variable in this study. Implementation is not an issue that would affect the validity of this study.

Definition of Terms – General Terms

Missouri Assessment Program (M.A.P.). The battery of tests given annually to students in the state of Missouri's public schools in the areas of Communication Arts, Mathematics, Science, Social Studies, and Physical education/ Health. These tests are

performance based with an emphasis on application of knowledge by evaluating performance on constructed response items.

Per-Pupil Expenditure. Per-pupil expenditure is the expenditure, on average and reported in dollars, for each pupil in a school district over the course of a school year. This figure is the product of a calculation. The calculation is based on figures supplied by the school district. In the calculation, expenditures for total instruction, guidance, health, psychological, speech/auditory, and media are added. Expenditures for food services are then subtracted. This factor is then divided by the total number of students in the district to reach an average per-pupil expenditure for the entire district.

Average Daily Attendance (A.D.A.). Average daily attendance is calculated based on the total number of hours possible for student attendance and the actual number of hours in which students attend. This figure is based on attendance numbers supplied to the Missouri Department of Elementary and Secondary Education by school districts.

Definition of Terms -- Statistical.

"X". Variable (dependent) used to identify the per-pupil expenditure, in dollars, for an individual school district

"Y". Variable (independent) used to identify the percentage of students in a district whose results on individual M.A.P. tests can be allocated to the Proficient and Advanced scoring categories.

"N". Number of districts being described.

Mean. A measure of central tendency. It is calculated by adding all of the data in a set and dividing by the number of items in that set. It is denoted symbolically by a variable with a bar placed over it, i.e. $\bar{U}$.

"r". The Pearson Product Moment Correlation Coefficient. (Pearson r coefficient). This value represents the extent to which events occupy the same relative position in two distributions. Values will range from -1.00 to 1.00. Values approaching 1.00 represent a nearly perfect positive correlation. Values approaching -1.00 represent a nearly perfect negative correlation. Those values approaching 0.00 represent no correlation.

"r^2". The Coefficient of Determination. This value is the squared value of "r", or the Pearson Coefficient. It represents the proportion of variance in one variable, X, that can be described or explained by the other variable, Y. This value times 100 represents the percentage of the time that one variable can be used to describe or predict the other variable.

"$1-r^2$". The Coefficient of Non-determination. This value represents the proportion of variance in one variable, X, that cannot be described or explained by the other variable, Y. This value times 100 represents the percentage of the time that one variable cannot be used to describe or predict the other.

CHAPTER II - REVIEW OF LITERATURE

Introduction

The area of school finance remains one of the most highly discussed in education circles. Many states, including Missouri, have been and are facing financial cutbacks from funding sources, in particular from the state and federal governments. This research was focused on school financing and in particular the area of per-pupil expenditures. The researcher attempted to examine the relationship that per-pupil expenditures had on student performance. This same discussion had been examined on a national level due to the rising level of accountability being placed on schools, particularly as it related to student performance and matriculation. The foremost research in the area of school finance, as it related to both performance of students and other areas within education, was done by Eric Hanusek. His research was the bench mark for others, whether in agreement or disagreement with his analyses. Hanusek's research has been held suspect by those in education due to the fact that he is not an educator, but rather an economist whose research has had a purely economical slant. The following discussion of research in the area of school finance and its impact on student performance was representative of the on-going debate as to whether expenditures on students themselves have an affect on their performance or not.

Theory

Sutton (1999), Picus (1995), Hanusek (et al.) and others researching the effects of funding on students performance often make reference to the report, *A Nation at Risk.* (National Commission on Excellence in Education, 1983). Published in 1983 by the

Department of Education of the government of the United States of America, *A Nation at Risk* was the driving force in educational reform in many areas of education. It stated that "Educational foundations are being eroded by a rising tide of mediocrity." The report called for more rigorous curricula and higher standards of performance for students. The aftermath of this report was a trend toward higher accountability of educational entities at the federal, state, and local levels based on performance. The theories of past research have reflected this trend by examining many aspects of education finance which encompassed all aspects of the educational process ranging from student to teacher ratios, to the population of schools, to student performance and variations within and among these aspects.

Hanusek and Somers (1999) offered several theories regarding educational spending and its relationship to achievement. Their report indicated that the federal government has funded several compensatory programs, including Head Start, Title I, and special education. Federal programs are not effective in increasing student performance due to the fact that education and schools are the responsibility of individual states, which operate independently of one another and have independent, and unequal, means of funding education. The largest component of inequality of resources is the difference in mean spending among states. While the federal government funds programs for the disadvantaged, the states provide a broader funding support designed to reduce inequity in funding within each state. In the late 1960's, in the California court case of Seranno v. Priest, it was determined that children in poor school districts were at a disadvantage due to the inability of those districts to raise funds with taxes. State

constitutions require elementary and secondary education to be supplied. The real per-pupil expenditures doubled between 1965 and 1995, while pupil to teacher ratios declined and the percentage of instructors with Master's degrees doubled. The funding inequity issue was also discussed and succinctly worded in an ERIC Digest article which stated that wealthier communities can afford to spend more per pupil due to the fact that these communities have a higher assessed valuation which will produce more local funding with a lower tax rate (Hadderman, 1999). Hadderman proposed that the disparities in funding rates among states and even within school districts in the same state create further disparities in per-pupil expenditures. The Education Trust (2002) reported that districts with high numbers of low income families received less state and local funding per pupil. The Trust reported that in Missouri the gap in state and local funding between the highest and lowest poverty districts was $284 and that the gap had increased 12 percent between 1997 and 2000.

Research

The most on-point research related to this body of research was conducted by Sutton in 1994 in the state of Illinois. The Illinois Better Schools Accountability Act of 1985 required that all schools submit a yearly school report card. This is very similar to the requirements of Missouri schools as required by law. Missouri and Illinois were just two of many states which passed sweeping educational reform laws in the wake of the national report of the National Commission on Excellence in Education. The participants of the study were all third grade and tenth grade students in all public schools in the state of Illinois in the tested areas of reading and math. Public schools reported 3,856 students

for the 1994 school year. The statistical analysis was conducted through a program from Southern Illinois University- Carbondale. The correlational analysis included bivariate correlation, multiple linear regression analysis and stepwise multiple regression analysis. The purpose was to establish which school/social factors were predictive of achievement by identifying relationships between school demographic variables and Illinois Goal Assessment Program, or I.G.A.P., scores. In addition, the study was to determine if more support could be given to variables that could be controlled, as opposed to those variables that could not be controlled, as predictors of I.G.A.P. achievement based on the regression analyses.

Per-pupil expenditures was one of the variables identified prior to the study. It was thought that per-pupil expenditures would be highly correlated to student achievement. In the study, per-pupil expenditures was identified as a "can" control variable based on the fact that schools, through various funding sources, could control the amount of money spent on each student. The results of the study statistically concluded that per-pupil expenditure showed one of the weakest correlations to student achievement in grades three and ten math and reading. The relationship between achievement and per-pupil expenditure was found to be small, but significantly significant in third grade reading, with a Pearson coefficient of -.31, and math scores with a Pearson coefficient of -.19. Sutton concluded that giving schools more money does not necessarily increase student achievement when a multitude of factors are at work, such as was the case in this particular study (Sutton, 1999).

Eric Hanusek conducted several studies throughout the early 1980's and into the 1990's related to the economics of schools and the effects on achievement. His research has been termed to be a production function approach and could be described as similar to vote counting (Taylor, 1997). Hanusek used this type of research tool due to the fact that he is an economist and not a practicing educator. He used 38 articles and 187 regression equations alone, as well as seven inputs of schooling in his 1989 study to conclude that per-pupil expenditure has little role in performance (Picus, 1995). Hanusek's research and conclusions using production function was controversial due to the fact that the conclusions went against the grain of most of the educational economic theories prior to that. His research spawned a multitude of research in the area of educational economics.

Hanusek and Somers (1999) posed the question of whether movements of the government in funding had an effect on student performance. They examined in-state distributions and concluded that these had not been traced to student outcomes, which should have been the point of any increased funding, whether directly or indirectly. They estimated that the effects of variations in funding resources or student performance are distributed around zero with only small portions indicating a positive, and statistically significant, effect on performance. They stated that there is little reason to expect that increases in resources will translate into increases in outcomes, at least within the current organizational environment. The scope of the study was from the 1990's data provided by the National Assessment of Educational Programs, or N.A.E.P. This data provided state data on student performance at different grades. They followed a cohort group of students

who were in fourth grade in 1992 and eighth grade in 1996, with respect to math achievement. The N.A.E.P. model showed no reason to believe that differences between states' spending led to differences in the average achievement of the cohort group. The researchers stated that differences between states' resources have little to do with outcomes of students.

Grissmer (1997) questioned the evidence presented previously by others, including Eric Hanushek, regarding estimates of per-pupil expenditures and considered it to be flawed. Grissmer proposed that the N.A.E.P. scores did not increase due to increases in the numbers of Hispanics taking the tests and scoring at low levels. The real increase in per-pupil expenditures was much less than the C.P.I. adjusted per-pupil expenditures indicated. Grissmer also proposed that a significant part of the per-pupil expenditures increase was due to large amounts of funding being directed at those students with learning disabilities that were not tested. Rothstein (1995) stated that the real increase in per-pupil expenditures on the average students was closer to 30 percent and not the 100 percent reported by Hanushek. Grissmer concluded the argument regarding per-pupil expenditure by pointing out that the actual distribution of expenditures needed to be reviewed because most funding was being directed toward minority and low income students.

A 1994 study by Hedges, Laine, and Greenwald questioned Hanusek's results. The group conducted their own study using the exact data that Hanusek had, with the exception that they eliminated studies that were inconclusive and studied those that could

be statistically diagnosed. Their study created more evidence of a positive relationship between resource input and outcomes.

In a study by Picus in 1995, the results and conclusions of many of Hanusek's research previous to that date were lumped into the finding that analysis of education production function concluded that no relationship between resources and student achievement exists (Hanusek, 1981, 1986, 1989, 1991). Picus believed that despite statistical backing, many still followed the belief that more money equaled increased achievement. Picus questioned how districts use dollars. It was stated that there was a consistent pattern of fund expenditures. It was assumed that any new monies would be used in the same manner, which limited the effectiveness to increase student achievement. In 1994, the United States spent $250 billion in grades K-12. Picus speculated that knowing that these funds would increase achievement was important. Funding of K-12 public education, in 1990 dollars, increased from two billion dollars in 1890 to $190 billion in 1990 (Hanusek, 1994b). This growth represented three times the growth of the gross national product. In 1990 alone, education resulted in 3.6 percent of the gross national product (Hanusek, 1994b). Picus, in the first of his studies in 1994, addressed real per-pupil expenditures. It was stated that those expenditures increased 70 percent in the 1960's, 22 percent in the 1970's, and more than 48 percent in the 1980's. The total compounded percentage of increase from the 1959-1960 school year to the 1991-1992 school year was 200 percent. Teacher salaries account for 53 percent of all current districts' spending, with an estimated 50 percent of all new funding going toward teachers to decrease class size or increase salaries (Barrow, 1992). Picus felt that the

stated statistics on district expenditures was closer to 60 percent and was a constant percentage. The lack of variability in spending of districts was a proposal for why a link between spending funds and student outcomes was hard to find. Picus posed that increases in educational spending have not increased outcomes substantially, if at all. Picus' research compared Scholastic Aptitude Test, or S.A.T., results for twelfth graders with per-pupil expenditures from the period 1968 through 1993. Bracey (1994) reported that the S.A.T. standard was set in 1941 and was based on less than 11,000 students, of which 98 percent were white and 60 percent were male, that were from private schools in the northeast of the United States. Picus also used results from the National Assessment of Educational Progress, or N.A.E.P. Those results stated that reading levels for nine year olds improved during the 1970's, declined during the 1980's, and then returned to the 1971 level by 1992. The study looked at N.A.E.P. scores in the areas of science, math, reading, and writing. The performance on the N.A.E.P. tests did not improve at the 23 percent rate of spending increases in the 1970's or the 48 percent increase in the 1980's. Picus followed a production function analysis model. Standardized tests, graduation rates and dropout rates were educational outcomes that were used. Inputs into the model included per-pupil expenditures, pupil to teacher ratios, teacher education levels, teacher experience, salaries, school facilities, and administrator input levels. Picus concluded that there was statistical evidence that suggested that if all districts spent at levels where the highest spending districts did, which was at a cost of $1.05 billion above the current $2.4 billion level, that performance would only increase four percent. If new dollars were spent as the current ones were, an increase in performance was not likely to occur. Picus

went on to hypothesize that increases in spending provides better learning opportunities and seemingly increased achievement, but statistical confirmation of that belief are hard to develop.

In a study conducted by Taylor and published in 1997, it was expected that a stronger relationship between expenditures per-pupil and student achievement would be found if one were to account for resource-cost and student-need differences. Taylor used data collected from the National Educational Longitudinal Study, or N.E.L.S., of 1988 and followed Hanusek's production function model. The data consisted of a core of data and a teacher cost index at the school district level. Taylor believed that an ideal way to look at correlations was to observe individual student scores over a period of time. School expenditures were measured at the district level. Taylor also felt that the simple calculation of per-pupil expenditure, dividing the total spent by the total number of students, made for a poor comparative tool, especially if a particular district had a high number of special needs students. The number of special needs students varied greatly from one district to another. Those districts with a higher percentage of special needs students were provided with extra services for those students through additional funding at both the state and federal levels, which would skew the per-pupil expenditure calculation. Additional funding came by way of the Elementary and Secondary Education Act through various Title programs, including Title VII for bilingual students. Taylor implied that simple per-pupil calculations fail to reflect differences in resources available to average students in those districts with low percentages of special needs students. These districts would have more money to spend on the average student (Taylor, 1997).

The Taylor study used data from the 1988 N.E.L.S. This data included testing data from grade eight students from 1000 public and private schools who were tracked through twelfth grade, from 1988 through 1992. It also included the Common Core of Data, or C.C.D. The C.C.D. included information from all public elementary and secondary schools in the United States over the same period and included descriptive data demographics. A Teacher Cost Index, or T.C.I., was also used. The N.E.L.S. data included 16,489 total students. The total number of students enrolled in public schools was 11,598 which was used to compare to the C.C.D. Students attending the same high school in both 1990 and 1992 was recorded as 11,167. Taylor used the 1992 results for twelfth graders on the N.E.L.S. math examination. The independent variable, as stated by Taylor, was the same students' achievement score from their eighth grade examinations in 1988. Taylor wanted to use this data to examine whether the effect of per-pupil expenditures would be strengthened by accounting for variations in resource costs. She ran four regression analyses and compared across each. She defined the Nominal Per-Pupil Expenditure as the total expenditures divided by the total number of students. She defined the Cost Adjusted Per-Pupil Expenditure as one hundred times the Nominal Per-Pupil Expenditure divided by the Teacher Cost Index. Other considerations included the proportion of special needs students and whether this was a controlled or non-controlled factor. Taylor identified three categories of expenditures: one, the total district expenditures, two, the core current expenditures, and three, the expenditures on just instructional salaries. Taylor found that on the 1992 N.E.L.S. math achievement there was a positive correlation to per-pupil expenditure that held true for all three categories of

expenditures. There was also a small positive relationship that is insensitive to cost adjustments and special needs controls. Taylor pointed out that a lack of strong relationship between achievement and expenditures cannot simply be attributed to measurement of resources (Taylor, 1997).

The Educational Testing Service, in a report by Wenglinsky (1997), cited problems with many of the production function studies done previously due to failures to analyze different types of expenditures in schools. Wenglinsky reviewed the analyses of others. Hanushek (1989) had concluded that no relationship occurred between expenditures and achievement using the meta-analysis method. Hedges, Laine, and Greenwald (1994) had used the inverse chi-squared method with positive coefficients for per-pupil expenditures. Hanushek (1996), under scrutiny from his previous research and using updated data, had reported the same conclusion as was found in the 1980's. Weglinsky proposed that different meta-analyses could reach different conclusions and were volatile when subjected to different assumptions. The reasons stated for these differences were as follows:

1. Studies and data were not nationally representative because they concentrated on state or district level statistics.
2. There were no distinctions in the types of spending examined, only aggregate per-pupil expenditures.
3. There was no accounting for a mediary influence between spending and achievement.
4. Not all studies had provided rich measures of student backgrounds

5. There was no control provided for variations in costs between regions.
6. The achievement measures in early studies were not sophisticated.
7. Previous studies had not accounted for the multi-level nature of school effects.

Wenglinsky looked at the work of Fortune and O'Neil (1994). They had done research according to what they termed the threshold approach, in which input-output relationships occurred in a punctuated manner. They had proposed that a small amount of input would have no effect on achievement, where large inputs would. Achievement was compared for the top 30 percent and bottom 30 percent of schools, ranked by per-pupil expenditures, in Missouri and Ohio schools. Their research also compared demographic equals and eliminated outliers. Wenglinsky hypothesized that there were various potential paths through which expenditures can influence achievement. His research examined four types of expenditures: instructional and central office expenditures, which directly affect resources, principal's office expenditures, and capital outlay. The study further looked at only expenditures that decreased the student to teacher ratio and/or improved teacher quality. The data for the research came from three sources due to the fact that none of them alone contained all the necessary measures that the research design required. The sources were the N.A.E.P., C.C.D., and T.C.I. The results of the study indicated that expenditures in the areas of instructional and central office did not increase achievement. Instructional, central office, and student to teacher ratios were part of the production function. The researcher came to the conclusions that not all expenditures affect achievement. Central office and instructional expenditures had a positive effect on achievement while capital outlay and principal's office expenditures did not affect

achievement. This research also exposed possible influences that had not been tested. They included teacher experience, teacher proficiency, and whether instructors were teaching in the subject area in which they were professionally certified.

In a study by the Buckeye Institute (1998), 38 Ohio high schools and 217 elementary schools in the three largest districts in the state provided statistics on spending and test scores for 1996. Seventeen examination results from grades three, four, and nine were broken down to find relationships to per-pupil expenditures, teacher salaries, attendance, teacher education, teacher experience, and teacher to pupil ratio. From this data it was determined that attendance was the only factor with a significant, positive, and consistent impact on increased achievement. This study confirmed many of the previous findings of Hanushek's research.

Summary

The correlation between expenditures on pupils and the ability of those students to achieve at high levels has been shown to be a complex one by previous research. This complexity has led to differing opinions among researchers as to whether the correlation between these variables is significant or if it exists at all. Data used in previous studies has been broad in terms of both the years of data studied and variations in the subjects or instruments used. There have been studies in the past that have shown a correlation between expenditures and achievement. There have also been studies in the past that have shown little or no correlation between these variables. There has been no conclusive research to unify the educational community with regard to the question of whether more funding of education provides higher levels of achievement within the student population.

CHAPTER III - METHOD

Introduction

Every public school district in the state of Missouri is required annually to provide information regarding each school within the district to the Missouri Department of Elementary and Secondary Education. This information is referred to as Core Data and includes a wide range of information regarding each school, including enrollment figures, expenditures, disciplinary information, and personnel assignments. This information is available through the D.E.S.E. and is used by the department to produce annual yearly reports for each district and school, which include per-pupil expenditures and test results for the Missouri Assessment Program

Subjects

The subjects for this research were all third grade students, both male and female, in 1998 and 2002 that were administered the Missouri Assessment Program tests in the area of Communication Arts. Only those students whose scores were reported by the Missouri Department of Elementary and Secondary Education and whose school also provided pertinent information regarding per-pupil expenditures for each of the aforementioned years of study were included in the analyses. Only those percentages of students from each school achieving at the Advanced and Proficient categories were collected for analysis.

Sampling Procedure

There was no sampling procedure in this study. All achievement test scores, as reported as a percentage for each school, were included for each year of the study for

each district that also provided data regarding per-pupil expenditures for the corresponding year.

Research Procedure

Data used in this correlation study was collected from the Missouri Department of Elementary and Secondary Education website at www.D.E.S.E..state.mo.us . The data for per-pupil expenditure for each district was provided in the school data portion of the site which was accessed from the homepage for D.E.S.E. but had to be extracted from a voluminous amount of non-essential data for the study for a five year period. Financial data can be accessed at www.D.E.S.E..state.mo.us/schooldata/ftpdata/ftp/finance.xls. Data regarding M.A.P. achievement was accessed from the same website. The address for M.A.P. achievement was www.D.E.S.E..state.mo.us/schooldata/ftp/M.A.P._district.xls; this site also included a large amount of non-essential information. All data was then transferred to a Microsoft Excel worksheet in its entirety. Once the data was transferred to Excel, information was extracted for the school years 1998 and 2002 only for both M.A.P. achievement in the proficient and advanced achievement levels and the D.E.S.E. calculated per-pupil expenditures. It was found that data for the two areas to be correlated was not identical with respect to information provided by school districts for two reasons. The first was that several special school districts included in the data were funded solely by state and/or federal funding and not with local tax assessments which skewed the per-pupil expenditures and/or excluded all students from taking the M.A.P. assessments. The second was that several extremely small school districts did not have any students that took the assessment at the grade level and in the years addressed in the research. Those

districts were deleted because the necessary data could not be obtained. Next, data regarding M.A.P. achievement was combined into a total percentage of students that had achieved at the advanced and proficient levels. This data was the measure of the dependent variable. The calculated per-pupil expenditure was the measure of the independent variable. 370 districts were included in the 1998 data and 522 districts were included in the 2002 data. The discrepancy in the number of districts reported in the data was due to effect of implementation of the M.A.P. assessments in the late 1990's. Both sets of data, for 1998 and 2002, were then subjected to regression and correlation analysis which provided the statistical results of the research.

Instrumentation

All data used in this research was provided by the Missouri Department of Elementary and Secondary Education. Missouri Assessment Program achievement percentages reported were a result of information based on the raw achievement of the student population for each school district and gave no information regarding any individual student or grouping of students. Reported per-pupil expenditure data was based on a calculation defined by D.E.S.E. which was blind to any of the factors contained therein. The per-pupil expenditure calculation is determined by adding factors for expenditures for total instruction, attendance, guidance, health, psychological, speech/ auditory, and library from D.E.S.E. accounting codes in the 6100 to 6400 series and dividing the total expenditures in these areas by the total resident and non-resident average daily attendance for the school district. Food service expenditures are also deleted from the calculation.

Statistical Treatment of Data

Each year of data retrieved was subjected to regression and correlation analysis to produce values necessary for evaluation, comparison, and conclusions of research. The per-pupil expenditure data was designated as the independent variable. The M.A.P. data for achievement was designated as the dependent variable.

Summary

Data for this study was accumulated from two sources supplied from the Missouri Department of Elementary and Secondary education. One source supplied data for all school districts in Missouri with respect to per-pupil expenditures. The other source supplied data concerning achievement of third grade students, specifically the percentage of each school's students that achieved in the proficient and advanced categories, for the years 1998 and 2002. All pertinent data was manipulated by means of regression and correlation, with per-pupil expenditures being designated as the independent variable and M.A.P. achievement levels being designated as the dependent variable.

CHAPTER IV - RESULTS

Introduction

This study consisted of a correlational study to determine whether per-pupil expenditures by school districts could be directly correlated to student achievement at third grade level based on reading achievement on the Missouri Assessment Program. Data from 1998 and 2002 for both variables, per-pupil expenditures and the percentage of third graders achieving at proficient or advanced levels district wide, were independently, by year, submitted to regression and correlation analysis to produce the results of the research.

Results

The results of the regression and correlation analysis for the 1998 data were for 368 districts (N=368). The mean expenditure per-pupil was $5189.16. The mean percentage of third grade students achieving at proficient and advanced levels was 28.10%. The Pearson r coefficient was 0.077617486. The r^2 value was 0.0006024474. The p-value was 0.136705962.

The results of the regression and correlation analysis for the 2002 data were for 520 districts (N=520). The mean expenditure per-pupil was $6,598.39. The mean percentage of third grade students achieving at proficient and advanced levels was 34.77%. The Pearson r coefficient was 0.056887891. The r^2 value was 0.003236232. The p-value was 0.194830318.

Analysis of Data

The Pearson r coefficient was the calculation of most interest to this research. It is indicative of what type of relationship exists between the two sets of data. In the case of this research the Pearson r coefficients calculated for both the 1998 and 2002 data were very close to a value of zero, with zero being an indicator of non-correlation. The 1998 value of 0.077617486 was further from a completely non-correlative value of zero than the 2002 value of 0.056887891, which may be attributed to fewer data for that year. Both years' data, however, were very close to zero. Since both p-values were greater than .05, both correlation coefficients were non-signicant.

The determination of correlation factor calculation, r^2, when multiplied by 100 would give the percentage of the time that the data could be construed as having a correlative effect. The 1998 value of 0.0006024474 would assume that the per-pupil expenditures only would have a correlative effect on student achievement 0.06 percent of the time, which is miniscule. The 2002 value of 0.003236232, while considerably higher than the 1998 figure, still resulted in a low determined correlative effect 0.32 percent of the time.

Deductive Conclusions

The first indicator of a correlation between per-pupil expenditures was the Pearson coefficient. For both 1998 and 2002, these values were extremely close to zero. It could be deduced from these values that there is little significant correlation between the two variables. The determination of correlation factors for both years researched also indicated that the probability that per-pupil expenditures and student achievement are

correlated to one another was no better than 0.32 percent of the time. Based on these calculated values, for the variables observed in the years examined, it was determined that there is no statistically significant correlation between per-pupil expenditures on student achievement.

Summary

All statistical indicators of correlation calculated for the variables of per-pupil expenditures and third grade M.A. P. communication arts high achievement for Missouri in the years 1998 and 2002 conclusively showed that for the two years in the study, no significant correlation between x and y were found.

CHAPTER V - DISCUSSION

Introduction

Student achievement is a top priority today in schools in Missouri, as well as across the nation. The past decade has seen increasingly higher involvement by both state and federal government in the implementation of educational goals. There is a growing concern by governmental agencies with respect to schools' accountability in the areas of finance and student achievement. Schools are experiencing this demand for accountability on a level now required by both federal and state laws. Funds for education are now being tied to achievement of students on state and federal tests. Schools in Missouri are annually required to report student achievement on standardized tests and levels of achievement are incorporated into yearly and cycled designation of the schools.

This research was designed as a tool for educators in Missouri. The intent was to identify whether a correlation existed between student achievement and the funds that are being spent directly on pupils. There are discrepancies within the school districts in the state of Missouri with respect to both achievement of students and funding of students.

Implications for Effective Schools

The implication of this research for effective schools in the state of Missouri is that there are many factors which are in play for high student achievement. The money spent on individual students has virtually no correlation to the achievement of those students. One would expect that those districts in the state that can place more money into the direct education of their pupils should be better able to prepare those students to

achieve at higher levels than those districts that have less availability of funding. This research disproved this theory. It showed that simply pouring money into education does not produce higher student achievement.

Recommendations

There are many factors that effect students and their levels of achievement. Individual mental ability, preparation for specific tests, the level of education of the instructor, the experience of the educator, the number of students that each teacher instructs, disposition of the home atmosphere, expectations of parents, and quality of educational leadership are just a few of the factors that may directly affect student achievement on standardized tests. The research conducted in this particular study was narrow with respect to those factors that possibly have an effect on student achievement. It would be the recommendation of the researcher that further studies be conducted in the area of student achievement and a more broad approach be taken that would include other factors that are possible factors of achievement. Data for these factors is accessible, as was data for per-pupil expenditures, and a broader correlation study is recommended in order to examine and identify those factors that have a positive correlation to high levels of student achievement.

Summary

Funding of education is a topic that plays in the political arena. Without state and federal funding most school districts could not survive on local funding. The patrons of school districts expect the highest educational outcomes for the dollars put into the

educational process at the local, state, and federal levels. One indicator of the quality of education is achievement scores.

This research was designed to examine the relationship between expenditures on individual students by school districts in Missouri and whether those levels of spending had a positive correlational effect on the achievement of third grade students in those school districts. The statistical evidence from two separate years of data for these variables indicated that no such correlation exists. The amount of money that a school district spends on students, as calculated by the Missouri Department of Elementary and Secondary Education, has no effect on student achievement at the third grade level. In other words, those school districts with the highest levels of expenditures per-pupil do not have the highest achieving students and those with the lowest levels do not produce the lowest achieving students.

There are many factors that affect student performance and achievement. These factors need to be examined, either individually or in conjunction with others, further in order to provide educational leaders with data and conclusions that will allow better expenditure of funds toward the goal of producing high achieving students.

REFERENCES

Barro, S. M. (1992). What does the educational dollar buy? Relationships of staffing, staff characteristics, and staff salaries to state per-pupil spending. The Finance Center of CPRE, Working Paper. Los Angeles, Ca.

Bickel, R., Howley, C., Williams, T. and Glascock, C. (2001,October 8). High school size, achievement equity, and cost: Robust interaction effects and tentative results. Education Policy Analysis Archives, 9(40). Retrieved 8-30-2003 from http://epaa.asu.edu/epaa/v9n40.html

Bracey, G. (1994). The fourth Bracey report on the condition of public education. Phi Delta Kappan. 76(2).

Buckeye Institute. (1998, November). Study finds school resources unrelated to student performance. Available http://www.buckeyeinstitute.org/policy/1998_11.htm

Fortune, J. and O'Neil, J. (1994). Production function analyses and the study of educational funding equity: A methodological critique. Journal of Education Finance, 20.

Grissmer, D., Flanagan, A., Williamson, S. (1997). Does money matter for minority and disadvantaged students? Assessing the new empirical evidence. Developments in School Finance, 1997. Available http://nces.ed.gov/pubs98/dev97/98212d.html

Hadderman, M. (1999, August). Equity and adequacy in educational finance. ERIC Digest, 129, Aug., 1999. Available: http://eric.uoregon.edu/publications/digests/digest129.html

Hanusek, E. A. (1981). Throwing money at schools. Journal of Policy Analysis and Management , 1.

Hanusek, E. A. (1986). The economics of schooling: Production and efficiency in public schools. Journal of Economic Literature, 1.

Hanusek, E. A. (1989). The impact of differential expenditures on school performance. Educational Researcher, 18(4).

Hanusek, E. A. (1991). When school finance reform may not be a good policy. Harvard Journal on Legislation, 28.

Hanusek, E. A. (1993). Can equity be separated from efficiency in school finance debates?. Essays on the Economics of Education. W.E. Upjohn Institute for Employment Research. Kalamazoo, Mi.

Hanusek, E. A. (1994b). Making schools work: Improving performance and controlling costs. The Brookings Institute. Washington, D.C.

Hanushek, E. A., Somers, J.A.. (1999, March). Schooling, inequity, and the impact of government. Paper prepared for conference on Increasing Income Inequality in America, Texas A&M University, College Station, Tx.

Hedges, L., Laine, R., and Greenwald, R. (1994). Does money matter? A meta-analysis of studies of effects of differential schools inputs on student outcomes. Educational Researcher, 23.

National Commission on Excellence in Education. (1983). A nation at risk: the imperative for educational reform. Washington, DC: U.S. Department of Education.

Odden, A. (1999). Improving state school finance systems: New realities create need to re-engineer school finance structures. CPRE Occasional paper. Philadelphia: University of Pennsylvania.

Picus, L. O. (1995). Does money matter in education? A policymaker's guide. Selected Papers in School Finance 1995. Available: http://nces.ed.gov/pubs97/97536-2.html

Picus, L. O. (1994b). The local impact of school finance reform in four Texas school districts. Educational Evaluation and Policy Analysis. 16.

Rothstein, R., Miles, K. (1995). Where's the money gone? Changes in the level and composition of education spending. Washington, D.C.: Economic Policy Institute.

Soderstrom, I., Sutton, A. (1999). Predicting elementary and secondary school achievement with school related and demographic factors. Journal of Educational Research, 92(6), 330.

Taylor, C. (1997). Does money matter? An empirical study introducing resource costs and student needs to educational production function analysis. Developments in School Finance, 1997. Available: http://nces.ed.gov/pubs98/dev97/98212g.html

The Education Trust. (2002, August). The funding gap: Low-income and minority students receive fewer dollars. The Education Trust, Aug., 2002, 1-10. Available: www.edtrust.org

Wenglinsky, H. (1997). School district expenditures, school resources and student achievement: Modeling the production function. Developments in School Finance, 1997, 99-120.

APPENDIX

1998 School District Data

DISTNAME (MAP)	DISTNAME (PPE)	TOP_TWO_LEVELS_PCT (Y)	PPE 1998 (X)
ADAIR CO. R-I	ADAIR CO. R-I	19.2	5289.45
ADAIR CO. R-II	ADAIR CO. R-II	47.4	4697.20
AFFTON 101	AFFTON 101	30.9	5934.44
ALBANY R-III	ALBANY R-III	34.3	4744.99
ASH GROVE R-IV	ASH GROVE R-IV	25.8	4924.00
ATLANTA C-3	ATLANTA C-3	33.3	5495.47
AURORA R-VIII	AURORA R-VIII	35.8	4335.13
AVA R-I	AVA R-I	39.6	4639.73
AVENUE CITY R-IX	AVENUE CITY R-IX	33.3	4533.09
AVILLA R-XIII	AVILLA R-XIII	11.8	4346.16
BAYLESS	BAYLESS	31	4900.23
BELL CITY R-II	BELL CITY R-II	13.8	5276.34
BELTON 124	BELTON 124	25	4682.59
BERNIE R-XIII	BERNIE R-XIII	32	4901.76
BEVIER C-4	BEVIER C-4	12	4576.50
BISMARCK R-V	BISMARCK R-V	13.6	4644.75
BLOOMFIELD R-XIV	BLOOMFIELD R-XIV	23.2	4370.02
BLUE EYE R-V	BLUE EYE R-V	33.9	5102.49
BLUE SPRINGS R-IV	BLUE SPRINGS R-IV	44.6	5107.80
BOLIVAR R-I	BOLIVAR R-I	26.6	4862.93
BONCL R-X	BONCL R-X	0	6554.16
BOONE CO. R-IV	BOONE CO. R-IV	25.9	4619.85
BOONVILLE R-I	BOONVILLE R-I	29.5	5524.19
BOSWORTH R-V	BOSWORTH R-V	18.2	6959.43
BOWLING GREEN R-I	BOWLING GREEN R-I	24	4447.07
BRANSON R-IV	BRANSON R-IV	35.6	5326.09
BRAYMER C-4	BRAYMER C-4	30.4	4226.51
BRECKENRIDGE R-I	BRECKENRIDGE R-I	10	7669.99
BRENTWOOD	BRENTWOOD	23.5	8206.47
BRONAUGH R-VII	BRONAUGH R-VII	10	5054.33
BROOKFIELD R-III	BROOKFIELD R-III	27.2	5517.33
BRUNSWICK R-II	BRUNSWICK R-II	47.6	5149.93
BUCKLIN R-II	BUCKLIN R-II	78.6	5510.84
BUTLER R-V	BUTLER R-V	26.4	4749.16
CABOOL R-IV	CABOOL R-IV	30.9	4684.98
CAINSVILLE R-I	CAINSVILLE R-I	0	7330.60
CALLAO C-8	CALLAO C-8	50	6103.80
CAMDENTON R-III	CAMDENTON R-III	24.8	4928.48
CANTON R-V	CANTON R-V	22.9	4823.30
CARROLLTON R-VII	CARROLLTON R-VII	31.9	4814.99
CARTHAGE R-IX	CARTHAGE R-IX	17.4	4461.71
CARUTHERSVILLE 18	CARUTHERSVILLE 18	23.5	4452.56

CASSVILLE R-IV	CASSVILLE R-IV	32.4	4491.28
CENTER 58	CENTER 58	21.7	8220.65
CENTERVILLE R-I	CENTERVILLE R-I	22.2	5668.17
CENTRAL R-III	CENTRAL R-III	17.7	4724.05
CENTRALIA R-VI	CENTRALIA R-VI	37.2	4223.26
CHADWICK R-I	CHADWICK R-I	9.5	4292.35
CHARLESTON R-I	CHARLESTON R-I	28.6	4830.87
CHILHOWEE R-IV	CHILHOWEE R-IV	7.7	5423.08
CHILLICOTHE R-II	CHILLICOTHE R-II	23.8	5258.55
CLARK CO. R-I	CLARK CO. R-I	27.8	4303.73
CLARKSBURG C-2	CLARKSBURG C-2	30.8	4855.34
CLARKTON C-4	CLARKTON C-4	3.8	5274.75
CLAYTON	CLAYTON	52.9	10498.55
CLEARWATER R-I	CLEARWATER R-I	14.9	4924.86
CLEVER R-V	CLEVER R-V	22.2	3819.50
CLINTON	CLINTON	27.3	4862.00
COLE CAMP R-I	COLE CAMP R-I	38.8	4099.58
COLE CO. R-I	COLE CO. R-I	36.5	4467.55
COLE CO. R-II	COLE CO. R-II	42.4	4455.69
COLUMBIA 93	COLUMBIA 93	36.1	5822.50
COMMUNITY R-VI	COMMUNITY R-VI	17.4	5371.99
CONCORDIA R-II	CONCORDIA R-II	24.1	5085.54
COOPER CO. C-4	COOPER CO. R-IV	0	7105.06
COUCH R-I	COUCH R-I	20	5474.13
COWGILL R-VI	COWGILL R-VI	0	4460.49
CRANE R-III	CRANE R-III	26.5	4501.27
CRAWFORD CO. R-I	CRAWFORD CO. R-I	29.3	4337.44
CROCKER R-II	CROCKER R-II	42.9	4229.42
CRYSTAL CITY 47	CRYSTAL CITY 47	29.2	5026.21
DADEVILLE R-II	DADEVILLE R-II	6.3	4874.94
DALLAS CO. R-I	DALLAS CO. R-I	23.7	4594.42
DAVIS R-XII	DAVIS R-XII	28.6	6343.36
DENT-PHELPS R-III	DENT-PHELPS R-III	18.8	4912.33
DEXTER R-XI	DEXTER R-XI	31	4235.20
DIAMOND R-IV	DIAMOND R-IV	30	3960.10
DONIPHAN R-I	DONIPHAN R-I	44.2	5139.56
DORA R-III	DORA R-III	26.7	5475.48
DREXEL R-IV	DREXEL R-IV	43.5	4711.00
DUNKLIN R-V	DUNKLIN R-V	21.8	4872.40
EAST BUCHANAN CO. C-1	EAST BUCHANAN CO. C-1	27.6	5707.91
EAST LYNNE 40	EAST LYNNE 40	15.4	5243.45
EL DORADO SPRINGS R-II	EL DORADO SPRINGS R-II	30.1	4726.35
ELDON R-I	ELDON R-I	25.5	5024.45
ELSBERRY R-II	ELSBERRY R-II	26.6	4151.00
EMINENCE R-I	EMINENCE R-I	24	5123.05

EVERTON R-III	EVERTON R-III	52.9	5395.91
EXCELSIOR SPRINGS 40	EXCELSIOR SPRINGS 40	26.6	4806.01
FAIR GROVE R-X	FAIR GROVE R-X	41.6	4206.41
FAIR PLAY R-II	FAIR PLAY R-II	19	4645.83
FAIRFAX R-III	FAIRFAX R-III	25	6541.77
FAIRVIEW R-XI	FAIRVIEW R-XI	33.9	4455.90
FARMINGTON R-VII	FARMINGTON R-VII	31.8	4969.06
FAYETTE R-III	FAYETTE R-III	34	4805.45
FERGUSON-FLORISSANT R-II	FERGUSON-FLORISSANT R-II	19.2	6492.60
FESTUS R-VI	FESTUS R-VI	31.6	4314.80
FORT OSAGE R-I	FORT OSAGE R-I	26.2	5695.60
FRANCIS HOWELL R-III	FRANCIS HOWELL R-III	37.5	5827.55
FRANKLIN CO. R-II	FRANKLIN CO. R-II	21.1	4145.74
FREDERICKTOWN R-I	FREDERICKTOWN R-I	25.8	4987.47
FULTON 58	FULTON 58	34.5	4771.72
GALLATIN R-V	GALLATIN R-V	24.4	5562.64
GASCONADE C-4	GASCONADE C-4	27.3	4490.34
GASCONADE CO. R-I	GASCONADE CO. R-I	18.8	4452.30
GIDEON 37	GIDEON 37	18.2	4411.91
GILLIAM C-4	GILLIAM C-4	66.7	5744.52
GILMAN CITY R-IV	GILMAN CITY R-IV	20	7393.75
GOLDEN CITY R-III	GOLDEN CITY R-III	35.3	4011.09
GORIN R-III	GORIN R-III	0	8373.40
GRAIN VALLEY R-V	GRAIN VALLEY R-V	34.4	4544.86
GRANDVIEW C-4	GRANDVIEW C-4	25.5	6439.15
GRANDVIEW R-II	GRANDVIEW R-II	15.3	4212.74
GREEN CITY R-I	GREEN CITY R-I	29.2	5340.98
GREENE CO. R-VIII	GREENE CO. R-VIII	24	4006.89
GREENFIELD R-IV	GREENFIELD R-IV	36.1	4530.59
GREENVILLE R-II	GREENVILLE R-II	26.1	4869.22
GRUNDY CO. R-V	GRUNDY CO R-V	37.5	6219.53
HALE R-I	HALE R-I	41.7	6032.18
HALFWAY R-III	HALFWAY R-III	27.6	4794.68
HAMILTON R-II	HAMILTON R-II	20	4915.91
HANNIBAL 60	HANNIBAL 60	22.9	4736.10
HARDEMAN R-X	HARDEMAN R-X	14.3	5206.55
HARDIN-CENTRAL C-2	HARDIN-CENTRAL C-2	54.5	6289.35
HARRISONVILLE R-IX	HARRISBURG R-VIII	31.3	4125.22
HARTVILLE R-II	HARTVILLE R-II	22.4	4687.76
HAZELWOOD	HAZELWOOD	26.7	5567.71
HICKMAN MILLS C-1	HICKMAN MILLS C-1	12.6	6370.57
HICKORY CO. R-I	HICKORY CO. R-I	31.7	5005.25
HIGBEE R-VIII	HIGBEE R-VIII	22.2	4885.27
HIGH POINT R-III	HIGH POINT R-III	30	4252.53
HILLSBORO R-III	HILLSBORO R-III	30	4689.06

HOLDEN R-III	HOLDEN R-III	36.7	4030.23
HOUSTON R-I	HOUSTON R-I	21.4	5499.46
HOWARD CO. R-II	HOWARD CO. R-II	27.8	5092.44
HUDSON R-IX	HUDSON R-IX	25	5549.22
HUMANSVILLE R-IV	HUMANSVILLE R-IV	30.8	4924.13
HUME R-VIII	HUME R-VIII	33.3	4974.30
IBERIA R-V	IBERIA R-V	31.1	5050.89
INDEPENDENCE 30	INDEPENDENCE 30	27.7	6094.66
IRON CO. C-4	IRON CO. C-4	47.2	5248.69
JACKSON R-II	JACKSON R-II	37	4143.43
JEFFERSON C-123	JEFFERSON C-123	44.4	7177.26
JEFFERSON CITY	JEFFERSON CITY	29.5	4853.08
JEFFERSON CO. R-VII	JEFFERSON CO. R-VII	32.5	4229.48
JENNINGS	JENNINGS	9.3	4792.21
JOPLIN R-VIII	JOPLIN R-VIII	22.1	4849.83
JUNCTION HILL C-12	JUNCTION HILL C-12	16	4948.88
KANSAS CITY 33	KANSAS CITY 33	11.5	8956.43
KEARNEY R-I	KEARNEY R-I	46	4128.82
KENNETT 39	KENNETT 39	12	5012.84
KEYTESVILLE R-III	KEYTESVILLE R-III	26.1	5678.73
KINGSTON 42	KINGSTON 42	33.3	6129.39
KINGSTON K-14	KINGSTON K-14	15.7	4898.19
KINGSVILLE R-I	KINGSVILLE R-I	33.3	4399.01
KIRBYVILLE R-VI	KIRBYVILLE R-VI	24	4517.85
KIRKSVILLE R-III	KIRKSVILLE R-III	52	4947.31
KIRKWOOD R-VII	KIRKWOOD R-VII	40.5	6700.44
KNOB NOSTER R-VIII	KNOB NOSTER R-VIII	27.9	5176.64
KNOX CO. R-I	KNOX CO. R-I	18.2	6614.60
LA PLATA R-II	LA PLATA R-II	15.4	4882.84
LACLEDE CO. C-5	LACLEDE CO. C-5	29.5	4595.89
LACLEDE CO. R-I	LACLEDE CO. R-I	29	5009.95
LADUE	LADUE	52	8921.11
LAFAYETTE CO. C-1	LAFAYETTE CO. C-1	15.9	5024.54
LAKELAND R-III	LAKELAND R-III	24.3	4418.59
LAMAR R-I	LAMAR R-I	25.8	4556.03
LAQUEY R-V	LAQUEY R-V	17.1	5287.97
LAREDO R-VII	LAREDO R-VII	16.7	7243.58
LATHROP R-II	LATHROP R-II	19.1	4900.86
LAWSON R-XIV	LAWSON R-XIV	30.2	4279.06
LEBANON R-III	LEBANON R-III	35.1	4631.41
LEE'S SUMMIT R-VII	LEE'S SUMMIT R-VII	43.7	5454.97
LEESVILLE R-IX	LEESVILLE R-IX	25	5219.61
LEOPOLD R-III	LEOPOLD R-III	50	4360.89
LESTERVILLE R-IV	LESTERVILLE R-IV	9.1	7475.87
LEWIS CO. C-1	LEWIS CO. C-1	33	4616.45

LEXINGTON R-V	LEXINGTON R-V	35.2	5628.74
LIBERTY 53	LIBERTY 53	36.4	5044.97
LINCOLN R-II	LINCOLN R-II	28.9	4255.62
LINDBERGH R-VIII	LINDBERGH R-VIII	37.7	6547.50
LINN CO. R-I	LINN CO. R-I	38.9	5503.12
LIVINGSTON CO. R-III	LIVINGSTON CO. R-III	0	7772.02
LONE JACK C-6	LONE JACK C-6	44.4	4601.17
LONEDELL R-XIV	LONEDELL R-XIV	25	4674.92
MACKS CREEK R-V	MACKS CREEK R-V	30.8	5298.59
MACON CO. R-I	MACON CO. R-I	19.5	5313.81
MACON CO. R-IV	MACON CO. R-IV	43.8	7206.40
MANES R-V	MANES R-V	33.3	5910.38
MAPLEWOOD-RICHMOND HEIGHTS	MAPLEWOOD-RICHMOND HEIGHTS	27.6	6439.09
MARCELINE R-V	MARCELINE R-V	25	5111.87
MARIES CO. R-II	MARIES CO. R-II	55.6	4556.39
MARION C. EARLY R-V	MARION C. EARLY R-V	32.7	4292.81
MARION CO. R-II	MARION CO. R-II	30	5295.94
MARIONVILLE R-IX	MARIONVILLE R-IX	24.6	4666.91
MARSHALL	MARSHALL	23.8	5159.01
MARSHFIELD R-I	MARSHFIELD R-I	29.8	4343.98
MARYVILLE R-II	MARYVILLE R-II	29.7	5441.05
MAYSVILLE R-I	MAYSVILLE R-I	22.7	4364.34
MEADOW HEIGHTS R-II	MEADOW HEIGHTS R-II	17.3	4099.82
MEHLVILLE R-IX	MEHLVILLE R-IX	36.5	5072.04
MERAMEC VALLEY R-III	MERAMEC VALLEY R-III	19.8	4344.58
MEXICO 59	MEXICO 59	27.1	4886.55
MIAMI R-I	MIAMI R-I	0	4503.08
MID-BUCHANAN CO. R-V	MID-BUCHANAN CO. R-V	36.1	4488.17
MIDWAY R-I	MIDWAY R-I	25.8	6265.06
MILAN C-2	MILAN C-2	31	4569.58
MILLER CO. R-III	MILLER CO. R-III	17.6	4711.25
MIRABILE C-1	MIRABILE C-1	20	7695.94
MISSOURI CITY 56	MISSOURI CITY 56	20	5569.99
MOBERLY	MOBERLY	19	5201.30
MONETT R-I	MONETT R-I	31.9	4924.92
MONITEAU CO. C-1	MONITEAU CO. C-1	46.2	5627.56
MONITEAU CO. R-I	MONITEAU CO. R-I	36.8	4265.20
MONITEAU CO. R-V	MONITEAU CO. R-V	30	5102.88
MONITEAU CO. R-VI	MONITEAU CO. R-VI	25.6	4605.74
MONROE CITY R-I	MONROE CITY R-I	14.8	4956.64
MONTGOMERY CO. R-II	MONTGOMERY CO. R-II	26.9	5013.25
MORGAN CO. R-I	MORGAN CO. R-I	13.2	4873.35
MT. VERNON R-V	MT. VERNON R-V	17.3	4585.85
NELL HOLCOMB R-IV	NELL HOLCOMB R-IV	35.5	4042.03
NEW FRANKLIN R-I	NEW FRANKLIN R-I	21.2	4918.33

NEW HAVEN	NEW HAVEN	15.8	5139.11
NEW YORK R-IV	NEW YORK R-IV	25	6104.72
NEWBURG R-II	NEWBURG R-II	31.4	5076.57
NIANGUA R-V	NIANGUA R-V	32.4	5010.01
NIXA R-II	NIXA R-II	52	4113.88
NODAWAY-HOLT R-VII	NODAWAY-HOLT R-VII	34.5	5540.08
NORMANDY	NORMANDY	8.1	6487.47
NORTH CALLAWAY CO. R-I	NORTH CALLAWAY CO. R-I	25.3	4716.92
NORTH KANSAS CITY 74	NORTH KANSAS CITY 74	32.8	5715.40
NORTH MERCER CO. R-III	NORTH MERCER CO. R-III	23.5	6364.20
NORTH NODAWAY CO. R-VI	NORTH NODAWAY CO. R-VI	16	5559.40
NORTH PEMISCOT CO. R-I	NORTH PEMISCOT CO. R-I	4.8	4647.73
NORTH WOOD R-IV	NORTH WOOD R-IV	12.1	5034.63
NORTHEAST RANDOLPH CO. R-IV	NORTHEAST RANDOLPH CO. R-IV	28	4672.69
NORTHEAST VERNON CO. R-I	NORTHEAST VERNON CO. R-I	7.1	5671.25
NORTHWEST R-I	NORTHWEST R-I	27.3	4720.91
NORTHWESTERN R-I	NORTHWESTERN R-I	23.5	6120.49
NORWOOD R-I	NORWOOD R-I	21.7	4917.47
OAK GROVE R-VI	OAK GROVE R-VI	22.5	4942.57
OAK RIDGE R-VI	OAK RIDGE R-VI	42.9	4407.59
ODESSA R-VII	ODESSA R-VII	26.6	4360.32
OREARVILLE R-IV	OREARVILLE R-IV	14.3	6182.55
OREGON-HOWELL R-III	OREGON-HOWELL R-III	47.6	4861.62
ORRICK R-XI	ORRICK R-XI	45	4782.20
OSAGE CO. R-II	OSAGE CO. R-II	37.1	6194.69
OSAGE CO. R-III	OSAGE CO. R-III	13.8	4468.05
OTTERVILLE R-VI	OTTERVILLE R-VI	50	4628.41
PALMYRA R-I	PALMYRA R-I	33.8	4681.95
PARIS R-II	PARIS R-II	17.6	4442.13
PARK HILL	PARK HILL	40.7	5853.23
PARKWAY C-2	PARKWAY C-2	45.8	6743.63
PATTONVILLE R-III	PATTONVILLE R-III	38.9	7530.35
PEMISCOT CO. R-III	PEMISCOT CO. R-III	42.9	5338.91
PETTIS CO. R-V	PETTIS CO. R-V	37.9	5274.86
PETTIS CO. R-XII	PETTIS CO. R-XII	41.7	6979.07
PHELPS CO. R-III	PHELPS CO. R-III	6.3	5037.54
PIERCE CITY R-VI	PIERCE CITY R-VI	30.2	4574.96
PIKE CO. R-III	PIKE CO. R-III	21.4	5203.75
PLATO R-V	PLATO R-V	36.1	4203.72
PLATTE CO. R-III	PLATTE CO. R-III	29.5	5333.04
PLEASANT HILL R-III	PLEASANT HILL R-III	29	5154.46
PLEASANT VIEW R-VI	PLEASANT VIEW R-VI	85.7	9539.79
POLO R-VII	POLO R-VII	23.5	4281.94
POPLAR BLUFF R-I	POPLAR BLUFF R-I	25.8	4545.83
POTOSI R-III	POTOSI R-III	27.5	5248.55

PRINCETON R-V	PRINCETON R-V	50	6437.37
PURDY R-II	PURDY R-II	21.6	4272.92
PUTNAM CO. R-I	PUTNAM CO. R-I	23.7	5480.88
PUXICO R-VIII	PUXICO R-VIII	26.3	4701.84
RALLS CO. R-II	RALLS CO. R-II	27.6	4437.48
RAYMORE-PECULIAR R-II	RAYMORE-PECULIAR R-II	33.4	4658.61
RAYTOWN C-2	RAYTOWN C-2	29.4	5834.15
REEDS SPRING R-IV	REEDS SPRING R-IV	32.9	5352.21
RENICK R-V	RENICK R-V	22.2	5550.19
REPUBLIC R-III	REPUBLIC R-III	28.7	3831.97
RICH HILL R-IV	RICH HILL R-IV	20.5	4548.50
RICHARDS R-V	RICHARDS R-V	42.9	4220.98
RICHLAND R-I	RICHLAND R-I	19.4	5084.54
RICHMOND R-XVI	RICHMOND R-XVI	27.6	4701.02
RICHWOODS R-VII	RICHWOODS R-VII	6.7	5180.22
RIDGEWAY R-V	RIDGEWAY R-V	52.9	6518.47
RIPLEY CO. R-III	RIPLEY CO. R-III	38.5	5278.55
RISCO R-II	RISCO R-II	53.3	6256.84
RITENOUR	RITENOUR	27.8	5217.91
RIVERVIEW GARDENS	RIVERVIEW GARDENS	10.5	5584.14
ROCK PORT R-II	ROCK PORT R-II	36.7	5574.60
ROCKWOOD R-VI	ROCKWOOD R-VI	45.8	5442.45
ROLLA 31	ROLLA 31	38.7	4856.42
ROSCOE C-1	ROSCOE C-1	22.2	6189.55
SALEM R-80	SALEM R-80	27.3	4624.67
SANTA FE R-X	SANTA FE R-X	44.4	5580.76
SARCOXIE R-II	SARCOXIE R-II	8.9	4320.05
SAVANNAH R-III	SAVANNAH R-III	30.7	4087.45
SCHOOL OF THE OSAGE R-II	SCHOOL OF THE OSAGE R-II	31.3	5215.17
SCHUYLER CO. R-I	SCHUYLER CO. R-I	21.4	4767.61
SCOTT CITY R-I	SCOTT CITY R-I	31	3950.97
SCOTT CO. CENTRAL SCHOOLS	SCOTT CO. CENTRAL	20.7	5610.94
SEDALIA 200	SEDALIA 200	27.3	4642.15
SENATH-HORNERSVILLE C-8	SENATH-HORNERSVILLE C-8	33.3	4657.08
SENECA R-VII	SENECA R-VII	28.4	3888.60
SHAWNEE R-III	SHAWNEE R-III	20	4241.31
SHELBY CO. R-IV	SHELBY CO. R-IV	30.6	5422.67
SHERWOOD CASS R-VIII	SHERWOOD CASS R-VIII	16.7	4590.49
SIKESTON R-VI	SIKESTON R-VI	27.2	4262.38
SILEX R-I	SILEX R-I	6.3	4788.24
SLATER	SLATER	12.5	5315.90
SMITHTON R-VI	SMITHTON R-VI	15.2	4304.71
SMITHVILLE R-II	SMITHVILLE R-II	34.4	4876.05
SOUTH CALLAWAY CO. R-II	SOUTH CALLAWAY CO. R-II	46.7	6876.85
SOUTH HARRISON CO. R-II	SOUTH HARRISON CO. R-II	27.6	5225.45

SOUTH IRON CO. R-I	SOUTH IRON CO. R-I	33.3	5424.88
SOUTH NODAWAY CO. R-IV	SOUTH NODAWAY CO. R-IV	50	6173.89
SOUTHERN BOONE CO. R-I	SOUTHERN BOONE CO. R-I	32	4617.12
SOUTHERN REYNOLDS CO. R-II	SOUTHERN REYNOLDS CO. R-II	28.2	5176.26
SOUTHWEST LIVINGSTON CO. R-I	SOUTHWEST LIVINGSTON CO. R-I	13.3	5106.62
SOUTHWEST R-V	SOUTHWEST R-V	29.5	4559.56
SPICKARD R-II	SPICKARD R-II	16.7	6082.73
ST. CHARLES CO. R-V	ST. CHARLES CO. R-V	21.7	6214.98
ST. CHARLES R-VI	ST. CHARLES R-VI	32.5	6071.60
ST. ELIZABETH R-IV	ST. ELIZABETH R-IV	23.8	4947.92
ST. JAMES R-I	ST. JAMES R-I	26.8	4767.43
ST. LOUIS CITY	ST. LOUIS CITY	10.1	7079.72
STE. GENEVIEVE CO. R-II	STE. GENEVIEVE CO. R-II	28.3	4662.63
STET R-XV	STET R-XV	37.5	7765.33
STEWARTSVILLE C-2	STEWARTSVILLE C-2	34.8	5093.57
STOCKTON R-I	STOCKTON R-I	27	4664.30
STRASBURG C-3	STRASBURG C-3	50	5165.00
STURGEON R-V	STURGEON R-V	20.5	4882.07
SUCCESS R-VI	SUCCESS R-VI	21.4	4915.71
SULLIVAN C-2	SULLIVAN C-2	22.4	4387.17
SUMMERSVILLE R-II	SUMMERSVILLE R-II	16.7	4775.51
SUNRISE R-IX	SUNRISE R-IX	25.7	4301.83
SWEDEBORG R-III	SWEDEBORG R-III	40	4517.65
SWEET SPRINGS R-VII	SWEET SPRINGS R-VII	35	5191.16
TANEYVILLE R-II	TANEYVILLE R-II	50	4864.29
TARKIO R-I	TARKIO R-I	42.5	4878.65
THAYER R-II	THAYER R-II	31.4	4782.49
TINA-AVALON R-II	TINA-AVALON R-II	19	5158.88
TRENTON R-IX	TRENTON R-IX	11.1	5351.83
TRI-COUNTY R-VII	TRI-COUNTY R-VII	20	6338.33
TROY R-III	TROY R-III	24	4083.01
UNION STAR R-II	UNION STAR R-II	40	6034.53
UNIVERSITY CITY	UNIVERSITY CITY	26.9	6070.39
VALLEY PARK	VALLEY PARK	20.8	6721.45
VAN BUREN R-I	VAN BUREN R-I	25.5	5212.08
VAN-FAR R-I	VAN-FAR R-I	29.3	4756.22
VERONA R-VII	VERONA R-VII	5.6	4993.31
WALNUT GROVE R-V	WALNUT GROVE R-V	28.6	5294.55
WARRENSBURG R-VI	WARRENSBURG R-VI	39.5	4909.51
WARSAW R-IX	WARSAW R-IX	26.7	4778.87
WAYNESVILLE R-VI	WAYNESVILLE R-VI	43.9	5625.81
WEBB CITY R-VII	WEBB CITY R-VII	34.9	4261.58
WEBSTER GROVES	WEBSTER GROVES	51.3	6185.46
WELLINGTON-NAPOLEON R-IX	WELLINGTON-NAPOLEON R-IX	27.8	5157.08
WELLSVILLE MIDDLETOWN R-I	WELLSVILLE MIDDLETOWN R-I	30.2	4829.25

WENTZVILLE R-IV	WENTZVILLE R-IV	37.3	5903.82
WEST PLAINS R-VII	WEST PLAINS R-VII	33.5	5053.07
WEST ST. FRANCOIS CO. R-IV	WEST ST. FRANCOIS CO. R-IV	13	4055.07
WESTVIEW C-6	WESTVIEW C-6	20	4416.33
WILLARD R-II	WILLARD R-II	24.6	4304.34
WILLOW SPRINGS R-IV	WILLOW SPRINGS R-IV	25.8	4628.67
WINDSOR C-1	WINDSOR C-1	24.8	4412.91
WINONA R-III	WINONA R-III	20.6	4945.04
WOODLAND R-IV	WOODLAND R-IV	30.8	4324.08
WORTH CO. R-III	WORTH CO. R-III	35.3	4910.91
WRIGHT CITY R-II	WRIGHT CITY R-II	12.1	4693.92
WYACONDA C-1	WYACONDA C-1	50	8291.96

2002 School District Data

DISTNAME (PPE List)	DISTNAME (MAP)	TOP_TWO_LEVELS_PCT (Y)	PPE 2002(X)
ADAIR CO. R-I	ADAIR CO. R-I	15.8	7943.269359
ADAIR CO. R-II	ADAIR CO. R-II	31.8	5827.754301
ADRIAN R-III	ADRIAN R-III	47.6	5689.332153
ADVANCE R-IV	ADVANCE R-IV	62.1	5310.660047
AFFTON 101	AFFTON 101	29.8	6757.171615
ALBANY R-III	ALBANY R-III	38.5	6549.334758
ALTENBURG 48	ALTENBURG 48	36.4	5027.947104
ALTON R-IV	ALTON R-IV	39.1	6322.860902
APPLETON CITY R-II	APPLETON CITY R-II	28.9	7047.091808
ARCADIA VALLEY R-II	ARCADIA VALLEY R-II	37.5	6374.591256
ASH GROVE R-IV	ASH GROVE R-IV	34.5	5168.783655
ATLANTA C-3	ATLANTA C-3	57.1	7152.345645
AURORA R-VIII	AURORA R-VIII	23.1	5609.098371
AVA R-I	AVA R-I	39.4	5466.924042
AVENUE CITY R-IX	AVENUE CITY R-IX	72.7	5976.313073
AVILLA R-XIII	AVILLA R-XIII	30	5767.950606
BAKERSFIELD R-IV	BAKERSFIELD R-IV	50	7020.622813
BALLARD R-II	BALLARD R-II	16.7	6969.977123
BAYLESS	BAYLESS	29	5753.535819
BELL CITY R-II	BELL CITY R-II	42.3	6179.248084
BELLEVIEW R-III	BELLEVIEW R-III	50	7193.638985
BELTON 124	BELTON 124	31.6	6034.260414
BERNIE R-XIII	BERNIE R-XIII	45.9	5441.976056
BEVIER C-4	BEVIER C-4	22.7	5247.526502
BILLINGS R-IV	BILLINGS R-IV	39.4	5611.424998
BISMARCK R-V	BISMARCK R-V	18.4	6193.840832
BLACKWATER R-II	BLACKWATER R-II	23.5	5823.258191
BLOOMFIELD R-XIV	BLOOMFIELD R-XIV	33.9	5711.217253
BLUE EYE R-V	BLUE EYE R-V	42.9	7319.072244
BLUE SPRINGS R-IV	BLUE SPRINGS R-IV	46.5	6623.175428
BOLIVAR R-I	BOLIVAR R-I	36.9	7118.987817
BONCL R-X	BONCL R-X	83.3	7251.51906
BOONE CO. R-IV	BOONE CO. R-IV	37.5	5711.053991
BOONVILLE R-I	BOONVILLE R-I	28.7	6699.775335
BOSWORTH R-V	BOSWORTH R-V	5.9	7372.806536
BOWLING GREEN R-I	BOWLING GREEN R-I	32.5	5461.76682
BRADLEYVILLE R-I	BRADLEYVILLE R-I	33.3	6803.899464
BRANSON R-IV	BRANSON R-IV	30.6	6357.566917
BRAYMER C-4	BRAYMER C-4	24	6249.367802
BRECKENRIDGE R-I	BRECKENRIDGE R-I	28.6	11008.18578
BRENTWOOD	BRENTWOOD	59.5	11106.73788
BRONAUGH R-VII	BRONAUGH R-VII	31.3	6841.301395

BROOKFIELD R-III	BROOKFIELD R-III	20.2	6974.797921
BRUNSWICK R-II	BRUNSWICK R-II	45	6910.27102
BUCHANAN CO. R-IV	BUCHANAN CO. R-IV	25.9	7296.373661
BUCKLIN R-II	BUCKLIN R-II	33.3	8503.896969
BUNKER R-III	BUNKER R-III	45	8610.451037
BUTLER R-V	BUTLER R-V	34.1	5918.388143
CABOOL R-IV	CABOOL R-IV	26.6	6356.725461
CAINSVILLE R-I	CAINSVILLE R-I	37.5	9542.763416
CALHOUN R-VIII	CALHOUN R-VIII	38.5	6594.626216
CALLAO C-8	CALLAO C-8	37.5	8245.018524
CAMDENTON R-III	CAMDENTON R-III	40.2	6386.90813
CAMERON R-I	CAMERON R-I	26.4	6573.794073
CAMPBELL R-II	CAMPBELL R-II	33.3	6260.16169
CANTON R-V	CANTON R-V	40	6140.443344
CAPE GIRARDEAU 63	CAPE GIRARDEAU 63	25.4	6359.123779
CARL JUNCTION R-I	CARL JUNCTION R-I	41.5	5538.324302
CARROLLTON R-VII	CARROLLTON R-VII	31.7	6452.81996
CARTHAGE R-IX	CARTHAGE R-IX	25.8	5517.311829
CARUTHERSVILLE 18	CARUTHERSVILLE 18	17.4	5603.164885
CASS CO. R-V	CASS CO. R-V	42	5900.96148
CASSVILLE R-IV	CASSVILLE R-IV	36.3	5222.741965
CENTER 58	CENTER 58	34.5	9709.693647
CENTERVILLE R-I	CENTERVILLE R-I	25	7689.804234
CENTRAL R-III	CENTRAL R-III	46.5	6366.22809
CENTRALIA R-VI	CENTRALIA R-VI	52.6	5251.037252
CHADWICK R-I	CHADWICK R-I	53.3	7106.397962
CHAFFEE R-II	CHAFFEE R-II	54.3	5261.280116
CHARLESTON R-I	CHARLESTON R-I	20.2	6369.070233
CHILHOWEE R-IV	CHILHOWEE R-IV	81.8	8039.76881
CHILLICOTHE R-II	CHILLICOTHE R-II	33.6	7005.401653
CLARK CO. R-I	CLARK CO. R-I	23.5	5335.117299
CLARKSBURG C-2	CLARKSBURG C-2	33.3	6267.028026
CLARKTON C-4	CLARKTON C-4	11.5	5790.655915
CLAYTON	CLAYTON	62.6	13884.49979
CLEARWATER R-I	CLEARWATER R-I	30.4	5694.759979
CLEVER R-V	CLEVER R-V	42.9	5888.265514
CLIMAX SPRINGS R-IV	CLIMAX SPRINGS R-IV	13.3	10868.45235
CLINTON	CLINTON	34.1	6214.012979
CLINTON CO. R-III	CLINTON CO. R-III	36	6593.821668
COLE CAMP R-I	COLE CAMP R-I	57.4	5384.46339
COLE CO. R-I	COLE CO. R-I	39	5610.415105
COLE CO. R-II	COLE CO. R-II	34.3	5615.360559
COLE CO. R-V	COLE CO. R-V	30.8	5591.574117
COLUMBIA 93	COLUMBIA 93	38.7	7594.965239
COMMUNITY R-VI	COMMUNITY R-VI	26.7	6259.801869

CONCORDIA R-II	CONCORDIA R-II	22.2	6764.347427
COOPER CO. R-IV	COOPER CO. R-IV	27.3	7662.28935
COOTER R-IV	COOTER R-IV	27.3	6497.494702
COUCH R-I	COUCH R-I	38.1	6780.373624
COWGILL R-VI	COWGILL R-VI	0	10272.20277
CRAIG R-III	CRAIG R-III	25	8514.197698
CRANE R-III	CRANE R-III	43.3	6387.466234
CRAWFORD CO. R-I	CRAWFORD CO. R-I	37.7	5658.428628
CRAWFORD CO. R-II	CRAWFORD CO. R-II	24.1	5270.525286
CROCKER R-II	CROCKER R-II	72.5	5591.639416
CRYSTAL CITY 47	CRYSTAL CITY 47	34.1	6096.161006
DADEVILLE R-II	DADEVILLE R-II	29.4	6591.164472
DALLAS CO. R-I	DALLAS CO. R-I	34	6073.69387
DAVIS R-XII	DAVIS R-XII	60	8024.996204
DELTA C-7	DELTA C-7	16.7	5679.881635
DELTA R-V	DELTA R-V	47.8	6125.359988
DENT-PHELPS R-III	DENT-PHELPS R-III	36.4	5887.522743
DESOTO 73	DESOTO 73	28.2	7191.006763
DEXTER R-XI	DEXTER R-XI	40	5380.617314
DIAMOND R-IV	DIAMOND R-IV	28.3	5374.238109
DIXON R-I	DIXON R-I	32.1	5472.27953
DONIPHAN R-I	DONIPHAN R-I	27.4	5755.808201
DORA R-III	DORA R-III	36.8	7147.577901
DREXEL R-IV	DREXEL R-IV	35.5	6777.552011
DUNKLIN R-V	DUNKLIN R-V	24.4	6496.383413
EAST BUCHANAN CO. C-1	EAST BUCHANAN CO. C-1	41.8	6950.534107
EAST CARTER CO. R-II	EAST CARTER CO. R-II	14.6	6428.603442
EAST LYNNE 40	EAST LYNNE 40	14.3	6337.953964
EAST NEWTON CO. R-VI	EAST NEWTON CO. R-VI	21	5943.41328
EAST PRAIRIE R-II	EAST PRAIRIE R-II	30.3	6082.625868
EL DORADO SPRINGS R-II	EL DORADO SPRINGS R-II	34.9	5132.81118
ELDON R-I	ELDON R-I	31.5	6038.997305
ELSBERRY R-II	ELSBERRY R-II	37.5	5618.162025
EMINENCE R-I	EMINENCE R-I	25	6195.426862
EVERTON R-III	EVERTON R-III	23.5	6109.548547
EXCELSIOR SPRINGS 40	EXCELSIOR SPRINGS 40	27.5	5795.570861
EXETER R-VI	EXETER R-VI	19	5469.864059
FAIR GROVE R-X	FAIR GROVE R-X	42.6	4915.483968
FAIR PLAY R-II	FAIR PLAY R-II	10.5	5676.607853
FAIRFAX R-III	FAIRFAX R-III	10	8622.715388
FAIRVIEW R-XI	FAIRVIEW R-XI	38.9	5838.405999
FARMINGTON R-VII	FARMINGTON R-VII	35.6	6320.877772
FAYETTE R-III	FAYETTE R-III	22.9	6207.849743
FERGUSON-FLORISSANT R-II	FERGUSON-FLORISSANT R-II	31.7	8479.079317
FESTUS R-VI	FESTUS R-VI	47.5	4816.405697

FORDLAND R-III	FORDLAND R-III	59.6	6173.555801
FORSYTH R-III	FORSYTH R-III	31.3	5878.512803
FORT OSAGE R-I	FORT OSAGE R-I	31.9	7084.831266
FOX C-6	FOX C-6	48.1	5792.893838
FRANCIS HOWELL R-III	FRANCIS HOWELL R-III	37.3	6276.512358
FRANKLIN CO. R-II	FRANKLIN CO. R-II	55.6	5566.151014
FREDERICKTOWN R-I	FREDERICKTOWN R-I	35	5910.706269
FT. ZUMWALT R-II	FT. ZUMWALT R-II	39.5	6148.197939
FULTON 58	FULTON 58	39.3	6081.63192
GAINESVILLE R-V	GAINESVILLE R-V	50	6226.565943
GALENA R-II	GALENA R-II	32.4	6396.458423
GALLATIN R-V	GALLATIN R-V	29.7	6614.535475
GASCONADE C-4	GASCONADE C-4	14.3	5893.713759
GASCONADE CO. R-I	GASCONADE CO. R-I	28.2	5517.266596
GASCONADE CO. R-II	GASCONADE CO. R-II	37.3	5479.141091
GIDEON 37	GIDEON 37	13.9	6057.344414
GILLIAM C-4	GILLIAM C-4	25	7732.522936
GILMAN CITY R-IV	GILMAN CITY R-IV	0	9867.513906
GLENWOOD R-VIII	GLENWOOD R-VIII	23.8	6506.48255
GOLDEN CITY R-III	GOLDEN CITY R-III	20.8	6473.322059
GORIN R-III	GORIN R-III	90.9	8248.506401
GRAIN VALLEY R-V	GRAIN VALLEY R-V	29.7	5576.289711
GRANDVIEW C-4	GRANDVIEW C-4	33.7	8068.23984
GRANDVIEW R-II	GRANDVIEW R-II	34.9	4967.219772
GREEN CITY R-I	GREEN CITY R-I	4.2	7275.017231
GREEN FOREST R-II	GREEN FOREST R-II	14.3	6050.15389
GREEN RIDGE R-VIII	GREEN RIDGE R-VIII	40	7078.920408
GREENE CO. R-VIII	GREENE CO. R-VIII	37.7	5014.066562
GREENFIELD R-IV	GREENFIELD R-IV	14.7	7079.438225
GREENVILLE R-II	GREENVILLE R-II	43.6	6512.205763
GRUNDY CO R-V	GRUNDY CO R-V	0	8580.029718
HALE R-I	HALE R-I	33.3	7900.185414
HALFWAY R-III	HALFWAY R-III	35.3	6648.444313
HAMILTON R-II	HAMILTON R-II	34	6941.683885
HANCOCK PLACE	HANCOCK PLACE	25.5	5818.951397
HANNIBAL 60	HANNIBAL 60	35.3	5776.30088
HARDEMAN R-X	HARDEMAN R-X	20	8310.310985
HARDIN-CENTRAL C-2	HARDIN-CENTRAL C-2	25	7093.732194
HARRISBURG R-VIII	HARRISBURG R-VIII	27.3	5415.797589
HARRISONVILLE R-IX	HARRISONVILLE R-IX	37.4	6288.823934
HARTVILLE R-II	HARTVILLE R-II	28	6185.103323
HAYTI R-II	HAYTI R-II	6.8	6725.559778
HAZELWOOD	HAZELWOOD	29.7	7238.60925
HENRY CO. R-I	HENRY CO. R-I	42.3	6296.50163
HERMITAGE R-IV	HERMITAGE R-IV	84.6	6304.404251

HICKMAN MILLS C-1	HICKMAN MILLS C-1	23.3	7816.956569
HICKORY CO. R-I	HICKORY CO. R-I	40	5569.448799
HIGBEE R-VIII	HIGBEE R-VIII	23.1	6695.26043
HIGH POINT R-III	HIGH POINT R-III	25	5891.656142
HILLSBORO R-III	HILLSBORO R-III	32.7	5415.708101
HOLCOMB R-III	HOLCOMB R-III	17.1	4820.740935
HOLDEN R-III	HOLDEN R-III	33	6279.214457
HOLLIDAY C-2	HOLLIDAY C-2	18.2	7942.929908
HOLLISTER R-V	HOLLISTER R-V	21.9	5442.692835
HOUSTON R-I	HOUSTON R-I	35.7	6479.110057
HOWARD CO. R-II	HOWARD CO. R-II	20	6839.267257
HOWELL VALLEY R-I	HOWELL VALLEY R-I	56.5	6520.004837
HUDSON R-IX	HUDSON R-IX	50	6829.658915
HUMANSVILLE R-IV	HUMANSVILLE R-IV	20.6	5738.918098
HUME R-VIII	HUME R-VIII	60	7146.962933
HURLEY R-I	HURLEY R-I	44.4	7023.971315
IBERIA R-V	IBERIA R-V	40.3	5856.331348
INDEPENDENCE 30	INDEPENDENCE 30	40.3	7825.899624
IRON CO. C-4	IRON CO. C-4	48.6	6192.245062
JACKSON R-II	JACKSON R-II	47.4	4802.772005
JASPER CO. R-V	JASPER CO. R-V	25.8	8270.37514
JEFFERSON C-123	JEFFERSON C-123	70	9345.48235
JEFFERSON CITY	JEFFERSON CITY	34.8	6213.021959
JEFFERSON CO. R-VII	JEFFERSON CO. R-VII	50	5713.504352
JENNINGS	JENNINGS	18.8	8399.879924
JOHNSON CO. R-VII	JOHNSON CO. R-VII	20.5	5481.829062
JOPLIN R-VIII	JOPLIN R-VIII	35.9	5681.782972
JUNCTION HILL C-12	JUNCTION HILL C-12	45.9	5944.196016
KANSAS CITY 33	KANSAS CITY 33	19.1	8842.416132
KEARNEY R-I	KEARNEY R-I	40.7	5140.850847
KELSO C-7	KELSO C-7	57.1	5122.817111
KENNETT 39	KENNETT 39	20.5	5989.268938
KEYTESVILLE R-III	KEYTESVILLE R-III	60	7018.840192
KING CITY R-I	KING CITY R-I	23.3	7613.495302
KINGSTON 42	KINGSTON 42	0	9027.744755
KINGSTON K-14	KINGSTON K-14	15.7	5972.239056
KINGSVILLE R-I	KINGSVILLE R-I	24	6036.657122
KIRBYVILLE R-VI	KIRBYVILLE R-VI	40	5545.131001
KIRKSVILLE R-III	KIRKSVILLE R-III	53.5	5903.025308
KIRKWOOD R-VII	KIRKWOOD R-VII	50.7	8110.557603
KNOB NOSTER R-VIII	KNOB NOSTER R-VIII	44.4	6899.535402
KNOX CO. R-I	KNOX CO. R-I	45.5	7440.605286
LA MONTE R-IV	LA MONTE R-IV	23.8	5737.999711
LA PLATA R-II	LA PLATA R-II	26.7	6045.146178
LACLEDE CO. C-5	LACLEDE CO. C-5	39.4	5320.043031

LACLEDE CO. R-I	LACLEDE CO. R-I	28.4	5939.016968
LADUE	LADUE	63.8	11198.93756
LAFAYETTE CO. C-1	LAFAYETTE CO. C-1	31.1	6365.653077
LAKELAND R-III	LAKELAND R-III	33.3	6755.769313
LAMAR R-I	LAMAR R-I	35.9	5905.188323
LAQUEY R-V	LAQUEY R-V	34.2	6015.185862
LATHROP R-II	LATHROP R-II	33.8	7154.517517
LAWSON R-XIV	LAWSON R-XIV	45.9	5599.57849
LEBANON R-III	LEBANON R-III	42.8	5365.832586
LEE'S SUMMIT R-VII	LEE'S SUMMIT R-VII	46.9	7124.85812
LEESVILLE R-IX	LEESVILLE R-IX	25	6964.772483
LEETON R-X	LEETON R-X	43.5	7784.012511
LEOPOLD R-III	LEOPOLD R-III	43.8	5737.880942
LESTERVILLE R-IV	LESTERVILLE R-IV	27.3	9112.544515
LEWIS CO. C-1	LEWIS CO. C-1	22.8	6038.920398
LEXINGTON R-V	LEXINGTON R-V	37.5	7110.774748
LIBERAL R-II	LIBERAL R-II	20.6	5862.345607
LIBERTY 53	LIBERTY 53	50	7011.790135
LICKING R-VIII	LICKING R-VIII	43.3	5728.822776
LINCOLN R-II	LINCOLN R-II	16.7	5622.825193
LINDBERGH R-VIII	LINDBERGH R-VIII	46.4	7595.100764
LINN CO. R-I	LINN CO. R-I	30	7270.646118
LIVINGSTON CO. R-III	LIVINGSTON CO. R-III	14.3	10211.13149
LOCKWOOD R-I	LOCKWOOD R-I	17.6	6436.278954
LONE JACK C-6	LONE JACK C-6	51.6	6642.029632
LONEDELL R-XIV	LONEDELL R-XIV	15.5	5827.580143
LOUISIANA R-II	LOUISIANA R-II	31.3	5870.969113
LURAY 33	LURAY 33	60	7890.936687
LUTIE R-VI	LUTIE R-VI	21.1	7869.886709
MACKS CREEK R-V	MACKS CREEK R-V	10	5564.596108
MACON CO. R-I	MACON CO. R-I	25.6	6180.375431
MACON CO. R-IV	MACON CO. R-IV	83.3	7231.809308
MADISON C-3	MADISON C-3	35.3	5761.055619
MALDEN R-I	MALDEN R-I	22.9	6381.260176
MALTA BEND R-V	MALTA BEND R-V	22.2	9383.833187
MANES R-V	MANES R-V	50	6996.225989
MANSFIELD R-IV	MANSFIELD R-IV	14.9	6102.18346
MAPLEWOOD-RICHMOND HEIGHTS	MAPLEWOOD-RICHMOND HEIGHTS	40.6	10259.78025
MARCELINE R-V	MARCELINE R-V	31.9	6424.689297
MARIES CO. R-I	MARIES CO. R-I	29.7	5850.777074
MARIES CO. R-II	MARIES CO. R-II	46.8	6293.26993
MARION C. EARLY R-V	MARION C. EARLY R-V	16.9	5252.224925
MARION CO. R-II	MARION CO. R-II	31.3	6354.056285
MARIONVILLE R-IX	MARIONVILLE R-IX	46.7	5143.626131
MARK TWAIN R-VIII	MARK TWAIN R-VIII	0	6507.866667

MARQUAND-ZION R-VI	MARQUAND-ZION R-VI	18.8	7014.109226
MARSHALL	MARSHALL	32.4	6971.988723
MARSHFIELD R-I	MARSHFIELD R-I	34.3	5422.624725
MARYVILLE R-II	MARYVILLE R-II	42	7186.53161
MAYSVILLE R-I	MAYSVILLE R-I	30.9	6158.064702
MCDONALD CO. R-I	MCDONALD CO. R-I	35.8	4775.450579
MEADOW HEIGHTS R-II	MEADOW HEIGHTS R-II	33.3	6691.521876
MEADVILLE R-IV	MEADVILLE R-IV	22.2	7030.071773
MEHLVILLE R-IX	MEHLVILLE R-IX	42.6	6297.788309
MERAMEC VALLEY R-III	MERAMEC VALLEY R-III	41.7	5721.376707
MEXICO 59	MEXICO 59	39.5	5836.466648
MIAMI R-I	MIAMI R-I	16.7	8035.31297
MIAMI R-I	MIAMI R-I	38.5	6467.174103
MID-BUCHANAN CO. R-V	MID-BUCHANAN CO. R-V	36.1	6009.223358
MIDDLE GROVE C-1	MIDDLE GROVE C-1	33.3	9762.19968
MIDWAY R-I	MIDWAY R-I	30	7680.515939
MILAN C-2	MILAN C-2	29.5	5970.034654
MILLER CO. R-III	MILLER CO. R-III	23.1	6191.320843
MILLER R-II	MILLER R-II	30	5948.099158
MIRABILE C-1	MIRABILE C-1	50	9021.356231
MISSOURI CITY 56	MISSOURI CITY 56	50	9768.185739
MOBERLY	MOBERLY	25.9	6487.976455
MONETT R-I	MONETT R-I	32.7	6140.008596
MONITEAU CO. C-1	MONITEAU CO. C-1	38.1	7638.555915
MONITEAU CO. R-I	MONITEAU CO. R-I	22.1	5330.818995
MONITEAU CO. R-V	MONITEAU CO. R-V	33.3	6268.731245
MONITEAU CO. R-VI	MONITEAU CO. R-VI	20.4	5831.612701
MONROE CITY R-I	MONROE CITY R-I	23.5	6499.074822
MONTGOMERY CO. R-II	MONTGOMERY CO. R-II	27.6	6366.286134
MONTROSE R-XIV	MONTROSE R-XIV	100	9067.746088
MORGAN CO. R-I	MORGAN CO. R-I	19	5397.139431
MORGAN CO. R-II	MORGAN CO. R-II	40.2	5711.094456
MOUND CITY R-II	MOUND CITY R-II	33.3	6910.128907
MOUNTAIN GROVE R-III	MOUNTAIN GROVE R-III	21.7	6297.740745
MOUNTAIN VIEW-BIRCH TREE R-III	MOUNTAIN VIEW-BIRCH TREE R-III	47.9	5936.394403
MT. VERNON R-V	MT. VERNON R-V	40.7	6091.586111
NAYLOR R-II	NAYLOR R-II	26.3	5907.16123
NEELYVILLE R-IV	NEELYVILLE R-IV	17	5891.602558
NELL HOLCOMB R-IV	NELL HOLCOMB R-IV	44.2	4925.548953
NEOSHO R-V	NEOSHO R-V	45	5347.280204
NEVADA R-V	NEVADA R-V	41.1	6000.529264
NEW BLOOMFIELD R-III	NEW BLOOMFIELD R-III	45.6	5727.151946
NEW FRANKLIN R-I	NEW FRANKLIN R-I	24.4	6598.088097
NEW HAVEN	NEW HAVEN	36.7	6194.934053
NEW MADRID CO. R-I	NEW MADRID CO. R-I	22.7	7290.716538

NEW YORK R-IV	NEW YORK R-IV	40	8436.859362
NEWBURG R-II	NEWBURG R-II	30.4	6382.518187
NEWTOWN-HARRIS R-III	NEWTOWN-HARRIS R-III	20	10429.53547
NIANGUA R-V	NIANGUA R-V	52.4	6681.116211
NIXA R-II	NIXA R-II	51.6	5034.575317
NODAWAY-HOLT R-VII	NODAWAY-HOLT R-VII	52.4	8168.533088
NORBORNE R-VIII	NORBORNE R-VIII	54.5	7384.225325
NORMANDY	NORMANDY	26.4	7313.991744
NORTH ANDREW CO. R-VI	NORTH ANDREW CO. R-VI	24	7204.735081
NORTH CALLAWAY CO. R-I	NORTH CALLAWAY CO. R-I	36.6	5546.17409
NORTH DAVIESS R-III	NORTH DAVIESS R-III	23.1	11468.05402
NORTH HARRISON R-III	NORTH HARRISON R-III	38.1	7423.762111
NORTH KANSAS CITY 74	NORTH KANSAS CITY 74	39.9	6954.030528
NORTH MERCER CO. R-III	NORTH MERCER CO. R-III	63.6	8668.868748
NORTH NODAWAY CO. R-VI	NORTH NODAWAY CO. R-VI	25	7776.79333
NORTH PEMISCOT CO. R-I	NORTH PEMISCOT CO. R-I	20.7	6506.135606
NORTH PLATTE CO. R-I	NORTH PLATTE CO. R-I	68.4	7846.957382
NORTH ST. FRANCOIS CO. R-I	NORTH ST. FRANCOIS CO. R-I	15.5	5739.878416
NORTH WOOD R-IV	NORTH WOOD R-IV	41.7	6565.556415
NORTHEAST NODAWAY CO. R-V	NORTHEAST NODAWAY CO. R-V	50	8426.904187
NORTHEAST RANDOLPH CO. R-IV	NORTHEAST RANDOLPH CO. R-IV	32.4	6060.784459
NORTHEAST VERNON CO. R-I	NORTHEAST VERNON CO. R-I	22.2	7529.063305
NORTHWEST R-I	NORTHWEST R-I	35.1	6570.282848
NORTHWESTERN R-I	NORTHWESTERN R-I	66.7	9502.021503
NORWOOD R-I	NORWOOD R-I	51.5	7321.772563
OAK GROVE R-VI	OAK GROVE R-VI	35.8	5508.913156
OAK HILL R-I	OAK HILL R-I	66.7	5941.545708
OAK RIDGE R-VI	OAK RIDGE R-VI	43.6	5618.048216
ODESSA R-VII	ODESSA R-VII	42.6	6216.735956
ORAN R-III	ORAN R-III	36	6181.926064
OREARVILLE R-IV	OREARVILLE R-IV	60	6481.511232
OREGON-HOWELL R-III	OREGON-HOWELL R-III	8.7	6319.908295
ORRICK R-XI	ORRICK R-XI	42.1	5783.31534
OSAGE CO. R-I	OSAGE CO. R-I	26.3	7790.324171
OSAGE CO. R-II	OSAGE CO. R-II	41.8	7033.452998
OSAGE CO. R-III	OSAGE CO. R-III	30.2	5609.888035
OSBORN R-O	OSBORN R-O	27.3	7850.362988
OSCEOLA	OSCEOLA	37.5	6500.953242
OTTERVILLE R-VI	OTTERVILLE R-VI	35.7	6888.498883
OZARK R-VI	OZARK R-VI	31	5164.320925
PALMYRA R-I	PALMYRA R-I	66.2	5752.955278
PARIS R-II	PARIS R-II	40.7	6147.177892
PARK HILL	PARK HILL	47.7	7016.450246
PARKWAY C-2	PARKWAY C-2	45.2	7956.837467

PATTONSBURG R-II	PATTONSBURG R-II	66.7	8140.076732
PATTONVILLE R-III	PATTONVILLE R-III	54.1	9455.816433
PEMISCOT CO. R-III	PEMISCOT CO. R-III	35.7	6053.955451
PERRY CO. 32	PERRY CO. 32	36.8	5759.275391
PETTIS CO. R-V	PETTIS CO. R-V	33.3	6203.196925
PETTIS CO. R-XII	PETTIS CO. R-XII	56.5	6971.001987
PHELPS CO. R-III	PHELPS CO. R-III	21.1	6058.15943
PIERCE CITY R-VI	PIERCE CITY R-VI	26.2	5929.966875
PIKE CO. R-III	PIKE CO. R-III	47.7	7463.639501
PILOT GROVE C-4	PILOT GROVE C-4	22.2	6895.559157
PLAINVIEW R-VIII	PLAINVIEW R-VIII	14.3	5807.138977
PLATO R-V	PLATO R-V	29.4	5444.688906
PLATTE CO. R-III	PLATTE CO. R-III	40.1	6496.370715
PLEASANT HILL R-III	PLEASANT HILL R-III	25.6	6183.761278
PLEASANT HOPE R-VI	PLEASANT HOPE R-VI	31.2	5885.12542
PLEASANT VIEW R-VI	PLEASANT VIEW R-VI	75	10226.59082
POLO R-VII	POLO R-VII	25	7241.307788
POPLAR BLUFF R-I	POPLAR BLUFF R-I	27.8	5742.552318
PORTAGEVILLE	PORTAGEVILLE	16.7	5996.517871
POTOSI R-III	POTOSI R-III	38.6	5499.865408
PRAIRIE HOME R-V	PRAIRIE HOME R-V	14.3	6736.163019
PRINCETON R-V	PRINCETON R-V	13.9	9351.14258
PULASKI CO. R-IV	PULASKI CO. R-IV	33.3	5756.54251
PURDY R-II	PURDY R-II	28.1	5401.760931
PUTNAM CO. R-I	PUTNAM CO. R-I	27.9	6803.241707
PUXICO R-VIII	PUXICO R-VIII	40.4	4967.82586
RALLS CO. R-II	RALLS CO. R-II	32.5	5688.277827
RAYMONDVILLE R-VII	RAYMONDVILLE R-VII	11.1	6814.072967
RAYMORE-PECULIAR R-II	RAYMORE-PECULIAR R-II	46.4	5667.79249
RAYTOWN C-2	RAYTOWN C-2	27	6615.606917
REEDS SPRING R-IV	REEDS SPRING R-IV	42	5827.827556
RENICK R-V	RENICK R-V	20	7749.342792
REPUBLIC R-III	REPUBLIC R-III	35.4	4974.293218
REVERE C-3	REVERE C-3	12.5	10288.86094
RICH HILL R-IV	RICH HILL R-IV	56.3	5377.499113
RICHARDS R-V	RICHARDS R-V	42.1	6172.034291
RICHLAND R-I	RICHLAND R-I	38.5	6127.209161
RICHMOND R-XVI	RICHMOND R-XVI	28.1	5863.332623
RICHWOODS R-VII	RICHWOODS R-VII	27.3	6261.625605
RIDGEWAY R-V	RIDGEWAY R-V	37.5	9873.843742
RIPLEY CO. R-III	RIPLEY CO. R-III	69.2	6557.699885
RIPLEY CO. R-IV	RIPLEY CO. R-IV	35.3	6211.710245
RISCO R-II	RISCO R-II	11.8	5932.711281
RITENOUR	RITENOUR	22.7	6808.691533
RIVERVIEW GARDENS	RIVERVIEW GARDENS	24.3	6868.159443

ROCK PORT R-II	ROCK PORT R-II	52.2	7118.096875
ROCKWOOD R-VI	ROCKWOOD R-VI	58.2	6805.76039
ROLLA 31	ROLLA 31	34.8	6202.60346
ROSCOE C-1	ROSCOE C-1	37.5	5947.548909
SALEM R-80	SALEM R-80	30.9	5699.359851
SALISBURY R-IV	SALISBURY R-IV	35.3	6842.69698
SANTA FE R-X	SANTA FE R-X	60	6541.889738
SARCOXIE R-II	SARCOXIE R-II	13.4	4780.162003
SAVANNAH R-III	SAVANNAH R-III	27.9	5728.19433
SCHOOL OF THE OSAGE R-II	SCHOOL OF THE OSAGE R-II	47.9	6705.944829
SCHUYLER CO. R-I	SCHUYLER CO. R-I	35.6	6925.922292
SCOTLAND CO. R-I	SCOTLAND CO. R-I	55	6607.905875
SCOTT CITY R-I	SCOTT CITY R-I	29.9	5484.387694
SCOTT CO. CENTRAL	SCOTT CO. CENTRAL	20.9	6364.344658
SCOTT CO. R-IV	SCOTT CO. R-IV	26	5667.902088
SEDALIA 200	SEDALIA 200	29.6	5427.435975
SENATH-HORNERSVILLE C-8	SENATH-HORNERSVILLE C-8	19.1	5900.323625
SENECA R-VII	SENECA R-VII	26.7	5733.237815
SEYMOUR R-II	SEYMOUR R-II	20.3	5449.559748
SHAWNEE R-III	SHAWNEE R-III	50	6102.22813
SHELBY CO. C-1	SHELBY CO. C-1	42.9	6625.867836
SHELBY CO. R-IV	SHELBY CO. R-IV	51.6	6743.689094
SHELDON R-VIII	SHELDON R-VIII	15.4	6643.056608
SHELL KNOB 78	SHELL KNOB 78	10.5	7219.019102
SHERWOOD CASS R-VIII	SHERWOOD CASS R-VIII	17.6	5514.751923
SIKESTON R-VI	SIKESTON R-VI	30.8	5538.608987
SILEX R-I	SILEX R-I	22.2	6151.013846
SKYLINE R-II	SKYLINE R-II	36.4	6432.201894
SLATER	SLATER	35.5	7135.471451
SMITHTON R-VI	SMITHTON R-VI	35.2	5658.539621
SMITHVILLE R-II	SMITHVILLE R-II	35.7	6090.023576
SOUTH CALLAWAY CO. R-II	SOUTH CALLAWAY CO. R-II	60.6	8086.45467
SOUTH HARRISON CO. R-II	SOUTH HARRISON CO. R-II	18	7039.147526
SOUTH HOLT CO. R-I	SOUTH HOLT CO. R-I	40.7	6028.133066
SOUTH IRON CO. R-I	SOUTH IRON CO. R-I	42.9	6801.741485
SOUTH NODAWAY CO. R-IV	SOUTH NODAWAY CO. R-IV	40	8234.361439
SOUTH PEMISCOT CO. R-V	SOUTH PEMISCOT CO. R-V	56.4	5068.245194
SOUTHERN BOONE CO. R-I	SOUTHERN BOONE CO. R-I	40.2	6082.162613
SOUTHERN REYNOLDS CO. R-II	SOUTHERN REYNOLDS CO. R-II	24.4	6017.432354
SOUTHLAND C-9	SOUTHLAND C-9	39.3	6374.414593
SOUTHWEST LIVINGSTON CO. R-I	SOUTHWEST LIVINGSTON CO. R-I	28.6	6671.316393
SOUTHWEST R-V	SOUTHWEST R-V	24.2	5712.086547
SPARTA R-III	SPARTA R-III	37.3	5482.832955
SPICKARD R-II	SPICKARD R-II	33.3	6913.496539
SPOKANE R-VII	SPOKANE R-VII	16.4	7264.796228

SPRING BLUFF R-XV	SPRING BLUFF R-XV	52	4876.504027
SPRINGFIELD R-XII	SPRINGFIELD R-XII	41.1	6051.995746
ST. CHARLES CO. R-V	ST. CHARLES CO. R-V	50.5	7750.972051
ST. CHARLES R-VI	ST. CHARLES R-VI	46.4	7818.287067
ST. CLAIR R-XIII	ST. CLAIR R-XIII	29.6	5137.883466
ST. ELIZABETH R-IV	ST. ELIZABETH R-IV	46.7	6942.25685
ST. JAMES R-I	ST. JAMES R-I	50	6061.29041
ST. JOSEPH	ST. JOSEPH	39.6	6169.475717
ST. LOUIS CITY	ST. LOUIS CITY	20.8	10606.32213
STANBERRY R-II	STANBERRY R-II	60.7	8019.524488
STE. GENEVIEVE CO. R-II	STE. GENEVIEVE CO. R-II	36.8	6195.85344
STEELVILLE R-III	STEELVILLE R-III	26.3	6973.936996
STET R-XV	STET R-XV	50	10217.04546
STEWARTSVILLE C-2	STEWARTSVILLE C-2	63.2	5996.740182
STOCKTON R-I	STOCKTON R-I	29.2	5791.546675
STOUTLAND R-II	STOUTLAND R-II	14.6	5590.663472
STRAFFORD R-VI	STRAFFORD R-VI	38.4	5611.554513
STRAIN-JAPAN R-XVI	STRAIN-JAPAN R-XVI	40	5923.951747
STRASBURG C-3	STRASBURG C-3	54.5	6446.855592
STURGEON R-V	STURGEON R-V	16.1	5864.82328
SUCCESS R-VI	SUCCESS R-VI	21.4	5772.088894
SULLIVAN C-2	SULLIVAN C-2	29.8	6088.182259
SUMMERSVILLE R-II	SUMMERSVILLE R-II	20	6535.83166
SUNRISE R-IX	SUNRISE R-IX	25	5218.382273
SWEDEBORG R-III	SWEDEBORG R-III	16.7	5819.617502
SWEET SPRINGS R-VII	SWEET SPRINGS R-VII	38.2	6151.208025
TANEYVILLE R-II	TANEYVILLE R-II	42.4	6463.557406
TARKIO R-I	TARKIO R-I	50	7153.594938
THAYER R-II	THAYER R-II	35.1	5841.11392
THORNFIELD R-I	THORNFIELD R-I	57.1	6840.226422
TINA-AVALON R-II	TINA-AVALON R-II	40	7219.96853
TRENTON R-IX	TRENTON R-IX	40	6050.415449
TRI-COUNTY R-VII	TRI-COUNTY R-VII	18.8	8825.55807
TROY R-III	TROY R-III	31.3	5042.280156
TWIN RIVERS R-X	TWIN RIVERS R-X	30.2	6128.581514
UNION R-XI	UNION R-XI	26.1	5604.156059
UNION STAR R-II	UNION STAR R-II	33.3	8208.894737
UNIVERSITY CITY	UNIVERSITY CITY	36.2	8252.092386
VALLEY PARK	VALLEY PARK	34.1	7742.464946
VALLEY R-VI	VALLEY R-VI	28.1	6550.116326
VAN BUREN R-I	VAN BUREN R-I	21.2	7016.28595
VAN-FAR R-I	VAN-FAR R-I	35.8	6417.776341
VERONA R-VII	VERONA R-VII	6.1	5956.423631
WALNUT GROVE R-V	WALNUT GROVE R-V	37.5	6387.148235
WARREN CO. R-III	WARREN CO. R-III	27.3	5159.536618

WARRENSBURG R-VI	WARRENSBURG R-VI	47.2	5990.207789
WARSAW R-IX	WARSAW R-IX	40.7	5782.471382
WASHINGTON	WASHINGTON	47.3	6492.816399
WAYNESVILLE R-VI	WAYNESVILLE R-VI	33	7099.42602
WEAUBLEAU R-III	WEAUBLEAU R-III	32.6	5470.885401
WEBB CITY R-VII	WEBB CITY R-VII	46.5	5440.990314
WEBSTER GROVES	WEBSTER GROVES	53.7	8039.308749
WELLINGTON-NAPOLEON R-IX	WELLINGTON-NAPOLEON R-IX	42.5	6424.670662
WELLSTON	WELLSTON	20.3	10678.39124
WELLSVILLE MIDDLETOWN R-I	WELLSVILLE MIDDLETOWN R-I	44.1	6547.628857
WENTZVILLE R-IV	WENTZVILLE R-IV	39.2	6830.61149
WEST NODAWAY CO. R-I	WEST NODAWAY CO. R-I	47.6	6876.544948
WEST PLAINS R-VII	WEST PLAINS R-VII	39.9	6737.407771
WEST PLATTE CO. R-II	WEST PLATTE CO. R-II	45.8	7094.368603
WEST ST. FRANCOIS CO. R-IV	WEST ST. FRANCOIS CO. R-IV	13.2	5208.295015
WESTRAN R-I	WESTRAN R-I	26.7	7334.98764
WESTVIEW C-6	WESTVIEW C-6	48	6268.128154
WHEATLAND R-II	WHEATLAND R-II	16.7	6466.013904
WHEATON R-III	WHEATON R-III	31.4	6386.886991
WILLARD R-II	WILLARD R-II	41.9	5283.473653
WILLOW SPRINGS R-IV	WILLOW SPRINGS R-IV	35	6181.190071
WINDSOR C-1	WINDSOR C-1	25.9	5738.506528
WINFIELD R-IV	WINFIELD R-IV	34.8	4971.025597
WINONA R-III	WINONA R-III	53.3	6116.734834
WINSTON R-VI	WINSTON R-VI	18.8	7507.143676
WOODLAND R-IV	WOODLAND R-IV	25.8	5529.217084
WORTH CO. R-III	WORTH CO. R-III	62.5	6431.189702
WRIGHT CITY R-II	WRIGHT CITY R-II	34.2	5302.64231
WYACONDA C-1	WYACONDA C-1	0	10050.28945
ZALMA R-V	ZALMA R-V	17.4	6175.759967

1998 ANOVA

Regression Statistics	
Multiple R	0.07762
R Square	0.00602
Adjusted R Square	0.00332
Standard Error	11.9902
Observations	369

ANOVA					(p-value)
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	319.788	319.788	2.22438	0.136705962
Residual	367	52761.7	143.765		
Total	368	53081.5			

2002 ANOVA

Regression Statistics		
Multiple R	0.05689	(Pearson r)
R Square	0.00324	
Adjusted R Square	0.00132	
Standard Error	14.4993	
Observations	521	

ANOVA					(p-value)
	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	354.247	354.247	1.68506	0.194830318
Residual	519	109109	210.228		
Total	520	109463			