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16. Abstract The purpose of this project was to conduct a preliminary analysis of employment and privatization trends in state transportation departments. This project involved a review of recent literature on public sector privatization efforts, an analysis of all state transportation departments in order to locate a sample of states with transportation system characteristics similar to those of Kentucky, and a survey of the sample states to determine privatization trends in the functional areas of administration, maintenance, design, engineering, enforcement and safety, and construction. The study finds that among transportation departments in the 14 sample states, average annual increases in private sector service contracts and expenditures out-pace increase in state expenditures for transportation functional areas and FTE's tenfold. In addition, while significant privatization activities were found in each functional area, privatization activities were most evident in the functional areas of maintenance and design.					
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Research Report

KTC-95-15

**TOWARD DETERMINING MINIMAL/OPTIMAL TRANSPORTATION
DEPARTMENT RESOURCE REQUIREMENTS: AN EXAMINATION OF STATE
PRIVATIZATION TRENDS AMONG SELECTED STATES**

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in cooperation with the Kentucky Transportation Cabinet

and

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The contents of this report reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views of the University of Kentucky, the Kentucky Transportation Cabinet, or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

July 7, 1995

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Executive summary

The purpose of this project was to conduct a preliminary analysis of employment and privatization trends in state transportation departments. This project involved a review of recent literature on public sector privatization efforts, an analysis of all state transportation departments in order to locate a sample of states with transportation system characteristics similar to those of Kentucky, and a survey of the sample states to determine privatization trends in the functional areas of administration, maintenance, design, engineering, enforcement and safety, and construction. The following paper reports the initial results of this project. Among the paper's findings are the following:

- * Privatization in the area of public works and infrastructure is growing rapidly, according to a recent survey, with privatization activities increasing in 31 of the 38 reporting states during the past five years.

- * A 1984 study of the privatization of municipal transportation services found that public service providers were significantly more costly than private service providers.

- * Successful privatization efforts require extensive communication, high-level planning and goal setting.

- * Benchmarking is often used to measure the success of privatization programs. Benchmarking requires a clear program mission, program priorities and measurable goals and objectives.

- * Fourteen states were determined to be similar to Kentucky in terms of roadway characteristics and spending patterns of state transportation departments. The 14 states are Colorado, Tennessee, Georgia, Oklahoma, Indiana, Nevada, North Carolina, Utah, Oregon, New Hampshire, South Dakota, Missouri, New York and Ohio.

- * Results of this survey find that among transportation departments in the 14 sample states, average annual increases in private sector service contracts and expenditures out paces increase in state expenditures for transportation functional areas and FTE's tenfold.

- * According to the data, privatization activities were most evident in the functional areas of maintenance and design.

Introduction

The concept of "downsizing" or "rightsizing," which has been practiced in the private sector for the past two decades, is enjoying growing popularity in public-sector management. The literature base for rightsizing in state government is small due to the fact that state-level managers have only recently begun to utilize this approach. However, the depth and variety of the material is sufficient for the purpose of this project.

One tool of rightsizing which has been employed at every level of government is privatization. The Council of State Governments reports that privatization in the area of public works and infrastructure is growing rapidly (Chi, 1993). In a recent survey, 31 of the 38 reporting states indicated that privatization efforts had been undertaken in the past five years. The top three reasons cited for privatization were: lack of agency expertise (42 percent), cost savings (19 percent) and speedy implementation (18 percent). The report also listed 10 means of privatization: contracting out, vouchers, franchises, grants and subsidies, asset sales, public-private partnership, private donations, deregulation, volunteerism and service shedding.

The tangible differences between service provision by the private sector and the public sector was quantified in a study of municipal transportation services (Stevens, 1984). When controlling for scale of operations and the quality and level of service, public providers were between 37 percent and 96 percent more costly than private providers. The cost differential was explained by the following:

1. Private providers require more work; this sector's leave and vacation policies are less liberal than the public sector.
2. Private providers allocate personnel better than the public sector.
3. Private providers use part-time labor whenever possible (no fringe benefits).
4. Private-sector managers are responsible for equipment and labor availability.
5. First-line private-sector managers have the authority to hire and fire personnel.
6. Private providers use a less labor-intensive means of providing service than the public sector.

In the case study of asphalt overlay construction, Stevens found that the cost of using city workers was nearly double the cost of private contractors. The cost of asphalt laid by a private contractors was \$41.19 per ton while the cost of asphalt laid by city employees was \$76.56 per ton.

While the benefits of rightsizing through privatization are touted, there can be institutional and organizational obstacles that can hinder privatization efforts (White, 1994). One study of a privatization effort in Charlotte, N.C., listed several organizational obstacles, including the power of tradition, lack of incentives for change, a climate of uncertainty and variable rates of change. The period of rightsizing requires extensive communication on behalf of the managers to insure that everyone understands what is happening and is committed to change.

One way to improve communication and make rightsizing successful is through high-level planning and goal setting. Benchmarking is a technique that more and more public organizations are using to implement programs and policy and to achieve established goals. Walters (1994) describes benchmarking as "results-oriented government" or "doing more with less."

Fischer, in "Benchmarking 101," offers the "building blocks" for successful implementation of this relatively new management strategy. First, he says, there must be a clear statement of the program's mission. Priorities must be established within the program. In Kentucky, of course, there exists the Kentucky Long-Term Policy Research Center, which defines the state's mission, goals and priorities. From this mission, the individual agencies must set their own goals.

Organizations using benchmarking generally target as high priority those activities having the highest cost, generating the greatest revenue or creating the largest budget shortfall. Many states and localities look to other public organizations or private businesses managing similar programs and activities well to find measurable goals, or "benchmarks," that they can adapt and try to meet.

In addition to establishing goals, systems must be established to collect data to see if these goals are being met and to determine the reasons why or why not. This may be one employee (White, 1994) or for larger organizations, an information systems group.

Privatization and benchmarking can be used simultaneously: privatization as the operational procedure to reach a given level

of service, productivity and cost, and benchmarking as the tool for planning and checking progress. The clear mission and objectives put forth by benchmarking provide strong incentives to deliver high performance, which in turn increases agency morale (Andelman, 1994). In addition, measurable results tend to provide greater job satisfaction, as it takes the "abstraction" out of agency functioning (Grifel, 1994).

Rightsizing the federal bureaucracy

Vice President Al Gore has been at the forefront of the crusade against big government. His plan to "reinvent" government has sparked much-needed debate on downsizing or rightsizing the federal government. Broad bipartisan support seems to exist for rightsizing. Many Republicans support rightsizing because they believe it makes government more business-like in operation, while some Democrats favor it because its planning processes demonstrate that government on the whole is indeed worth paying for and emphasizes the reallocation of resources to programs the government does well (Walters, 1994).

One of the central forces in the reinventing government movement is the National Performance Review (NPR). The chief aim of NPR is the elimination of 12 percent of the federal work force and the saving of \$108 billion over a five-year span. In the first year, the federal work force was reduced by over 71,000, netting a savings of \$47 billion (Long, 1994).

James B. King, director of the U.S. Office of Personnel Management, is also heavily involved in the drive to make government work better and cost less. One of the first things he did to achieve his goal of reducing the federal work force was to trim down the 10,000-page personnel regulation manual. Many provisions were eliminated or modified to make it more user-friendly to the people who need it most: front-line managers. He also intends to remove administrative layers from his agency, involving the shift of 240 managerial jobs to non-supervisory roles. "Flattening" an organization is one way to increase two-way

communication flow and simplify the chain of command (Andelman).

Rightsizing government doesn't always mean cutting jobs, however. The Clinton administration resurrected the Advisory Commission on Intergovernmental Relations. This commission, whose budget reached an all-time low of \$1 million for fiscal year 1994, has been revamped in order to participate in the reinventing government program. Clinton feels that the ACIR can help all layers of government to communicate and cooperate better, therefore resulting in wiser government and government spending (Stanfield, 1994).

Though there is a consensus in this country that government can be more efficient and consumer oriented in its function, there are critics who contend that the current "sizing" craze is misguided and harmful. Moe (1994) states Gore's report on reinventing government addresses the wrong issues and reaches the wrong conclusions. The National Performance Review staff, he says, chose to make entrepreneurial government the answer to all of government's problems. Unfortunately, such a focus on the management techniques employed in the public sector ignores the institutional, political and legal problems that will not go away no matter what management strategy is used.

In Florida, for example, Gov. Lawton Chiles has faced many obstacles to rightsizing. His program includes the difficult task of reforming the Department of Health and Rehabilitative Services, which is the largest state agency in the country. Chiles has talked about the need to raise taxes to fund this reorganization, but the citizens of Florida have been cool to this idea, stating that they want to see results before they pay any more taxes. In

short, people who push for results-oriented government, such as Gov. Chiles and Vice President Gore, are being watched by citizenry who are impatient for change (Moss, 1992). Thus, the task remains to convince the public that their patience will be rewarded in better government and to prove it by restructuring the systems of government to provide better service at a lower cost.

Methodology

The project was divided into two phases. The purpose of the first phase was to identify a group of states with transportation characteristics similar to those of Kentucky. The purpose of the second phase was to analyze the group of selected states to identify state employment and privatization trends in the field of transportation.

The first phase of this project involved the identification, collection and analysis of secondary state data in order to locate a sample of states with transportation characteristics similar to Kentucky. State data, which were obtained from the Federal Highway Administration and the U.S. Bureau of the Census, included information on state transportation spending characteristics, road miles by functional system, composition of roadways and state population. In all, 24 variables were used. (See Table 1.) Appendix A shows state by state data for each variable used in the study.

In order to find those states most similar to Kentucky in terms of the selected data, states were ranked according to each variable. For each variable ranking, states were assigned a value determined by the proximity of their position to that of Kentucky -- the closer in ranking to Kentucky, the higher the value. Only the 10 states most similar to Kentucky were assigned a value.

After ranking the states according to each variable, the assigned values were totaled and each state received three separate scores. The first score was the sum total of all the rank values for each variable, which gave weight to the closeness to

Table 1

Secondary data source variables included in preliminary analysis

Roadway composition as percent of total lane miles

FLEXIBLE
COMPOSITE
RIGID
LOW TYPE
INTERMEDIATE
UNPAVED

Percent of estimated urban lane mileage by functional system

INTERSTATE
OTHER FREEWAYS
OTHER PRINCIPAL ARTERIAL
MINOR ARTERIAL
COLLECTOR
LOCAL

Percent of estimates rural lane mileage by functional system

INTERSTATE
OTHER FREEWAYS
OTHER PRINCIPAL ARTERIAL
MINOR ARTERIAL
COLLECTOR
LOCAL

Average per capita highway expenditure, 1980-90

TOTAL GENERAL EXPENDITURE
INTERGOVERNMENTAL EXPENDITURE
DIRECT EXPENDITURE
TOTAL CAPITAL OUTLAY

Kentucky in the orderings. The second score was the frequency, or number of times which a state fell into the range of 10 states most similar to Kentucky, regardless of their ranked position. This measure was meant to capture those states which had low total scores but were close enough to Kentucky to be significant. The third score was the weighted average value of each state, which was determined by dividing the sum total of all the rank values by

Table 2

10 states most similar to Kentucky by analysis of
secondary data source measures

Total Score	Frequency	Weighted average
Colorado	South Dakota	Colorado
Tennessee	Oklahoma	Tennessee
Georgia	Nevada	Georgia
North Carolina	Colorado	North Carolina
Utah	Indiana	Utah
Oregon	Missouri	Oregon
New Hampshire	New York	New Hampshire
Oklahoma	Ohio	Oklahoma
Indiana	Tennessee	Nevada
Nevada	Georgia	Indiana

the frequency. The top 10 states for each score were selected and are presented in Table 2. Table 3 shows the states in order from most similar to Kentucky to least similar as determined by combining the three scores.

The second phase of the project involved collecting and analyzing primary data on state employment and privatization trends in transportation from fiscal 1991 to fiscal 1995 for the states determined to be most similar to Kentucky. A survey was faxed to the chief budget officers of the selected state transportation departments to gather information on these trends in six functional areas. These areas were administration, maintenance, engineering, design, enforcement and safety, and construction. Follow-up telephone calls were made to verify the data and to gather additional qualitative information. (See Appendices B and C.) Of the 14 states that were surveyed, 10

Table 3

States most similar to Kentucky as determined by analysis
of secondary data source measures

State	Rank
Colorado	3
Tennessee	3
Georgia	3
Oklahoma	3
Indiana	3
Nevada	3
North Carolina	2
Utah	2
Oregon	2
New Hampshire	2
South Dakota	1
Missouri	1
New York	1
Ohio	1

responded in time to be included in this report. Also, the functional category "enforcement and safety" was not used in the final analysis due to insufficient data from the responding states.

For purposes of this report, employment trends were operationalized as the percentage change by fiscal year of full-time equivalents (FTEs) and the percentage change by fiscal year of total personnel budget in each of the six functional areas. Privatization trends were operationalized as the percentage change by fiscal year of the number of service contracts and the percentage change by fiscal year of the total expenditures for service contracts in each of the six functional areas. The average annual percentage change was calculated for each operationalized variable within each functional area.

Comparisons of growth rates were made between employment

trend variables and privatization trend variables, and among the six functional areas. This was done by finding an overall mean score for all states for each operational variable within each functional area. For each functional area, the overall percentage change of FTEs and the percentage change in personnel budget were averaged to determine a combined average of annual growth rate for state transportation employment. In addition, the overall percentage change in service contracts and the percentage change in service contract expenditures were averaged to determine a combined average annual growth rate for privatization for each functional area. The combined average annual growth rate for privatization was then compared to the combined average growth rate for state employment within each functional area of transportation.

Findings

According to the survey data collected from the 10 states in this study group, professional service contracts have increased in number and value at more than 10 times the annual growth rate of transportation department FTEs and personnel budgets from fiscal 1991 to fiscal 1995. The combined average annual growth rate for privatization was 19.7 percent while the combined average annual growth rate for state transportation employment was only 1.7 percent (Figure 1). For each of the functional areas examined, the combined average annual growth rates for privatization exceeded the combined average annual growth rates for state transportation employment. (See figure 2 and table 4 for detail.)

The largest differences between combined average annual growth rates among the functional areas studied occurred in maintenance (31.9 percent) and design (22.2 percent). The smallest differences occurred in engineering (10.2 percent) and construction (10.5 percent). These numbers suggest that for the states in this study, privatization is occurring more rapidly in design and maintenance than in other functional areas.

The survey results also indicated that the number of state employees in transportation, on average, did not change in these 10 states from fiscal 1991 to fiscal 1995; the average percentage change in the number of FTEs was zero. Among the functional areas examined, administration and engineering actually had negative average annual growth rates in the number of FTEs at -0.9 percent and -1.9 percent, respectively. (See Table 5.)

Figure 1: Combined average annual growth rates for transportation employment and privatization

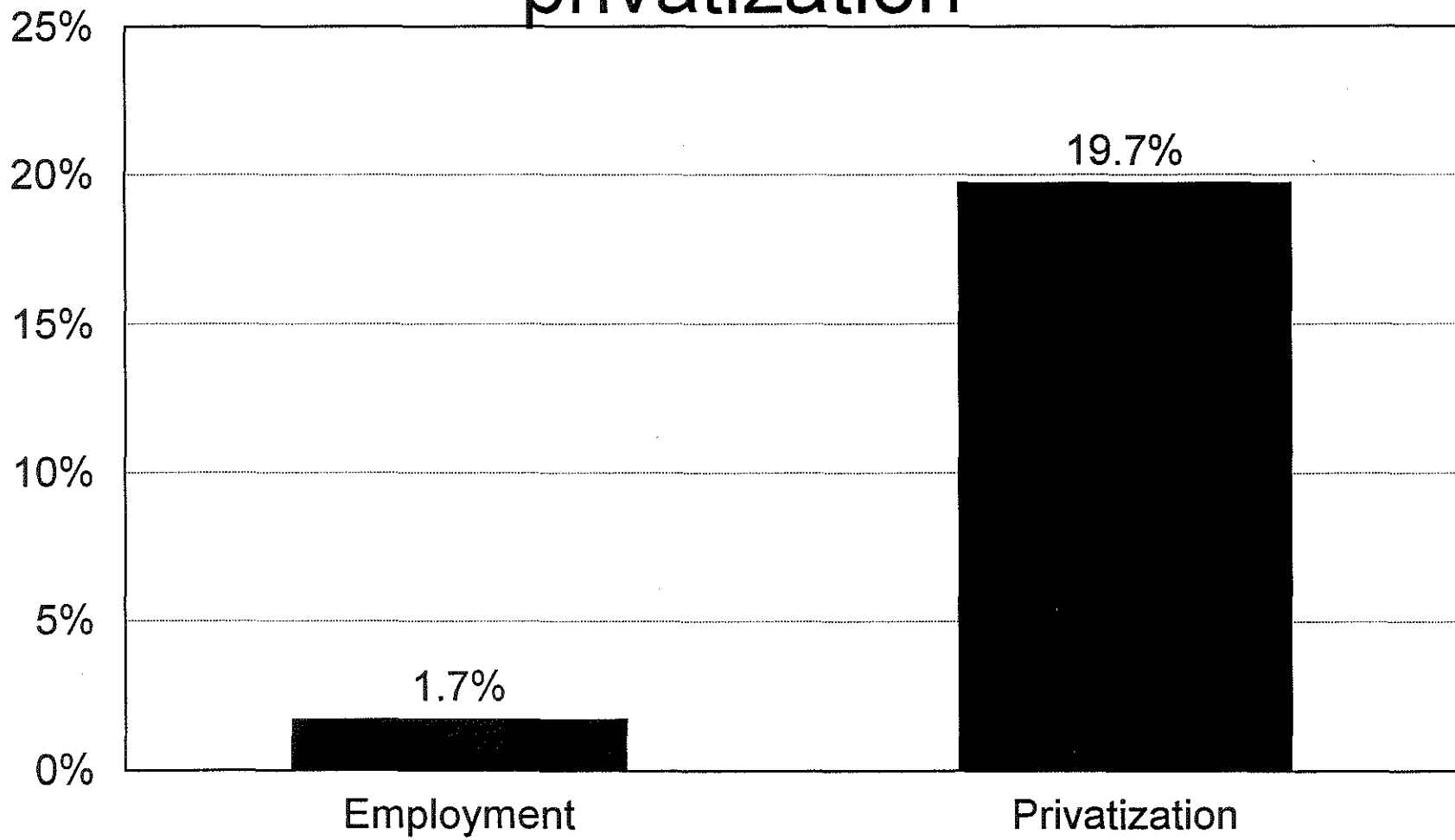


Figure 2: Combined average annual growth rates by functional area

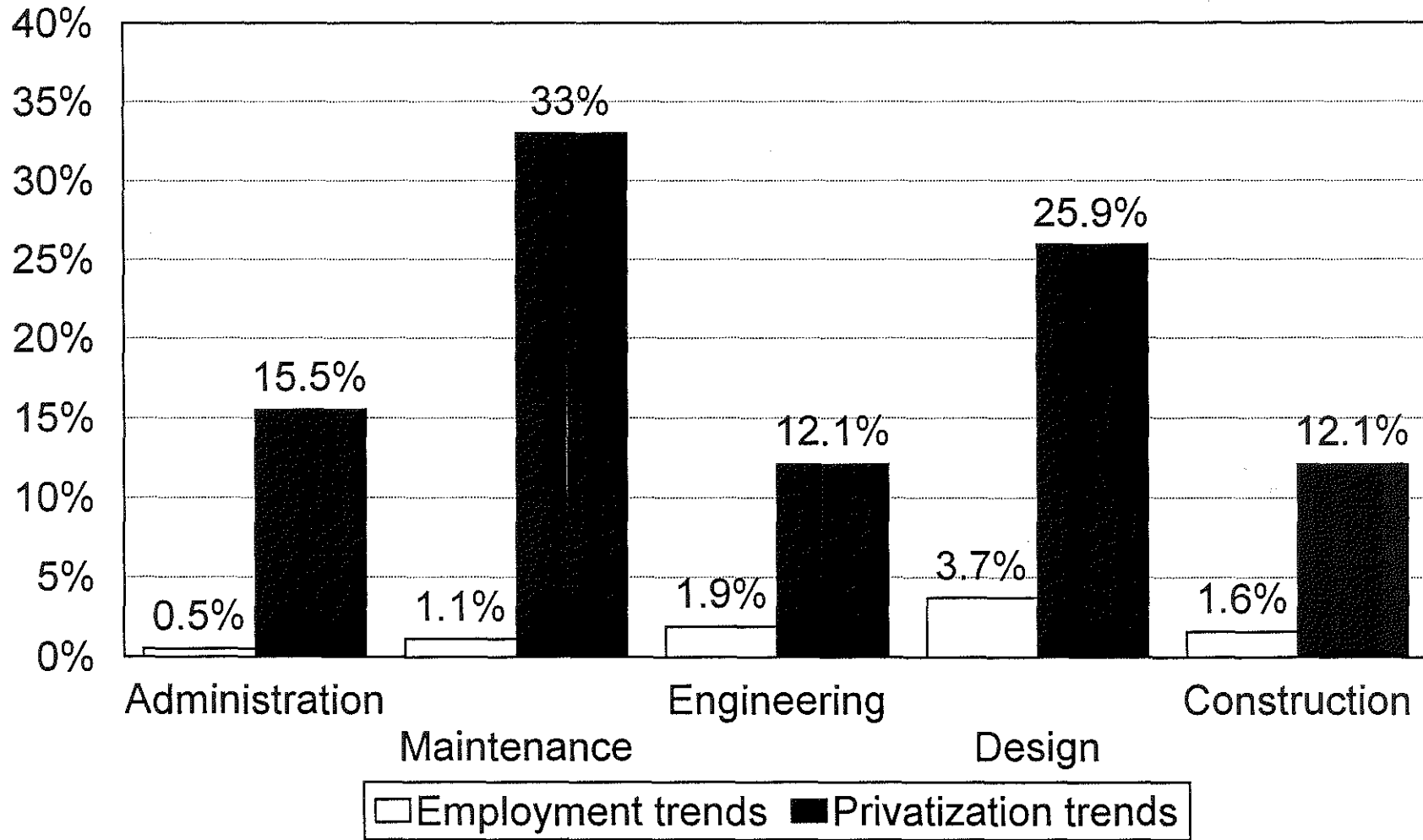


Table 4

Combined average annual growth rates of state employment trends and privatization trends for sample state transportation departments

Functional area	Employment trends	Privatization trends	Difference
Administration	0.5%	15.5%	14.9%
Maintenance	1.1%	33.0%	31.9%
Engineering	1.9%	12.1%	10.2%
Design	3.7%	25.9%	22.2%
Construction	1.6%	12.1%	10.5%
Average	1.7%	19.7%	18.0%

Table 5

Average annual growth rates for employment and privatization variables

Functional area	FTEs	Personnel budget	Contract expenditures	Number of contracts
Administration	-0.9%	1.9%	17.7%	13.2%
Maintenance	0.7%	1.4%	23.7%	42.3%
Engineering	-1.6%	5.3%	11.9%	12.2%
Design	1.4%	6.0%	30.1%	21.7%
Construction	0.4%	2.8%	14.9%	9.3%
Average	0.0%	3.5%	19.7%	19.8%

While state transportation employment dipped in engineering and administration, it experienced slight increases overall in the selected states in the areas of maintenance (0.7 percent) and design (1.4 percent). But this growth is very modest in comparison to changes in the number and total expenditures of transportation service contracts with the private sector during the same period. From fiscal 1991 to fiscal 1995, the number of maintenance service contracts jumped 42.3 percent and the amount of state expenditures

on such contracts increased by 23.7 percent. In the area of design, the number of contracts grew by 21.7 percent and the amount of contract expenditures increased by 30.1 percent.

Discussion and analysis

The results of this study indicate that state transportation departments in the study sample are privatizing at a faster rate than the growth rate of transportation FTEs and spending for personnel over the past five fiscal years in all five functional areas. This finding is consistent with previous studies that have shown that all levels of government have increased privatization efforts in recent years. However, what makes this finding interesting is not the rapid growth of state transportation service contracting but the lack of growth of state transportation employment in the sample states in the five previous fiscal years. The combined average annual growth rate for state transportation employment was only 1.7 percent. The functional areas of administration, maintenance, engineering and construction all average under 2 percent. Only design grew at a faster rate averaging 3.7 percent.

This survey also indicates that privatization is occurring most rapidly in the functional areas of design and maintenance. Contracting these services with the private sector is perhaps driven by the high degree of labor intensive work involved in maintenance activities and the specialized knowledge required for design services. However, this does not explain why privatization of construction has not increased as well because construction is not only labor intensive but also requires a great deal of investment in capital equipment.

There are several factors which may bias the results of this study which must be taken into consideration when interpreting

this study. First and foremost, this study was limited in its scope. Only 14 states were selected for in depth analysis and of those only 10 responded to the survey. Certainly a more complete picture of privatization trends in state transportation departments should include more states.

Secondly, while every effort was made to verify the information collected through the survey, inconsistencies in the organizational structure of state transportation departments resulted in gaps in data for some functional areas. For example, in Oklahoma, design and engineering are treated as one functional area (engineering) for purposes of the budget. Therefore, only engineering was included in the analysis. In addition, some states simply did not have complete information for the requested fiscal years. While these were limiting factors, the study still supports findings by other authors examining privatization trends.

Conclusion

The purpose of this project was to conduct a preliminary analysis of employment and privatization trends in selected state transportation departments. Further research in this area should include the differences in quality of public and private provided service, the influence of politics in states decisions to privatize transportation functions, the role of unions in privatization efforts and an examination of the management of privatization programs for long-term efficiency an effectiveness. In addition, future research should include a wider sample of states in order to more accurately gauge extent and impact of private service providers in the public sector.

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Appendix A

Composition of state roadways as a percent
of total lane mileage: 1992

	<i>Flexible</i>	<i>Composite</i>	<i>Rigid</i>	<i>Low type</i>	<i>Intermediate</i>	<i>Unpaved</i>
ALABAMA	50%	1%	1%	23%	22%	2%
ALASKA	21%	0%	0%	1%	48%	30%
ARIZONA	37%	0%	1%	11%	38%	13%
ARKANSAS	49%	2%	2%	6%	22%	18%
CALIFORNIA	70%	3%	5%	2%	18%	3%
COLORADO	42%	1%	2%	0%	20%	34%
CONNECTICUT	55%	14%	3%	19%	9%	0%
DELAWARE	5%	87%	8%	0%	0%	0%
FLORIDA	96%	0%	2%	0%	0%	2%
GEORGIA	75%	0%	2%	8%	11%	5%
HAWAII	95%	0%	1%	1%	3%	0%
IDAHO	39%	0%	2%	17%	15%	27%
ILLINOIS	28%	40%	12%	14%	1%	4%
INDIANA	26%	8%	4%	3%	55%	4%
IOWA	28%	13%	25%	1%	0%	32%
KANSAS	16%	4%	3%	5%	25%	47%
KENTUCKY	49%	9%	4%	2%	36%	0%
LOUISIANA	54%	16%	9%	0%	20%	1%
MAINE	4%	0%	0%	54%	40%	1%
MARYLAND	86%	1%	2%	4%	7%	0%
MASSACHUSETTS	67%	0%	0%	1%	29%	2%
MICHIGAN	35%	13%	7%	8%	28%	8%
MINNESOTA	29%	3%	6%	0%	48%	14%
MISSISSIPPI	35%	5%	3%	14%	37%	6%
MISSOURI	14%	11%	7%	32%	36%	0%
MONTANA	38%	0%	1%	3%	10%	49%
NEBRASKA	27%	6%	8%	1%	14%	44%
NEVADA	73%	0%	3%	0%	8%	16%
NEW HAMPSHIRE	51%	1%	1%	44%	3%	0%
NEW JERSEY	71%	18%	6%	0%	5%	0%
NEW MEXICO	67%	2%	1%	0%	27%	3%
NEW YORK	36%	33%	6%	3%	21%	0%
NORTH CAROLINA	87%	0%	3%	9%	0%	0%
NORTH DAKOTA	38%	0%	3%	6%	7%	46%
OHIO	75%	14%	3%	1%	5%	2%
OKLAHOMA	27%	6%	6%	38%	0%	23%
OREGON	61%	0%	2%	3%	19%	16%
PENNSYLVANIA	39%	23%	8%	0%	28%	1%
RHODE ISLAND	27%	4%	2%	15%	52%	0%
SOUTH CAROLINA	24%	3%	2%	0%	71%	0%
SOUTH DAKOTA	24%	1%	8%	21%	7%	40%
TENNESSEE	70%	4%	1%	18%	5%	2%
TEXAS	81%	5%	4%	4%	7%	0%
UTAH	53%	0%	2%	0%	18%	28%
VERMONT	70%	0%	0%	14%	6%	10%
VIRGINIA	65%	3%	2%	25%	6%	0%
WASHINGTON	51%	1%	5%	3%	33%	7%
WEST VIRGINIA	77%	2%	6%	10%	5%	1%
WISCONSIN	63%	10%	9%	0%	18%	0%
WYOMING	47%	0%	2%	3%	6%	41%

Appendix A

Estimated rural lane mileage as percent of total rural
mileage by functional system: 1992

	Interstate	Other principle arterial	Minor arteri al	Major collector	Minor collector	Local	Total rural lane mileage
ALABAMA	1.6%	3.7%	5.2%	15.8%	8.8%	64.9%	148,738
ALASKA	8.9%	2.9%	7.8%	10.2%	7.7%	62.5%	23,754
ARIZONA	4.9%	2.7%	5.5%	8.8%	6.6%	71.4%	84,316
ARKANSAS	1.2%	3.4%	4.4%	17.7%	8.5%	64.7%	138,585
CALIFORNIA	3.5%	5.5%	7.6%	14.2%	9.4%	59.7%	182,421
COLORADO	2.3%	3.7%	5.7%	8.6%	13.9%	65.7%	132,576
CONNECTICUT	2.5%	3.9%	5.7%	12.0%	7.3%	68.6%	17,690
DELAWARE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0
FLORIDA	3.4%	7.9%	3.8%	6.9%	8.3%	69.6%	129,575
GEORGIA	2.0%	4.8%	6.0%	15.7%	8.5%	63.0%	173,255
HAWAII	0.0%	0.5%	15.7%	17.8%	4.0%	62.0%	4,615
IDAHO	1.9%	3.2%	2.3%	9.5%	6.7%	76.5%	111,801
ILLINOIS	2.8%	3.6%	4.9%	13.4%	3.3%	72.0%	213,976
INDIANA	2.3%	2.2%	5.1%	13.7%	11.8%	64.9%	147,158
IOWA	1.2%	3.7%	3.9%	13.7%	15.6%	61.9%	209,611
KANSAS	1.1%	2.8%	3.5%	18.3%	7.4%	66.9%	250,567
KENTUCKY	1.8%	3.9%	2.8%	11.5%	14.9%	65.2%	126,536
LOUISIANA	2.7%	2.9%	3.8%	15.5%	9.0%	66.1%	95,141
MAINE	3.1%	4.0%	5.1%	16.1%	11.1%	60.5%	40,727
MARYLAND	3.4%	5.6%	6.1%	11.4%	11.3%	62.3%	32,736
MASSACHUSETTS	3.0%	2.4%	6.0%	14.9%	13.8%	59.9%	27,270
MICHIGAN	1.7%	3.6%	4.4%	18.8%	7.0%	64.4%	182,292
MINNESOTA	1.2%	3.7%	5.4%	13.5%	10.1%	66.2%	233,341
MISSISSIPPI	1.7%	3.6%	6.0%	18.4%	3.7%	66.7%	132,415
MISSOURI	1.5%	3.5%	3.1%	16.9%	5.0%	70.0%	214,954
MONTANA	3.3%	3.2%	4.8%	9.7%	12.9%	66.1%	138,188
NEBRASKA	1.0%	3.2%	4.8%	12.9%	10.4%	67.7%	177,191
NEVADA	2.3%	3.6%	1.8%	4.7%	5.8%	81.8%	83,481
NEW HAMPSHIRE	3.0%	2.8%	5.5%	9.9%	8.7%	70.0%	25,242
NEW JERSEY	2.8%	4.1%	6.3%	14.9%	9.9%	62.2%	24,829
NEW MEXICO	3.2%	3.2%	4.1%	7.4%	4.1%	77.9%	113,658
NEW YORK	2.2%	3.4%	6.0%	8.1%	14.2%	66.0%	148,039
NORTH CAROLIN	1.7%	3.8%	4.4%	11.6%	9.5%	69.0%	151,200
NORTH DAKOTA	1.2%	3.8%	2.9%	13.0%	8.6%	70.3%	171,430
OHIO	2.0%	3.0%	4.2%	14.9%	7.4%	68.4%	168,123
OKLAHOMA	1.4%	2.6%	3.4%	21.1%	3.0%	68.4%	203,821
OREGON	1.4%	3.7%	2.2%	11.2%	8.3%	73.1%	173,562
PENNSYLVANIA	2.5%	3.9%	6.0%	9.2%	9.2%	69.2%	176,427
RHODE ISLAND	2.6%	6.6%	6.6%	12.9%	9.6%	61.6%	3,188
SOUTH CAROLIN	2.4%	3.6%	7.2%	14.8%	6.9%	65.0%	110,467
SOUTH DAKOTA	1.5%	3.1%	4.2%	15.1%	7.8%	68.3%	164,066
TENNESSEE	2.1%	3.3%	4.9%	7.6%	15.2%	66.8%	140,142
TEXAS	2.1%	5.0%	3.4%	17.4%	8.4%	63.8%	448,995
UTAH	4.1%	2.6%	4.4%	8.6%	10.4%	69.9%	76,314
VERMONT	4.3%	2.6%	5.8%	15.2%	6.5%	65.6%	26,202
VIRGINIA	3.0%	5.1%	6.8%	18.8%	4.3%	61.9%	111,083
WASHINGTON	1.7%	3.8%	2.9%	13.1%	10.3%	68.2%	126,666
WEST VIRGINIA	2.9%	2.1%	5.4%	19.7%	6.1%	63.8%	64,708
WISCONSIN	1.1%	4.0%	5.3%	14.1%	6.7%	68.8%	193,506
WYOMING	4.4%	2.7%	5.6%	7.6%	20.1%	59.6%	74,720

Appendix A

Estimated urban lane mileage as percent of total urban
mileage by functional system 1992

	Interstate	Other freeways and expressways	Other principle arterial	Minor arterial	Collector	Local	Total urban lane mileage
ALABAMA	3.4%	0.2%	7.8%	11.4%	10.8%	66.4%	42,105
ALASKA	5.9%	0.0%	5.3%	11.9%	8.4%	68.5%	3,551
ARIZONA	1.9%	0.9%	12.0%	9.1%	10.5%	65.5%	34,386
ARKANSAS	3.5%	2.4%	11.0%	12.9%	11.8%	58.5%	16,633
CALIFORNIA	4.0%	4.0%	12.1%	14.1%	10.7%	55.0%	189,646
COLORADO	3.0%	2.9%	10.3%	12.1%	9.4%	62.3%	28,677
CONNECTICUT	5.4%	3.4%	6.2%	12.1%	10.6%	62.2%	24,864
DELAWARE	2.7%	3.3%	13.9%	19.6%	12.2%	48.3%	2,714
FLORIDA	2.1%	1.1%	8.3%	6.7%	10.1%	71.7%	107,840
GEORGIA	4.6%	1.1%	10.7%	10.9%	7.8%	64.8%	58,142
HAWAII	6.7%	5.3%	8.2%	9.6%	12.2%	57.8%	4,209
IDAHO	4.5%	0.0%	9.9%	13.8%	13.7%	58.1%	7,167
ILLINOIS	4.0%	0.5%	10.8%	11.5%	10.0%	63.2%	72,061
INDIANA	3.8%	1.1%	10.3%	12.8%	9.9%	62.1%	40,380
IOWA	3.3%	0.0%	11.6%	16.9%	9.9%	58.2%	20,679
KANSAS	4.1%	2.5%	8.6%	11.9%	9.0%	63.8%	20,680
KENTUCKY	4.8%	1.5%	8.0%	12.0%	9.3%	64.4%	21,883
LOUISIANA	3.8%	0.4%	12.5%	11.2%	10.2%	61.9%	27,908
MAINE	4.1%	1.0%	10.6%	11.4%	15.1%	57.7%	5,214
MARYLAND	5.1%	3.1%	10.3%	10.1%	9.2%	62.2%	31,380
MASSACHUSETTS	5.2%	2.5%	9.8%	11.1%	12.1%	59.4%	44,992
MICHIGAN	4.3%	1.5%	11.7%	13.8%	8.3%	60.3%	64,576
MINNESOTA	3.7%	1.7%	6.2%	14.9%	10.7%	62.8%	32,189
MISSISSIPPI	3.2%	0.9%	12.0%	9.0%	11.8%	63.0%	17,302
MISSOURI	5.8%	3.0%	10.0%	12.2%	8.5%	60.5%	34,820
MONTANA	4.0%	0.0%	10.0%	9.1%	9.7%	67.3%	4,993
NEBRASKA	1.9%	0.3%	11.5%	11.7%	7.8%	66.9%	10,817
NEVADA	3.0%	1.4%	8.2%	12.8%	11.1%	63.5%	10,503
NEW HAMPSHIRE	4.2%	2.6%	8.5%	14.5%	13.2%	57.0%	5,187
NEW JERSEY	3.7%	3.2%	8.8%	12.3%	7.9%	64.1%	49,305
NEW MEXICO	3.0%	0.0%	15.0%	7.0%	6.1%	68.8%	13,232
NEW YORK	4.2%	4.1%	8.6%	12.7%	9.9%	60.5%	87,383
NORTH CAROLIN	3.2%	2.2%	9.5%	12.4%	7.5%	65.3%	47,417
NORTH DAKOTA	4.1%	0.0%	12.8%	14.7%	11.3%	57.1%	3,969
OHIO	5.3%	2.2%	9.3%	9.9%	12.7%	60.6%	70,489
OKLAHOMA	3.6%	2.6%	9.7%	15.8%	8.7%	59.6%	27,532
OREGON	3.1%	1.1%	8.5%	11.7%	9.8%	65.7%	20,507
PENNSYLVANIA	3.4%	2.8%	10.4%	11.1%	10.8%	61.4%	67,292
RHODE ISLAND	3.0%	2.7%	10.1%	6.7%	10.1%	67.4%	9,923
SOUTH CAROLIN	2.8%	1.1%	10.9%	11.4%	13.0%	60.8%	23,548
SOUTH DAKOTA	4.5%	0.2%	12.3%	12.4%	10.4%	60.2%	4,121
TENNESSEE	4.3%	1.1%	12.4%	11.0%	13.5%	57.7%	36,982
TEXAS	3.1%	2.5%	8.8%	9.2%	8.8%	67.6%	171,089
UTAH	6.7%	0.2%	7.3%	10.0%	7.6%	68.2%	13,635
VERMONT	5.5%	1.6%	7.8%	11.5%	15.5%	58.0%	2,761
VIRGINIA	5.0%	2.3%	8.9%	11.5%	8.6%	63.7%	34,672
WASHINGTON	3.9%	2.9%	9.3%	13.1%	10.5%	60.3%	38,037
WEST VIRGINIA	5.8%	3.2%	8.8%	10.5%	12.6%	59.2%	6,670
WISCONSIN	2.1%	2.5%	10.3%	15.2%	8.7%	61.3%	32,729
WYOMING	6.3%	0.2%	12.2%	6.1%	17.3%	57.9%	5,443

Appendix A

Average per capita highway expenditure
by state, 1980 to 1990

	<i>Total general expenditure</i>	<i>Intergov- ernmental expenditure</i>	<i>Direct expenditure</i>	<i>Total capital outlay</i>
ALABAMA	\$146	\$30	\$115	\$79
ALASKA	\$783	\$111	\$672	\$349
ARIZONA	\$219	\$66	\$153	\$122
ARKANSAS	\$146	\$30	\$115	\$79
CALIFORNIA	\$85	\$27	\$58	\$31
COLORADO	\$148	\$35	\$113	\$72
CONNECTICUT	\$159	\$8	\$151	\$100
DELAWARE	\$208	\$6	\$202	\$136
FLORIDA	\$114	\$15	\$99	\$77
GEORGIA	\$139	\$12	\$128	\$103
HAWAII	\$107	\$0	\$107	\$78
IDAHO	\$349	\$80	\$269	\$226
ILLINOIS	\$146	\$28	\$118	\$84
INDIANA	\$138	\$42	\$96	\$67
IOWA	\$214	\$66	\$148	\$106
KANSAS	\$172	\$27	\$145	\$101
KENTUCKY	\$204	\$17	\$188	\$136
LOUISIANA	\$158	\$9	\$149	\$116
MAINE	\$155	\$11	\$144	\$72
MARYLAND	\$207	\$66	\$141	\$94
MASSACHUSETTS	\$91	\$13	\$78	\$52
MICHIGAN	\$120	\$59	\$61	\$45
MINNESOTA	\$173	\$48	\$125	\$89
MISSISSIPPI	\$151	\$33	\$118	\$85
MISSOURI	\$127	\$23	\$104	\$69
MONTANA	\$264	\$14	\$249	\$192
NEBRASKA	\$205	\$54	\$151	\$115
NEVADA	\$199	\$17	\$181	\$130
NEW HAMPSHIRE	\$160	\$12	\$148	\$82
NEW JERSEY	\$128	\$5	\$122	\$86
NEW MEXICO	\$227	\$12	\$215	\$149
NEW YORK	\$90	\$10	\$80	\$59
NORTH CAROLIN	\$133	\$10	\$124	\$61
NORTH DAKOTA	\$261	\$59	\$201	\$141
OHIO	\$124	\$39	\$85	\$58
OKLAHOMA	\$163	\$46	\$117	\$80
OREGON	\$179	\$61	\$117	\$89
PENNSYLVANIA	\$143	\$18	\$125	\$58
RHODE ISLAND	\$112	\$0	\$112	\$89
SOUTH CAROLIN	\$109	\$11	\$98	\$60
SOUTH DAKOTA	\$226	\$10	\$216	\$145
TENNESSEE	\$151	\$35	\$117	\$92
TEXAS	\$131	\$1	\$131	\$95
UTAH	\$173	\$18	\$155	\$117
VERMONT	\$207	\$28	\$179	\$94
VIRGINIA	\$192	\$17	\$175	\$103
WASHINGTON	\$168	\$33	\$136	\$101
WEST VIRGINIA	\$235	\$0	\$235	\$145
WISCONSIN	\$127	\$45	\$83	\$48
WYOMING	\$471	\$38	\$433	\$322

APPENDIX B

PART A: FULL-TIME EQUIVALENTS

Please provide the number of full-time equivalents (FTEs) employed in each of the following functional areas for all of the fiscal years listed.

Administration

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

Maintenance

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

Engineering

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

Design

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

Enforcement and safety

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

Construction

FY95 _____ FTEs budgeted	FY92 _____ FTEs
FY94 _____ FTEs	FY91 _____ FTEs
FY93 _____ FTEs	

APPENDIX B

PART B: PERSONNEL BUDGET

Please provide the amount of dollars spent on personnel in each of the following functional areas for all of the fiscal years listed.

Administration

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

Maintenance

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

Engineering

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

Design

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

Enforcement and safety

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

Construction

FY95	\$ _____	budgeted	FY92	\$ _____
FY94	\$ _____		FY91	\$ _____
FY93	\$ _____			

APPENDIX B

PART C: PROFESSIONAL SERVICE CONTRACTS

Please provide the total number of service contracts with the private sector in each of the following functional areas for all of the fiscal years listed.

Administration

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

Maintenance

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

Engineering

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

Design

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

Enforcement and safety

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

Construction

FY95 _____ # of contracts budgeted	FY92 _____ # of contracts
FY94 _____ # of contracts	FY91 _____ # of contracts
FY93 _____ # of contracts	

APPENDIX B

PART D: CONTRACT EXPENDITURES

Please provide the amount of dollars spent on contracted services in each of the following functional areas for all of the fiscal years listed.

Administration

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

Maintenance

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

Engineering

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

Design

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

Enforcement and safety

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

Construcution

FY95 \$ _____ budgeted	FY92 \$ _____
FY94 \$ _____	FY91 \$ _____
FY93 \$ _____	

APPENDIX C

January 19, 1995

Dear

The Kentucky Transportation Cabinet, in conjunction with the Kentucky Transportation Center of the University of Kentucky, is conducting a survey of selected state transportation departments.

The purpose of this survey is to compare the transportation cabinet in Kentucky with departments in other similar states in terms of staffing, personnel expenditures and the extent to which these departments have privatized various functions.

Please take a few moments to complete this survey and return it by January 27, 1995. You can fax your responses to 606-257-#### to the attention of Anne Coke. After the responses have been compiled and analyzed we will be certain to send you a complimentary copy of the results.

If you have any questions, please contact me at (606-231-8854). Thank you for your time and effort.

Sincerely,

Doug Olberding
Research associate