

PERFORMANCE AUDIT REPORT

State Spending for Higher Education in Kansas

**A Report to the Legislative Post Audit Committee
By the Legislative Division of Post Audit
State of Kansas
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OBTAINING AUDIT INFORMATION

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STATE SPENDING FOR HIGHER EDUCATION IN KANSAS

SUMMARY OF LEGISLATIVE POST AUDIT'S FINDINGS

At the request of the Legislative Post Audit Committee, the Legislative Division of Post Audit completed a comparative study of the level of spending, the number of institutions, and the governing structures for higher education in Kansas and other states. The auditors also reviewed the level of program duplication within Kansas' system of higher education. A summary of their findings is presented below.

1. How does State spending for higher education in Kansas compare with spending by other states? State spending for higher education in Kansas, on a per capita basis is relatively high compared with other states. For fiscal year 1983, Kansas tax revenues appropriated for higher education operating expenditures were \$132 for each state resident, compared with a national average of about \$114. This level of State support ranked Kansas 11th out of 50 states for fiscal year 1983. Over the past five years, the State's ranking has ranged from 7th in fiscal year 1979 to 15th in 1982. Although the State appropriates more on a per capita basis than many other states, it does not appear that its expenditures on a per-student basis are significantly above the averages nationally or in other states.

There appear to be two primary reasons why State appropriations for higher education in Kansas are high. First, Kansas has a larger percent of its population enrolled in public post-secondary institutions than is true of most other states. For fiscal year 1982, only seven other states had more public post-secondary students for the size of their population than did Kansas. Second, Kansas has a higher percentage of its public post-secondary students in four-year institutions than many other states. For fiscal year 1982, 76.6 percent of Kansas' public post-secondary students attended four-year institutions, compared with a national average of about 62 percent. Because four-year institutions are generally more expensive to operate than two-year institutions, this increased demand for four-year schools coupled with larger than average post-secondary student population tends to require a greater amount of State support.

2. Are current resources being spread among too many higher education institutions and programs? In reviewing the number of public two-year and four-year institutions in Kansas and in other states, the auditors found that Kansas has more public institutions of higher education for the size of its population than most states. Only five states--Alaska, Wyoming, North Dakota, North Carolina, and New Hampshire--have fewer residents per public higher education institution than does Kansas. The greatest deviation from other states appears to be in the area of two-year institutions. Kansas has one two-year institution for every 118,212 residents, ranking it fifth in the nation. For four-year institutions, Kansas ranks 17th with one four-year institution for every 295,530 residents. Two-year institutions in Kansas also appear to be

smaller than the average nationally. For fiscal year 1982 full-time equivalent enrollment in Kansas two-year institutions averaged 1,029 compared with a national average of 2,722 for all public two-year schools.

The auditors also found that a considerable number of duplicate programs exist within the State's system of higher education. It appears that 83 degree programs are duplicated within the State's universities, 41 programs are duplicated within the community college system, and 14 adult or post-secondary programs are duplicated within the vocational technical schools. Thirty-five of those programs were duplicated by two types of schools, and seven were offered by all three systems. Because program duplication may be necessary in many instances due to student demand or other factors, the auditors reviewed duplicated programs at the universities to determine which ones were granting relatively few degrees. In all, the auditors found 54 bachelor's-level programs in which one or more of the schools granted ten or fewer degrees. In addition, there were 36 duplicated master's-level and 11 doctoral programs in which an institution granted five or fewer degrees in the 1981-82 school year. These programs appear to offer at least a potential for consolidation or elimination, and should probably be studied in greater depth to determine if consolidation is possible.

3. Are there alternatives for making higher education in Kansas more efficient without sacrificing quality? The auditors reviewed the higher education governing structures in all 50 states to determine if there appeared to be a direct relationship between a specific type of governing structure and greater efficiency within a state's education system. No direct link was found between a particular type of governing system and lower costs or lower state appropriations. The auditors did note that, although no two states are exactly the same, the majority tend to have a governing structure for higher education that is somewhat more centralized than Kansas'. Most states tend to have a single statewide coordinating or governing board responsible for all segments of higher education, rather than separating authority over two-year and four-year schools as Kansas does.

While a change in governing structure alone will not necessarily bring about greater efficiency in Kansas' system, the auditors offer a number of alternatives for consideration when studying possible efficiency measures in Kansas. Those suggestions include consolidating degree programs, establishing policies, such as enrollment caps, to encourage maximum utilization of existing facilities, developing cost indexes to compare the efficiency of the various institutions, reducing the number of institutions, and shifting a greater portion of the cost of higher education to the students.

STATE SPENDING FOR HIGHER EDUCATION IN KANSAS

At its meeting on June 2, 1983, the Legislative Post Audit Committee directed the Legislative Division of Post Audit to conduct a performance audit of State spending for higher education. The audit addresses three primary questions:

How does State spending for higher education in Kansas compare with spending by other states?

Are current resources being spread among too many higher education institutions and programs?

Are there alternatives for making higher education in Kansas more efficient without sacrificing quality?

During this audit, a great deal of information was obtained from many different sources such as Kansas government agencies, studies conducted by various organizations and individuals, and large computerized data banks maintained by the U.S. Department of Education. Whenever possible, the auditors tried to match data obtained from one source against data from another source to ensure as much consistency as possible. Despite these efforts, some consistency and accuracy problems may exist in the data. For example:

--All states do not define full-time equivalent enrollment in exactly the same way. As a result, there may be some built-in inaccuracy in enrollment comparisons between the states.

--All institutions do not classify their receipts and expenditures in exactly the same way when they report them to the federal government or to national organizations. These differences will create some inconsistencies when states are compared.

These types of inconsistencies are nearly impossible to avoid when assembling information that is self-reported by thousands of schools nationally. These limitations do not mean, however, that no conclusions can be drawn from the data. They do mean that conclusions must be drawn with a great deal of care, and that slight variations from state to state or from the national average are probably not meaningful. Nevertheless, the information used in this report appears accurate and consistent enough to provide a general picture of how Kansas compares with other states.

One other limitation of the audit should be pointed out, and that limitation deals with vocational-technical schools. The auditors had hoped to include these schools in all aspects of this audit, but they found that information on vocational technical schools and programs in other states was

not always available in such a way that it could be incorporated consistently with information about universities and community colleges. For the most part, then, this audit concentrates on universities and community colleges.

How Does State Spending for Higher Education in Kansas Compare with Spending by Other States?

The Kansas Board of Regents operates a system for providing higher education which is composed of six universities, the University of Kansas Medical Center, and Kansas Technical Institute. The State also has 19 community colleges and 14 area vocational technical schools which are run primarily at the local level but are also supervised by the State Board of Education. Additionally, the State provides a significant amount of aid to Washburn University, which is a municipal university governed by its own board.

State General Fund appropriations for higher education in fiscal year 1983 totaled approximately \$314 million. The majority of those appropriations, \$272.8 million, or about 87 percent, went directly to the institutions under the control of the Board of Regents. Another \$22 million, or seven percent, was for State aid to community colleges. The remaining six percent of General Fund appropriations was composed of \$6.8 million appropriated directly to the Board of Regents (including \$4 million for scholarships and tuition grants), \$9 million appropriated to the Department of Education for aid to post-secondary vocational education, and \$3.4 million appropriated for aid to Washburn University.

Additionally, nearly \$1.4 million from federal revenue sharing moneys and \$13.6 million from capital projects funds were made available to the Board of Regents' institutions for various construction, repair, and maintenance projects. As a result, total State support for higher education for fiscal year 1983 was about \$329 million. The institutions also received other revenue in such forms as tuition and fees, local tax support, gifts, and the like.

Kansas Ranks Relatively High Among the 50 States in State Support for Higher Education

The table on the next page shows how Kansas compares with other states in the amount of state tax revenue appropriated for higher education. The comparison covers fiscal years 1979-1983 and is based on tax funds appropriated for operating expenditures. It does not include amounts reported as capital expenditures for construction, remodeling, and the like. To allow for differences in population between states, the comparisons are presented on a per capita basis.

As the table shows, Kansas ranked 11th out of the 50 states in per capita tax funds appropriated for higher education operating expenses in fiscal year 1983. Kansas appropriated nearly \$132 for each state resident compared with a national average of just over \$114 in that year. Over the five-year period, the State's ranking has varied somewhat, ranging from seventh in fiscal year 1979 to 15th in fiscal year 1982. Thus, even at its lowest point over the last five years, Kansas ranked within the top one-third of all states in terms of per capita tax funds appropriated for higher education.

**State Tax Appropriations for Operating Expenditures
Fiscal Year 1979-1983**

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Kansas Tax Funds Appropriated per Capita	\$ 93.99	\$101.02	\$109.91	\$117.87	\$131.98
National Rank	7th	9th	13th	15th	11th
Highest Appropriations (Alaska)	\$178.53	\$180.40	\$203.77	\$304.69	\$365.37
Lowest Appropriations (New Hampshire)	\$ 29.92	\$ 32.39	\$ 35.76	\$ 42.71	\$ 38.29
Average (All 50 States)	\$ 77.40	\$ 85.40	\$ 94.60	\$105.97	\$114.05

A related and somewhat similar finding was presented in a recent study, How States Compare in Financial Support of Higher Education, 1982-1983, issued by the National Institute of Education. The study measures the relative importance of financing public higher education as opposed to financing other public programs in each of the 50 states. In doing so, the study includes both state and local tax revenues. The study ranks Kansas seventh in the nation with 14.7 percent of its state and local tax revenues allocated to higher education. The national average was 10.4 percent.

Several limitations should be noted in drawing conclusions from this study. First, the states' comparative ratings are based on both state and local tax revenue, not on state revenue alone. Second, the two elements used in figuring the rating (appropriations and tax revenues) are not based on dollar amounts from the same year. Instead, the study uses fiscal year 1983 appropriations for higher education and fiscal year 1981 tax revenues. If 1983 appropriations for higher education are greater than they were in 1981, which is likely in most states, the percentage of tax dollars going to higher education will be somewhat exaggerated in the study. Also, the relative rankings of the states could change somewhat if the relationship of appropriations to tax revenues changed significantly over the two-year period. Nevertheless, the study tends to support the conclusion that government support for higher education in Kansas is higher than in most states.

The Main Reason for Kansas' High Ranking in State Spending for Higher Education Appears to Be that Kansas Has a Higher Percentage of Public Higher Education Students in its Population than Most States

The auditors examined a number of possible reasons for the State's high ranking in tax support for higher education. Three of the main reasons they investigated are as follows:

1. Does Kansas have a much higher tax revenue per capita than most other states so that it can support other public programs and still afford to place more dollars into higher education?

2. Does the State shoulder a higher portion of the total cost of financing higher education than other states do?
3. Is there something about higher education in Kansas that makes it more expensive than higher education in other states?

The answer to the first question appears to be "No." On the basis of the data presented in the National Institute of Education study referred to on the previous page, Kansas ranks twenty-first, or near the middle for all states, in tax revenues per capita. By contrast, Alaska and Wyoming, the states ranked first and second in the percentage of tax revenues allocated for higher education, also ranked first and second in tax revenues per capita. While these two states may have more tax revenue per capita and thus more flexibility in deciding to support higher education at a high level, such does not appear to be the case in Kansas.

The answer to the second question is not a clear "Yes" or "No," because the data the auditors could obtain to answer the question has some definite limitations. To determine if Kansas relies more heavily on State funding to support higher education, the auditors reviewed sources of funding as reported by public institutions of higher education to the U.S. Department of Education. The most recent information available was for fiscal year 1981. The table below shows the percentage of funding contributed by various sources in Kansas and in five other states that are similar in population, density, and state wealth as measured by tax revenues per capita.

**Comparison of State Funding Sources
Kansas and Five Other States
Fiscal Year 1981**

	Kansas	Arizona	Colorado	Nebraska	Oklahoma	Oregon
Tuition & Fees	11.6%	14.2%	19.0%	12.4%	8.9%	14.5%
State Appropriations	44.5	37.3	31.5	42.3	43.4	32.0
Federal Appropriations	1.4	1.1	.9	1.5	1.2	1.3
Local Appropriations	5.7	9.1	.9	4.6	1.8	9.3
Grants & Gifts	11.6	17.4	22.2	13.6	9.0	19.4
Auxiliary Enterprises	10.8	12.5	14.0	11.8	27.2	10.7
Other	14.4	8.4	11.5	13.8	8.5	12.8

As the table shows, State appropriations accounted for 44.5 percent of operating funds for higher education in Kansas. This was the highest level among the six states, though Nebraska and Oklahoma, at 42.3 and 43.4 percent respectively, were close. Tuition and fees, by contrast, contributed only 11.6 percent of total funds in Kansas, second lowest among the six states.

The data in the table may not, however, provide a clear picture of the relationship between funding sources in Kansas and other states. The table

covers fiscal year 1981, the last year for which comparative information was available. Since then, the tuition and fees at Kansas institutions have been increased to raise the percentage of higher education costs paid by students. As a result, Kansas may no longer be the state with the second lowest tuition funding out of the six states used for comparison.

In addition, the reporting of revenues in the various categories may differ somewhat from state to state. Thus, it is probably inadvisable to draw conclusions from the table with regard to Kansas's current reliance on State appropriations and tuition for funding higher education. This data was the most recent the auditors could obtain, but more work would have to be done in this area to determine whether Kansas' current portion of the total cost of higher education is higher than that of other states.

To address the third question, whether higher education in Kansas was simply more expensive than for other states, the auditors developed information comparing average costs in Kansas with those of other states. They obtained computerized information from the U.S. Department of Education. The Department compiles annual financial information reported by more than 3,000 public and private institutions of higher education nationwide. To compare expenditures by state, the auditors developed computer programs to extract the information for only the public institutions contained in the Department's annual survey. This information was then cross-checked against other sources to ensure that the proper number of schools were used from each state.

The auditors compared operating expenditures on a full-time equivalent student basis in Kansas public institutions with a composite of all public institutions nationally. In addition, they compared Kansas with five other states that were as similar as possible in terms of population, density, and state wealth as measured by tax revenues per capita.

**Higher Education Operating Expenditures
per Full-Time Equivalent Student
Fiscal Year 1981**

National Average	\$ 6,539
Arizona	\$ 5,749
Oklahoma	\$ 5,896
Kansas	\$ 6,645
Oregon	\$ 6,798
Colorado	\$ 6,966
Nebraska	\$ 7,154

As the table shows, Kansas' per capita operating expenditures of \$6,645 in fiscal year 1981 were close to the national average of \$6,539. In comparison to the five other states, Kansas was about in the middle with two states (Arizona and Oklahoma) having lower expenditures per student and three states (Colorado, Nebraska and Oregon) having higher expenditures per student. Therefore, it appears that operating expenditures on a full-time student basis are not significantly higher than the average, and therefore probably do not account for the high level of state appropriations per capita.

The auditors also looked at operating expenditures by the various types of institutions of higher education as defined by the U.S. Department of Education. This review was made to determine if any particular segment of the system of higher education in Kansas appeared to be significantly more costly than similar types of institutions in other states. The data presented some difficulty in that institutions appeared to be classified differently from state to state, but in general the auditors did not find a particular segment that appeared to be significantly more costly on a per-student basis than the national average.

Another measure used by the auditors in comparing state spending for higher education in Kansas with other states was tax funds appropriated per full-time equivalent student. This comparison was made for fiscal years 1981 and 1982. (Fiscal year 1982 was the most recent year for which comparative enrollment figures could be obtained for all 50 states). If this measure is used, Kansas falls to the middle of the states, ranking thirtieth in fiscal year 1981 and twenty-ninth in fiscal year 1982.

These measures suggest that Kansas ranks high among the 50 states in support for higher education not because its expenditures per student are higher, but because it has more students to support. The auditors found that this is indeed the case. Using 1980 census figures and full-time equivalent enrollments for public institutions of higher education for fiscal years 1981 and 1982, they calculated a ratio of public higher education students to statewide population. These ratios showed Kansas to be eighth among the states in the number of students attending public institutions of higher education in fiscal year 1982. The table below shows Kansas's relative position among the 50 states. As the table shows, in fiscal year 1982 Kansas had one public post-secondary student for every 26.8 residents in the state. This ratio was lower than the national average of one student for every 33.6 residents.

**Comparison of Public Post-Secondary Students to Total Population
Fiscal Years 1981-1982**

	1981	1982
Kansas Residents per Post-Secondary Student	27.4 to 1	26.8 to 1
National Rank	7th lowest	8th lowest
National Average	35.5 to 1	33.6 to 1
Highest Ratio (Pennsylvania)	53.7 to 1	51.7 to 1
Lowest Ratio (Arizona 1981, North Dakota 1982)	22.6 to 1	22.4 to 1

The auditors tried to determine if the relatively large number of students attending public post-secondary institutions in Kansas was due to a higher attendance rate for Kansas citizens, or whether Kansas was attracting large numbers of students from outside the State. The information available to

answer this question is somewhat limited and dated. However, it does tend to indicate that the high level of enrollment in Kansas is primarily the result of more Kansas residents attending institutions of higher learning.

In summary, then, Kansas ranks relatively high among the 50 states in state support for higher education. This support does not appear to translate to expenditures per student that are significantly above the national average. Instead, the higher level of support appears necessary because Kansas institutions are being attended by a higher percentage of the population than is the case in most states. Because this percentage is higher, public higher education will pose greater demands on the State Treasury than may be the case in many other states. As a result, emphasis needs to be placed on making the State's system of public higher education as efficient as possible. The remainder of this report examines the efficiency issue in greater detail.

Are Current Resources Being Spread Among Too Many Higher Education Institutions and Programs?

To answer this question, the auditors collected information on the number of public four-year and two-year institutions of higher education in each state. The number of institutions in each state was compared on the basis of population and on the basis of size (enrollment). Degree programs offered at the State's colleges and universities, community colleges, and vocational schools were also reviewed to determine the extent to which the programs duplicated each other. The results of these analyses are discussed below.

For the Size of Its Population, Kansas Has More Public Higher Education Institutions than Do Most Other States, and This Is Particularly True for Two-Year Institutions

If population is not taken into account, Kansas ranks about average in the total number of public institutions of higher education. The table below presents this information for fiscal year 1982.

Number of Public Institutions Kansas and Other States

Type of Institution	Kansas' National Rank	Number of Public Institutions(a)	
		Kansas	National Average
Four-Year Institutions	28th	8	11
Two-Year Institutions	14th	20	19
Total Institutions	21st	28	30

(a) Excludes thirteen federal institutions of higher education.

Nationally, Kansas ranks twenty-first along with Indiana and Missouri, having 28 public institutions of higher education. As shown in the table, this is slightly below the national average of 30 public institutions of higher education per state. In four-year institutions, Kansas, along with Kentucky and Oregon, ranks twenty-eighth with eight four-year public institutions and is below the

national average of 11 four-year institutions in each state. Kansas and Minnesota tie for fourteenth place in the number of two-year institutions with 20 institutions each. This is slightly above the national average of 19 two-year public institutions of higher education per state.

Even though Kansas is about average in the total number of institutions, its population is smaller than many other states. As a result, comparing the number of institutions in relation to population provides a better indication of where Kansas stands in terms of public institutions of higher education.

Using 1980 census figures, the auditors computed the ratio of public higher education institutions to each state's population. With one public institution of higher education for every 84,437 residents, Kansas ranks sixth among the 50 states in the total number of public post-secondary institutions. The national average is one public institution of higher education for every 152,231 residents. Only five states--Alaska, Wyoming, North Dakota, North Carolina, and New Hampshire--have fewer residents per public higher education institution than does Kansas.

To determine if one segment was more above the average than the other, the auditors computed ratios for two-year and four-year schools. For four-year schools, the ranking for Kansas was seventeenth nationally. Kansas has one four-year institution of higher education for every 295,530 residents. For two-year higher education institutions, Kansas ranked fifth, with one two-year institution for every 118,212 residents.

Because population density and distribution can have a strong effect on the number of schools needed to serve a state, the auditors also compared Kansas with five other states that are similar in population and density. The five states, which were also used for comparison earlier in this report because they are also similar to Kansas in per capita tax revenues, are Arizona, Colorado, Nebraska, Oklahoma, and Oregon. The table below presents this comparison. As the table shows, these states almost always ranked in the upper half of all 50 states. For four-year institutions, Kansas' average of 295,530 residents for each institution was higher than the average for three of the five states. Kansas' average for two-year schools, however, was considerably lower than the average in each of the five other states. Thus, even for states with relatively similar characteristics, the number of two-year institutions in Kansas is high.

**Number of State Residents Per Public Higher Education Institution
Kansas and Five Other States**

	State Residents Per 4-Yr. Institution	National Rank	State Residents Per 2-Yr. Institution	National Rank
Arizona	906,142	48	169,902	13
Colorado	222,287	10	206,410	22
Kansas	295,530	17	118,212	5
Nebraska	224,261	11	174,425	14
Oklahoma	216,107	8	201,700	19
Oregon	329,144	24	202,550	20

Two-Year Institutions in Kansas Are Much Smaller Than the National Average, and They Serve a Smaller Portion of the Total Student Population

To determine how the size of schools in Kansas compares with schools in other states, the auditors examined enrollments by the various types of institutions as defined by the U.S. Department of Education. For the most part, the differences between Kansas and the national averages were not significant or were distorted somewhat by the differences between states in placing four-year institutions into the various categories. For two-year institutions, however, the difference was considerable. For fiscal year 1982, enrollment reported by two-year institutions in Kansas averaged 1,029 full-time equivalent students. This was less than half the national average of 2,722 full-time equivalent students. Nine states reported an average full-time equivalent enrollment less than Kansas in this category--Alaska, Arkansas, Maine, Montana, New Hampshire, New Mexico, South Dakota, Vermont, and Wyoming.

The auditors also compared the distribution of Kansas students in two- and four-year institutions with the distribution in other states. In fiscal year 1982, 76.6 percent of the full-time equivalent enrollment in Kansas public higher education institutions was in four-year institutions, and the remaining 23.4 percent was in two-year institutions. Nationally, the average for enrollment in four-year institutions was 62.1 percent. For two-year institutions, the national average was 37.9 percent. Thus, compared with the nation as a whole, a smaller portion of students in Kansas attend two-year schools.

The table below compares the distribution of enrollment in Kansas with the five other states with similar population densities. As the table shows, these five states show a pattern that is closer to that of Kansas than that of the nation as a whole. Three of the five states--Colorado, Nebraska, and Oklahoma--have more than 70 percent of their full-time equivalent enrollment in four-year institutions. Each of these states, however, also has fewer two-year institutions than Kansas does.

**Enrollment Distribution by Four-Year and Two-Year Institutions
Kansas and Five Other States
Fiscal Year 1982**

State	Total FTE Enrollment	Four-Year		Two-Year	
		FTE	Percentage	FTE	Percentage
Arizona	120,825	66,169	54.8%	54,656	45.2%
Colorado	110,808	86,068	77.7	24,740	22.3
Kansas	88,089	67,516	76.6	20,573	23.4
Nebraska	55,653	42,924	77.1	12,729	22.9
Oklahoma	99,305	71,732	72.2	27,573	27.8
Oregon	95,499	53,406	55.9	42,093	44.1
National Average			62.1%		37.9%

Having a high percentage of post-secondary students in four-year schools can produce increased higher education costs and state appropriations because it results in an educational system that is more heavily weighted with more

expensive four-year institutions. The operating costs of four-year institutions are about 50 percent higher than two-year institutions. For instance, the reported national average for operating expenditures in the federal classification of four-year comprehensive institutions for fiscal year 1981 was \$6,142 per full-time equivalent student. The comparable figure for two-year schools was \$3,953.

Duplication of Programs May Impact on the State's Costs of Higher Education

To determine if the State's resources for higher education may be spread over too many programs, the auditors made a general review of program offerings at the Regents' institutions, Washburn University, the community colleges, and the area vocational schools. This review was made primarily to determine the extent of program duplication by the various institutions of higher learning in the State, and not to suggest elimination or consolidation of particular programs.

The term "duplication" often carries a negative connotation and implies that unnecessary activities are being carried out. In using the term here, the auditors do not mean to include such connotations and implications. There are a number of legitimate reasons for programs to be duplicated. For instance, programs may be offered at institutions that are geographically far apart in order to provide convenient access to them. Also, many programs such as English or mathematics will have to be offered nearly everywhere because students need courses in these fields to fulfill degree requirements and to serve as preparation for courses in more specialized disciplines. Institutions must also offer elective courses, and often the course offerings for one degree program may serve as electives or even as core courses for another degree program.

In this audit, then, duplication means basically that a degree program is offered by more than one institution, and not that such a multiple offering is necessarily inefficient or unsound. There was not time in the course of this audit to provide the more comprehensive study that could consider all factors like those listed above. However, the auditors were able to do enough work to determine the general scope of duplication within the State's higher education system and to raise some preliminary questions about whether the programs can be operated more efficiently.

As would be expected from a definition of duplication this broad, the auditors' review showed a considerable number of duplicate program offerings at the State's institutions of higher education. For instance, there are currently 83 degree programs duplicated within the Regents' institutions. A total of 22 of these programs are offered at all six universities. Washburn University offers 31 programs offered by one or more of the Regents' institutions. There are 41 programs duplicated within the community college system and 14 adult and post-secondary programs duplicated within the area vocational schools. Thirty-five programs were duplicated by two types of institutions such as a vocational school and a community college, or a community college and a Regents' institution. Finally, seven programs appeared to be duplicated by all three types of institutions. Examples of these seven programs include drafting, data processing, child care and guidance, and tool and die making.

For the kinds of reasons outlined above, much of this duplication may need to exist. However, the auditors also wanted to determine if there might be some potential for consolidating some programs. To do so, they focused on duplicated programs that did not result in the granting of many degrees. At each university, they established the following cut-offs: bachelor's programs in which the university granted ten or fewer degrees, master's programs in which the university granted five or fewer degrees, and doctoral programs in which the university granted five or fewer degrees. They then checked to see if another public university in the State granted the same degree. The accompanying table summarizes the number of instances in which each university offered programs that met these criteria during the 1981-1982 school year.

Instances of Duplicated Programs With Relatively Few Degrees Granted
School Year 1981-1982

	Number of Duplicated Programs In Which 10 or Fewer Bachelor's Degrees Were Granted	Number of Duplicated Programs In Which 5 or Fewer Master's Degrees Were Granted	Number of Duplicated Programs In Which 5 or Fewer Doctoral Degrees Were Granted
University of Kansas	15	15	6
Kansas State University	24	18	11
Wichita State University	20	13	0
Emporia State University	18	11	0
Pittsburg State University	17	8	0
Fort Hays State University	16	12	0
Washburn University	14	1	0

The table shows, for example, that during the 1981-1982 school year the University of Kansas granted ten or fewer bachelor's degrees in 15 majors that were also offered at one or more other public universities in the State. Examples included bachelor's degrees in geography, linguistics, dance education, health education, and Latin American studies. Another example from the table: during the 1981-1982 school year, Emporia State University granted five or fewer master's degrees in 11 majors that were also offered at one or more other public universities in the State. Examples included master's degrees in business education, industrial arts education, mathematics, and chemistry.

The table shows the number of instances in which each university granted only a few degrees in a duplicated program, but it does not show the total number of programs duplicated. In all, the auditors found 54 bachelor's-level programs in which one or more of the schools granted ten or fewer degrees. These programs included American studies, Latin American studies, dance education, religion, and geology. Similarly, they found 36 master's-level and 11 doctoral programs in which one or more of the schools granted five or fewer degrees. Such master's-level programs included entomology, anthropology, industrial arts education, and painting, and at the doctoral level the programs included student counseling, entomology, history, and microbiology.

The auditors did not conduct their analysis to arrive at definite conclusions about which programs, if any, could be consolidated. The purpose of their work was to determine whether more thorough review than could be attempted in the short span of this audit was likely to discover ways in which program

offerings within the State's system of higher education could be made more efficient. It appears from their work that this may be the case.

The Board of Regents is currently involved in a study of program duplication which will be conducted over the next five years. The study is being conducted in accordance with a plan adopted by the Board of Regents in November 1982 and in conjunction with 1983 Substitute House Concurrent Resolution No. 5040. This resolution requires the Board to submit a written summary of relevant findings to the Legislative Educational Planning Committee by January 1 of each year beginning in 1984. The resolution requires the first report to be focused on duplication of graduate degree programs. Board officials indicated that the findings from the first year of this study would not be ready for release before this audit report was written. The study encompassed four basic areas for 1983--Engineering and Engineering-Related Technologies, Architecture and Environmental Design, Library and Archival Sciences, and Physical Sciences.

The auditors did not undertake a similar study of associate degree programs at community colleges or of post-secondary vocational programs. Community colleges and vocational-technical schools have a clearer mission to serve the particular area in which they are located. It would not be consistent with this purpose to offer a particular degree program at only one or two of these institutions. However, it would appear desirable nonetheless for a thorough review to be conducted so that little-used programs could be discontinued and so that programs at institutions located near each other could be coordinated for the most efficient use of resources.

Are There Alternatives for Making Higher Education in Kansas More Efficient Without Sacrificing Quality?

To answer this question, the auditors reviewed a number of alternatives that might be applied to higher education in Kansas. These alternatives are discussed below.

States Vary Greatly in Their Governing Structure for Higher Education, but a Number of Them Are Looking at Greater Centralization as A Way to Improve Efficiency

One main concern the Legislative Post Audit Committee asked the auditors to address was whether a more centralized structure for administering the Kansas higher education system would bring about greater coordination, better planning, and increased efficiency. To address this question, the auditors reviewed the governing structures established for higher education in all 50 states, looking in particular for patterns that appeared to result in lower state spending or lower costs. The auditors' findings in these areas are discussed in the following sections.

Although no two states have identical governing structures for higher education, the auditors identified patterns which allow the 50 states to be grouped into four major categories. These four categories, moving from most centralized to least centralized, are as follows:

- Nine states have a single statewide board which coordinates and governs all levels of public higher education.
- Thirty-two states have a single statewide coordinating board for all public higher education, and have separate governing boards for each institution or for groups of institutions.
- Five states (including Kansas) have two or more coordinating boards over separate levels of public higher education.
- Four states have no statewide coordinating board over public higher education, but do have governing boards over each institution.

The distinction between a coordinating board and a governing board is not always clear. However, a coordinating board generally appears to be concerned with statewide or system-wide policy, while a governing board is responsible for application of those policies at the institutional level.

The auditors found that the factors which showed the greatest relationship with governing structure were the population and number of higher educational institutions in each state. These factors are discussed in more detail in the sections that follow.

States with small populations and few institutions of higher education tend to use a single statewide board to coordinate and govern all the institutions. There are nine states which have one statewide board to coordinate and govern all state institutions of higher education:

Georgia	Montana	Rhode Island
Hawaii	Nevada	South Dakota
Idaho	North Dakota	West Virginia

These states generally have small populations. Except for Georgia, each state ranks below thirty-third in population among the 50 states. Likewise, these states average only 11.2 higher education institutions per state, which is well below the national average of 29.7 institutions per state. (These numbers do not include vocational-technical schools.) Georgia's high population and high number of institutions make it the exception in this category. Its Board of Regents has a large central staff (93 positions), including a Chancellor and 11 Vice-Chancellors. Board policies are administered by the President of each institution.

Seven states in this category have fewer than 12 institutions each. Except for Rhode Island, these states are all located in the western half of the nation. Due mainly to their small number of higher educational institutions, these states have chosen to govern all such institutions through a single statewide board.

A majority of states have a single statewide coordinating board for all public higher education, and separate governing boards for each institution or for groups of institutions. There are 32 states which fall into this category:

Alabama	Maryland	Ohio
Alaska	Massachusetts	Oklahoma
Arkansas	Michigan	Oregon
California	Minnesota	Pennsylvania
Colorado	Missouri	South Carolina
Connecticut	Nebraska	Tennessee
Florida	New Hampshire	Texas
Illinois	New Jersey	Utah
Indiana	New Mexico	Virginia
Kentucky	New York	Washington
Louisiana	North Carolina	

The common characteristics of these states are their relatively large populations and large number of institutions of higher education. Using 1980 population figures, this category includes 24 of the 26 most populous states in the nation. The states in this category have an average of 38.4 institutions per state, which exceeds the 50-state average of 29.7 institutions of higher education. California (136 institutions), Texas (98), New York (86), North Carolina (74), and Illinois (63) make up the top five states in number of educational institutions. However, this category also includes a few states with small populations and few institutions, including Utah (9 institutions), New Hampshire (11), and Alaska (12).

With a relatively high number of institutions, these states have chosen to coordinate all institutional policies and activities under one statewide board. But to apportion the workload and to decentralize control to some degree, these states have also established institutional governing boards. The governing boards may govern a single institution, a group of similar institutions, or various institutions in a particular region.

Five states, including Kansas, have two or more statewide coordinating boards over separate levels of public higher education. The states in this category are Arizona, Iowa, Kansas, Mississippi, and Wisconsin. Arizona, Kansas, Iowa, and Mississippi have almost identical governing structures for higher education. Each state has one statewide board for coordinating and governing state universities, plus one statewide coordinating board for the community college system and local or area governing boards for community colleges.

These four states are also very similar in their population and their number of public institutions of higher education. In population, they all rank between twenty-seventh (Iowa) and thirty-second (Kansas) among the 50 states. Likewise, their number of public institutions of higher education ranges only from 19 in Arizona to 28 in Kansas.

Wisconsin has a somewhat different educational governing structure than the four other states. Its Board of Regents is responsible for coordinating and governing the state's doctoral institutions, universities, and 2-year liberal arts centers. Its Board of Vocational, Technical and Adult Education is responsible for the state's technical-vocational institutions, three of which also offer a lower-division college level liberal arts program. Over the past decade, Wisconsin has undertaken an extensive analysis of its higher educational system.

Major results of this review include the closing of a 2-year center (Medford Center, closed in 1981) and significant budget and program reductions at one university (University of Wisconsin at Superior).

Four states with small populations and few institutions of higher education have no statewide coordinating boards. The states in this group are Delaware, Maine, Vermont, and Wyoming. The colleges and universities in these states are governed by institutional governing boards, without guidance from any statewide coordinating board. Thus, these states have the most decentralized management structure for public higher education.

In terms of state population, these states all rank among the smallest. They also have very few institutions of higher education. On the average, they have less than eight institutions per state--well under the national average of 29.7. These states have apparently found that, with a very small number of institutions, no statewide board is needed to coordinate their activities.

In summary, the auditors' findings indicate that Kansas' governing structure for higher education is somewhat less centralized than the structure in most states. Most states have a single board that, at least to some degree, coordinates the various elements of the higher education system. However, the auditors did not find any clear relationship between the kind of governing structure and costs for higher education. This does not rule out the possibility that a more centralized structure in Kansas would bring about greater possibility for efficiency within the higher education system. It simply means that having a centralized structure does not automatically ensure that such efficiencies will occur.

Kansas is not alone in reviewing the alternative methods for governing its higher educational system. In their review of state higher education governing structures, the auditors found that 10 to 15 other states are considering changes in governing structure. In general, changes have been proposed in the following areas:

- Strengthening state coordination by increasing the powers of an existing coordinating board or by creating a single board over all public higher education.
- Increasing coordination of programs offered by vocational-technical institutions and community colleges.
- Consolidating or regrouping the governance of state colleges and universities to confront the issues of quality and program duplication that arise as enrollments and fiscal resources decline.

Thus, in response to increasing fiscal pressures, a number of states are considering a more centralized governing structure to help promote greater efficiency for their states' higher education systems.

At Present, There Appear to Be a Number of Alternatives That Might Be Considered to Bring About Greater Efficiency

As previous sections of this report have shown, public higher education in Kansas places greater demands on the State Treasury than may be the case in many other states. This appears to be so not because the cost in Kansas is higher on a per-student basis, but because Kansas has a higher portion of its total population enrolled in the public higher education system than do many other states. As a result, it can cost Kansas proportionately more of its budget to operate a higher education system than it can cost a state with a smaller portion of its population involved in public higher education.

This tendency for Kansas' system to be more expensive means that emphasis needs to be placed on making it as efficient as possible. As the auditors' preliminary look at institutions and programs indicates, there may be ways to make the system in Kansas more efficient.

There appear to be a variety of alternatives that might be considered to bring about greater efficiency in the State's higher education system. More needs to be known about these options than the auditors had time to learn in the relatively brief course of their study. In addition, there are probably other options besides those listed here that deserve consideration. However, all of the alternatives listed below may merit consideration by the Legislature, the State's educational agencies and institutions, and others.

1. Consolidating information about the student population in Kansas and evaluating the current system in light of the results. A comprehensive picture is needed of the students who are in the system now and those who are likely to be in it in the future. A higher portion of Kansans apparently attend public higher education institutions than in most other states, and it would be important to have a clear understanding about the characteristics and educational goals of this part of the population. In this way, better plans about the educational system could be made. Such a study might be conducted by legislative staff, by the educational institutions and agencies, by outside consultants, or by some combination of these groups.

2. Establishing an index for measuring the efficiency of educational institutions in terms of cost per student or cost per credit hour for comparable programs. To evaluate the efficiency of programs and schools, several other states have established numerical indexes which demonstrate how much state budget support is required to generate credit hours for similar programs at similar institutions. In this way, the state institutions which show the highest cost index can be identified for further review and possible withdrawal of state support.

3. Consolidating or reducing degree programs. Although many degree programs may need to be offered at a number of institutions, there may be programs that could be consolidated or scaled down because demand, need, or interest are limited. In some cases, it may be possible to eliminate the program entirely except at one school. In others, it may be possible to scale it down to a non-degree status by offering only courses needed to meet requirements in other majors. At the graduate level, where education costs are often highest, it

may be possible to eliminate some graduate programs by establishing cooperative agreements with universities in other states and specializing in fewer graduate programs within the State.

4. Establishing policies that encourage maximum use of existing resources and facilities, such as placing enrollment caps on some institutions or making their enrollment policies more restrictive. Some institutions still anticipate growth or consider their current resources inadequate to meet existing needs, while others are experiencing enrollment declines. It may not be advisable to increase costs by expanding at one school while allowing resources at another to be less efficiently used as enrollment and use go down. Two states used for comparisons in this report, Colorado and Oregon, have implemented such enrollment caps at some institutions.

5. Reducing the number of institutions. Compared with most other states, Kansas has more educational institutions for the size of its population. This is particularly true of community colleges, which are supported primarily by local governments but also receive aid from the State. At the university level, however, this option is also an alternative that can be considered.

6. Changing the governing structure for higher education in the State. Although the auditors found that there was not necessarily a relationship between how centralized a state's governing authority is and how efficiently its higher education system is operated, it does not appear that the current governing structure in Kansas provides many incentives for maximum efficiency among the various elements of the State's higher education system. Given the large number of states that use a single board to bring some kind of coordination to the system, this option still appears to be one that might be considered.

7. Setting certain long-term budget goals and letting the existing boards work out how those goals will be met. An alternative to focusing immediate legislative attention on particular institutions, programs, and the like would be for the Legislature to make a general decision about probable future levels of support for higher education and to review plans developed by the Board of Regents and Board of Education for operating higher education within those levels of support.

8. Shifting a greater amount of the cost of education to students. This alternative, which would mean higher tuition and fees, would not necessarily make higher education more efficient, but it would reduce the burden on the State. The auditors were not able to obtain conclusive information, but it appears that the current level of student support is not overly high compared with other states.

APPENDIX I

**Responses from the State Board of
Regents and the Department of Education**



Kansas State Department of Education

Kansas State Education Building

120 East 10th Street Topeka, Kansas 66612

October 27, 1983

Dr. Meredith Williams
Acting Legislative Post Auditor
Legislative Division of Post Audit
Mills Building
Topeka, Kansas 66612

Dear Dr. Williams:

We appreciate having the opportunity to review the draft report on State Spending for Higher Education in Kansas.

Appropriate members of my staff have reviewed the report and have found no particular errors.

If we can be of any further assistance in your review of higher education, feel free to contact my office.

Sincerely,

Merle R. Bolton
Commissioner of Education

MRB:DMD:tjm

cc: Harold Blackburn
Dale Dennis

KANSAS BOARD OF REGENTS



Suite 1416 Merchants National Bank Tower
Topeka, Kansas 66612-1251 913/296-3421

October 27, 1983

Mr. Meredith Williams
Acting Director
Division of Post Audit
Mills Building
Topeka, Kansas 66612

RECEIVED
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DIVISION OF POST AUDIT

Dear Meredith:

I have reviewed your forthcoming report "State Spending for Higher Education in Kansas." It is extremely difficult to complete such a study within the time frame you were allowed. Overall, I found the report interesting; most of its findings were not surprising. I would, however, like to make several observations about the report.

Part 1 of your study describes the funding of Kansas public higher education relative to other states. I cannot over-emphasize the care that must be taken in using and interpreting self-reported data, especially the HEGIS and Chambers data used in your study. States differ in the way they handle various types of higher education funding; institutions differ in the way they report expenditures. For example, a recent article by Paul Lingenfelter in Business Officer indicates that the State of Illinois provides insurance benefits for university employees through a central fund; the \$30 million spent annually on that fringe benefit is not reported on their HEGIS reports. The annual Chambers survey does not include local tax revenues. Because such revenues play an important role in financing community colleges in some states (including Kansas) but play almost no role at all in others, it is difficult to draw firm conclusions on the overall funding of public higher education in other states using the Chambers data. These are just two illustrations why comparisons such as those shown in Part 1 of your report are only useful as broad indicators of funding and expenditure patterns.

I agree that Kansas ranks high among the fifty states in per capita support for public higher education because it has more students to support and not because its expenditures per student are too high. If Kansas had a larger system of private universities or if the college attendance ratio in Kansas were lower (Kansas has traditionally had one of the highest college attendance ratios of any state), Kansas taxpayers could pay less to support public higher education on a per capita basis. Your conclusion that Kansas is average in terms of public support per full-time equivalent student is consistent with findings of similar studies.

Mr. Meredith Williams
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October 27, 1983

During the past few years the Board increased tuition at its institutions because students had not been paying an appropriate share of the cost of their education. The fee-cost ratio for the Regents system in Fiscal Year 1981 (the year cited in your study) was approximately 20 percent. Since that time the Board has increased tuition twice and has announced a third increase to become effective next Fall. By next Fall, tuition for a full-time resident undergraduate student at our three doctoral universities will have increased from \$280 per semester for the Fall semester of Fiscal Year 1981 to \$410, an increase of 46 percent; similar tuition increases have been approved for our other institutions. That rate of increase is about double the percent increase in State General Fund support our institutions will have received during that same period. We estimate that our systemwide fee-cost ratio is currently 25 percent and that the announced tuition increase for next year will permit us to sustain that ratio.

Part 2 of your study seeks to determine whether current resources are being spread among too many institutions and programs. That question is extremely difficult to answer, especially given the time constraints of your study. The type of analysis contained in that section of your report is a gross oversimplification of a complex issue. It is not sufficient to conclude that just because two programs are identified with the same name using a standard taxonomy they are duplicative and it is certainly not sufficient to say that just because a baccalaureate program conferred 10 or fewer degrees during a fiscal year it should be eliminated. Higher education must be able to respond to the needs of society. If we had used your criteria, we would not now be able to respond to the demands for education in the high technology areas because we would have discontinued our undergraduate programs in Aeronautical Engineering and Industrial Engineering at Wichita State University, Petroleum Engineering and Engineering Physics at the University of Kansas, and numerous graduate programs in Engineering because of low enrollments in the mid-1970s. Substantial funding would have been required to re-institute those programs to meet the current needs of society.

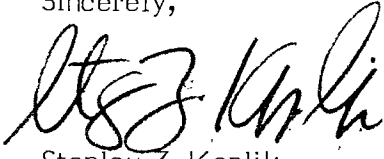
The Board of Regents has approached the issue of program duplication in a very meticulous and responsible manner through its program review process. The first phase of that five-year program review cycle has shown that the Board takes its responsibilities in this area seriously. The decision to discontinue or merge 34 programs during the first year of the process indicates that the Board is determined to govern its institutions responsibly while at the same time being responsive to the needs of society and the economic conditions of Kansas.

Part 3 of your study concerns the higher education governance structure in Kansas. Your conclusion that there is not clear relationship between the kind of higher education governing structure and the overall cost of education in the state is not surprising. There are advantages to having a more centralized higher education governance structure in Kansas, just as there are disadvantages.

Mr. Meredith Williams
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October 27, 1983

I appreciate the opportunity to review your study and to share these thoughts with you.
I hope you will find them helpful as you discuss the report with the Post-Audit Committee.

Sincerely,

A handwritten signature in black ink, appearing to read "Stanley Z. Koplik". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Stanley Z. Koplik
Executive Director

SZK:jp

cc: Members, Board of Regents
Members, Council of Presidents

