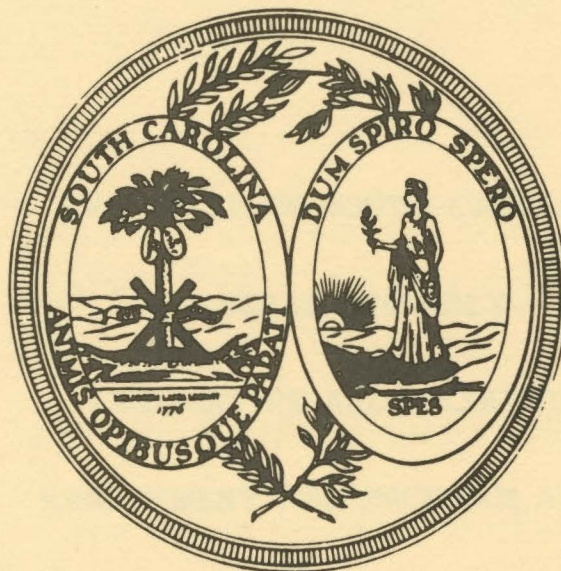


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Audit of the South Carolina
Department of Highways
and Public Transportation
May 18, 1983

THE STATE OF SOUTH CAROLINA
GENERAL ASSEMBLY
LEGISLATIVE AUDIT COUNCIL
MANAGEMENT AND PROGRAM AUDIT
OF THE
SOUTH CAROLINA
DEPARTMENT OF HIGHWAYS AND
PUBLIC TRANSPORTATION

TABLE OF CONTENTS

	<u>Page</u>
<u>CHAPTER I - SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION IS UNABLE TO MAINTAIN THE STATE'S HIGHWAYS</u>	1
Introduction	1
Variable Productivity for Similar Repair Activities	7
SCDHPT Continues to Pave Private Driveways	9
Construction and Maintenance of State Parks' and Agencies' Roads	13
Eight-Hour Work Day Restricts Maintenance Activity	15
 <u>CHAPTER II - LAND AND EQUIPMENT MANAGEMENT</u>	 19
Inadequate Management of Surplus Land	19
Seven Million Dollars Spent on Abandoned Projects	19
Inadequate Disposal of Remnant Land	21
Equipment Management Program is Inefficient	22
Inadequate Equipment Replacement Program	23
No Standards for Equipment Utilization	25
Failure to Dispose of Unused Equipment	26
Improper Assignment of Automobiles	29
SCDHPT Pays for Unnecessary Commuting	31
 <u>CHAPTER III - PERSONNEL MANAGEMENT</u>	 34
SCDHPT Organization is Cumbersome	34
Chief Commissioner's Office	37
State Highway Engineer's Office	38
Secretary-Treasurer's Office	41
Duplicate Accounting Functions Within SCDHPT	44
Consolidation of Key punch Operation Should be Studied	45
Highway Safety Office Can be Disbanded	46
Weight Enforcement Program Continues to be Inadequate	49
Questionable Allocation of Motor Vehicle Division Field Personnel	55
Seven Motor Vehicle Division Field Offices Not Cost Effective	59
SCDHPT's Noonday Meal Reimbursements Can Achieve Cost Savings	61

TABLE OF CONTENTS (CONTINUED)

	<u>Page</u>
<u>CHAPTER III - PERSONNEL MANAGEMENT (cont.)</u>	
Ineffective Internal Audit Function	64
Potential Conflict of Interest Involving the Head Internal Auditor	67
Inadequate Handling of Special Investigations	69
 <u>CHAPTER IV - DEPARTMENT BUDGETARY PROCESS</u>	 73
SCDHPT Develops Two Different Budgets	73
No Internal Transfer Process	77
Failure to Adjust Budget for Encumbrances	79
 <u>APPENDIX</u>	
A - SCDHPT Comments	83

CHAPTER I
SOUTH CAROLINA DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION
IS UNABLE TO MAINTAIN THE STATE'S HIGHWAYS

Introduction

In April 1981, the Audit Council reported that the South Carolina Department of Highways and Public Transportation (SCDHPT) was in danger of being overwhelmed by the repair needs of the State's highways. Since then, the practice of adding roads to the State system, while fewer existing highways are resurfaced, has continued. This practice has increased the pressure upon the Department's maintenance operations to stay abreast of the growing repair needs of the State's highways. In addition, the State is faced with a growing bridge repair burden. Many bridges built on the primary and secondary system in the 1940's and 1950's are reaching the end of their structural life or have obsolete designs. These two maintenance problems are compounded by the decreasing number of personnel assigned to maintain the State's roads.

The Department has no systematic method for establishing productivity standards or setting priority repair needs statewide. Work schedules based on standard quantities and a uniform level of service are not developed by the central office to control maintenance activities. SCDHPT's overall maintenance organization designates the responsibility for performing road repairs to the district and county levels. In this situation, decisions relative to the type of work needed, how much is required, how to do it and when to perform the work are made by individual foremen without regard to district or statewide maintenance

needs. The following sections explain in more detail SCDHPT's resurfacing, bridge repair and maintenance personnel problems.

Resurfacing and Maintenance

Since 1980, the Department has added 338 miles to its road inventory while resurfacing fewer roads than the 1970-1979 yearly average of 973 miles. This growth has primarily been in the State's secondary, C-Funded (from the Department's funding codes) road system. Currently, South Carolina ranks fifth in the nation in miles of state maintained roads and each year this system grows while the number of miles resurfaced decreases. Decreasing the number of miles resurfaced while adding roads to the highway system puts an additional burden on the Department's maintenance operation to repair roads which have reached the end of their design life.

In July 1980, SCDHPT estimated that 5,727 miles, or 15% of the State's highways needed resurfacing. This estimate was based on a survey conducted by the Department's county maintenance engineers. In 1982, SCDHPT implemented a pavement management system. It uses objective criteria to evaluate and a numerical rating method to establish pavement conditions. Using this new management system, the Department estimates that approximately 10,553 miles, or 27% of the State's 39,632 miles of roads need resurfacing at a cost of \$193,437,000. During FY 80-81, the Department resurfaced only 438 miles and in FY 81-82, 750 miles. The last figure means that only 2% of the State's highways are receiving a major repair which can restore 15 years to their design life. At this rate, roads wait almost 40 years before they are resurfaced.

Typical road maintenance activities include patching potholes, filling cracks and joints, street cleaning, snow removal, shoulder repair, grass cutting, etc. The objective of maintenance is to correct minor deficiencies, not replace or rehabilitate extensive sections of pavement which have reached the end of their useful life. Maintenance activities cannot be substituted for resurfacing because when roads have reached this point in their design life ordinary repair work can no longer restore pavement life.

Bridge Repairs

Currently, SCDHPT estimates that 1,055 bridges on the State's primary and secondary system need repairs costing approximately \$386 million. In FY 81-82, South Carolina spent \$15,213,045 for bridge replacements. Of this total, \$11,346,895 was Federal-aid money. In addition, the Highway Department spent \$623,238 in ordinary maintenance work on bridges.

Under Federal law, states and/or local governments are responsible for inspecting their bridges, maintaining an accurate and current inventory and submitting this data to the Federal Highway Administration (FHWA). Based on this data, the FHWA classifies each bridge as "not deficient," "structurally deficient" or "functionally obsolete." A structurally deficient bridge is one that is weak, has been restricted to light vehicles, closed, or which needs immediate rehabilitation to remain open. A functionally obsolete bridge is one that has some type of design impairment and is no longer considered safe. An example of this is a bridge where the road approaching it is wider than the bridge's entrance. If a bridge is both structurally deficient and functionally

obsolete, FHWA classifies it as structurally deficient. Using the Federal standards as criteria, SCDHPT estimates that 411 bridges on the State's primary and secondary system are rated structurally deficient and 644 are rated functionally obsolete.

Maintenance Personnel

SCDHPT's county maintenance crews are spending their time reacting to complaints and not performing routine, preventive maintenance on the State's roads. This work assignment method permits road failures to occur before maintenance is applied to correct the fault or repair the damage. In this way, the complaints control the maintenance operations and some road failures reflect a lack of preventive maintenance. Normal complaints or requests should be included in a county's routine maintenance schedule and emergencies which pose a hazard to the public should be attended to immediately.

The Department is maintaining the State's highway system with fewer personnel than it had in 1970. Maintenance field personnel totaled 3,407 in 1970, whereas in 1981 this figure had dropped to 3,108, a 9% decrease during a period when the number of roads increased by 10%. The ratio of miles per maintenance worker increased from 10.5 in 1970 to 12.7 by 1981. During this same period, SCDHPT reduced its total work force from 6,621 employees to 6,044.

In January 1978, the Highway Department implemented a work order system for its maintenance operations. Complaints coming into the county offices are recorded on a form and the maintenance crews are given two weeks to try to fulfill the work order. This method of

handling complaints shifted the focus of planning for routine maintenance activities to correcting the latest complaint received in the local office. Routine maintenance operations gave way to emergency maintenance which relies extensively on snap decisions, endless revisions of priorities, and urgent redeployment of labor which lowers maintenance efficiency.

Interviews with county, district and state maintenance engineers revealed that most counties are unable to perform routine preventive maintenance on the roads. As handled by the Department, the work order system is not conducive to establishing a planned, systematic approach to maintenance activities. Work priorities cannot be set and the cost effectiveness of local maintenance operations are not compared and standards established.

The Department does not have a systematic method for determining repair priorities on the State's roads. Maintenance management systems, however, collect detailed information on roads such as age, pavement condition, design capabilities, rideability, traffic volume, travel speed and other engineering aspects of road conditions. This information is put into a computer and is used by policymakers to decide what types of services need to be provided to repair a road or improve its capability to handle traffic. It allows policymakers to set priorities for allocating scarce resources for the repair or improvement of roads based on objective criteria and with the statewide road network's needs in mind.

With its road inventory growing, the Department's county maintenance operations are in danger of deferring repair work on the State's

roads. To augment its maintenance force, the Department is experimenting with hiring private contractors to patch potholes, mow grass and install driveway pipe. It will also experiment with using inmate labor in its maintenance operations of litter control and clearing right-of-ways. At the time the Council was finishing its research, the Department had experimented with inmate labor for about one month. This was not enough time to properly gauge the effect of prison labor forces doing minor repair work on the State's roads.

The Council compared the average cost of private contractors patching potholes and mowing grass to SCDHPT's average for the same activities in its county maintenance operations (see p. 7). These comparisons are not conclusive because this is the first year of the experiments and more data is needed.

Under the current situation, counties are reacting to complaints and are hampered from performing maintenance work, such as ditching, which prevents damage occurring to the roads. Maintenance crews spend their time catching up on work orders rather than scheduling their maintenance activities in advance. This causes labor and materials to be spent on less important activities, such as driveways (see p. 9), while routine maintenance needed to prevent or delay deterioration to the roads is not done.

In its 1981 report, the Council recommended the Department implement a maintenance management system to get better control of its repair activities and to better utilize its dwindling resources. The Highway Department was found to need a systematic method of setting statewide road maintenance standards and priorities.

Since that report, SCDHPT has taken steps to establish a pavement management system but has not assessed the need for a maintenance management system. The Department continues to add mileage to the State's highway inventory while resurfacing a small amount of roads each year, thus increasing its maintenance burden. With these problems evident, the Council examined SCDHPT's maintenance policies and operations to determine their effectiveness. The following findings reaffirm the Council's original recommendation that a maintenance management system be implemented.

Variable Productivity for Similar Repair Activities

The Highway Department is achieving variable productivity for similar repair activities in counties in the same engineering districts. This indicates that differences in productivity can be attributed to the management of the road crews and cannot be caused solely by differences in terrain across the State.

SCDHPT's overall maintenance organization designates the responsibility for performing road repairs to the district and county levels. In this situation decisions relative to the type of work needed, how much is required, how to do it, and when to perform the work are made by individual foremen without regard to district or statewide maintenance needs.

The Department has no systematic method for establishing productivity standards or setting priority repair needs statewide. Work schedules, based on standard quantities and a uniform level of service, are not developed by the central office to control maintenance activities. Instead, decisions relative to the work to be performed are controlled

by work orders received in the county offices (see p. 4). This method of operation does not consider the optimum size of a road crew, how much material is needed, how to do the job and when to perform the work.

Cost reports, which are submitted by the counties to the Columbia office, are designed solely for fiscal control. They do not provide the data required for evaluation of maintenance performance on a basis other than funds expended. Without a measure of work performed in quantitative terms, evaluation and control of work performance is not possible. In addition, the Department does not take data submitted by the counties, summarize it and use it for any evaluative purpose.

As a result of its experiments with private contractors, the Department's central office began collecting statistics on individual maintenance activities such as tons of asphalt used for pothole patching, acres of grass mowed and number of feet of pipe laid. The Council examined the statistics for pothole patching and grass mowing for the period August 1981 to May 1982. However, these figures could not be used to determine if the State performs these functions more cheaply than private contractors. The Council found wide fluctuations in costs reported by county maintenance organizations which indicates a lack of uniformity in what is considered when reporting maintenance costs. On the other hand, a private contractor must consider all costs, including overhead, when he bids on a project.

The Department does not have an historical data base established to set statewide maintenance standards, and use these standards to measure the performance of its 46 county maintenance operations, as

well as the private contractors. As an example, SCDHPT has no standard for the number of times, or how far along, a road's right-of-way grass should be cut. The Department mows the entire right-of-way on every road. In addition, this is the first year of the experiment and for the first time SCDHPT is collecting statistics on some individual maintenance items.

With its present method of operation, the Department does not have adequate means to establish standards, monitor and control repair activities, and measure the performance of its field operations. Under the present system, SCDHPT's county and district maintenance engineers cannot be held accountable for the efficient use of the State's maintenance resources. Instead, maintenance assignments are usually governed by the work orders received and their completion often rests upon past practice, verbal assignments or tradition. Consequently, extreme cost fluctuations occur and variable productivity is achieved for similar work activities between counties in the same engineering districts.

SCDHPT Continues to Pave Private Driveways

Almost two years after the Council recommended the practice be stopped, the Highway Department continues to construct private driveways from the shoulder of roads to right-of-way lines. Between FY 80-81 and FY 81-82, the Department spent \$8.3 million on this service. This practice expends scarce state resources for the benefit of some users and it consumes the time and efforts of the Department's maintenance forces.

In FY 77-78, at the direction of the State Highway Engineer, the Department began placing an emphasis on paving driveways to the

right-of-way line. Prior to this, it installed driveways but paved them only if any asphalt was left over from a paving operation. As reported in 1981, from FY 77-78 to FY 79-80 the Department spent a minimum of \$13,598,339 providing landowners with accesses to the State's roads.

The Council surveyed ten county maintenance operations (Calhoun, Fairfield, Kershaw, Lee, Lexington, Newberry, Richland, Orangeburg, Saluda and Sumter) in the central part of the State to learn how much effort is consumed by driveway installations. The ten county engineers estimated it takes a crew of four to seven men, a backhoe or motor grader, two to four two-ton trucks and one-half (four hours) workday to install an average driveway. Eight of the counties (Calhoun, Fairfield, Kershaw, Lee, Lexington, Richland, Saluda, and Sumter) received 14,407 work orders from January 1981 to June 1982. Driveway installations accounted for 2,525 or 18% of the requests. Newberry and Sumter, who kept their work orders by fiscal year, received 229 or 37% of their 615 requests for driveways in FY 81-82.

In June 1982, the Highway Commission proposed changing its policy to have any culvert pipe over 30 inches in diameter, installed in a driveway, be charged to the landowner. The owner will have to pay the difference in cost between 30 inches and the size of the pipe installed. This is the only policy change the Department has instituted.

South Carolina provides a much greater level of service installing driveways than the other nine southeastern states: Alabama, Florida, Georgia, Kentucky, North Carolina, Louisiana, Mississippi, Tennessee and Virginia. None of the states install commercial driveways and three of them, Florida, Louisiana and Mississippi, do not install any type of

driveway. Six of the states will install a private drive and cover it with dirt and gravel. Only one of these states, Georgia, will supply the property owner with a culvert pipe. South Carolina will provide a free 20-foot pipe to private property and a 40-foot pipe to commercial owners, dig a ditch, install the pipe, cover it with dirt and gravel and pave over it from the shoulder of a road to its right-of-way line.

Based on this information, plus the expense of the program, the Audit Council, in its 1981 report, recommended the Department stop installing free driveways. However, since this recommendation was made, Department officials have not made any recommendations to change this program other than to charge for culvert pipe over 30 inches in diameter.

Along with the expenditures for labor and materials, the State spends a good portion of its work time installing driveways. As an example, an urban county maintenance operation, such as Richland County, received 5,268 work orders in 1981. Of this total, 624 or 12% were requests for driveways and each driveway takes half a day (four hours) to install. Another example from a rural county, Sumter, shows that it received 326 or 33% of its work requests for driveways in 1981. The following table shows a ten-county survey of driveway requests received by local offices.

TABLE 1
SOUTH CAROLINA LEGISLATIVE AUDIT COUNCIL
DRIVEWAY INSTALLATION SURVEY

<u>County</u>	<u>Year</u>	<u>Work Order Requests</u>		<u>Percent of Total</u>
		<u>Total</u>	<u>Driveway</u>	
Calhoun	1981	300 ¹	150 ¹	50%
	1982*	116	51	44%
Fairfield	1981	12	10	83%
	1982*	16	15	94%
Kershaw	1981	966	124	13%
	1982*	843	70	8%
Lee	1981	479	90	19%
	1982*	308	60	19%
Lexington	1981	1,080	234	22%
	1982*	990	182	18%
Newberry	FY 81-82	456	168	37%
Richland	1981	5,268	624	12%
	1982	2,191	220	10%
Orangeburg	FY 81-82	159	61	38%
Saluda	1981	125	112	90%
	1982*	93	66	71%
Sumter	1981	1,002	326	33%
	1982*	<u>618</u>	<u>191</u>	<u>31%</u>
TOTALS	1981	<u>9,232</u>	<u>1,670</u>	<u>18%</u>
	1982*	<u>5,175</u>	<u>855</u>	<u>17%</u>
	FY 81-82	<u>615</u>	<u>229</u>	<u>37%</u>

*Indicates January 1 to June 30, 1982.

¹Figures are approximations based on work orders received.

Road construction and repair is financed through the State's Motor Fuel Tax in order to have those who benefit from roads pay their

costs. The driveway program benefits property owners at the expense of all citizens who pay the tax. Installing driveways detracts from Department's road repair program because repair crews are not performing routine, preventive maintenance when their time is spent installing driveways.

Construction and Maintenance of State Parks' and Agencies' Roads

SCDHPT continues to construct and maintain roads for State parks and State agencies at no cost to the parks or agencies. From FY 80-81 to FY 81-82, the Department spent \$1,269,088 of the State's Motor Fuel Tax on this program. Once these roads are completed, the Department's maintenance forces are responsible for repairing them. In addition, expenditures in this program are charged to the Highway Department's budget, thereby understating the costs of State parks and institutions.

South Carolina Code of Laws, Sections 57-3-640 and 57-3-660 direct SCDHPT to construct and maintain roads of State parks and agencies. The law also directs that the cost for this program be paid from the State highway fund.

Each year the Chief Highway Commissioner, with the approval of the State Highway Commission, makes an allocation of funds to construct and maintain roads for parks and institutions. Projects are requested by the Department of Parks, Recreation and Tourism and other State agencies. All of the requests are evaluated and projects are selected by the Chief Highway Commissioner, State Highway Engineer, and the Highway Commission.

SCDHPT provides a much higher level of this type of service than other Highway Departments in the southeast. Seven of the southeastern

states, Alabama, Florida, Georgia, Kentucky, North Carolina, Mississippi, and Tennessee, do not render free services. If one of the highway departments in these states accepts a park or agency project, regardless if it is contracted or done by the department, the park or institution which benefits reimburses the highway department. These states include appropriations for roads in their state park or state institution budgets.

Two southeastern states, Louisiana and Virginia, pay for some of the park and institution roads because they have included them in the state highway system. Roads not in the state system are the responsibility of the park or institution.

Act 651 of 1978 requires that State agencies present budgets in such a manner to show all costs:

The (Budget and Control) Board shall revise the structure of the annual State budget so as to present a format which clearly delineates each agency's and institution's programs, their sources of revenue, and the total program costs.
[Emphasis Added]

Effective decision-making would require that all costs of a program in an agency be known, otherwise, decisions are based on incomplete information.

Since the construction and maintenance of roads for State parks and institutions in South Carolina are funded by the Highway Department, the actual cost for these State facilities are not reflected in their budgets. The expenditures are shown in the State highway budget, resulting in understating the cost of State parks and institutions.

With this method State agencies justify their paving needs only to the Highway Department and not the General Assembly. These requests are placed outside the normal budgeting process and State agencies are not required to justify and set priorities for their capital improvements

to the House and Senate appropriations committees and the legislature. In order to ensure that only requests yielding maximum benefits are funded, paving projects should compete with other program needs for State funds.

Eight-Hour Workday Restricts Maintenance Activity

Currently, the Department's eight-hour workday restricts actual maintenance activity due to time lost moving men and equipment to a work site. Since the Department operates on an eight-hour day, road crews are on the same schedule. Maintenance activities occasionally require the movement of men and equipment long distances from the county maintenance shed to the work sites which reduces the actual time spent on a project.

Alabama, North Carolina and Richland County, S.C. converted from an eight-hour workday to a ten-hour workday for maintenance operations and achieved increased productivity and cost savings. Alabama achieved a 3% labor and 20% equipment costs savings in its first year of operation in 1977. In 1979, North Carolina tested its ten-hour schedule and found that it increased productivity in scraping unpaved roads by 126%, pothole patching by 124%, and mowing by 132%. Richland County decreased its overtime costs by 68% in FY 80-81 and reduced its work order response from over 30 days to approximately 15 days. Alabama and Richland County reported a significant drop in absenteeism and both reduced equipment downtime because machines were available one day of the week for servicing and repair.

If Alabama's 3% savings in labor cost were applied to SCDHPT's FY 81-82 maintenance personnel costs, the State could have saved

\$1,020,806. In addition, using a four-day work week would reduce travel costs. It would also help reduce the Department's 20% equipment downtime, reported in the Council's 1981 audit, because machines are available for repair and servicing one day a week. Productivity can be increased because road crews are spending more time at a job site and the number of trips to the site are reduced.

RECOMMENDATIONS

THE HIGHWAY DEPARTMENT SHOULD ESTABLISH A MAINTENANCE MANAGEMENT SYSTEM. THE SYSTEM SHOULD HAVE OBJECTIVE CRITERIA FOR SETTING REPAIR PRIORITIES AND MAKING DECISIONS ON MAINTENANCE ACTIVITIES FOR THE ENTIRE STATE HIGHWAY NETWORK.

SCDHPT SHOULD ADOPT ONE OF THE FOLLOWING OPTIONS IN ITS DRIVEWAY PAVING PROGRAM.

- (1) THE DEPARTMENT SHOULD DISCONTINUE ITS PROGRAM OF PAVING DRIVEWAYS TO THE RIGHT-OF-WAY LINE AND PROVIDING FREE LABOR AND PIPE FOR DRIVEWAY INSTALLATION.

DRIVEWAY INSTALLATION SHOULD BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND THE DEPARTMENT SHOULD EXERCISE ONLY PLAN APPROVAL, PERMIT ISSUANCE

AND INSPECTION AUTHORITY ACCORDING TO SOUTH CAROLINA CODE, SECTIONS 57-5-1080 AND 57-5-1090. THOSE DRIVEWAYS FAILING TO MEET THE STANDARDS ESTABLISHED BY THE DEPARTMENT SHOULD BE CLOSED IN ACCORDANCE WITH SOUTH CAROLINA CODE, SECTION 57-5-1110.

ONCE THE DRIVEWAY HAS BEEN BUILT TO STANDARDS, INSPECTED AND ACCEPTED BY THE DEPARTMENT, IT SHOULD BE THE DEPARTMENT'S RESPONSIBILITY TO MAINTAIN THE DRIVEWAY TO THE RIGHT-OF-WAY LINE. THE DEPARTMENT SHOULD PAVE A "STUB OUT" FROM THE SHOULDER OF THE ROAD TO THE ENTRANCE OF THE DRIVEWAY ONLY. SHOULD CONDITIONS OF THE ROAD CHANGE SO AS TO REQUIRE THE RELOCATION OR REMOVAL OF THE DRIVEWAY, IT SHOULD BE THE DEPARTMENT'S RESPONSIBILITY TO INSTALL A NEW ACCESS FOR THE PROPERTY OWNER.

-OR-

- (2) SCDHPT SHOULD GIVE A PROPERTY OWNER AN ESTIMATED COST FOR ITS FORCES TO INSTALL A DRIVEWAY. THE DEPARTMENT SHOULD THEN ALLOW THE OWNER TO CHOOSE

WHETHER TO PAY SCDHPT TO INSTALL THE DRIVEWAY OR HAVE THE WORK DONE HIMSELF.

SCDHPT SHOULD BUDGET THE COST OF INSTALLING DRIVEWAYS UNDER A SEPARATE ACCOUNT THAT DELINEATES COSTS FOR MATERIALS, LABOR AND EQUIPMENT.

THE GENERAL ASSEMBLY SHOULD CONSIDER AMENDING SOUTH CAROLINA CODE, SECTION 57-3-660 TO DIRECT THAT SCDHPT BE REIMBURSED THE EXPENSE OF CONSTRUCTING AND MAINTAINING STATE PARKS' AND INSTITUTIONS' ROADS.

PARKS OR INSTITUTIONS SHOULD PRESENT THEIR REQUEST AND JUSTIFICATION FOR ROAD CONSTRUCTION AND MAINTENANCE AS PART OF THEIR ANNUAL BUDGET REQUESTS TO THE GENERAL ASSEMBLY.

THE DEPARTMENT SHOULD EXPERIMENT WITH A TEN-HOUR WORKDAY IN ONE URBAN AND ONE RURAL COUNTY. IF PROVEN COST BENEFICIAL AND EFFECTIVE, SCDHPT SHOULD CONSIDER CONVERTING ALL ROAD CREWS TO A TEN-HOUR DAY.

CHAPTER II
LAND AND EQUIPMENT MANAGEMENT

Inadequate Management of Surplus Land

Introduction

In examining the South Carolina Department of Highways and Public Transportation's (SCDHPT) land management, the Audit Council found two problems. SCDHPT is making little effort to dispose of 1) surplus land resulting from abandoned projects; and, 2) unused remnants of land from completed projects.

Seven Million Dollars Spent on Abandoned Projects

In the past ten years, the Department spent over \$7 million on three highway projects which were abandoned after the acquisition of right-of-way. The Department's efforts at selling the land from these projects have been minimal. Only four of 200 tracts have been sold since the three projects were terminated. The three abandoned projects are the Assembly Street Extension in Columbia, the Citadel Parkway in Charleston, and the Downtown Loop in Greenville. Table 2 shows the abandoned projects' costs as well as the number of tracts which have been sold.

TABLE 2
SCDHPT ABANDONED PROJECTS' RIGHT-OF-WAY COSTS

<u>Project</u>	<u>Tracts</u>		<u>Remaining Tracts' Cost</u> ¹	<u>Date of Last R/W Purchase</u> ²
	<u>Number Sold</u>	<u>Remaining</u>		
Downtown Loop Greenville	0	192	\$6,629,476	5/80
Citadel Parkway Charleston	0	1 (40 acres)	414,358	7/74
Assembly Street Columbia	<u>4</u>	<u>3</u>	<u>52,050</u>	6/75
TOTALS	<u>4</u>	<u>196</u>	<u>\$7,095,884</u>	

¹Market value at time of purchase, not present market value.

²Right-of-Way

Approximately eight years have passed since the Assembly Street Extension was abandoned and four of its seven tracts have been sold. In contrast, SCDHPT has not sold any land from either the Citadel Parkway or the Greenville Downtown Loop. On September 1, 1980, the Department leased part of the 40-acre Citadel Parkway land to the City of Charleston as a bicycle path for twenty years at a yearly rental of one dollar. In Greenville, only three of the project's 192 tracts had been advertised for sale as of September 1982, and none were sold.

By making little effort to dispose of the land from the abandoned projects, the Department is not taking advantage of a source of revenue. In addition, South Carolina taxpayers have subsidized the cost of land which remains idle, and counties are losing tax revenues because State-owned land is tax-exempt. By leasing part of the Citadel Parkway land

to the City of Charleston for one dollar a year, the Department is not receiving an adequate return on its \$414,000 investment and in effect, South Carolina taxpayers have subsidized a bicycle path for Charleston area residents with Highway funds.

Inadequate Disposal of Remnant Land

SCDHPT owns at least 495 unused remnants of land from completed highway projects and has shown little effort in disposing of them. The remnant properties range in size from less than one-tenth to 65 acres. In addition, SCDHPT does not maintain an adequate inventory of its remnant property. The Department does have files by county on the remnants, but these records are incomplete and are not updated regularly.

In examining the remnant property records for ten counties in detail, the Council found that 74% of the remnant property forms were missing information on size, cost, and/or location of the properties. Some of the parcels were acquired more than 30 years ago and 92% of the remnant property in the ten counties were acquired before 1970. In 1971, Charleston County Council requested that the Department "use, maintain, and/or dispose" of its surplus property in Charleston County. As of September 1982, the Department's incomplete records showed that SCDHPT still owns 176 remnant properties in Charleston County; 93% of which were purchased before 1970.

By not selling the remnant properties, the Department is losing a source of revenue and the land remains unproductive. Only ten parcels of remnant land were advertised for sale between January and September 1982. Although some of the parcels may be too small or irregularly shaped to sell easily, the Department should try to dispose of all of its

remnant property. Adjacent landowners may be interested in buying the small, irregularly shaped tracts and when State surplus land is not disposed of, local governments lose tax revenues and the benefits resulting from land that is developed to its highest and best use.

RECOMMENDATIONS

THE SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION SHOULD CONDUCT A COMPLETE INVENTORY OF ALL OF ITS SURPLUS LAND, INCLUDING LOCATION, COST, AND ACREAGE INFORMATION WHICH SHOULD BE UPDATED REGULARLY.

THE SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION SHOULD ATTEMPT TO DISPOSE OF ALL ITS SURPLUS LAND.

Equipment Management Program is Inefficient

Introduction

The Audit Council's first report showed that the South Carolina Department of Highways and Public Transportation (SCDHPT) has an inefficient equipment maintenance program and it spends considerable time and money repairing an aging maintenance fleet. The Council recommended that the Highway Department implement an equipment management system to correct the problem.

The Council reexamined the Department's current equipment management program and noted several problems due to the Department's lack of a central source of accurate information on the condition of its equipment. The primary objective of a central information system is to obtain maximum productivity from equipment and equipment-supporting resources. This objective is achieved by accounting for the costs required to own, maintain, and operate an equipment fleet and it can provide for a more effective management of equipment expenditures. As the following findings show, without a system, the Department does not adequately fund, evaluate and dispose of its equipment.

Inadequate Equipment Replacement Program

The Highway Department continues to expend considerable resources maintaining an aging equipment fleet while inadequately funding an equipment replacement program. Funds for repairing equipment equaled or exceeded purchase costs of new equipment over the past five years. The following table shows how much equipment repair costs have increased since FY 77-78.

TABLE 3
EQUIPMENT PURCHASES AND REPAIR COSTS FOR THE
SCDHPT DURING FY 78-82

<u>Fiscal Year</u>	<u>Equipment Purchases</u>	<u>Equipment Repairs</u>
81-82	\$3,499,004	\$3,316,437
80-81	3,104,888	3,111,747
79-80	3,822,530	3,129,760
78-79	4,053,715	2,829,654
77-78	2,866,852	2,532,205

Source: SCDHPT Annual Report

SCDHPT does not have a systematic method for allocating funds to replace equipment. Instead, the allocation for equipment replacement is determined by the Chief Commissioner who has no formal means for determining this allocation. For the past ten years, equipment purchases have averaged 5.6% of the Department's maintenance budget. Table 4 compares the Department's equipment allocations to its maintenance expenditures for the past ten years.

TABLE 4
A COMPARISON OF SCDHPT'S EQUIPMENT ALLOCATIONS
TO MAINTENANCE EXPENDITURES DURING FY 73-83

<u>Fiscal Year</u>	<u>Maintenance Equipment Allocations</u>	<u>Actual Maintenance Expenditures</u>	<u>Equipment as a Percentage of Maintenance Expenditures</u>
73-74	\$2,828,600	\$ 45,090,826	6.3%
74-75	3,090,000	48,448,456	6.4
75-76	3,000,000	40,971,944	7.3
76-77	3,000,000	44,168,777	6.8
77-78	3,364,395	57,491,693	5.9
78-79	3,118,100	64,097,399	4.9
79-80	3,120,000	67,488,354	4.6
80-81	3,120,000	68,100,066	4.6
81-82	3,288,000	74,064,670	4.4
82-83	4,625,500	101,557,147*	4.6

*Estimated

Source: SCDHPT's Cost Reports and State Budget Documents

As shown in the preceding table, equipment allocations increased 63.5% while maintenance expenditures increased 125.2%.

In FY 82-83, South Carolina allocated less for equipment than six of the nine southeastern states. These six states (Alabama, Florida,

Louisiana, Mississippi, North Carolina and Tennessee) averaged \$7.7 million for maintenance equipment purchases. Of the three remaining southeastern states, Virginia will allocate \$10.5 million in FY 83-84. Georgia and Kentucky budgeted less than South Carolina in FY 82-83.

An inadequate equipment replacement program has adverse effects on the Department's overall maintenance operation. First, it forces county maintenance personnel to retain old, obsolete equipment to ensure availability of spare parts (see p. 26). Secondly, failure to replace aging equipment requires the counties to spend an excessive amount of time and money repairing old equipment. In its last report, the Council determined that the Department's equipment had a statewide downtime average of one day in five. This means that equipment sits idle awaiting parts and repairs and is unavailable for use by county maintenance crews.

No Standards for Equipment Utilization

The Department has never developed utilization standards for its equipment fleet. Equipment utilization is not considered when equipment fund allocations are made. Instead, equipment allocations are based solely on mileage and the requests of the county maintenance engineers.

The Department does not collect adequate information in order to develop utilization standards. There is no central source of accurate information on the status or condition of its equipment fleet. Information collected by the Department is misleading and inadequate and is thus an insufficient basis for sound decision making.

To determine utilization of the Department's equipment fleet, the Audit Council attempted to develop standards based on a percentage of

the average use for each selected equipment class. However, with the information provided from the Department's cost of operation report, acceptable standards could not be computed.

Utilization standards serve as a guide in governing the amount of equipment required in each district or county. Overall costs can be better controlled through a standardized policy for measuring equipment utilization. Improved use of major equipment items could lead to a reduction of expenditures by focusing management attention on individual items of equipment. Standards are necessary in order to measure the efficiency and economy of equipment operations, thereby, creating greater utilization of the equipment.

Without equipment utilization standards, accountability for the efficient and economical utilization of resources is reduced. The Department can neither ensure the efficient allocation of maintenance equipment to county operations, nor can it ensure the efficient expenditure of its limited equipment allocation.

Failure to Dispose of Unused Equipment

The South Carolina Department of Highways and Public Transportation (SCDHPT) maintains an inventory of 451 equipment items, with an original purchase value of \$2.5 million, which were not used in FY 80-81. The Highway Department has no effective controls over the disposal of old, surplus equipment because counties are not required to return old, obsolete equipment before receiving replacements. Instead, they are keeping their unused equipment to ensure availability of parts.

Keeping surplus equipment contributes to several problems in terms of inventory control: (1) it causes storage and handling problems;

(2) it does not give other districts or counties the opportunity to utilize surplus equipment and spare parts; and (3) it hinders accountability of equipment parts. The following table shows the selected classes of unused SCDHPT equipment in FY 80-81.

TABLE 5
UNUSED SCDHPT EQUIPMENT IN FY 80-81

<u>Equipment Type</u>	<u>Total Units</u>	<u>No. Not Used</u>	<u>% Not Used</u>
Trucks	1,845	102	6%
Motor Graders	304	41	14
Loaders	151	29	19
Pavers	13	8	62
Rollers	175	88	50
Tractors	<u>693</u>	<u>178</u>	<u>26</u>
TOTAL	<u>3,181</u>	<u>446</u>	<u>14%</u>

Source: SCDHPT Annual Report of Cost of Operations of Active SCDHPT Equipment by Districts for FY 80-81.

SCDHPT's Engineering Policy and Procedure Memorandum #0-14 requests counties to submit annually a surplus equipment report to the State Maintenance Engineer. However, it does not establish directives for better equipment management and utilization of surplus equipment. The central office does not exercise effective management controls over the maintenance fleet.

Sound management practices require that equipment which is not used, surplus, or obsolete be disposed of. A well-defined policy on

equipment replacement or retirement based on age, mileage, condition, maintenance costs, and utilization rate should be established. Without such a policy, the Department cannot determine how much equipment is really needed and what is an economical investment. This results in unused, underutilized, and unneeded equipment.

RECOMMENDATIONS

SCDHPT SHOULD ALLOCATE MORE RESOURCES TO ITS MAINTENANCE EQUIPMENT PROGRAM.

TIMELINESS AND ACCURACY NEED TO BE IMPROVED IN THE DEPARTMENT'S EQUIPMENT DATA COLLECTION METHOD. ALSO, INFORMATION COMPILED IN THE COST OF OPERATION REPORT SHOULD BE USED FOR MANAGEMENT DECISION MAKING IN RELATION TO EQUIPMENT ALLOCATIONS.

THE DEPARTMENT SHOULD IMPLEMENT AN EQUIPMENT MANAGEMENT SYSTEM WHICH ENSURES MAXIMUM PRODUCTIVITY FROM EQUIPMENT AND EQUIPMENT SUPPORTING RESOURCES. THIS SYSTEM WOULD ESTABLISH A SYSTEMATIC APPROACH FOR EQUIPMENT BUDGETING AND REPLACEMENT.

Improper Assignment of Automobiles

The Highway Department has failed to establish standard criteria for properly assigning automobiles to its employees. An automobile assignment is obtained by submitting a justification form (DMVM Form 3-75) stating the official need of the automobile requested. The Highway Department's Administrative Memorandum No. 362 states, that "the assignment of a motor vehicle to an individual will be made after a determination that it is in the best interest of the State." Such assignments are made after an analysis of the position requirements and with the approval of the Chief Commissioner.

However, in examining 148 individually assigned automobiles, the Audit Council found that 79, or 53% of the employees failed to submit a justification for obtaining an automobile. Of 69 forms submitted, only six (9%) were actually authorized by the Chief Highway Commissioner.

The Audit Council also found that SCDHPT is underutilizing its administrative automotive fleet. An examination of the mileage information for 193 general purpose vehicles, showed that 24% (35 out of 148) of individually assigned automobiles, and 62% (28 out of 45) of motor pool automobiles were driven less than 11,000 miles in FY 81-82. The average miles driven on these underutilized cars were 8,120 miles for the individually assigned automobiles and 5,482 miles for the vehicles based at the central service station and equipment depot (motor pool).

The Budget and Control Board Division of Motor Vehicle Management set 11,000 miles as the minimum number of official miles needed to be eligible for an automobile assignment. Tables 6 and 7 show an average mileage breakdown by month of the number of vehicles driven less than 11,000 official miles in FY 81-82.

TABLE 6

SUMMARY OF SCDHPT INDIVIDUALLY ASSIGNED ADMINISTRATIVE
AUTOMOBILES DRIVEN LESS THAN 11,000* MILES DURING FY 81-82

<u>Month</u>	<u>Less Than₁ 300 Miles</u>	<u>Less Than₂ 600 Miles</u>	<u>Less Than₃ 917 Miles</u>	<u>Total</u>
July	9	10	33	52
August	4	16	25	45
September	6	12	28	46
October	5	17	24	46
November	9	8	23	40
December	8	16	28	52
January	10	16	21	47
February	4	11	30	45
March	3	14	15	32
April	5	9	19	33
May	7	10	30	47
June	6	8	24	38
Average per Month	6	12	25	44

¹Driven less than 3,600 miles in FY 81-82.

²Driven less than 7,200 miles.

³Driven less than 11,000 miles.

*11,000 miles is the minimum number of official miles set forth by the Budget and Control Board Division of Motor Vehicle Management for an employee to be eligible for an automobile assignment.

TABLE 7

SUMMARY OF SCDHPT MOTOR POOL AUTOMOBILES DRIVEN
LESS THAN 11,000 MILES DURING FY 81-82

<u>Month</u>	<u>Less Than₁ 300 Miles</u>	<u>Less Than₂ 600 Miles</u>	<u>Less Than₃ 917 Miles</u>	<u>Total</u>
July	15	4	8	27
August	12	7	7	26
September	9	7	12	28
October	15	5	13	33
November	15	4	8	27
December	19	12	9	40
January	14	15	10	39
February	14	6	8	28
March	16	5	4	25
April	15	10	8	33
May	17	9	6	32
June	14	4	12	30
Average per Month	15	7	9	31

¹Driven less than 3,600 miles in FY 81-82.

²Driven less than 7,200 miles.

³Driven less than 11,000 miles.

The State Division of Motor Vehicle Management Manual states:

Proper assignment of state-owned vehicles is a primary factor in exercising control over the size and use of the vehicle fleet. Vehicle assignments shall be made to meet the functional needs of an activity or work unit and shall be a type and capacity to most economically fulfill those needs.

Permanently assigned vehicles should be tightly controlled and based upon official travel requirements of 11,000 miles or more a year. Automobiles should not be assigned on the basis of a State employee's position or prestige but on his or her need for the vehicle to conduct official State business. Motor vehicles are centrally pooled to provide effective and responsive vehicle support, ensure efficient and economical vehicle utilization, provide effective vehicle control and eliminate vehicle misuse and abuse.

Currently, the administrative automotive fleet, originally valued at \$292,030, is being underutilized. Without standard criteria for assigning vehicles to its employees, the Department cannot obtain maximum service with a minimum number of automobiles nor can it determine the optimal point for purchasing new vehicles. Loose controls on the use of State vehicles encourages misuse and abuse and results in reduced utilization of assigned vehicles.

SCDHPT Pays for Unnecessary Commuting

The Highway Department spent \$25,090 for its employees driving State cars to and from work in FY 81-82. The Audit Council examined mileage data for 159 individually assigned automobiles and found that 64 or 40% of these automobiles were not only used for official use but also for commuting. In addition, out of the 64 employees using the Department's vehicles for personal use, 47 or 73% work in the central office with access to SCDHPT's motor pool.

SCDHPT does not restrict individually assigned automobiles to official use only. The Department's administrative memorandum no. 254 states that employees with permanently assigned vehicles are allowed to commute between their homes and places of business.

However, as stated in the State Budget and Control Board Division of Motor Vehicle Management Manual, which is the motor vehicle policy for State agencies:

The mere fact that an employee/official has been assigned a vehicle for exclusive use does not, in itself, imply permission to operate the vehicle between home and place of business. This determination shall be made, using the total assignment and use criteria contained herein. If it is the opinion of the agency head that the State would clearly benefit from this type of assignment and/or permission to operate the vehicle between home and place of business, the individual shall be so notified in writing....

Individual automobile assignments should not be made for the personal convenience or prestige of an individual. In addition, an assignment of a vehicle should not continue if there is no official need.

To learn how other states handle automobile assignments, the Audit Council surveyed nine southeastern states and found that five out of nine states do not assign vehicles to its employees; instead, they use motor pool vehicles for official business.

The four states (Alabama, Georgia, Louisiana, and Mississippi) which assign automobiles have more stringent assignment policies than South Carolina. In Georgia, an automobile must be driven at least 18,000 official miles a year with a maximum of 20 commuting miles a day. Alabama, Louisiana, and Mississippi assign automobiles only to its top three to six officials.

Permitting employees to use SCDHPT automobiles for commuting results in expenditures of limited Highway funds for purposes other than official business. Personal use of the Highway Department's vehicles only benefits the employees involved and not the State or its citizens.

RECOMMENDATION

THE HIGHWAY DEPARTMENT NEEDS TO ESTABLISH STANDARD CRITERIA FOR DETERMINING AUTO-MOBILE ASSIGNMENTS. ALL EXISTING ASSIGNMENTS SHOULD BE REEVALUATED AND ASSIGNMENTS WHICH DO NOT MEET THE CRITERIA SHOULD BE DISCONTINUED. COMMUTING SHOULD ONLY BE ALLOWED WHEN BENEFICIAL TO THE DEPARTMENT. CRITERIA NEEDS TO BE ESTABLISHED TO MAKE THIS DETERMINATION.

CHAPTER III
PERSONNEL MANAGEMENT

Introduction

The Audit Council reviewed SCDHPT's personnel policies and procedures as well as the overall organization of the Department and found that several problems exist. Generally, the leadership of SCDHPT is very capable but is hampered by the Department's organizational structure.

Council also noted problems with the management of the weight enforcement program, MVD's field offices and personnel, noonday meal reimbursements, internal audit function and personnel, and the handling of special investigations. These issues, and Audit Council recommendations, are discussed in the following pages.

SCDHPT Organization is Cumbersome

Introduction

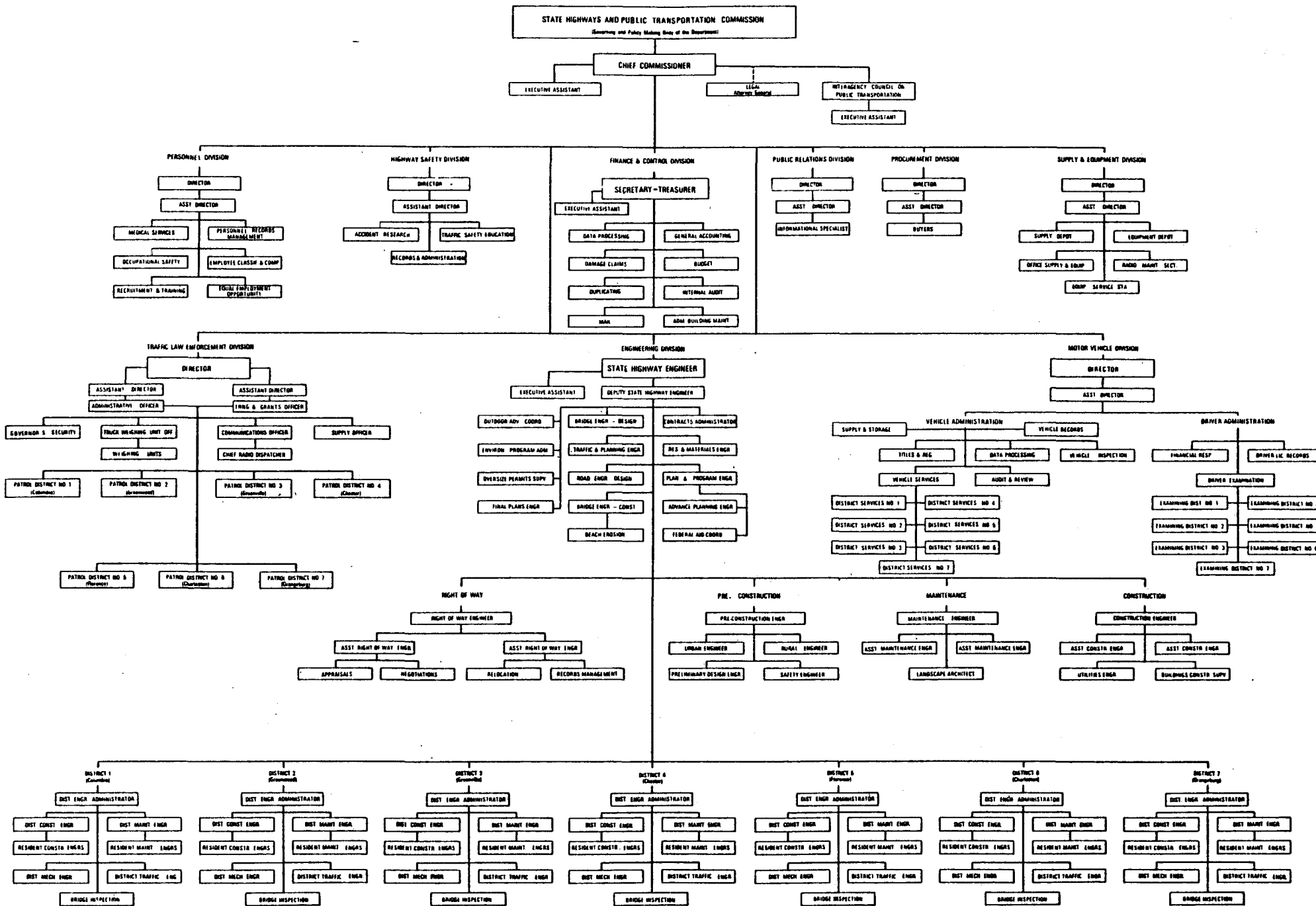
As the operations of the South Carolina Department of Highways and Public Transportation have grown in size and complexity, its organizational practices and patterns have become cumbersome. As a result, the organization of SCDHPT has become unwieldy and does not lend itself to the orderly development of authority and responsibility throughout the Department.

The present organizational structure is mandated to some extent by statute. The Department is governed by an 18-member Commission which appoints a Chief Commissioner as its Executive Officer. Section 57-3-30 of the 1976 Code of Laws, requires that the Department be

divided into at least three principal divisions, the Engineering Division, the Motor Vehicle Division, and the Law Enforcement Division. This Section also gives the Commission and the Chief Commissioner the authority to set up other divisions as may be necessary for the efficient and economical operation of the Department and to carry out its mandated purposes and functions.

Pursuant to this legislative mandate, the Department is now organized as shown in Table 8.

TABLE 8



ORGANIZATION CHART

SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

JUNE 30, 1981

APPROVED:

 CHIEF COMMISSIONER

SCDHPT has a "flat" organization as there is very little pyramiding of positions to reduce the number of personnel reporting to any one authority. The Audit Council found several problem areas with the Department's current structure.

- There are too many people reporting directly to the Chief Commissioner, the State Highway Engineer and the Secretary-Treasurer.
- There are duplicate accounting departments within SCDHPT which should be combined.
- There are 126 keypunch personnel throughout the Department which can be consolidated under a central data processing unit.
- The Highway Safety Office within SCDHPT can be eliminated.

These issues will be discussed separately in the following pages.

Chief Commissioner's Office

There are ten individuals who report directly to the Chief Commissioner. In addition to the three principal divisions, Traffic Law Enforcement, Engineering, and Motor Vehicle, there are six ancillary divisions and a Special Investigator's Office, all of which report directly to the Chief Commissioner. The six ancillary divisions include Personnel, Highway Safety, Public Relations, Procurement, Supply and Equipment, and Finance and Control. The responsibilities, scope, and magnitude of operations of these separate offices vary widely.

SCDHPT has no administrative division which groups these and other administrative functions under a single Director. This causes the Chief Commissioner to have a variety of personnel, at greatly disparate grade levels, reporting to him. If activities were grouped according to

like functions, not only would the number of people reporting to the Chief Commissioner be reduced but the levels of management would be narrowed. This would allow a more equitable allocation of his time based on the importance of the function.

In 1972, a Governor's Management Review Commission report found that there was an excessive number of people reporting to the Chief Commissioner. The study recommended the creation of an administrative division to reduce this number, continue good leadership and improve management capabilities. A 1964 private consultant's report by Highway Management Associates also recommended the Department establish an administrative division. In line with these recommendations, the Audit Council has proposed a Division of Administration as shown in Table 10, p. 43.

By creating a Division of Administration, the number of individuals reporting to the Chief Commissioner can be reduced. This decrease should improve the overall efficiency of the Department and result in better management of employee time and resources.

State Highway Engineer's Office

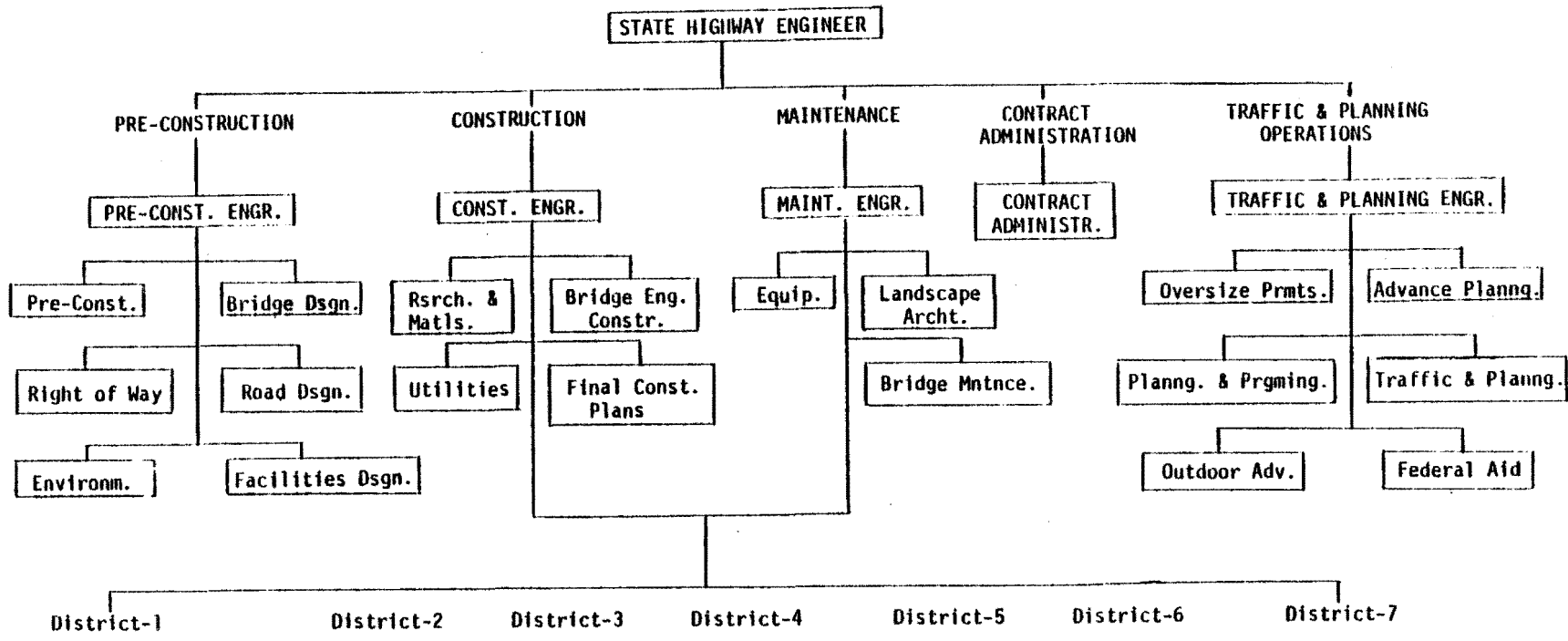
Currently, 23 individuals report directly to the State Highway Engineer (see p. 36). The various sections are not grouped according to functions which results in a cumbersome and confusing organizational structure.

This situation has resulted from an increase in the number of Divisions in the Department generally. Activities have become more varied and complex as the result of increased requirements at both the State and Federal level. As this growth has occurred, informal lines of communication and authority have arisen.

The 1972 Governor's report found that there were 20 individuals reporting to the State Highway Engineer. The report stated that this situation promoted undermanagement at the staff level and a high degree of autonomy at the district level. This made it impossible for the State Engineer to accomplish his primary functions of planning and supervising. The 1964 Highway Management Associates' report found that the State Engineer's Division was not arranged in a logical or functional way. It said that at least 19 individuals were reporting to the State Highway Engineer and that work assignments were unclear, overlapping functions occurred and informal lines of authority existed.

Since these reports were issued, the Division's structure has remained essentially the same and the number reporting to the State Highway Engineer has increased. To alleviate this problem, SCDHPT could reorganize the division. Like activities should be grouped under one of five major sections (see Table 9). The five major sections would include Pre-Construction, Construction, Maintenance, Contract Administration, and Traffic Planning and Operations. The heads of each section would report directly to the State Highway Engineer, thus eliminating the need for a Deputy State Highway Engineer and reducing the number of people reporting to the State Highway Engineer.

TABLE 9
ENGINEERING DIVISION PROPOSED ORGANIZATION



As presently organized, State and district-level engineers report along the same lines of authority directly to the State Highway Engineer. This can result in confusion or conflict as to the scope of authority in carrying out various directives and responsibilities. It may cause informal management arrangements based on the preference and personal style of individuals.

As the Audit Council has noted, SCDHPT is experiencing difficulties in preserving the State's roads. To help overcome these problems, the Department needs to shift its emphasis from construction to maintenance. However, as the State Engineer's Division is currently organized, this shift in emphasis is impeded. Maintenance must compete with areas such as outdoor advertising for the State Highway Engineer's time and attention.

Secretary-Treasurer's Office

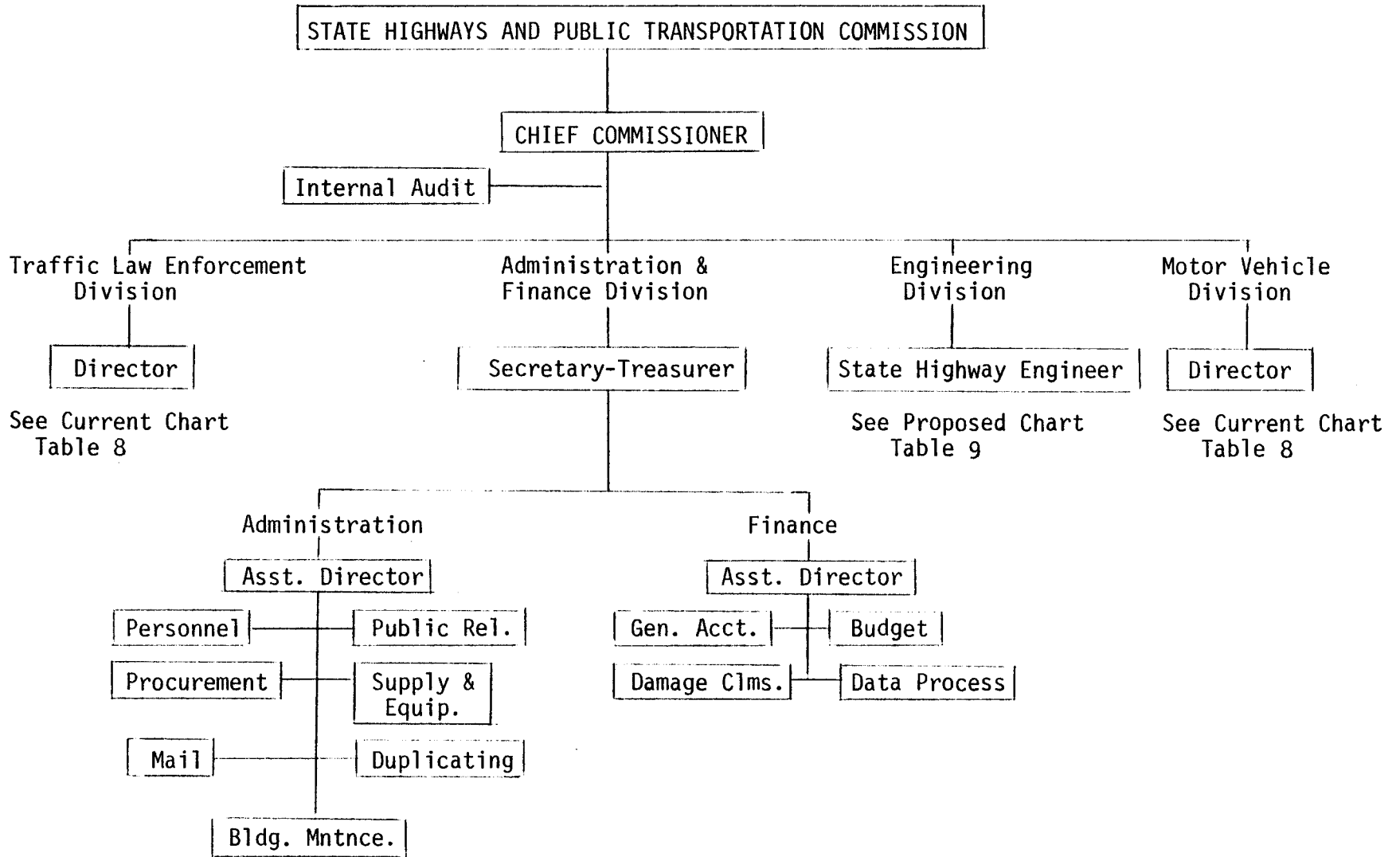
The Secretary-Treasurer is responsible for the management of a number of activities ranging from the mailroom and building maintenance to accounting and budgeting. Having such a diverse group to supervise, can result in the Secretary-Treasurer not being able to allocate his time equitably based on the importance of a particular function. Grade Levels ranging from a grade 22 to a grade 44 answer along the same lines of authority to the Secretary-Treasurer.

In addition, some of the areas supervised have little relation to the financial management of the Highway Department. Because there is no formal division of administration, certain administrative functions have reported directly to the Chief Commissioner while others have been randomly assigned to the Secretary-Treasurer.

SCDHPT should be restructured to include an Administrative Division under the supervision of the Secretary-Treasurer. The Department would not have to add personnel to accomplish this reorganization. This office would consist of two sections, one administrative, one financial, under the supervision of two Assistant Directors. Currently, there is a Director of Finance, grade 43, who supervises the accounting functions of the Highway Department. Such functions as personnel, public relations, procurement, supply and equipment, mailroom, duplicating, and building maintenance, which now report directly to the Secretary-Treasurer or Chief Commissioner, could be supervised by a Director of Administration. From the divisions considered for reorganization, SCDHPT has positions at the appropriate grade levels from which to select a Director of Administration. The following table shows a proposed reorganization of the Highway Department.

TABLE 10

PROPOSED ORGANIZATION



The creation of a Division of Administration and Finance would reduce the constraints placed upon the Secretary-Treasurer by grouping functions of an administrative nature under one section and financial activities under another. It will reduce the number of people reporting to both the Chief Commissioner and the Secretary-Treasurer. This will enable both officers to allocate their time better among the areas for which they are responsible, and provide for more orderly development of authority and responsibility through the entire organization. Grouping of similar functions now scattered throughout the Department will result in a better coordinated staff, and less duplication of effort than is now involved in the administration of some activities.

Duplicate Accounting Functions Within SCDHPT

Historically, SCDHPT has operated with two separate accounting departments. It has a central accounting office with a staff of 44 which handled \$272 million in FY 81-82. In addition, the Motor Vehicle Division (MVD) maintains an accounting staff of 42 employees which handles approximately \$40 million a year.

MVD takes in and posts receipts to its ledger. A monthly report is then submitted to the general accounting section and posted in the general ledger. Although there is no duplication of effort in the type of data handled, the technical accounting operations in MVD are closely related to the work being performed in central accounting. The amount of monies processed annually by MVD makes it incumbent on management to ensure that the Department is adhering to all aspects of fiscal accountability and responsibility. The manpower and expertise to ensure such accountability is readily available and in place in central accounting.

In a 1979 management letter, Clarkson, Harden and Gantt, CPA's, recommended that a management study be done to determine the feasibility of automating the MVD accounting system and integrating it with the Department's central accounting system. The automated system in MVD went on line as of October 1, 1982. In light of this increased automation and because general accounting already has the ability to ensure fiscal accountability, the Department should combine all accounting functions. These changes should result in a reduction in personnel necessary in SCDHPT's accounting division.

Consolidation of Keypunch Operation Should be Studied

At present, there are about 126 keypunch personnel used to prepare data for the Motor Vehicle, Accounting, Engineering and Highway Safety Divisions. Although the actual data keypunched differs from division to division, the basic skills involved in this function are similar.

As various activities within MVD, Highway Safety, Accounting, and Engineering have become automated, these divisions have added their own keypunch personnel. However, SCDHPT has not conducted a study to determine if consolidation of this keypunch activity into a central office would result in a more efficient and accurate operation. Although there is a central data processing division which oversees computer operations, the Department's keypunch operations are not organized within this division. However, data processing does have 15 keypunch operators of its own.

MVD has the largest keypunch section consisting of 77 staff members which functions independently of data processing. The Department has begun a two and one-half year program within MVD to phase out the

large scale central keypunch operation. This function will be replaced by existing personnel in the counties who will be trained to use computer terminals for immediate data entry. The goal of this decentralization is to improve the integrity of the data by placing entry units in the field offices where data are originally gathered. The first terminals were installed at the Shop Road office in December 1982 and the entire program should be completed by May 1985. There are 34 additional keypunch personnel throughout the Highway Department who are not affected by this program.

The automation and decentralization of the keypunch operations by MVD will result in a reduction of personnel. SCDHPT may achieve further personnel reductions and more efficiency by combining its remaining keypunch operators into one central office.

A 1972 report issued by the Governor's Management Review Commission recommended reducing the number of SCDHPT's keypunch operators. By combining all keypunch positions under a single data processing head, the responsibility for directing, organizing, and planning all phases of its operation could be achieved. Technical and management input to top administrative officials could be more thorough and useful since it would encompass all data functions as supervised by one person. The result would be a more closely integrated and efficient data function for the Department.

Highway Safety Office Can be Disbanded

Currently, there are two Highway Safety Offices within State Government, one in SCDHPT and another within the Governor's Office. By eliminating the one in SCDHPT, the Department could save approximately \$152,390 of State funds.

The Federal Highway Safety Act passed by Congress in 1966, required each state to have a highway safety program designed to reduce traffic accidents, injuries, deaths and property damage. The Act required a designated program administered by the Governor of the State to fulfill its mandates. The Governor's Highway Safety Program was established in 1968. SCDHPT also created an office in 1968 to coordinate the Highway Safety Program within the Department.

SCDHPT's office consists of three sections: Traffic Records, Accident Research and Traffic Safety Education. The Traffic Records and Accident Research sections collect data concerning all aspects of traffic collisions. The data is used by SCDHPT and the Governor's Office to define problems and evaluate possible solutions in all areas of highway safety. The system for this data collection is an automated one and requires keypunch operators. There are 11 operators in the Highway Safety Office.

The Traffic Safety Education section consists of five uniformed Patrolmen, one captain and four lieutenants, who spend most of their time giving lectures and talks to groups on safety education. One patrolman is assigned permanently to the Department of Education and works in the area of school bus safety. This section is also responsible for inspecting and licensing commercial driver training schools. It has a function similar to Public Relations, and during the 1960's was located within that division.

Highway Safety's data collection unit can be combined within a central data processing office should SCDHPT consolidate its keypunch operations. Currently, the Highway Safety Office receives all Highway Patrol collision reports which are photocopied and sent to another

section, where they are put on microfilm and then keypunched into the Department's computer. Consolidation would allow SCDHPT to enter data directly into the computer for use by all of the Department's divisions, as well as the Governor's Office. This would maintain the integrity of the data necessary to compile traffic accident statistics without the need for a separate administrative staff. In FY 81-82, this administrative staff cost \$152,390 in salaries. Consolidation would not conflict with Federal law because the Governor's Office would continue to act in its capacity as administrator of the program.

With removal of data collection from Highway Safety, the only major program remaining would be Traffic Safety Education. The primary purpose of this program is to disseminate information to the public concerning highway safety. Similar programs are already produced by the public relations office whose primary purpose is also to provide public information. The traffic safety education patrolmen could be transferred to the Public Information Office. The Public Relations Office, which has technical capabilities such as graphic artists, photographers and writers, could oversee the Safety Education Program.

Disbanding the Highway Safety Office can result in a cost savings to the Department by eliminating the need for a separate administrative staff. It would also result in a more efficient overall operation within the Department by the consolidation of like functions.

RECOMMENDATIONS

THE SOUTH CAROLINA DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION SHOULD CONDUCT

A STUDY AND PLAN THE REORGANIZATION OF
VARIOUS DIVISIONS.

SCDHPT SHOULD CONSIDER:

- (1) CREATING A DIVISION OF ADMINISTRATION
AND FINANCE:
- (2) RESTRUCTURING THE DIVISION OF ENGI-
NEERING:
- (3) CONSOLIDATING ALL ACCOUNTING FUNCTIONS
WITHIN SCDHPT;
- (4) CONSOLIDATING ALL DATA PROCESSING AND
KEY ENTRY OPERATIONS WITHIN THE DEPART-
MENT UNDER A SINGLE DATA PROCESSING
SECTION; AND
- (5) THE ELIMINATION OF THE NEED FOR A
SEPARATE HIGHWAY SAFETY OFFICE WITHIN
THE DEPARTMENT.

Weight Enforcement Program Continues to be Inadequate

A review conducted by the Audit Council in 1981 found that the weight enforcement program of the South Carolina Department of Highways and Public Transportation was inadequate. The conditions and lack of emphasis by management which resulted in an inadequate program then have remained unchanged.

SCDHPT has not provided enough weight enforcement personnel to adequately enforce truck weight and safety laws. A survey of the ten

southeastern states showed that South Carolina still has the lowest number of weight enforcement personnel, the highest number of miles per weight enforcement person, and the lowest amount of fines collected.

As reported in 1981, heavy trucks, weighing within statutory limits, are still operating on secondary roads which are not designed to carry these loads. Although it is not economically feasible to build all roads to withstand a high volume of heavy traffic, the Highway Department has not taken any other steps to control the resulting damage.

An Audit Council survey showed that South Carolina has the lowest number of enforcement personnel. South Carolina has 28 enforcement personnel, while the other nine states average 154 employees involved in weight enforcement. Each South Carolina weight enforcer is responsible for an average of 1,415 miles compared to a southeastern average of 205 miles per enforcer excluding South Carolina. Table 11 shows a comparison of weight enforcement programs in the southeastern states for FY 81-82.

TABLE 11

COMPARISON OF WEIGHT ENFORCEMENT DIVISIONS IN THE SOUTHEAST FOR FY 81-82

	<u>Weight Enforcement Operating Budget</u>	<u>Number of Miles Enforced</u>	<u>Enforcement Personnel</u>	<u>Miles per Enforcer</u>	<u>Fines Collected</u>
Alabama	\$1,355,000	10,500	55	191	Not Available
Florida	3,600,000	13,886	102	136	\$2,748,875
Georgia	2,200,000 ^a	18,250	146	125	1,638,121 ^e
Kentucky	2,056,000	25,000	101	248	Not Available
Louisiana	4,885,683	16,290	200	81	1,882,076 ^f
Mississippi	7,475,861	10,890	225	48	848,829
North Carolina	4,000,000 ^b	55,300	300	184	2,776,368
South Carolina	807,144 ^a	39,632	28	1,415	698,159 ^g
Tennessee	3,000,000 ^b	81,932	126	650	5,500,000 ^e
Virginia	2,649,500 ^c	52,000	131	397	3,297,387 ^{d,g}

^aExcludes purchase of equipment

^bEstimated

^cFY 82-83

^dExcludes assessments for court costs (\$495,894)

^eIncludes sale of permits

^fJuly 1, 1981 - April 30, 1982

^gFees for calendar year

South Carolina has a total of 11 permanent weigh stations located on the interstate highways throughout the State. However, as the most efficient use of a limited number of personnel, the Department relies primarily on portable scales for weight enforcement. These scales are operated full-time (eight hours a day five days a week) but the permanent stations are open only part-time. Seven stations are opened at least once a week every month. The remaining four stations are operated less frequently due to the smaller volume of truck traffic.

The Public Service Commission (PSC) also performs safety inspections of trucks in South Carolina. In its Sunset review of the PSC issued in June 1982, the Audit Council found that although the primary focus of PSC inspections was safety laws, there was a duplication of effort between the PSC and SCDHPT truck divisions which has resulted in inefficient truck inspections. In 1977, and again in its 1982 PSC report, the Audit Council recommended transferring PSC motor carrier inspections to the Highway Department. The management consulting firm of Cresap, McCormick and Paget also issued reports in 1970 and 1976 recommending such a move. This transfer would not require any additional State funds and additional personnel would enable SCDHPT to operate more weigh stations on a routine basis. The transfer of personnel positions would be funded by registration stamps purchased by "out-of-state" truckers, fines collected from overweight trucks, and PSC's portion of the motor carrier road tax.

As it did in 1981, the Audit Council examined the fine structures in Florida, Georgia, and North Carolina. A truck 20,000 pounds overweight would be fined a maximum of \$1,000 in Florida, \$1,088 in Georgia and \$1,660 in North Carolina. The total amount of the fine would

revert to the state. In South Carolina, the same truck would be fined only \$620. A maximum of \$100 would revert to the county and \$520 to the state.

The Federal Highway Administration has developed a number of indicators to judge the effectiveness of weight and size enforcement programs. Elements common to an effective program include:

- 1) sufficient staffing and equipment to permit statewide enforcement activities with a great variety of enforcement schedules, sites and operations;
- 2) a single organization assigned specifically to weight and size enforcement with adequate enforcement powers;
- 3) statutory provisions for mandatory fines which are graduated based on the amount of excess weight and which are stringent enough to offset profits from routine overweight operations; and
- 4) statutory provisions for non-monetary penalties for violations such as mandatory off-loading.

The effectiveness of a state's weight enforcement program depends primarily on the severity of fines and the number of enforcement personnel to assess penalties. When overweight fines are less than the profits from routine overweight operations, and the probability of getting caught is slight, fines become an acceptable cost of doing business. Substantial fines are a major deterrent to overweight operations and are needed to prevent continued highway deterioration.

The impact of heavy and overweight trucks on the State's roads makes it essential that adequate enforcement of stringent weight limit laws be carried out. If fines are not substantially increased and if the State's roads are not more effectively manned, then trucks will continue

to operate overweight and travel over roads not designed to withstand such traffic. Ensuring that weight limits are obeyed will prevent additional maintenance and reconstruction costs to the State.

RECOMMENDATIONS

SCDHPT MANAGEMENT SHOULD PLACE GREATER EMPHASIS ON STRENGTHENING ITS WEIGHT ENFORCEMENT PROGRAM.

THE MOTOR CARRIER ENFORCEMENT, SAFETY AND REGISTRATION DEPARTMENT POSITIONS WITHIN THE PUBLIC SERVICE COMMISSION SHOULD BE TRANSFERRED TO THE TRUCK WEIGHT ENFORCEMENT DIVISION OF THE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION.

THESE POSITIONS SHOULD BE FUNDED WITH REVENUES FROM OVERWEIGHT TRUCK FINES, REGISTRATION STAMPS, AND PSC'S PORTION OF THE MOTOR CARRIER ROAD TAX.

THE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION SHOULD BE GRANTED ALL SAFETY INSPECTION AUTHORITY CURRENTLY HELD BY PSC.

CIVIL PENALTY FINES SHOULD BE INCREASED TO ADEQUATELY DETER WEIGHT LIMIT VIOLATORS.

Questionable Allocation of Motor Vehicle Division Field Personnel

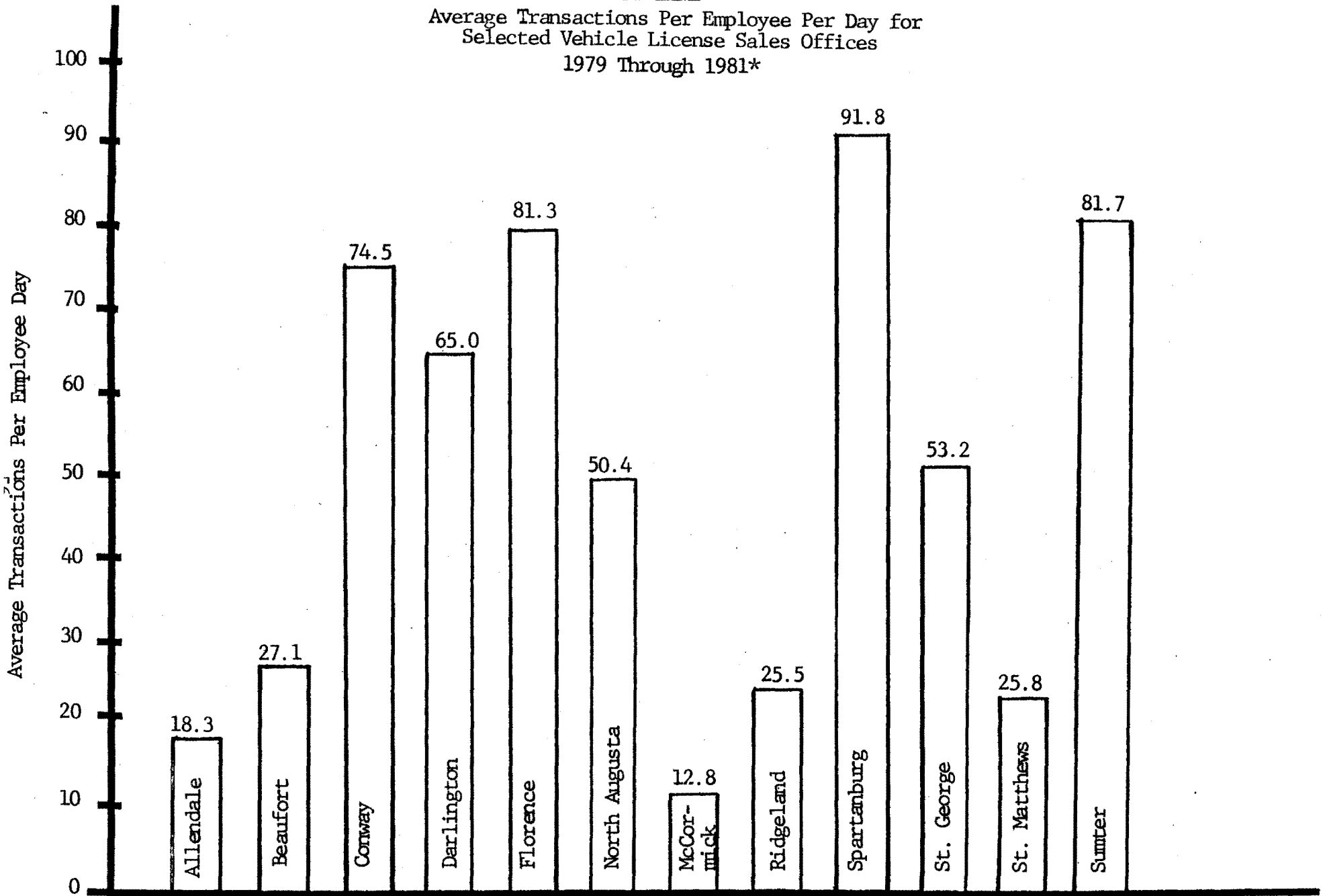
Variations in staffing levels in Motor Vehicle Division (MVD) field offices indicate a questionable allocation of personnel and some offices are overstaffed in comparison to others. In addition, inconsistencies are present in the assignment of examiners and clerks to the Driver Examining offices. MVD operates 58 full-time field offices which license and register vehicles, administer driver licensing and motor vehicle inspection programs.

MVD does not have standards for the minimum level of staffing needed at its field offices, nor does it systematically review the offices to identify areas of possible overstaffing. The Audit Council analyzed 1979-81 staffing levels by comparing work, measured in transactions, to personnel. Transactions per employee per day were obtained for each of the two sections of MVD field offices, Vehicle License Sales and Driver Examining. For Vehicle License Sales personnel, average transactions per person varied greatly among the offices, ranging from 12.8 to 91.8 per day. The Driver Examining offices also had variations in the average number of transactions from 16.9 to 61.3.

Graph 1 illustrates the wide variations in transactions per employee day from a sample of the 56 License Sales offices. The statistics indicate that an employee who completes 91 transactions per day is doing seven times as much work as an employee who completes only 12 a day.

GRAPH 1

Average Transactions Per Employee Per Day for
Selected Vehicle License Sales Offices
1979 Through 1981*



*Calendar Years

Vehicle License Sales Offices

The allocation of driver examiners and clerks to the Driver Examining Offices is questionable because the ratio of examiners to clerks is not consistent among the Examining offices. Since examiners' salaries are approximately twice the clerks' salaries, offices functioning with more examiners than needed increase costs unnecessarily. For example, if the Charleston office had used the same ratio of examiners to clerks as the Spartanburg office, MVD could have saved approximately \$31,532 in 1981. Similarly, the Lancaster office would have saved \$16,193 in 1981 if it had used the same ratio as the Pickens office. The following table, which pairs offices according to work volume, shows the inconsistencies of examiner/clerk allocation and salary levels.

TABLE 12
INCONSISTENCIES IN EXAMINER/CLERK ALLOCATION
SELECTED DRIVER EXAMINING OFFICES - 1981

Office	Examiners ¹		Clerks ¹		Total ¹	
	Number	Salaries	Number	Salaries	Number	Salaries
Charleston ³	6	\$164,726	5	\$58,446	11	\$223,171
Spartanburg	3	61,791	5	65,209	8	127,000
Lancaster	2	55,523	1	11,568	3	67,091
Pickens	1	27,581	2	18,218	3	45,799
Beaufort	2	43,367	0	-	2	43,367
North Augusta	1	16,180	1	9,303	2	25,482
Bamberg ²	.8	20,539	0	-	.8	20,539
Batesburg ²	.4	10,775	.4	4,993	.8	15,767

¹Includes State or Police Officers' Retirement.

²Bamberg and Batesburg are part-time offices as indicated by .4 and .8.

³Pinehaven Office.

Georgia, Virginia, and Florida have established quantitative standards to control costs and ensure greater uniformity in staffing between field offices. These states used the rationale that the number of employees in an office should be based on the amount of work completed. For example, Virginia's Division of Motor Vehicles adopted a standard of 11,000 transactions per employee per year. Significant variations from the standard show the need for either more employees or cutbacks.

Since no standards exist to determine proper staffing levels, the Audit Council could not estimate any overexpenditures in salaries MVD has made. Without these standards, MVD cannot accurately pinpoint areas of under- or overstaffing, and cannot adjust staffing levels accordingly. Overstaffing wastes scarce tax dollars and is a poor use of personnel.

RECOMMENDATIONS

- (1) THE MOTOR VEHICLE DIVISION SHOULD CONDUCT A STUDY TO:
 - (A) IDENTIFY AND DEFINE TYPES OF TRANSACTIONS.
 - (B) DETERMINE THE AMOUNT OF TIME NECESSARY FOR EACH TRANSACTION.
 - (C) DETERMINE FREQUENCY OF EACH TRANSACTION.
- (2) BASED ON THE STUDY, MVD SHOULD ESTABLISH STANDARDS FOR STAFFING FIELD OFFICES BEFORE AUTHORIZING ANY FUTURE STAFFING POSITIONS.

- (3) USING THE NEWLY ESTABLISHED STANDARDS, MVD SHOULD DETERMINE WHETHER CURRENT STAFFING LEVELS CAN BE REDUCED OR SHIFTED TO ANY UNDERSTAFFED AREAS.
- (4) ANY FUTURE POSITION REQUESTS SHOULD BE GRANTED IN ACCORDANCE WITH THE STANDARDS AND MVD SHOULD SEEK TO FILL NEW POSITIONS BY SHIFTING POSITIONS FROM FIELD OFFICES WHICH ARE OVERSTAFFED.

Seven Motor Vehicle Division Field Offices Not Cost Effective

MVD has seven part-time driver examining offices which cannot cover their cost of operation. From 1979 to 1981, part-time offices spent a yearly average of \$60,826 more than they received. During this period, these seven offices expended \$331,461 while sales revenues totalled only \$148,984.

The seven part-time offices were opened over 30 years ago when there were few full-time MVD field offices in the State. As the number of full-time field offices grew to a total of 58 in 1982, the need for the part-time driver examining offices diminished. The seven part-time offices are unable to cover their costs because they are located in rural, sparsely populated areas. As Table 13 shows, the seven offices do not generate enough revenues to cover expenditures.

TABLE 13
EXPENDITURES AND REVENUES FOR MVD PART-TIME DRIVER
EXAMINING OFFICES - 1979-1981¹

<u>Office</u>	<u>Expenditures</u>			<u>Revenues</u>	<u>Difference</u>
	<u>Operating²</u>	<u>Personnel³</u>	<u>Total</u>		
Chapin	\$ 7,480	\$ 25,914	\$ 33,394	\$ 17,247	(\$ 16,147)
Pageland	7,393	22,329	29,722	15,796	(13,926)
Cheraw	7,400	44,661	52,061	30,327	(21,734)
Andrews	5,712	43,199	48,911	23,923	(24,988)
Loris	9,988	55,410	65,398	28,500	(36,898)
North	6,124	44,787	50,911	16,332	(34,579)
Holly Hill	<u>6,277</u>	<u>44,787</u>	<u>51,064</u>	<u>16,859</u>	<u>(34,205)</u>
TOTALS	<u>\$50,374</u>	<u>\$281,087</u>	<u>\$331,461</u>	<u>\$148,984</u>	<u>(\$182,477)</u>

¹Calendar Years

²Includes travel, office supplies, utilities, automobiles, and miscellaneous expenses.

³Includes administrative costs.

Decisions to open new offices or close existing offices should be based on the following criteria: (1) the demand for the services offered; and, (2) proximity to other Motor Vehicle field offices. The demand for the services offered should be sufficient to cover personnel and operating costs. Proximity to other MVD offices is another important factor, particularly concerning decisions to close offices. An office should not be closed if this would cause residents served by that office to travel an excessive distance to another MVD office. A survey of five southeastern states revealed that the longest travel distance to driver

examining offices ranged from 30 to 45 miles. The seven part-time offices in South Carolina are less than 20 miles from a full-time MVD office.

Since the seven part-time offices cannot cover their costs, they are, in effect, being subsidized by the 58 full-time offices. In FY 80-81, the full-time offices had revenues which averaged 4.5 times as much as expenditures. In contrast, the seven part-time offices' revenues averaged less than half of their expenditures for the same year.

RECOMMENDATION

THE SOUTH CAROLINA DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION SHOULD CLOSE
ITS SEVEN MOTOR VEHICLE DIVISION PART-TIME
DRIVER EXAMINING OFFICES.

SCDHPT's Noonday Meal Reimbursements Can Achieve Cost Savings

In its investigation, the Audit Council found that SCDHPT has taken a positive step to cut costs. If adopted by the State, it will provide considerable savings in travel expenditures. The Department has implemented a travel policy that should be an effective cost-cutting measure. In September 1981, the Highway Department directed personnel to claim subsistence only when ordered out of their assigned counties. In September 1982, the Highway Department recognized the need for further travel restrictions and changed its policy to allow meal reimbursements only for overnight travel or travel outside an employee's assigned area. Although this plan does not solely restrict lunch reimbursements

to overnight travel, SCDHPT's FY 82-83 travel expenditures should be reduced substantially by implementation of this new reimbursement policy.

State Budget and Control Board Regulations allow reimbursement for meals when an employee is over ten miles from his official headquarters or residence. However, agency directors may further restrict reimbursements "as dictated by agency requirements." Revising South Carolina travel regulations to allow noonday meal reimbursements only for overnight travel for all State employees would result in additional savings of State dollars.

To test how much money is spent for lunch reimbursements under circumstances similar to the Budget and Control Board's regulations, the Council randomly sampled SCDHPT travel vouchers filed from October 1981 through March 1982. Although the Department's 1981 policy was slightly more restrictive than the Board's, the Council found that over 27% of the travel expenditures were for lunch subsistence payments for employees traveling during the day. This 27% excludes lunch payments for overnight travel, special assignments and per diems. It is estimated the Department could have saved approximately \$139,000 (27.45% of \$505,993 budgeted for travel) in FY 82-83 by disallowing daily lunch reimbursements.

The South Carolina Department of Health and Environmental Control (DHEC) is an example of another State agency which has implemented a stricter policy to cut costs. In 1980, DHEC disallowed reimbursements for meals unless overnight travel is required. The agency estimated a \$237,000 annual savings from the policy.

Other states have restricted lunch reimbursements to employees. North Carolina, Tennessee and Kentucky allow reimbursements for the noonday meal only when an overnight stay is required. The noon meal expense is allowable for state employees in Georgia only when away from home on a work assignment for more than 13 hours.

Since South Carolina's Budget and Control Board regulations allow employees to claim meals when over ten miles from home or office, employees who travel during the day regularly receive lunch at State expense. Employees in less mobile jobs must furnish their own lunches.

Restricting noonday meal reimbursements to overnight travel for all State employees would reduce State expenditures. Although the Highway Department's expenditures for daily lunch reimbursements amounted to 27% of their total travel budget, this percentage cannot necessarily be applied to all State agencies. However, with a statewide expenditure of over \$27.4 million for travel in FY 81-82, a substantial savings could be achieved by disallowing lunch reimbursements for all State employees unless an overnight stay is required.

RECOMMENDATION

THE STATE BUDGET AND CONTROL BOARD SHOULD
CONSIDER REVISING STATEWIDE REGULATIONS
TO PROHIBIT REIMBURSEMENTS FOR THE NOONDAY
MEAL UNLESS OVERNIGHT TRAVEL IS REQUIRED.

Ineffective Internal Audit Function

The Highway Department's internal audit staff is ineffective as an oversight function. In the Council's examination, several factors were found that have led to ineffectiveness:

1. The internal audit staff is not organizationally independent of the areas it audits.
2. There is a lack of in-depth examination of the various SCDHPT departments.
3. The internal audit department has an insufficient number of staff for adequately handling its responsibilities.
4. There is a potential conflict of interest between the head internal auditor and the Director of the Motor Vehicle Division (see p. 67).

A major factor of ineffectiveness is that the internal audit staff reports to the Secretary-Treasurer, who is the head of the Finance and Control Division; however, the internal auditors should be directly responsible to the Chief Commissioner. According to United States General Accounting Office Standards, which the SCDHPT has stated it uses:

A Federal, State, or local government auditor may be subject to policy direction from persons involved in the government management process. To help achieve maximum independence, the audit function or organization should report to the head or deputy head of the government entity and should be organizationally located outside the staff or line management function of the unit under audit.
[Emphasis Added]

The Virginia Highway Department experienced a similar lack of independence, and Virginia's Joint Legislative Audit and Review Commission recommended a reorganization of authority involving their internal audit function. In addition, the Institute of Internal Auditors favors reporting to:

...an individual in the organization with sufficient authority to promote independence and to ensure broad audit coverage, adequate consideration of

audit reports, and appropriate action on audit recommendations.

At SCDHPT, this individual could be only the Chief Commissioner.

A second factor of ineffectiveness is that internal audits have been performed of low-dollar functional areas (i.e., map sales, financial responsibility, drivers' records, bad check revolving fund) rather than more time spent in major areas (i.e., Motor Vehicle Division accounting department, the overall Highway accounting department, etc.). Further, audits have been performed of expendable items rather than of fixed assets (i.e., maintenance repair shop supplies rather than fleet equipment). In addition, the resulting recommendations are cursory rather than in-depth or of a high-dollar impact.

Due to growth and increased computerization in recent years, the need for internal evaluation of the Highway Department has intensified. The Secretary-Treasurer has stated the staff size is inadequate to effectively handle its responsibilities. Since 1975, the SCDHPT has had to assign three of its five-member staff to full-time audits of the Federal-aid programs, because the FHWA has no longer assigned its own auditors to examine the Federal programs.

The two remaining auditors include the head internal auditor, who spends much of his time with administrative detail. They, and an outside CPA firm, provide the audit oversight of nonfederal-aid programs. There has been a heavy reliance placed on the work of the CPA for audits of the Motor Vehicle Division accounting function. This absolute reliance on the CPA for MVD is costly because:

1. The average hourly rate for an internal auditor is \$8.55, and \$25 for a similarly-ranked CPA staff member (excluding the CPA's travel expenses).

2. It is not cost-beneficial for the CPA to provide absolute assurance as to the lack of any material weaknesses in its evaluation of the internal accounting controls.

Coordination of internal and external audit effort (assuming no duplication of work) could result in savings to SCDHPT.

The emphasis on the importance of internal auditing has grown steadily in recent years, but the internal audit function at SCDHPT has not served adequately as an effective management tool. As it currently operates, the internal audit function does not provide sufficient oversight of management operations and controls.

RECOMMENDATIONS

REORGANIZE THE INTERNAL AUDIT STAFF SO THAT IT REPORTS DIRECTLY TO THE CHIEF COMMISSIONER.

INCREASE THE STAFF TO AID THE CPA IN ITS ANNUAL AUDIT AND TO PERFORM INTERNAL EVALUATIONS ON THE SYSTEMS OF INTERNAL ACCOUNTING CONTROL.

REEVALUATE AUDIT OBJECTIVES AND RANK THE AUDIT PLAN ACCORDING TO MATERIALITY AND CONTROLS IN EFFECT.

Potential Conflict of Interest Involving the Head Internal Auditor

In its audit of the Highway Department, the Council found an instance of potential conflict of interest. The head internal auditor at SCDHPT is the brother of the Director of the Motor Vehicle Division (MVD).

Both men in question are long-time department employees (minimum of 16 years) and have advanced into their current positions from reasonable career paths. SCDHPT has no policy on nepotism which would prohibit the hiring of persons related to division heads or others with influence within an agency.

Additionally, South Carolina Code, Section 8-5-10 governing nepotism, does not directly apply in this case. The 85-year-old law is applicable only to the appointment of relatives under a direct line of authority.

Although the internal auditor is not within the direct line of authority of the MVD director, he is not personally independent of him; consequently, his objectivity as an auditor is substantially weakened. The General Accounting Office's Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, 1981 Revision, (U.S. Comptroller General), which the SCDHPT uses, states:

In all matters relating to the audit work, the audit organization and the individual auditors, whether government or public, must be free from personal or external impairments to independence, must be organizationally independent, and shall maintain an independent attitude and appearance. [Emphasis Added]

This standard places upon auditors and audit organizations the responsibility for maintaining independence so that opinions, conclusions, judgments, and recommendations will be impartial and will be viewed as impartial by knowledgeable third parties.

The MVD accounting department has not been audited by the internal auditors in the last ten years. Instead, the audit staff relies on an outside certified public accounting firm as the oversight of this department, through which approximately \$40,000,000 of revenue flows each year. The internal auditors do perform procedural audits of field sales offices, including inventories of tag and license numbers, but these are not from a financial accounting point of view. This "hands off" approach of the MVD high-dollar areas by the internal audit department has been noted by other SCDHPT officials, inasmuch as all other Highway Department areas have been audited. These include the overall Highway Department accounting function, the Federal-aid programs, and the various engineering, construction, and maintenance departments. (The Council has reviewed these audit reports. See page 64 for related finding regarding the ineffectiveness of the internal audit function as a whole.)

The magnitude of MVD revenue would reasonably require internal audit attention, both from an evaluation of internal accounting controls and a detailed financial point of view. However, the head internal auditor is not independent in his oversight of the MVD.

RECOMMENDATIONS

THE HEAD INTERNAL AUDITOR SHOULD BE TRANSFERRED TO ANOTHER DIVISION, WHERE POTENTIAL CONFLICT OF INTEREST WITH THE MVD WOULD NOT EXIST.

THE CHIEF HIGHWAY COMMISSIONER SHOULD
DIRECT THE INTERNAL AUDIT OFFICE TO AUDIT
THE MVD ACCOUNTING DEPARTMENT.

Inadequate Handling of Special Investigations

A review of the SCDHPT's handling of special investigations revealed that complaints are not properly assigned, investigated, documented and resolved. The Highway Department has not established procedures to ensure a uniform investigative process. The absence of formal guidelines and standard procedures has resulted in insufficient documentation, analysis and reporting of complaints and special investigations by the Department's three investigative units.

Investigations are performed by the Department's Special Investigator, the Motor Vehicle Division's part-time investigator and the Highway Patrol. The Special Investigator is assigned investigative duties under the direction of the Chief Highway Commissioner. The Motor Vehicle Division's investigator checks violations and complaints related to drivers licenses and performs other administrative duties as a Driver License Examiner on the headquarters staff. The Highway Patrol has an Internal Affairs Officer who investigates complaints against members of the Patrol, as well as a Dealer Enforcement Officer who is in charge of monitoring compliance with the State's motor vehicle dealer laws.

The Highway Department has not established criteria for determining which types of complaints will be handled by each investigator. Complaints are referred in a haphazard manner. For example, although the Highway Patrol established a dealer enforcement section to monitor

compliance with the State's motor vehicle dealer laws, the Highway Department's Special Investigator also investigates complaints against dealers. The Motor Vehicle Division refers title and odometer rollback matters to both the Highway Patrol and the Department's Special Investigator.

Disposition of many complaints and investigations could not be determined from the Department's record-keeping process. The Audit Council reviewed all cases on file in the Special Investigator's Office from January to July 1982. Although one of the stated duties of the Special Investigator is to "keep accurate records, and make reports," for many cases basic information such as date of complaint, name of complainant and nature of investigation were not clearly documented. No disposition was indicated on approximately 71% (65 of 92) of the 1982 cases reviewed. Seventy percent (14 of 20) of the 1981 cases sampled also contained no documentation indicating the cases were ever resolved. Formal reports or memoranda summarizing the investigations were completed for only nine of the 1982 cases reviewed and three of the 1981 cases sampled.

The Motor Vehicle Division's investigator, who is primarily involved in drivers license matters, did not maintain any files to document his investigations. In contrast, the Highway Patrol has a systematic method of handling complaints against patrol officers, using a log system and reports to document investigations. The Patrol also maintains files and statistics regarding the number and type of dealer investigations completed.

Although the Highway Patrol prepares reports as to the number of dealer violations investigated, the reports are kept in the Law Enforcement Division. The Highway Department's Special Investigator keeps no

statistics on dealer matters or any other complaints investigated. The Motor Vehicle Division's investigator does not maintain files on cases handled or make regular reports on the number and type of investigations performed. The Highway Commission, which is the governing body of the Highway Department, receives no summary reports on complaints and other special investigations handled by the Department.

Without requiring regular summary reports of investigations, the Highway Department cannot determine the types of complaints received or the extent of specific problems. Analysis that would be helpful for identifying problems and preventing their reoccurrence is not available to aid in the decision making process. Centralizing the Department's handling of complaints and other special investigations would result in a more coordinated investigative process.

RECOMMENDATIONS

THE HIGHWAY DEPARTMENT SHOULD ESTABLISH SPECIFIC CRITERIA TO DETERMINE WHICH INVESTIGATORS WILL HANDLE EACH TYPE OF COMPLAINT. THE HIGHWAY PATROL SHOULD BE RESPONSIBLE FOR INVESTIGATING ALL DEALER ENFORCEMENT, ODOMETER AND TITLE MATTERS; RESOLVING COMPLAINTS AGAINST MEMBERS OF THE PATROL; AND ASSISTING LOCAL LAW ENFORCEMENT AGENCIES IN THE INVESTIGATION OF LOST OR STOLEN HIGHWAY DEPARTMENT PROPERTY. THE MOTOR VEHICLE DIVISION'S PART-TIME INVESTIGATOR SHOULD CONTINUE TO INVESTIGATE DRIVERS

LICENSE MATTERS. THE SPECIAL INVESTIGATOR
COULD BE AVAILABLE TO INVESTIGATE OTHER
SPECIAL MATTERS NOT INCLUDED ABOVE, AS
DIRECTED BY THE CHIEF HIGHWAY COMMISSIONER.

ADDITIONALLY, THE SPECIAL INVESTIGATOR
SHOULD BE RESPONSIBLE FOR COORDINATING
THE HIGHWAY DEPARTMENT'S HANDLING OF
COMPLAINTS AND OTHER SPECIAL INVESTIGA-
TIONS. THE SPECIAL INVESTIGATOR'S DUTIES
SHOULD INCLUDE:

- (1) RECEIVING COMPLAINTS, REFERRING THEM
TO THE HIGHWAY PATROL OR MOTOR VEHICLE
DIVISION INVESTIGATOR, AS APPROPRIATE,
- (2) ENSURING THAT COMPLAINTS POLICIES ARE
ESTABLISHED AND IMPLEMENTED UNIFORMLY
THROUGHOUT THE DEPARTMENT, INCLUDING
SETTING UP A LOG SYSTEM TO FOLLOW-UP
ON THE DISPOSITION OF CASES,
- (3) COMPILING DETAILED STATISTICS ON COM-
PLAINTS AND OTHER SPECIAL INVESTIGA-
TIONS, AND MAKING REGULAR REPORTS TO
THE HIGHWAY COMMISSION, AND
- (4) ANALYZING TRENDS TO HELP THE COMMISSION
ANTICIPATE PROBLEMS.

CHAPTER IV
DEPARTMENT BUDGETARY PROCESS

Introduction

As part of its investigation, the Audit Council, at the request of the Joint Transportation Committee, reviewed the Highway Department's budgetary process. Several problems were found with the current process which are explained in the following findings.

SCDHPT Develops Two Different Budgets

The South Carolina Department of Highways and Public Transportation (SCDHPT) develops and approves an operating budget which is different from the budget approved by the General Assembly for the Department in the annual Appropriation Act. The Highway Commission does not approve the budget submitted to the Budget and Control Board. Instead, it passes and uses a budget which is in an entirely different format than the one in the Appropriation Act.

SCDHPT has always developed a second budget to operate the Department after getting approval for a budget in the Appropriation Act. The budget submitted to the Budget and Control Board is developed in the budget format required by the Budget and Control Board (see Table 14). However, South Carolina Code Section 57-11-40 requires the Department to develop another budget in the spring not more than 60 days prior to the beginning of each fiscal year. The budget actually used by the Department is developed and organized along FHWA accounting concepts. Funds are allocated by "allotments" which are major functions within the Department. The Commission approves the operating budget

in this format, which excludes major object codes (see Table 14). Both SCDHPT and Comptroller General officials informed the Audit Council that the Department has historically operated its budget in this manner.

TABLE 14

COMPARISON OF THE STATE APPROPRIATION ACT TO THE SCDHPT ACTUAL OPERATING BUDGET

FY 81-82

<u>Appropriation Act (7/81)¹</u>		<u>Commission Budget (6/81)²</u>	
I. Administration	\$ 24,375,851	General Administration	\$ 9,641,415
II. Highway Engineering	162,536,867	Engineering Administration	4,524,903
III. Highway Maintenance	72,790,608	Highway Maintenance	80,932,199
IV. Motor Vehicle Administration	13,248,499	Motor Vehicle Administration	16,138,361
V. Highway Patrol	25,723,676	Highway Patrol	29,670,448
VI. Employee Benefits	<u>19,039,999</u>	Employee Benefits ³	--
		Debt Requirements	14,120,775
		Damage Claim Payments	424,000
		Workmen's Compensation	905,050
		State Institution-Streets & Drives	100,000
		State Parks-Roads & Drives	100,000
		Access Facilities to Highway Interrelated	
		Shipping Facilities-Access Roads	50,000
		Capital Improvements:	
		Land and Buildings	500,000
		Highway Beautification	217,214
		Highway Construction	160,041,000
		Budgetary Reserve	<u>500,000</u>
TOTAL Shown in Appropriation Act	<u>\$317,715,500</u>	TOTAL Shown in Commission Budget	<u>\$317,865,365</u>

¹ Major object codes are included within each major category.

² Major divisions are comprised of allotments which are major functional areas.

³ Employee Benefits not separated out in budget approved by Commission.

SCDHPT should operate its budget based on the appropriation passed in the Appropriation Act like other State agencies. With the current system of budgeting, legislative oversight of the Highway Department is hindered. The budget system should present financial data of the Highway Department in such a manner as to justify adjustments made to the Appropriation Act. There should be a continuous and critical examination of actual to planned budgets relative to the Appropriation Act.

The Audit Council compared highway budget procedures in Florida, Georgia and North Carolina, and found that they prepare and use only one budget which is submitted to the Legislature for approval. Developing a budget for both internal and external use not only saves time and money but also increases expenditure control which is the intent of a budget.

Since SCDHPT operates on a different budget than the budget passed by the General Assembly, the Appropriation Act does not accurately reflect planned expenditures. The intent of the Appropriation Act is to authorize funds for the operation of an agency. This cannot be accomplished if the agency operates by a different budget. Compliance with the Act is necessary in order for the General Assembly to ensure that the State's resources are spent as intended.

RECOMMENDATIONS

THE GENERAL ASSEMBLY SHOULD CONSIDER
AMENDING SOUTH CAROLINA CODE SECTION
57-11-40 BY REQUIRING THE DEPARTMENT TO
SUBMIT A BUDGET AMENDMENT REFLECTING

ESTIMATED REVENUES AND OPERATING COSTS 60
DAYS PRIOR TO THE FISCAL YEAR.

SCDHPT SHOULD SUBMIT A BUDGET TO THE
GENERAL ASSEMBLY WHICH WOULD MORE ACCU-
RATELY REFLECT THE DEPARTMENT'S OPERATIONS,
AND INCREASE LEGISLATIVE AND COMMISSION
OVERSIGHT.

No Internal Transfer Process

The South Carolina Department of Highways and Public Transportation (SCDHPT) has no internal transfer process which controls how funds are shifted among budget categories. Because of this, the State, Highway Commission, and Chief Commissioner have no means by which to monitor adjustments made in the Department's budget.

SCDHPT is the only State agency in the Appropriation Act which is allowed to transfer funds in its budget without Budget and Control Board approval. The Appropriation Act states:

the Department Commission may transfer funds appropriated to this Section from one line item to another as the needs demand without permission from the Budget and Control Board.
[Emphasis Added]

According to SCDHPT officials, the Department disregards the line item as a controlling budgeting factor and budgets by "allotments" which are major functional areas within the Department. Therefore, any overruns incurred among line items are covered by transferring funds to the depleted account. As long as "allotments" remain within budgeted

amounts, no management oversight is required. However, if an "allotment" exceeds its budget, approval must be obtained by the Chief Commissioner for an adjustment to be authorized. Commission approval is only required when a revision is made in a major division unit as shown in Table 14.

Unless the budget process can accurately report adjustments, management fails to monitor and manage expenditures. The budget is the medium through which management is expected to achieve accountability over its expenditure of funds. This objective could be achieved through the implementation of the Statewide Accounting and Reporting System (STARS) which provides for centralized accounting and reporting of financial data in accordance with the program budget structure. Control over any revisions in the budget is absolutely necessary in order for the budget to be an adequate tool for management direction and control.

The Audit Council compared the transfer of funds procedures for the Departments of Transportation in Florida, Georgia and North Carolina and found that South Carolina is the only state that exempts its Highway Department from any State budgetary control. An agency funded through another source should not warrant exemption from legislative oversight.

Without a standard transfer process, the Commission cannot ensure that funds are spent for the purposes appropriated. Oversight cannot be achieved by parties external to the agency without an audit trail of revisions made to the original budget. Ineffective control of transfer activity could allow legislative intent to be undermined if there is no control over the shifting of funds.

RECOMMENDATION

SCDHPT SHOULD ADHERE TO THE BUDGET FORMAT AND LINE ITEMS ENACTED BY THE GENERAL ASSEMBLY. ANY CHANGES TO THE BUDGET SHOULD BE REFLECTED THROUGH A TRANSFER FORM OR AMENDMENT PROCESS. THIS METHOD WOULD ALLOW BETTER STATE OVERSIGHT ON BUDGETARY MATTERS.

Failure to Adjust Budget For Encumbrances

The South Carolina Department of Highways and Public Transportation (SCDHPT) does not reflect encumbrances in its budget, thereby failing to account for all funds appropriated. Encumbrances are obligations in the form of purchase orders, contracts, or salary commitments which are chargeable to an appropriation and for which a part of the appropriation is reserved. They cease to be encumbrances when paid.

SCDHPT has never shown encumbrances in its operating budget except in the case of construction contracts. At the beginning of a fiscal year, the department does not adjust its budget for any additional funds resulting from obligations incurred in the previous year. This limits accountability for all funds budgeted.

The Audit Council reviewed budgeting procedures for encumbrances in Florida, Georgia and North Carolina and found that South Carolina has the weakest budget controls for encumbrance accountability. In Florida and Georgia, encumbrances are accounted for in either the current year's appropriation or in the previous year's expenditures as

part of a budget amendment process. In addition, authorization is required for funds to be carried into the following year.

The North Carolina Department of Transportation handles the recording of encumbrances in a slightly different manner. Adjustments for encumbrances are only made when a liability has actually been set up, otherwise, funding for obligations incurred have to be obtained from the following year's budget. However, in the case of a major purchase order special permission may be obtained to carry over funds.

The Audit Council compared actual expenditures to budgeted amounts for the Department's major divisions in FY 80-81, and found the budget data misleading. As shown in Table 15, a balance of over \$5 million was realized for FY 80-81.

TABLE 15
COMPARISON OF BUDGET TO ACTUAL EXPENDITURES FOR FY 80-81

Major Divisions:	<u>Budgeted \$</u>	<u>Actual Expenditures \$</u>	<u>Differences \$</u>
General Administration	\$ 8,732,641	\$ 8,412,207	\$ 320,434
Engineering Administration	4,539,064	4,296,916	242,148
Motor Vehicle Administration	15,766,001	14,976,988	789,013
Highway Patrol	28,122,865	25,229,478	2,893,387
Debt Requirements	13,919,700	13,919,490	210
Damage Claims	476,700	429,036	47,664
Workmen's Compensation	710,048	820,273	(110,225)
Highway Maintenance	74,351,186	73,532,596	818,590
State Institutions-Sts. & Drs.	200,000	299,056	(99,056)
State Parks - Sts. & Drs.	200,000	46,863	153,137
Access Facilities	50,000	16,277	33,723
TOTALS	<u>\$147,068,205</u>	<u>\$141,979,180</u>	<u>\$5,089,025</u>

However, with the Department's current budgeting practices, it cannot be determined whether the surplus is due to overbudgeting or to

obligations incurred. All funds available for expenditures should be reflected in the operating budget, otherwise the remaining balance appears to be a budgeting error or a surplus with no accountability for its use.

RECOMMENDATION

AT THE BEGINNING OF THE FISCAL YEAR, ADJUSTMENTS FOR ADDITIONAL FUNDS AVAILABLE SHOULD BE MADE TO THE BUDGET TO REFLECT ENCUMBERED AMOUNTS FROM THE PREVIOUS YEAR.

APPENDIX

APPENDIX A



SOUTH CAROLINA

DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION

P.O. BOX 191

COLUMBIA, S.C. 29202

March 18, 1983

Mr. George L. Schroeder
Legislative Audit Council
620 Bankers Trust Tower
Columbia, South Carolina 29201

Dear Mr. Schroeder:

My staff and I are disappointed that there were not more changes in the revised draft of the Legislative Audit Council's report on the Department of Highways and Public Transportation. We are of the opinion that our February 14 submission contained factual information that substantiated major changes, especially in your recommendations. However, it is noted that your staff has elected to consider our submission only in a minor number of cases.

We are submitting additional comments that were made by our Department heads on the LAC report. These comments are in three areas: (1) budgetary and accounting procedures, (2) maintenance, and (3) equipment. The Director of the Motor Vehicle Division is not submitting any different information as there was little or no consideration given to his comments in our February 14 letter. We recognize that the Legislature authorized the audit in order that improvements could be made in the Department. The recommendations by the Legislative Audit Council will be given consideration and brought to the attention of our Commission.

Yours very truly,

Paul W. Cobb
Chief Commissioner

BUDGETARY & ACCOUNTING PROCEDURES

Statement (Page 74, Paragraph 2)

The S. C. Department of Highways and Public Transportation develops and approves an operating budget which disregards the budget approved by the General Assembly for the Department in the annual Appropriation Act.

Reply:

The Department is required by law (Code Section 57-11-40) to prepare estimates of revenues and expenditures no more than sixty days prior to the beginning of each fiscal year. This estimate of revenues and expenditures, required by law, has traditionally been known as the Department's operating budget. Since the budget which appears in the Appropriations Act must be submitted approximately eight months earlier than the "operating" budget, there is sometimes a difference in the revenue and expenditure projections. This results from the fact that the Department operates solely from earmarked revenues and doesn't know until year-end exactly what its revenues will be. The Department does not disregard the budget which is prepared from the Appropriations Bill, it adheres to this budget as closely as its early revenue projections will allow and any changes are reported on Stars Form 30.

Statement (Page 76, Paragraph 1)

The South Carolina Department of Highways and Public Transportation should operate its budget based on the appropriation passed in the Appropriation Act like other state agencies.

Reply:

Inasmuch as the Department operates on earmarked revenue, passed by the General Assembly, and does not get an appropriation from the General Fund, it is necessary for the Department to make adjustments in its budget when necessary in order to operate within its revenues.

Statement (Page 76, Paragraph 3)

Funds are shifted among categories without State oversight thereby negating the purpose of the Appropriation Act.

Reply:

All shift in funds are submitted on Stars Form 30, which is the same procedure used by other state agencies. This procedure has been in effect since July 1, 1981.

Statement

Consideration should be given to putting South Carolina Department of Highways and Public Transportation on the Statewide Accounting and Reporting System (STARS).

Reply:

The South Carolina Department of Highways and Public Transportation has been on the STARS system since July 1, 1981.

BUDGETARY & ACCOUNTING PROCEDURES

Statement (Page 77, Paragraph 1)

The South Carolina Department of Highways and Public Transportation (SCDHPT) has no internal transfer process which controls how funds are shifted among budget categories. Because of this, the State, Highway Commission, and Chief Commissioner have no means by which to monitor adjustments made in the Department budget.

Reply:

All budgetary adjustments except line items adjustments within allotment and safety projects are approved by the Highway Commission. An allotment advice is written based on Commission approval and signed by the Chief Commissioner authorizing the budgetary adjustment. If this adjustment results in a net change to one of the five categories in the appropriation budget, the appropriation budget is changed by the Budget and Control Board Form BD100 or Stars Form 30. Line item adjustments within allotment and safety projects are changed by South Carolina Department of Highways and Public Transportation Form BW-30 approved by the Chief Commissioner.

Statement (Page 77, Paragraph 2)

According to South Carolina Department of Highways and Public Transportation officials, the Department disregards the line item as a controlling budgeting factor and budgets by "allotment" which are major functional areas within the Department. Therefore, any overruns incurred among line items are covered by the division head transferring funds to the depleted account.

Reply:

Line item adjustments within allotments are changed by South Carolina Department of Highways and Public Transportation Form BW-30 approved by the Chief Commissioner. A division head has no authority to transfer funds. Since South Carolina Department of Highways and Public Transportation went on the STARS system on July 1, 1981, disbursement vouchers requesting payments from line items with no available balances are not honored by the Controller General.

MAINTENANCE

Page 1 RECOMMENDATIONS OF LAC FOR THE DEPARTMENT TO
Paragraph 2 IMPLEMENT A MAINTENANCE MANAGEMENT SYSTEM (MMS)

A. Management Methods

The Department has a very reliable and time tested method of managing its highway maintenance operation. This method relies on sound engineering and management judgement, available resources, and actual field conditions as reported by a trained observer. The heart of this management method is our District Engineering setup and our County Maintenance Units. Each of the seven (7) Engineering Districts are managed by a District Engineering Administrator and is assisted by a District Maintenance Engineer and one or more District Construction Engineer, and a District Mechanical Engineer. Management methods used by this team is direct contact with the county units on a weekly basis and the "Maintenance by Objective" concept that is time tested and has proven to be workable, economical and efficient. A 1978 study (Analysis of State Maintenance Operations in the United States prepared by the New York State Division of the Budget, Transportation and Economic Affairs Unit, State Capitol, Albany, New York, 12224) showed that 27 states which had implemented formal Highway Maintenance Management Systems (HMMS) had average expenditures 2.5 percent below projected. South Carolina in this study had 40.5 percent below projected expenditures. Further, South Carolina was the lowest of the fifty states in expenditure per lane mile (\$534) in the same study.

The county units are generally situated in the county seat of government and due to geographic conditions may contain one or more "Satellite" or Section Shed locations in remote areas of the county to more efficiently manage the road mileage in particular areas. The County Maintenance Unit is managed by a Resident Maintenance Engineer and in the larger counties he is assisted by an Assistant Resident Maintenance Engineer. This Management Team is supplemented by a number of Highway Maintenance Crew Supervisors (Foremen) who are in direct charge of the work crews. Each County Unit is allotted the necessary manpower, equipment, and materials and is given the complete authority to use these resources to the best advantage for the maintaining of the roads in his area in accordance with the previous given verbal instructions, Performance Standards, Policy and Procedure Memorandums, and general memorandums.

B. Follow Up

There is continual follow-up on work performed by each level of the Hierarchy by means of visual inspections, staff meetings, correspondence, reports and internal and external audits. Each District Maintenance Engineer visits with each of the county Resident Maintenance Engineers on a systematic schedule, inspects the overall maintenance of the roads in that particular county and also goes over any problem areas that the Maintenance Engineer might have.

The State Maintenance Engineer and his assistants monitor the in-coming field reports and periodically schedule field trips to verify that the reported conditions are the same as the actual field conditions. These field trips are made in company with the District Engineering Administrator or his assistant so that this level of management is always informed as to the problem areas and the level of service desired by the Central Office and to insure that the condition of the Interstate Routes as well as the remaining system is maintained at the level required by the purposes for which they are designed.

C. Unit Costs

The Department is presently capturing unit costs for statewide mowing, pothole patching, and sideline pipe installation in conjunction with our recently developed Performance Standards for these activities. This method of tracking material, labor and equipment costs will able us to better identify areas of relatively high maintenance costs and evaluate the effectiveness of various management decisions to correct inefficient trends. We plan to expand this program to other activities in the near future and add additional performance standards as time and funds permit.

D. Conclusion

It is conservatively estimated that it would cost \$500,000 to implement a computerized Maintenance Management System and approximately \$100,000 annually to maintain. We do not believe that this large expenditure could be justified on a cost/benefit basis, especially in these austere economic times. It is also our considered opinion that a sophisticated computerized Maintenance Management System does not necessarily result in better maintenance or reduced costs.

Further, we feel very strongly that over the years we have provided our citizens with an excellent maintained system for the least amount of dollars. This commitment is evidenced by published statistics by the FHWA (copy attached) that South Carolina is second lowest in the entire nation for per mile expenditure for maintenance (1981) and our state is generally recongnized as having the best roads overall of any state within the United States.

Page 2 of LAC Report - Resurfacing and Maintenance

Statement:

"Using this new management system, the Department estimates that approximately 10,553 miles, or 27% of the states 39,662 miles of roads need resurfacing at a cost of \$193,437,000."

Reply:

Our current "Modified" Pavement Management System has produced a computer listing of the worst 30% of the road mileage in each county. This list is used by the District Engineering Administrator for programming only. The listing produced and used for the above purpose does not mean that all of the roads listed need resurfacing. It does mean that the roads shown in the listing have been identified as having a problem that will require a certain maintenance strategy. The options are:

1. Continue routine maintenance
2. Perform spot improvements
3. Perform extensive maintenance
4. Resurface
5. Reconstruct

The decision as to which of the options will be used will require the independent judgement of a qualified engineer.

Page 4 of LAC Report - Maintenance Personnel

Statement:

"County maintenance crews are spending their time reacting to complaints and not performing routine, preventative maintenance on the states roads."

Reply:

While it is true that the Department's maintenance forces do, of necessity, respond to legitimate complaints from the citizens of this state for whom we work, we do have a very viable, ongoing preventative maintenance program.

Policy and Procedure Memorandum No. 0-12 outlines the Department's cleaning roadside ditches, cleaning pipe lines and reworking shoulders program. This is one of our most productive preventative maintenance programs whereby we perform ditching, drainage and shoulder work on 20% of the mileage in each county annually. This results in the entire system being reworked every five (5) years.

Also, we have performed Class "A" resurfacing with our own forces for as long as the Department has been in existance. This work has been expanded in the last three (3) years and we plan to do even more as man-power and funds permit.

Further, we have always had an extensive crack sealing program and this work has recently been accelerated. This is one of the best preventative maintenance programs possible for flexible pavements and we are very proud of our accomplishments in this regard.

Statement:

"Work priorities cannot be set and the cost effectiveness of local maintenance operations are not compared and standards established."

Reply:

As alluded to in another section of the LAC report, the Department is now capturing unit cost figures on mowing, pothole patching, and sideline pipe installation. These costs will be used to compare maintenance costs for these operations statewide and to determine cost effectiveness of individual crews.

It is not true that the Department has not established standards. The following Performance Standards have been developed and or in use throughout the state:

1. Machine Mowing
2. Reworking Earth Shoulders & Roadside Ditches
3. Sideline Pipe
4. Pothole Patching
5. Seal Coat
6. Pavement Striping
7. Precast Bridge Erection
8. Paved Driveways
9. Litter Removal

It is true that we have not made extensive use of these standards for cost accounting purposes. However, we have made a start in this direction and we plan to continue this effort.

Page 9 of LAC Report - SCDHPT Continues to Pave Private Driveways

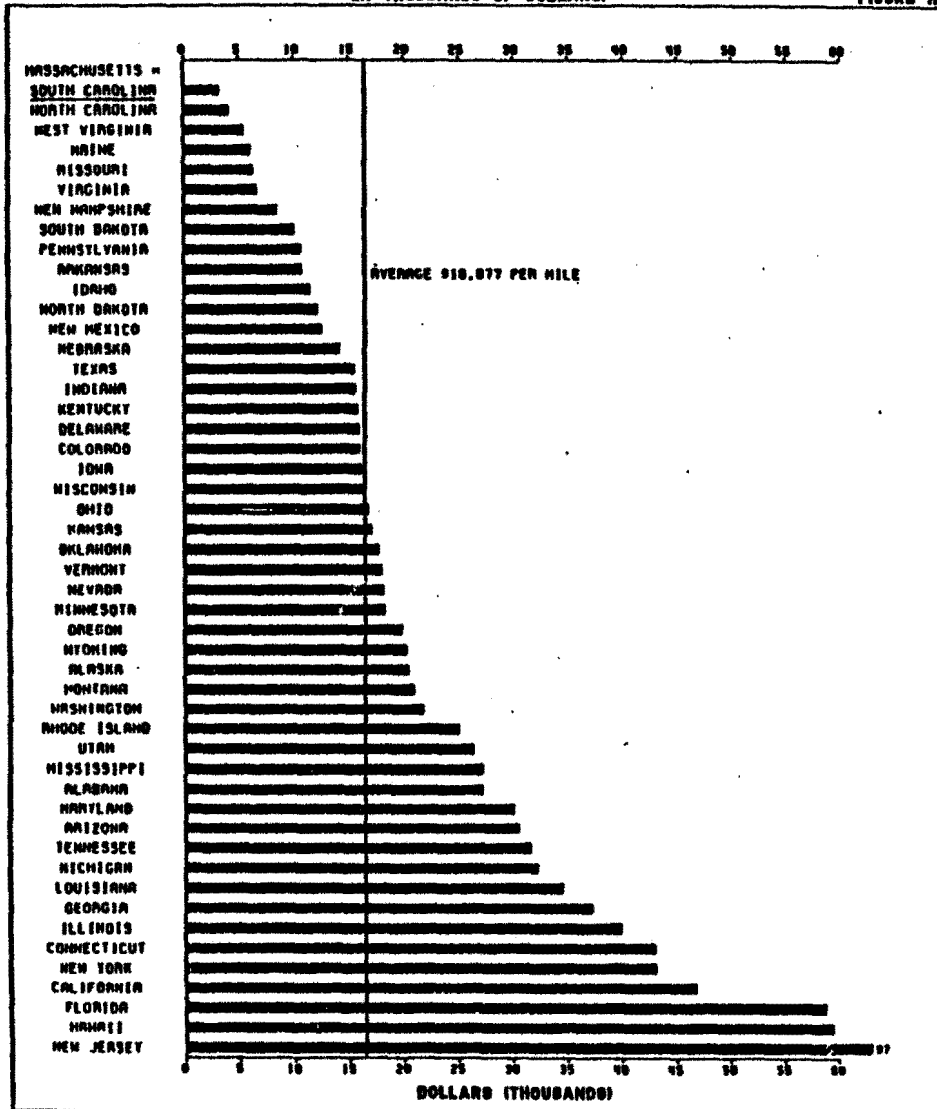
Reply:

The designation of "Private" driveways in this case is inappropriate. The Department's policy is to pave an apron extending from the edge of the travelway to the abutting property line. The entire apron or "driveway" constructed is wholly within the Department's right-of-way and does not encroach on private property. Further, the paving of these aprons enhance the safety of vehicles entering and leaving the highway and also lowers the cost of maintaining earth-type ramps; especially in the northern part of the state.

The Department has revised its driveway entrance policy through the Administrative Procedures Act and the new policy will go in to effect on May 1, 1983. We estimate that this revised polciy will reduce the current expenditure for this activity by 15 to 20 percent. It is noted that the expenditure for culvert pipe is down 15% through December of 1982 due mostly to depression in the housing market.

**STATE CAPITAL OUTLAY PER MILE
ON STATE-ADMINISTERED ROADS AND STREETS
1981
EXCLUDING TOLL FACILITIES**
ON THOUSANDS OF DOLLARS

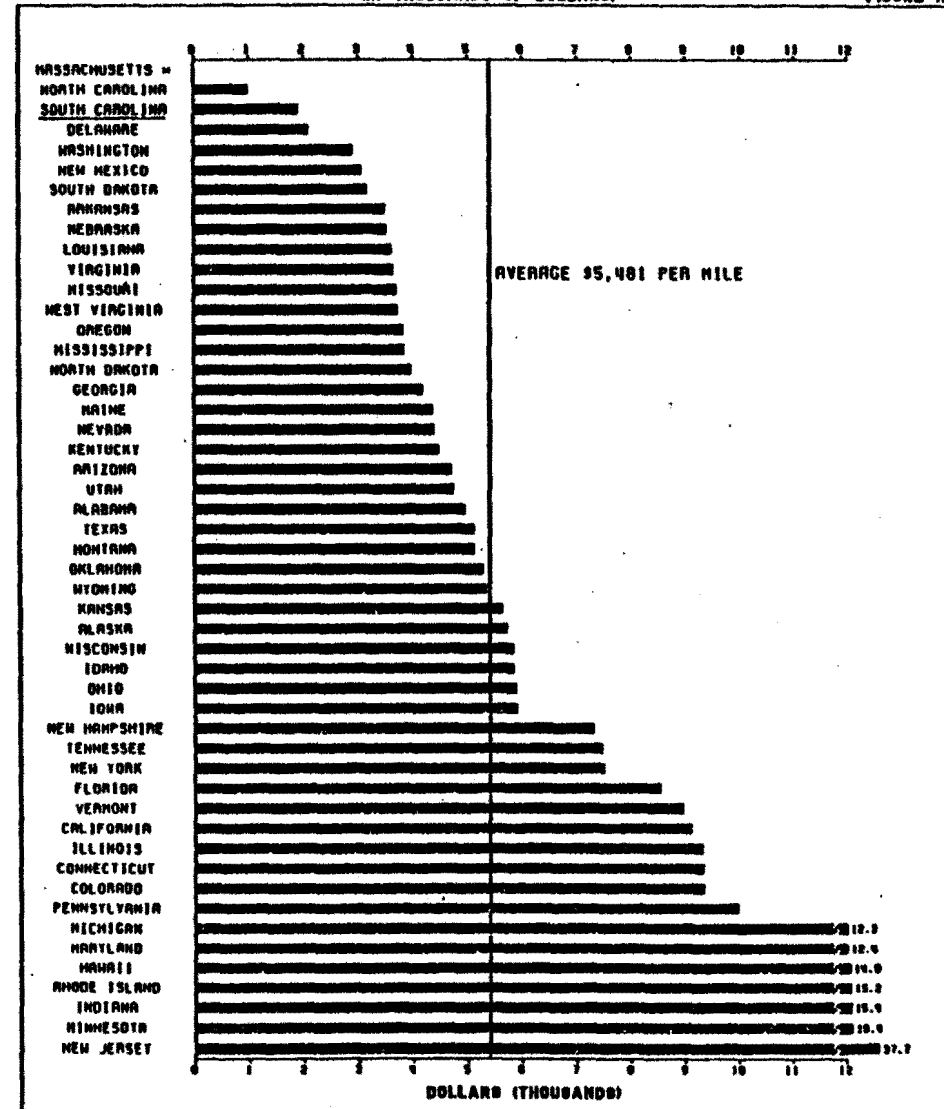
FIGURE 11



* 1981 STATE FINANCE DATA NOT REPORTED FOR MASSACHUSETTS.

**STATE EXPENDITURES PER MILE FOR MAINTENANCE
ON STATE-ADMINISTERED ROADS AND STREETS
1981
EXCLUDING TOLL FACILITIES**
ON THOUSANDS OF DOLLARS

FIGURE 12



* 1981 STATE FINANCE DATA NOT REPORTED FOR MASSACHUSETTS.

EQUIPMENT

On page 23 the Audit Council states that the Highway Department does not have a central source of accurate information on the condition of its equipment. The Highway Department has in its organization a District Mechanical Engineer in each district that is in direct contact with equipment to know of its condition. To rely on information that would be furnish a central office for evaluation of equipment condition would more likely result in equipment replacement not to the best advantage of the State. We believe that the control and decision making of equipment most needed to be replaced should remain with the custodians closest to its use. The Highway Department is presently in the process of revising the Repair Service Ticket so as to obtain additional information on repair costs so as to better point out equipment that have high or unusual costs so that the District Mechanical Engineer or other supervisors can check into the reasons for these costs. Also the additional information will include "down" time and the cause of the equipment being down. On page 25 the Audit Council states that the Highway Department equipment had a State-wide down time average of one day in five. At present there is no data to obtain this information and we believe this to be high. The information that will be obtained in the future will give this information and also the cause of equipment being down, whether from lack of parts, lack of personnel time to make repairs or other causes. On page 26 the Audit Council states that the Highway Department maintains an inventory of 451 equipment items with an original purchase value of \$2.5 million which were not used in FY 80-81. The Department computer was programed to print "not used" on any equipment that may have had a broken odometer or hour meter, no hour meter or no odometer. The print out in many cases shows that repairs were charged to the equipment or fuel charged to the equipment which would indicated equipment useage. Since that time the computer has been reprogrammed to show "no meter" on such equipment. Also the Assistant Maintenance Engineer and Director of Supply and Equipment are making a complete inspection of equipment in selected counties and any found to be surplus or not being used will be transferred to the central equipment depot for reassignment or disposal. The Audit Council states on page 26 that the Department has no effective controls over the disposal of old surplus equipment and counties are not required to return old obsolete equipment before receiving replacements. When a county is notified to pick up a new piece of equipment, the same letter advised that a like or similar unit is to be turned in to the Central Equipment Depot for disposal. In some cases where a large dump truck is received, then two small trucks must be turned in for disposal. There are instances when a county requests permission to junk and keep a piece of equipment to use parts from it on a like piece of equipment still in use. This must be approved, after visual inspection, by both a district office person and one from central headquarters. Adequate documentation is on file to show this process. Parts from a junked piece of equipment far exceed the amount received by public sale.

In order to implement an equipment management system such as the Audit Council recommends, it would have to follow implementation of a maintenance management system. The New Mexico State Highway Department entered into a contract with the Federal Highway Administration to test and evaluate an equipment management system, starting in November 1979, at an estimated cost of \$600,000. This project is still in the process of being implemented. The SCDHPT has not felt that this expenditure would be justified under the present economic conditions.

On page 33 the Audit Council recommends that automobiles should not be assigned for the personal convenience or prestige of an individual and the Department maintains this position. On page 34 the recommendation by the Audit Council states that the Highway Department should not allow unnecessary commuting. Commuting should only be allowed when beneficial to the Department. The total evaluation of the efficiency of an employee should be considered when the use of a Department

automobile is evaluated. The Department does not pay overtime to employees with assigned vehicles for the overtime they spend working for the State. Those with assigned cars as well as some using pool units often either start before normal work time or return well after normal quitting time and so cannot return a car to a pool during normal work hours. The number of extra hours of work received from an employee should be considered along with any commuting. A tabulation of vehicle use including commuting is made by the Supply and Equipment office and this information given to Division supervisors for them to review for recommendations on any vehicles not being used to the best advantage for the State. The Department does not permit an individual to use his personal car and be reimbursed for mileage, so an adequate pool must be maintained. We do not interpret the Motor Vehicle Management regulations to say that pool vehicles should have 11,000 miles annually. Pool vehicles in the central pool are maintained at a level to have a vehicle to any employee requiring one. Vehicle use is reviewed and any unneeded vehicles are reassigned. The Department has personnel using vehicles with a variety of work assignments. Some are right-of-way agents, vehicle inspectors, county resident maintenance and construction engineers, district maintenance, mechanical and construction engineers, and the supporting supervisory personnel in headquarters. It is virtually impossible to establish a criteria for vehicle assignment; but rather to follow the guidelines as set by the Motor Vehicle Management office and assignment that is most beneficial to the Department, the State and its citizens.